# CALIFORNIA HIGH-SPEED TRAIN

Technical Report

DRAFT

## Fresno to Bakersfield Section

# Community Impact Assessment Technical Report

July 2011

CALIFORNIA High-Speed Rail Authority

U.S. Department of Transportation
Federal Railroad Administration

California High-Speed Train Project

# Community Impact Assessment Technical Report

*Prepared by:*
URS/HMM/Arup Joint Venture

July 2011

## Table of Contents

Page

**1.0 Introduction ..... 1-1**
1.1 Background ..... 1-1
1.2 Approach ..... 1-1
1.3 Study Area Definition ..... 1-1
1.4 Informational Sources ..... 1-2
**2.0 Project Description ..... 2-1**
2.1 Project Introduction ..... 2-1
2.2 Project Alternatives ..... 2-1
2.2.1 Alignment Alternatives ..... 2-1
2.2.2 Station Alternatives ..... 2-5
2.2.3 Heavy Maintenance Facility (HMF) ..... 2-12
2.3 Power ..... 2-14
2.4 Project Construction ..... 2-14
**3.0 Regulatory Setting ..... 3-1**
3.1 Federal Regulations ..... 3-1
3.2 State Regulations ..... 3-2
3.3 Local Considerations ..... 3-2
3.3.1 Local and Regional Plans ..... 3-2
3.3.2 Local Jurisdiction Ordinances and Code ..... 3-17
**4.0 Affected Environment ..... 4-1**
4.1 Population Characteristics ..... 4-1
4.1.1 Population and Ethnicity ..... 4-1
4.1.2 Age Distribution ..... 4-10
4.1.3 Income ..... 4-11
4.1.4 Households ..... 4-12
4.1.5 Linguistic Isolation ..... 4-16
4.1.6 Disabilities ..... 4-18
4.2 Housing ..... 4-19
4.2.1 Region ..... 4-19
4.2.2 City of Fresno ..... 4-22
4.2.3 City of Fresno to City of Hanford ..... 4-23
4.2.4 City of Hanford ..... 4-23
4.2.5 City of Hanford to City of Corcoran ..... 4-23
4.2.6 City of Corcoran ..... 4-23
4.2.7 City of Corcoran to City of Wasco ..... 4-23
4.2.8 City of Wasco ..... 4-24
4.2.9 City of Wasco to City of Shafter ..... 4-24
4.2.10 City of Shafter ..... 4-24
4.2.11 City of Shafter to City of Bakersfield ..... 4-25
4.2.12 City of Bakersfield ..... 4-25
4.3 Environmental Justice ..... 4-26
4.3.1 Identification of Environmental Justice Areas ..... 4-26
4.3.2 Environmental Justice Outreach and Interest Groups ..... 4-34
4.4 Local Economy ..... 4-43
4.4.1 Employment ..... 4-43
4.4.2 Fiscal Conditions ..... 4-47
4.5 Public Services and Facilities ..... 4-47
4.5.1 Region ..... 4-47
4.5.2 City of Fresno ..... 4-48
4.5.3 City of Fresno to City of Hanford ..... 4-48

4.5.4 City of Hanford ..... 4-49
4.5.5 City of Hanford to City of Corcoran ..... 4-49
4.5.6 City of Corcoran ..... 4-49
4.5.7 City of Corcoran to City of Wasco ..... 4-50
4.5.8 City of Wasco ..... 4-50
4.5.9 City of Wasco to City of Shafter ..... 4-50
4.5.10 City of Shafter ..... 4-50
4.5.11 City of Shafter to City of Bakersfield ..... 4-50
4.5.12 City of Bakersfield ..... 4-50
4.6 Non-Motorized Circulation and Access ..... 4-51
**5.0 Impact Analysis ..... 5-1**
5.1 Communities and Neighborhoods ..... 5-1
5.1.1 Disruption or Division of Existing Communities ..... 5-1
5.1.2 Project Job Creation ..... 5-14
5.2 Property Displacements and Relocations ..... 5-22
5.2.1 Methodology ..... 5-23
5.2.2 Residential Displacements ..... 5-26
5.2.3 Commercial and Industrial Business Relocations ..... 5-35
5.2.4 Agricultural Displacements ..... 5-42
5.2.5 Community Facilities ..... 5-50
5.2.6 Potential Mitigations for Property Displacements and Relocations ..... 5-53
5.3 Environmental Justice ..... 5-55
5.3.1 Methodology ..... 5-55
5.3.2 Potential Environmental Justice Effects by Resource Area ..... 5-56
5.3.3 Disproportionately High and Adverse Impacts on EJ Populations ..... 5-67
5.4 Other Impacts ..... 5-75
5.4.1 Relocation of Sensitive Populations ..... 5-75
5.4.2 Changes in School District Funding ..... 5-77
5.4.3 Agricultural Access Impacts and Road Closures ..... 5-78
5.4.4 County and City Property and Sales Tax Effects ..... 5-79
5.4.5 Physical Deterioration ..... 5-94
5.4.6 Construction- and Operation-Related Sales Tax Gains ..... 5-98
5.4.7 Cumulative Impacts ..... 5-101
**6.0 References ..... 6-1**
6.1 Documents and Websites ..... 6-1
6.2 Persons and Agencies Consulted ..... 6-11
**7.0 Preparer Qualifications ..... 7-1**

**Appendices**

**Appendix A** Methodologies
**Appendix B** Community Baseline Data
**Appendix C** Impacts to Agricultural Production
**Appendix D** Cumulative Projects

**Tables**

**Table 2-1** Construction Schedule ..... 2-15
**Table 3-1** Local Land Use Policies ..... 3-3
**Table 4-1** Existing and Projected County Populations ..... 4-2
**Table 4-2** Minority Group Representation in the Region (2000) ..... 4-2

**Table 4-3** Minority Group Representation in the Region (2008) ....4-3
**Table 4-4** Population Age Distribution (2000) ....4-10
**Table 4-5** Population Age Distribution (2008) ....4-10
**Table 4-6** Median Annual Household Income (1999 and 2008) ....4-11
**Table 4-7** Type of Household in the Region (2000) ....4-12
**Table 4-8** Type of Household in the Region (2008) ....4-13
**Table 4-9** Linguistic Isolation (2000 and 2008) ....4-16
**Table 4-10** County and City Disability Status (2007) ....4-19
**Table 4-11** Housing Characteristics (2000) ....4-20
**Table 4-12** Housing Characteristics (2009) ....4-21
**Table 4-13** Housing Ownership (2000 and 2008) ....4-21
**Table 4-14** Minority and Low-Income Percentages in the Region ....4-27
**Table 4-15** Public Outreach Meetings ....4-38
**Table 4-16** Public Involvement Activities and Outreach to Minority and Low-Income Populations ....4-42
**Table 4-17** Unemployment Rates (2000 and 2009) ....4-45
**Table 4-18** County and City Fiscal Conditions for Fiscal Year 2008–2009 ....4-47
**Table 4-19** Non-Motorized Facilities in the Study Area ....4-52
**Table 5-1** Potential HST Impacts on Unincorporated Communities in the Project Vicinity: BNSF Alternative Alignment ....5-5
**Table 5-2** Construction Spending within Region for BNSF Alternative by Economic Sector (millions of 2010$) ....5-18
**Table 5-3** BEA RIMS II Final-Demand Multipliers Used in Analysis ....5-19
**Table 5-4** Annual Region Employment Creation Using Final-Demand Multipliers ....5-19
**Table 5-5** Breakdown of Direct, Indirect, and Induced Impacts in the Region Using Final-Demand Multipliers ....5-19
**Table 5-6** Annual Region Direct Employment Creation Using Final-Demand Multipliers ....5-20
**Table 5-7** Annual Region Indirect and Induced Employment Creation Using Final-Demand Multipliers ....5-20
**Table 5-8** Relative Difference for Alternative Alignments Using Direct-Effect Multipliers ....5-21
**Table 5-9** Residential Displacement under the BNSF Alternative ....5-27
**Table 5-10** Gap Analysis of Single-Family Residential Displacements in the BNSF Alternative Alignment ....5-28
**Table 5-11** Relative Change in Residential Displacement ....5-32
**Table 5-12** Total Changes in Residential Displacement along Corresponding Portions of the BNSF Alternative ....5-32
**Table 5-13** Commercial and Industrial Relocations under the BNSF Alternative Alignment ....5-36
**Table 5-14** Number of Available Vacant Business Properties by County and Most Common NAICS Code ....5-37
**Table 5-15** Gap Analysis of Business Relocations in the BNSF Alternative Alignment ....5-37
**Table 5-16** Relative Change in Commercial and Industrial Relocations ....5-39
**Table 5-17** Changes in Commercial and Industrial Relocations along Parallel Alignment Portions ....5-39
**Table 5-19** Relative Change in Agricultural Business Impacts ....5-43
**Table 5-20** Changes in Agricultural Business Impacts along Parallel Alignment Portions ....5-43
**Table 5-21** Crops with Losses Greater Than $100,000 per Year or More Than 1% of Total County Crop Loss under the BNSF Alternative ....5-47
**Table 5-22** Crops with Losses Greater Than $100,000 per Year under the Corcoran Bypass Alterative or a Delta of More Than $100,000 per Year under the BNSF Alternative in Kings and Tulare Counties ....5-49
**Table 5-23** Crops with Losses Greater Than $100,000 per Year under the Allensworth Bypass Alterative or a Delta of More Than $100,000 per Year under the BNSF Alternative in Tulare and Kern Counties ....5-49

**Table 5-24** Crops with Losses Greater Than $100,000 per Year under the Wasco-Shafter Bypass Alterative or a Delta of More Than $100,000 per Year under the BNSF Alternative in Kern County ..... 5-50
**Table 5-25** Bakersfield Religious Facilities Affected ..... 5-52
**Table 5-26** EJ Findings for the BNSF Alternative and Station Alternatives by Resource Area ..... 5-68
**Table 5-27** Environmental Justice Findings by Heavy Maintenance Facility Location ..... 5-73
**Table 5-28** Sensitive Populations in Areas with High Concentration of Residential Displacements ..... 5-76
**Table 5-29** BNSF Alternative Property Tax Revenues Lost during Operation (2010$) ..... 5-81
**Table 5-30** Property Tax Loss for Station Alternatives ..... 5-83
**Table 5-31** Property Tax Loss for the HMF Site Alternatives ..... 5-83
**Table 5-32** Summary of Findings on Impact of Rail Transit on Residential Real Estate Values ..... 5-85
**Table 5-33** Summary of Findings on Impact of Rail Transit on Commercial Real Estate Values ..... 5-87
**Table 5-34** State of California Sales Tax Breakdown ..... 5-90
**Table 5-35** Estimated Percentage of Sales Lost by Industry ..... 5-91
**Table 5-36** Estimated Sales Tax Losses by Jurisdiction and Alignment ..... 5-92
**Table 5-37** Relative Change in Sales Tax Loss by Other Alternative Alignments ..... 5-93
**Table 5-38** Sales Tax Loss for Station Alternatives ..... 5-94
**Table 5-39** Tax Loss for Heavy Maintenance Facility Site Alternatives ..... 5-94
**Table 5-40** Sales Tax Revenues Generated during Construction ..... 5-99
**Table 5-41** Contribution of Sales Tax Revenues during Construction (millions 2010$) ..... 5-100
**Table 5-42** Annual Sales Tax Revenues during Operation ..... 5-100
**Table 5-43** Contribution of Sales Tax Revenues during Operation (millions 2010$) ..... 5-101

**Figures**

**Figure 2-1** Fresno to Bakersfield HST alignments ..... 2-2
**Figure 2-2** Fresno Station–Mariposa Alternative ..... 2-7
**Figure 2-3** Fresno Station–Kern Alternative ..... 2-9
**Figure 2-4** Kings/Tulare Regional Station (potential) ..... 2-10
**Figure 2-5** Bakersfield Station–North Alternative ..... 2-11
**Figure 2-6** Bakersfield Station–South Alternative ..... 2-13
**Figure 4-1** Districts within the City of Fresno ..... 4-5
**Figure 4-2** Districts within the City of Bakersfield ..... 4-9
**Figure 4-3** Region EJ Populations ..... 4-29
**Figure 4-4** Fresno County EJ Block Populations ..... 4-30
**Figure 4-5** Kings County EJ Block Populations ..... 4-31
**Figure 4-6** Tulare County EJ Block Populations ..... 4-32
**Figure 4-7** Kern County EJ Block Populations ..... 4-33

## Acronyms and Abbreviations

| | |
|---|---|
| AB 8 | Assembly Bill 8 |
| ACS | U.S. Census Bureau, American Community Survey |
| Authority | California High-Speed Rail Authority |
| BEA | U.S. Department of Commerce Bureau of Economic Analysis |
| BNSF | BNSF Railway |
| Caltrans | California Department of Transportation |
| C.C.R. | Code of California Regulations |
| CDP | Census designated place |
| CEQ | Council on Environmental Quality |
| CEQA | California Environmental Quality Act |
| C.F.R. | Code of Federal Regulations |
| EIR/EIS | Environmental Impact Report/Environmental Impact Statement |
| EJ | environmental justice |
| FRA | Federal Railroad Administration |
| GIS | Geographic Information System |
| HMF | heavy maintenance facility |
| HST | high-speed train |
| HUD | U.S. Department of Housing and Urban Development |
| IT&TC | International Trade and Transportation Center |
| NEPA | National Environmental Protection Act |
| Ord. | Ordinance |
| OSHPD | Office of Statewide Health Planning and Development |
| PIM | public information meeting |
| Region | the four-county study region: Fresno, Kings, Tulare, and Kern counties |
| RIMS II | Regional Input-Output Modeling System |
| ROD | Record of Decision |
| RTP | Regional Transportation Plan |
| TPS | traction power substation |
| UPRR | Union Pacific Railroad |

| | |
|---|---|
| USDOT | U.S. Department of Transportation |
| USPS | U.S. Postal Service |

# Chapter 1
## Introduction

# 1.0 Introduction

## 1.1 Background

This *Community Impact Assessment Technical Report* is prepared in support of the Fresno to Bakersfield Environmental Impact Report/Environmental Impact Statement (EIR/EIS), under the direction of the California High-Speed Rail Authority (Authority). The Fresno to Bakersfield Project EIR/EIS will be developed as a stand-alone, second-tier, project-level environmental document. It will be tiered from and will incorporate by reference the certified *Final Program Environmental Impact Report/Environmental Impact Statement for the Proposed California High-Speed Train System* (Statewide Program EIR/EIS) (Authority and FRA 2005) in accordance with Council on Environmental Quality (CEQ) regulations (40 C.F.R. Part 1508.28) and California Environmental Quality Act (CEQA) Guidelines (14 C.C.R. Section 15168[b]).

The analysis contained in this report references and uses information contained in the Statewide Program EIR/EIS (Authority and FRA 2005) and in the *Project-Level Environmental Impact Report / Environmental Impact Statement: Project-Level Environmental Analysis Methodologies* (Authority and FRA 2009c) to ensure consistency with previous decisions and guidance provided by the Authority and the Federal Railroad Administration (FRA).

## 1.2 Approach

This technical report provides information on the socioeconomics, communities, and environmental justice baseline conditions and estimates the impacts occurring in the study area. Chapter 2 provides the project description summary. Chapter 3 provides regulatory information and a summary of relevant elements in the general plans, including land use, transportation and circulation, housing, open space and conservation, community facilities and services, and economic development. Chapter 4 provides a description of the affected environment, including population and demographics, income, environmental justice populations, housing, economic and fiscal conditions, community facilities and non-motorized circulation and access (pedestrian and bicycle) for the region as a whole and the counties and cities within the study area. Chapter 5 provides an examination of the environmental consequences to character and cohesion in communities and neighborhoods; residential, commercial, industrial, and agricultural property through acquisition; environmental justice populations as well as sensitive populations of elderly, disabled, linguistically isolated and female head of household; school districts; agricultural access and fiscal implications for county and city governments. Due to the length of the project corridor, this effort required compilation of a large amount of data examining baseline conditions and impacts across many communities. The majority of the data are presented in the report appendices, while the report itself focuses on summarizing and analyzing the data. Appendix A provides details on the methodologies used to collect data and examines potential impacts. Appendix B provides a summary of the detailed community data collected to describe the affected environment in Chapter 4. Appendix C provides a detailed presentation of the analysis conducted to estimate dollar value impacts to agricultural operations in the study area. Appendix D provides a list of the past, present, and future development projects in the vicinity of the Fresno to Bakersfield Section for use in the cumulative impact analysis.

## 1.3 Study Area Definition

The study region is composed of the four counties that make up the southern San Joaquin Valley: Fresno, Kings, Tulare, and Kern. Within these counties, the project directly affects six urban areas – the cities of Fresno, Hanford, Corcoran, Wasco, Shafter, and Bakersfield. The study area is defined as the project corridor within this region running from Amador Street, north of the station location in the city of Fresno, to Union Street, east of the proposed station location in

Bakersfield. The study area for this baseline report for socioeconomics, communities, and environmental justice is the area within a 0.5-mile radius from the centerline of the project alignment and a 0.5-mile radius from each station location. Outside this study area, the introduction of the California High-Speed Train (HST) system is not likely to result in a substantial change to socioeconomics, communities, and environmental justice conditions. An exception to this standard 0.5-mile radius study area is the area examined for property acquisition and relocation. This particular study area is defined as those privately held residential, commercial, and industrial properties (or parcels) that fall within the project footprint defined as the alignment right-of-way, construction areas, borrow sites, and road crossings.

For examination of impacts on community facilities, all of these facilities within the cities of Corcoran, Wasco, and Shafter were examined given the smaller overall geographic area, the fact that the key downtown areas are almost entirely contained in the 0.5 mile study area and the more homogeneous populations. Although the project passes outside of the incorporated area of Hanford, given its size and importance in the region, it is also examined as a whole.

The cities of Fresno and Bakersfield were determined to be too large and composed of too many distinct neighborhoods and heterogeneous populations to be examined as a whole. Therefore, study area profiles for these cities also include data by district to create more project-focused areas for analysis. Data for the city of Fresno are presented for the city as a whole, but also for the Central, Edison, and Roosevelt districts. For Bakersfield, data are presented for the city as a whole, as well as for the Central, Northeast, and Northwest districts. The project alternative alignments would traverse these districts in the two major cities. The Northeast district of Bakersfield is not completely contained within the project study area. This neighborhood, which lies south of East Truxtun Avenue between Union Avenue and Oswell Street, is only partially within the defined project study area for the Fresno to Bakersfield Section, but is examined as a whole community in this document. This approach is taken because the Bakersfield to Palmdale Section of the HST project will continue on from the Bakersfield Station and continue to bisect this neighborhood. Therefore, it is important to examine potential impacts to this cohesive community as a whole rather than have the analysis split between the two projects' environmental documents. District boundaries were determined based on current definitions used by city staff (Fresno), interviews with local planners (Bakersfield), and examination of census boundaries (tract, block group, and block) to approximate the district boundaries as closely as possible. The district boundaries are not drawn exactly to meet the 0.5-mile study area radius but rather to identify the relevant area based on demographics and cohesion that needs to be examined in the context of a community.

## 1.4 Informational Sources

Information for this report was obtained from a variety of reports and data sources provided by federal, state, and local agencies. All collected data were the most recently available at the time the analysis was performed. The information for Chapter 2 was derived from county and city general plans as well as other relevant plans for the study area. The information and data for Chapter 3 were obtained from the U.S. Census Bureau, the California Employment Development Department, the California State Board of Equalization, the California Department of Finance, county and city planning agencies and county council of governments. (In addition, information on community facilities was verified through the use of aerial photographs, Geographic Information System (GIS) data sets, and field investigations.) All information and data sources are cited when used in this report and are also provided in the methodologies in Appendix A.

# Chapter 2
## Project Description

# 2.0 Project Description

## 2.1 Project Introduction

The Fresno to Bakersfield Section of the HST project would be approximately 114 miles long, varying in length by only a few miles based on the route alternatives selected. To comply with the Authority's guidance to use existing transportation corridors when feasible, the Fresno to Bakersfield HST Section would be primarily located adjacent to the existing BNSF Railway right-of-way. Alternative alignments are being considered where engineering constraints require deviation from the existing railroad corridor, and to avoid environmental impacts.

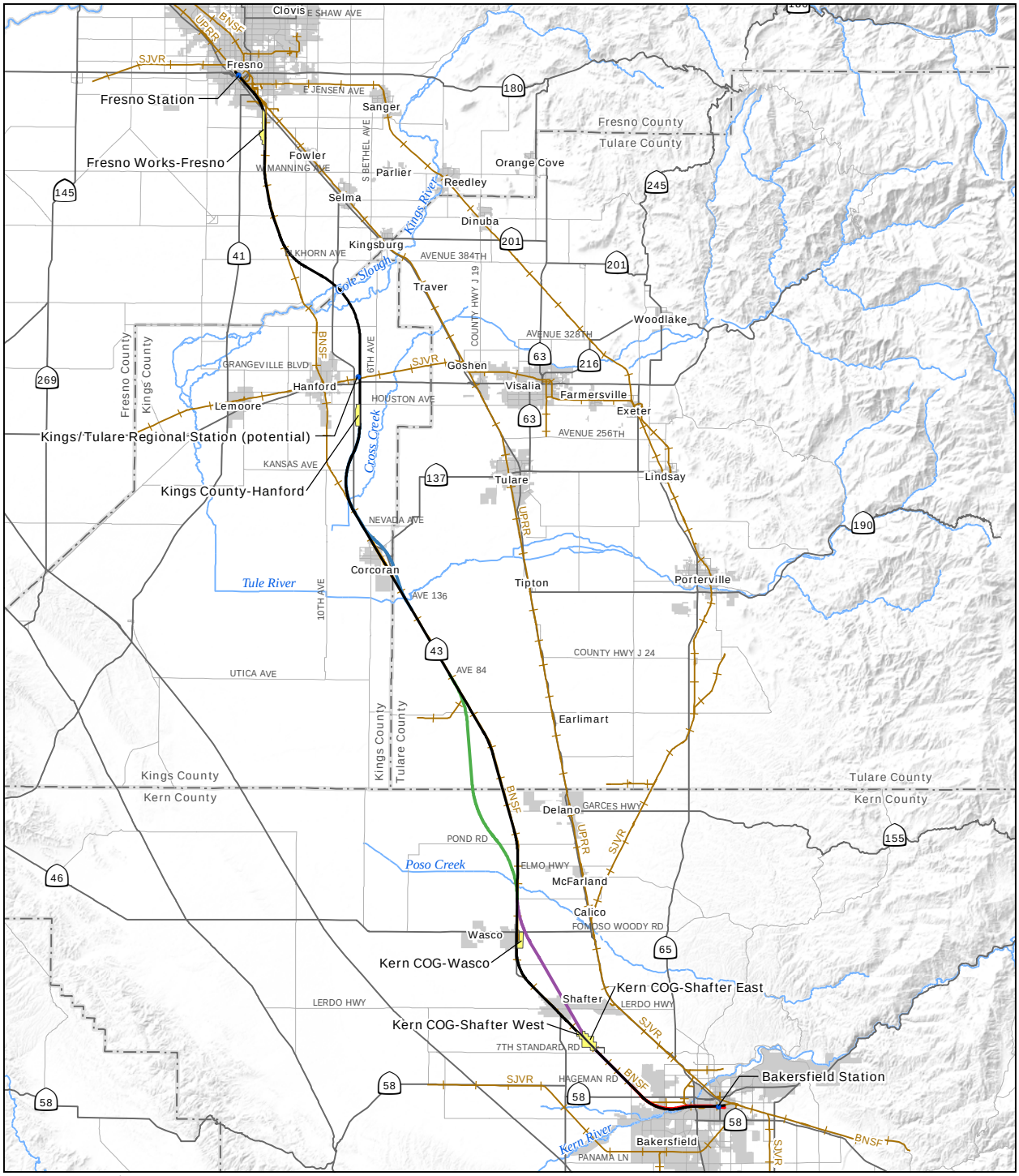
The Fresno to Bakersfield HST Section would cross both urban and rural lands and include a station in both Fresno and Bakersfield, a potential Kings/Tulare Regional Station in the vicinity of Hanford, a potential heavy maintenance facility (HMF), and power substations along the alignment. The HST alignment would be entirely grade-separated, meaning that crossings with roads, railroads, and other transport facilities would be located at different heights (overpasses or underpasses) so that the HST would not interrupt nor interface with other modes of transport. The HST right-of-way would also be fenced to prohibit public or automobile access. The project footprint would consist primarily of the train right-of-way, which would include both a northbound and southbound track in an area typically 100 feet wide. Additional right-of-way would be required to accommodate stations, multiple track at stations, maintenance facilities, and power substations.

The Fresno to Bakersfield Section would include at-grade, below-grade, and elevated track segments. The at-grade track would be laid on an earthen rail bed topped with rock ballast approximately 6 feet off of the ground; fill and ballast for the rail bed would be obtained from permitted borrow sites and quarries. Below-grade track would be laid in an open or covered trench at a depth which would allow roadway and other grade-level uses above the track. Elevated track segments would span long sections of urban development or aerial roadway structures and consist of steel truss viaducts or guideway structures with cast in place reinforced-concrete columns supporting the guideway box girders and platforms. The height of elevated track sections would depend on the height of existing structures below, and would range from 40 to 80 feet. Columns would be spaced 60 feet to 120 feet apart.

## 2.2 Project Alternatives

### 2.2.1 Alignment Alternatives

This section describes the Fresno to Bakersfield HST Section project alternatives, including the No Project Alternative. The project EIR/EIS for the Fresno to Bakersfield HST Section examines alternative alignments, stations, and HMF sites within the general BNSF Railway corridor. Discussion of the HST project alternatives begins with a single continuous alignment (the BNSF Alternative) from Fresno to Bakersfield. This alternative most closely aligns with the preferred alignment identified in the Record of Decision (ROD) for the Statewide Program EIR/EIS. Descriptions of the additional five alternative alignments that deviate from the BNSF Alternative for portions of the route then follow. The alternative alignments that deviate from the BNSF Alternative were selected to avoid environmental, land use, or community issues identified for portions of the BNSF Alternative (Figure 2-1).




PRELIMINARY DRAFT/SUBJECT TO CHANGE - HST ALIGNMENT IS NOT DETERMINED

May 16, 2011

Source: URS, 2011

- BNSF Alternative
- Corcoran Elevated
- Corcoran Bypass
- Allensworth Bypass
- Wasco-Shafter Bypass
- Bakersfield South
- Station location
- Alternative heavy maintenance facility (HMF)
- Stream
- Existing rail line
- Community/Urban area
- County boundary

N

0 5 10 Miles

0 10 20 Kilometers

Figure 2-1
Fresno to Bakersfield HST alignments

## A. NO PROJECT ALTERNATIVE

Under the No Project Alternative, the HST System would not be built. The No Project Alternative represents the condition of the Fresno to Bakersfield Section as it existed in 2009 (when the Notice of Preparation was issued), and as it would exist without the HST project at the planning horizon (2035). To assess future conditions, it was assumed that all currently known programmed and funded improvements to the intercity transportation system (highway, rail, and transit), and reasonably foreseeable local development projects (with funding sources identified), would be developed by 2035. The No Project Alternative is based on a review of Regional Transportation Plans (RTPs) for all modes of travel, the State of California Office of Planning and Research CEQAnet Database, the Federal Aviation Administration Air Carrier Activity Information System and Airport Improvement Plan grant data, the State Transportation Improvement Program, airport master plans and interviews with airport officials, intercity passenger rail plans, and city and county general plans and interviews with planning officials.

## B. BNSF ALTERNATIVE ALIGNMENT

The BNSF Alternative Alignment would extend approximately 114 miles from Fresno to Bakersfield and would lie adjacent to the BNSF Railway route to the extent feasible (Figure 2-1). Minor deviations from the BNSF Railway corridor would be necessary to accommodate engineering constraints, namely wider curves necessary to accommodate the HST (as compared with the existing lower-speed freight line track alignment). The largest of these deviations occurs between approximately Elk Avenue in Fresno County and Nevada Avenue in Kings County. This segment of the BNSF Alternative would depart from BNSF Railway corridor and instead curve to the east on the northern side of the Kings River and away from Hanford, and would rejoin the BNSF Railway corridor north of Corcoran.

Although the majority of the alignment would be at-grade, the BNSF Alternative would include elevated structures in all of the four counties through which it travels. In Fresno County, an elevated structure would carry the alignment over Golden State Boulevard and SR 99 and a second would cross over the BNSF Railway tracks in the vicinity of East Conejo Avenue. The alignment would be at-grade with bridges where it crosses Cole Slough and the Kings River into Kings County.

In Kings County, the BNSF Alternative would be elevated east of Hanford where the alignment would pass over the San Joaquin Valley Railroad and SR 198. The alignment would also be elevated over Cross Creek, and again at the southern end of the city of Corcoran to avoid a BNSF Railway spur. In Tulare County, the BNSF Alternative would be elevated at the crossing of the Tule River and at the crossing of the Alpaugh railroad spur that runs west from the BNSF Railway mainline. The BNSF Alternative would be elevated in Kern County across both Poso Creek and the Kern River continuing through the city of Bakersfield.

The BNSF Alternative Alignment would provide wildlife crossing opportunities by means of a variety of engineered structures. Dedicated wildlife crossing structures would be provided from approximately Cross Creek (Kings County) south to Poso Creek (Kern County) in at-grade portions of the railroad embankment at approximately 0.3-mile intervals. In addition to those structures, wildlife crossing opportunities would be available at viaduct portions of the alignment, bridges over riparian corridors, road overcrossings and undercrossings, and drainage facilities (i.e., large diameter [60 to 120 inches] culverts and paired 30-inch culverts). Where bridges, viaducts, and road crossings coincide with proposed dedicated wildlife crossing structures, such features would serve the function of, and supersede the need for, dedicated wildlife crossing structures.

The preliminary wildlife crossing structure design consists of a modified culvert in the embankment that would support the HST tracks. The typical culvert would be 72 feet long from end to end (crossing structure distance), would span a width of approximately 8 feet (crossing structure width), and would provide 4 feet of vertical clearance (crossing structure height). Additional wildlife crossing structure designs could include circular or elliptical pipe culverts, and larger (longer) culverts with crossing structure distances of up to 100 feet. The design of the wildlife crossing structures may change depending on site-specific conditions and engineering considerations.

## C. CORCORAN ELEVATED ALTERNATIVE ALIGNMENT

The Corcoran Elevated Alternative Alignment would be the same as the corresponding section of the BNSF Alternative Alignment except that it would pass through the city of Corcoran on the eastern side of the BNSF Railway right-of-way on an elevated structure. The elevated structure would reach a maximum height of approximately 40 feet to the top of the rail. Dedicated wildlife crossing structures would be provided from approximately Cross Creek south to Avenue 136 in at-grade portions of the railroad embankment at intervals of approximately 0.3 mile. Dedicated wildlife crossing structures would also be placed between 100 and 500 feet to the north and south of both the Cross Creek and Tule River crossings.

This alternative alignment would cross SR 43 and several local roads. SR 43 near Jersey Avenue would pass under the HST. Idaho Avenue, Jackson Avenue, Kent Avenue, Kansas Avenue, and Nevada Avenue would be grade-separated from the HST with overcrossings. The HST would pass over several local roads on a viaduct structure, while other roads would be closed at the HST right-of-way.

## D. CORCORAN BYPASS ALTERNATIVE ALIGNMENT

The Corcoran Bypass Alternative Alignment would run parallel to the BNSF Alternative Alignment from approximately Idaho Avenue south of Hanford, to approximately Nevada Avenue north of Corcoran. The Corcoran Bypass Alternative would then diverge from the BNSF Alternative and swing east of Corcoran, rejoining the BNSF Railway route at Avenue 136. The total length of the Corcoran Bypass would be approximately 21 miles.

Similar to the corresponding section of the BNSF Alternative, most of the Corcoran Bypass Alternative would be at-grade. However, two elevated structures would carry the HST over Cross Creek and the Tule River. Dedicated wildlife crossing structures would be provided from approximately Cross Creek south to Avenue 136 in at-grade portions of the railroad embankment at intervals of approximately 0.3 mile. Dedicated wildlife crossing structures would also be placed between 100 and 500 feet to the north and south of each of the Cross Creek and Tule River crossings.

This alternative alignment would cross SR 43, Whitley Avenue/SR 137, and several local roads. SR 43, Waukena Avenue, and Whitley Avenue would be grade-separated from the HST with an overcrossing/undercrossing; other roads including Niles Avenue, Orange Avenue, and Avenue 152 would be closed at the HST right-of-way.

## E. ALLENSWORTH BYPASS ALTERNATIVE ALIGNMENT

The Allensworth Bypass Alternative Alignment would pass west of the BNSF Alternative, avoiding Allensworth Ecological Reserve and the Allensworth State Historic Park. This alignment was refined over the course of environmental studies to reduce impacts to wetlands and orchards. The total length of the Allensworth Bypass Alternative Alignment would be approximately 19 miles, beginning at Avenue 84 and rejoining the BNSF Alternative at Elmo Highway.

The Allensworth Bypass Alternative would be constructed on an elevated structure only where the alignment crosses the Alpaugh railroad spur. The alignment would pass through Tulare County mostly at-grade. Dedicated wildlife crossing structures would be provided from approximately Avenue 84 to Poso Creek at intervals of approximately 0.3 mile. Dedicated wildlife crossing structures would also be placed between 100 and 500 feet to the north and south of both the Deer Creek and Poso Creek crossings.

The Allensworth Bypass would cross County Road J22, Scofield Avenue, Garces Highway, Woollomes Avenue, Magnolia Avenue, Palm Avenue, Pond Road, Peterson Road, and Elmo Highway. Woollomes Avenue and Elmo Highway would be closed at the HST right-of-way, while the other roads would be realigned and/or grade-separated from the HST with overcrossings.

The Allensworth Bypass Alternative also includes an option to relocate the existing BNSF Railway tracks to be adjacent to the HST right-of-way for the length of this alignment. The possibility of relocating the BNSF Railway tracks along this alignment has not yet been discussed with BNSF Railway; however, if this option is selected, it is assumed that the existing BNSF Railway right-of-way would be abandoned between Avenue 84 and Elmo Highway, and the relocated BNSF Railway right-of-way would be 100 feet wide and adjacent to the eastern side of the Allensworth Bypass Alternative right-of-way.

#### F. WASCO-SHAFTER BYPASS ALTERNATIVE ALIGNMENT

The Wasco-Shafter Bypass Alternative Alignment would diverge from the BNSF Alternative between Sherwood Avenue and Fresno Avenue, crossing over to the eastern side of the BNSF Railway tracks and bypassing Wasco and Shafter to the east. The Wasco-Shafter Bypass Alternative would rejoin the BNSF Alternative at 7th Standard Road. The total length of the alternative alignment would be approximately 24 miles, and the alignment would be at-grade.

The Wasco-Shafter Bypass was refined to avoid the Occidental Petroleum tank farm as well as an historic property potentially eligible for listing on the National Register of Historic Places. The Wasco-Shafter Bypass would cross SR 43, SR 46, East Lerdo Highway, and several local roads. SR 46, Kimberlina Road, Shafter Avenue, Beech Avenue, Cherry Avenue, and Kratzmeyer Road would be grade-separated from the HST with overcrossings/undercrossings; other roads would be closed at the HST right-of-way.

#### G. BAKERSFIELD SOUTH ALTERNATIVE ALIGNMENT

From the Rosedale Highway (SR 58) in Bakersfield, the Bakersfield South Alternative Alignment would run parallel to the BNSF Alternative Alignment at varying distances to the north. At Chester Avenue, the Bakersfield South Alternative curves south, and runs parallel to California Avenue. As with the BNSF Alternative, the Bakersfield South Alternative would begin at-grade but then be elevated starting at Palm Avenue through Bakersfield to its terminus at the southern end of the Bakersfield station tracks. The elevated section would range in height from 50 to 70 feet. Dedicated wildlife crossing structures would be placed between 100 and 500 feet to the north and south of the Kern River.

The Bakersfield South Alternative would be approximately 9 miles long and would cross the same roads as the BNSF Alternative. This alternative includes the Bakersfield Station–South Alternative.

### 2.2.2 Station Alternatives

The Fresno to Bakersfield HST Section would include a new station in Fresno and a new station in Bakersfield. An optional third station, the Kings/Tulare Regional Station, is under consideration.

Stations would be designed to address the purpose of the HST, particularly to allow for intercity travel and connection to local transit, airports, and highways. Stations would include the station platforms, a station building and associated access structure, as well as lengths of bypass tracks to accommodate local and express service at the stations. All stations would contain the following elements:

- Passenger boarding and alighting platforms.
- Station head house with ticketing, waiting areas, passenger amenities, vertical circulation, administration and employee areas, and baggage and freight-handling service.
- Vehicle parking (short-term and long-term) and "kiss and ride[1]".
- Motorcycle/scooter parking.
- Bicycle parking.
- Waiting areas and queuing space for taxis and shuttle buses.
- Pedestrian walkway connections.

## A. FRESNO STATION ALTERNATIVES

Two alternative sites are under consideration for the Fresno Station.

### Fresno Station–Mariposa Alternative

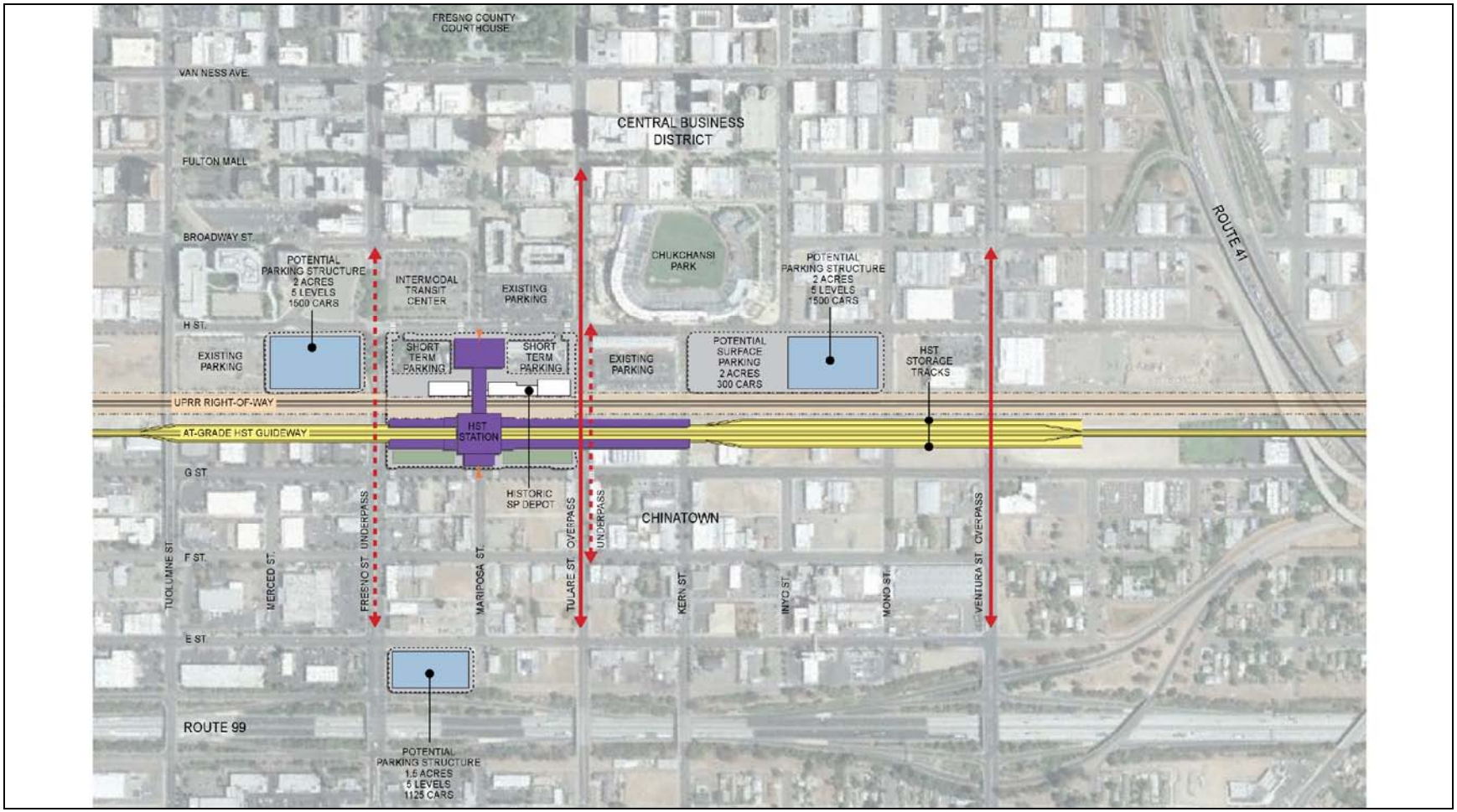
The Fresno Station–Mariposa Alternative would be in downtown Fresno, less than 0.5 mile east of SR 99 on the BNSF Alternative. The station would be centered on Mariposa Street and bordered by Fresno Street on the north, Tulare Street on the south, H Street on the east, and G Street on the west. The station building would be approximately 75,000 square feet, with a maximum height of approximately 60 feet.

The two-level station would be at-grade; with passenger access provided both east and west of the HST guideway and the UPRR tracks, which would run parallel with one another adjacent to the station. The first level would contain the public concourse, passenger service areas, and station and operation offices. The second level would include the mezzanine, a pedestrian overcrossing above the HST guideway and the UPRR tracks, and an additional public concourse area. Entrances would be located at both G and H streets. A conceptual site plan of the Fresno Station–Mariposa Alternative is provided in Figure 2-2.

The majority of station facilities would be east of the UPRR tracks. The station and associated facilities would occupy approximately 18.5 acres, including 13 acres dedicated to the station, bus transit center, surface parking lots, and kiss-and-ride accommodations. A new intermodal facility would be included in the station footprint on the parcel bordered by Fresno Street to the north, Mariposa Street to the south, Broadway Street to the east, and H Street to the west (designated "Intermodal Transit Center" in Figure 2-2). Among other uses, the intermodal facility would accommodate the Greyhound facilities and services that would be relocated from the northwestern corner of Tulare and H streets.

The site proposal includes the potential for up to three parking structures occupying a total of approximately 5.5 acres. Two of the three potential parking structures would each sit on 2 acres, and each would have a capacity of approximately 1,500 cars. The third parking structure would be slightly smaller in footprint (1.5 acres), with five levels and a capacity of approximately 1,100 cars. Surface parking lots would provide approximately 800 additional parking spaces.

[1] "Kiss and ride" refers to the station area where riders may be dropped off or picked up before or after riding the HST.




PRELIMINARY DRAFT/SUBJECT TO CHANGE - HST ALIGNMENT IS NOT DETERMINED

May 16, 2011

STATION ENTRANCE

KEY PEDESTRIAN LINKAGE

OPEN SPACE

STATION CAMPUS BOUNDARY

RIGHT-OF-WAY BOUNDARY

ROADWAY MODIFICATION

NOT TO SCALE

Figure 2-2
Fresno Station-Mariposa Alternative

The Authority would work with the city of Fresno and other interested parties to phase parking supply to support HST ridership demand and the demand for emerging uses in the area surrounding the station. Under this alternative, the historic Southern Pacific Railroad depot would remain intact and could be used for station-related functions.

**Fresno Station–Kern Alternative**

The Fresno Station–Kern Alternative would be similarly situated in downtown Fresno and would be located on the BNSF Alternative, centered on Kern Street between Tulare Street and Inyo Street (Figure 2-3). This station would include the same components as the Fresno Station–Mariposa

Alternative, but under this alternative, the station would not encroach on the historic Southern Pacific Railroad depot just north of Tulare Street and would not require relocation of existing Greyhound facilities.

The station building would be approximately 75,000 square feet, with a maximum height of approximately 60 feet. The station building would have two levels housing the same facilities as the Fresno Station–Mariposa Alternative (UPRR tracks, HST tracks, mezzanine, and station office). The approximately 18.5-acre site would include 13 acres dedicated to the station, bus transit center, surface parking lots, and kiss-and-ride accommodations.

Two of the three potential parking structures would each sit on 2 acres, and each would have a capacity of approximately 1,500 cars. The third structure would be slightly smaller in footprint (1.5 acres) and have a capacity of approximately 1,100 cars. Surface parking lots would provide approximately 600 additional parking spaces. Like the Fresno Station–Mariposa Alternative, the majority of station facilities under the Kern Alternative would be sited east of the HST tracks.

### B. KINGS/TULARE REGIONAL STATION

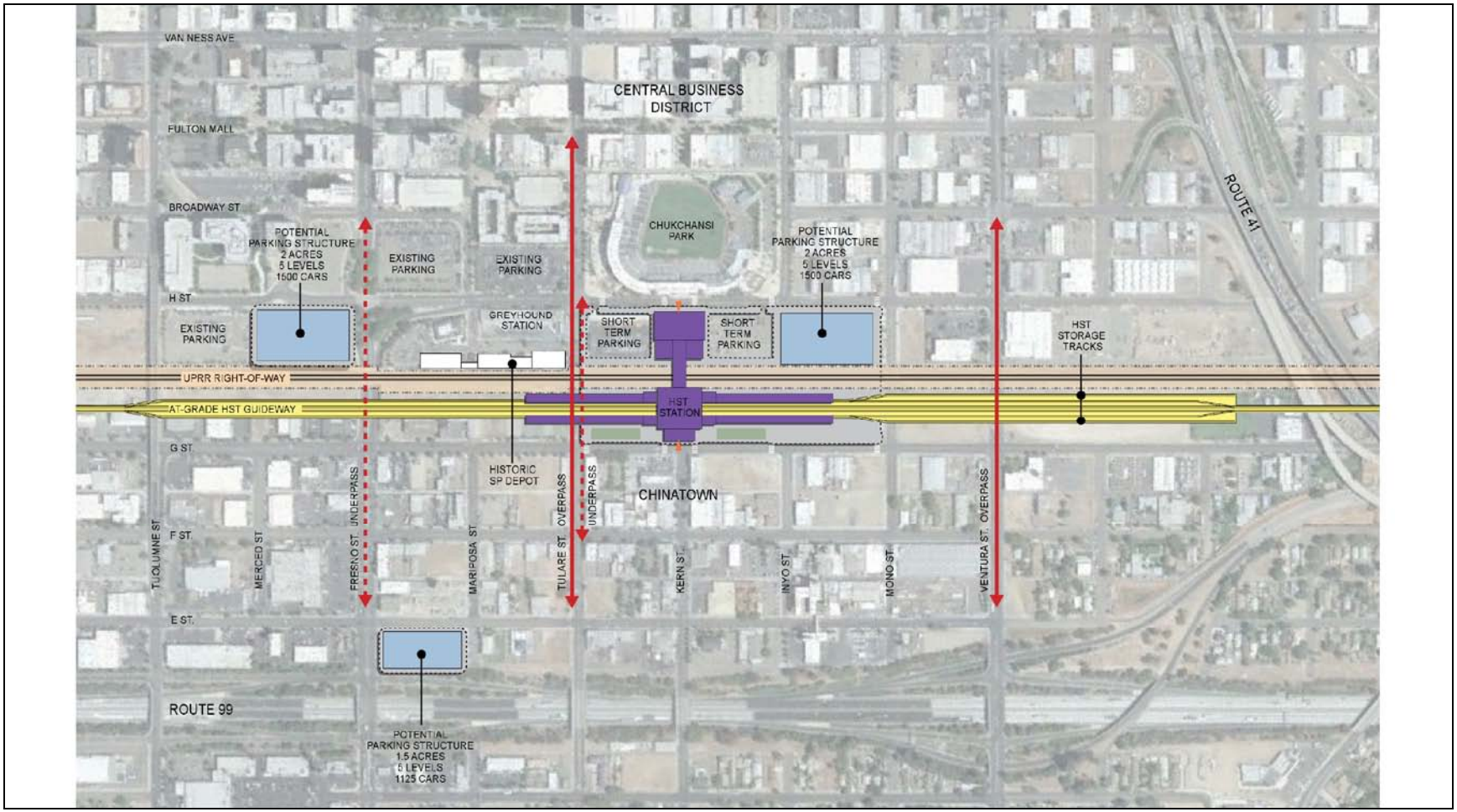
The potential Kings/Tulare Regional Station would be located east of SR 43 (Avenue 8) and north of the Cross Valley Rail Line (San Joaquin Valley Railroad) (Figure 2-4). The station building would be approximately 40,000 square feet with a maximum height of approximately 75 feet. The entire site would be approximately 28 acres, including 8 acres designated for the station, bus transit center, short-term parking, and kiss-and-ride. An additional approximately 20 acres would support a surface parking lot with approximately 1,600 spaces.

### C. BAKERSFIELD STATION ALTERNATIVES

Two options are under consideration for the Bakersfield Station.

**Bakersfield Station–North Alternative**

The Bakersfield Station–North Alternative would be located at the corner of Truxtun and Union Avenue/SR 204 along the BNSF Alternative Alignment (Figure 2-5). The three-level station building would be 52,000 square feet, with a maximum height of approximately 95 feet. The first level would house station operation offices and would also accommodate trains running along the BNSF Railway line. The second level would include the mezzanine; the HST platforms and guideway would pass through the third level. Under this alternative, the station building would be located at the western end of the parcel footprint. Two new boulevards would be constructed to access the station and the supporting facilities.




PRELIMINARY DRAFT/SUBJECT TO CHANGE - HST ALIGNMENT IS NOT DETERMINED

May 16, 2011

STATION ENTRANCE

KEY PEDESTRIAN LINKAGE

OPEN SPACE

STATION CAMPUS BOUNDARY

RIGHT-OF-WAY BOUNDARY

ROADWAY MODIFICATION

NOT TO SCALE

Figure 2-3
Fresno Station-Kern Alternative

PRELIMINARY DRAFT/SUBJECT TO CHANGE - HST ALIGNMENT IS NOT DETERMINED

May 16, 2011

STATION ENTRANCE

KEY PEDESTRIAN LINKAGE

OPEN SPACE

STATION CAMPUS BOUNDARY

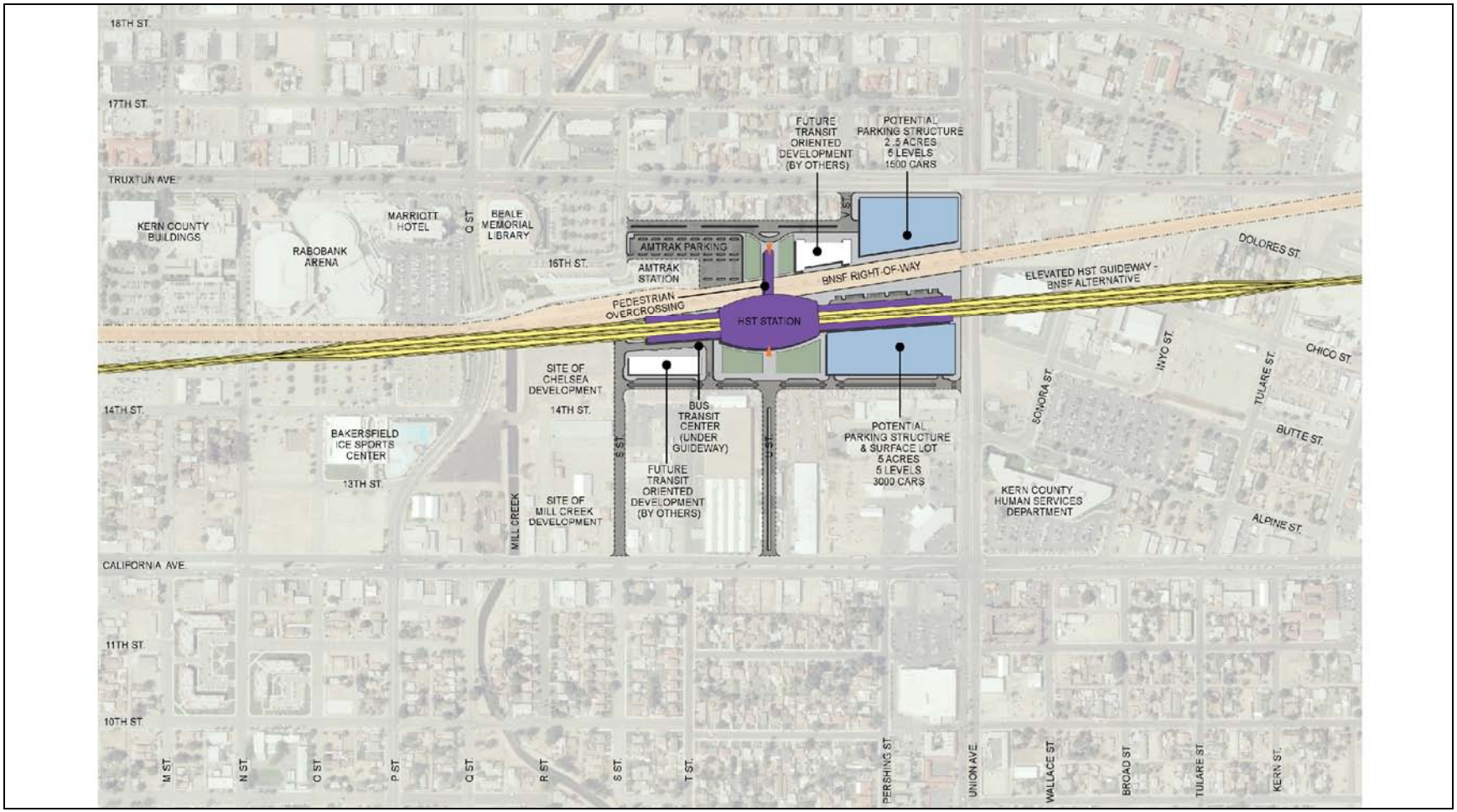
RIGHT-OF-WAY BOUNDARY

ROADWAY MODIFICATION

N

NOT TO SCALE

Figure 2-4
Kings/Tulare Regional Station (potential)




PRELIMINARY DRAFT/SUBJECT TO CHANGE - HST ALIGNMENT IS NOT DETERMINED

May 16, 2011

STATION ENTRANCE

KEY PEDESTRIAN LINKAGE

OPEN SPACE

STATION CAMPUS BOUNDARY

RIGHT-OF-WAY BOUNDARY

ROADWAY MODIFICATION

N

NOT TO SCALE

Figure 2-5
Bakersfield Station-North Alternative

The 19-acre site would designate 11.5 acres for the station, bus transit center, short-term parking, and kiss-and-ride. An additional 7.5 acres would house two parking structures that together would accommodate approximately 4,500 cars. The bus transit center and the smaller of the two parking structures (2.5 acres) would be located north of the HST tracks. The BNSF Railway line would run through the station at-grade, with the HST alignment running on an elevated guideway.

**Bakersfield Station–South Alternative**

The Bakersfield Station–South Alternative would be would be similarly located in downtown Bakersfield, but situated on the Bakersfield South Alternative Alignment along Union and California avenues, just south of the BNSF Railway right-of-way (Figure 2-6). The two-level station building would be 51,000 square feet, with a maximum height of approximately 95 feet. The first floor would house the concourse, and the platforms and the guideway would be on the second floor. Access to the site would be from two new boulevards, one branching off from California Avenue and the other from Union Avenue.

The entire site would be 20 acres, with 15 acres designated for the station, bus transit center, short-term parking, and kiss-and-ride. An additional 5 acres would support one six-level parking structure with a capacity of approximately 4,500 cars. Unlike the Bakersfield Station–North Alternative, this station site would be located entirely south of the BNSF Railway right-of-way.

### 2.2.3 Heavy Maintenance Facility (HMF)

One HST heavy vehicle maintenance and layover facility would be sited along either the Merced to Fresno or Fresno to Bakersfield HST section. Before the startup of initial operations, the HMF would support the assembly, testing, commissioning, and acceptance of high-speed rolling stock. During regular operations, the HMF would provide maintenance and repair functions, activation of new rolling stock, and train storage. The HMF concept plan indicates that the site would encompass approximately 154 acres to accommodate shops, tracks, parking, administration, roadways, power substation, and storage areas. The HMF would include tracks that allow trains to enter and leave under their own electric power or under tow. The HMF would also have management, administrative, and employee support facilities. Up to 1,500 employees could work at the HMF during any 24-hour period.

The Authority has determined that one HMF would be located between Merced and Bakersfield; however, the specific location has not yet been finalized. Five HMF sites are under consideration in the Fresno to Bakersfield Section (Figure 2-1):

- The Fresno Works–Fresno HMF site lies within the southern limits of the city of Fresno and county of Fresno next to the BNSF Railway right-of-way between SR 99 and Adams Avenue. Up to 590 acres are available for the facility at this site.
- The Kings County–Hanford HMF site lies southeast of the city of Hanford, adjacent to and east of SR 43, between Houston and Idaho Avenues. Up to 510 acres are available at the site.
- The Kern Council of Governments–Wasco HMF site lies directly east of Wasco between SR 46 and Filburn Street. Up to 420 acres are available for the facility at this site.
- The Kern Council of Governments–Shafter East HMF site lies in the city of Shafter between Burbank Street and 7th Standard Road to the east of the BNSF Railway right-of-way. This site also has up to 490 acres available for the facility.

PRELIMINARY DRAFT/SUBJECT TO CHANGE - HST ALIGNMENT IS NOT DETERMINED

May 16, 2011

STATION ENTRANCE

KEY PEDESTRIAN LINKAGE

OPEN SPACE

STATION CAMPUS BOUNDARY

RIGHT-OF-WAY BOUNDARY

ROADWAY MODIFICATION

N

NOT TO SCALE

Figure 2-6
Bakersfield Station-South Alternative

- The Kern Council of Governments–Shafter West HMF site lies in the city of Shafter between Burbank Street and 7th Standard Road to the west of the BNSF Railway right-of-way. This site has up to 480 acres available for the facility.

## 2.3 Power

To provide power for the HST, high-voltage electricity at 115 kV and above would be drawn from the utility grid and transformed down to 25,000 volts. The voltage would then be distributed to the trains via an overhead catenary system. The project would not include the construction of a separate power source, although it would include the extension of power lines to a series of power substations positioned along the HST corridor. The transformation and distribution of electricity would occur in three types of stations:

- Traction power supply stations (TPSSs) transform high-voltage electricity supplied by public utilities to the train operating voltage. TPSSs would be sited adjacent to existing utility transmission lines and the HST right-of-way, and would be located approximately every 30 miles along the route. Each TPSS would be 200 feet by 160 feet.

- Switching stations connect and balance the electrical load between tracks, and switch power on or off to tracks in the event of a power outage or emergency. Switching stations would be located midway between, and approximately 15 miles from, the nearest TPSS. Each switching station would be 120 feet by 80 feet and located adjacent to the HST right-of-way.

- Paralleling stations, or autotransformer stations, provide voltage stabilization and equalize current flow. Paralleling stations would be located every 5 miles between the TPSSs and the switching stations. Each paralleling station would be 100 feet by 80 feet and located adjacent to the HST right-of-way.

## 2.4 Project Construction

The construction plan developed by the Authority and described below would maintain eligibility for eligibility for federal American Recovery and Reinvestment Act (ARRA) funding. For the Fresno to Bakersfield HST Section, specific construction elements would include at-grade and below-grade track, viaducts, track work, grade crossings, and installation of a positive train control system. At-grade track sections would be built using conventional railroad construction techniques. A typical sequence includes clearing, grubbing, grading, and compacting of the rail bed; application of crushed rock ballast; laying of track; and installation of electrical and communications systems.

The precast segmental construction method is proposed for elevated track sections. In this construction method, large concrete bridge segments would be mass-produced at an onsite temporary casting yard. Precast segments would then be transported atop the already completed portions of the elevated track and installed using a special gantry crane positioned on the viaduct. Although the precast segmental method is the favored technique for viaduct construction, other methods may be used, including cast-in-place, box girder, or precast span-by-span techniques.

Pre-construction activities would be conducted during final design and include geotechnical investigations, identification of staging areas, initiation of site preparation and demolition, relocation of utilities, and implementation of temporary, long-term, and permanent road closures. Additional studies and investigations to develop construction requirements and worksite traffic control plans would be conducted as needed.

Major construction activities for the Fresno to Bakersfield HST Section would include earthwork and excavation support systems construction, bridge and viaduct construction, railroad systems construction (including trackwork, traction electrification, signaling, and communications), and station construction. During peak construction periods, work is envisioned to be underway at several locations along the route, with overlapping construction of various project elements. Working hours and workers present at any time will vary depending on the activities being performed.

The Authority intends to build the project using sustainable methods that:

- Minimize the use of nonrenewable resources.
- Minimize the impacts on the natural environment.
- Protect environmental diversity.
- Emphasize the use of renewable resources in a sustainable manner. An example of this approach would be the use of material recycling for project construction (e.g., asphalt, concrete, or Portland Cement Concrete (PCC), excavated soil, etc.).

The overall schedule for construction is provided in Table 2-1.

**Table 2-1**
Construction Schedule

| Activity | Tasks | Duration |
|---|---|---|
| Mobilization | Safety devices and special construction equipment mobilization | March–October 2013 |
| Site Preparation | Utilities relocation; clearing/grubbing right-of-way; establishment of detours and haul routes; preparation of construction equipment yards, stockpile materials, and precast concrete segment casting yard | April–August 2013 |
| Earth Moving | Excavation and earth support structures | August 2013–August 2015 |
| Construction of Road Crossings | Surface street modifications, grade separations | June 2013–December 2017 |
| Construction of Elevated Structures | Viaduct and bridge foundations, substructure, and superstructure | June 2013–December 2017 |
| Track Laying | Includes backfilling operations and drainage facilities | January 2014–August 2017 |
| Systems | Train control systems, overhead contact system, communication system, signaling equipment | July 2016–November 2018 |
| Demobilization | Includes site cleanup | August 2017–December 2019 |
| HMF Phase 1[a] | Test Track Assembly and Storage | August–November 2017 |
| Maintenance-of-Way Facility | Potentially colocated with HMF[a] | January–December 2018 |

**Table 2-1**
Construction Schedule

| Activity | Tasks | Duration |
|---|---|---|
| HMF Phase 2[a] | Test Track Light Maintenance Facility | June–December 2018 |
| HMF Phase 3[a] | Heavy Maintenance Facility | January–July 2021 |
| HST Stations | Demolition, site preparation, foundations, structural frame, electrical and mechanical systems, finishes | Fresno:<br>December 2014–October 2019<br><br>Kings/Tulare Regional: TBD[b]<br><br>Bakersfield:<br>January 2015–November 2019 |

Notes:
[a] The HMF would be sited along either the Merced to Fresno or Fresno to Bakersfield section.
[b] ROW would be acquired for the Kings/Tulare Regional Station; however, the station itself would not be part of initial construction.
TBD = to be determined

# Chapter 3
## Regulatory Setting

# 3.0 Regulatory Setting

This section provides a summary of the federal, state, and local regulatory setting. Local considerations for socioeconomic, community, and environmental justice issues surround general plans and other local planning documents and reports.

## 3.1 Federal Regulations

**National Environmental Policy Act (NEPA) [42 U.S.C. Section 4321 et seq.]**

Requires the consideration of potential environmental impacts, including potential socioeconomic impacts, in the evaluation of any proposed federal agency action. NEPA also obligates federal agencies to consider the environmental consequences and costs in their projects and programs as part of the planning process. General NEPA procedures are set forth in the CEQ regulations at 23 C.F.R. 771.

**Title VI of the Civil Rights Act [42 U.S.C. Section 2000(d) et seq.]**

Title VI of the Civil Rights Act prohibits discrimination on the basis of race, color, national origin, age, sex, or disability in programs and activities receiving federal financial assistance.

**Executive Order 12898**

The Executive Order 12898, known as the federal environmental justice policy, requires federal agencies to address to the greatest extent practicable and permitted by law the disproportionately high adverse human health and environmental impacts of their programs, policies, and activities, on minority and low income populations in the United States. Federal agency responsibilities under this EO also apply to Native American programs. U.S. Department of Transportation (USDOT) Order 5610.2 on environmental justice defines “disproportionately high and adverse effect on minority and low-income populations” to mean an adverse effect that is predominately borne by a minority population and/or a low-income population or that would be suffered by the minority population and/or low-income population and that is appreciably more severe or greater in magnitude than the adverse effect that would be suffered by the nonminority population and/or non-low-income population (Department of Transportation 1997).

**Executive Order 13166**

The Executive Order 13166 requires each federal agency to ensure that recipients of federal financial assistance provide meaningful access to their programs and activities by Limited English Proficiency applicants and beneficiaries.

**Americans with Disabilities Act [42 U.S.C. Sections 12101 to 12213]**

The Americans with Disabilities Act prohibits discrimination based on disability.

**Uniform Relocation Assistance and Real Property Acquisition Policies Act [42 U.S.C. Chapter 61]**

The purpose of the Relocation Assistance Program is to ensure that persons displaced as a result of a federal action or an undertaking involving federal funds, are treated fairly, consistently, and equitably so that such persons will not suffer disproportionate injuries as a result of projects designed for the benefit of the public as a whole.

## 3.2 State Regulations

**California Environmental Quality Act [Section 21000 et seq.] and CEQA Guidelines [Section 15000 et seq.]**

CEQA requires state and local agencies to identify the significant environmental impacts of their actions, including potential significant impacts on established communities, and to avoid or mitigate those impacts, when feasible.

Pursuant to CEQA Guidelines Section 15131(b), economic and social impacts of a project that are not related to physical changes in the environment are not treated as significant effects on the environment, but may be used to determine the significance of physical changes caused by the project.

**California Government Code Section 65040.12(e)**

Government Code Section 65040.12(e) defines environmental justice as "the fair treatment of people of all races, cultures, and incomes with respect to the development, adoption, implementation, and enforcement of environmental laws, regulations, and policies."

**California Relocation Act [Government Code Section 7260 et seq.]**

In parallel with the federal law, the act requires state and local governments to provide relocation assistance and benefits to displaced persons due to projects undertaken by state and local which do not involve federal funds.

## 3.3 Local Considerations

### 3.3.1 Local and Regional Plans

This section addresses local regulations pertaining to socioeconomics, communities, and environmental justice in each of the four counties and the cities within their jurisdiction that lie along the alternative alignments. As this is a state project, there is no commitment on the part of the state to be 100% in compliance with local regulations. Rather, local and regional plans are reviewed to ensure compatibility.

Local regulations related to socioeconomics, communities, and environmental justice are generally included in general plans, ordinance codes, local housing assessments, and part of a county transportation plan. General plans were reviewed for those elements relevant to socioeconomics, communities, and environmental justice, including land use, transportation and circulation, housing, open space and conservation, community facilities and services, and economic development. Other local plans are also summarized to the extent that they relate to these elements within the study area. In addition, municipal zoning ordinances are cited with respect to land use regulations that promote the character, health, safety, and the general welfare of communities. Plans and policies are also included from regional bodies such as local Councils or Associations of Government and the California Department of Transportation (Caltrans). The Councils or Associations of Government are the designated regional transportation authorities, and Caltrans is the state body with a mission to improve mobility across California.

Table 3-1 identifies local regulations associated with socioeconomics, communities and environmental justice from those agencies that are applicable to the project.

**Table 3-1**
Local Land Use Policies

| Policy Title | Summary |
|---|---|
| **Fresno County** | |
| Fresno County General Plan, Economic Development Element, Goal ED-A, Policies ED-A.1 to 25, Goal ED-B, Policies ED-B.1 to 21, Goal ED-C, Policies ED-C.1 to 4 (Fresno County 2000b) | Economic development focuses on three priorities: job creation, diversification of the economic base, and labor force preparedness. The element aims to promote job growth and reduce unemployment through the enhancement and expansion of the county's traditional agricultural economic base, the diversification of its economic base, and the expansion of such business clusters as information technology, industrial machinery, and tourism. |
| Fresno County General Plan, Agriculture and Land Use Element, Goal LU-A, Policies LU-A.1 to 20, Goal LU-C, Policies LU-C.1 to 10, Goal LU-F, Policies LU-F.1 to 42, Goal LU-G, Policies LU-G.1 to 23, Goal LU-H, Policies LU-H.1 to 15 (Fresno County 2000a) | The element calls for keeping growth out of the urban fringe areas and directs intensive development into the incorporated communities. The intent is to direct growth to the appropriate areas to minimize loss of valuable open space. |
| Fresno County General Plan, Transportation and Circulation Element, Goal TR-A, Policies TR-A.1 to 19, Goal TR-B, Policies TR-B.1 to 6, Goal TR-C, Policies TR-C.1 to 3, Goal TR-D, Policies TR-D.1 to 8, Goal TR-E, Policies TR-E.1 to 6, Goal TR-F, Policy TR-E.3 (Fresno County 2000f) | The element calls for an increase in adequate facilities for bicyclists because of the growing use of bicycles for both transportation and recreation. The potential for transit use (buses and rail) in Fresno County will increase as Fresno County grows. Policies seek to promote transit services within urban corridors of dense population and employment; address user needs, develop convenient transfers between transportation systems, and ensure adequate funding. |
| Fresno County General Plan, Public Facilities and Services Element, Goal PF-G, Policies PF-G.1 to 6, Goal PF-H, Policies PF-H.1 to 11, Goal PF-I, Policies PF-I.1 to 9 (Fresno County 2000e) | The element calls for law enforcement, fire, and emergency medical services to be maintained at levels that protect life and property and ensure the prompt and efficient provision of these services meet the growing demand associated with an increasing population. School and library facilities are to provide for the educational needs of Fresno County and provide libraries for the educational, recreational, and literary needs of Fresno County residents. |
| Fresno County General Plan, Open Space and Conservation Element, Goal OS-A, Policies OS-A.1 to 30, Goal OS-B, Policies OS-B.1 to 11, Goal OS-C, Policies OS-C.1 to 20, Goal OS-G, Policies OS-G.1 to 16, Goal OS-H, Policies OS-H.1 to 15, Goal OS-I, Policies OS-I.1 to 16, Goal OS-J (Fresno County 2000d) | The element addresses the goals associated with productive resources (water, forest, and mineral resources) and recreational and cultural resources (parks, trails, and scenic areas). |
| Fresno County General Plan, Housing Element, Goal HA-A, Policies HA-A.1 to 8, Goal HA-C, Policies HA-C.1 to 8, Goal HA-D, Policies HA-D.1 to 5, Goal HA-E, Policies HA-E.1 to 7, Goal HA-F, Policies HA-F.1 to 3, Goal HA-G, Goal HA-H, Goal HA-I, Goal HA-J (Fresno County 2000c) | Goals are set forth in unincorporated areas to promote livable communities, expand housing choice to meet the needs of all residents, place residential development in areas near employment opportunities, and ensure an adequate supply of housing for those with special needs and migrant and non-migrant farm workers in the county. A major goal is to increase the supply of housing, with priority given to the development of affordable housing. |

**Table 3-1**
Local Land Use Policies

| Policy Title | Summary |
|---|---|
| Fresno County Bicycle Transportation Master Plan (Fresno County 2010a) | The Bicycle Transportation Master Plan will list existing and proposed facilities, and identifies deficiencies, community concerns, and Fresno County Goals and Policies. Guidance will be provided in establishing bicycle facilities, directing long range planning, and identifying funding and prioritization methods for future bicycle facilities. |
| 2007 Fresno County Regional Housing Needs Allocation Plan (Council of Fresno County Governments 2007) | This plan determines housing allocations specific to jurisdictions, including consideration of the housing needs of all income levels. Furthermore, consideration of housing needs and subsequent housing allocations must seek to reduce the concentration of lower income households in cities or counties that are affected by disproportionately high proportions of lower income households. |
| Fresno Public Transportation Infrastructure Study (Council of Fresno County Governments 2006) | The Fresno Public Transportation Infrastructure Study evaluates transportation needs throughout Fresno County and identifies ways that transit can play an effective role in serving the region's growth. The objectives include providing reasonable mobility for residents and businesses throughout the county, reducing associated environmental impacts, and making it easier for people to walk, bike and use public transit. |
| Updated Route 99 Business Plan (Caltrans Districts 6 and 10 2009) | The Business Plan was developed to provide a guide for decision makers as they address the needs of this developing corridor. State Route 99 is the transportation backbone of the San Joaquin Valley and a substantial investment is needed to improve the corridor in order to maintain the corridor's ability to support ongoing development, facilitate efficient goods movement, and improve the quality of life in this fast-growing region. |
| **City of Fresno** | |
| 2025 Fresno General Plan, Urban Form Element, Policy C.2-c, Objective C.3 to 4, Policy C.4.a to d, Objective C.5, Policy C.5.a to b, Objective C.7, Policy C.7.a, Objective C.8 to 12, Policy C.12.a, Objective C.13 to 14, Policy C.14.a to c, Objective C.15 to 16, Policy C.16.a, Policy C.16.f, Objective C.17, Policy C.17.b, Objective C.18, Policy C.18.a to b, Policy C.18.j (City of Fresno Planning and Development Department 2002) | This element calls for residential uses to support balanced growth and allow for efficient use of community facilities. It indicates that commercial uses should be easily accessible from the residential areas of the population they serve. Industrial uses should be adjacent to transportation networks while minimizing adverse effects on neighboring uses. Community facilities are to be in areas where they can contribute to positive community identity. |
| 2025 Fresno General Plan, Economic Development Element, Objective D.1, Policy D.1.b, Policies D.1.g to h, Objective D.2 (City of Fresno Planning and Development Department 2002) | The element calls for industrial development to promote job growth while enhancing Fresno's urban environment. Attracting, retaining, and expanding businesses are key objectives and providing infrastructure and amenities are key policies. |

**Table 3-1**
Local Land Use Policies

| Policy Title | Summary |
|---|---|
| 2025 Fresno General Plan, Public Facilities Element, Objective E.1, Objective E.4, Policies E.4.a to c, Policies E.5.g to j, Objectives E.6 to 7, Policy E.7.c, Objective E.8, Policy E.8.b, Objective E.9, Policy E.9.aa, Objective E.10, Objective E.13, Policy E.13.b, Objectives E.14 to 15, Objectives E.24 to 25, Policy E.26.b, Objective E.27 (City of Fresno Planning and Development Department 2002) | The element calls for improved streets and highways to avoid increases in traffic. It calls for a continuous and easily accessible bikeway and trail system throughout the metropolitan area. |
| 2025 Fresno General Plan, Open Space and Recreation Element, Objective F.1 (City of Fresno Planning and Development Department 2002) | Planning to ensure a sufficient number of city park facilities and to maintain a variety of meaningful and balanced recreational programs for residents and neighborhoods. Agricultural land on the outskirts of the city is identified as a valuable resource for conservation, and any development in these areas that would convert this land from its current use or reduce the buffer between urban and agricultural uses is discouraged. |
| 2025 Fresno General Plan, Resource Conservation Element, Objective G-5, Policies G-5 B, C, D and F, Objective G-6, Policies G-5 A, B and D, Objective G-7, Policies G-7 B, D and E, Objective G-11 (City of Fresno Planning and Development Department 2002) | The element addresses the goals associated with productive resources (water, forest, and mineral resources) and protecting their use. |
| 2025 Fresno General Plan, Safety Element, Objective I-7, Policy I-7-f (City of Fresno Planning and Development Department 2002) | The element calls for law enforcement and crime prevention necessary to maintain a safe, secure, and stable urban living environment. An average response time of 5 minutes for fire and emergency medical services within the metropolitan area is required. In addition, schools are to be located and maintained to serve as focal points of the community. |
| Fresno General Plan, Housing Element, Goal 2, Objective 2.1, Goal 3.1, Objectives 3.1 to 3.2 (City of Fresno Planning and Development Department 2009) | The element sets out goals to increase affordable housing and improve existing housing for low- to very-low-income individuals, with an emphasis on housing for large families. The element calls for neighborhood revitalization designs through improved facilities and infrastructure, enhanced police service to high-crime neighborhoods, and housing rehabilitation and replacement. |
| Central Area Community Plan (City of Fresno Planning and Development Department 1989) | The Central Area Plan is an important document for directing the revitalization of the entire Central Area (1,500 acres) bounded by Freeways 41, 99, and 180. It includes goals, policies, and implementation actions in the areas of Land Use, Housing, Transportation and Circulation, Urban Design, Economic Development and Marketing, Public Safety, and Historic Preservation. |

**Table 3-1**
Local Land Use Policies

| Policy Title | Summary |
|---|---|
| Destination Downtown Action Strategy (City of Fresno Redevelopment Agency 2006) | This Action Strategy outlines many current and proposed projects designed to revitalize the downtown area. It is not a plan, but an achievable action strategy with identified financial resources. The Action Strategy was developed by the Fresno Redevelopment Agency in collaboration with the Mayor, City Council, and downtown stakeholders. |
| Downtown Transportation and Infrastructure Study (City of Fresno 2007) | This study addresses a wide range of transportation issues including automobile circulation and parking; integration of bus and other types of transit; freight, passenger and high speed rail; pedestrian facilities and traffic calming; bicycle circulation; and way finding. The Department of Telecommunications and Information Services provides recommendations to support desired economic and livability visions for Downtown Fresno. |
| Fulton-Lowell Specific Plan (City of Fresno Planning and Development Department 1992) | The Fulton Lowell Area is approximately 493 acres in size, and is located within Fresno's Central Area. Physical and economic blight are evident. Two major goals of this plan are to improve the image, perception, and physical environment of the area, and to change the residential mix and density to afford a healthy socioeconomic balance and full range of housing for neighborhood stability. |
| Roosevelt Community Plan (City of Fresno Planning and Development Department 1996a) | This plan was developed when the area was in a transitional stage and about to experience dramatic new growth. The purpose of this Plan was to identify and address those issues and concerns adversely affecting the community's growth and vitality, to anticipate the need for and impacts of new public facilities, and to stimulate the development of well-balanced quality neighborhoods. |
| West Area Community Plan (City of Fresno Planning and Development Department 1996b) | Included as an appendix to the 2025 Fresno General Plan, the goal of this community plan is to develop the West Area as a planned community with a complete range of services and facilities for the needs of community residents, in adherence to a set of specific standards for residential, commercial, industrial, and public infrastructure development, with special emphasis on minimization of land use conflict between agriculture and urban uses. |
| City of Fresno Municipal Code, Chapter 12, Land Use Planning and Zoning (City of Fresno 2010) | The purpose of this Zoning Ordinance is to encourage, classify, designate, regulate, restrict, and segregate the highest and best location for, and use of, buildings, structures, and land for agriculture, residence, commerce, trade, industry, water conservation, or other purposes in appropriate places; to regulate and limit the height, number of stories, and size of buildings and other structures hereafter designed, erected or altered; to regulate and determine the size of yards and other open spaces; and to regulate and limit the density of population, and for said purposes to divide the city of Fresno, California, into districts of such number, shape and area as may be deemed best suited to carry out these regulations and provide for their enforcement. |

**Table 3-1**
Local Land Use Policies

| Policy Title | Summary |
|---|---|
| **Kings County** | |
| 2035 Kings County General Plan, Land Use Element, Goal A.1, Objectives A.1.1 to 2, Goal B.1, Objective B.1.1, Goal B.2, Objectives B.2.1 to 2, Goal B.3, Objective B.3.1, Goal B.4, Objectives B.4.1 to 3, Goal B.6, Objectives B.6.1 to 2, Goal B.7, Objective B.7.1, Goal C.1, Objective C.1.1, Goal E.1, Objectives E.1.1 to 2, Goal F.1 (Kings County Planning Department 2010d) | The element covers the general distribution, location, and intensity of land uses throughout the unincorporated territory of the county, and establishes policies to guide future land use decisions. The element focuses on three distinctive land use categories: agriculture open space, rural interface, and urban fringe. The plan, has made strides to guide urban growth decisions in a more orderly and efficient manner, while focusing compact growth around existing urban commercial core areas. |
| 2035 Kings County General Plan, Circulation Element, Goal A.1, Objectives A.1.1 to 3, Goal C.1, Objectives C.1.1 to 4, Goal D.1, Objective D.1.1 (Kings County Planning Department 2010b) | An objective is to integrate non-motorized transportation system alternatives into the layout of Community District plans to promote bicycling and walking as alternatives to the automobile, and interconnect those routes where practical into larger regional efforts with cities. Also of importance to communities are public transportation options and opportunities. |
| 2035 Kings County General Plan, 2009–2014 Housing Element, Goal 2, Objectives 2.1 to 4, Goal 4, Objectives 4.1 to 4 (Kings County Planning Department 2010a) | The element encourages the provision of a range of housing types and prices to meet the diverse needs of residents, while ensuring that adequate housing assistance is available to very low, low, and moderate income households and those with special housing needs. This element applies to Kings County as well as the cities of Hanford and Corcoran. |
| 2035 Kings County General Plan, Open Space Element, Goal A.1, Objective A.1.1, Goal B.1, Objectives B.1.1 to 3, Goal C.1, Goal D.1 Objectives D.1.1 to 2 (Kings County Planning Department 2010e) | Policies protect agricultural resources, scenic resources, community character, outdoor recreation, and open space lands to maintain the economy, scenic beauty, visual identity, and recreational needs of communities. Conservation of resources, specifically agricultural farmlands, is a key objective. |
| 2035 Kings County General Plan, Health and Safety Element, Goal B.1, Objective B.1.1 to 4, Goal C.1, Objective C.1.1, Objective C.2.1 to 4, Goal C.3, Objective C.3.1 to 3 (Kings County Planning Department 2010c) | The element promotes community safety by ensuring communities have sufficient sheriff coverage to provide 20-minute or faster response times to priority emergency calls and maintenance and upkeep of key emergency access routes, and critical facilities and infrastructure to minimize delays or disruptions in emergency response. |
| 2005 Kings County Regional Bicycle Plan (Kings County Association of Governments 2005) | The Kings County Regional Bicycle Plan provides a single document to guide the development and integration of bicycle facilities in the county. It focuses on the implementation of prioritized projects, identifies potential funding sources, estimates the number of bicycle commuters in the county, and identifies bicycle facilities. |
| 2008 Kings County Regional Housing Needs Allocation Plan (Kings County Association of Governments 2008) | This plan guides the county and cites to meet their fair share of the regional housing need. Regional housing goals are provided by the State Department of Housing and Community Development to the regional planning agencies, which must then allocate and distribute amongst the jurisdictions within its area of responsibility. |
| Kings County 2007 Regional Transportation Plan (Kings County Association of Governments 2007) | The purpose of the plan is to provide goals, polices, and objectives for meeting transportation needs; to document mobility needs and issues; to provide the foundation for transportation decision, and to identify and attempt to resolve regional transportation issues. |

**Table 3-1**
Local Land Use Policies

| Policy Title | Summary |
|---|---|
| Kings County Transit Development Plan (Kings County Association of Governments 2003) | The purpose of this plan is to be a blueprint to provide a comprehensive view of public transit operation in the county. This plan will be used to determine future service performance requirements in order to make public transit more efficient and accessible to all county residents. |
| **City of Hanford** | |
| City of Hanford General Plan, Land Use Element, Objectives LU 1 to 8, 17, 20, 24, and 28; Policies LU 1.1, 1.2, 7.1, 7.2, 8.1, 8.2, 8.3, 9.5, 24.1, and 28.1; Programs LU 1.1-A and LU 8.1-A (City of Hanford 2002c) | The goals of the Land Use Element are to preserve and enhance the quality of life for Hanford residents without significant degradation to the natural or man-made environment; provide for a balance of housing, public services and facilities, and jobs for all who choose to live in Hanford; and revitalize and preserve the historic character of the original town site while planning for growth to support increases in the demand for city services. A key objective is to protect community character and promote economic development by minimizing conflicts between residential uses and other incompatible land uses. |
| City of Hanford General Plan Circulation Element, Objectives CI 2, 3, 5, 7, 8, 9, and 10; Policies CI 1.6, 2.1, 2.3, 3.1, 3.3, 3.5, 7.1, 8.1, 8.4, 9.3, and 10.1; Programs CI 5.1-A, 7.1-A, 9.3-A and 9.3-B (City of Hanford 2002a) | The goal of the Circulation Element is to plan for, create, and maintain an efficient, cost effective, safe, and coordinated multi-modal circulation system, serving the needs of a variety of users. Of primary concern to the socioeconomics, communities and environmental justice analysis are non-motorized circulation issues association with pedestrian and bicycle transportation. The city recognizes the importance of bicycle facilities and has adopted a comprehensive bicycle plan as part of the Kings County Regional Transportation Plan. The need to improve existing pedestrian facilities within the city is acknowledged. |
| City of Hanford General Plan, Open Space, Conservation and Recreation Element, Objectives OCR 1, 2, 3, 6, 7, 11, 13, 14, and 16; Policies OCR 1.1, 6.1, 7.1, 7.3, 11.1, 14.1, 14.2, and 16.1; Programs OCR 7.3-A and 16.1-A (City of Hanford 2002d) | The goals of the Land Use Element are to preserve and enhance the quality of life for Hanford residents without significant degradation to the natural or man-made environment; provide for a balance of housing, public services and facilities, and jobs for all who choose to live in Hanford; and revitalize and preserve the historic character of the original town site while planning for growth to support increases in the demand for city services. A key objective is to protect community character and promote economic development by minimizing conflicts between residential uses and other incompatible land uses. |
| City of Hanford General Plan, Hazards Management Element, Objectives HZ 3 and 4; Policies HZ 3.1, 4.1, and 4.2; Program HZ 3.1-A (City of Hanford 2002b) | The goal of the Circulation Element is to plan for, create, and maintain an efficient, cost effective, safe, and coordinated multi-modal circulation system, serving the needs of a variety of users. Of primary concern to the socioeconomics, communities and environmental justice analysis are non-motorized circulation issues associated with pedestrian and bicycle transportation. The city recognizes the importance of bicycle facilities and has adopted a comprehensive bicycle plan as part of the Kings County Regional Transportation Plan. The need to improve existing pedestrian facilities within the city is acknowledged. |
| Hanford Parks, Recreation and Open Space Master Plan (**C**ity of Hanford 2009a) | The purpose of this Plan is to evaluate the city's existing facilities, programs, and services; assess the community's needs and desires; and to provide recommendations to improve the services provided to residents and visitors. |

**Table 3-1**
Local Land Use Policies

| Policy Title | Summary |
|---|---|
| Hanford Municipal Code, Title 17, Zoning (City of Hanford 2009b) | This Zoning Code is adopted to achieve the following objectives: to provide a zone plan to guide the physical development of the city; to foster a wholesome, serviceable and attractive living environment; to prevent excessive population densities and the overcrowding of land with structures; to promote a safe, effective traffic circulation system, the provision of adequate off-street parking and truck loading facilities, and the appropriate location of community facilities; to protect and promote appropriately located commercial and industrial activities; to protect and enhance real property values and the city's natural assets; to ensure unimpeded development of new urban expansion that is logical, desirable and in conformance with the objectives and policies of the general plan; and to provide and protect open space. |
| **City of Corcoran** | |
| Corcoran General Plan 2025 Policies Statement, Land Use Element, Goal 1; Community Identity Objective C, Residential Land Use Objectives A and B, Commercial Land Use Objectives A and B, Industrial Land Use Objective A, Public and Quasi-Public Land Use Objective A, Growth Management Objective A; Policies 1.2, 1.4, 1.16, 1.17, 1.18, 1.19, 1.27, 1.28, 1.36, 1.37, 1.40, 1.47, 1.49, 1.57, 1.59, and 1.60 (City of Corcoran 2007) | The plan calls for land use policies that preserve and enhance Corcoran's unique character and achieve an optimal balance of residential, commercial, industrial, and open space land uses. Gateways to the city should reflect favorably on the image and character of the community. Communities are to be designed to preserve and promote community character and improve the appearance of city streets and residential areas. |
| Corcoran General Plan 2025 Policies Statement, Circulation Element, Goal 1; Objectives B, D, E, and F; Policies 2.3, 2.13, 2.20, 2.64, 2.66, 2.67, 2.72, 2.73, 2.74, 2.75, 2.76, 2.78, 2.79, 2.84, 2.85, 2.86, and 2.87 (City of Corcoran 2007) | The element calls for enhanced availability and accessibility of alternative modes of transportation, including walking and bicycling. In addition, streets should be developed to promote safe and pleasant conditions for residents, pedestrians, and bicyclists. |
| Corcoran General Plan 2025 Policies Statement, Safety Element, Emergency Planning and Response Objectives A and B, Fire Protection Objective A; Policies 4.4, 4.7, and 4.13 (City of Corcoran 2007) | The element sets response time goals for fire protection response and addresses those features or characteristics existing in or near Corcoran that represent a potential hazard. |
| Corcoran General Plan 2025 Policies Statement, Open Space, Conservation and Recreation Element, Natural Resources Objectives A and B, Recreation Objectives A and B, Open Space Objective A, and Cultural Resources Objectives A; Policies 5.10, 5.15, 5.17, 5.18, 5.19, 5.21, and 5.22 (City of Corcoran 2007) | The element calls for provision of adequate leisure, recreation, and cultural programs; facilities that are accessible and affordable to all segments of the community; and conservation and protection of open space and natural resources. |

**Table 3-1**
Local Land Use Policies

| Policy Title | Summary |
|---|---|
| Corcoran General Plan 2025 Policies Statement, Community Design Element, Gateways/ Streetscape Design Objective A, Residential Development Objective A, Commercial Development Objective A; Policies 7.9, 7.22, 7.23, 7.46, and 7.47 (City of Corcoran 2007) | One of the goals of this element is to preserve and improve the quality of life in Corcoran by addressing the following: the protection of natural resources; the preservation and enhancement of the historical character; the harmonious incorporation of new development; and the maintenance of the community's "small-town, rural atmosphere." |
| Corcoran Municipal Code, Title 11, Zoning Regulations (City of Corcoran 2009b) | The Zoning Code is adopted to achieve the following objectives: to provide a zone plan to guide the physical development of the city; to foster beneficial development of areas which exhibit conflicting patterns of use; to prevent excessive population densities and overcrowding of land with structures; to promote a safe, effective traffic circulation system, the provision of adequate off-street parking and truck loading facilities, and the appropriate location of community facilities; to protect and promote appropriately located commercial and industrial activities; to protect and enhance real property values and the city's natural assets; to ensure unimpeded development of such new urban expansion that is logical, desirable, and in conformance with objectives and policies of the General Plan; and to provide and protect open space. |
| **Tulare County** | |
| Tulare County General Plan, Land Use Element, Concept 2, Principles 1, 2, 3, 4, and 5, Goal LU-1, Policy LU-1.1, Goal LU-2, Policies LU-2.1 and 2.3, Goals LU-3, 4, 5, 6, and 7, Policies LU-7.9 and 7.10 (Tulare County 2010a) | The element sets out land use policies that promote the principles of smart growth and healthy communities by creating walkable neighborhoods; creating a strong sense of place; and maintaining distinctive communities, rural development patterns, and character that is compatible with the best features of Tulare County's traditional community centers and agricultural landscapes. In addition, the importance of new commercial development is highlighted by encouraging neighborhood convenience stores but limiting big box development to maintain community character, and by providing for commercial service businesses where they will not adversely affect surrounding properties. |
| Tulare County General Plan, Transportation and Circulation Element, Concept 1, Principles 1, 2, 3, and 4, Goal TC-1, Policies TC-1.1, 1.6, 1.9, and 1.14, Goal TC-2, Policies TC-2.1, 2.2. and 2.4, Goal TC-4, Policies TC-4.1, 4.2, and 4.3, Goal TC-5, Policies TC-5.1, 5.2, and 5.3 (Tulare County 2010a) | A principle of the element calls for the County to support the enhancement of recreational bikeways and promote the bikeway network as a component of the county's tourism program. In addition, the element calls for development and expansion of pedestrian paths and bicycle facilities that provide residents with alternative modes of travel. |
| Tulare County General Plan, Housing Element (Tulare County 2010b) | The Housing Element calls for a sufficient supply and range of housing types that meet the economic and social needs of present and future residents of the Tulare County unincorporated area, particularly persons with special needs, including but not limited to low-income households, the elderly, persons with disabilities, female headed households, large families, farm workers, and persons & families in need of emergency shelters, in order to provide equal housing opportunities for all. |

**Table 3-1**
Local Land Use Policies

| Policy Title | Summary |
|---|---|
| Tulare County General Plan, Scenic Landscapes Element, Concept 1, Principles 1, 2, 3, 4, and 5, Goal SL-1, Policies SL-1.1 and 1.2, Goal SL-2, Policies SL-2.1 and 2.3, Goal SL-3, Policy SL-3.1, Goal SL-4, Policies SL-4.1 and 4.3 (Tulare County 2010a) | The element calls for designation, conservation, and protection of open space, peripheral agricultural areas, recreational, and historic/cultural resources to maintain the scenic landscapes throughout the county. |
| Tulare County General Plan, Environmental Resource Management Element, Concept 2, Principle 3, Goals ERM-1, 2, 3, 4, and 5, Policies ERM-5.1, 5.5, 5.7, and 5.20, Goals ERM-6 and 7 (Tulare County 2010a) | The element recognizes that the scenic landscapes in Tulare County will continue to be one of the county's most visible assets and emphasizes the enhancement and preservation of these resources as critical to the future of the county. The County will continue to assess the recreational, tourism, quality of life, and economic benefits that scenic landscapes provide and implement programs that preserve and use this resource to the fullest extent. |
| Tulare County General Plan, Health and Safety Element, Concept 4, Principles 3 and 4, Goal HS-7, Policies HS-7.1 and 7.3 (Tulare County 2010a) | The element sets response time goals for fire protection and addresses those features or characteristics that represent a potential hazard. |
| Tulare County General Plan, Public Facilities and Services Element, Concept 2, Principles 1, 2, and 3, Goal PFS-1, Policies PFS-1.1 and 1.3, Goal PFS-7, and Policies PFS-7.1, 7.5, 7.8, and 7.9 (Tulare County 2010a) | The element is focused on providing adequate public safety and emergency response system throughout the county as well as studying the impacts new projects will have on the current infrastructure within the county. |
| Tulare County General Plan, Economic Development Element, Concept 3, Principles 1, 2, 3 and 4, Goal ED-1, Policies ED-1.3 and 1.8, Goal ED-2, Policy ED-2.14, Goal ED-3, Policies ED-3.1 and 3.5, Goals ED-4 and 5, Policies ED-5.1, 5.2, 5.3, 5.4, 5.9, and 5.12, Goal ED-6, Policies ED-6.1, 6.4, 6.5, 6.6, and 6.7 (Tulare County 2010a) | A primary goal is to promote the long-term preservation of productive and potentially productive agricultural lands and to accommodate agricultural-support services and related activities that support the viability of agriculture and further the county's economic development goals. It is expected that industries will play an increasingly larger role in the local economy. Thus, the element helps to diversify economic opportunities in the county's unincorporated communities, hamlets, and incorporated cities. The element identifies the need to support development of the HST. |
| 2007 Tulare County Regional Bicycle Transportation Plan (Tulare County Association of Governments 2007b) | The Regional Plan is organized into nine sections, one for each jurisdiction, to prioritize, plan, estimate, and coordinate bicycle activities. The plan includes, among other items, maps and descriptions of existing and planned bikeways and various types of bicycle facilities. |

**Table 3-1**
Local Land Use Policies

| Policy Title | Summary |
|---|---|
| **Kern County** | |
| Kern County General Plan, Land Use, Conservation, and Open Space Element, Goal 1.4-2, Policies 1.4-1, 3, 5 and 6, Goal 1.5-1, Policies 1.5-1 and 3, Goals 1.6-1, 2, 4, and 7, Policies 16-4, 5, 7, and 9, Goal 1.7-2 and 4, Policies 1.7-1 and 3, Goal 1.8-2, Policies 1.8-5 and 11, Policies 1.9-2, 4, 5, and 7, Goal 1.10-1, Policies 1.10-50, 54, 57, 63, and 64 (Kern County Planning Department 2007b) | This a majority of this element deals with managing residential, commercial, industrial and resource land uses, which includes discussions on housing. However it also provides guidance for the conservation of resources focusing on both agricultural lands and mineral extraction. With respect to uses in open space, this element encourages the provision of parks and recreational facilities of varying size, function, and location to serve county residents. Finally several policies are set forth directing the county's economic development effort. |
| Kern County General Plan, Circulation Element, Goals 2–1, 2, 3, 4, and 7, Goals 2.3.3-1, 2, 3, 4, and 5 (Kern County Planning Department 2007a) | The element incorporates the findings related to bicycle and pedestrian policies from the Kern County Federal Transportation Improvement Program. The Kern Federal Transportation Improvement Program recognizes the need for mixed land use development that encourages non-motorized trips. In addition, specific bike path and pedestrian sidewalk projects are listed that are being implemented to improve non-motorized transportation in the county. |
| County of Kern Housing Element,2008–2013, Goal 1, Policy 1.2, Program 1.2.1, Policy 1.4, Program 1.4.2, Goal 2, Program 2.1.3 and 2.1.6, Policy 2.2, Program 2.2.1, Goal 4, Policy 4.1, Goal 5, Policy 5.1, Program 5.1.1 and 5.1.5 (Kern County Planning Department 2008) | The element recognizes the need for incentives for residential projects that provide affordable housing along with other desired elements including infrastructure, day care, and clustered development. It further identifies strategies and programs that focus on improving housing and neighborhoods, assisting in the provision of affordable housing and promoting fair and equitable housing opportunities. |
| Economic Development Strategy (ICF Consulting 2005) | The Plan seeks to identify ways to strengthen existing industries in the county, provide demonstrable career opportunities for young people, accommodate changing demographics, and effectively plan for the rapid population growth. The strategy recommends particular industries for focused economic development activities and proposes new programs from workforce development to business attraction and retention. |
| Kern County Bicycle Facilities Plan (Kern Council of Governments 2001) | The purpose this plan is to simplify and clarify bicycle travel facilities planning and serve as a basis for understanding existing facilities. The Plan describes existing systems, planned systems that have been constructed, and projects where additional funding may be used, on a regional basis, to improve and enhance the existing system. The plan also identifies where the system needs to be expanded. |

**Table 3-1**
Local Land Use Policies

| Policy Title | Summary |
|---|---|
| 2007 Regional Housing Needs Assessment (Kern Council of Governments 2007) | Government Code Section 65584 requires the Department of Housing and Community Development to provide its determination of the region's projected housing needs to the Kern Council of Governments. It is Kern Council of Governments' responsibility to allocate the projected needs for the unincorporated County of Kern and to each of the 11 incorporated cities. This document examines the status of housing in Kern County and proposes a housing allocation based upon market forces consistent with Kern Council of Governments traffic and air pollution analysis databases for Kern County. |
| Kern River Specific Trails Plan (Kern County Planning Department 2003) | The Kern River Specific Trails Plan is a comprehensive plan to guide the planning and development of multi-use trails along the Kern River corridor. The alignment of the trail system is from the Manor Street over crossing in Bakersfield, traversing easterly along the Kern River to the eastern side of the Kern County Golf Course. This plan examines the unincorporated portions of the open space that lie entirely outside the study area. |
| **City of Wasco** | |
| City of Wasco General Plan, Land Use Element, Principles 2, 3, and 6, Objective 2.2-A, Objective 2.4-A, Objective 2.5-A (City of Wasco 2010d) | This element sets as an objective planning land use to preserve the small town character and quality of life through preservation of the downtown area (Central Business District) and the preservation and enlargement of community meeting spaces. Further, the element calls for the development of residential, commercial, industrial sites as well as community facilities (including public buildings, schools, and parks) to meet the city's anticipated needs. |
| City of Wasco General Plan, Circulation Element, Principles 7 and 9, Goal 5.1-1, Goal 5.3-1, Policies 5.3-1, 6, 12, and 13, Goal 5.3-2, Policies 5.3-2, 3, and 4, Goal 5.4-1, Policies 5.3-1, 2, 3, and 6, Goals 5.5-1 and 2, Policies 5.5-1 and 3 (City of Wasco 2010b) | This element recognizes the importance of increasing the connectivity of neighborhoods and minimizing divisions of the community caused by major transportation facilities such as railroads. Of primary concern are non-motorized circulation issues associated with pedestrian and bicycle transportation. It calls for pedestrian friendly features to define and create neighborhoods and for the development of an integrated Bicycle Access Plan for the city. |
| City of Wasco General Plan, Housing Element, Policies H-8 and H-9 (City of Wasco 2010c) | The separate Housing Element calls for expansion of housing opportunities for both low- and moderate-income households. In addition, the need to focus on special needs housing for large families, the elderly, disabled and homeless is identified |
| City of Wasco General Plan, Safety Element, Objectives 7.1-A and B, Objective 7.2-A, Policies 7.2-1 and 2, Objectives 7.4-A and B (City of Wasco 2010e) | The element identifies the need to maintain an effective and well-trained fire department able to respond to the scene within 6 minutes as well as protecting the citizens by reducing the likelihood of a hazard that has the potential of losing life or property. |
| City of Wasco General Plan, Agricultural Element, Objective 4.1-B, Policies 4.1-6, 7, and 15 (City of Wasco 2010a) | The objective of the element is to provide a greenbelt around the city providing enough farmland to support agricultural activities while additionally supporting development within the city. |

**Table 3-1**
Local Land Use Policies

| Policy Title | Summary |
|---|---|
| Five Year Implementation Plan, 2009–2010 through 2013–2014 (City of Wasco 2009) | This Plan was created for the City of Wasco Redevelopment Agency. It is a 5 year plan covering 2009-2014. The Implementation Plan was prepared in compliance with Section 33490 et seq. of California Community Redevelopment Law and applies to the Wasco Redevelopment Project Original Area and Added Territory. Redevelopment programs and project activities to be implemented by the Wasco Redevelopment Agency over the next five years are identified, including housing activities targeted for individuals and families of very low-, low-, and moderate-income. |
| Downtown Revitalization Study and Downtown Business District Marketing Plan (City of Wasco 2008b) | The ultimate goal of the city is to implement a plan to revitalize and improve the downtown area, hence creating a destination area where a mix of commercial, retail, dining, entertainment, residential and transit uses are carefully planned to create a pedestrian friendly environment that is warm and inviting. The Revitalization Study and Marketing Plan look at what resources are needed to attract and improve business in the downtown area. |
| City of Wasco Municipal Code, Title 17, Zoning (City of Wasco 2010f) | The Zoning Ordinance of the city of Wasco is adopted to promote and protect the public health, safety, and welfare through the orderly regulation of land uses. Its regulations are imposed to provide the economic and social advantage resulting for tan orderly planned use of land resources; guide development; prescribe and apply zoning districts of a number, size and location deemed necessary; regulate the size and use of lots, yards and other spaces; regulate the use, location, height, bulk and size of buildings and structures; regulate the intensity of land use; regulated the density of residential areas; establish requirements for off-street parking; regulate signs and billboards; maintain and enhance significant environmental resources; and proved for enforcement of regulations. |
| **City of Shafter** | |
| City of Shafter General Plan, Land Use Element, Objective 2.3, Policies 2.3-1, 2, 3, 4, 5, 6, and 7, Objective 2.4, Policies 2.4-2 and 8, Objective 2.5, Policy 2.5-3, Objective 2.6, Policy 2.6-1, Objective 2.7, Policy 2.7-1 (City of Shafter 2005a) | This element addresses agricultural, residential, commercial, industrial, and public areas. It calls for the recognition and retention of commercial agriculture as a desirable land use and as a major segment of the community's identity and economic base; providing a variety of housing types suitable to a broad range of socioeconomic groups; retention of commercial uses targeted to serve regional, community, and neighborhood functions; and retention of industrial uses that expand employment opportunities, increase the personal income of local resident, and strengthen Shafter's economic base. Public uses should also provide ample area for the conduct of public business and recreation. |
| City of Shafter General Plan, Transportation Element, Objective 3.4, Policies 3.4-1, 2, 6, 7, and 11 (City of Shafter 2005a) | The element discusses non-motorized circulation issues associated with pedestrian and bicycle transportation. It sets out policies to support alternatives to automotive transport, including pedestrian and bicycle travel between residential and commercial areas. |

**Table 3-1**
Local Land Use Policies

| Policy Title | Summary |
|---|---|
| City of Shafter General Plan, Housing Element, Goal 5.1, Policy 5.1.1, Goal 5.2, Policy 5.2.3 (City of Shafter 2005a) | Housing policies include increasing the number and diversity of housing and providing equal housing opportunities to all residents. The element lays out the challenges of meeting this goal through new housing development within the city. A combination of large tracts of Williamson Act lands and housing density policies limit potential development areas. |
| City of Shafter General Plan, Public Services and Facilities Element, Objective 4.7, Policy 4.7-6, Objective 4.8, Policies 4.8-1 and 2, Objective 4.10, Policy 4.10-2 (City of Shafter 2005a) | The General Plan calls for new fire stations to be constructed to meet a target of 5 minute response times for 80% of all service calls. The need for new development of police service stations is also identified. |
| Orchard Park Specific Plan (City of Shafter 2006) | The Orchard Park Specific Plan is intended to provide for the orderly and efficient development of the Specific Plan area in accordance with the provisions of the City of Shafter General Plan. It will establish the type, location, intensity and character of development, and the required infrastructure to support planned land uses. |
| Mission Lakes Specific Plan (City of Shafter 2005b) | Mission Lakes is designed as a planned community on 1,356.8 acres of unincorporated territory in the City of Shafter sphere of influence The development of Mission Lakes will proceed as an orderly conversion of agricultural land to urban uses characterized predominantly by suburban-type residential densities. This Specific Plan document is intended to serve as the City of Shafter's long-range plan for the physical development of the Mission Lakes community and a guide to all future development proposals within the boundaries of the Specific Plan area. |
| City of Shafter Municipal Code, Title 17, Zoning (City of Shafter 2010) | The City Council has established this Development Code (Shafter, California, Municipal Code § 17-01-10) with these standards, guidelines, and procedures to protect and promote the public health, safety, convenience, and welfare of present and future citizens of the city. |
| **City of Bakersfield** | |
| Metropolitan Bakersfield General Plan, Land Use Element, Goals 1 through 8, Policies 1, 3, 4, 10, 15, 16, 39, 40, 42, 43, 44, 47, 48, 49, 50, 51, and 67 (City of Bakersfield 2002) | Policies are identified for residential, commercial, industrial community facilities and open space. The element designates two primary types of development: "Centers" (either Mixed Use or Intense Activity Centers) which are planned high density residential and commercial developments, meant to minimize sprawl and maximize infrastructure use; and "Resources" which are planned to emphasize and protect linkages to the area's natural resources, such as the Kern River, canals, and foothills. The General Plan calls for future high and high medium density residential development adjacent to existing and planned commercial and transportation corridors as well as in the downtown "Centers" section of Bakersfield. Key objectives are preservation and conservation of neighborhoods whose identity is characterized as special places in the community. |

**Table 3-1**
Local Land Use Policies

| Policy Title | Summary |
|---|---|
| Metropolitan Bakersfield General Plan, Circulation Element, Goal ST-2, Policies ST-22 and 33, Goals TR-1, 2, 3, and 4, Policies TR-1, 7, and 12 (City of Bakersfield 2002) | The element calls for improving biking and bikeways within Metropolitan Bakersfield and for safe and efficient motorized, non-motorized, and pedestrian traffic movement. |
| Metropolitan Bakersfield General Plan, Housing Element, Goals 1 through 5, Objectives 1-6, 3-1, and 3-2 (City of Bakersfield 2002) | The Housing Element sets out some broad housing priorities, including the following: to provide housing opportunities and accessibility for all economic segments of the city; to provide and maintain an adequate supply of sites for the development of affordable new housing; and to preserve, rehabilitate, and enhance existing housing and neighborhoods. |
| Metropolitan Bakersfield General Plan, Conservation Element, Goal MR-3, Goals AG-1 , Policies AG-4 and 10 (City of Bakersfield 2002) | Agricultural land on the outskirts of the city is identified as a valuable resource for conservation, and any development in these areas that would convert this land from its current use or reduce the buffer between urban and agricultural uses is discouraged. |
| Metropolitan Bakersfield General Plan, Open Space Element, Goals 5 and 6. | The element identifies open space and establishes guiding policies for the preservation and conservation of land that is essentially unimproved and devoted to open space use. |
| Metropolitan Bakersfield General Plan, Safety Element, Goals PS-1 through 4, Policies PS-1 through 16 (City of Bakersfield 2002) | The element calls for law enforcement, fire, and emergency medical services to be maintained at levels that protect life and property by deterring crime, protecting property from fire damage, ensuring the prompt and efficient provision of public safety services, and providing facilities to meet the growing demand associated with an increasing population. |
| Metropolitan Bakersfield General Plan, Parks Element, Goal 4, Policies 16, 71, 18, and 19 (City of Bakersfield 2002) | The element recognizes a shortage of parks with the city and calls for an increase in the number of parks, access to parks, and open space linkages where feasible to the Kern River and foothill areas. It also calls on the city to capitalize on the Kern River, parks, steep hills, and canals as organizational elements for the Bakersfield area. |
| Downtown Bakersfield Redevelopment Plan (City of Bakersfield 2005a) | The implementation plan contains goals and objective for the project area; proposed projects, programs, and estimated expenditures proposed during the five year period; how the goals, objectives, projects, and expenditure will eliminate blight in the project area; and housing related requirements. |
| Old Town Kern-Pioneer Redevelopment Plan (City of Bakersfield 2005b) | The area covered in this implementation plan is generally located north of California Avenue and south of Columbus Street, between Oak Street on the west and Virginia Street on the east. Some of the primary goals of the redevelopment plan are to promote rehabilitation of existing structures; improve the physical appearance of the area; retain and promote the expansion of existing businesses; eliminate deficiencies; and provide and assist low and moderate income housing. |
| Southeast Bakersfield Redevelopment Plan (City of Bakersfield 2005c) | This area was once a thriving part of the city but has declined in recent years due to the construction of the freeway portion of State Route 99, coupled with aging buildings in the area. The goals of this implementation plan are to promote rehabilitation of existing structures; improve the physical appearance of the area; retain and promote the expansion of existing businesses; eliminate deficiencies; and provide and assist low and moderate income housing. |

**Table 3-1**
Local Land Use Policies

| Policy Title | Summary |
|---|---|
| Title 17, Zoning, Bakersfield Zoning Plan (City of Bakersfield 2010) | This Zoning Plan is adopted to implement the goals and policies of the general plan of the city which serve to promote and protect the public health, safety, peace, morals, comfort, convenience, and general welfare. The purpose of the zoning code is to assist in providing a definite plan of development for the city; to guide, control and regulate the future growth of the city in accordance with this plan; to protect the established character and the social and economic stability of agricultural, residential, commercial, industrial and other areas within the city; and to assure the orderly and beneficial development of these areas. |

### 3.3.2 Local Jurisdiction Ordinances and Code

Municipal zoning ordinances are cited with respect to land use regulations that impact issues for socioeconomics, communities, and environmental justice. Specifically, these ordnances promote the character, health, safety, and the general welfare of communities.

**City of Fresno Zoning Ordinance**

The purpose of this Zoning Ordinance (Fresno, California, Municipal Code § 12-101) is to encourage, classify, designate, regulate, restrict, and segregate the highest and best location for, and use of, buildings, structures, and land for agriculture, residence, commerce, trade, industry, water conservation, or other purposes in appropriate places; to regulate and limit the height, number of stories, and size of buildings and other structures hereafter designed, erected or altered; to regulate and determine the size of yards and other open spaces; and to regulate and limit the density of population, and for said purposes to divide the city of Fresno, California, into districts of such number, shape and area as may be deemed best suited to carry out these regulations and provide for their enforcement. Further, such regulations are deemed necessary in order to encourage the most appropriate use of land; to conserve and stabilize the value of property; to provide adequate open spaces for light and air and to prevent and fight fires; to prevent undue concentration of population; to lessen congestion of streets; to facilitate adequate provisions for community utilities such as transportation, water, sewerage, schools, parks and other public requirements; and to promote the public health, safety and general welfare. (Rep. and Added Ordinance [Ord.] 5748, 1960).

**City of Hanford Zoning Code**

This Zoning Code (Hanford, California, Municipal Code § 17-02-020) is adopted to preserve, protect and promote the public health, safety, peace, comfort, convenience, prosperity and general welfare. More specifically, the zoning code is adopted to achieve the following objectives:

- To provide a zone plan to guide the physical development of the city in such a manner as to achieve progressively the general arrangement of the land uses described and depicted in the general plan.
- To foster a wholesome, serviceable and attractive living environment, the beneficial development of areas which exhibit conflicting patterns of use, and the stability of existing land uses which conform with the objectives, policies, principles and standards of the general plan.

- To prevent excessive population densities and the overcrowding, of land with structures.
- To promote a safe, effective traffic circulation system, the provision of adequate off-street parking and truck loading facilities, and the appropriate location of community facilities.
- To protect and promote appropriately located commercial and industrial activities in order to preserve and strengthen the city's economic base.
- To protect and enhance real property values and the city's natural assets.
- To ensure unimpeded development of such new urban expansion that is logical, desirable and in conformance with the objectives and policies of the general plan.
- To provide and protect open space in accordance with the policies of the open space element of the general plan. (Ord. 94-12 [part], 1994: prior code § 9-4.102).

**City of Corcoran Zoning Code**

The Zoning Code (Corcoran, California, Municipal Code § 11-1-2) is adopted to preserve, protect and promote the public health, safety, peace, comfort, convenience, prosperity and general welfare. More specifically, the code is adopted to achieve the following objectives:

- To provide a zone plan to guide the physical development of the city in such a manner as to achieve progressively the general arrangement of land uses described and depicted in the General Plan.
- To foster a wholesome, serviceable and attractive living environment, the beneficial development of areas which exhibit conflicting patterns of use, and the stability of existing land uses which conform with objectives, policies, principles and standards of the General Plan.
- To prevent excessive population densities and overcrowding of land with structures.
- To promote a safe, effective traffic circulation system, the provision of adequate off-street parking and truck loading facilities, and the appropriate location of community facilities.
- To protect and promote appropriately located commercial and industrial activities in order to preserve and strengthen the city's economic base.
- To protect and enhance real property values and the city's natural assets.
- To ensure unimpeded development of such new urban expansion that is logical, desirable and in conformance with objectives and policies of the General Plan.
- To provide and protect open space in accordance with policies of the open space element of the General Plan. (Ord. 527, 8-4-1997).

**City of Wasco Zoning Ordinance**

The Zoning Ordinance (Wasco, California, Municipal Code § 17-01-020) of the City of Wasco is adopted to promote and protect the public health, safety, and welfare through the orderly regulation of land uses. Its regulations are imposed to:

- Provide the economic and social advantages resulting from an orderly planned use of land resources.

- Guide development so that it is consistent with the City of Wasco general plan.
- Prescribe and apply zoning districts of a number, size, and location deemed necessary to carry out the purposes of the City of Wasco general plan and this title.
- Regulate the size and use of lots, yards, and other spaces.
- Regulate the use, location, height, bulk, and size of buildings and structures.
- Regulate the intensity of land use.
- Regulate the density in residential areas to conform to the general plan.
- Establish requirements for off-street parking.
- Regulate signs and billboards.
- Maintain and enhance significant environmental resources.
- Provide for the enforcement of the regulations of this title. (Ord. 486 § 1 [Exh. A (part)], 2003).

**City of Shafter Development Code**

The City Council has established this Development Code (Shafter. California, Municipal Code § 17-01-10) with these standards, guidelines, and procedures to protect and promote the public health, safety, convenience, and welfare of present and future citizens of the city, specifically to:

- Implement the goals, objectives, policies, and programs of the General Plan and to manage future growth and change in accordance with that plan.
- Protect the physical, social, and economic stability and vitality of residential, commercial, industrial, public, institutional and open space uses within the city to assure their orderly development.
- Reduce or eliminate hazards to the public resulting from potentially inappropriate location, use, or design of buildings and other improvements.
- Attain the physical, social, and economic advantages resulting from comprehensive and orderly land use and resource planning.

**City of Bakersfield Zoning Plan**

This Zoning Plan (Bakersfield, California, Municipal Code § 17-02-030) is adopted to implement the goals and policies of the general plan of the city which serve to promote and protect the public health, safety, peace, morals, comfort, convenience and general welfare, and for the accomplishment thereof is adopted, among other purposes for the following more particularly specified purposes:

- To assist in providing a definite plan of development for the city and to guide, control and regulate the future growth of the city in accordance with said plan.
- To protect the established character and the social and economic stability of agricultural, residential, commercial, industrial and other areas within the city, and to assure the orderly and beneficial development of such areas. (Ord. 2693, 1982: prior code § 17.04.020).

*This page intentionally left blank*

# Chapter 4
## Affected Environment

# 4.0 Affected Environment

This section discusses the affected environment related to population, communities, and environmental justice in the region and study area for the Fresno to Bakersfield Section of the HST project. The region is defined as the four counties of Fresno, Kings, Tulare, and Kern. The study area is defined as the 0.5-mile radius from the centerline of the HST project alignment, as well as the 0.5-mile radius around the parcels comprising station and heavy maintenance facility locations.

Within the four counties, the study area crosses six cities (Fresno, Hanford, Corcoran, Wasco, Shafter, and Bakersfield) as well as several smaller communities in between. The cities of Corcoran, Wasco, and Shafter were examined as whole cities, given their smaller overall geographic area, the fact that the key downtown areas are almost entirely contained in the 0.5 mile study area and their more homogeneous populations. Although the project passes outside of the incorporated area of Hanford, given its size and importance in the region, it is also examined as a whole. The cities of Fresno and Bakersfield were determined to be too large and composed of too many distinct neighborhoods and heterogeneous populations to be examined as a whole. Therefore, study area profiles for these cities also include data by district to create more project-focused areas for analysis.

For the city of Fresno, data are presented for the city as a whole, but also for the Central, Edison, and Roosevelt districts. For Bakersfield, data are presented for the city as a whole, as well as for the Central, Northeastern, and Northwestern districts. These are the districts in the two major cities that the project alignment would traverse. District boundaries were determined based on current definitions used by city staff (Fresno), interviews with local planners (Bakersfield), and examination of U.S. Census boundaries (tract, block group, and block) to approximate the district boundaries as closely as possible.

The affected environment is presented in terms of population characteristics including population demographics, age, income, household characteristics, linguistic isolation, and disabilities; housing; environmental justice populations; local economy; community facilities; and non-motorized circulation. These various aspects of the affected environment are presented in geographical order from north to south along the project alignment. Data sources for counties and urban areas include the U.S. Census, American Community Survey, the California Department of Finance, the California Employment Development Division, the California State Board of Equalization, as well as local data sources. The rural areas that lie between the urban cities along the alignment were identified by reviewing maps, through discussion with local officials, and through site visits to identify existing conditions. The methodologies used to collect and compile all the data for this affected-environment description are detailed in Appendix A. The detailed data used to develop this description of the affected environment are presented in the community profiles provided in Appendix B.

## 4.1 Population Characteristics

Population characteristics presented in this section include total population and ethnicity, age distribution, income, household types, linguistic isolation, and disabilities.

### 4.1.1 Population and Ethnicity

#### A. REGION

The population in the four-county region of Fresno, Kings, Tulare, and Kern counties (region) has continued to increase in the last decade and is projected to increase substantially over the next 25 years, with some county populations expected to nearly double by 2035 (see Table 4-1).

**Table 4-1**
Existing and Projected County Populations

| Location | 2009 | 2035 | Change (%) |
|---|---|---|---|
| Fresno County | 942,248 | 1,547,582 | 64.2 |
| Kings County | 154,743 | 274,576 | 77.4 |
| Tulare County | 441,481 | 809,789 | 83.4 |
| Kern County | 827,173 | 1,523,934 | 84.2 |
| Regional Total | 2,365,645 | 4,155,881 | 75.7 |

Sources: California Department of Finance 2009; California Department of Finance, Demographic Research Unit 2007.

Minorities, in this analysis, are defined as all individuals not identified as White only in the Census, including those identified as Hispanic. Individuals of a non-Hispanic White background made up approximately 43% of the region's population in 2000, while persons of Hispanic ethnicity of any race made up approximately 43% of the population. Between 2000 and 2008, the percentages of these two groups shifted substantially, with the total non-Hispanic White population decreasing to about 38% and the population of Hispanics of all races growing by almost 7%, or 289,916 people. Persons of Hispanic ethnicity now represent approximately half the population of the region (see Table 4-2 and Table 4-3 for 2000 and 2008, respectively).

A large percentage of the regional population is institutionalized in one of the several prisons in the area. In 2009, 3.68% of the regional population was institutionalized, compared with the 2.24% of the statewide population in the same year. The regional population is expected to nearly double by 2035, to over 4.1 million people. In line with current trends, it is expected that the Hispanic population will continue to grow at a faster rate than other groups in the region and will represent nearly 60% of the population in 2035.

**Table 4-2**
Minority Group Representation in the Region (2000)

| Location | Percentage of Population | | | | | |
|---|---|---|---|---|---|---|
| | Hispanic of All Races | Non-Hispanic Native American | Non-Hispanic Asian | Non-Hispanic African American | Non-Hispanic Other | Total |
| **Fresno County** | **44.0** | **0.9** | **7.9** | **5.0** | **2.5** | **60.3** |
| City of Fresno | 39.9 | 0.9 | 11.0 | 8.0 | 2.9 | 62.7 |
| **Kings County** | **43.6** | **1.2** | **3.0** | **8.0** | **2.6** | **58.4** |
| City of Hanford | 38.7 | 0.8 | 2.8 | 4.8 | 3.0 | 50.1 |
| City of Corcoran | 59.6 | 0.5 | 0.7 | 14.0 | 1.1 | 75.9 |

**Table 4-2**
Minority Group Representation in the Region (2000)

| Location | Percentage of Population | | | | | |
|---|---|---|---|---|---|---|
| | Hispanic of All Races | Non-Hispanic Native American | Non-Hispanic Asian | Non-Hispanic African American | Non-Hispanic Other | Total |
| **Tulare County** | **50.8** | **0.9** | **3.1** | **1.4** | **2.0** | **58.2** |
| **Kern County** | **38.4** | **1.0** | **3.2** | **5.7** | **2.2** | **50.5** |
| City of Wasco | 66.7 | 0.6 | 0.6 | 9.8 | 0.7 | 78.4 |
| City of Shafter | 68.1 | 0.6 | 0.3 | 1.4 | 0.6 | 71.0 |
| City of Bakersfield | 32.5 | 0.9 | 4.1 | 8.9 | 2.5 | 48.9 |
| **Regional Total** | **43.3** | **0.9** | **5.1** | **4.8** | **2.4** | **56.5** |

Source: U.S. Census Bureau 2000e.

Note: Census racial and ethnicity characteristics data include institutionalized populations, of which Corcoran and Wasco have a large number given the presence of state prison facilities.

**Table 4-3**
Minority Group Representation in the Region (2008)

| Location | Percentage of Population | | | | | |
|---|---|---|---|---|---|---|
| | Hispanic of All Races | Non-Hispanic Native American | Non-Hispanic Asian | Non-Hispanic African American | Non-Hispanic Other | Total |
| **Fresno County** | **48.7** | **0.6** | **8.4** | **4.9** | **2.3** | **65.0** |
| City of Fresno | 46.6 | 0.3 | 9.9 | 7.5 | 2.4 | 66.7 |
| **Kings County** | **49.3** | **1.2** | **3.1** | **7.5** | **1.7** | **62.8** |
| City of Hanford[a] | 45.5 | 0.8 | 4.2 | 7.3 | 0.9 | 58.8 |
| City of Corcoran[a] | 62.6 | 1.5 | 2.0 | 12.8 | 0.9 | 80.8 |
| **Tulare County** | **57.5** | **0.6** | **2.8** | **1.3** | **2.2** | **64.4** |
| **Kern County** | **47.1** | **0.5** | **3.6** | **5.4** | **2.5** | **59.0** |
| City of Wasco[a] | 74.4 | 0.4 | 1.7 | 7.5 | 1.2 | 85.2 |
| City of Shafter[b] | 68.1 | 0.5 | 0.3 | 1.4 | 0.7 | 71.0 |

**Table 4-3**
Minority Group Representation in the Region (2008)

| Location | Percentage of Population | | | | | |
|---|---|---|---|---|---|---|
| | Hispanic of All Races | Non-Hispanic Native American | Non-Hispanic Asian | Non-Hispanic African American | Non-Hispanic Other | Total |
| City of Bakersfield | 43.3 | 0.5 | 4.8 | 8.6 | 3.0 | 60.2 |
| **Regional Total** | **49.8** | **0.6** | **5.3** | **4.6** | **2.3** | **62.6** |

Source: U.S. Census Bureau, American Community Survey 2008a.

[a] Data for cities of Hanford, Corcoran, and Wasco provided by U.S. Census Bureau, American Community Survey 2006–2008a.

[b] City of Shafter data provided by U.S. Census Bureau, 2000e; more recent data are not available.

Note: The California Department of Finance does not provide annual racial and ethnicity characteristics estimates, so the most current American Community Survey data are used. This use of two sources explains the difference between the 2009 total population estimates presented above and the 2008 or 2006–2008 totals in this table. Also, U.S. Census racial and ethnicity characteristics data include institutionalized populations, of which Corcoran and Wasco have a large number given the presence of state prison facilities.

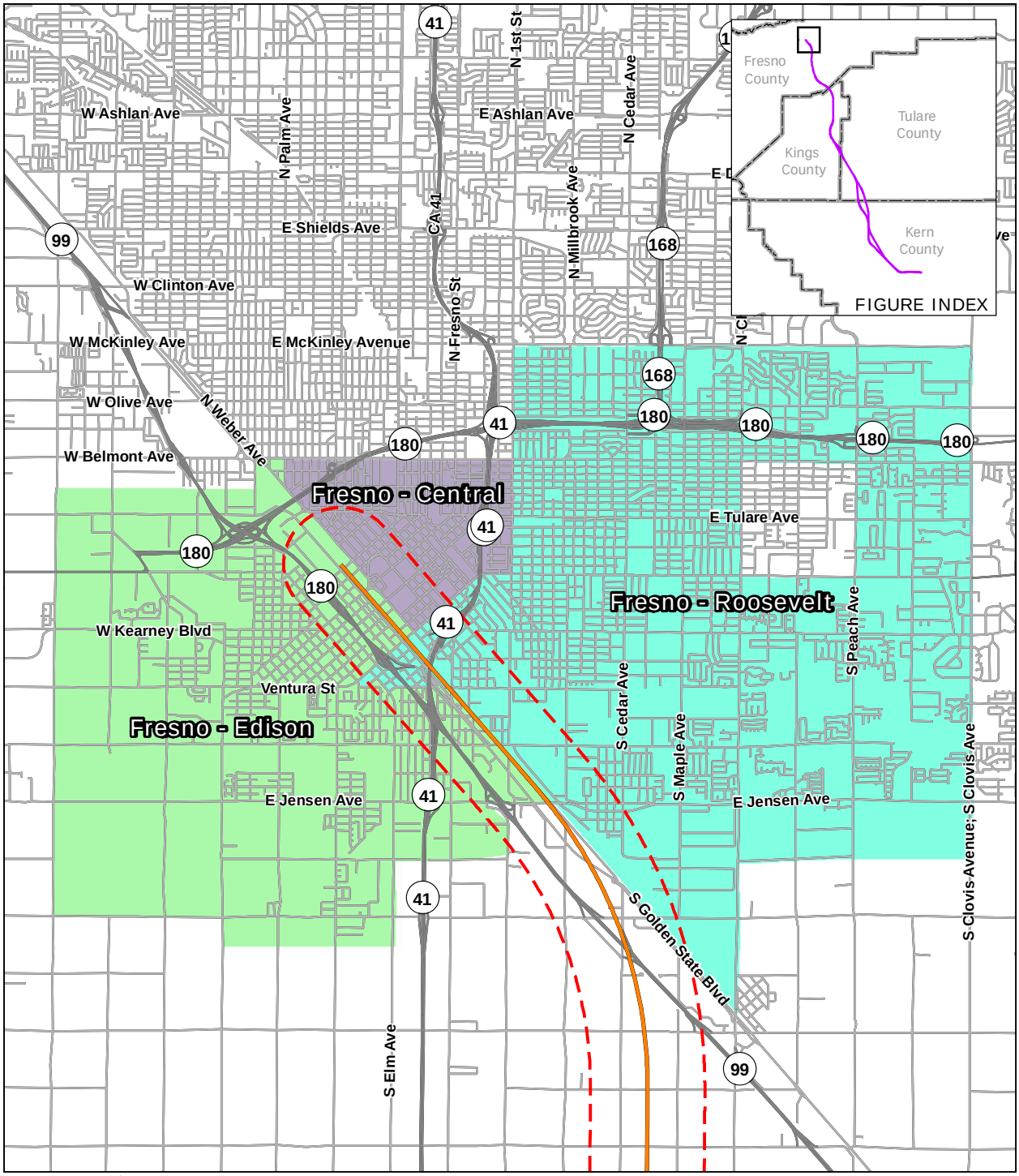
## B. CITY OF FRESNO

Fresno's population of 427,652 residents in 2000 had grown to 495,913 by 2009, resulting in an annual average growth rate of 1.8%. This is lower than the growth rates of Fresno County (2.0%) and the region (2.3%) during the same period (California Department of Finance 2009).

Fresno's minority population, which represented 63% of all residents in 2000, increased to almost 67% of all residents in 2008 (see Table 4-2 and Table 4-3 for 2000 and 2008, respectively). This total percentage of minority population is similar to that of Fresno County (65%) and the region (63%) (U.S. Census Bureau, American Community Survey 2008a)[2].

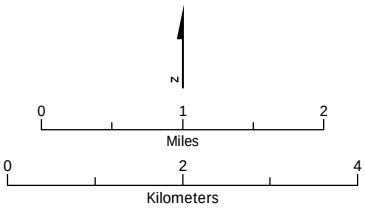
The data available to examine the three bisected city districts within the study area are Census 2000 data aggregated at the Census tract level to match district boundaries as closely as possible (see Figure 4-1 for districts within the city of Fresno). Please refer to the community and neighborhoods methodology in Appendix A, Section A.2, for more detail on the development of these boundaries and the specific Census tracts involved. The Census 2000 populations of the neighborhoods vary widely, ranging from 16,754 people in the Central district to 102,489 people in Roosevelt. All of the districts have very high concentrations of minority populations, with each district having a minority population of at least 85%, which is much higher than the city as a whole (63%).

[2] U.S. Census Bureau American Community Survey (ACS) single-year estimates for 2008 are available for Bakersfield and Fresno, because both of these cities have a population of greater than 65,000. By contrast, Hanford, Corcoran, and Wasco each have a population of less than 65,000 but greater than 20,000, and therefore 2006–2008 average estimates are available. The city of Shafter, with a population of less than 20,000, currently has no recent estimates available from the ACS.




PRELIMINARY DRAFT/SUBJECT TO CHANGE - HST ALIGNMENT IS NOT DETERMINED
Sources: URS, 2010

May 18, 2011




Road

Alternative alignments

Half-mile buffer from alignment

Figure 4-1
Districts within the
City of Fresno

## C. CITY OF FRESNO TO CITY OF HANFORD

Seven small communities are interspersed along this section of the alignment. The five communities of Malaga, Oleander, Bowles, Monmouth, and Conejo are in Fresno County, and the communities of Hamblin and Ponderosa are in Kings County. All of these communities are unincorporated – and therefore data on population characteristics is limited – and only Bowles was classified as a Census designated place (CDP) by the Census Bureau in 2000. Community population estimates obtained through field visits and examination of aerial images of communities range from fewer than 100 people in the smallest communities of Oleander and Conejo to approximately 1,500 residents in the largest community of Malaga.

## D. CITY OF HANFORD

Hanford's population of 41,686 residents in 2000 had grown to 52,687 in 2009, resulting in an average annual growth rate of 2.9%. This growth rate was higher than the growth rates seen in both Kings County (2.2%) and the region (2.3%) during the same period (California Department of Finance 2009).

Hanford's minority population, which represented approximately half the residents in 2000, increased to approximately 60% of all residents by 2006–2008 (see Table 4-2 and Table 4-3 for 2000 and 2008, respectively). This total percentage of minority population is similar to that of Kings County (59%) and the region (63%) (U.S. Census Bureau American Community Survey 2008a).[3]

## E. CITY OF HANFORD TO CITY OF CORCORAN

The study area between the cities of Hanford and Corcoran is in Kings County. El Ranchero is the one community identified in this segment of the project. El Ranchero lies south of Lacey Boulevard, 1 mile west of Hanford, with an estimated population of 400 residents.

## F. CITY OF CORCORAN

In 2000, Corcoran had a population of 20,843 residents; by 2009 the population had grown to 25,893 people, for an average annual growth rate of 2.7%. This growth rate is higher than the growth rates seen in Kings County (2.2%) and the region (2.3%) during the same period (California Department of Finance 2009).

Corcoran's minority population, which represented approximately 76% of all residents in 2000, increased to nearly 81% of all residents by 2006–2008 (see Table 4-2 and Table 4-3 for 2000 and 2008, respectively). This total percentage of minority population is much higher than that of Kings County (59%) and the region (63%) (U.S. Census Bureau American Community Survey 2008a).[4] Not only does Corcoran have a higher-than-average number of individuals of Hispanic background, but also it has a higher percentage of individuals of African-American descent, as compared with the county and region.

---

[3] The ACS single-year estimates for 2008 are available for Bakersfield and Fresno, because both of these cities have a population of greater than 65,000. By contrast, Hanford, Corcoran, and Wasco each have a population of less than 65,000 but greater than 20,000, and therefore 2006–2008 average estimates are available. The city of Shafter, with a population of less than 20,000, currently has no recent estimates available from the ACS.

[4] The ACS single-year estimates for 2008 are available for Bakersfield and Fresno, because both of these cities have a population of greater than 65,000. By contrast, Hanford, Corcoran, and Wasco each have a population of less than 65,000 but greater than 20,000, and therefore 2006–2008 average estimates are available. The city of Shafter, with a population of less than 20,000, currently has no recent estimates available from the ACS.

## G. CITY OF CORCORAN TO CITY OF WASCO

None of the eight unincorporated communities identified in the study area between the cities of Corcoran and Wasco are CDPs. The communities of Blanco, Angiola, Stoil, and Allensworth are located in Tulare County, while Kernell, Pond, Elmo, and Neufeld are located in Kern County. None of these places have experienced large growth in the past several years, and no growth is anticipated in the foreseeable future (Kinney 2010, personal communication; Smith 2010, personal communication; Waters 2010, personal communication).

Population estimates for these communities range from zero in the abandoned community of Neufeld to around 400 residents in the largest community of Allensworth.

## H. CITY OF WASCO

Wasco had a population of 21,263 residents in 2000; by 2009, the population had grown to 25,434, resulting in an average annual growth rate of 2.2% (California Department of Finance 2009). This growth rate is lower than the growth rate seen in the county (2.8%) but similar to the growth rate seen in the region (2.3%) during the same period.

Wasco's minority population, which represented approximately 80% of all residents in 2000, increased to over 85% of all residents by 2006–2008 (see Table 4-2 and Table 4-3 for 2000 and 2008, respectively). The total percentage of the minority population in Wasco is substantially higher than that of the county (59%) and the region (63%) (U.S. Census Bureau American Community Survey 2008a).[5]

## I. CITY OF WASCO TO CITY OF SHAFTER

The three communities identified in the study area between the cities of Wasco and Shafter are Palmo, the North Shafter Labor Camp, and Myricks Corner. These communities are unincorporated in Kern County, and none are classified as a CDP. Palmo is the smallest of the communities in this area, with an estimated population of fewer than 25 people. There are approximately 300 residents at the North Shafter Labor Camp, and approximately 250 residents in Myricks Corner.

## J. CITY OF SHAFTER

Shafter's population of 12,736 residents in 2000 had grown to 15,812 by 2009, which amounts to an average annual growth rate of 2.7% (California Department of Finance 2009). This was higher than seen in the region (2.3%), but similar to the county's growth rate (2.8%) during the same period.

Shafter's minority population, which represented approximately 70% of all residents in 2000, is a higher percentage of the population than is seen in either the county (50.5%) or the region (56.5%). Note that throughout Shafter's profile, no Census data are available after 2000 due to the smaller size of the city (see Table 4-2 and Table 4-3 for 2000 and 2008, respectively) (U.S. Census Bureau American Community Survey 2008a).[6]

---

[5] The ACS single-year estimates for 2008 are available for Bakersfield and Fresno, because both of these cities have a population of greater than 65,000. By contrast, Hanford, Corcoran, and Wasco each have a population of less than 65,000 but greater than 20,000, and therefore 2006–2008 average estimates are available. The city of Shafter, with a population of less than 20,000, currently has no recent estimates available from the ACS.

[6] The ACS single-year estimates for 2008 are available for Bakersfield and Fresno, because both of these cities have a population of greater than 65,000. By contrast, Hanford, Corcoran, and Wasco each have

## K. CITY OF SHAFTER TO CITY OF BAKERSFIELD

The one identified community in the study area between the cities of Shafter and Bakersfield is Crome. This community is unincorporated and is not a CDP. Crome has an estimated population of about 75 people.

## L. CITY OF BAKERSFIELD

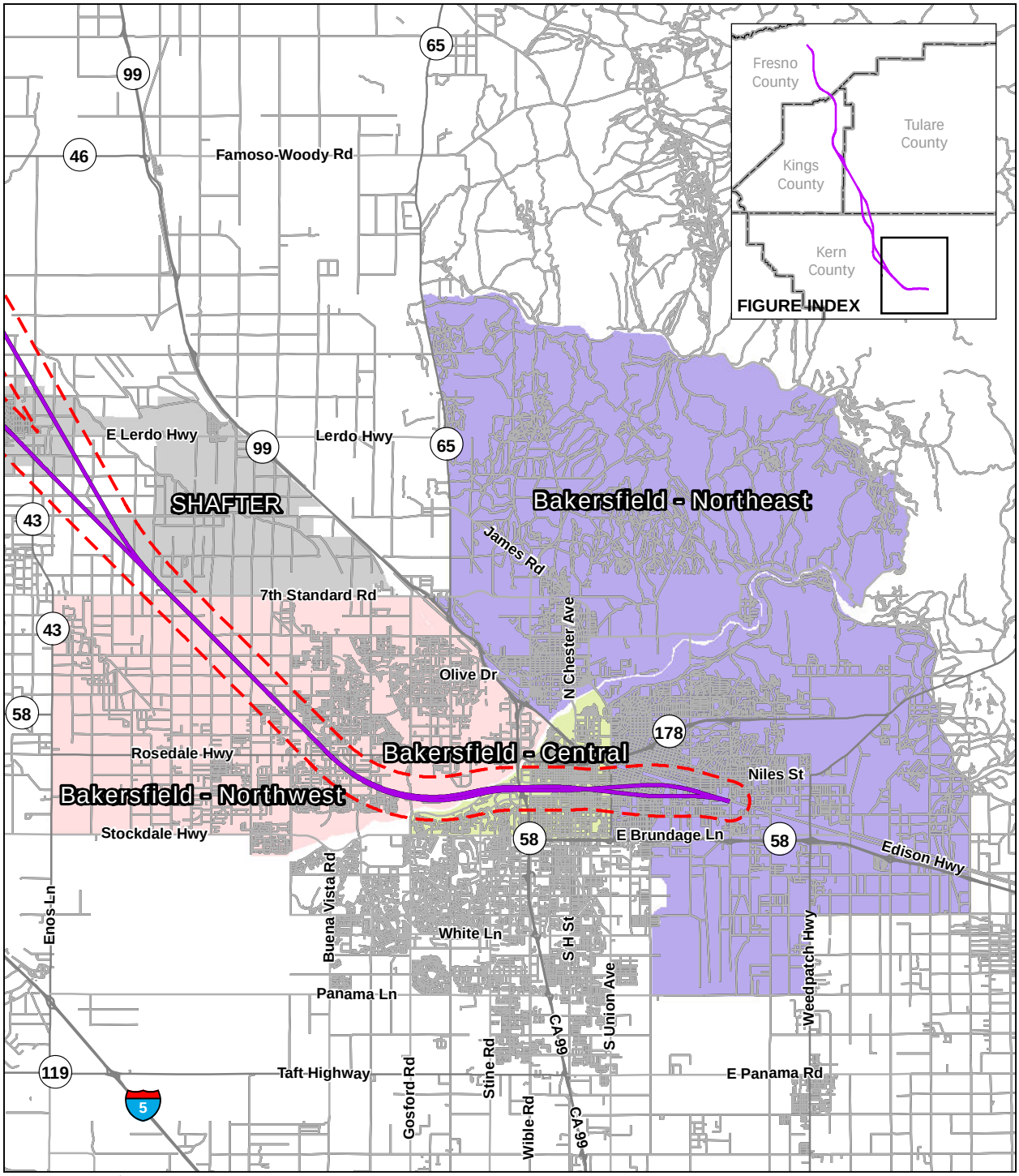
In 2000, Bakersfield had a population of 247,057 residents, growing to 333,719 in 2009, for an average annual growth rate of 3.9% (California Department of Finance 2009). This growth rate is higher than the growth rates of the county (2.8%) and the region (2.3%) during the same period.

Bakersfield's minority population, which represented approximately half of all residents in 2000, increased to 60% of all residents in 2008 (see Table 4-2 and Table 4-3 for 2000 and 2008, respectively). This total percentage of minority population is similar to that of Kern County (59%) and the region as a whole (63%) (U.S. Census Bureau American Community Survey 2008a).[7] See Table B-118 of Appendix B for a detailed breakdown of Bakersfield racial and ethnicity characteristics.

The population data available to examine the three bisected districts in Bakersfield are Census 2000 data aggregated at the Census tract level to match district boundaries as closely as possible (see Figure 4-2 for districts within the city of Bakersfield). Please refer to the community and neighborhoods methodology in Appendix A, Section A.2, for more detail on the development of these boundaries and the specific Census tracts involved. The Census 2000 populations of the three districts vary widely, ranging from 38,610 people in the Central district to 140,082 people in the Northeastern district. Both the Central and Northeastern districts had similar percentages of minorities (51.5% and 55.7%, respectively) when compared with Bakersfield as a whole, while the Northwestern neighborhood had a much lower percentage of minorities (18.8%).

a population of less than 65,000 but greater than 20,000, and therefore 2006–2008 average estimates are available. The city of Shafter, with a population of less than 20,000, currently has no recent estimates available from the ACS.

[7] The ACS single-year estimates for 2008 are available for Bakersfield and Fresno, because both of these cities have a population of greater than 65,000. By contrast, Hanford, Corcoran, and Wasco each have a population of less than 65,000 but greater than 20,000, and therefore 2006–2008 average estimates are available. The city of Shafter, with a population of less than 20,000, currently has no recent estimates available from the ACS.




PRELIMINARY DRAFT/SUBJECT TO CHANGE - HST ALIGNMENT IS NOT DETERMINED

Source: URS, 2010

May 18, 2011

Alternative alignments

Road

Half-mile buffer from Alternative

N

0 2 4 Miles

0 4 8 Kilometers

Figure 4-2
Districts within the City of Bakersfield

### 4.1.2 Age Distribution

Age distributions across the counties are similar, and middle-age groups make up the highest concentration of the population. Data across the four counties as well as many of the cities in the study area show that the largest age cohort of the population has shifted to being somewhat younger between 2000 and 2008, reflecting recent growth trends in the area. When compared with the other cities of the region, Corcoran and Wasco had higher percentages of the population in the middle-age groups in 2008 (see Table 4-4 and Table 4-5 for 2000 and 2008, respectively). This is likely due to the portion of the institutionalized population housed in the state prison facilities located within their city limits.

**Table 4-4**
Population Age Distribution (2000)

| Location | % Under 18 | % 18 to 64 | % 65 and Over |
|---|---|---|---|
| **Fresno County** | **32.1** | **58.0** | **9.9** |
| City of Fresno | 32.9 | 57.8 | 9.3 |
| **Kings County** | **29.0** | **63.6** | **7.4** |
| City of Hanford | 31.6 | 58.1 | 10.3 |
| City of Corcoran | 24.4 | 70.2 | 5.4 |
| **Tulare County** | **33.8** | **56.4** | **9.8** |
| **Kern County** | **31.9** | **58.7** | **9.4** |
| City of Wasco | 27.4 | 67.2 | 5.4 |
| City of Shafter | 36.6 | 55.4 | 8.1 |
| City of Bakersfield | 32.7 | 58.5 | 8.8 |
| **Regional Total** | **32.1** | **58.4** | **9.5** |
| Source: U.S. Census Bureau 2000a. | | | |

**Table 4-5**
Population Age Distribution (2008)

| Location | % Under 18 | % 18 to 64 | % 65 and Over |
|---|---|---|---|
| **Fresno County** | **29.7** | **60.5** | **9.8** |
| City of Fresno | 29.4 | 61.5 | 9.1 |
| **Kings County** | **27.1** | **65.2** | **7.7** |
| City of Hanford | 29.7 | 60.7 | 9.6 |
| City of Corcoran | 15.7 | 79.4 | 4.9 |
| **Tulare County** | **31.8** | **58.6** | **9.6** |
| **Kern County** | **29.8** | **61.3** | **8.9** |

**Table 4-5**
Population Age Distribution (2008)

| Location | % Under 18 | % 18 to 64 | % 65 and Over |
|---|---|---|---|
| City of Wasco | 26.5 | 68.1 | 5.4 |
| City of Shafter[a] | 36.6 | 55.3 | 8.1 |
| City of Bakersfield | 30.6 | 60.9 | 8.5 |
| **Regional Total** | **30.0** | **60.7** | **9.3** |

Sources: U.S. Census Bureau, American Community Survey 2006–2008e, 2008e.
[a] City of Shafter data provided by U.S. Census Bureau 2000a, because more recent data are not available.

### 4.1.3 Income

Median annual household income is summarized in Table 4-6. While the table shows that incomes in the region increased between 1999 and 2008, the recent economic downturn and resulting impacts on the local economy erased some of these gains. In 2008, the median annual household income across the four counties was highest in Kings County, at $50,962, and lowest in Fresno County, at $43,737. By comparison, the median annual household income for the state of California was $61,062 in the same year. The cities of Hanford and Bakersfield had higher incomes than the other cities in the study area over the 1999–2008 period.

In 1999, all three of Fresno's districts were very much below the city as a whole, in terms of income. Central ($12,085) was the lowest, with Edison ($16,437) and Roosevelt ($24,023) higher but still well below the citywide median household income. Bakersfield districts had lower median incomes when compared with Bakersfield as a whole in 1999, with the exception of the Northwest district, which had a median income well above that of the city, county, and region as a whole, at $61,910.

**Table 4-6**
Median Annual Household Income (1999 and 2008)

| Location | 1999 | 2008 | % Increase |
|---|---|---|---|
| **State of California** | **$47,493** | **$61,021** | **28.5** |
| **Fresno County** | **$34,725** | **$43,737** | **26.0** |
| City of Fresno | $32,236 | $40,134 | 24.5 |
| Central district | $12,085 | NA | NA |
| Edison district | $16,437 | NA | NA |
| Roosevelt district | $24,023 | NA | NA |
| **Kings County** | **$35,749** | **$50,962** | **42.6** |
| City of Hanford | $37,582 | $51,520 | 37.1 |
| City of Corcoran | $30,783 | $35,340 | 14.8 |

**Table 4-6**
Median Annual Household Income (1999 and 2008)

| Location | 1999 | 2008 | % Increase |
|---|---|---|---|
| **Tulare County** | **$33,983** | **$45,117** | **32.8** |
| **Kern County** | **$35,446** | **$44,733** | **26.2** |
| City of Wasco | $28,997 | $34,976 | 20.6 |
| City of Shafter | $29,515 | NA | NA |
| City of Bakersfield | $39,982 | $50,409 | 26.1 |
| Central district | $27,291 | NA | NA |
| Northeast district | $30,885 | NA | NA |
| Northwest district | $61,910 | NA | NA |

Sources: U.S. Census Bureau 2000c; U.S. Census Bureau, American Community Survey 2008f; data for cities of Hanford, Corcoran, and Wasco provided by U.S. Census Bureau, American Community Survey 2006–2008f.

Note: The 2008 data are not available at the district level for Fresno, Bakersfield, or Shafter. Also, the 2000 Census data on income are representative of 1999 conditions.

NA = not available

## 4.1.4 Households

### A. REGION

According to the California Department of Finance, 606,395 households were present in the region in 2000, with an average household size of 3.11 persons. In 2009, the number of households grew to 715,664, and the average household size increased to 3.18 persons (California Department of Finance 2009). Approximately 75% of all households in the region are family households; however, the percentage of married-couple households has decreased across all four counties since 2000, with an increase in the percentage of households headed by a single female or a single male (see Table 4-7 and Table 4-8 for 2000 and 2008, respectively).

**Table 4-7**
Type of Household in the Region (2000)

| Location | % of Total Households | | | | | |
|---|---|---|---|---|---|---|
| | % Family Household | % Married Couple Family | % Female Householder (No Husband Present) | % Male Householder (No Wife Present) | % Non-Family Household | % Householder Living Alone |
| **Fresno County** | **74.3** | **53.4** | **15.1** | **5.8** | **25.7** | **20.6** |
| City of Fresno | 70.4 | 47.3 | 17.4 | 5.7 | 29.6 | 23.3 |
| Central district | 64.8 | 33.2 | 22.6 | 9.1 | 35.2 | 18.6 |
| Edison district | 75.9 | 37.1 | 31.6 | 7.2 | 24.1 | 8.0 |
| Roosevelt district | 78.9 | 49.9 | 20.5 | 8.5 | 21.1 | 7.1 |

**Table 4-7**
Type of Household in the Region (2000)

| Location | % of Total Households | | | | | |
|---|---|---|---|---|---|---|
| | % Family Household | % Married Couple Family | % Female Householder (No Husband Present) | % Male Householder (No Wife Present) | % Non-Family Household | % Householder Living Alone |
| **Kings County** | **78.6** | **58.6** | **14.2** | **5.8** | **21.4** | **17.0** |
| City of Hanford | 74.5 | 54.8 | 15.0 | 4.7 | 25.5 | 20.6 |
| City of Corcoran | 80.1 | 53.2 | 16.7 | 10.2 | 19.9 | 16.2 |
| **Tulare County** | **79.3** | **59.1** | **14.1** | **6.2** | **20.7** | **17.1** |
| **Kern County** | **75.4** | **55.7** | **14.1** | **5.7** | **24.6** | **20.3** |
| City of Wasco | 86.2 | 62.4 | 17.3 | 6.5 | 13.8 | 11.9 |
| City of Shafter | 84.3 | 62.9 | 15.1 | 6.3 | 15.7 | 13.2 |
| City of Bakersfield | 73.7 | 53.6 | 14.6 | 5.5 | 26.3 | 21.5 |
| Central district | 62.5 | 37.5 | 18.9 | 6.0 | 37.5 | 12.9 |
| Northeast district | 73.8 | 49.1 | 17.8 | 7.0 | 26.2 | 8.8 |
| Northwest district | 84.1 | 73.0 | 7.9 | 3.2 | 15.9 | 6.0 |
| **Regional Total** | **75.8** | **55.5** | **14.5** | **5.8** | **24.2** | **19.7** |

Source: U.S. Census Bureau 2000h.

Note: Rows do not necessarily add to 100%, because the percentage presented is total households, and a household can be accounted for in more than one column.

**Table 4-8**
Type of Household in the Region (2008)

| Location | % of Total Households | | | | | |
|---|---|---|---|---|---|---|
| | % Family Household | % Married Couple Family | % Female Householder (No Husband Present) | % Male Householder (No Wife Present) | % Non-Family Household | % Householder Living Alone |
| **Fresno County** | **71.7** | **48.5** | **16.4** | **6.8** | **28.3** | **22.0** |
| City of Fresno | 68.4 | 43.7 | 17.8 | 7.0 | 31.6 | 23.2 |
| **Kings County** | **75.5** | **54.4** | **12.9** | **8.2** | **24.5** | **18.2** |
| City of Hanford | 74.0 | 53.3 | 14.7 | 6.0 | 26.0 | 21.1 |
| City of Corcoran | 81.7 | 45.7 | 24.0 | 12.0 | 18.3 | 17.7 |

**Table 4-8**
Type of Household in the Region (2008)

| Location | % of Total Households | | | | | |
|---|---|---|---|---|---|---|
| | % Family Household | % Married Couple Family | % Female Householder (No Husband Present) | % Male Householder (No Wife Present) | % Non-Family Household | % Householder Living Alone |
| **Tulare County** | **80.9** | **56.9** | **16.3** | **7.7** | **19.1** | **16.4** |
| **Kern County** | **73.3** | **51.1** | **15.0** | **7.2** | **26.7** | **21.1** |
| City of Wasco | 80.3 | 52.2 | 17.1 | 11.0 | 19.7 | 16.7 |
| City of Shafter | NA | NA | NA | NA | NA | NA |
| City of Bakersfield | 71.6 | 50.4 | 14.2 | 7.0 | 28.4 | 21.7 |
| **Regional Total** | **74.1** | **51.3** | **15.7** | **7.2** | **25.9** | **20.4** |

Sources: U.S. Census Bureau, American Community Survey 2006–2008b, 2008b.

Note: California Department of Finance does not provide number of households by type for 2009, so ACS 2006–2008 and 2008 data were used. This use of sources explains the difference between the 2009 total household estimates presented above and the 2008 totals in this table.

## B. CITY OF FRESNO

In 2000, 140,079 households were present in Fresno, with an average household size of 2.99 people. By 2009, both the number of households and the average household size had increased, to 159,523 and 3.05 people, respectively. (California Department of Finance 2009).The average household size for Fresno is less than that of the county (3.15) and the region (3.18).

The makeup of households in Fresno has changed somewhat since 2000. Approximately 70% of the households were family households in 2000, but that percentage decreased to 68.4% in 2008. The percentage of married-family couples also decreased by 3.6% during the same period, and the number of male householder and non-family households increased (see Table 4-7 and Table 4-8 for 2000 and 2008, respectively).

In 2000, the average household size was similar in the districts of Edison (3.74) and Roosevelt (3.75), but the average household size in Central (3.33) was smaller (California Department of Finance 2009).This difference could be due to the urban nature of the area and the lower percentage of family households in and around the downtown.

The three Fresno districts had a different household makeup in 2000, with the Central district having a lower percentage of family households (64.8%) than the city average (70.4%), and Edison and Roosevelt having higher percentages of 75.9% and 78.9%, respectively. Similar trends were observed for married-couple families; thus, single-parent and non-family percentages were highest in Central (66.8%), and lower in Edison (60.2%) and Roosevelt (50.1%).

## C. CITY OF HANFORD

There were 13,913 households in Hanford, with an average household size of 2.93 persons per household in 2000. By 2009, both the number of households and the average household size had increased, to 17,015 and 3.05, respectively (California Department of Finance 2009). The 2009

average household size for Hanford is lower than that of either Kings County (3.30) or the region (3.18).

The makeup of households in Hanford has changed little since 2000. Approximately 74.5% of the households were family households in 2000, similar to the 2006–2008 estimate of 74.0%. Also similar to trends seen in both the county and region were decreases in the percentage of married-couple families and increases in single-parent households in Hanford (see Table 4-7 and Table 4-8 for 2000 and 2008, respectively).

### D. CITY OF CORCORAN

Corcoran had 2,722 households in 2000, with an average household size of 3.44 people. Both the number of households and the average household size had increased by 2009, to 3,653 and 3.58, respectively (California Department of Finance 2009). The average household size for Corcoran remains higher than that of either Kings County (3.30) or the region (3.18).

Corcoran's makeup of households has remained steady since 2000. Approximately 80% of the households were family households in 2000, which is similar to the 2006–2008 estimate. The decreases in the percentage of married-couple families and the increases in single-parent households are similar in both the county and the region. Of note is the large increase (almost 50%) in the number of female-headed households in Corcoran, which is not reflected at the county or regional level and may be the result of the families of prisoners in Corcoran State Prison moving to the community to be close by (see Table 4-7 and Table 4-8 for 2000 and 2008, respectively).

### E. CITY OF WASCO

There were 3,983 households in Wasco in 2000, with an average household size of 3.79 people. By 2009, both the number of households and the average household size had increased, to 4,882 and 3.92, respectively (California Department of Finance 2009). The average household size for Wasco is higher than that of either the county (3.13) or the region (3.18).

Approximately 86% of Wasco households were family households in 2000, decreasing to 80% by 2006–2008. As with trends seen in both the county and region, Wasco experienced a decrease in the percentage of married-couple families and an increase in single-parent households over this period (see Table 4-7 and Table 4-8 for 2000 and 2008, respectively).

### F. CITY OF SHAFTER

The 3,293 households present in Shafter in 2000 had an average household size of 3.67 people. By 2009, both the number of households and the average household size had increased, to 4,000 and 3.80, respectively (California Department of Finance 2009). The average household size for Shafter is higher than that of either the county (3.13) or the region (3.18). The makeup of households is similar to that in the county and region, with family households making up 84.3% of all households in 2000 (see Table 4-7 and Table 4-8 for 2000 and 2008, respectively).

### G. CITY OF BAKERSFIELD

Bakersfield had 83,428 households in 2000, with an average household size of 2.92 people. By 2009, both the number of households and the average household size had increased to 109,449 and 3.02, respectively (California Department of Finance 2009). Bakersfield's average household size is smaller than that of either the county (3.13) or the region (3.18).

The makeup of households in Bakersfield has changed since 2000, with family households decreasing from approximately 74% of the total to 71.6% by 2008. Furthermore, the percentage

of married-family couples decreased by approximately 3% during this period, and there were increases in both the number of non-family households and male-householder-family households (see Table 4-7 and Table 4-8 for 2000 and 2008, respectively).

Average household size was similar in the Northeastern (3.07) and Northwestern (3.03) districts, while the Central district's average household size (2.57) was smaller (U.S. Census Bureau 2000h).This could be due to the urban nature of the area as well as the lower percentage of family households in and around the downtown area.

The differences in the makeup of households across Bakersfield districts in 2000 showed that the Central district had a percentage of family households (62.5%) below the city average (73.7%). Northeast was similar to the city average (73.9%), while Northwest had a higher-than-average family household percentage (84.2%). The same trend in percentages was true for married-couple families. Single-parent and non-family percentages were highest in Central (62.5%), similar to the city average in Northeast (50.9%), and lowest in the Northwest (27%).

### 4.1.5 Linguistic Isolation

#### A. REGION

Linguistic isolation among households in the region was similar to that of the state in 2000, as 9.4% of regional households and 9.6% of California households did not have someone over the age of 14 with the ability to speak English very well (U.S. Census Bureau 2000f).[8] This percentage has increased in the region since 2000, with 11.0% of the households estimated to be linguistically isolated in 2008 (U.S. Census Bureau 2000f). This percentage has increased in Tulare County at a slightly faster rate than in the region as a whole, with 13.4% of households identified as linguistically isolated in 2008 (see Table 4-9).

**Table 4-9**
Linguistic Isolation (2000 and 2008)

| Location | % of Total Population 2000 | % of Total Population 2008 | % Increase |
|---|---|---|---|
| **Fresno County** | **9.79** | **10.36** | **0.57** |
| City of Fresno | 9.22 | 9.69 | 0.47 |
| Central district | 25.79 | NA | NA |
| Edison district | 16.67 | NA | NA |
| Roosevelt district | 18.66 | NA | NA |
| **Kings County** | **8.67** | **12.29** | **3.62** |
| City of Hanford | 5.24 | 9.17 | 3.93 |
| City of Corcoran | 12.12 | NA | NA |
| **Tulare County** | **11.07** | **13.45** | **2.38** |
| **Kern County** | **8.15** | **10.13** | **1.98** |

[8] According to the U.S. Census Bureau, a household is linguistically isolated if "no member 14 years old and over speaks only English or speaks a non-English language and speaks English very well. In other words, all members 14 years old and over have at least some difficulty with English."

**Table 4-9**
Linguistic Isolation (2000 and 2008)

| Location | % of Total Population 2000 | % of Total Population 2008 | % Increase |
|---|---|---|---|
| City of Wasco | 20.19 | NA | NA |
| City of Shafter | 20.22 | NA | NA |
| City of Bakersfield | 5.75 | 6.81 | 1.06 |
| Central district | 5.59 | NA | NA |
| Northeast district | 8.88 | NA | NA |
| Northwest district | 1.24 | NA | NA |
| **Regional Total** | **9.40** | **11.00** | **1.60** |

Sources: U.S. Census Bureau 2000f; U.S. Census Bureau, American Community Survey 2006–2008c, 2008c.
NA = not available

## B. CITY OF FRESNO

Linguistic isolation in the city of Fresno affected 9.2% of households in 2000. This percentage was slightly lower than the corresponding percentage for the county (9.8%) and the region (9.4%). Fresno experienced an increase in the percentage of households that are linguistically isolated in 2008, to 9.7%; however, this percentage was still below that of the county and the region in the same year (U.S. Census Bureau 2000f; U.S. Census Bureau, American Community Survey 2006–2008c, 2008c).

In the three districts, linguistic isolation was much higher than in the city as a whole: 25.8% in Central, 18.7% in Roosevelt, and 16.7% in Edison (see Table 4-9) (U.S. Census Bureau 2000f).

## C. CITY OF HANFORD

In 2000, 5.2% of households did not have someone over the age of 14 with the ability to speak English very well, a lower percentage than that in the county (8.7%) and region (9.4%). The city has experienced an increase in linguistic isolation since 2000 that is similar to that of the county as a whole, with 9.2% of Hanford households linguistically isolated in 2008. This percentage is still below that of the county (12.3%) and the region (11.0%) (see Table 4-9) (U.S. Census Bureau, American Community Survey 2006–2008c).

## D. CITY OF CORCORAN

In 2000, 12.1% of the city's households did not have someone over the age of 14 with the ability to speak English very well, a higher percentage than that in the county (8.7%) and the region (9.4%) (U.S. Census Bureau 2000f). More recent data are not available from the Census American Community Survey for 2006–2008; however, with the increase in minority population and the trends seen in both the county and the region, it can be assumed that linguistic isolation has not decreased and more than likely has increased since 2000, and remains above county and regional levels (see Table 4-9).

### E. CITY OF WASCO

Wasco had a higher percentage of linguistic isolation among households in 2000 at 20.2%, compared with 8.2% of the county and 9.4% of the region (U.S. Census Bureau 2000f; U.S. Census Bureau, American Community Survey 2008c). More recent data are not available from the Census American Community Survey for 2006–2008; however, as with the Corcoran, because of the increase in minority population, along with trends seen in both the county and region, it can be assumed that linguistic isolation has not decreased since 2000 and more than likely has increased, and remains above county and regional levels (see Table 4-9).

### F. CITY OF SHAFTER

The percentage of Shafter families that did not have someone in the household over the age of 14 with the ability to speak English very well was 17.1% in 2000. This is a higher rate of linguistic isolation than either the county (8.2%) or region (9.4%) (U.S. Census Bureau 2000f). More recent information is not available from the Census American Community Survey for 2006–2008; however, as discussed previously, it can be assumed that linguistic isolation has not decreased and more than likely has increased since 2000, due to the increasing minority population in the area and trends observed in both the county and region (see Table 4-9).

### G. CITY OF BAKERSFIELD

In 2000, 5.8% of families did not have someone in the household over the age of 14 with the ability to speak English very well, a lower percentage than that in the county (8.2%) and region (9.4%). Similar to the county and region in 2008, Bakersfield experienced an increase (to 6.8%) in families that are linguistically isolated, but this was still below the comparable county and region percentages (U.S. Census Bureau and American Community Survey 2008).

Among the districts, the Northeast district (8.9%) had a higher percentage of linguistic isolation than the city (5.8%), but the rate was similar to those of the county (8.2%) and region (9.4%). The Northwest had a very low percentage (1.2%), while Central (5.6%) was similar to the city average (see Table 4-9) (U.S. Census Bureau 2000f).

## 4.1.6 Disabilities

Disabled populations tend to rely more heavily on community services due to issues with mobility and accessibility. Table 4-10 shows the percentage of individuals reporting some sort of disability, self-care limitation, or low-mobility issue in the counties and cities in the region. The data show that disabilities increase greatly in the 65 and older population. Among seniors in Tulare and Kern counties in 2007, almost 50% reported a disability, giving these counties the highest disability rates in the age group in the region. Of the cities within the study area, Corcoran, Shafter, and Bakersfield have the highest percentages of their seniors reporting disabilities in 2007, at over 50% of their respective populations (U.S. Census Bureau, American Community Survey 2005–2007, 2007).[9]

[9] Data on disability is collected by the U.S. Census for sensory disability, mental disability, self-care disability, going outside the home disability, and employment disability. Individuals can be identified as having more than one type of disability, and therefore there is the potential of double counting of individuals in this data.

**Table 4-10**
County and City Disability Status (2007)

| Location | % Population with Disability Status | |
|---|---|---|
| | Age 5 to 64 years | Age 65 years and over |
| **Fresno County** | **11.8** | **45.0** |
| City of Fresno | 12.3 | 48.8 |
| **Kings County** | **10.1** | **43.6** |
| City of Hanford | 13.5 | 39.6 |
| City of Corcoran | 14.5 | 54.3 |
| **Tulare County** | **11.8** | **49.7** |
| **Kern County** | **13.4** | **49.6** |
| City of Wasco | 11.8 | 47.5 |
| City of Shafter [a] | 18.8 | 52.5 |
| City of Bakersfield | 13.1 | 52.3 |

Sources: U.S. Census Bureau, American Community Survey 2005–2007, 2007.

[a] Comparisons between 2000 Census and 2007 U.S. Census Bureau American Community Survey disability data are not recommended due to a change in the definition of "disabled." Year 2000 data are presented for Shafter to illustrate conditions in Shafter in 2000 but should not be compared with 2007 data for other communities.

## 4.2 Housing

Housing characteristics are presented for the region as a whole as well as for the counties and cities along the project alternatives.

### 4.2.1 Region

The predominant housing type across the four counties is single-family homes, accounting for 72% of existing units in the region in 2009. Multifamily units and mobile homes account for 20% and 8% of the remaining housing stock, respectively. Table 4-11 and Table 4-12 provide a summary of housing characteristics for 2000 and 2009, respectively, including vacancy rates for the region. Kings County is unique because approximately 12% of the population is housed in group quarters, including the three state prison facilities located at Avenal and Corcoran (two facilities), and numerous military housing units at NAS Lemoore. Household characteristics exclude these group quarters. The rate of home ownership for the region as a whole has decreased from 59.3% of all occupied housing units in 2000 to 56.8% in 2008. Table 4-13 provides a summary of home ownership in the region for 2000 and 2008.

**Table 4-11**
Housing Characteristics (2000)

| Location | Single-Family Housing Units | | Multifamily Housing Units | | Mobile Homes | Occupied | Percent Vacant |
|---|---|---|---|---|---|---|---|
| | Detached | Attached | 2 to 4 | 5 Plus | | | |
| **Fresno County** | **175,370** | **10,063** | **24,162** | **47,830** | **13,342** | **252,940** | **6.58** |
| City of Fresno | 86,592 | 6,028 | 16,308 | 36,174 | 3,923 | 140,079 | 6.00 |
| Central district | 1,277 | 248 | 986 | 2,244 | 8 | 4,165 | 12.56 |
| Edison district | 4,593 | 354 | 1,138 | 603 | 49 | 6,231 | 7.51 |
| Roosevelt district | 16,768 | 1,058 | 3,561 | 6,944 | 572 | 26,807 | 7.25 |
| **Kings County** | **25,393** | **2,144** | **2,722** | **4,226** | **2,078** | **34,418** | **5.87** |
| City of Hanford | 10,401 | 552 | 1,387 | 2,041 | 341 | 13,932 | 5.37 |
| City of Corcoran | 2,144 | 180 | 270 | 303 | 123 | 2,772 | 8.21 |
| **Tulare County** | **87,838** | **4,740** | **8,514** | **7,819** | **10,728** | **110,385** | **7.73** |
| **Kern County** | **156,361** | **8,383** | **20,462** | **23,308** | **23,053** | **208,652** | **9.89** |
| City of Wasco | 3,069 | 326 | 413 | 318 | 130 | 3,971 | 6.70 |
| City of Shafter | 2,718 | 177 | 280 | 237 | 211 | 3,292 | 9.14 |
| City of Bakersfield | 57,582 | 3,221 | 9,993 | 14,855 | 2,538 | 83,428 | 5.46 |
| Central district | 7,848 | 775 | 2,944 | 3,651 | 451 | 14,447 | 7.80 |
| Northeast district | 32,917 | 2,027 | 5,436 | 5,262 | 3,183 | 44,989 | 7.86 |
| Northwest district | 15,502 | 131 | 478 | 1,068 | 800 | 17,298 | 3.79 |
| **Regional Total** | **439,645** | **23,719** | **54,035** | **79,761** | **57,341** | **606,395** | **7.35** |

Source: California Department of Finance 2009.

**Table 4-12**
Housing Characteristics (2009)

| Location | Single-Family Housing Units | | Multifamily Housing Units | | Mobile Homes | Occupied | Percent Vacant |
|---|---|---|---|---|---|---|---|
| | Detached | Attached | 2 to 4 | 5 Plus | | | |
| **Fresno County** | **10,083** | **209,119** | **25,706** | **53,585** | **14,066** | **292,429** | **6.44** |
| City of Fresno | 6,028 | 102,637 | 17,130 | 40,000 | 3,923 | 159,523 | 6.01 |
| **Kings County** | **2,637** | **30,067** | **3,013** | **4,494** | **2,273** | **40,061** | **5.70** |
| City of Hanford | 864 | 13,154 | 1,538 | 2,082 | 343 | 17,015 | 5.37 |
| City of Corcoran | 180 | 2,930 | 373 | 334 | 164 | 3,653 | 8.24 |
| **Tulare County** | **4,915** | **105,627** | **10,273** | **8,945** | **11,749** | **130,958** | **7.46** |
| **Kern County** | **8,536** | **195,588** | **23,787** | **25,591** | **26,267** | **252,216** | **9.85** |
| City of Wasco | 361 | 3,850 | 445 | 441 | 134 | 4,882 | 6.67 |
| City of Shafter | 177 | 3,459 | 274 | 283 | 209 | 4,000 | 9.13 |
| City of Bakersfield | 3,224 | 82,194 | 11,646 | 15,971 | 2,740 | 109,449 | 5.46 |
| **Regional Total** | **37,005** | **748,625** | **94,185** | **151,726** | **61,868** | **1,014,186** | **7.24** |

Source: California Department of Finance 2009.

**Table 4-13**
Housing Ownership (2000 and 2008)

| Location | % of Total Occupied Units Owned | |
|---|---|---|
| | 2000 | 2008 |
| **Fresno County** | **56.5** | **53.7** |
| City of Fresno | 50.7 | 47.8 |
| Central district | 13.8 | NA |
| Edison district | 40.5 | NA |
| Roosevelt district | 43.6 | NA |
| **Kings County** | **55.9** | **55.3** |
| City of Hanford | 59.3 | 58.7 |
| City of Corcoran | 57.2 | 60.2 |
| **Tulare County** | **61.5** | **58.9** |

**Table 4-13**
Housing Ownership (2000 and 2008)

| Location | % of Total Occupied Units Owned | |
|---|---|---|
| | 2000 | 2008 |
| **Kern County** | **62.1** | **59.6** |
| City of Wasco | 57.6 | 50.8 |
| City of Shafter | 60.2 | NA |
| City of Bakersfield | 60.4 | 57.2 |
| Central district | 42.5 | NA |
| Northeast district | 56.7 | NA |
| Northwest district | 85.4 | NA |

Sources: U.S. Census Bureau 2000d; U.S. Census Bureau, American Community Survey 2006–2008g, 2008g.
NA = not available

### 4.2.2 City of Fresno

As is the case in Fresno County and the region overall, the largest increase in the Fresno housing stock occurred in single-family detached homes between 2000 and 2009, accounting for 77% of the housing stock growth. Housing inventory is different in the city than in either the county or the region, with a larger percentage of housing units being multifamily residences. These characteristics reflect the more urban nature of the city of Fresno compared with the unincorporated areas in the region.

The composition of the housing stock in 2000 varied substantially among the three affected districts. The Central district had a much higher percentage of multifamily units when compared with either the Edison or Roosevelt district. When compared with the city as a whole, the Roosevelt district reflected the citywide housing stock very closely, whereas the Central district had a much higher percentage of multifamily units and the Edison district had a high percentage of single-family homes (see Table 4-11 and Table 4-12).

The rate of homeownership in Fresno has decreased since 2000, and home ownership across the three districts varied widely. In 2000, the Central district, which is the most urban of the three, had the highest percentage of individuals who rent (86.2%), making its residents about twice as likely to rent as the city residents as a whole (43.2%). Edison (59.5%) and Roosevelt (56.4%) had lower percentages of renters, but these percentages were still above that of the city as a whole (see Table 4-13). In 2008, housing unit turnover in Fresno was higher and the percentage of more established residents was lower (69.4% and 13.6%) than in the county (64.7% and 15.9%) and the region (66% and 15.2%) (U.S. Census Bureau 2000d; U.S. Census Bureau, American Community Survey 2006–2008g, 2008g).

In 2000, the Edison district had a higher percentage of housing units with the same residents for 20 years or more than either the Central or Roosevelt district. Slightly more than a quarter of the housing units in the Edison district had been occupied by the same residents for at least 20 years, while in the Central and Roosevelt district, 81.6% and 73.1% of units, respectively, had turned over in the past 10 years (U.S. Census Bureau 2000d; U.S. Census Bureau, American Community Survey 2006–2008g, 2008g).

### 4.2.3 City of Fresno to City of Hanford

The community of Malaga has an estimated 450 homes, with the main residential area completely surrounded by an industrial park. Census data show that Bowles had an estimated 35 housing units in 2000, of this total 23 are owner-occupied (U.S. Census Bureau 2000d; California Department of Finance 2009). The remaining communities had between 20 and 50 identified residences. The two communities in Kings County (Hamblin and Ponderosa) have experienced growth in the past several years, with continued growth expected.

### 4.2.4 City of Hanford

The largest increase in Hanford housing stock occurred in single-family detached homes between 2000 and 2009, which accounted for 84.4% of the housing stock growth. The composition of the housing stock in Hanford is similar to that of the county and the region, except for a smaller percentage of mobile homes (see Table 4-11 and Table 4-12).

Home ownership in Hanford has decreased slightly from 59.3% in 2000 to 58.7% in 2008, which is similar to decreases experienced by the county and region (see Table 4-13). As of 2008, residents of 62.5% of the occupied housing units in Hanford had moved into their homes since 2000, while 14.5% of households were more established, having lived in the same residences since at least 1990. These percentages are similar to those of the county (67% and 14.5%) and the region (66% and 15.2%) as a whole (U.S. Census Bureau 2000d; U.S. Census Bureau, American Community Survey 2006–2008g, 2008g).

### 4.2.5 City of Hanford to City of Corcoran

The study area between the cities of Hanford and Corcoran is entirely in Kings County. El Ranchero is the only community identified in this segment of the project. El Ranchero lies south of Lacey Boulevard, 1 mile west of Hanford, with approximately 125 homes in the community.

### 4.2.6 City of Corcoran

The composition of the housing stock in Corcoran is very similar to that in the county and region except for the smaller percentage of mobile homes. Single-family detached homes accounted for 81.8% of the housing stock growth between 2000 and 2009. Housing vacancy rates in the city were higher than the rates of both the county (5.7%) and the region (7.4%) (see Table 4-11 and Table 4-12) (California Department of Finance 2009).

The rate of homeownership in Corcoran has increased from 57.2% in 2000 to 60.2% between 2006 and 2008. This increase is counter to trends observed in the county and region, which both experienced decreases over this period (see Table 4-13). In 2008, residents of over half of the occupied housing units in Corcoran (55.4%) had moved into their homes since 2000, while 22.8% of these households were more established, having lived in the same unit since at least 1990. The percentage of housing units that turned over in the past 8 years is substantially less than in the county (67%) and region (66%). Similarly, the percentage of units with the same residents since at least 1990 is substantially higher, suggesting that the population of Corcoran is more stable than those in the surrounding areas (U.S. Census Bureau 2000d; U.S. Census Bureau, American Community Survey 2006–2008g, 2008g).

### 4.2.7 City of Corcoran to City of Wasco

All eight communities identified in the study area between the cities of Corcoran and Wasco are unincorporated, and none are CDPs. The communities of Blanco, Angiola, Stoil, and Allensworth are located in Tulare County; and Kernell, Pond, Elmo, and Neufeld are located in Kern County.

None have experienced large growth in the past several years, and no growth is anticipated in the foreseeable future (Kinney 2010, personal communication; Smith 2010, personal communication; Waters 2010, personal communication).

The community of Allensworth is home to approximately 120 households, and most of the housing stock is mobile homes. The remaining seven communities are quite small, and have between zero and approximately 20 residences.

### 4.2.8 City of Wasco

As with the county and region, the largest increase in the Wasco housing stock was also in single-family detached homes between 2000 and 2009, accounting for 80.1% of the housing stock growth. The composition of the housing inventory is similar to that in the county and region, although Wasco has a smaller percentage of mobile homes (see Table 4-11 and Table 4-12).

The rate of homeownership in Wasco has decreased from 57.6% in 2000 to 50.8% between 2006 and 2008, consistent with changes seen in the county and region over this same period (see Table 4-13). Residents of 61.3% of the occupied housing units in Wasco in 2008 moved into their homes since 2000, while 19.8% of households in the city were more established, having lived in the same home since 1990 or earlier. The percentage of recent turnover is lower and the percentage of more established residents is higher in Wasco than in the county (68.6% and 13.6%, respectively) and regionally (66% and 15.2%, respectively), suggesting a somewhat more stable community than is typical of the area (U.S. Census Bureau 2000d; U.S. Census Bureau, American Community Survey, 2006–2008).

### 4.2.9 City of Wasco to City of Shafter

The three communities identified in the study area between the cities of Wasco and Shafter are Palmo, North Shafter Labor Camp, and Myricks Corner. These communities are unincorporated, none are classified as a CDP, and all are in Kern County. Palmo has the fewest residences of the communities in this area, with approximately five homes in the community. There are approximately 45 duplexes at the North Shafter Labor Camp and approximately 75 residences in Myricks Corner.

### 4.2.10 City of Shafter

The largest increase in the Shafter housing stock between 2000 and 2009 is consistent with that in the region, with single-family detached homes accounting for 91.7% of the housing stock growth. The composition of the local housing stock is similar to that in the county and region. Housing vacancy rates in the city were 9.1% in 2000 and remained approximately the same in 2009 (California Department of Finance 2009). These rates are higher than those observed in the region (7.4%) but lower than in the county (9.8%) (see Table 4-11 and Table 4-12).

The rate of home ownership in 2000 in Shafter was 60.2%, which was similar to that of both the county and the region (see Table 4-13). Residents of 66.2% of the occupied housing units in Shafter had moved into their homes between 1990 and 2000, while 18.6% of households were more established, having lived in the same residence since at least 1980.[10] These values are similar for the county (71.2% and 13.9%) and the region (70.4% and 16%) for the same period (U.S. Census Bureau 2000d; U.S. Census Bureau, American Community Survey 2006–2008g, 2008g).

[10] Because Shafter data are not available for years after 2000, the analysis was adjusted to compare 1990–2000 and pre-1980 data to identify community stability of and length of residency trends.

### 4.2.11 City of Shafter to City of Bakersfield

The one identified community in the study area between the cities of Shafter and Bakersfield is Crome. This community is unincorporated and is not a CDP. There are approximately 20 homes in the community, with no growth anticipated in the foreseeable future (Smith 2010, personal communication).

### 4.2.12 City of Bakersfield

Although the observed growth in the housing units in Bakersfield of 31.3% between 2000 and 2009 was very much greater than that of the county (20.8%) and the region (17.5%), similarities between the city and its surrounding areas can be observed. As with the county and region, the largest increase in the Bakersfield housing stock occurred in single-family detached homes, which accounted for 89.2% of the housing stock growth. The composition of the city's housing stock is also similar except for the smaller percentage of mobile homes. Housing vacancy rates in the city were 5.5% in 2000 and remained stable into 2009 (California Department of Finance 2009). These 2009 vacancy rates are lower than the rates of both the county (9.8%) and the region (7.4%).

A comparison of the 2000 housing stock by district shows some large differences in terms of numbers and types of housing units. The Central district had the lowest percentage of single-family homes and a very high percentage of multifamily housing, while the Northeast district showed a higher percentage of single-family homes. The Northwestern district had the highest percentage of single-family homes, making up 86.2% of the total housing stock (see Table 4-11 and Table 4-12).

The rate of homeownership in Bakersfield has decreased from 60.4% in 2000 to 57.2% in 2008. This decrease is consistent with changes seen in the county and region over this period. The rate of homeownership across districts varied widely in 2000. The Central district, which is the most urban of the districts, had the highest percentage of individuals who rent (57.5%), which is substantially higher than for the city as a whole (39.6%). In contrast, the Northwestern district had the lowest percentage of renters (14.6%), greatly below the city average. The Northeastern district had rates more similar to the city averages, with 56.7% of individuals owning homes and 43.3% of individuals renting (see Table 4-13) (U.S. Census Bureau 2000d).

Residents of 75.4% of the 2008 occupied housing units in Bakersfield had moved into their homes after 2000, while only 9.4% of the households had lived in the same residences since at least 1990. The rate of recent turnover is higher and the percentage of more established residents is lower in Bakersfield than in the county (68.6% and 13.6%) and region (66% and 15.2%) (U.S. Census Bureau 2000d). This may suggest a newer population and a potentially less stable community base.

In 2000, both the Central and Northeastern districts had a higher percentage of housing units with the same residents for at least 10 years than the Northwestern district. About 30% of the housing units in these two districts were occupied by residents who had moved in prior to 1990; in the Northwestern district, almost 80% of the district's units had new residents in the past 10 years, a much higher rate of population turnover than observed in the other two districts (U.S. Census Bureau 2000d).

The Northeastern district of Bakersfield is home to several established homes and businesses. The neighborhood that lies south of East Truxtun Avenue and between Union Avenue and Oswell Street lies partially in the project study area but is examined as a whole community in this document because the Bakersfield to Palmdale section of the HST project will bisect this neighborhood. This neighborhood has a relatively high density of small churches, a community

dental clinic, schools, markets, and a veterinary hospital. A relatively high level of pedestrian and bicycle travel in the neighborhood was observed, and community organization activities have been held in response to the proposed HST project. Neighborhood characteristics indicate that there is a shared sense of community, as well as interest in this project.

The Northwestern district of Bakersfield is residential in character, with many single-family, ranch-style homes constructed prior to the 1990s. The rate of homeownership in this area (81%) is substantially higher than the citywide average (57.2%), and Census information indicates that there is considerable racial and socioeconomic homogeneity. The relatively large yards surrounding the modest single-family homes appear to be meticulously landscaped, and residents were observed actively engaged in yard maintenance—one potential indicator of a shared sense of community pride and commitment to place. There have also been recent community organizing activities conducted specifically to raise awareness about the proposed HST project and its potential impacts on the neighborhood, an indication of the level of shared community interest associated with this proposed project. These factors indicate a relatively high degree of community cohesion in this area.

## 4.3 Environmental Justice

The environmental justice (EJ) populations within the region are identified and presented below. These communities have a substantial population of minority and/or low-income residents and were identified through the use of 2000 Census data and consultation with local experts on demographic trends over the last decade. A summary of the environmental justice outreach conducted is also presented.

### 4.3.1 Identification of Environmental Justice Areas

EJ areas are defined as Census block and block group populations that meet either or both of the following criteria:

- The Census block contains 50% or more minority persons, and/or the block group contains 25% or more low-income persons.
- The percentage of minority and/or low-income persons in any Census block or block group is more than 10 percentage points greater than the average of the surrounding area.

The EJ study area included all Census blocks and block groups having any part that lies within a 0.5-mile radius of the project alignment and station locations. Minority persons were defined as all individuals not identified as White only in the 2000 Census, including those identified as Hispanic or Latino. Low-income persons were defined as those individuals with household incomes below the Census poverty threshold (see the EJ methodology description in Appendix A for an examination of the appropriate poverty threshold for this analysis.)

Although Census 2000 data is now a decade old, the decennial Census is considered the most reliable source of data on race and ethnicity because it is based on a 100% population survey of all geographical areas, rather than sampling or estimating techniques as is used in more recently published data. The California Department of Transportation has reported that minority and low-income characteristics are slow to change in California communities, making the data relevant and reliable over a relatively long period of time (California Department of Transportation 1997). To confirm these assumptions, EJ populations in the study area were further examined using additional quantitative and qualitative methods to identify any potential demographic changes that may have occurred since the 2000 Census. Quantitative analysis included proxy data sources that would indicate the current locations of EJ populations, such as American Community Survey data for 2006 through 2008 and participation data by zip code for social service, food stamp,

Section 8 housing, and school free or reduced-fee lunch programs in the study area. Qualitative examination included outreach to local agencies and organizations to inquire about changes in conditions that would lead to changes in EJ population identification, as well as local expert review of identified 2000 Census EJ areas to ensure that results are representative of current minority and low-income conditions. These additional verification processes confirmed the accuracy of the 2000 Census, and all are thoroughly documented in the EJ methodology in Appendix A, Section A.1.

Table 4-14 presents population estimates with minority and low-income percentages for the region as a whole and also for the population living in the EJ study area. Kern County has the largest percentage of individuals in the EJ study area (62.5% of the total 128,689 residents), followed by Fresno (28%), Kings (9%), and Tulare (0.5%). This total population within the EJ study area presents a count of potentially affected individuals. The actual number of individuals affected may be much smaller than these baseline totals, as the study area will likely not be affected across its entire area. Bypass alternative alignments steer clear of the more populated cities and encounter fewer and lower-density EJ communities. It follows that the number of potentially affected individuals would be reduced if a bypass alignment were selected.

The region as a whole has a high percentage of minority and low-income individuals. According to the 2000 Census, 56.5% of the total regional population is minority and 22.2% is living below the U.S. Census poverty threshold. Within the study area, these percentages are even higher, with minority and low-income individuals totaling 69.3% and 29.3% of the study area population, respectively. Hispanics are the predominate minority in EJ areas, accounting for 80% of the minority population (U.S. Census Bureau 2000e). Figure 4-3 provides an overview of the location of EJ populations throughout the entire region. Orange is used to indicate U.S. Census blocks containing EJ population, and darker orange is representative of EJ blocks with higher population densities. The red dashed lines represent the study area, and the purple line is the project alignment. EJ populations located outside of the study area corridor are displayed to add regional context to the study area results and to show that the concentration of EJ populations in the study area are similar to those found in surrounding areas.

**Table 4-14**
Minority and Low-Income Percentages in the Region

| Location | Total Area | | | Environmental Justice Study Area | | | |
|---|---|---|---|---|---|---|---|
| | Population 2000 | % Minority | % Low Income | Population 2000 | % Minority | % Low Income | Key Minority Demographic |
| **Fresno County** | **799,407** | **60.3** | **22.9** | **36,078** | **76.2** | **37.7** | **Hispanic** |
| City of Fresno | 427,652 | 62.7 | 26.2 | 31,055 | 77.2 | 40.0 | Hispanic |
| **Kings County** | **129,461** | **58.4** | **19.5** | **11,466** | **69.3** | **20.0** | **Hispanic** |
| City of Hanford | 41,686 | 50.1 | 17.3 | NA | NA | NA | NA |
| City of Corcoran[A] | 14,458 | 75.9 | 26.9 | 10,240 | 73.4 | 24.2 | Hispanic |
| **Tulare County** | **368,021** | **58.2** | **23.9** | **619** | **83.0** | **35.3** | **Hispanic** |
| **Kern County** | **661,645** | **50.5** | **20.7** | **80,526** | **66.0** | **26.3** | **Hispanic** |
| City of Wasco | 21,263 | 78.4 | 27.5 | 7,868 | 91.3 | 31.9 | Hispanic |
| City of Shafter | 12,736 | 71.0 | 29.2 | 8,849 | 63.8 | 29.9 | Hispanic |

**Table 4-14**
Minority and Low-Income Percentages in the Region

| Location | Total Area | | | Environmental Justice Study Area | | | |
|---|---|---|---|---|---|---|---|
| | Population 2000 | % Minority | % Low Income | Population 2000 | % Minority | % Low Income | Key Minority Demographic |
| City of Bakersfield | 247,057 | 48.9 | 18.0 | 30,546 | 60.8 | 24.8 | Hispanic |
| **Regional Total** | **1,958,534** | **56.5** | **22.2** | **128,689** | **69.3** | **29.3** | **Hispanic** |

Sources: U.S. Census Bureau 2000e, 2000g.

[A] An error in the Census 2000 data for Corcoran was later corrected by the Census Bureau, but only for total population and not the racial profile breakdown. Minority percentages for Corcoran are therefore based on the original 14,458 total population estimate provided by the Census.

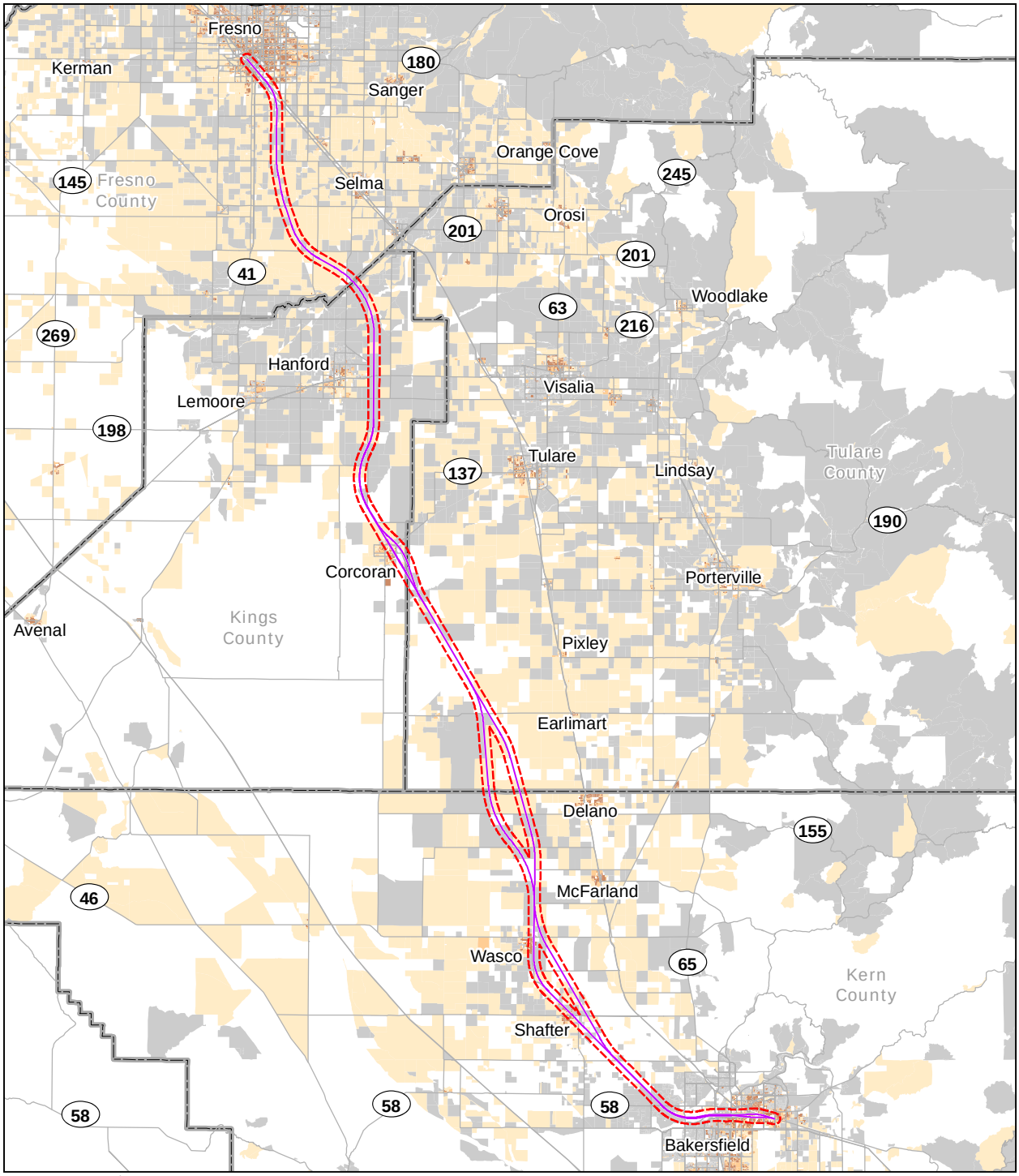
Notes: The EJ study area for the BNSF Alternative Alignment does not fall within the city limits of Hanford. The Census 2000 racial profile data do not include institutionalized populations, of which Corcoran has a large number because of the presence of the Corcoran state prison facilities.

NA = not applicable

Figures 4-4, 4-5, 4-6, and 4-7 show the locations of the EJ Census block populations across each of the four counties of Fresno, Kings, Tulare, and Kern, respectively. The Census blocks within the study area total 350.4 square miles, and 112.3 square miles (or 32.1%) of these are identified as EJ blocks.[11] The vast majority of these EJ blocks are rural with low-density populations (102.8 of the 112.3 square miles), and only 9.5 square miles (or 8%) of the EJ areas contain more urban, medium- to high-density populations (U.S. Census Bureau 2000e). Individual maps for each of the EJ populations in the communities along the alignments are provided in the community profiles in Appendix B.

Given that the study area crosses both highly urbanized and very rural areas (e.g., the cities of Fresno and Bakersfield and the agricultural lands between these communities), it is important to identify EJ populations according to population density. This population density provides insight into the concentration of EJ populations. The region's urban cities of Fresno, Corcoran, Wasco, Shafter, and Bakersfield have high concentrations of EJ populations. Fresno's Central district contains scattered EJ areas, some with high-density populations, and the Edison district contains a consistent stretch of densely populated EJ areas along the study area's southern extent. The Roosevelt district around Calwa, where the study area curves southward to leave the city, also contains a concentration of EJ areas with higher-density populations (U.S. Census Bureau 2000e). The poverty rate for each of the three districts was well above that of the city of Fresno in 2000 (26.2%). The Central district had the highest poverty rate, with 57.8% of the population in poverty, more than double the citywide poverty rate. Edison (48%) and Roosevelt (38.2%) were lower but still much higher than the city and region as a whole.

[11] The area calculated for the EJ analysis will be different from the areas presented in other sections because the study area for EJ includes all U.S. Census blocks that are completely or partially contained within the 0.5-mile radius of the alignment. Therefore, the areas of partially contained U.S. Census blocks that are outside the 0.5-mile are included. This difference will be greater in rural areas, where the U.S. Census blocks are larger.




PRELIMINARY DRAFT/SUBJECT TO CHANGE - HST ALIGNMENT IS NOT DETERMINED

May 18, 2011

Source: Environmental justice analysis - URS, 2010

N

0 10 20 Miles

0 20 40 Kilometers

Road

Alternative alignments

County boundary

Half-mile buffer from alignment

EJ population density

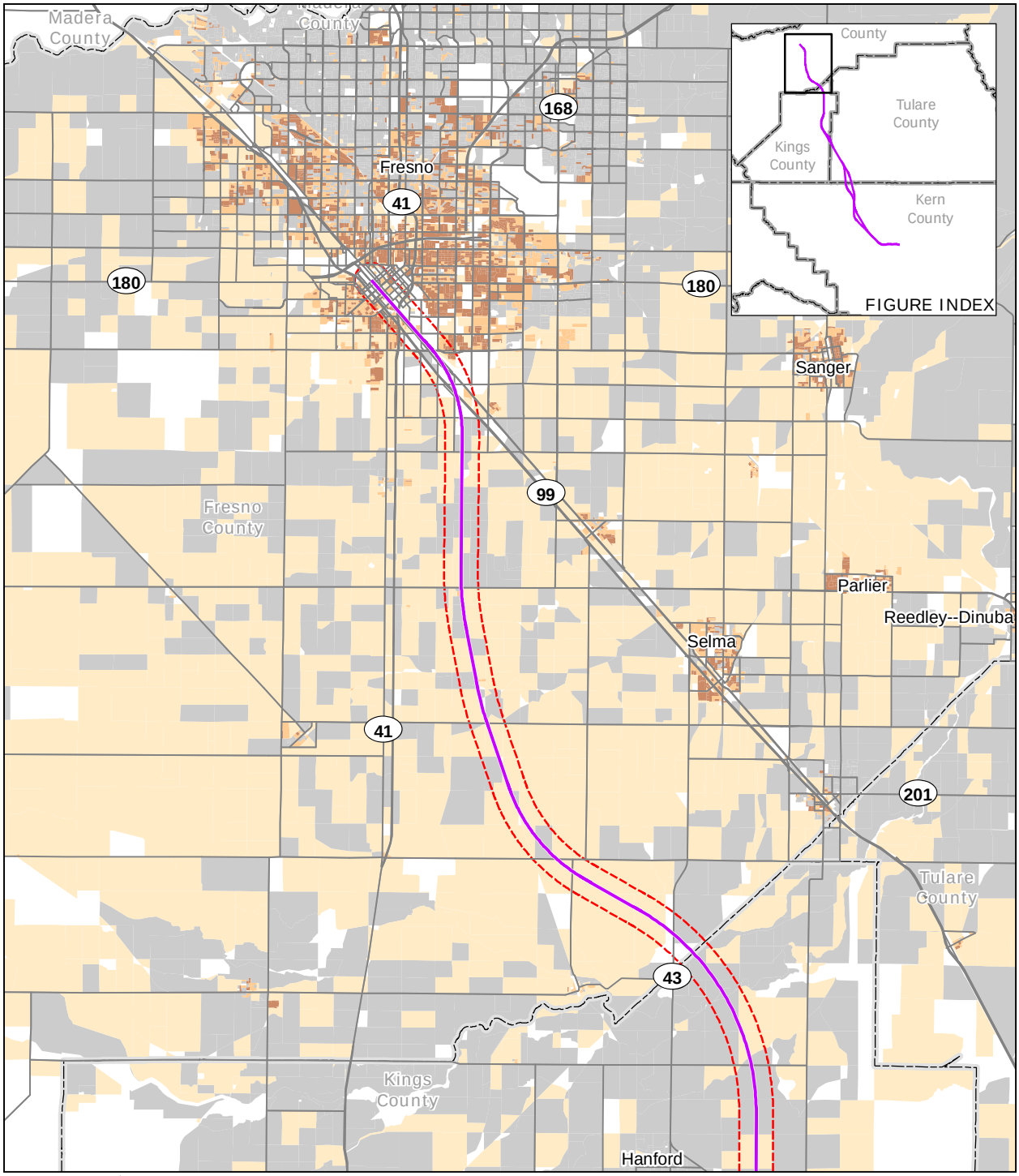
High

Medium

Low

Not EJ

Figure 4-3
Region
EJ Populations




PRELIMINARY DRAFT/SUBJECT TO CHANGE - HST ALIGNMENT IS NOT DETERMINED

May 18, 2011

Source: Environmental justice analysis - URS, 2010

N

0 2 4 Miles

0 4 8 Kilometers

Road

Alternative alignments

County boundary

Half-mile buffer from alignment

EJ population density

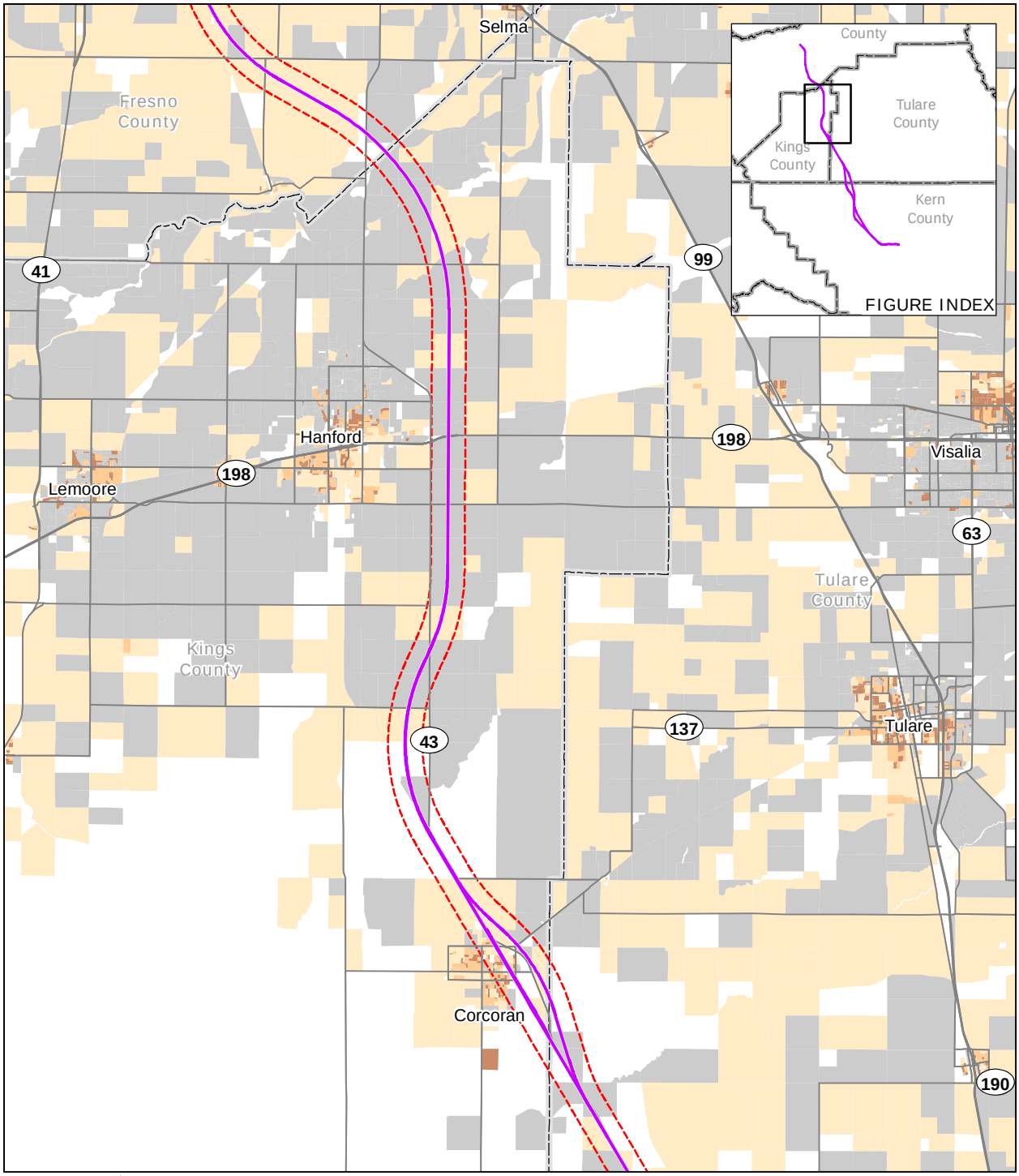
High

Medium

Low

Not EJ

Figure 4.4
Fresno County
EJ Block Populations




PRELIMINARY DRAFT/SUBJECT TO CHANGE - HST ALIGNMENT IS NOT DETERMINED
Source: Environmental justice analysis - URS, 2010

May 18, 2011

N

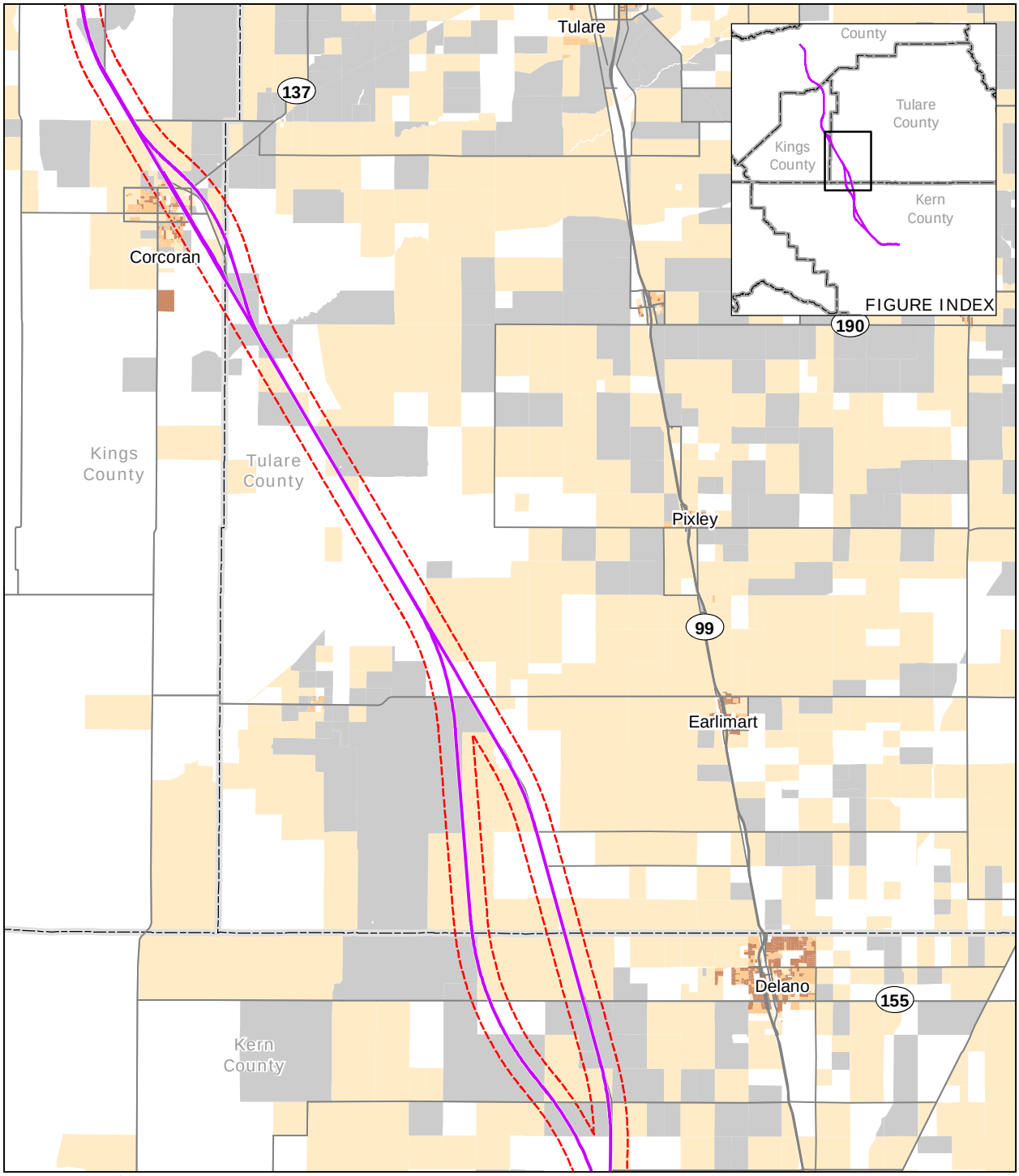
0 2 4
Miles

0 4 8
Kilometers

Road
Alternative alignments
County boundary
Half-mile buffer from alignment

EJ population density
High
Medium
Low
Not EJ

Figure 4.5
Kings County
EJ Block Populations




PRELIMINARY DRAFT/SUBJECT TO CHANGE - HST ALIGNMENT IS NOT DETERMINED

May 18, 2011

Source: Environmental justice analysis - URS, 2010

N

0 2 4 Miles

0 4 8 Kilometers

Road

Alternative alignments

County boundary

Half-mile buffer from alignment

EJ population density

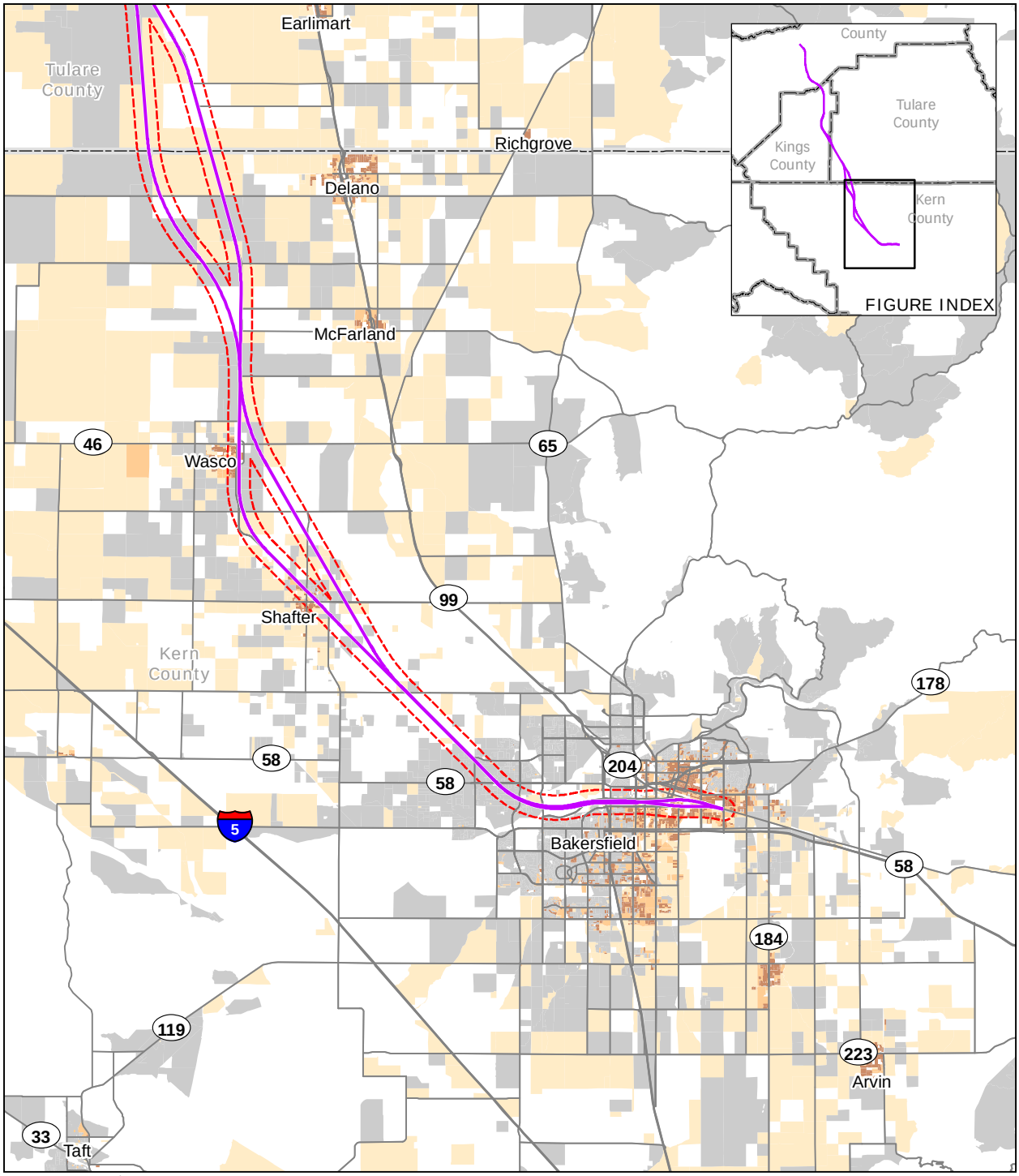
High

Medium

Low

Not EJ

Figure 4.6
Tulare County
EJ Block Populations




PRELIMINARY DRAFT/SUBJECT TO CHANGE - HST ALIGNMENT IS NOT DETERMINED

Source: Environmental justice analysis - URS, 2010

May 18, 2011

N

0 2 4
Miles

0 4 8
Kilometers

Road

Alternative alignments

County boundary

Half-mile buffer from alignment

EJ population density

High

Medium

Low

Not EJ

Figure 4.7
Kern County
EJ Block Populations

The city of Fresno also houses the largest homeless encampment within the San Joaquin Valley. Hundreds of homeless individuals live in makeshift shelters under the SR 41 freeway structures between the Central and Edison districts. Located in this area are the Fresno Rescue Mission, the Poverello House (a women's shelter), and other facilities that serve this population. Census 2000 data collection methods attempted to include homeless people in the overall population counts, but limitations in this data collection effort could lead to an underestimate of homeless populations in various locations (U.S. Census Bureau 2001).

The study area for the BNSF Alternative Alignment through Corcoran contains a concentration of high- and medium-density EJ areas that are fairly continuous throughout the study area within the Corcoran city limits, particularly to the west of SR 43 and Pickerell Avenue. The study area for the Corcoran Bypass Alternative Alignment (to the east of the town) contains a much lower total population, a lower percentage of minorities (63.3%) and low-income individuals (17.1%), and scattered low-population EJ areas (U.S. Census Bureau 2000e, 2000g).

Wasco contains a concentration of mostly high-density EJ population areas along the entire extent of the study area for the BNSF Alternative. These EJ areas are, for the most part, west of SR 43, extending between SR 43 and Griffith Avenue, with the exception of a major farm labor housing development east of SR 43. The study area for the Wasco-Shafter Bypass Alternative, which lies to the east of Wasco and Shafter, contains scattered, very lightly populated EJ areas (U.S. Census Bureau 2000e, 2000g).

Within the BNSF Alternative Alignment study area in Shafter, the percentage of minorities is lower and the percentage of low-income residents is slightly higher than in the city as a whole. The existing BNSF Railway right-of-way is a major dividing line for EJ communities through the city. The high school and newer, upscale housing lie to the northeast of the BNSF Railway and the lower-income neighborhoods and traditional downtown area are to the southwest. As stated in the Wasco EJ discussion above, the study area for the Wasco-Shafter Bypass Alternative Alignment contains scattered, very lightly populated EJ areas (U.S. Census Bureau 2000e, 2000g).

The EJ area within Bakersfield is roughly split between low-density (38.6%), medium-density (33.4%) and high-density (28%) blocks. No concentration of high population density EJ areas were identified in the Northwestern district of Bakersfield, which had a very low percentage of persons living in poverty, at 6.8%. Poverty rates for the Central and Northeastern districts were well above the citywide poverty rate of 18% in 2000, at 25.5% and 27.1%, respectively. Central Bakersfield contains concentrations of high-density EJ areas, particularly south of Truxtun Avenue. The study area in the Northeast district of Bakersfield contains concentrations of high-density EJ areas both north and south of Edison Highway, moving west to east from Central Bakersfield through Oswell Street (U.S. Census Bureau 2000e, 2000g).

### 4.3.2 Environmental Justice Outreach and Interest Groups

Executive Order 12898 requires that federal agencies ensure effective public participation and access to information. Consequently, a key component of compliance with Executive Order 12898 is outreach to potentially affected minority and/or low-income populations to discover issues of importance that may not otherwise be apparent. Outreach to affected communities has been and will continue to be conducted as part of the Authority and FRA's decision-making process. The outreach conducted to date is fully documented in Chapter 7 (Public and Agency Involvement) of the EIR/EIS.

An extensive public and agency outreach program was conducted throughout the EIR/EIS process and will continue through the design and construction phases. Many meetings were held with local officials; public, local, and regional organizations; and government agencies. Meetings

were also held with representatives of affected communities along the HST alternatives, including those communities containing predominantly minority and/or low-income populations. Existing EJ outreach programs (e.g., the San Joaquin Valley Air Pollution Control District EJ Committee) and established minority organizations (e.g., the Mexican American Political Association) were used to identify issues of concern and the locations of EJ communities. Special outreach conducted for minority and low-income populations included Spanish-language advertising of meetings, the availability of Spanish-language versions of project-related materials, and the availability of Spanish interpreters at public meetings in areas that included an EJ population with a large Hispanic population.

The EJ outreach team also conferred with local elected officials in each community on needs for interpretation in other languages besides Spanish. Where low income and/or minority populations would be affected by the HST, outreach activities were conducted to determine the extent of the affected populations and to gather information on the best ways of communicating with these populations. Input was solicited on the potential impacts of the project by representatives from EJ organizations or community leaders. Feedback was also sought from EJ community members during community events (e.g., Festival de la Familia, Asian Fest, Fresno Flea Market).

The purpose of these efforts was to gain the input of EJ community leaders and members on the project and to consider their comments as part of the public record. Through analysis of the project, staff identified whether the project would potentially disproportionately affect any of the EJ areas relative to the potential benefit gained by that community from the project, and appropriate alternatives or changes to the project were implemented.

The EJ outreach process consisted of the following steps (and sub-steps):

Step 1. Identify minority and/or low-income interest groups within the HST project study area.

- Identify areas potentially affected by the project that are likely to contain EJ areas.
- Work with elected officials, their local staff, and EJ community leaders to verify EJ areas, identify groups that represent those communities, and discuss appropriate methods of reaching out to the identified EJ communities.
- Create a list of EJ areas and EJ community leaders, and schedule meetings.

Step 2. Engage EJ community leaders and organizations.

- The outreach team met with elected officials and local staff to identify potential EJ areas and their community leaders, as identified in Step 1. The team worked with those community leaders to identify potential issues for their constituents; gather information on the most effective outreach methods, with the goal of increasing public participation in project development; and gain input on the alignment alternatives from members of EJ communities. Individual meetings with EJ representatives and organizations were scheduled to the extent feasible. Telephone conversations took place where face-to-face meetings were not feasible.
- The outreach team coordinated meetings in the identified EJ areas to identify potential project issues and concerns and potential project impacts and benefits on the EJ communities. The team also developed an outreach strategy for EJ communities to identify the best ways to keep the EJ communities engaged in the project environmental process and beyond.

Step 3. Identify how project information will be made available to the community.

- Bilingual literature and translation: within identified EJ areas, the outreach team identified appropriate languages other than English to use for translating outreach materials or for speaking to community members at outreach events. Spanish was identified as the primary language for translation services, but Hmong and Tagalog were also identified as the primary or secondary language of many residents of the Central Valley region.

- Identify local resources for providing project information: within each community, the outreach team identified sources for providing project information to EJ community groups, with recognition that many EJ community members may not have access to electronic media, newspapers, U.S. mail, or other standard methods of information distribution. Through conversations with EJ community leaders, the team determined that posting project-related information at local stores and religious venues, distributing information through local school mail distributions or announcements, placing information in water or other billings mailed to residents, and attending local community events would provide alternative options for notifying EJ communities of project milestones and opportunities for public comment.

- Establish a multi-lingual, toll-free hotline: the outreach team established a multi-lingual project hotline where non-English speaking individuals can leave messages for project staff. Languages besides English that are available on the hotline are Spanish, Hmong, and Tagalog. Hmong and Tagalog were identified based on regional Census data and feedback from EJ community leaders.

Step 4. Conduct EJ-specific community meetings to inform community members about the project, solicit input about community-based concerns, and establish opportunities for participation by community members in potentially affected EJ areas.

- Many residents of EJ communities do not receive information from typical avenues of communication and are therefore less likely to attend community meetings geared toward broader audiences. Within EJ communities, information was gathered regarding existing community meetings or events organized by the community and the modes of transportation and accessibility of event locations. These meetings and events were used to provide project-related information and solicit feedback from residents and business owners within EJ communities. These meetings and events were conducted at local churches, civic organization meetings, city council meetings, and special community events (e.g., fairs, festivals).

- Outreach activities were advertised in Spanish and community leaders were contacted to help advertise meeting information. Spanish-speaking communities specifically targeted for meetings included Corcoran, Wasco, Shafter, East Bakersfield, and Allensworth. A meeting in Corcoran was held at the Corcoran Technology Learning Center, a new community building. A meeting was held in Wasco at the city council chambers, within walking distance of the Wasco Farm Labor Housing facility and other minority and/or low-income neighborhoods in the area. A meeting in Allensworth was held at a local community center.

- Two meetings were held in East Bakersfield at local churches. The first meeting was held at Cain Memorial Church. This meeting was arranged by City Councilwoman Irma Carson, who represents a portion of this community. Flyers in both English and Spanish were hand-distributed to businesses and residences within the community. The second meeting was arranged by the Church of Christ, 1020 E. California Avenue, Bakersfield, an African American Church in East Bakersfield. An invitation was extended to an African American Church in west Fresno, but the church did not request a presentation.

- Flyers were distributed to local businesses in EJ areas to advertise meetings. Media advisories were sent to English and Spanish media outlets, including television and radio, to announce the meetings. All mailings were sent to both the property address and property owner's address so that renters and other occupants or employees living or working in the area would receive the meeting information. All text in the flyers, advisories, and mailings was in both English and Spanish.

Step 5. Develop alignment alternatives or modifications to avoid or minimize impacts on EJ areas.

- Some of the bypass alignment alternatives developed and studied in the EIR/EIS avoid identified EJ communities, including EJ communities in the cities of Corcoran, Wasco, and Shafter. An avoidance alternative for East Bakersfield was not feasible due to its proximity to the proposed location for the HST station in downtown Bakersfield and the strict geometry requirements of the HST tracks coming in and out of the station.
- Issues raised by EJ community leaders, organizations, and members included:
    i. Concerns regarding noise from the trains.
    ii. Concerns regarding visual impacts from elevated structures.
    iii. Concerns that HST structures would be targets for graffiti.
    iv. Concerns that the train route would divide or further divide communities. UPRR tracks were cited as an example of a transportation corridor that divides communities. Delano, Shafter, and Wasco were also cited as communities that could be adversely affected by a train that further divides a community.
    v. Concerns about the potential impacts to local employment opportunities due to project impacts on agriculture and agricultural manufacturing jobs.
    vi. Concerns about access to affordable regional and inner-city transportation services. Many families in rural communities must make time-consuming and costly commitments to travel to and from work or to get to or from city centers.
    vii. Concerns about the affordability of the HST for low-income community members.
    viii. Concerns about access to local employment opportunities related to the HST project and concerns that EJ communities would not have access to the appropriate training for jobs with the HST system.
    ix. Concerns about how the alignments would affect access for emergency responders and concerns about general safety issues.
    x. Concerns about local funding for the added security needed for the HST system and its facilities.
    xi. Concerns that the proposed heavy maintenance facility would increase local pollution. Community members in Allensworth expressed environmental concerns related to this matter.
    xii. Concerns about the safety of the high-speed train when traversing rural communities.

xiii. Concerns that the high-speed train isn't meant to benefit the traveler within the Central Valley, but is more geared toward people traveling between Northern California and Southern California.

xiv. Concerns that the high-speed train alignment will impact local churches, the Bakersfield Church of Christ in particular, which play an important role in improving local communities.

xv. Concerns regarding the ability of low-income or unemployed community members, particularly those who rent their housing, to relocate if impacted by the high-speed train.

xvi. Concerns about the impacts that the train alignments may have on public schools, and particularly the impacts caused by longer commute times for those school children who walk to school.

xvii. Concerns about potential impacts to local landmarks or facilities important to minority or low-income communities, such as the Martin Luther King Jr. Park and Recreation Center in Bakersfield.

Step 6. Document public information meetings and other EJ outreach.

- A meeting report was prepared for each scoping meeting, public information meeting (PIM), and individual briefing held within EJ communities or with EJ community leaders and organizations. These meeting reports are part of the administrative record for the project. Public comment cards were made available at every PIM and sign-in sheets were used to collect the names of the attendees, obtain their contact information, and inform them of future meetings or new information about the project. Staff was available at each the meeting to discuss the project one-on-one with attendees. Also, a Spanish interpreter was available at each PIM meeting.

Starting in April 2007 and continuing through August 2010, 70 EJ-related meetings were held, including meetings to identify EJ areas and leaders to identify strategies for outreach to their communities and gain their input. A full list of these meetings is provided in Table 4-15.

**Table 4-15**
Public Outreach Meetings

| Count | Date Held | Meeting Name |
|---|---|---|
| 1 | 4/2/2007 | Mayor, City of Bakersfield |
| 2 | 4/2/2007 | Vice Mayor, City of Bakersfield |
| 3 | 4/9/2007 | City of McFarland Planning Director |
| 4 | 4/9/2007 | Vice Mayor, City of Delano |
| 5 | 4/18/2007 | Fresno County TAG |
| 6 | 4/23/2007 | Tulare/Kings Counties HST TAG |
| 7 | 5/4/2007 | Fresno Councilmember; Council Assistant Miguel Arias |
| 8 | 5/4/2007 | Fresno County Board of Supervisors, Chairman |
| 9 | 5/7/2007 | Lemoore City Councilmember |
| 10 | 5/7/2007 | Friends of Allensworth conference call |
| 11 | 5/21/2007 | Rosamond (Town Council) Municipal Advisory Council |
| 12 | 5/29/2007 | Fresno City Council President |

**Table 4-15**
Public Outreach Meetings

| Count | Date Held | Meeting Name |
|---|---|---|
| 13 | 6/4/2007 | HST Kings County Area Stakeholders–Group 1 |
| 14 | 6/4/2007 | HST Kings County Area Stakeholders–Groups 10, 11, 12, 13, 15 & 16 |
| 15 | 6/7/2007 | Kern County Supervisors |
| 16 | 2/21/2008 | Dinuba Chamber of Commerce |
| 17 | 3/27/2008 | Porterville Breakfast Lions |
| 18 | 4/1/2008 | Hanford Breakfast Lions |
| 19 | 4/18/2008 | Fresno ADA Advisory Council |
| 20 | 5/1/2008 | Tulare County Farm Bureau |
| 21 | 6/2/2008 | Corcoran City Council |
| 22 | 6/3/2008 | Porterville Breakfast Rotary Club |
| 23 | 6/5/2008 | Fresno County Women's Chamber of Commerce |
| 24 | 6/11/2008 | Lindsay Chamber of Commerce |
| 25 | 7/16/2008 | Central California Hispanic Chamber of Commerce |
| 26 | 7/28/2008 | Reedley Kiwanis Club |
| 27 | 7/30/2008 | Rotary Club of Taft |
| 28 | 7/30/2008 | Taft Chamber of Commerce |
| 29 | 8/4/2008 | Oildale Kiwanis Club |
| 30 | 8/4/2008 | Oildale Rotary Club |
| 31 | 8/19/2008 | Porterville Breakfast Lions |
| 32 | 8/21/2008 | CA-P Land Use Housing Ag Workgroup |
| 33 | 9/24/2008 | Orange Cove Chamber of Commerce |
| 34 | 9/25/2008 | Leadership Fresno |
| 35 | 10/1/2008 | Fresno Revitalization Corp. |
| 36 | 10/11/2008 | National Federation of the Blind, Central Valley Chapter |
| 37 | 1/8/2009 | Visalia Assistant City Manager |
| 38 | 1/16/2009 | Division Manager, Fresno County Development Services Division, Public Works and Planning Department |
| 39 | 1/28/2009 | City of Bakersfield staff, Mayor and Councilman |
| 40 | 2/12/2009 | Cross Valley Rail JPA |
| 41 | 2/26/2009 | Shafter/Wasco outreach meeting |
| 42 | 2/26/2009 | City of Corcoran Manager and Mayor |
| 43 | 3/11/2009 | City of Fresno Council President |
| 44 | 3/24/2009 | Scoping meeting in Visalia |
| 45 | 3/25/2009 | Scoping meeting in Fresno |
| 46 | 3/26/2009 | Scoping meeting in Bakersfield |
| 47 | 6/5/2009 | Development of Emerging Area Leaders (IDEAL seminar on transportation) |
| 48 | 8/31/2009 | MAPA Representative |
| 49 | 9/15/2009 | Bakersfield Public Information Meeting |

**Table 4-15**
Public Outreach Meetings

| Count | Date Held | Meeting Name |
|---|---|---|
| 50 | 10/26/2009 | Mayor, City of Bakersfield |
| 51 | 11/3/2009 | Vice Mayor, City of Bakersfield |
| 52 | 11/9/2009 | City of McFarland Planning Director |
| 53 | 11/18/2009 | Vice Mayor, City of Delano |
| 54 | 11/18/2009 | Fresno County TAG |
| 55 | 11/18/2009 | Tulare/Kings Counties HST TAG |
| 56 | 12/9/2009 | Fresno Councilmember and Council Assistant |
| 57 | 12/16/2009 | Fresno County Board of Supervisors, Chairman |
| 58 | 1/8/2010 | Lemoore City Councilmember |
| 59 | 2/8/2010 | Friends of Allensworth Conference Call |
| 60 | 2/19/2010 | Rosamond (Town Council) Municipal Advisory Council |
| 61 | 3/17/2010 | Fresno City Council President |
| 62 | 4/15/2010 | HST Kings County Area Stakeholders–Group 1 |
| 63 | 4/27/2010 | HST Kings County Area Stakeholders–Groups 10, 11, 12, 13, 15, & 16 |
| 64 | 5/4/2010 | Kern County Supervisors |
| 65 | 5/5/2010 | Dinuba Chamber of Commerce |
| 66 | 5/24/2010 | Porterville Breakfast Lions |
| 67 | 7/8-11/2010 | Hanford Breakfast Lions |
| 68 | 8/11/2010 | Fresno ADA Advisory Council |
| 69 | 8/19/2010 | Tulare County Farm Bureau (10 in attendance) |
| 70 | 8/19/2010 | Corcoran City Council |
| 71 | 3/6/2011 | Festival de la Familia |
| 72 | 3/7/2011 | California State University, Fresno–Center for Economic Development |
| 73 | 3/8/2011 | Fresno cherry auction |
| 74 | 3/8/2011 | CA Rural Legal Assistance |
| 75 | 3/8/2011 | Fresno Rescue Mission |
| 76 | 3/9/2011 | Kit Carson Union School District |
| 77 | 3/9/2011 | Poverello House |
| 78 | 3/10/2011 | Black Metro Chamber of Commerce |
| 79 | 3/10/2011 | Fresno Flea Market |
| 80 | 3/22/2011 | Fresno West Coalition for Economic Development |
| 81 | 3/30/2011 | Hanford Sheriff |
| 82 | 3/30/2011 | Centro la Familia |
| 83 | 4/12/2011 | Allensworth Elementary School |
| 84 | 4/12/2011 | Allensworth Progressive Association/Community Council |
| 85 | 4/12/2011 | Adventist Health |
| 86 | 4/12/2011 | Hanford Police Department/Fire Department/Carnegie Museum/City of Hanford |

**Table 4-15**
Public Outreach Meetings

| Count | Date Held | Meeting Name |
|---|---|---|
| 87 | 4/12/2011 | Center for Race, Poverty, and Environment |
| 88 | 4/12/2011 | Delano International Village |
| 89 | 4/13/2011 | Kern Black Chamber of Commerce |
| 90 | 4/13/2011 | Kern Hispanic Chamber of Commerce |
| 91 | 4/13/2011 | MLK Community Center, Senior Center, PAL Youth Center |
| 92 | 4/13/2011 | Shafter Police/Fire Department, Ebenezer Reformed Church, Shafter Rural Health Clinic, National Health Services |
| 93 | 4/21/2011 | Kern Contractors Minority Association |
| 94 | 4/30/2011 | Asian Fest at Fresno City College |
| 95 | 5/1/2011 | Univision Cinco de Mayo Festival |
| 96 | 5/5/2011 | Hanford Street Fair/Farmers Market |
| 97 | 5/25/2011 | Allensworth Community Public Information Meeting |

ADA = Americans with Disabilities Act
HST = High-Speed Train
IDEAL = Development of Emerging Area Leaders
JPA = Joint Powers Authority
MAPA = Mexican American Political Association
MLK = Martin Luther King Jr.
TAG = Technical Assessment Group

Specific areas on the alignment where potential EJ areas were identified were targeted for additional public outreach. The communities identified included areas of Fresno, the cities of Corcoran, Allensworth, Wasco, and Shafter, and the area identified as East Bakersfield (generally east of Union Street between the Union Pacific Railroad tracks and California Avenue). The EJ outreach conducted in the second half of 2010 and early 2011 includes the following:

- July 24, 2010 (Visalia). The Authority held a meeting at the Visalia Convention Center with the tribal communities in the area. The meeting was an effort to provide an overview of the project. Of the 54 tribal communities invited none attended.
- August 2010 (Bakersfield). A meeting was held at the Greek Orthodox Church on Truxtun Avenue near the Amtrak station. Information was provided to the pastor and the church council as they were meeting. The pastor and council asked for more information at a future date during a council meeting, including a presentation about the possible alignments and the station location.
- February 16, 2010 (Bakersfield). Members of the Church of Christ High-Speed Rail Committee organized a meeting to facilitate a public forum to provide comments regarding the two HST alignments under examination in the Bakersfield area at this time. Members of the project outreach team were invited to attend to provide information, answer questions, and receive public comments.
- December 10, 2010 (East Bakersfield). The project outreach team coordinated a canvassing of Edison Highway, visiting businesses from Oswell Street west to the El Mercado and then extended both west and south of the Mercado, handing out flyers and visiting business

owners. The purpose was to inform business owners about the HST alignments near their business locations.

The only area along the alignment in proximity to significant homeless populations is in Downtown Fresno. The main illegal homeless encampments would not be directly affected by the proposed alignments, and the City of Fresno is working to close down these encampments and relocate them to more permanent and/or legal sites. Outreach staff met directly with representatives from the Fresno Rescue Mission and the Povorello House to discuss information distribution to the homeless populations in west Fresno. Flyers were posted in the homeless community area in advance of public information meetings. The outreach staff had discussions with City of Fresno staff and community members involved with the homeless in Fresno during various outreach activities. A small number of homeless people were observed attending the scoping meetings and PIMs in downtown Fresno, and staff engaged in discussions with them.

The Authority held two PIMs in East Bakersfield, and the Authority attended a meeting sponsored by the Church of Christ, which is in East Bakersfield. A public scoping meeting and an additional PIM were also held in the Rabobank Theater lobby, just west of the community of East Bakersfield. Notice of all PIM meetings was given in both English and Spanish.

PIMs were also held in Corcoran, Wasco, and Shafter, in addition to meetings with local elected and agency staffs in each community; in these meetings, information on EJ communities was specifically solicited, and information on the project and its alignments was presented.

At all of these meetings, contact information was made available for all attendees, in both English and Spanish, so that they could obtain any additional information on the project at a later date. Local elected officials were invited to each of these meetings along with any other known community leaders. Table 4-16 lists the details of past and planned EJ public information meetings.

**Table 4-16**
Public Involvement Activities and Outreach to Minority and Low-Income Populations

| Project Milestone | General Timeframe | Outreach Activity | Description |
|---|---|---|---|
| Initial outreach | April 2007–August 2009 | Direct contact | Held meetings to identify communities of concern and their leaders and to identify strategies for outreach to these communities to gain their input. |
| Alternatives analysis | September–November 2009 | Direct contact | Contacted minority and low-income interest groups to offer project updates, ask about the best ways to reach these populations, and receive suggestions for other groups to contact. |
| Results of alternatives analysis | November 2009 | Public meeting; discussion of the alternatives to be evaluated in the Draft EIR/EIS and the next steps | Provided meeting notices to minority and low-income interest groups, advertisements in Spanish-language newspapers, meeting notices in minority and low-income service community facilities, additional information in Spanish, and Spanish-language interpreters at the meetings. |

**Table 4-16**
Public Involvement Activities and Outreach to Minority and Low-Income Populations

| Project Milestone | General Timeframe | Outreach Activity | Description |
|---|---|---|---|
| EIR/EIS preparation and analysis | Fall 2010 to Summer 2011 | Community gatherings and events | Interacted with EJ communities through cultural gatherings and events (e.g., fairs, festivals) that are specific to targeted minority and low-income groups. Events were selected based on feedback from EJ community leaders. |
| Preferred alternative | Spring 2011 | Public meeting to discuss the preferred alternative and next steps | Provide meeting notices to minority and low-income interest groups, advertisements in Spanish-language newspapers, meeting notices in minority and low-income service community facilities, additional information in Spanish, and Spanish-language interpreters at the meetings.<br><br>Make a summary of the Final EIR/EIS available in Spanish at the meeting and online. |
| EIR/EIS public hearings and comment period | Winter 2011 | Public hearings | Provide meeting notices to minority and low-income interest groups, advertisements in Spanish-language newspapers, meeting notices in minority and low-income service community facilities, additional information in Spanish, and Spanish-language interpreters at the meetings.<br><br>Establish a telephone hotline using interpreter services to receive EIR/EIS comments and provide information on the hotline in Spanish, Hmong, and Tagalog. |

# 4.4 Local Economy

## 4.4.1 Employment

### A. REGION

Levels of employment and income in the Southern San Joaquin Valley have historically lagged behind those in other parts of the state. The four counties of Fresno, Kings, Tulare, and Kern make up one of the most agriculturally productive areas in the world, and the regional economy has been driven by the farming industry. Although the four counties have led the state in agricultural revenues, the regional economy has also been diversifying in recent decades to become more oriented toward services. Additional shifts in employment sectors came as a result of the real estate boom several years ago, which generated many jobs in construction, fueled retail sales, and generated increased property sales and tax revenues (Cowan 2005).

Although the agricultural industry provides the area with a great deal of employment, the region continues to be one of the most economically depressed areas in the nation because many of these jobs are seasonal and low paying (Cowan 2005). The region was largely untouched by the bursting of the ".com" bubble and the loss of tourism following the 9/11 tragedy. However, the real-estate boom generated many jobs in construction, fueled retail sales, and generated increased sales and property tax revenues. This increased activity and investment in the real estate industry only made the effects of the market's subsequent crash that much worse, exacerbating the economic situation and leaving the region one of the hardest-hit areas in the nation. The regional implications of the industry's 2007 collapse and associated nationwide recession include substantial increases in unemployment, foreclosure rates, and poverty, as well as sharp declines in housing prices (Bertaut and Pounder 2009). Unemployment rates increased sharply across all four counties, with Tulare County's 15.3% unemployment rate climbing highest in the region in 2009 and beyond the state average of 11.4% in the same year (California Employment Development Department 2010b).

While Fresno County has continued to increase production in agricultural goods over the past decades, the number of people employed in the industry has declined by approximately 12% since 2000, and it is expected that the number of people employed in agricultural and related occupations will continue to decrease through 2016 as agricultural land is urbanized and work in the fields is further mechanized. Despite Fresno County's agricultural productivity, this sector does not employ the largest percentage of the workforce. Instead, education, health, and social services is the largest sector, employing approximately 21.2% of the total labor force compared with agriculture, at 14%, in 2008. Seven of Fresno County's largest employers are located in the project study area.

Kings County has been more buffered from the recession due to the large number of persons employed by the government working at the state prisons and Lemoore Naval Air Station in the county. Public administration has continued to be by far the largest employment base in the county, with 31.6% of the total labor force. Since 2000, no single occupation group experienced a dramatic shift in its percentage of the labor force makeup. Of the 25 largest employers in the county, three are located in the study area (California Employment Development Department 2010c).

Tulare County has been hard hit by the economic recession and has the highest unemployment rate in the region. Although occupations in agriculture and related industries provide the largest employment base in Tulare County, with 24.7% of the total labor force, it has continued to shrink and is projected to be approximately the same size as the public administration sector by 2016. None of Tulare County's 25 largest employers are located in the HST alignment study area.

Kern County continues to have the lowest unemployment rate in the region with its diversified employment base. Production in agricultural goods has continued to increase, and although the percentage of the labor force employed in agriculture and resource extraction has declined somewhat since 2000, this sector still employs the largest percentage of the labor force. Of the 25 largest employers in Kern County, 9 are potentially in the study area (California Employment Development Department 2010c).

Table 4-17 provides a summary of unemployment rates across the region in 2000 and 2009. In the discussion of each community that follows the table, data for 2008 is also discussed to illustrate changes resulting from the 2008–2009 recession.

**Table 4-17**
Unemployment Rates (2000 and 2009)

| Location | % of Labor Force | |
|---|---|---|
| | 2000 | 2009 |
| **Fresno County** | **10.4** | **15.1** |
| City of Fresno | 9.7 | 14.2 |
| Central district | 30.0 | NA |
| Edison district | 23.0 | NA |
| Roosevelt district | 16.8 | NA |
| **Kings County** | **10.0** | **14.6** |
| City of Hanford | 8.7 | 12.8 |
| City of Corcoran | 10.8 | 15.2 |
| **Tulare County** | **10.4** | **15.3** |
| **Kern County** | **8.2** | **14.4** |
| City of Wasco | 15.6 | 26.1 |
| City of Shafter | 14.9 | 25.1 |
| City of Bakersfield | 5.7 | 10.1 |
| Central district | 10.2 | NA |
| Northeast district | 13.1 | NA |
| Northwest district | 4.3 | NA |
| **Regional Total** | **9.7** | **14.9** |

Source: California Employment Development Department 2010b; U.S. Census Bureau 2000i.

NA = not available

## B. CITY OF FRESNO

Despite the strength of the agricultural sector, unemployment in Fresno remains high and wages relatively low. Public administration is the largest occupational sector, followed by educational, health, and social services (City of Fresno Planning and Development Department 2002). Between 2000 and 2008, the number of workers in Fresno's labor force grew by 24,800, and the unemployment rate increased slightly, from 9.7% to 9.9%. In 2009, the city, county, and region all experienced increased unemployment, with rates climbing to 14.2%, 15.1%, and 14.9%, respectively. Employment data from the districts in the city of Fresno show that individuals living in the Central district (30%) were much more likely to be unemployed in 2000 than those living in either the Edison (23%) or Roosevelt district (16.8%). Information on employment by occupation type is not available at the district level after 2000 (see Table 4-17).

### C. CITY OF HANFORD

Between 2000 and 2008, Hanford's labor force grew by 2,900 workers, while unemployment increased from 8.7% to 9.4%. During 2009, unemployment rates in Hanford reached 12.8%, slightly lower than the county, at 14.6%. Public administration is the largest occupation group within the city limits of Hanford. The occupational profile of the city is very different from that of either the county or region, with a much smaller percentage of the workforce participating in agriculturally related jobs. This is most likely due to Hanford's proximity to several major regional employers, such as NAS Lemoore and the Corcoran state prisons (see Table 4-17).

### D. CITY OF CORCORAN

Public administration is the largest occupation in the city limits of Corcoran. The city's occupational profile differs from that of the county and region, with a much smaller percentage of the workforce participating in agriculturally related activities. When compared with other communities, Corcoran has a very high percentage of individuals working in the public administration field as a result of the two major state prison facilities. Between 2000 and 2008, the number of workers in Corcoran's labor force grew by 700, while unemployment increased from 10.8% to 11.4%. During 2009, the city's unemployment rate reached 15.2% (see Table 4-17).

### E. CITY OF WASCO

A large number of jobs in Wasco service the agriculture industry. Between 2000 and 2008, the number of workers in Wasco's labor force grew by 1,600, while unemployment increased from 15.6% to 18.8%. During 2009, Wasco's annual average unemployment rate of 26.1% was a great deal higher than rates seen in both the county (14.4%) and the region (14.9%) (see Table 4-17). Public administration and agriculture are the two largest occupations within the city limits and account for approximately 70% of Wasco's occupational profile.

### F. CITY OF SHAFTER

Between 2000 and 2008, the number of workers in Shafter's labor force grew by 1,200, and unemployment increased from 14.9% to 16.9% (see Table 4-17). The 2009 annual average unemployment rate of 25.1% experienced in Shafter is one of the highest in the region. Agriculture and related occupations make up the largest occupational sector in Shafter. Between 2000 and 2008, the agricultural industry experienced substantial growth, more than doubling in size, in large part due to the opening of the Bidart Brothers apple-packing facility and the expansion of Grimmway's citrus- and carrot-packaging facilities in Shafter (Sweeny 2010, personal communication). The occupational profile of Shafter is even more dominated by the agricultural sector than that of either the county or region.

### G. CITY OF BAKERSFIELD

Bakersfield's economy has traditionally been more diversified than others in the region, with both the oil and gas industry and agriculture playing major roles. Between 2000 and 2008, the number of workers in Bakersfield's labor force grew by 29,100, while unemployment increased from 5.7% to 6.8%. The 2009 annual average unemployment rate of 10.1% experienced in Bakersfield is lower than the rate experienced in either the county (14.4%) or the region (14.9%). In 2000, unemployment rates for both the Central and Northeastern districts were much higher, at 18.5% and 20.5%, respectively, than the 12.4% unemployment rate experienced in the Northwestern region (see Table 4-17) (U.S. Census Bureau 2000i). Public administration is the largest occupational sector in Bakersfield. The occupational profile of Bakersfield includes a much smaller percentage of the workforce participating in agricultural-related activities, while other occupations that represented a small percentage of the county and regional profile are larger here.

### 4.4.2 Fiscal Conditions

State and local governments have been hit hard by recent declines in tax revenues. Property taxes are being reset to much lower levels in the current environment of surplus inventory and home foreclosures, and even homes that have not been resold are subject to temporary property tax reductions linked to Proposition 13. In addition, during the recession of 2008-2009, local governments have all experienced substantial reductions in revenues from both property and sales taxes. As a result, most local governments in the region are involved in reducing staff, cutting services, and furloughing employees. Table 4-18 presents fiscal characteristics for the counties and cities for fiscal year 2008–2009.

**Table 4-18**
County and City Fiscal Conditions for Fiscal Year 2008–2009

| Location | Annual Budget | Property Tax as a % of Budget | Sales Tax as a % of Budget |
|---|---|---|---|
| **Fresno County** | **$1,501,239,097** | **6.45** | **9.49** |
| City of Fresno | $726,713,800 | 10.6 | 9.9 |
| **Kings County** | **$182,447,882** | **22.4** | **1.0** |
| City of Hanford | $55,735,830 | 19.5 | 10.7 |
| City of Corcoran [a] | $14,870,654 | 8.0 | 1.5 |
| **Tulare County** | **$734,248,355** | **14.6** | **0.8** |
| **Kern County** | **$1,645,347,432** | **14.2** | **2.6** |
| City of Wasco | $24,840,132 | 2.8 | 4.6 |
| City of Shafter | $42,000,000 | 1.4 | 10.5 |
| City of Bakersfield | $181,174,000 | 34.4 | 36.5 |

Sources: Fresno County 2008; City of Fresno 2009; County of Kings 2009; City of Hanford 2010; City of Corcoran 2009a; Tulare County 2009b; Kern County 2009; City of Wasco 2008a; City of Bakersfield 2009.

[a] City of Corcoran data presented for fiscal year 2007–2008, because more recent data are not available.

## 4.5 Public Services and Facilities

### 4.5.1 Region

Of primary concern for the socioeconomics, communities, and environmental justice analysis are the locations of public buildings; public safety, fire, and police stations; medical services; schools; places of worship; and parks. In addition to the amenities that give the various communities in the region their unique sense of place, some amenities may be viewed as more regional in nature. For example, the region has two California State University campuses (one in each of the two largest cities: Fresno and Bakersfield) that draw students from throughout the region and beyond. The Southern San Joaquin Valley also abounds in major recreational resources, including Inyo National Forest, Giant Sequoia National Monument, Kings Canyon National Park, Sequoia National Park, Isabella Lake, Colonel Allensworth State Historic Park, as well as numerous other state-run historical parks, recreation areas, and game preserves. These resources are enjoyed by residents and visitors alike.

As the fifth-largest city in California and one of the main cultural, economic, and service hubs of the Central Valley, Fresno offers numerous local attractions and entertainment opportunities. It has an active arts community, including a local philharmonic orchestra, an opera, and several theater groups. The city hosts an annual film festival and has several museums, including the African American Museum of the San Joaquin Valley, Fresno Art Museum, Artes Americas, and Armenian Museum. Fresno is also home to a California State University campus, serves as a venue for major concerts and sports events, and maintains more than 50 city parks and three municipal golf courses (City of Fresno parks and Recreation 2010).

Bakersfield is the largest city in Kern County and offers a wide array of amenities, compared with the smaller communities in the region. The city has a convention center, a symphony orchestra, a planetarium, an art museum, a natural history museum, the California Living Museum (Bakersfield Zoo), and the Kern County Museum, a historical museum with many Native American and frontier life artifacts. The city also has its own professional baseball, football, basketball, and hockey teams, as well as three public golf courses and numerous private country clubs. It is home to the 40-acre Kern County Soccer Park, with 24 playing fields, and it maintains 53 local parks offering a variety of recreational resources, as well as miles of biking and hiking trails, including a portion of the Kern River Parkway. Other local points of interest include Old Town, which has a concentration of Basque restaurants, the Buck Owens Crystal Palace, the Majestic Fox Theater, and other theater and music venues.

### 4.5.2 City of Fresno

The city has many more public buildings and venues than most other cities in the Central Valley, and both the State of California and the federal government have multiple offices there. A majority of these state and federal office buildings are located in the study area, along with many of the city and county office buildings. Other buildings in the study area include libraries, museums, and community centers. A majority of these buildings (16 of the 18 total) are in the Central neighborhood, the Edison neighborhood has two facilities, and the Roosevelt neighborhood has none.

There are also public safety facilities, including police, fire, and medical buildings, within the study area in the city of Fresno. Five of the 95 schools in the city are located in the study area, three of the five schools are in the Edison district, and two are in the Central district. A large number of religious facilities are also located in the study area. The Central district contains 14 of the 26 facilities identified, with 11 in the Edison district and 1 in the Roosevelt district. Three parks and recreation facilities maintained by the city are also found in the study area in the Central district.

### 4.5.3 City of Fresno to City of Hanford

The seven small communities that are interspersed along this section of the alignment are Malaga, Oleander, Bowles, Monmouth, Conejo, Hamblin, and Ponderosa.

Malaga community facilities located in the study area include a school, a park, and a water district office that serves as the administrative center of the community. The two key community facilities identified in the study area in the community of Bowles are the Pacific Union School and the Manning Gardens Convalescent Home. Monmouth community facilities identified in the study area are the Monroe Elementary School and the Monmouth Community Presbyterian Church. A key community facility identified on the boundary of the study area in Ponderosa is the Kit Carson Elementary School. No key community facilities were identified in Oleander, Conejo, or Hamblin.

### 4.5.4 City of Hanford

Of the numerous public buildings that serve the needs of Hanford, two of these facilities are located in the study area, the City of Hanford offices and the Hanford Carnegie Library. Neither of the two law enforcement facilities in Hanford is located in the study area. The six medical facilities in the community of Hanford are certified by the Office of Statewide Health Planning and Development (OSHPD), and four are located in the study area.[12] There are 21 schools in the community of Hanford, and they have a total of approximately 9,442 students between the Hanford Elementary and Hanford Joint Union High School districts (California Department of Education 2010). Of all the schools, 14 are public institutions and the remaining six schools are private. Eight of the schools are located in the study area.

Hanford has many places of worship in the city. The majority of these facilities belong to Christian denominations, with no Muslim or Jewish facilities identified. There are two temples in the community, which are Buddhist and Taoist. None of these religious facilities are located in the study area.

The city operates and maintains 21 outdoor facilities/parks, including neighborhood parks, larger community parks, and ball fields totaling approximately 172 acres. In addition, the city has agreements with the local school district and the College of the Sequoias to jointly use other recreation facilities (Norris Design 2009). No Hanford parks are located in the study area.

### 4.5.5 City of Hanford to City of Corcoran

The study area between the cities of Hanford and Corcoran is entirely in Kings County. El Ranchero is the one community identified in this segment of the project, with no key community facilities identified.

### 4.5.6 City of Corcoran

Corcoran has three public buildings that serve the needs of the community. One building houses the administrative offices of the city and serves as city hall. There is also a library operated by Kings County and a veterans' center. All three facilities are in the project study area. Public safety facilities include the two police stations in Corcoran, both of which are located in the study area. There is one fire station in the city and two medical facilities. The fire station and one of the two medical facilities, the Corcoran District Hospital, are located within the study area. No other OSHPD-registered facilities are located in Corcoran.

Corcoran has six public schools and one private school. The city has two high schools; the remaining schools are elementary, middle, or private schools. Three of these schools are in the study area. Corcoran also has many places of worship in the city, all of which appear to belong to Christian denominations, with no Muslim, Jewish, or other types of religious institutions identified. Ten of these religious facilities are located in the study area.

There are approximately 48 acres of existing park land in Corcoran and approximately 44 acres of additional play fields, open space, and indoor recreational facilities available for public use. Five existing park facilities lie in the study area.

[12] The Office of Statewide Planning and Development is the governing agency for hospital construction in California.

### 4.5.7 City of Corcoran to City of Wasco

The eight communities identified in the study area between the cities of Corcoran and Wasco are split between two counties. Blanco, Angiola, Stoil, and Allensworth are located in Tulare County; and Kernell, Pond, Elmo, and Neufeld are located in Kern County. Only the community of Allensworth had community facilities including a school, church, and a community center.

### 4.5.8 City of Wasco

Wasco has three public buildings in the study area: (1) the city administrative offices/city hall; (2) a library operated by Kern County; and (3) a local Historical Society Museum. Public safety facilities include a single County Sheriff's station and one fire station, both located in the study area. Wasco's one medical facility is an independent medical center and is located within the study area. No other OSHPD-registered facilities are located in Wasco.

There are nine public and private schools in the community, five of which are in the study area. Wasco has many places of worship in the city, and all seem to belong to Christian denominations. Of these facilities, 10 are located in the study area. The city currently has four parks and is planning to construct two additional recreational facilities.

### 4.5.9 City of Wasco to City of Shafter

The three communities identified in the study area between the cities of Wasco and Shafter are Palmo, North Shafter Labor Camp, and Myricks Corner. All are in Kern County. Although no key community facilities were identified in either Palmo or Myricks Corner, one community building was identified in the study area in North Shafter Labor Camp.

### 4.5.10 City of Shafter

Shafter has five public buildings that serve the needs of the community. One building houses the administrative offices of the city and serves as city hall. Other buildings include the local library, which is operated by the county, and three museums. City hall, as well as two of the museums, is in the study area. The Shafter police and fire stations, as well as the two medical facilities in the city, are all located in the study area.

There are five public schools in Shafter, with a total enrollment of approximately 3,124 students. All five of these local schools are in the study area. There are also 14 churches in the study area, all of which belong to Christian denominations. Shafter has three existing neighborhood parks of about 5 acres in size, a larger community park of 15 acres that is still under construction, and a grassed town square.

### 4.5.11 City of Shafter to City of Bakersfield

The one identified community in the study area between the cities of Shafter and Bakersfield is Crome. A Pentecostal Church of God is in the study area, but no other key community facilities were identified. Outside of the community of Crome, the Shafter City Cemetery was identified.

### 4.5.12 City of Bakersfield

Facilities of concern include the 10 public buildings in Bakersfield that are located in the study area. These include libraries, museums, community centers, and government offices. Seven of these facilities are in the Central district and three are in the Northeastern district. Public safety facilities include four police stations, one of which is in the study area. The County Sheriff has one station, a jail, and a crime lab in the city. Two federal law enforcement agencies have offices

in the study area as well—the FBI and the Federal Bureau of Alcohol, Tobacco and Firearms. All these facilities are located in the Central district, except for the FBI building, which is in the Northwestern district. Bakersfield's 26 fire stations are spread throughout the city: three are in the study area (two in the Central district and one in the Northeast).

Bakersfield has many medical facilities. According to OSHPD, there are 60 licensed medical facilities in the city (10 hospitals, 12 primary care, 11 specialty care, 17 hospices, and 10 long-term care). Of these facilities, 18 are in the study area: 9 in the Central district, 3 in the Northeast, and 6 in the Northwest.

The Bakersfield City School District and the Kern High School District are the largest school districts in the Bakersfield area, with 41 elementary and middle schools and 25 high schools, serving 27,263 and 37,783 students, respectively. Several other school districts serve the area, including Rosedale Unified (5,325 students), Fruitvale Elementary (3,237 students), Fairfax Elementary (2,122 students) and Edison Elementary (1,112 students) (California Department of Education 2010). Thirty-one schools are in the study area: 10 in the Northwestern district, 7 in the Central, and 14 in the Northeast.

Bakersfield High School is one of the seven schools located in the study area in the Central district. In addition to the critical nature of the educational services it provides to the greater Bakersfield community and the adjacent low-income and minority neighborhood, the high school holds historic importance for the many alumni who continue to support the school and its events. The campus is located in a built-out urban area.

Numerous religious facilities and a wide range of faiths are represented in the city. A majority of the religious facilities in the study area are in the Northeastern district (32 of 61 facilities), with fewer in the Central (19 of 61) and Northwest (10 of 61) districts. Six parks operated by the city, as well as existing bicycle facilities, are located in the study area (City of Bakersfield 2007). The existing parks in the districts are neighborhood parks in close proximity to schools, serving the Beardsley, Fruitvale, Norris, Rosedale, Standard School, and Rio Bravo-Greeley School Districts (North of the River Recreation and Park District n.d.).

## 4.6 Non-Motorized Circulation and Access

Circulation and access in a community is important to community character and quality of life. Non-motorized circulation issues associated with pedestrian and bicycle transportation are a key concern in the analysis and the focus of this discussion. Non-motorized (pedestrian and bicycle) facilities are listed in Table 4-19 for the cities of Fresno, Hanford, Corcoran, Wasco, Shafter, and Bakersfield. No critical pedestrian or bicycle paths were identified in the study area in Tulare County, or in the rural areas between the cities listed.[13] The data show that the greatest numbers of non-motorized facilities within the study area are located in the largest cities in the region, Fresno and Bakersfield.

[13] Critical pedestrian or bicycle paths are those where disruption could lead to a loss of community access, cohesion or character.

**Table 4-19**
Non-Motorized Facilities in the Study Area

| Cities in Study Area | # of Pedestrian Paths and/or Bikeways |
|---|---|
| City of Fresno | 14 |
| City of Hanford | 0 |
| City of Corcoran | 2 |
| City of Wasco | 2 |
| City of Shafter | 3 |
| City of Bakersfield | 24 |
| Note: Number includes both existing and planned facilities. | |

Planning documents for all six cities recognize the importance of the availability and accessibility of alternative modes of transportation, and plan for additional pedestrian and bicycle friendly features. A full listing of bikeways, both existing and proposed, is provided in the community profiles in Appendix B of this technical report. Issues associated with main roads, public transportation, and parking can also affect communities; more detail on these aspects of circulation and access can be found in the Transportation Technical Report.

# Chapter 5
## Impact Analysis

# 5.0 Impact Analysis

This chapter provides analysis of the socioeconomic and EJ impacts of the Bakersfield to Fresno Section of the HST project, which include the following:

- Impacts on the character and cohesion of communities and neighborhoods.
- Impacts from residential displacements and from the acquisition of commercial, industrial, and agricultural parcels.
- Impacts on EJ and sensitive populations (elderly, disabled, linguistically isolated, and female head of household).
- Impacts on school districts.
- Impacts on agricultural access.
- Impacts on the fiscal accounts of county and city governments.

Impacts are presented by topic for communities and neighborhoods, properties, environmental justice and economic impacts and effects. These sections contain analysis of both short-term (construction) and long-term (operation) impacts.

## 5.1 Communities and Neighborhoods

Analysis of impacts to communities and neighborhoods includes an examination of disruption or division of existing communities and the potential need for new or altered government and public facilities from short- and long-term project job creation.

### 5.1.1 Disruption or Division of Existing Communities

This section examines the disruption and division of existing communities during both construction and operation of the project.

#### A. CONSTRUCTION IMPACTS

Project construction would occur from the beginning of the first phase of construction through operational testing of the HST System. It is expected that the heavy construction activities such as grading, excavating, and laying the HST railbed and trackway would be accomplished within a 5-year period. Construction would also require property acquisition and displacement of homes and businesses along the selected alignment. Because these impacts would involve permanent changes to communities (as opposed to temporary construction impacts), they are addressed below under project operation.

The construction of any of the HST alternatives would result in temporary impacts to communities, such as additional demand for services due to purchases of materials and equipment necessary for construction and construction workers; temporary use of properties and changes in access for project construction; and temporary impacts on minority and low-income populations such as dust and noise, which would also affect the general population. The effects for each of the alternatives are discussed below.

**No Project Alternative**

The No Project Alternative would not result in the community benefits associated with the HST project. These benefits include reducing traffic congestion on highways and major roadways in the region and improving mobility and access to jobs, educational opportunities, and recreational resources within the region. Currently planned projects primarily include transportation improvements and residential and industrial development projects. It is uncertain whether these projects would create new barriers that would disrupt community interactions or divide

established communities, but they would result in a net increase in housing units and industrial space in the region. If the projects are carried out, then these projects and the associated development are assumed to be consistent with adopted general plans and policies, which aim to strengthen socioeconomic conditions in existing communities and improve neighborhood amenities, potentially benefiting community cohesion. The many development projects planned under the No Project Alternative would include typical design and construction practices to avoid or minimize potential impacts to the extent possible.

It is not known whether community facilities would be affected under the No Project Alternative, but any potential impacts are assumed to be mitigated to the extent possible. Emergency response times and access would likely be enhanced from transportation improvements. It is not known if direct or indirect adverse impacts on Section 4(f) lands (that is, public school facilities open for use for public recreation) would occur. Again, it is assumed that the projects planned under the No Project Alternative would be subject to a project-level environmental review and include feasible mitigation measures to avoid or substantially reduce potential impacts.

**Construction Impacts Common to All Alternative Alignments, Station Alternatives, and HMF Site Alternatives**

Heavy construction (e.g., grading, excavation, constructing the HST railbed, laying the trackway) would be accomplished over a 5-year period. The degree of construction intensity would vary among the alignment alternatives. Construction duration would likely be longer in the station areas in Fresno and Bakersfield because of the infrastructure requirements. Activities related to building the HST project would include receiving and moving equipment and materials, clearing and exposing soils, introducing lights for nighttime work, storing construction materials, and generally visually changing the project landscape. As much as possible, construction would occur within the right-of-way acquired for the project.

Construction impacts would include temporary increases in noise and dust, visual changes, and traffic congestion related to road closures or detours. Potential noise impacts during construction on residential properties would be greater during any required nighttime construction; overall construction noise impacts on both residential and commercial properties are expected to be small. Potential construction vibration impacts are evaluated in the Noise and Vibration Technical Report, and will be further evaluated during final design.

Adverse construction impacts related to local roadway modifications and construction may temporarily disrupt community circulation patterns. While access to some neighborhoods would be disrupted and detoured for short periods during construction, access would continue to be available to neighborhoods. Any roadways that would need to be moved due to the HST project right-of-way requirements would be realigned before the closure of the existing roadway to minimize impacts. Construction would also require an increase in truck trips that could increase congestion and affect pedestrians, bicyclists, and transit through detours, delays, or increased safety risks. See the Transportation Technical Report for additional details.

Construction would require a large number of employees, but is not expected to have any negative effects related to temporary population increases and the need for increased housing and services. Unemployment in the region remains relatively high, so project-related construction jobs are expected to be filled by current residents in the region who have the needed skills. This would have a positive impact on the economies of the communities within the region. Because many of the jobs would be filled by area residents, no impacts related to a need for additional housing or services would be expected.

Emergency vehicle access for police and fire protection services would be maintained at all times. Law enforcement, fire, and emergency services could experience increased response times due

to construction-related road closures, detours, and increased traffic congestion in some locations. Delays could be longer in rural areas where temporary road closures could result in several miles of out-of-direction travel to cross the HST alignment.

Access to some community facilities could be modified temporarily during construction, potentially inconveniencing patrons, but access would not be eliminated (except in cases where facilities would be relocated). Noise, dust, and glare could impact the use of community facilities, including schools and parks.

In general, construction would occur primarily outside (but in some areas within or adjacent to) established neighborhoods in areas associated with agricultural, commercial, or industrial uses.[14] Where the alternatives lie adjacent to existing transportation corridors, construction would not bisect or isolate established communities or change the existing community character. Impacts to pedestrian and vehicular circulation are not considered a barrier to interaction because the HST project is primarily adjacent to the existing transportation corridors. Although project construction would impact individuals or individual property owners, these impacts would be temporary and would not substantially affect community cohesion.

**Potential Mitigations for Construction Impacts**

Given the potential disruption to communities during construction, the following mitigation measures are suggested.

**Develop and implement a construction management plan.** The Authority will develop and implement a construction management plan to address communications, community impacts, visual protection, air quality, safety controls, noise controls, and traffic controls to minimize impacts on low-income households and minority populations and to maintain access to local businesses, residences, and emergency services. This plan will include maintaining access to local businesses throughout construction, and the use of signs to instruct customers on access to businesses during construction. In addition, the plan will include efforts to coordinate with local transit providers to minimize impacts on local and regional bus routes in affected communities.

**Consider provision of hotel and transit vouchers for residents affected by nighttime construction or other construction activities.** The Authority will provide hotel and transit vouchers to families during periods of nighttime construction that produce glare or loud noise, so they may temporarily relocate to avoid these impacts. This measure would accrue to a greater degree within communities of concern where households may not have the means to temporarily relocate if desired.

## B. OPERATION IMPACTS

This section addresses potential impacts to existing communities and neighborhoods during project operation by considering three key issues: (1) the potential for new project facilities to disrupt or divide existing communities (or to bring about changes in community character that could alter social interactions or affect community cohesion); (2) the potential for the project to displace key community facilities or services; and (3) the potential changes in non-motorized circulation and access that could affect community cohesion.[15] These key issues are addressed

[14] Note: Impacts associated with displacement and relocation are addressed in the Section 5.2, Property Displacements and Relocations.

[15] Community cohesion refers to residents' sense of belonging to their neighborhood, their level of commitment to their community, or "a strong attachment to neighbors, groups, and institutions, usually as a result of continued association over time." This disruption could include interference with established patterns of interactions among community residents, isolation of one part of a community from another, or disruption of residents' access to community facilities and services.

below by project alternative. After the discussion of these key issues, potential mitigation measures are described.

**Disruption or Division of Existing Communities or Neighborhoods**

### *No Project Alternative*

The No Project alternative would not result in the operation of a new linear train facility that could potentially disrupt or divide adjacent communities, but would involve other transportation improvement projects (such as road widening or construction of new roadways) that may be implemented in the future to meet growing regional transportation needs. These projects could result in disruption to existing communities, but the impacts associated with such projects are unknown at this time and would be addressed through separate environmental analyses conducted in the future.

### *Operation Impacts Common to All Alternative Alignments*

The HST system would bring social benefits to the region by improving access to jobs and community amenities, reducing travel times, reducing traffic congestion, and providing new employment opportunities through project construction and operation. Although employment effects would be regional, the other benefits would likely occur by and large in the neighborhoods where the new HST stations would be constructed. The project would likely stimulate redevelopment efforts in these locations, which would likely result in improved neighborhood character and vitality, potentially strengthening community cohesion. The people who live or work in the general vicinity of the proposed station locations would be likely to benefit the most from the improved access provided by the new HST facilities; those who live along the portions of the alignment without station access would not enjoy the same level of mobility and access benefits. The project could enhance social conditions on a regional scale by facilitating new access to employment and educational opportunities through reduced commuting times and by providing another means for people to visit friends and relatives living in other parts of the San Joaquin Valley.

Operation of the Fresno to Bakersfield Section of the HST project could potentially divide adjacent communities by physically removing homes, businesses, and important community facilities (see Section 5.2 [Property Displacements and Relocations] for a description of the number and types of facilities that would be affected by each project alternative). Operation of the HST project could disrupt established patterns of interactions among community residents, isolate one part of a community from another, or disrupt residents' access to community facilities and services. Also, other environmental impacts on communities or neighborhoods—such as substantial increases in noise or traffic—could have adverse consequences on community members' interactions in the project vicinity. Similarly, substantial changes in visual quality or aesthetics could result in a perceived change to community character or the quality of life experienced in affected neighborhoods. See Sections 3.2 (Transportation), 3.4 (Noise and Vibration), and 3.16 (Aesthetics and Visual Resources) for a full discussion of such impacts in the urban and rural communities along the alternative alignments.

The following analysis describes the community impacts that would occur under each HST alternative, primarily through the permanent acquisition of property required for the project.

### *Operation Impacts Specific to the Alternative Alignments*

#### BNSF Alternative Alignment

Most of the BNSF Alternative Alignment follows existing and long-established railroad corridors that connect Fresno and Bakersfield as well as the smaller communities between these two major

cities. The alignment would pass through the cities of Fresno, Corcoran, Wasco, Shafter, and Bakersfield, but would bypass the city of Hanford and the community of Allensworth. All of the affected communities have grown historically on either side of the existing heavy rail corridor. Therefore, for the most part, the project would not introduce a new feature that would divide these communities. Rather, it would have minor impacts on the edges of the neighborhoods that have developed in the vicinity of the existing rail corridor over the past decades, displacing a relatively small number of homes, businesses, or community amenities that currently occupy land near the railroad tracks. (The exception to this general finding occurs in two areas in Bakersfield, the Northwest district and the Northeast district, where the proposed project alignment would deviate from the existing rail corridor and bisect two established residential communities, as described below).

Besides the incorporated communities discussed above, a number of smaller, unincorporated communities and clusters of rural residential development lie along the proposed BNSF Alternative Alignment. Where the alignment follows an existing transportation corridor, it would not divide an existing community, because the project would not introduce a new barrier. However, the project could affect social relationships in small communities by displacing homes and businesses. It could also affect perceptions of quality of life by introducing an incongruous new feature into the community with associated noise and visual impacts. In areas where the project deviates from existing rail corridors, impacts on these very small communities could be substantial. Table 5-1 summarizes the potential impacts of the BNSF Alternative Alignment on unincorporated communities in the study area. Findings for these small and very small unincorporated communities are discussed below under the appropriate project alternative separately from the potential impacts on neighborhoods in the two major cities (Fresno and Bakersfield) and the four smaller cities (Hanford, Corcoran, Wasco, and Shafter).

**Table 5-1**
Potential HST Impacts on Unincorporated Communities in the Project Vicinity:
BNSF Alternative Alignment

| Place | Location | County | Description | Potential HST Impacts |
|---|---|---|---|---|
| Malaga | 2 miles south of Fresno | Fresno | About 1,500 residents surrounded by industrial park and warehouses | ROW and Fresno Works–Fresno HMF site are about ¾ mile to the west of the community; no residential or community facility displacements. HST guideway would be elevated to cross Golden State Blvd and SR 99. |
| Oleander | 5 miles south of Fresno | Fresno | About 20 homes and surrounding farmsteads; Adam's Market & Liquor store | ROW would pass at-grade about ¼ mile east of this community and Fresno Works–Fresno HMF site about 0.1 mile away. Gas line relocation and roadway work would temporarily inconvenience homes and businesses along E. Adams Avenue (including the community's only market), but no permanent displacements. |
| Bowles | 11 miles south of downtown Fresno | Fresno | CDP with population of 182 in 2000; Manning Gardens Convalescent Hospital, Marian Homes, and Pacific Union School | HST would pass at-grade immediately east of the community (about 300 feet from closest residences, about 500 feet from the nursing homes, and about 800 feet from the school); road realignments at north and south ends of town and freight rail line relocation along ROW. |

**Table 5-1**
Potential HST Impacts on Unincorporated Communities in the Project Vicinity:
BNSF Alternative Alignment

| Place | Location | County | Description | Potential HST Impacts |
|---|---|---|---|---|
| Monmouth | 11 miles south of Fresno; 7.25 miles west of Selma | Fresno | Unincorporated community west of RR tracks; about 35 homes plus industrial uses; has a church, elementary school, and large grape processing facility | ROW would pass at-grade along western border of town, through agricultural area across the freight tracks, but within 250 feet of residences and 500 feet of church. Realignment of E. Nebraska Avenue would displace one home and disrupt one business. |
| Conejo | 19 miles south of Fresno; 7.25 miles southwest of Selma | Fresno | Older unincorporated community with about 20 homes east of RR tracks; feed store and dairy | No displacements, but ROW passes within 200 feet of many homes and would be elevated 45 feet to cross existing BNSF RR; substantial increase in rail-related noise and visual impacts. |
| Hamblin | 2 miles east of Hanford | Kings | As Hanford has grown eastward, this small community has become like a suburb of the city | ROW would pass at-grade about 1 mile east of Hamblin, but construction staging area for potential Kings/Tulare Regional Station would lie about ½ mile to the east of Hamblin. |
| Ponderosa Road | 3 miles east of Hanford | Kings | Rural residential development with 25 homes, close to Kit Carson School but no other services | About half of all homes would be displaced by ROW or from removal of access; other homes would be very close to ROW. Large construction staging area would be sited just west of community and permanent station built, bringing traffic, noise, and visual impacts to a formerly quiet rural residential area. |
| Allensworth | 20 miles south of Corcoran | Tulare | EJ community in unincorporated area with about 120 households, a school, church, and community center | No displacements, but ROW would be as close as about 150 feet from some homes and within 2,000 feet of school. |
| Kernell | 11 miles north of Wasco; 5 miles west of Delano | Kern | Tiny unincorporated community adjacent to RR; consists predominately of industrial uses, but also several homes | HST ROW would be at-grade on other side of existing RR tracks; residential properties would be buffered from HST by long industrial buildings. |
| Pond | 8 miles north of Wasco; 4 miles southwest of Delano | Kern | Unincorporated community adjacent to RR and Central Valley Highway | ROW would be on other side of Central Valley Highway on agricultural land, but ROW would pass at-grade about 600 feet from some homes. |

**Table 5-1**
Potential HST Impacts on Unincorporated Communities in the Project Vicinity:
BNSF Alternative Alignment

| Place | Location | County | Description | Potential HST Impacts |
|---|---|---|---|---|
| Palmo | 2.5 miles south of Wasco | Kern | Has several single-family homes, the Shafter-Wasco Irrigation District office, shops, a youth counseling center, and almond-processing facilities at SR 43 and Kimberlina Road | ROW would pass this community at-grade on the east side; no residential displacements, but ROW would be approximately 500 feet from homes. ROW and rail relocation would displace several of the industrial buildings south of Kimberlina Road, including almond-processing facilities and the building that houses a youth counseling program. |
| North Shafter Labor Camp | 2 miles north of Shafter | Kern | Merced Avenue at SR 43—about 45 duplex units and a community building | No property displacements or division, but ROW would pass at-grade within 300 feet of camp buildings. |
| Myrick's Corner | 1.25 miles northwest of Shafter | Kern | About 75 homes at intersection of Fresno Avenue and SR 43 | ROW on other side of highway, but track would be elevated (40 to 50 feet); no displacements or division, but ROW would pass within 200 feet of some homes. |
| North Shafter | 1 mile northwest of Shafter | Kern | Similar to Myrick's Corner, but closer to suburban areas of Shafter | ROW on other side of highway, but track would be elevated (60 feet) no displacements or division, but ROW would pass within 250 feet of some homes. |
| Hight's Corner/ Crome | 5 miles northwest of Bakersfield (at 7th Standard Road) | Kern | About 20 homes, a church, and an auto-wrecking business | ROW would relocate the Central Valley Highway, displacing several homes and a church that currently front on SR 43. New roadway would pass very close (as close as 20 feet) to some homes, and HST tracks would lie within 100 feet of some homes. |

BNSF = BNSF Railway
CDP = Census Designated Place
EJ = environmental justice
HMF = heavy maintenance facility
HST = high-speed train
ROW = right-of-way
RR = railroad (tracks)
SR =State Route

*Fresno County*

The BNSF Alternative Alignment would extend through approximately 17 miles of Fresno County, from the Fresno Station area to the Kings County border. Within the city of Fresno, the BNSF Alternative would follow the western side of the existing UPRR right-of-way at-grade from Amador Street to East Jensen Avenue. The HST tracks would pass through predominantly industrial areas in portions of the Central, Edison, and Roosevelt districts in Fresno. The BNSF Alternative would not displace any homes in these neighborhoods, but would displace 37 businesses (35 in the Edison district and 1 each in the Central and Roosevelt districts), including a café, a barber shop, a gas station, a furniture store, and a mix of light industrial and warehousing uses. The affected area has a high number of commercial vacancies, which offer opportunities for nearby relocation to avoid disruption to affected businesses.

The BNSF Alternative would affect the homeless population of Fresno living in clusters of tents in the vicinity of SR 41 and Golden State Boulevard near Downtown Fresno in the Roosevelt district (referred to locally as "Tent City") (Barfield 2010, personal communication; Prout 2010, personal communication).[16] Although the tents themselves are portable and could be moved to other nearby locations outside the project footprint, the BNSF Alternative would also displace a key facility, the Fresno Rescue Mission, which provides critical services to this population. The Fresno Rescue Mission provides meals and services, including overnight shelter accommodations for up to 250 persons and an onsite 18-month drug and alcohol recovery program that currently has approximately 110 persons enrolled full-time. The Fresno Rescue Mission owns and operates other related facilities (and some additional vacant land) in the immediate vicinity, including an emergency family shelter, a food warehouse, the Save the Children playground, and the former Craycroft Youth Center (closed in June 2010). The displacement of the Fresno Rescue Mission could be a serious community resource impact; however, staff indicated that it would be possible to rebuild Fresno Rescue Mission facilities on other land that it controls in the immediate vicinity.[17]

South of the city of Fresno, the BNSF Alternative Alignment would continue along the BNSF right-of-way and pass through mainly rural agricultural areas of Fresno County. This alternative would lie in the vicinity of five small unincorporated communities: Malaga, Oleander, Bowles, Monmouth, and Conejo. The alignment would pass about ¾ mile to the west of Malaga—far enough away that community impacts would be negligible, though the elevated HST guideway that would span Golden State Boulevard and SR 99 would be visible from the community. The alignment would then pass approximately ¼ mile east of the small community of Oleander, and the Fresno Works–Fresno HMF site would lie 0.1 mile northeast of this community. Gas line relocation and roadway work would inconvenience homes and businesses along E. Adams Avenue, including Oleander's only market, but it is likely that no permanent residential or business displacements would occur.

The BNSF alignment would pass immediately east of the community of Bowles, within 300 feet of the closest residences, 500 feet from Manning Gardens Convalescent Hospital, and 800 feet from Pacific Union School, an elementary school and the only school facility in Bowles. The existing freight line running through the community would be relocated to the east side of the new HST tracks, so that freight rail trains would be further removed from the residential area of town. Roads at the north and south ends of the community (E. Springfield and E. Manning avenues) would be realigned to overpass the train tracks and maintain east-west connections in the community. Although HST construction and operation and associated noise and visual impacts would disrupt the community, no homes or businesses in Bowles would be displaced.

The BNSF alignment would pass at-grade along the western border of Monmouth, through agricultural land across the existing freight tracks. The alignment would pass within 250 feet of homes and within 500 feet of the community's only church. Realignment of E. Nebraska Avenue would displace one home and disrupt one local business.

[16] Fresno's Homeless Coordinator estimates that approximately 100 people are living in the G and H Street encampments, and the Fresno Rescue Mission estimates that around 200 homeless persons are living on streets in the vicinity of the Mission, in addition to the several hundred people that seek overnight shelter at the Mission or participate in its 18-month residential program.

[17] According to the executive director of the Fresno Rescue Mission, if the BNSF Alternative were implemented, the Mission would rebuild its facility on land it owns in the immediate vicinity, which could present an opportunity to improve and consolidate some of its functions that are now scattered and meet ADA and other requirements that have come into existence since the original Rescue Mission was established.

The BNSF alignment would not cause any displacements in Conejo, but the ROW would pass within 200 feet of many homes and would be elevated 45 feet to cross the existing BNSF tracks, resulting in substantial noise and visual impacts in the community.

*Kings County*

The BNSF Alternative would travel approximately 30 miles through Kings County, traversing primarily rural agricultural areas. It would bypass the city of Hanford to the east, but would pass east of the unincorporated community of Hamblin, an unincorporated community on the outskirts of Hanford, and through a rural residential development with 25 homes in the vicinity of East Lacey Boulevard and Ponderosa Road. The HST tracks in this area would be elevated approximately 40 feet for about 2.5 miles, from Fargo Avenue to Hanford Armona Road, to span the San Joaquin Valley Railroad and SR 198. The elevated HST tracks would run 1 mile east of Hamblin. Although the HST tracks and the Kings/Tulare Regional Station would be visible from Hamblin, impacts on community character and cohesion would be minor, because of the distance between the community and the HST facilities. However, in the Ponderosa Road community, approximately half of the existing ranch homes would be displaced by the project and other homes would be close (less than 200 feet) to the new HST guideway, which would be elevated 40 feet above ground level. The potential Kings/Tulare Regional Station would be built on the elevated guideway in the immediate vicinity of the Ponderosa Road community, just north of the existing freight rail tracks. The project would affect community character, social interactions, and community cohesion by displacing half of the households and by exposing the remaining rural residential homes to increased traffic, noise, and visual impacts.

South of Hanford, the BNSF Alternative Alignment would curve west and then south through agricultural areas, rejoining the BNSF right-of-way (along the west side) just north of the city of Corcoran. The alignment would travel through the eastern edge of the city of Corcoran at-grade, along the western side of the existing BNSF right-of-way. The HST tracks and new road overcrossings would displace 50 homes and 19 businesses in Corcoran, including the Amtrak station building that houses the city's Chamber of Commerce offices, one church, a market, portions of a mobile home/recreational vehicle park. The HST tracks would run within approximately 200 feet of the City Hall building. The displacements, along with the increased noise and visual impacts associated with the HST project, could affect social interactions, community cohesion, and the perceived quality of life in Corcoran.

*Tulare County*

The BNSF Alternative crosses approximately 25 miles of rural agricultural land in Tulare County, adjacent to the western side of the existing BNSF right-of-way. The only community in this segment of the alignment is the unincorporated community of Allensworth, which is situated immediately south of the Colonel Allensworth State Historic Park. This community has about 120 homes, a school, a church, and community center. The HST tracks would pass along the east side of the community at-grade. The alignment would not displace any homes, but would pass as close as approximately 150 feet from several homes and within 2,000 feet of the school. The project would not divide the community, but it would introduce new visual and noise elements into this rural setting.

*Kern County*

The BNSF Alternative Alignment in Kern County is approximately 40 miles long. It would pass through the cities of Wasco and Shafter on an elevated guideway that would follow the existing BNSF right-of-way—on the western side through Wasco, on the eastern side through Shafter, then switching to the western side again south of Shafter. In Wasco, the elevated structure would span approximately 3 miles, from Margola Street to Prospect Avenue; the structure would

reach a height of 50 feet above the Paso Robles Highway. HST facilities would result in the displacement of 2 homes and 9 businesses in Wasco and would introduce new noise and visual elements along the existing transportation corridor. HST trains would pass within 400 feet of the city's administrative offices and about 600 feet from the downtown Wasco Plaza area.

The BNSF Alternative Alignment would also pass three very small, unincorporated communities along the existing railroad tracks in the vicinity of Wasco: Kernell (11 miles north of Wasco), Pond (8 miles north of Wasco), and Palmo (2.5 miles south of Wasco). The HST tracks would pass each of these communities at-grade and on the far side of the existing railroad and Central Valley Highway rights-of-way. In Kernell, homes would be buffered from noise and visual impacts to some extent by a series of long industrial buildings. In Pond, the new HST tracks would pass about 600 feet from several homes (and even closer to some isolated farmsteads in the vicinity). In Palmo, the HST tracks would be approximately 500 feet from existing homes and would displace several industrial buildings on the south side of Kimberlina Road in the vicinity (almond-processing facilities and a building that houses a youth counseling program that serves the cities of Shafter and Wasco).

Similarly, the BNSF Alternative Alignment would pass three unincorporated communities just north of the city of Shafter: the North Shafter Labor Camp (2 miles north of Shafter), Myrick's Corner (1.25 miles north of Shafter), and North Shafter (approximately 1 mile north of the city). The project would not cause any property displacements in these communities, but the new HST trains would pass close to existing homes (within 200 to 300 feet). The HST tracks would be at-grade as they pass the North Shafter Labor Camp, but would begin to elevate north of Madera Avenue, passing Myrick's Corner at an elevation of 40 to 50 feet above-grade and approximately 50 feet above-grade near the suburb of North Shafter, exposing these communities to new sources of noise and visual intrusion within several hundred feet of homes.

In the vicinity of Shafter, the elevated structure would span a distance of about 3.5 miles, descending to grade at Cherry Avenue. The HST facilities and related road and utility work would displace 3 homes and 6 businesses in Shafter, including a hardware or general store and a gas station/minimart.

Between Shafter and Bakersfield, the BNSF Alternative Alignment would pass the small, unincorporated community of Crome, a cluster of about 20 homes located 5 miles northwest of Bakersfield in the northwest quadrant of the intersection of 7$^{th}$ Standard Road and the Central Valley Highway. The HST project would relocate the Central Valley Highway to the south through this area and displace several buildings currently fronting on the Central Valley Highway (including one building associated with the only church in the community). The new SR 43 right-of-way would pass very close (within as little as 20 feet) to some of the remaining homes, and the HST tracks would pass about 100 feet east of the residential area.

The BNSF Alternative Alignment would enter the northwestern portion of Bakersfield at-grade; from approximately Palm Avenue to the Bakersfield Station, this alternative would run on an elevated structure that would range from 50 to 80 feet above-grade. This alignment would pass through three districts in Bakersfield: Northwest, Central, and Northeast. In several areas, the alignment deviates from the existing transportation corridor to accommodate the turning-radius requirements of a high-speed train and to incorporate the Bakersfield Station. In these areas, the substantial acquisition of right-of-way and the redevelopment of properties for the BNSF Alternative would divide established communities—particularly the formerly unincorporated Greenacres area of the Northwest district near Rosedale and the Northeast district, which has large populations of African-American and Hispanic residents. Impacts to the three districts are summarized below.

Northwest Bakersfield. In the Northwest district of Bakersfield, the BNSF Alternative would depart from the BNSF right-of-way just south of Rosedale Highway and rejoin the rail right-of-way after crossing the Kern River. The alignment would cut through an existing suburban development in Bakersfield's Northwest district, displacing 122 homes and 10 non-residential properties, including a gas station/minimart, an art studio, 2 health centers, and 3 churches (Grace Baptist Church, Chinmaya Mission, and Korean Presbyterian Church). This neighborhood of Bakersfield has a strong suburban residential character, with predominately single-family, ranch-style homes constructed before the 1990s. The rate of homeownership in this area (81%) is substantially higher than the citywide average, and there is considerable racial and socioeconomic homogeneity (in 2000, over 94% of the residents of this neighborhood were White). Although few community services or public facilities are present in this neighborhood, the relatively large yards surrounding the modest single-family homes display meticulously maintained landscaping, indicating a shared sense of community pride and commitment to place. Also, signs indicate the presence of neighborhood watch groups, and recent community-organizing activities have sought to raise awareness about the proposed HST project and its potential impacts on the neighborhood. These factors indicate a relatively high degree of community cohesion that the project could adversely affect.

Central Bakersfield. In the Central district, the BNSF Alternative Alignment would displace only one home and no churches, but it would displace approximately 100 businesses—a mix of office and industrial uses, retail services, medical clinics, and the Industrial Arts Building on the Bakersfield High School campus. The school's historical importance, combined with the critical nature of the educational services it provides, makes the school an important community resource.

Northeast Bakersfield. In the Northeast district of Bakersfield, 116 homes and 173 non-residential properties (including a mix of retail and industrial businesses and several churches) would be displaced by the BNSF Alternative Alignment. Christ First Ministries would be displaced, and a portion of the parking at Iglesia de Dios would be taken. The BNSF Alternative would also pass very close to the building that houses the Bethany United Methodist Church and Centro Cristiano Agape. The BNSF Alternative would roughly parallel East Truxtun Avenue and would result in the displacement of a swath of older homes and businesses several hundred feet south of this roadway.[18] This alternative would bisect the building that houses the Mercado Latino Tianguis (Mercado) at 2105 Edison Highway. Because of its size and location, the Mercado building would most likely be demolished, redesigned, and rebuilt to avoid the support columns. This could mean closing or relocating the building for approximately 1 year, potentially affecting the livelihoods of 118 merchants and temporarily removing a facility of substantial cultural importance for the local and regional Hispanic community. This neighborhood has considerable cultural diversity (52% White, 43% Hispanic, 9% Black, and 8% Asian in 2000), numerous small churches, and a relatively active street life, with many residents observed strolling or biking around the residential areas or patronizing local schools, services, and businesses. These factors indicate a relatively high degree of community cohesion that the project could adversely affect.

### Corcoran Elevated Alternative

The Corcoran Elevated Alternative Alignment would be identical to the BNSF Alternative Alignment except for the portion of the alignment that passes through the city of Corcoran. Here the alignment would be elevated from Nevada Avenue to 4th Avenue, travelling along the east side of the existing BNSF right-of-way. Because the guideway would be elevated and on the east

[18] Some commercial and industrial uses could remain if the support columns that would carry the elevated guideway do not affect property use. In some cases, existing business structures might be modified or demolished and rebuilt in new locations to accommodate the project; in these cases, business disruptions would be temporary rather than permanent displacements.

side of the existing tracks under the Corcoran Elevated Alternative, substantially fewer property displacements would result than under the BNSF Alternative Alignment. Specifically, no homes and only one business (an auto body shop) would be displaced in Corcoran under the Corcoran Elevated Alternative. The associated noise and visual impacts close to the downtown center and residential areas could affect social interactions and local perceptions about community character.

#### Corcoran Bypass Alternative Alignment

The Corcoran Bypass Alternative would be identical to the BNSF Alternative Alignment except it would curve to the southeast to bypass the city of Corcoran on the east side. The community impacts associated with this alternative would be similar to those described above for the BNSF Alternative, except in the immediate vicinity of Corcoran. By extending through predominately rural agricultural areas outside the city limits, the Corcoran Bypass Alternative would avoid the operation impacts within the city of Corcoran that would occur with the BNSF Alternative or the Corcoran Elevated Alternative. However, the Corcoran Bypass Alternative would divide the small unincorporated rural residential community that lies immediately northeast of the city limits in the vicinity of Newark Avenue between SR 43 and the irrigation canal. The proposed Corcoran Bypass Alternative would pass through the middle of this community, which consists of about 20 homes on adjacent large lots. The HST tracks and associated roadway work would displace about 40 percent of the homes and leave some of the remaining homes very close to (within 50 to 150 feet of) the HST train tracks. Similar impacts would occur to the smaller enclave of rural residential homes approximately 1 mile to the southeast, in the vicinity of 5th Avenue and Wakena Avenue.

#### Allensworth Bypass Alternative Alignment

The Allensworth Bypass Alternative Alignment would pass west of the community of Allensworth, farther away from the existing community than would the BNSF Alternative. For this reason, noise and other operational impacts on the community would be less under the Allensworth Bypass Alternative than they would be under the BNSF Alternative.

#### Wasco-Shafter Bypass Alternative Alignment

The Wasco-Shafter Bypass Alternative would traverse agricultural land and open space east of Wasco and Shafter, where no population concentrations are found. This bypass alternative would not divide existing communities and would avoid the operation impacts in the downtown areas of Wasco and Shafter associated with the BNSF Alternative by extending through rural agricultural areas instead.

#### Bakersfield South Alternative Alignment

Like the BNSF Alignment, the Bakersfield South Alternative Alignment would pass through the Northwest, Central, and Northeast districts of Bakersfield. However, the Bakersfield South Alternative would affect similar but somewhat different community facilities in these districts. Impacts in the Northwest district of Bakersfield would be similar to those identified for the BNSF Alternative, so many homes and several churches would be displaced. Like the BNSF Alternative, the Bakersfield South Alternative would divide the existing community and result in a considerable number of residential property acquisitions, and the displacement of churches (the Korean Presbyterian Church would be fully displaced and parts of Chinmaya Mission property would be displaced).

In the Central district, the Bakersfield South Alternative would parallel the existing BNSF line north of the existing rail yard that lies east of SR 99 and would thereby avoid the impacts to Bakersfield High School associated with the BNSF Alternative. However, in this vicinity the Bakersfield South Alternative would instead displace commercial-industrial businesses, a church

(Saints Memorial Church of God in Christ), and a building that houses services associated with the Mercy Hospital medical complex. The elevated guideway associated with the Bakersfield South Alternative would also span an existing staff and patient parking lot and permanently remove a small portion of the parking spaces when the supports are constructed. The Mercy Hospital medical complex provides critical care to the greater Bakersfield community, and there are inherent challenges in finding a suitable nearby replacement for the Mercy Hospital building that would be displaced (a four-story medical office and pharmacy building) in a built-out urban environment.

In the Northeast district, the Bakersfield South Alternative would divide and disrupt the existing neighborhood southeast of the downtown area between East Truxtun and East California avenues and from Union Avenue to the section terminus at Oswell Street. This established neighborhood in the Northeast district would be traversed farther south from East Truxtun Avenue and much closer to California Avenue under the Bakersfield South Alternative compared to the BNSF Alternative. Similar to the BNSF Alternative, the Bakersfield South Alternative would divide parts of this older, established neighborhood by a 100-foot right-of-way beneath the elevated guideway that would be cleared of homes, churches, and other facilities that were once a part of the community.

### *Station Alternatives*

#### Fresno Station–Mariposa Alternative

The Fresno Station–Mariposa Alternative would be located on Mariposa Street adjacent to the HST tracks west of Chukchansi Park. Some commercial-industrial businesses in the area would be relocated, but the station would not divide an existing community and it has the potential to benefit community cohesion by improving neighborhood aesthetics and providing an active transportation hub and associated service businesses.

#### Fresno Station–Kern Alternative

The Fresno Station–Kern Alternative would be similar to the Mariposa Alternative except that this alternative would not encroach on the historic Southern Pacific depot and would not require relocation of the Greyhound bus depot.

#### Kings/Tulare Regional Station

The Kings/Tulare Regional Station would be sited in a rural agricultural area. The station itself would not displace any homes, businesses, or community facilities. However, the traffic, noise, and visual impacts associated with the station would adversely affect the quality of life in the adjacent rural residential area in the vicinity of Ponderosa Road and Edna Way—for those homes that would not be displaced by the HST tracks.

#### Bakersfield Station–North Alternative

The Bakersfield Station–North Alternative would span the existing BNSF rail line east of the existing Amtrak station. This alternative would displace and relocate 14 residential households, 20 businesses, and Saint George Greek Orthodox Church and its associated school, playground, and meeting facilities.

#### Bakersfield Station–South Alternative

The Bakersfield Station–South Alternative would relocate approximately 8 commercial and industrial facilities, as described in Section 5.2 (Property Displacements and Relocations). However, this alternative would be on the south side of the existing BNSF rail line and would

generally not interfere with established patterns of interactions among community residents, would not isolate one part of a community from another, or disrupt resident access to community facilities and services (although the alignment would run very close to the Bakersfield Word of Life Ministries).

#### *Heavy Maintenance Facility Site Alternatives*

Operation of the heavy maintenance facility could result in changes in transportation, air quality, noise and vibration, safety and security, and aesthetics and visual resources that could potentially affect an adjacent community. Two of the HMF site alternatives (the Fresno Works–Fresno and the Kern Council of Governments–Wasco sites) are in areas near high concentrations of minority and low-income populations. Long-term air quality impacts would be reduced to a less-than-significant level with mitigation. Unavoidable noise impacts would have greater impacts at the Fresno Works–Fresno and Kern Council of Governments–Wasco sites than at the other HMF sites because of the comparatively high concentrations of population near those locations. The other three HMF sites are distant from existing communities.

### 5.1.2 Project Job Creation

This section presents an analysis that estimates project job creation and the resulting need for workers in the region. The need for workers in the region is an important consideration because an influx of workers could increase the demand for public services and require new or altered government and public facilities to meet the increased demand in communities. The analysis presented below examines the potential for population increases resulting from the job creation expected during both the short term (construction phase) and the long term (operation phase) as a result of the project.

#### A. SHORT-TERM JOB CREATION AND PUBLIC FACILITIES

A recent report by the U.S. Conference of Mayors highlights the ability of HST projects to increase jobs, wages, business sales, and value-added gross regional product (U.S. Conference of Mayors 2010). These impacts were found to be particularly substantial for intercity travel that is under 3 hours, which would be the case for the project. An analysis was conducted to determine if such project-related job creation during construction (i.e., during the short term) could result in the need for additional government facilities to serve communities along the project alignment.

This section provides a description of the methodology and the findings of the analysis conducted to estimate the short-term employment resulting from construction of the project from Fresno to Bakersfield. U.S. Department of Commerce Bureau of Economic Analysis' (BEA) Regional Input-Output Modeling System (RIMS II) multipliers were used to estimate this employment over the construction period of the project (FY2013 to FY2021).[19] RIMS II multipliers are available at the county level and therefore were obtained for the four-county region of Fresno, Kings, Tulare, and Kern counties. The resulting estimate includes the number of direct jobs created as well as the indirect and induced employment. Direct employment refers to the jobs created to construct the project and primarily involves jobs created in the construction sector. Indirect employment refers to the jobs created in existing businesses in the region (e.g., material and equipment suppliers) that supply goods and services to project construction. Induced employment refers to jobs created in new or existing businesses (e.g., retail stores, gas stations, banks, restaurants, service companies) that supply goods and services to workers and their families. BEA RIMS II Type II annual regional economic final-demand multipliers were used to generate these estimates Final-demand employment multipliers provide the total number of jobs created per $1 million change in final demand (in this case per $1 million in project spending in the region).

[19] California state fiscal years are used in this analysis (July 1 through June 30).

The annual series multipliers used are based on 2006 national annual input-output data and 2006 regional data. These multipliers are available for 60 aggregated industries. Benchmark series multipliers are also available. These benchmark series multipliers provide a more detailed breakdown of 473 economic sectors but are based on older data. Annual series multipliers were used in this analysis instead of available benchmark series to take advantage of the newer data used to generate the annual series. Also, the breakout of spending available for the project was not detailed enough to allow for proportioning into the detailed industries available in the benchmark series. Therefore, there was no advantage to using the benchmark series.

Type II multipliers measure the economic impact of industries and household expenditures. Unlike Type I multipliers, which account for direct and indirect impacts, Type II multipliers include the induced impacts associated with the spending of earnings by labor (households) within a region. Therefore, these endogenous multipliers can be used to estimate the sum of direct, indirect, and induced impacts. Type II multipliers were used in this analysis, because the induced impacts were of interest.

### No Project Alternative

It is expected that the projects that would constitute the No Project Alternative would result in economic benefits (e.g., job creation) and potential losses (e.g., relocations). It is also expected that the planned projects that would constitute the No Project Alternative would undergo project-specific environmental review, as appropriate, and include feasible mitigation measures to minimize any adverse effects associated with project job creation.

### BNSF Alternative Alignment

Short-term construction impacts were estimated by applying final-demand multipliers to a bill-of-goods construction spending estimate for the Fresno to Bakersfield Section of the project. The total project costs used are presented in Chapter 5 (Project Costs and Operations) of the EIR/EIS (Authority and FRA 2011a). This analysis is interested in estimating the impacts occurring within the region as a result of construction of the project. Therefore, spending in the following Chapter 5 cost categories were used in this analysis: 10 track structures & track; 20 stations, terminals, intermodal; 30 support facilities: yards, shops, admin. bldgs.; 40 site work, right-of-way, land, existing improvements; 50 communications and signaling; 60 electric traction; and 80 professional services.[20] Total project spending was converted to annual spending using the project construction schedule as presented in Chapter 2 (Alternatives) of the EIR-EIS and a standard S-shaped-type spending curve, which assumes that spending increases steadily to a peak at the mid-point of the construction and then decreases symmetrically until construction is completed.

Total spending was then proportioned to represent spending within particular economic sectors. This approach is referred to as a bill-of-goods approach. The sectors examined in this approach were the construction sector for equipment spending; the nonmetallic mineral product manufacturing sector for stone, gravel, and concrete; the primary metal manufacturing sector for steel and other required metal processing; the household sector for spending from construction labor earnings; the transportation sector for spending on moving equipment and materials within the region; and the wholesale sector for wholesale trade margins resulting from purchases. The proportions of the spending for labor, equipment, and materials were determined by referencing transportation cost studies and also through discussions with rail construction experts (URS 2009; Rudden 2010, personal communication). These sources provided the following percentage breakdown across sectors: 15% for equipment; 35% for labor; and 50% for materials. Materials

[20] Property costs were removed from right-of way expenditures to leave only spending on site work and improvements.

were broken down further into nonmetallic (stone, gravel, concrete) (75% of 50% or 37.5%) and primary metal (steel) components (25% of 50% or 12.5%).

The percentage of total spending that would be spent in the region was estimated using data on regional economic activity in these sectors. Commodity flow data from the U.S. Census Bureau was examined, and it was determine that 30% of the nonmetallic (stone, gravel, concrete) and 10% of the primary metal (steel) materials could be procured within the region. It is assumed that the bulk of the steel needed for the project would originate from major steel-producing areas outside the region, but given the presence of the base metal sector in the region, it is assumed that some material and additional processing would be provided by local companies. Also, given the large construction sector and current unemployment levels in construction in the region, 50% of the required direct labor was assumed to originate from within the region.[21] Some equipment spending (20%) was assumed to occur within the region; this assumption reflects limitations on the four-county region alone to supply all the equipment necessary for project construction.

These spending values were then converted from purchaser prices to producer prices using Table F, Commodity Composition of Intermediate Purchases by Industry Aggregation – Construction Data from RIMS II.[22] This conversion removes the transportation and wholesale margin associated with these transactions. The resulting contributions to the transportation sector and wholesale sector within the region were also estimated using this distributional cost data.

Table 5-2 presents all regional producer price construction expenditures by sector. All costs are presented in 2010 dollars to allow for aggregation of values.

Table 5-3 provides the RIMS II final-demand multipliers for the four-county region. These multipliers represent the number of jobs (direct, indirect, and induced) created per million dollars of project expenditure. The economic sectors identified above were associated with an industry code in the BEA annual industry list (construction = #7; nonmetallic mineral product manufacturing = #9; primary metal manufacturing = #10; transportation = #32; and wholesale margin = #27). The household sector (#60) was used to represent the spending of earnings from the project.

These multipliers were multiplied by the annual spending totals presented in Table 5-2.[23] The results of this analysis are presented in Table 5-4. These values represent the estimated total direct, indirect, and induced employment created by project spending. Over the entire construction period, 22,152 1-year full-time job equivalents would be created.[24]

The values presented in Table 5-4 are a sum of the total direct, indirect, and induced jobs created. To distinguish between the impacts associated with direct, indirect, and induced jobs, the direct jobs need to be identified. Therefore, direct jobs are calculated from the project spending on labor. An annual wage of $156,000 (including benefits) was used to calculate these direct workers. Total annual labor spending was divided by this annual per worker cost to estimate the number of direct jobs created by the project each year. The results of this analysis show that the total 1-year full-time job equivalents created directly by the project were 7,168.

---

[21] Estimates using the household expenditure multiplier are for workers who live in the region, not those who commute to the region for work.

[22] The RIMS II multipliers are calculated based on producer prices, so final demand changes must also be converted to producer prices.

[23] The final-demand employment multiplier was multiplied by spending converted to $2006 because the RIMS II final-demand employment multipliers should be used with $2006 data.

[24] Job estimates are provided as calculated for this technical report. These results are rounded to the nearest 100 for presentation in the EIR/EIS.

These direct jobs were then subtracted from the total jobs presented in Table 5-4 to obtain the indirect and induced employment (14,984). Table 5-5 provides this detailed breakdown of the total. Tables 5-6 and 5-7 provide the annual breakdown of direct and indirect/induced totals. As can be seen, during the peak construction years, an additional 3,877 jobs will be created, 1,254 of which are direct.

Annual average unemployment across the four-county region was 14.9% in 2009, with 159,300 persons out of work (California Employment Development Department 2010b). A 2009 study states that the California Employment Development Department reported a loss of 32,300 construction jobs in the San Joaquin Valley between June 2006 and August 2009 (Eberhardt School of Business 2009). As with any large construction project, some influx of population is expected as workers arrive in the area seeking jobs. However, given the high level of unemployment in the region and the large number of construction workers currently on the job market, the majority of these new construction jobs would be filled by current residents of the region who possess the necessary construction skills. As a result, construction of additional community facilities would not be required to support this workforce. However, given the current fiscal conditions of city and county jurisdictions, the context is one of tight budgets for the provision of government and public services. As a result, any additional burden, however small, could be of moderate consequence.

**Table 5-2**
Construction Spending within Region for BNSF Alternative by Economic Sector (millions of 2010$)

| Economic Sector | Percentage of Total Spending by Sector | Percentage Spent within the Region | Percentage That Is Producer Value | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | Total by Economic Sector |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Construction equipment | 15% | 20% | 100% | $10 | $34 | $34 | $34 | $34 | $19 | $19 | $0 | $10 | $192 |
| Materials – nonmetallic | 37.5% | 30% | 81.5% | $29 | $103 | $103 | $103 | $103 | $59 | $59 | $0 | $29 | $586 |
| Materials – primary metal | 12.5% | 10% | 65.4% | $3 | $9 | $9 | $9 | $9 | $5 | $5 | $0 | $3 | $52 |
| Transportation | N/A | 100% | 6.6% | $2 | $7 | $7 | $7 | $7 | $4 | $4 | $0 | $2 | $42 |
| Wholesale margin | N/A | 100% | 18.1% | $6 | $20 | $20 | $20 | $20 | $12 | $12 | $0 | $6 | $116 |
| Construction labor | 35% | 50% | 100% | $55 | $196 | $196 | $196 | $196 | $112 | $112 | $0 | $56 | $1,119 |
| Annual total | 100% | | | $105 | $369 | $369 | $369 | $369 | $187 | $187 | $0 | $94 | $2,107 |

Source: Analysis of Fresno to Bakersfield Section EIR/EIS Chapter 5 data (Authority and FRA 2011a).

Note: N/A is not applicable. Percentage spending by sector is not relevant to transportation and wholesale margins because these values are a function of the conversion of purchaser to producer value. Total summations of spending are rounded and therefore may not exactly match column and row sum totals.

**Table 5-3**
BEA RIMS II Final-Demand Multipliers Used in Analysis

| Industry | Final-Demand Employment per $1 million in spending |
|---|---|
| #7 Construction | 15.2595 |
| #9 Nonmetallic mineral product manufacturing | 8.6147 |
| #10 Primary metal manufacturing | 6.0805 |
| #27 Wholesale margin | 10.4593 |
| #32 Truck transportation | 14.3786 |
| #60 Households | 8.9824 |

Source: Bureau of Economic Analysis RIMS II Model

BEA = U.S. Department of Commerce Bureau of Economic Analysis
RIMS II = Regional Input-Output Modeling System

**Table 5-4**
Annual Region Employment Creation Using Final-Demand Multipliers

| Impact | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | TOTAL |
|---|---|---|---|---|---|---|---|---|---|---|
| Employment (1-year full-time job equivalents) | 1,108 | 3,877 | 3,877 | 3,877 | 3,877 | 2,214 | 2,214 | 0 | 1,108 | 22,152 |

Source: Results from BEA RIMS II multiplier analysis.

BEA = U.S. Department of Commerce Bureau of Economic Analysis
RIMS II = Regional Input-Output Modeling System

**Table 5-5**
Breakdown of Direct, Indirect, and Induced Impacts in the Region Using Final-Demand Multipliers

| | Direct | Indirect and Induced | Total |
|---|---|---|---|
| Employment (1-year full-time job equivalents) | 7,168 | 14,983 | 22,152 |

Source: Results from BEA RIMS II multiplier analysis and calculation of direct jobs created using California Department of Industrial Relations 2010 and estimated project spending on labor in the region.

Acronyms:
BEA = U.S. Department of Commerce Bureau of Economic Analysis
RIMS II = Regional Input-Output Modeling System

**Table 5-6**
Annual Region Direct Employment Creation Using Final-Demand Multipliers

| Impact | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | Total |
|---|---|---|---|---|---|---|---|---|---|---|
| Direct employment (1-year full-time job equivalents) | 358 | 1,254 | 1,254 | 1,254 | 1,254 | 719 | 719 | 0 | 358 | 7,168 |
| Total employment (1-year full-time job equivalents) | 1,108 | 3,877 | 3,877 | 3,877 | 3,877 | 2,214 | 2,214 | 0 | 1,108 | 22,152 |

Source: Results from BEA RIMS II multiplier analysis.

BEA = U.S. Department of Commerce Bureau of Economic Analysis
RIMS II = Regional Input-Output Modeling System

**Table 5-7**
Annual Region Indirect and Induced Employment Creation Using Final-Demand Multipliers

| Impact | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | TOTAL |
|---|---|---|---|---|---|---|---|---|---|---|
| Indirect and induced employment (1-year full-time job equivalents) | 749 | 2,622 | 2,622 | 2,622 | 2,622 | 1,498 | 1,498 | 0 | 749 | 14,983 |
| Total employment (1-year full-time job equivalents) | 1,108 | 3,877 | 3,877 | 3,877 | 3,877 | 2,214 | 2,214 | 0 | 1,108 | 22,152 |

Source: Results from BEA RIMS II multiplier analysis.

BEA = U.S. Department of Commerce Bureau of Economic Analysis
RIMS II = Regional Input-Output Modeling System

## Other Alternative Alignments

Examination of the relative differences (increases and decreases in employment) by alignment alternative were undertaken using the cost differences provided in Chapter 5 (Project Costs and Operations) of the Fresno to Bakersfield Section EIR/EIS (Authority and FRA 2011a). The resulting differences in terms of annual job years created are presented in Table 5-8. The largest differences are along the Corcoran Elevated, Allensworth Bypass, and Wasco-Shafter Bypass alternative alignments, where in each case construction spending is somewhat different than for the corresponding portion of the BNSF Alternative Alignment.

**Table 5-8**
Relative Difference for Alternative Alignments Using Direct-Effect Multipliers

| Alternative Alignment | Direct Employment (annual job years) | Indirect and Induced Employment (annual job years) | Total New Employment (annual job years) |
|---|---|---|---|
| Corcoran Elevated | +167 | +349 | +516 |
| Corcoran Bypass | -147 | -308 | -455 |
| Allensworth Bypass | -197 | -411 | -607 |
| Wasco-Shafter Bypass | -349 | -730 | -1,080 |
| Bakersfield South | -58 | -121 | -179 |

## B. LONG-TERM JOB CREATION AND PUBLIC FACILITIES

A recent report prepared for the U.S. Conference of Mayors highlights the ability of HST projects to increase jobs, wages, business sales, and value-added gross regional product (Economic Development Research Group 2010). These impacts were found to be particularly substantial for intercity travel that is under 3 hours, which would be the case for the project. An analysis was conducted to determine if such project-related job creation during operation (i.e., during the long term) could result in the need for additional government facilities to serve communities along the project alignment.

Cambridge Systematics Inc. conducted analyses that provide estimates of the long-term employment resulting from the operation of the HST system. These long-term jobs are created through operation of the project and by businesses that are attracted to the region, existing businesses in the region that expand as a result of the project, and spatial reallocation of employees taking advantage of the increased mobility provided by the HST project (Cambridge Systematics Inc. 2010).

Cambridge Systematics Inc. estimated that 47,436 new jobs would be created in the region by 2035 as a result of the operation of the HST system. This total would include jobs to operate and maintain the HST (approximately 2,000 jobs), the indirect and induced jobs created to support these workers, and the jobs created because of increased mobility in the region. This number of new jobs is a 3.2% increase in employment above the 2035 estimate of 1.4 million total jobs in the region under the No Project Alternative (Cambridge Systematics Inc. 2010).

The trends and overall levels of unemployment discussed above indicate that given historical and current trends in the region, unemployment rates will be higher there on average than in the rest of the state. Therefore, the workforce exists to support much of the 3.2% job growth expected to result from the operation of the HST project. However, given the unique ability of an HST system to alter mobility patterns, some amount of population influx is expected.

Therefore, given the number jobs expected to be created and the likely levels of unemployment in the region, any physical impacts from the provision of new or altered government and public facilities would be minimal, because no new facilities would need to be constructed. From the standpoint of fiscal conditions for city and county jurisdictions, the context could be one of tight budgets for the provision of government and public services. This potential for fiscal concerns is present because the region has historically lagged the state as a whole in economic development

and because of the uncertainty surrounding the transition of the region from a purely agriculture-based economy to a more diversified economic structure better able to withstand economic downturns. As a result, any additional burden, however small, could be of moderate consequence.

Demand for employment and long-term job creation estimates would be the same under all the alternative alignments, all station alternatives, and all HMF site alternatives.

## 5.2 Property Displacements and Relocations

Property displacements and resident and business relocations were identified in the following analysis. The term 'displacement' is used to represent property takings that result in the acquisition of a parcel or structure, while the term 'relocation' is used to represent the need to find new homes for the residents and institutions, such as businesses, that are located in affected structures. This analysis included a thorough review of GIS data that presented the spatial relationship between the project alternatives, the existing county parcel boundaries, and the structures located on affected parcels. Specifically, GIS data overlays included the area of the proposed project footprint, aerial imagery of current structure locations, U.S. Census demographic information, photos of and field notes on properties obtained during site visits, and county parcel data providing parcel size, land use designations, and structure characteristics such as address, value, and square footage. All of this information was used to (1) identify each parcel intersecting the project footprint, (2) determine the need for full or partial acquisition of the affected parcel, and (3) count the number and characterize the types of structures displaced. Details of this methodology are presented in Appendix A-3.

This evaluation of parcel acquisitions and the structures affected by the project was recorded in a Microsoft Excel database. Additional information was added to this database to record the following:

- Number of residential units associated with each acquired parcel.
- Number of businesses associated with each acquired parcel, including business names, addresses, type of business, and the estimated number of employees and annual sales.
- Number of agricultural parcels acquired that were split as a result of the project.
- Number of agricultural parcels acquired that contained facilities that would be displaced.
- Number and types of community facilities that would be displaced by the project alternatives.
- Average number of residents per household in the area.
- Property and sales tax rates for county and city jurisdictions.
- Current vacancies for suitable replacement residences and businesses in the vicinity of projected displacements and relocations.

In total, this extensive collection of information enabled the analysis conducted to go beyond simple counts of parcels and structure types. The full analysis of potential displacement effects and impacts that was undertaken included the following:

- The number of units and residents.
- The demographics of residents.
- The types of residential structures displaced.
- The number and type of commercial and industrial businesses displaced and specific economic sectors affected.
- The dollar value estimate of commercial and industrial sales and the estimated number of employees displaced in various job sectors.
- The number of agricultural parcels that have affected facilities or that are split, thus leading to increased costs and/or temporary disruption of agricultural production.
- The number and type of community facilities affected.

- The estimated loss of property and sales tax revenues to local jurisdictions.
- The availability of suitable replacement residences and business locations within the vicinity of displacements and relocations.

The Authority will comply with applicable federal and state laws and regulations, including the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, as amended. The act and its amendments provide guidance on how federal agencies, or agencies receiving federal financial assistance for a project, and will compensate for impacts on property owners or tenants who need to relocate if they are displaced by a project. The Authority will compensate all property owners or tenants in accordance with this act, which applies to all real property. All benefits and services will be provided equitably without regard to race, color, religion, age, national origins, and disability, as specified under Title VI of the Civil Rights Act of 1964. The Relocation Assistance Program was developed to help displaced individuals move with as little inconvenience as possible. All rights and services provided under Public Law 91-646, Uniform Relocation Assistance and Real Property Acquisition Act of 1970, will be strictly adhered to by the Authority to meet the needs of the handicapped, the elderly, and other special groups (e.g., non-English speaking people) to ensure that their relocation needs are met. Programs implemented to meet these needs include bilingual brochures on relocation services, interpreters, determination of individuals' needs and preferences through individual interviews, transportation services for those who do not own personal transportation or who cannot drive, information on other state and federal assistance programs, and counseling to minimize hardships.

Given the stage of project design at the time of this analysis, the identification of the individual circumstances surrounding each partial acquisition of parcels is not possible. To be conservative and to avoid underestimating displacements and relocations, all residences and businesses on partially acquired parcels, including those that may ultimately be temporary impacts—that is, impacts associated with construction that are not expected to last through project operation—are counted the same as full displacements and thus are considered to require relocation. This assumption allows for a worst-case assessment of potential property acquisition impacts. The final full and partial parcel acquisition decisions would ultimately be determined on a case-by-case basis during the land-acquisition phase of the project.

### 5.2.1 Methodology

Potential full parcel acquisition was identified if the project facilities would displace existing structures or take a substantial portion of the property that would affect its continued use. In the case of full acquisition, all residences and business facilities on the parcel are assumed displaced. Many parcels will be partially acquired for this project, and displacement and relocation of the residences and business facilities located on the parcel may not be necessary. However, this does not mean there are no potential impacts on these structures. For example, residences may not be displaced, but rather the residents temporarily moved if they are located close to construction area nuisances such as noise, dust, and traffic during the construction period. Also, businesses located near construction areas may close temporarily to allow for construction lay-down areas in cases where access in and out of the facility would be restricted and also where buildings would need to be modified to exist adjacent to the project. At this stage of project design, identifying the individual circumstances surrounding each of these potential occurrences on partial acquisitions is not possible. To be conservative in this analysis and to avoid underestimating displacements, all residences and business facilities on partially acquired parcels, including those that may ultimately be temporary impacts, are counted as displacements. This assumption allows for an initial understanding of potential property impacts. The final full and partial parcel acquisition decisions would ultimately be determined on a case-by-case basis during the land acquisition and real estate appraisal phase of the project.

Specific and more detailed methods are presented below for the analysis conducted on the displacement of residential, commercial and industrial, agricultural, and community facilities.

### A. RESIDENTIAL PROPERTIES

Residential properties, or portions thereof, that would need to be acquired were identified using aerial photographs, conceptual engineering plans and profiles, and right-of-way data showing potential parcel acquisitions. These acquisitions were compiled in the Microsoft Excel database containing details for each affected parcel, including the estimated number of residential units, land use, assessed value, size of parcel, and street address. The number of residential units on a parcel was approximated using the available county land use assessment and field observations. Field visits were conducted to obtain necessary additional information on properties. To identify displaced multifamily properties, the county zoning and land use codes of displaced residential properties were used.

As described above, potential full and partial acquisitions were tabulated for each parcel located in the path of the project alternatives. Potential full residential parcel acquisition was identified if the project facilities would displace existing residential structures or take a substantial portion of the front yard or other important residential amenities (e.g., the driveway or garage) that would affect the continued use of the property. While these definitions were used to estimate the impact of the project, full and partial acquisition decisions would ultimately be determined on a case-by-case basis during the land acquisition and real estate appraisal phase of the project, and therefore these definitions may change in the future. These full and partial designations are used here to provide an initial understanding of potential impacts.

The number of residents displaced was estimated for each community using the average household size available in 2000 Census data. Data on minority, low-income, elderly, disabled, female head of household and linguistically isolated residents in the vicinity of high concentrations of relocations was compared to data from the region, county, and city to identify sensitive populations. This Census data, although a decade old, was the best available to identify demographics in the districts of Fresno and Bakersfield, the areas with the highest potential for high concentrations of residential relocations.

Analysis was also conducted to determine the number of suitable replacement housing units within the communities of the displaced residents. Land acquisition would begin in 2012, so current vacancy rates were considered to be a good indicator of the availability of suitable replacement properties. Analysis involved a community search for vacant housing using the U.S. Department of Housing and Urban Development (HUD) Aggregated U.S. Postal Service (USPS) Administrative Data on Address Vacancies and a search of vacant housing properties in real estate listings (U.S. Department of Housing and Urban Development 2010; Zillow 2010; Primedia 2010). Locations of vacant residential properties were identified by Census tract and zip code along the project alignment and compared with the projected numbers of displaced residences in these areas to identify the likely availability of suitable replacement housing.

### B. COMMERCIAL AND INDUSTRIAL

Non-residential properties containing commercial and industrial businesses, or the portions thereof, that would need to be acquired were identified using aerial photographs, conceptual engineering plans and profiles, and right-of-way data showing potential parcel acquisitions. Even though businesses have been identified as temporarily displaced, marginal businesses may not survive a temporary relocations and would instead close. The resulting sales of these businesses would likely be compensated for by other businesses in the area, but temporary impacts would be magnified by potential business closures. County data on parcel characteristics were obtained to identify specific parcel information such as land use, assessed value, size of parcel, and street

address. These direct construction impacts were compiled in the Microsoft Excel database containing details for each affected parcel, including a count of the number of businesses and relevant business characteristics (i.e., type of business, number of employees, and annual sales). The number and type of businesses, as classified in the North American Industry Classification System (NAICS), on each parcel were identified using the Reference USA database, a service of InfoGroup. Field visits were conducted to obtain necessary additional information.

Potential full and partial acquisitions were tabulated for each parcel along each of the project alternatives. Potential full non-residential property acquisition was determined if the project would physically intrude on existing buildings, or remove enough of a portion of available use of the site (such as parking) so that the business would be unable to operate. The analysis for commercial and industrial business parcels included estimating the number, type and size (by number of employees and amount of annual sales) of businesses displaced. While these definitions were used to estimate the impact of the project, such full and partial acquisition decisions would ultimately be determined on a case by case basis during the land acquisition and real estate appraisal portion of the project and therefore may change in the future. These full and partial designations are used here to provide an initial understanding of potential impacts.

Analysis was also conducted to determine the number of suitable replacement properties within the communities of the displaced businesses. Land acquisition is scheduled to begin in 2012, so current vacancy rates are considered a good indicator of the likely availability of suitable replacement properties. Locations of vacant commercial and industrial properties were identified by Census tract and zip code along the project alignment and compared with the projected numbers of displaced businesses in these areas to identify the likely availability of suitable replacement properties. This involved a community search for vacant commercial and industrial properties in these Census tracts and zip codes using HUD Aggregated USPS Administrative Data on Address Vacancies and a search of vacant commercial and industrial properties in real estate listings (U.S. Department of Housing and Urban Development 2010; Loopnet 2010).

Additional real estate data were provided by a private commercial realtor in the area who was able to run professional-level queries of the Loopnet database (www.loopnet.com) of commercial properties. This information was used to determine current availability/vacancy of commercial real estate for the counties of Fresno, Kings, Tulare and Kern. For purposes of this analysis, all available data populated in July 2010 were extracted for the four counties. The data consisted of both sales and lease availability for the following types/classes of commercial property: office, warehouse, medical, retail, shopping center, industrial, agricultural, hotel/motel, church, restaurant, gas station, agricultural land, raw land, and automotive.

These current vacancies were then tallied for the various types of properties for each respective county and whether they were for sale or for lease. The data were further narrowed by focusing only on properties within the zip codes of areas through which the proposed HST project will pass. The zip codes used were as follows:

- Fresno: 93609, 93662, 93701, 93702, 93704, 93705, 93706, 93721, 93722, 93725, 93728, 93242.
- Kings: 93212 and 93230.
- Tulare: none needed as there are no projected commercial or industrial displacements in the county.
- Kern: 93250, 93263, 93280, 93301, 93304, 93305, 93306, 93307, 93308, 93309, 93312, 93314.

This vacancy information was transferred to the Microsoft Excel database and the numbers were combined to arrive at a total count. The resulting information was subsequently used in a gap

analysis to compare the availability of commercial property to the need for similar types of properties that would result from displacements and relocations.

To further refine the property data, the property types/classes were categorized by their respective NAICS codes. These NAICS codes were then grouped into five broader categories:

- Industrial.
- Commercial/Wholesale/Retail/Offices.
- Transportation and Warehousing.
- Automotive.
- Miscellaneous.

The available properties for each category were then aggregated and compared directly to the estimated displacements of similar properties, as determined in the gap analysis. The resulting data were used to determine gaps and/or surpluses of commercial real estate currently available in Fresno, Kings, and Kern counties.

#### C. AGRICULTURAL

Examination of agricultural businesses involved identifying the direct construction impacts associated with the number of split parcels as well as the number of parcels where agricultural facilities (such as, processing facilities, warehouses, barns, or silos) would be displaced. Split agricultural parcels—those parcels divided into two or more separate pieces by the project—represent potential impacts where farm units that are not rearranged to incorporate resulting splits logically could result in added operational expense (staff time, extra gasoline) associated with access to fields for irrigation, pesticide application, harvesting, and other farm equipment operations.

The count of parcels with displaced agricultural facilities provides an indication of impacts on agriculture in the region. These impacts are associated with temporarily losing the associated facility functions and the resulting direct impacts on farmers as well as the indirect impacts on the businesses involved in processing and transporting the agricultural products dependent on those facilities. The number of split parcels and displacements of agricultural facilities were identified using aerial photographs, conceptual engineering plans and profiles, and site visits.

#### D. COMMUNITY FACILITIES

Preliminary impacts were identified through intensive review of aerial photographs and GIS layers that showed the spatial relationship between the proposed action and alternatives and existing community facilities. Assessor's parcel data and site inspections were used to identify those parcels containing community facilities, and other databases (e.g., Reference USA) were used to identify the number and type of community facilities that may be displaced or disrupted. The various alternative alignments were considered in relationship to locations of key community facilities and services to determine potential impacts due to relocating community or public service facilities and services.

### 5.2.2 Residential Displacements

This section presents the residential unit displacements and evaluates the need for permanent and temporary relocation of residents. It also evaluates the potential relocation capacity (i.e., the available, comparable residential space) within each city and county and the relevant socioeconomic impacts of those relocations.

## A. NO PROJECT ALTERNATIVE

It is expected that the projects that would constitute the No Project Alternative would require acquisition of land and relocation of residents. It is also expected that the planned projects that would constitute the No Project Alternative would undergo project-specific environmental review, as appropriate, and include feasible mitigation measures to avoid or substantially reduce potential impacts and adequately compensate all who are relocated.

## B. ALTERNATIVE ALIGNMENTS

### BNSF Alternative Alignment

#### *Residential Displacements*

In total along the entire BNSF Alternative, an estimated 374 residential units would be displaced (see Table 5-9). This correlates to an estimated 1,190 relocated residents. The majority of these unit displacements are in the Bakersfield area where 239 households divided among Bakersfield's three districts would be displaced: the Central district, with 1 units and 3 residents; the Northeast district with 116 units and 355 residents; and the Northwest district with 122 units and 373 residents.

The remaining displacements along the BNSF Alternative are primarily single-family residences in unincorporated portions of the four counties and the City of Corcoran, specifically 45 units and 150 residents in unincorporated Kings County, 50 units and 179 residents in Corcoran, 20 units and 63 residents in unincorporated Fresno County, 3 units and 10 residents in unincorporated Tulare County, and 12 units and 38 residents in unincorporated Kern County. The other urban areas have a small number of residential displacements and relocations: 3 units and 11 residents in the city of Shafter and 2 units with 8 residents in Wasco. The cities of Fresno and Hanford would have no residential displacements.

**Table 5-9**
Residential Displacement under the BNSF Alternative

| Location | Residential Units Displaced | Estimated Residents to be Relocated |
|---|---|---|
| **Urban Areas** | | |
| Fresno Central | 0 | 0 |
| Fresno Edison | 0 | 0 |
| Fresno Roosevelt | 0 | 0 |
| Hanford | 0 | 0 |
| Corcoran | 50 | 179 |
| Wasco | 2 | 8 |
| Shafter | 3 | 11 |
| Bakersfield Northwest | 122 | 373 |
| Bakersfield Central | 1 | 3 |
| Bakersfield Northeast | 116 | 355 |

**Table 5-9**
Residential Displacement under the BNSF Alternative

| Location | Residential Units Displaced | Estimated Residents to be Relocated |
|---|---|---|
| **Rural Areas** | | |
| Unincorporated Fresno County | 20 | 63 |
| Unincorporated Kings County | 45 | 150 |
| Unincorporated Tulare County | 3 | 10 |
| Unincorporated Kern County | 12 | 38 |
| **Regional Total** | **374** | **1,190** |
| Source: Authority and FRA 2010b. | | |

An examination of suitable replacement housing alternatives finds that a sufficient number of comparable replacement residences are currently available in all areas with relocations (except for large-lot rural residential developments, as noted in this section below and also above in Section 5.1.1 Disruption or Division of Existing Communities). Table 5-10 shows the gap analysis of single-family residential properties that were available for relocation in July 2010.

**Table 5-10**
Gap Analysis of Single-Family Residential Displacements in the BNSF Alternative Alignment

| Location | Residential Units Displaced | Residential Units Available | Size of Surplus |
|---|---|---|---|
| **Urban Areas** | | | |
| Fresno Central | 0 | 66 | 66 |
| Fresno Edison | 0 | 118 | 118 |
| Fresno Roosevelt | 0 | 657 | 657 |
| Hanford | 0 | 417 | 417 |
| Corcoran | 50 | 75 | 25 |
| Wasco | 2 | 108 | 106 |
| Shafter | 3 | 66 | 63 |
| Bakersfield Northwest | 122 | 500 | 378 |
| Bakersfield Central | 1 | 520 | 519 |
| Bakersfield Northeast | 116 | 945 | 829 |

**Table 5-10**
Gap Analysis of Single-Family Residential Displacements in the BNSF Alternative Alignment

| Location | Residential Units Displaced | Residential Units Available | Size of Surplus |
|---|---|---|---|
| **Rural Areas** | | | |
| Unincorporated Fresno County | 20 | 342 | 322 |
| Unincorporated Kings County | 45 | 589 | 544 |
| Unincorporated Tulare County | 3 | 3,302 | 3,299 |
| Unincorporated Kern County | 12 | 2,044 | 2,032 |
| **Regional Total** | **374** | **11,589** | **9,258** |

### *Replacement Housing*

About 95% of the total residential unit displacements under the BNSF Alternative Alignment would occur in unincorporated Fresno and Kings counties, the city of Corcoran, and communities in the Northwest and Northeast districts of Bakersfield. All of these areas have current vacancies in excess of the estimated displacements. Vacant residential properties in overlapping zip codes along the project alignment in unincorporated Fresno and Kings counties number 342 and 589, respectively. These vacant properties would be more than sufficient for the 20 and 45 potential displacements, respectively, in these locations, and these vacant residential properties do not include consideration of existing adjacent vacant land where current units could be moved. In Corcoran, 75 vacant residential properties are available for the 50 that would be displaced. At present in the Northeast district of Bakersfield, 945 single-family homes are available for sale where 116 units would be displaced (an 8-to-1 vacancy-to-displacement ratio). Thus, the existing supply of vacant residences would be far greater than necessary to house the relocated residents. Similarly, the Northwest district of Bakersfield currently has 500 vacancies, which exceeds the 122 units that would be displaced by more than a 4-to-1 ratio.

An examination of a second data source—the HUD Aggregated USPS Administrative Data on Address Vacancies—in the heavily affected areas of Corcoran and Bakersfield confirms the above findings that current residential vacancies would be sufficient to accommodate relocated residents. In Corcoran, 1 out of every 20 residences is vacant. In Bakersfield, approximately 1 out of every 18 residences is currently vacant in the Northeast district and 1 out of 70 residences is vacant in the Northwest district. These ratios equate to 252 vacant residences in Corcoran, 4,672 vacant units in the Northeast district of Bakersfield, and 481 vacant units in the Northwest district of Bakersfield. In all cases, the number of available units far exceeds the number of residential displacements expected from the project. Although the postal data do not indicate how many of these vacant units are actually available for sale or rent, they do indicate that the vacancy rate for residential properties is currently high in the study area.

The values of these potential replacement housing units are comparable to the values of the displaced properties. This comparison of cost is a good measure of the suitability of replacement housing because it is a function of important attributes, such as size, quality, and neighborhood amenities. This is particularly important in Bakersfield given the 239 displaced residences across all value categories. The displaced residential units in the Northeast district of Bakersfield have an average value of around $70,000. More specifically, 3 units have values greater than $200,000,

15 units have values between $100,000 and $200,000, and 98 units have values less than $100,000. The displaced properties in the Northwest district of Bakersfield have an average value of $160,000; 24 units have values greater than $200,000, 75 units have values between $100,000 and $200,000, and 23 units have values below $100,000. Data from the 2009 U.S. Census American Community Survey show that vacant housing values in Bakersfield are evenly distributed between all three of these price classes, with about 1,100 units in each class (U.S. Census Bureau, American Community Survey 2009). Also, a review of current vacant home prices in the Northeast and Northwest districts reveals a price distribution that is similar to that of the displaced properties in each district (Zillow 2010).

The multi-family displacements in the heavily affected Bakersfield districts would be 53 units displaced in the Northeast district and 25 units displaced in the Northwest district. Under the assumption that a large percentage of those living in multi-family housing would not purchase a home (i.e., would continue to rent), comparable rental units in these communities were quantified. Available houses and apartments for rent in the Northwest district (34 units) are sufficient to house the relocated potential renters in these communities. However, fewer units are available in the Northeast district (27 units) than the potential number of renters relocated. Also, renters housed in single-family residences could add to this need for rental units in all three districts in Bakersfield. Even so, given the large numbers of single-family residential vacancies, it is not likely that new housing would need to be constructed to house these individuals (given the large numbers of vacancies in homes detailed above). The relocation plan for residents in the Northeast district will note the possibility that rental units available in the immediate area may not be adequate and as a result, it will be important to allow for sufficient lead time to allow for identification of suitable rental properties and provision of housing of last resort may be required for low-income renters within the Northeast district.

In sum, although the BNSF Alternative would displace considerable numbers of existing housing units and relocate many people, adequate replacement housing appears to be available in the area. Residential displacements in the Northwest and Northeast districts of Bakersfield total 238 units, housing an estimated 728 individuals. Although sufficient replacement housing is available within these communities, the number of displacements is considerable and represents about 70% of all residential displacements along the entire alignment. Although residential displacements in Corcoran and unincorporated Fresno and Kings counties are fewer in number, they are still considerable and represent about 12%, 5%, and 12%, respectively of all residential displacements along the alignment. Because the majority of displacements in unincorporated counties are likely to be single-family residential households on working agricultural lands, it may be difficult to find comparable replacements, and the relocation of existing housing to nearby land may take time. Relocations may be especially difficult for rural residential subdivisions such as Ponderosa Road northeast of Hanford and the Newark Avenue area northeast of Corcoran, where residents enjoy a unique blend of amenities (spacious lots, city services, a country setting yet close to town). Few vacant, comparable, developed rural residential homesteads may be available for use as relocation resources. If so, it may be necessary to consider constructing housing of last resort, or even duplicating the disrupted residential areas elsewhere in the vicinity. The relocation plan that the Authority will develop will consider these relevant impacts and prepare for them.

Residential displacements in the other communities along the BNSF Alternative are few in number and any effect on the region or any individual county or city would be minor. However, the composition of the relocated population must be considered because the Uniform Relocation Act and other policies and regulations require efforts to avoid disproportionate impacts on any given population group, particularly those considered to live in “environmental justice” communities. The demographics, income, ownership rates, and other relevant data on the communities in the project study area were presented in detail in Chapter 4 (Affected Environment).

Two manufactured housing— or mobile home— park communities are affected by the BNSF Alternative. One of these parks is located within the Northwest District of Bakersfield (a total of 23 units) and one is located in the city of Corcoran (20 units displaced). The special characteristics of mobile home parks can make it difficult to relocate residents within the same vicinity. Therefore, special consideration will need to be included in the project relocation plan to address the unique needs of these residents.

The sections on environmental justice and sensitive populations in this technical report take a closer, more detailed look at impacts on minority and low-income (EJ) populations and sensitive populations (the elderly, disabled, female heads of households, and linguistically isolated) in the communities through which the alternative alignments pass, particularly in the heavily affected Bakersfield districts, because those communities are where the overwhelming majority of residential displacements would take place.

In general, the residents of parcels that would be displaced do not differ from the general populations of the Central Valley. For example, minority and low-income populations tend to be clustered in the urban areas, whereas displaced residents in rural areas tend to be non-minority, with somewhat higher incomes. The exception to this general rule is the Northwest district of Bakersfield, which is an area of large, newer, high-priced, single-family homes that are owned and occupied by generally higher-income people.

The BNSF Alternative would cause the displacement within the Fresno Roosevelt district of an estimated 250 beds in the headquarters building of the Fresno Rescue Mission. As described in Section 5.1.1 (Disruption or Division of Existing Communities), this facility provides meals and services, including an overnight shelter, to the homeless community in the city. The social impact of displacing these transient residents would be large and might require relocation or reestablishment of the facility elsewhere. From the perspective of property displacements, suitable existing replacement structures appear to be available within the community, as many vacant buildings are present in the area of the facility.[25] Also, if it is determined that a new building should be constructed, it would be a single structure and is not likely to place pressure on the availability of existing housing units, affect existing community housing objectives or plans, or require new, previously unplanned housing to be built. The project would not displace substantial numbers of existing housing or people along this alternative alignment and thus would not require the construction of replacement housing elsewhere.

Table 5-11 contains a summary of the relative changes in residential displacements that compares each of the alternative alignments to the BNSF Alternative. Table 5-12 contains a more detailed comparison of the residential displacements in those portions of the BNSF Alternative that would be replaced by a corresponding alternative alignment.

[25] As noted in Section 5.1.1, the executive director of the Fresno Rescue Mission has indicated that it may be possible to rebuild the headquarters building on adjacent land owned by the Rescue Mission.

**Table 5-11**
Relative Change in Residential Displacement

| Residential Displacements | BNSF Alternative | Relative Change to the BNSF Alternative Alignment | | | | |
|---|---|---|---|---|---|---|
| | | Corcoran Elevated | Corcoran Bypass | Allensworth Bypass | Wasco-Shafter Bypass | Bakersfield South |
| Total units | 374 | -50 | -29 | -5 | -8 | -11 |
| Total residents | 1,190 | -179 | -109 | -16 | -27 | -33 |

**Table 5-12**
Total Changes in Residential Displacement along Corresponding Portions of the BNSF Alternative

| Alternative Alignment | Residential Units Displaced in Alternative Alignment | Residential Units Displaced in Corresponding Portion of BNSF Alternative | Difference |
|---|---|---|---|
| Corcoran Elevated | 0 | 50 | -50 |
| Corcoran Bypass | 32 | 61 | -29 |
| Allensworth Bypass | 0 | 5 | -5 |
| Wasco-Shafter Bypass | 5 | 13 | -8 |
| Bakersfield South | 228 | 239 | -11 |

### Corcoran Elevated Alternative Alignment

The Corcoran Elevated Alternative would not displace any residences, thus resulting in 56 fewer displacements than the corresponding portion of the BNSF Alternative. Because the alternative would not displace substantial numbers of existing housing units or people, the alternative would not require the construction of replacement housing elsewhere.

### Corcoran Bypass Alternative Alignment

The Corcoran Bypass Alternative would displace a total of 32 residences in the city of Corcoran and in the surrounding unincorporated areas of Kings and Tulare counties. The corresponding portion of the BNSF Alternative has 61 residential displacements. Therefore, if the Corcoran Bypass Alternative is selected instead of the BNSF Alternative, 29 fewer residences would be displaced when compared to the BNSF Alternative. The Corcoran Bypass displacements are divided among unincorporated Kings County (28 units), unincorporated Tulare County (1 unit), and the city of Corcoran (3 units).

A sufficient number of suitable housing alternatives are available in 2010 for the relocated residents in this area. Real estate listings of homes for sale show that in unincorporated Kings County surrounding the city and in the city of Corcoran (in zip code 93212) there are 158

vacancies[26] in excess of the 32 total residential displacements that would result from this alternative. Because this alternative would not displace substantial numbers of existing housing units or people, the alternative would not require the construction of replacement housing elsewhere.

**Allensworth Bypass Alternative Alignment**

The Allensworth Bypass Alternative would not displace any residences. The corresponding portion of the BNSF Alternative would displace 5 residences and relocate 16 residents.

**Wasco-Shafter Bypass Alternative Alignment**

The Wasco-Shafter Bypass Alternative would displace 5 residences in unincorporated Kern County. The corresponding portion of the BNSF Alternative would displace 13 residences. The residential displacements resulting from the Wasco-Shafter Bypass would relocate 17 residents, 27 fewer than the 44 relocated by the corresponding portion of the BNSF Alternative.

The cities of Wasco and Shafter have 174 vacant homes that are available to meet the housing needs of these 5 displaced residences. Because this alternative would not displace substantial numbers of existing housing units or people, this alternative would not require the construction of replacement housing elsewhere.

**Bakersfield South Alternative Alignment**

The Bakersfield South Alternative would displace 228 residences in the city of Bakersfield. The corresponding portion of the BNSF Alternative would displace 239 residences. Displacements resulting from the Bakersfield South Alternative would relocate 698 residents, whereas displacements along the corresponding portion of the BNSF Alternative would relocate 731 residents.

The Bakersfield South Alternative would displace 131 units and 401 residents in the Northeast district, and 158 units and 483 residents in the Northwest district. These totals are similar to those of the corresponding portion of the BNSF Alternative.

Sufficient numbers of alternative residences are available in the area. The Northeast district has 945 units available for sale, and the Northwest district has 500 units. As noted in the discussion of displacements in the BNSF Alternative Alignment, replacement rental units may be scarce, but no new residential units are likely to be constructed because both districts have sufficient replacement housing for the estimated number of displacements. Because this alternative would not displace substantial numbers of existing housing units or people, this alternative would not require the construction of replacement housing elsewhere.

Like the BNSF Alternative, the residential displacements along Bakersfield South Alternative in the Northwest and Northeast districts of Bakersfield would be considerable.

[26] Note that since the Bypass is located outside of Corcoran these vacancies include housing in unincorporated Kings County within the vicinity of Corcoran. The vacancy count for the BNSF Alternative includes only residences in Corcoran.

## C. STATION ALTERNATIVES

### Fresno Station–Mariposa Alternative

The Fresno Station–Mariposa Alternative would not displace any residential units and therefore would not require the construction of replacement housing elsewhere. Thus, this station alternative would have no impact.

### Fresno Station–Kern Alternative

The Fresno Station–Kern Alternative would not displace any residential units and therefore would not require the construction of replacement housing elsewhere. Thus, this station alternative would have no impact.

### Kings/Tulare Regional Station

The Kings/Tulare Regional Station would not displace any residential units and therefore would not require the construction of replacement housing elsewhere. Thus, this station alternative would have no impact.

### Bakersfield Station–North Alternative

The Bakersfield Station–North Alternative would displace 16 residential units in Bakersfield's Central district, which in 2010 had 520 vacant residential units to accommodate these 16 displaced households. Because the Bakersfield Station–North Alternative would not displace substantial numbers of existing housing units or people, this alternative would not require the construction of a substantial amount of replacement housing elsewhere. Thus, the impact of this station alternative would be minor.

### Bakersfield Station–South Alternative

The Bakersfield Station–South Alternative would not displace any residential units and therefore would not require the construction of replacement housing elsewhere. Thus, this station alternative would have no impact.

## D. HMF SITE ALTERNATIVES

### Fresno Works–Fresno HMF Site

Although the Fresno Works–Fresno HMF site would displace 31 residential units in unincorporated Fresno County south of the Fresno city limits, 342 vacant residential units are available along the alignment in unincorporated Fresno County to accommodate these displacements. Because this HMF site alternative would not displace substantial numbers of existing housing units or people, this alternative would not require the construction of a substantial amount of replacement housing elsewhere. Thus, the impact of this HMF site alternative would be minor.

### Kings County–Hanford HMF Site

The Kings County–Hanford HMF site would displace 1 residential unit. Because this HMF site alternative would not displace substantial numbers of existing housing units or people, this alternative would not require the construction of a substantial amount of replacement housing elsewhere. Thus, the impact of this HMF site alternative would be minor.

**Kern Council of Governments–Wasco HMF Site**

Although the Kern Council of Governments–Wasco HMF site would displace 1 residential unit in Wasco, over 100 vacant residential units are available in the city to accommodate this displacement. Because this HMF site alternative would not displace substantial numbers of existing housing units or people, this alternative would not require the construction of a substantial amount of replacement housing elsewhere. Thus, the impact of this site alternative would be small.

**Kern Council of Governments–Shafter East HMF Site**

The Kern Council of Governments–Shafter East HMF site would not displace any residential units and would not necessitate the construction of replacement housing elsewhere. Thus, this HMF alternative site would have no impact.

**Kern Council of Governments–Shafter West HMF Site**

The Kern Council of Governments–Shafter West HMF site would displace 5 residential units, but would not require the construction of a substantial amount of replacement housing elsewhere. Thus, this HMF alternative site would have a minor impact.

### 5.2.3 Commercial and Industrial Business Relocations

#### A. NO PROJECT ALTERNATIVE

It is expected that the projects that would constitute the No Project Alternative would require acquisition of land and relocation of businesses. It is also expected that the planned projects that would constitute the No Project Alternative would undergo project-specific environmental review, as appropriate, and include feasible mitigation measures to avoid or substantially reduce potential impacts and adequately compensate all who are relocated.

#### B. ALTERNATIVE ALIGNMENTS

**BNSF Alternative Alignment**

*Business Relocations*

In total along the entire BNSF Alternative, an estimated 380 commercial and industrial businesses would be relocated during the construction of the project. These relocated businesses would correspond to an estimated 2,678 relocated employees in total. Bakersfield businesses, which account for 282 of the 380 total business relocations, would be divided among the city's Central district (99 businesses and an estimated 702 employees), Northeast district (173 businesses and 485 employees), and Northwest district (10 businesses and 165 employees).

The remaining commercial and industrial relocations along the BNSF Alternative would occur primarily in the city of Fresno (37 businesses and 775 employees), unincorporated Fresno County (24 businesses and 337 employees), and Corcoran (19 businesses and 79 employees). The cities of Wasco (9 businesses and 25 employees) and Shafter (6 businesses and 21 employees), unincorporated Kern County (2 businesses and 51 employees), and unincorporated Kings County (1 business and 40 employees) would also have relocations. No business relocations would occur in the city of Hanford or unincorporated Tulare County.

Table 5-13 contains a breakdown of the total commercial and industrial business relocations along the BNSF Alternative.

**Table 5-13**
Commercial and Industrial Relocations under the BNSF Alternative Alignment

| Location | Businesses Relocated | Estimated Employees Relocated |
|---|---|---|
| **Urban Areas** | | |
| Fresno Central | 1 | 125 |
| Fresno Edison | 35 | 610 |
| Fresno Roosevelt | 1 | 40 |
| Hanford | 0 | 0 |
| Corcoran | 19 | 79 |
| Wasco | 9 | 25 |
| Shafter | 6 | 21 |
| Bakersfield Northwest | 10 | 165 |
| Bakersfield Central | 99 | 702 |
| Bakersfield Northeast | 173 | 485 |
| **Rural Areas** | | |
| Unincorporated Fresno County | 24 | 337 |
| Unincorporated Kings County | 1 | 40 |
| Unincorporated Tulare County | 0 | 0 |
| Unincorporated Kern County | 2 | 51 |
| **Regional Total** | **380** | **2,678** |
| Source: Authority and FRA 2010. | | |

Examination of the NAICS classification of relocated commercial and industrial businesses reveals that the types of businesses being relocated along the BNSF Alternative include automotive repair; wholesale trade; professional, scientific and technical services; machinery and equipment services; accommodation and food services; construction, transportation and warehousing; health care and social assistance; administrative and support; and waste management and remediation services. The highest number of business and employee relocations would occur in the Edison district in the city of Fresno, unincorporated Fresno County, Corcoran, and the Central and Northeast districts in Bakersfield.

### *Replacement Business Locations*

An assessment was conducted to determine the suitability of available properties as relocation sites for these businesses. The suitability of a property was based on the NAICS codes of the businesses being relocated and the description, configuration, and zoning of the properties listed as available. The NAICS codes of the businesses being relocated were shortened to 2 digits and then grouped into similar functional requirements. The exception to this method was automotive services, where 3-digit NAICS codes were used to distinguish these specific and extremely common business types in the study area from others that began with “81-.” Table 5-14 shows

the available commercial facilities within the study area that were evaluated and determined to be suitable relocation sites for these businesses.

**Table 5-14**
Number of Available Vacant Business Properties by County and Most Common NAICS Code

| Description and NAICS Codes | Fresno | Kings | Kern |
|---|---|---|---|
| Industrial (construction and manufacturing): 23, 31, 32, 33 | 64 | 10 | 46 |
| Commercial / Wholesale / Retail / Offices : 42, 44, 53, 54 | 174 | 40 | 363 |
| Transportation and Warehousing: 45, 48 | 114 | 6 | 111 |
| Automotive Repair and Services: 811 | 5 | 0 | 9 |
| Accommodation, food service, other non-automotive services: other 81 codes | 15 | 1 | 67 |

NAICS = North American Industry Classification System

Source: Analysis of information collected through Reference USA 2010, Loopnet 2010, county parcel data, aerial images, and site visits.

Examination of suitable replacement locations for these businesses finds that a sufficient number of alternative sites are available in July 2010 for the retail, commercial, office, industrial, transportation, and warehousing sectors. However, there are a larger number of businesses (58) associated with automotive repair, service, or sales than there are properties available (14). Relocating these automotive businesses could therefore require modification of the equipment or configuration of other properties to meet needed specifications. Table 5-15 shows the results of the gap analysis—comparison of needed versus available—of the total number of industrial and commercial properties within the study area.

**Table 5-15**
Gap Analysis of Business Relocations in the BNSF Alternative Alignment

| Counties | Businesses Relocated | Business Units Available | Size of Surplus |
|---|---|---|---|
| Fresno County | 61 | 372 | 311 |
| Kings County | 20 | 57 | 37 |
| Tulare County | 0 | 0 | 0 |
| Kern County | 299[a] | 596 | 297 |
| **Regional Total** | **380** | **1,025** | **645** |

Source: Analysis of information collected through Reference USA 2010, Loopnet 2010, county parcel data, aerial images, and site visits.

[a] Note that this total for Kern County includes businesses associated with the Mercado Latino Tianguis, a single structure that houses an estimated 118 small businesses.

This analysis examined the availability of these types of business locations within the zip codes that fall within the study area in the communities. The high concentrations of businesses relocated in Kern County in the Bakersfield area and in the cities of Wasco and Shafter are

primarily retail, commercial, and office space (297 businesses relocated).[27] Examination of current commercial real estate for sale and for lease in these locations identified 363 units of this type available in July 2010. Vacancies in industrial as well as transportation and warehousing properties total 46 and 111 units, respectively. By comparison, 12 and 7 units, respectively, of each type would be displaced by the BNSF Alternative.

In the city of Fresno and unincorporated Fresno County, commercial, retail, and office space vacancies total 174 units, which is more than the 27 businesses of these types relocated by the BNSF Alternative. Industrial as well as transportation and warehousing vacancies total 64 and 114 units, respectively, again more than the 11 and 4 businesses of each class that the BNSF Alternative would relocate.

Within the city of Corcoran, 19 business relocations would occur across the industrial, commercial, wholesale, retail, and automotive and transportation sectors. Current vacancies in Corcoran are minimal, and there is a deficit of all types of required business properties in the city. Therefore, business relocation in Corcoran will be an important consideration in the relocation plan.

The HUD Aggregated USPS Administrative Data on Address Vacancies supports these findings, showing overall current business vacancies in the Central and Northeast districts of Bakersfield to be 17% and 16%, respectively. Based on these percentages, one out of every six business locations in these two districts is vacant, which equates to 2,112 and 834 vacant business properties, respectively, in these districts). The overall vacancy rate in Fresno's Edison district is approximately 17% and one out of every six business sites is vacant (totaling 200 vacant business properties).

Automotive is an important class of businesses relocated in both Kern and Fresno counties, and automotive businesses require specialized facilities, given the services they perform. Based on an examination of alternative automotive-specific locations, current vacancies specifically tailored for this sector are fewer than the projected relocations. In Kern County, 46 automotive businesses would be relocated and only 9 current vacancies are identified. In Fresno County, 8 automotive businesses would be relocated and only 5 units are vacant in July 2010. Given the relative scarcity of these specialized replacement properties, special consideration would be given to automotive businesses during the acquisition and relocation process.

Commercial and industrial business relocations in the Central and Northeast districts of Bakersfield total 272, employing an estimated 1,187 individuals. Although there is sufficient replacement space located within these communities, this is a considerable number of relocations and represents about 70% of all commercial and industrial relocations along the entire alignment. Given the high number of relocations and the fact that the BNSF Alternative would divide these communities and important community facilities, the impact of these relocations on business operations would be substantial.

Commercial and industrial relocations in unincorporated Fresno County, the Fresno Edison district, and Corcoran are smaller in number but remain considerable and represent 6%, 9%, and 6%, respectively, of all commercial and industrial relocations along the alignment. The effect on business operations within these communities would be moderate.

Commercial and industrial relocations in the other communities along the BNSF Alternative are small in number and would have a minor effect.

[27] Note that this total includes the 118 small retail businesses associated with the Mercado Latino Tianguis, a single structure.

Table 5-16 contains a summary of the relative changes in commercial and industrial business relocations and compares each of the alternative alignments to the BNSF Alternative. Table 5-17 contains a more detailed comparison of the relocations in those portions of the BNSF Alternative that could be replaced by a corresponding alternative alignment.

**Table 5-16**
Relative Change in Commercial and Industrial Relocations

| Commercial and Industrial Business Relocations | BNSF Alternative | Relative Change to the BNSF Alternative Alignment | | | | |
|---|---|---|---|---|---|---|
| | | Corcoran Elevated | Corcoran Bypass | Allensworth Bypass | Wasco-Shafter Bypass | Bakersfield South |
| Total units | 380 | -18 | -19 | 0 | -16 | -172[a] |
| Total employees | 2,678 | -76 | -79 | 0 | -87 | -552 |

[a] Note that this difference includes businesses associated with the Mercado Latino Tianguis, which houses an estimated 118 small businesses. The Mercado Latino Tianguis is not affected by the Bakersfield South Alternative.

**Table 5-17**
Changes in Commercial and Industrial Relocations along Parallel Alignment Portions

| Alternative Alignment Name | Business Relocations in Alternative Alignment | Business Relocations in Corresponding Portion of BNSF Alternative Alignment | Difference |
|---|---|---|---|
| Corcoran Elevated | 1 | 19 | -18 |
| Corcoran Bypass | 0 | 19 | -19 |
| Allensworth Bypass | 0 | 0 | 0 |
| Wasco-Shafter Bypass | 2 | 18 | -16 |
| Bakersfield South | 109 | 281 | -172 |

### Corcoran Elevated Alternative Alignment

One commercial and industrial business would be relocated along the Corcoran Elevated Alternative, unlike the corresponding portion of the BNSF Alternative, where 19 businesses and 79 employees would be relocated. This alternative would have no effect on business operations.

### Corcoran Bypass Alternative Alignment

No commercial and industrial businesses would be relocated along the Corcoran Bypass Alternative, unlike the corresponding portion of the BNSF Alternative where 19 businesses and 79 employees would be relocated. This alternative would have no effect on business operations.

### Allensworth Bypass Alternative Alignment

No commercial and industrial businesses would be relocated along the Allensworth Bypass Alternative. Selection of this alternative over the corresponding portion of the BNSF Alternative would therefore not change the number of businesses or employees relocated and would have no impact on business operations.

### Wasco-Shafter Bypass Alternative Alignment

Two commercial and industrial businesses would be relocated along the Wasco-Shafter Bypass Alternative with an estimated 18 employees. The corresponding portion of the BNSF Alternative would relocate 18 businesses and 105 employees. This alternative would have less of an impact on commercial and industrial business operations than would the BNSF Alternative.

### Bakersfield South Alternative Alignment

The Bakersfield South Alternative would relocate an estimated 109 commercial and industrial businesses and an estimated 792 employees, and the corresponding portion of the BNSF Alternative would relocate 281 businesses and 1,344 employees. The Bakersfield South commercial and industrial business relocations would be divided as follows among the city's districts:

- The Central district would have 55 business and 435 employee relocations,
- The Northeast district would have 48 business and 214 employee relocations.
- The Northwest district would have 6 business and 143 employee relocations.

Although a considerable number of commercial and industrial businesses are relocated by the Bakersfield South Alternative, the examination of suitable alternatives for these businesses found that a sufficient number of alternative sites are available in 2010 for those in the retail, commercial, office, industrial, transportation, and warehousing sectors, which is similar to the analysis for the corresponding portion of the BNSF Alternative. As with the BNSF Alternative, however, relocations in the automotive sector may have difficulty finding existing suitable locations.

Although the total number of commercial and industrial business relocations in the Central and Northeast districts of Bakersfield would be much less under the Bakersfield South Alternative compared to the BNSF Alternative, these totals are still considerable.

## C. STATION ALTERNATIVES

### Fresno Station–Mariposa Alternative

The Fresno Station–Mariposa Alternative would relocate 5 commercial and industrial businesses with an estimated 47 employees in the city of Fresno. As with the BNSF Alternative, sufficient numbers of suitable alternative business sites are available in the city of Fresno and unincorporated Fresno County for the businesses in every sector except for the automotive sector. Given the number of units and employees displaced in this small area, the impact on business operations would be moderate.

### Fresno Station–Kern Alternative

The Fresno Station–Kern Alternative would relocate 3 commercial and industrial businesses with an estimated 68 employees in the city of Fresno. As with the BNSF Alternative, sufficient numbers of suitable alternative business sites are available in the city of Fresno and unincorporated Fresno County for the businesses in every sector except for the automotive sector. Given the number of units and employees displaced in this small area, the impact on business operations would be moderate.

### Kings/Tulare Regional Station

The optional Kings/Tulare Regional Station would not relocate any commercial or industrial businesses and therefore would have no impact on business operations.

### Bakersfield Station–North Alternative

The Bakersfield Station–North Alternative would relocate an estimated 17 commercial and industrial businesses with an estimated 158 employees in the Bakersfield's Central district. Examination of suitable alternatives for these businesses had the same result as the examination of the surrounding Bakersfield area for relocations along the BNSF Alternative. Although the Bakersfield Station–North Alternative would affect a substantial number of businesses, a sufficient number of alternative sites were available in 2010 for businesses in every sector except for the automotive sector. Given the number of units and employees relocated in this small area, the impact on business operations would be moderate.

### Bakersfield Station–South Alternative

The Bakersfield Station–South Alternative would relocate an estimated 4 commercial and industrial businesses with an estimated 104 employees in Bakersfield's Central district. Examination of suitable alternatives for these businesses had the same result as the examination of the surrounding Bakersfield area for relocations along the BNSF Alternative. A sufficient number of alternative sites are available in 2010 for the businesses in all but the automotive sector. Given the number of units and employees displaced in this small area, the impact on business operations would be moderate.

## D. HEAVY MAINTENANCE FACILITY SITE ALTERNATIVES

### Fresno Works–Fresno HMF Site

This proposed HMF site would relocate 9 commercial and industrial businesses with an estimated 70 employees in unincorporated Fresno County. Examination of suitable alternatives for these commercial and industrial businesses resulted in the same findings as the examination previously discussed for the surrounding Edison district and unincorporated Fresno County locations under the BNSF Alternative. Again, although a sufficient number of alternative sites are available in 2010 for the affected businesses, those businesses in the automotive sector may have difficulty finding existing suitable locations. Given the number of units and employees relocated in this small area, the impact on business operations would be substantial.

### Kings County–Hanford HMF Site

This proposed HMF site would not relocate any commercial or industrial businesses. There would be no impact on business operations.

### Kern Council of Governments–Wasco HMF Site

This proposed HMF site would relocate one commercial and industrial business with an estimated eight employees in the city of Wasco. Examination of suitable alternatives for these displaced commercial and industrial businesses in the surrounding area found that a sufficient number of alternative sites are available in 2010 for all displaced businesses. Given the number of units and employees displaced in this small area, the impact on business operations would be moderate.

### Kern Council of Governments–Shafter East HMF Site

This proposed HMF site would not relocate any commercial or industrial businesses. There would be no impact on business operations.

### Kern Council of Governments–Shafter West HMF Site

This proposed HMF site would relocate two commercial or industrial businesses with an estimated two employees. There would be a minor impact on business operations.

### 5.2.4 Agricultural Displacements

This section presents the agricultural displacements and evaluates the need for suitable relocation properties.

#### A. NO PROJECT ALTERNATIVE

It is expected that the projects that would constitute the No Project Alternative would require acquisition of land and relocation of agricultural operations. It is also expected that the planned projects that would constitute the No Project Alternative would undergo project-specific environmental review, as appropriate and include feasible mitigation measures to avoid or substantially reduce potential impacts and adequately compensate all who are relocated.

#### B. ALTERNATIVE ALIGNMENTS

**Split Parcels and Facility Displacements**

*BNSF Alternative Alignment*

In total along the entire BNSF Alternative, an estimated 127 agricultural parcels would be split, and 7 parcels contain agricultural facilities that would be displaced. In Kings County, 42 agricultural parcels are split by the BNSF Alternative. Split parcels also occur in unincorporated Kern County (32 parcels), Fresno County (30 split parcels), and Tulare County (23 split parcels). If farm units are not rearranged to incorporate these split parcels, additional operational expenses (e.g., labor hours, extra gasoline) associated with access to and movement within fields for irrigation, pesticide application, harvesting and other farm equipment operations could result.

Displaced agricultural facilities occur in Kern County (3 parcels), Kings County (2 parcels), and Fresno and Tulare Counties (each with 1 parcel). The temporary business interruption from the relocation of these facilities could result in temporary increases in business costs and lost revenues. Table 5-18 contains a breakdown of these agricultural impacts.

**Table 5-18**
Agricultural Business Impacts under the BNSF Alternative Alignment

| Location | Split Agricultural Parcels | Displaced Facilities (Parcels) |
|---|---|---|
| Fresno County | 30 | 1 |
| Kings County | 42 | 2 |
| Tulare County | 23 | 1 |
| Kern County | 32 | 3 |
| **Regional Total** | **127** | **7** |

Suitable agricultural land is available in the region for any agricultural operations that are required to relocate. It is the case that most agricultural disruption will not be in relocation but rather in the logical reallocation of agricultural property bought and sold by neighboring operations. Note that the loss of any prime farmland will have greater implications as relocation is unlikely given the scarcity of this resource. This issue is covered below in the dollar value estimates lost agricultural production. In the instance where an operation may be required to

relocate, a current examination of vacant and for sale agricultural lands and operations reveals a generous supply available (Loopnet 2010). In July 2010, there were 380 agricultural properties for sale in the region with 195 in Fresno County, 23 in Kings County, 97 in Tulare County and 65 in Kern County. These operations include vacant agricultural land as well as land and facilities for pasture/ranch; field crops, vineyards, diary; and nut and fruit tree operations.

Overall, Kings and Kern counties have the greatest number of split agricultural parcels, and Kern County would have the greatest number of displaced agricultural facilities. In all four counties there is the potential for temporary disruptions to agricultural operations when split parcels are reallocated among owners, if desired, and facilities are relocated.

In terms of agricultural facilities, special consideration is required for the relocation of a unique rendering facility in the Hanford area. This facility is the only one of its kind in the area and is important to the economic wellbeing of local dairy and livestock operations.

Table 5-19 contains a summary of the relative changes in agricultural facility displacements, and compares each of the alternative alignments to the BNSF Alternative. Table 5-20 contains a more detailed comparison of the agricultural business impacts in those portions of the BNSF Alternative that would be replaced by a corresponding alternative alignment.

**Table 5-19**
Relative Change in Agricultural Business Impacts

| Agricultural Impacts | BNSF Alternative | Relative Change to the BNSF Alternative Alignment | | | | |
|---|---|---|---|---|---|---|
| | | Corcoran Elevated | Corcoran Bypass | Allensworth Bypass | Wasco-Shafter Bypass | Bakersfield South |
| Split Parcels | 127 | 0 | +14 | +34 | +8 | -1 |
| Facilities Displaced | 7 | 0 | +1 | -2 | -1 | 0 |

**Table 5-20**
Changes in Agricultural Business Impacts along Parallel Alignment Portions

| Alternative Alignment | Number in Alternative Alignment | Number in Corresponding Portion of BNSF Alternative Alignment | Difference |
|---|---|---|---|
| **Split Parcels** | | | |
| Corcoran Elevated | 0 | 0 | 0 |
| Corcoran Bypass | 34 | 20 | +14 |
| Allensworth Bypass | 57 | 23 | +34 |
| Wasco-Shafter Bypass | 29 | 21 | +8 |
| Bakersfield South | 0 | 1 | -1 |

**Table 5-20**
Changes in Agricultural Business Impacts along Parallel Alignment Portions

| Alternative Alignment | Number in Alternative Alignment | Number in Corresponding Portion of BNSF Alternative Alignment | Difference |
|---|---|---|---|
| **Facilities Displaced (Parcels)** | | | |
| Corcoran Elevated | 0 | 0 | 0 |
| Corcoran Bypass | 2 | 1 | +1 |
| Allensworth Bypass | 0 | 2 | -2 |
| Wasco-Shafter Bypass | 0 | 1 | -1 |
| Bakersfield South | 0 | 0 | 0 |

### *Corcoran Elevated Alternative Alignment*

No agricultural facility displacements or disruptions would occur along the Corcoran Elevated Alternative because this alternative is primarily located in an urban area within the city of Corcoran.

### *Corcoran Bypass Alternative Alignment*

The Corcoran Bypass Alternative would split an estimated 34 agricultural parcels and displace agricultural facilities on two parcels. The corresponding portion of the BNSF Alternative would split an estimated 20 parcels and would displace one agricultural facility. A total of 30 of the 34 split parcels are in Kings County, and 4 parcels are in Tulare County. The displaced agricultural facility is in Kings County.

### *Allensworth Bypass Alternative Alignment*

An estimated 57 agricultural parcels would be split along the Allensworth Bypass Alternative, as compared with the 23 parcels that would be split along the corresponding portion of the BNSF Alternative. The Allensworth Bypass Alternative would not displace any facilities, though the corresponding portion of the BNSF Alternative would displace two facilities. The 48 split parcels along the bypass would be in Tulare County (26 parcels) and Kern County (31 parcels). If the BNSF tracks were to be relocated to run adjacent to the HST tracks in this area, the resulting effects on agricultural operations would be expected to be of a similar magnitude.

### *Wasco-Shafter Bypass Alternative Alignment*

Along the Wasco-Shafter Bypass Alternative, an estimated 29 agricultural parcels would be split, and no displacement of agricultural facilities would occur. The corresponding portion of the BNSF Alternative would split 21 agricultural parcels and displace one agricultural facility.

### *Bakersfield South Alternative Alignment*

Agricultural business displacements and disruptions along the Bakersfield South Alternative would be minimal because no agricultural splits or facility disruptions would occur along the Bakersfield South Alternative. This result is not surprising given that this alternative is primarily within the city limits of Bakersfield. Only one agricultural parcel would be split and no agricultural facilities would be displaced by the corresponding section of the BNSF Alternative.

**Station Alternatives**

*Fresno Station–Mariposa Alternative*

The Fresno Station–Mariposa Alternative would be located in the city of Fresno in the urbanized downtown area and would not affect agricultural operations.

*Fresno Station–Kern Alternative*

The Fresno Station–Kern Alternative would be located in the city of Fresno in the urbanized downtown area and would not affect agricultural operations.

*Kings/Tulare Regional Station*

The optional Kings/Tulare Regional Station would not split any agricultural parcels or displace any agricultural facilities.

*Bakersfield Station–North Alternative*

The Bakersfield Station–North Alternative would be located within the city of Bakersfield in the urbanized downtown area and would not affect agricultural operations.

*Bakersfield Station–South Alternative*

The Bakersfield Station–South Alternative would be located within the city of Bakersfield in the urbanized downtown area and would not affect agricultural operations.

**Heavy Maintenance Facility Site Alternatives**

The HMF site alternatives would not split parcels because they are not a linear feature. Instead, a count of the total agricultural parcels acquired is presented.

*Fresno Works–Fresno HMF Site*

This proposed HMF site would not split any parcels but would displace agricultural facilities on 10 parcels. Displacement and relocation of agricultural facilities could result in increased business costs.

*Kings County–Hanford HMF Site*

This proposed HMF site would not split any parcels or displace any agricultural facilities.

*Kern Council of Governments–Wasco HMF Site*

This proposed HMF site would not split any parcels but would displace one agricultural facility. Displacement and relocation of agricultural facilities could result in increased business costs.

*Kern Council of Governments–Shafter East HMF Site*

This proposed HMF site would not split any parcels or displace any agricultural facilities.

*Kern Council of Governments–Shafter West HMF Site*

This proposed HMF site would split one parcels and would not displace any agricultural facilities.

**Resulting Agricultural Dollar Value and Employment Loss**

The Central Valley of California is one of the most productive agricultural areas in the world. In 2007, four of the counties in the region (the four that constitute the study region described in this technical report) ranked first (Fresno), second (Tulare), third (Kern), and eighth (Kings) in agricultural revenues generated in California (California Department of Food and Agriculture 2009). The project would displace farmland and the associated crop and animal agriculture on that farmland, resulting in some loss of agricultural revenues and employment. It is expected that these displacements would result in short-term effects as production reorganizes and relocates and most production again resumes in the region. The dollar values presented here are estimates of these short-term effects.

The agricultural revenue generated on 1 acre of farmland is a function of many factors. Two key factors are the quality of the farmland and the type of crop raised or type of animal operation located on the particular parcel. This analysis examines these two factors and estimates the amount of agricultural revenue and the number of agricultural jobs that potentially would be lost as a result of displacement of agricultural production by the project.

The project would have moderate short-term impacts on the agricultural and livestock production in the four-county region. The tables in this section summarize the impacts of the different alternative alignments by county and present land, job, and annual revenue losses in both dollar and percent terms. For a more detailed description of the analysis of effects on agricultural production, see Appendix C.

### *BNSF Alternative Alignment*

The estimated annual total loss in agricultural production value and employment under the BNSF Alternative would be approximately $15 million, or 0.1% of the total annual agricultural production of approximately $16 billion in the four-county region. This loss in revenue would be associated with the loss of 160 employees. This estimated annual loss would be highest in Kings County ($8.7 million in total production loss and 53 employees). Kern and Fresno Counties would experience the next highest effects, with an annual loss of revenues of $3.6 million and $1.6 million, respectively, and a loss of employees of 68 and 34, respectively. Tulare County would have the lowest estimated annual losses: $900,000 and 7 employees. Overall, these estimated dollar value losses represent a small percentage of the total annual agricultural production in each of these counties—0.1%, 0.5%, 0.1%, and 0.1% for Fresno, Kings, Kern, and Tulare counties, respectively

Effects on dairy operations are a special consideration in Kings County. Overall, it is not expected that any dairy operations would need to be relocated. There are two dairy facilities in Kings County where portions of cattle holding areas and retention basins as well as associated structures would be affected but relocation of these facilities would not preclude continued operation. In those cases, the Authority's right-of-way agents would work with each affected dairy to address issues of concern. Agents would attempt to resolve conflicts, for example by reconfiguring facilities so that there is no net loss of operational capacity. The agents may not be able to resolve all issues, and may offer compensation to landowners that demonstrate a hardship from loss of facilities.

Additionally, when the HST right-of-way removes a portion of a dairy site or would otherwise be in close proximity to confined animal facilities, the HST operation might cause noise that would disturb livestock. Based on existing research, the FRA has established a threshold for high-speed train noise effects on livestock of 100 dBA SEL (FRA 2005). As discussed in Section 3.4 Noise and Vibration, the term SEL, or the sound exposure level, represents the noise generated during a single event, such as the train passing a given point. At a distance of 100 feet, the SEL for

project operations at all dairies along the alignment in Kings County would be less than 100 dBA SEL. Given that all facilities on Kings County dairies would be at least 100 feet from the project, there would be no need to relocated structures as a result of noise effects.

The project would also need to acquire 184 acres of croplands in Kings County that are associated with dairy operations or on neighboring parcels and used for nutrient distribution.[28] This land is important as dairy operations face restrictions on the amount of manure that can be spread per acre of farmland. Some dairies have enough of their own land to manage all of their manure onsite, while others must sell manure offsite to comply with regulations. Therefore, acquiring these acres could force operations to alter current manure management plans and require them to find replacement locations for nutrient distribution. If such replacement lands are not available immediately or it is not economically feasible for smaller operations to adjust, operations would be required to reduce the number of cows housed at the facility. To be conservative and not underestimate any potential effect resulting from this loss of land, it was assumed that dairy operations would need to reduce their milk production in the short term until they found replacement lands for all of the 184 acres acquired by the project. As a result, this short-term effect on the Kings County dairy sector is estimated at around $7 million, which represents 1% of the total county revenue generated annually in this sector.

All crops that have annual dollar value losses greater than $100,000 per year or that have a value of more than 1% of overall county production are presented in Table 5-21.

**Table 5-21**
Crops with Losses Greater Than $100,000 per Year or More Than 1% of Total County Crop Loss under the BNSF Alternative

| Crop Type | % of Entire Annual County Crop Revenue Lost | Estimated Revenue Loss in County | Crop Type | % of Entire Annual County Crop Revenue Lost | Estimated Revenue Loss in County |
|---|---|---|---|---|---|
| **Fresno** | | | **Kern** | | |
| Unknown ag land | — | $ 626,400 | Almond | 0.2% | $1,049,060 |
| Grape, raisin | 0.1% | $ 287,588 | Ornamental–rose | 2.7% | $892,431 |
| Peach | 0.1% | $210,683 | Unknown ag land | — | $495,087 |
| Dairy | 0.1% | $197,720 | Carrot | — | $213,052 |
| Almond | 0.1% | $ 193,139 | Pistachio | 0.1% | $210,776 |
| **Grape, table** | 0.1% | $139,044 | Grape | 0.1% | $179,896 |
| All others | — | $210,725 | Grape, wine | 0.1% | $161,529 |
| | | | Ornamental–shrub | 5.0% | $95,347 |
| County sum | 0.1% | $ 1,865,299 | County sum | 0.1% | $3,594,223 |

[28] Nutrient distribution is the application of manure from animal operations to cropland in order to safely dispose of the waste and also improve soil productivity.

**Table 5-21**
Crops with Losses Greater Than $100,000 per Year or More Than 1% of Total County Crop Loss under the BNSF Alternative

| Crop Type | % of Entire Annual County Crop Revenue Lost | Estimated Revenue Loss in County | Crop Type | % of Entire Annual County Crop Revenue Lost | Estimated Revenue Loss in County |
|---|---|---|---|---|---|
| **Kings** | | | **Tulare** | | |
| Dairy | 1.1% | $ 7,192,457 | Feedlot | 0.2% | $304,106 |
| Unknown ag land | — | $900,360 | Dairy | 0.1% | $172,588 |
| Cherry | — | $ 206,378 | Field/row crop | 0.1% | $159,236 |
| All others | — | $400,990 | Unknown ag land | — | $147,260 |
| | | | Deciduous nut tree | 0.1% | $115,486 |
| County sum | 0.5% | $ 8,700,185 | County sum | 0.1% | $899,701 |

— = data not available to determine loss as a percentage of county production
ag = agricultural

### *Corcoran Elevated Alternative Alignment*

The Corcoran Elevated Alternative is primarily located within the city of Corcoran and would not acquire any agricultural parcels. Therefore, no loss in agricultural production value or employment would occur.

### *Corcoran Bypass Alternative Alignment*

For the Corcoran Bypass Alternative Alignment, the estimated short-term reduction in agricultural production value and employment along the Corcoran Bypass Alternative would be $8.3 million and 45 employees for the two counties of Kings and Tulare. These reductions are greater than the $7.65 million associated with the corresponding portion of the BNSF Alternative. Kings County would experience the majority of this impact ($7.98 million and 42 employees), with the remaining in Tulare County ($337,000 in and 2 employees). Again, as with the BNSF Alternative, the majority of this short-term effect would occur in Kings County within the dairy sector as a result of acquisition of croplands used for nutrient distribution. Given that no dairy operations are located along the Corcoran Bypass or along the corresponding section of the BNSF Alternative, the effects to dairies from either alternative would be similar. Overall, these estimated short-term dollar value reductions for the Corcoran Bypass Alternative represent around 0.1% of total agricultural production in both counties. Table 5-22 highlights all crops that will have more than $100,000 in total losses due to the Corcoran Bypass Alternative or a change of more than $100,000 in losses from the BNSF Alternative.

**Table 5-22**
Crops with Losses Greater Than $100,000 per Year under the Corcoran Bypass Alterative or a Delta of More Than $100,000 per Year under the BNSF Alternative in Kings and Tulare Counties

| County | Crop Type | % of Entire Annual County Crop Revenue Lost | Estimated Revenue Loss in County |
|---|---|---|---|
| Kings | Dairy | 1.0% | $7,071,412 |
| Kings | Unknown ag land | — | $542,140 |
| Kings | Pistachio | 0.1% | $216,792 |
| Tulare | Diary | 0.1% | $172,588 |
| — = data not available to determine loss as a percentage of county production<br>ag = agricultural | | | |

### *Allensworth Bypass Alternative Alignment*

For the Allensworth Bypass Alternative Alignment, the estimated total reduction in agricultural production would be $1.1 million, or around 0.02% of the total agricultural production of approximately $8.9 billion in the two counties (Kern and Tulare) affected by this bypass. A total of 13 employees would also be displaced. The corresponding portion of the BNSF Alternative would result in similar reductions. These reductions would mostly occur in Kern County ($820,000 and 11 employees), with the rest in Tulare County ($270,000 and 2 employees). These reductions represent less than 0.1% of total agricultural production in the two counties. If the BNSF tracks are relocated to run adjacent to the HST tracks in this area—resulting in an additional 100 feet of project right-of-way—the resulting effects on agricultural revenues and jobs would be expected to be of a magnitude proportional to this increase in project area. Table 5-23 highlights all crops that will have more than $100,000 in total losses due to the Allensworth Bypass Alternative or a change of more than $100,000 in losses from the BNSF Alternative.

**Table 5-23**
Crops with Losses Greater Than $100,000 per Year under the Allensworth Bypass Alterative or a Delta of More Than $100,000 per Year under the BNSF Alternative in Tulare and Kern Counties

| County | Crop Type | % of Entire Annual County Crop Revenue Lost# | Estimated Revenue Loss in County |
|---|---|---|---|
| Kern | Grape, wine | 0.5% | $380,579 |
| Kern | Almond | 1.4% | $246,809 |
| Tulare | Deciduous nut tree | 0.1% | $218,314 |
| ag = agricultural | | | |

*Wasco-Shafter Bypass Alternative Alignment*

For the Wasco-Shafter Bypass Alternative Alignment, the estimated total reduction in agricultural production along the Wasco-Shafter Bypass would be $4.5 million. This loss would be the equivalent of about 0.1% of Kern County's estimated $4 billion total agricultural production. A short-term reduction of 95 employees would also occur under this alternative. The corresponding portion of the BNSF Alternative would result in $1.8 million less in revenue and 38 fewer jobs lost. Table 5-24 highlights all crops that will have more than $100,000 in total losses due to the Wasco-Shafter Bypass Alternative or a change of more than $100,000 in losses from the BNSF Alternative.

**Table 5-24**
Crops with Losses Greater Than $100,000 per Year under the Wasco-Shafter Bypass Alterative or a Delta of More Than $100,000 per Year under the BNSF Alternative in Kern County

| Crop Type | % of Entire Annual County Crop Revenue Lost | Estimated Revenue Loss in County |
|---|---|---|
| Ornamental–rose | 5.5% | $1,797,499 |
| Almond | 0.2% | $995,707 |
| Carrot* | — | $617,473 |
| Pistachio | 0.1% | $211,907 |
| Ornamental–shrub | 11% | $208,627 |
| Unknown ag lands | — | $186,999 |
| Alfalfa | 0.3% | $106,784 |

— = data not available to determine loss as a percentage of county production
ag = agricultural

*Bakersfield South Alternative Alignment*

The Bakersfield South Alternative is primarily located within the city of Bakersfield and would not acquire agricultural parcels. Therefore, no loss in agricultural production value or employment would occur.

## 5.2.5 Community Facilities

The HST project alignments would avoid most community facilities and other properties that provide public services. The visual interpretation and parcel-by-parcel analysis of the BNSF Alternative Alignment and other alternative alignments found no takings of police or fire stations, libraries, post offices, or civic centers. Each of these community facilities affected are listed below by alternative. Some of these facilities are hybrids of public and private services discussed above in Section 5.1.1 (Disruption or Division of Existing Communities). These facilities are covered again here for clarity and specific discussion of their role in providing community services.

### A. NO PROJECT ALTERNATIVE

The planned projects that would constitute the No Project Alternative would undergo project-specific environmental review, as appropriate. No community facilities are known to be affected

or any impacts are assumed to be mitigated to the extent possible. Emergency response times and access would be likely be improved as a result of transportation improvements. No direct or indirect adverse impacts on Section 4(f) lands (that is, public school facilities open for use for public recreation) are known to result. Again, it is assumed that the projects planned under the No Project Alternative would be subject to a project-level environmental review and include feasible mitigation measures to avoid or substantially reduce potential impacts.

## B. ALTERNATIVE ALIGNMENTS

### BNSF Alternative Alignment

Overall, the BNSF Alternative would affect 11 community facilities. The majority are in Bakersfield, where the BNSF Alternative would affect 8 parcels containing community facilities: the Mercado Latino Tianguis, Bakersfield High School's Industrial Arts Building, and 6 parcels housing religious facilities.

The Mercado Latino Tianguis is not only a retail center but also an important community facility that would be temporarily displaced during construction of the BNSF Alternative. The Mercado is a shopping complex that re-creates the feel of a Mexican village market in the Northeast district of Bakersfield. This facility is not a single business entity; rather, it rents stall space to approximately 118 small and micro-businesses that cater to Kern County's Hispanic population. The Mercado is often filled with shoppers who come to meet, sample traditional foods, and browse the narrow aisles lined with homemade and manufactured goods. Mexican music is played over the loudspeakers that permeate the Mercado; the music competes with soccer scores and other announcements in Spanish. The Mercado consists of a large main building that has been developed into numerous booths or stalls, where individual business owners sell wares, ranging from apparel to electronics to homemade foods. Services such as immigration advice and legal assistance, cell phone service sales, and insurance protection services are also provided by merchants who speak Spanish fluently. At the south end of the complex is an outdoor market area, Plaza del Pueblo, which has additional retail stalls and a range of restaurants featuring Latino foods and outdoor seating areas. This area provides opportunities for members of the Hispanic community to interact with one another. Cultural events such as Mexican dance and music performances are sometimes held at the Mercado, as are health fairs where members of the community can obtain vaccinations and other health services. Therefore, the loss of the Mercado Latino Tianguis would be a substantial impact to the community. In addition to the cultural importance of the facility to the Hispanic community of Kern County, the closure or relocation of the Mercado would create economic hardships for the 118 small business owners who provide goods and services through this unique marketplace.

Bakersfield High School occupies a relatively small campus in a built-out urban area. Because of this situation, opportunities for relocating the displaced Industrial Arts Building and meeting modern codes and regulations are limited. The historic importance of Bakersfield High School, combined with the critical nature of its educational services, makes it an important community resource. The displacement of this facility in an already built-out urban area is considered a division of an important community resource.

Six religious facilities would be affected by the BNSF Alternative Alignment in the Bakersfield area. The project would displace 3 religious facilities, and two parcels containing religious facilities would be partially acquired. One religious facility would not be directly affected by property acquisition but would be located very near to the project during construction and operation. Parking would be displaced on the partially acquired parcels, and all remaining facilities would be exposed to increased noise, traffic, and other indirect impacts during project construction and operation. The religious facilities affected in Bakersfield are listed in Table 5-25.

The Bakersfield Station alternatives and the Bakersfield South Alternative Alignment would also affect religious facilities, as indicated in this table.

**Table 5-25**
Bakersfield Religious Facilities Affected

| Name | Address | District | Alternative | Impact |
|---|---|---|---|---|
| Christ First Ministries | 625 Robinson Street | Northeast | BNSF Alternative | Displaced |
| Iglesia de Dios | 1227 E. 19th Street | Northeast | BNSF Alternative | Parcel Affected |
| Bethany United Methodist Church/Centro Cristiano Agape | 409 Baker Street | Northeast | BNSF Alternative | Close to project |
| St George Greek Orthodox Church | 401 Truxtun Avenue | Central | BNSF Alternative (Bakersfield Station– North Alternative) | Parcel Affected |
| Korean Presbyterian Church | 1601 Art Street | Northwest | BNSF and Bakersfield South alternatives | Displaced under both alignments |
| Chinmaya Mission of Bakersfield | 1723 County Breeze Place | Northwest | BNSF and Bakersfield South alternatives | Displaced under BNSF and parcel affected under Bakersfield South |
| Baker Street Church of Christ | 200 Baker Street | Northeast | Bakersfield South Alternative | Displaced |
| Full Gospel Lighthouse | 800 Butte Street | Northeast | Bakersfield South Alternative | Displaced |
| Grace Christian Center | 231 Beale Ave. | Northeast | Bakersfield South Alternative | Close to project |
| Chapel of Praise Church of God | 1223 Dolores Street | Northeast | Bakersfield South Alternative | Close to project |
| First Free Will Baptist Church | 2400 E California Ave | Northeast | Bakersfield South Alternative | Displaced |
| Saints Memorial Church of God in Christ | 1302 East 19th St | Central | Bakersfield South Alternative | Displaced |
| Bakersfield Word of Life Ministries | 1300 S Street | Central | Bakersfield South (Bakersfield Station–South Alternative) | Close to project |

With the BNSF Alternative, the Fresno Rescue Mission, which provides beds, living space, and other support services for up to 250 homeless people, would be displaced. See discussion above in Section 5.1.1 (Disruption or Division of Existing Communities) regarding this community facility.

The BNSF Alternative would also acquire the Amtrak Station and a church in the city of Corcoran.

**Corcoran Elevated Alternative**

The Corcoran Elevated Alternative would not acquire any parcels containing community facilities.

**Corcoran Bypass Alternative**

The Corcoran Bypass Alternative would displace two religious facilities.

**Allensworth Bypass Alternative**

The Allensworth Bypass Alternative would not acquire any parcels containing community facilities.

**Wasco-Shafter Bypass Alternative**

The Wasco-Shafter Bypass Alternative would not acquire any parcels containing community facilities.

**Bakersfield South Bypass Alternative**

The Bakersfield South Alternative Alignment would displace and require relocation of several businesses and ancillary facilities associated with the Mercy Hospital medical complex. See discussion above in Section 5.1.1 (Disruption or Division of Existing Communities).

The Bakersfield South Alternative would also affect 9 religious facilities in the Bakersfield area: 5 of these facilities would be relocated, 1 would remain on a parcel that is partially acquired, and 3 would not be directly affected but would be very close to the project (see Table 5-25, above). Parking would be displaced on the partially acquired parcels, and the facilities would be exposed to increased traffic, noise, and other indirect impacts during project construction and operation.

Also, although not a community facility, land within the Bakersfield Fleet Services Department of Public Works yard would be acquired for the project.

#### C. STATION ALTERNATIVES

For the location of the Bakersfield Station–North Alternative, a portion of a parcel containing a religious facility (see Table 5-25, above) would be acquired. Although the church itself would not be acquired, this acquisition would affect an associated school, a meeting place, and a playground area. Also, a religious facility would not be affected but would be close to the Bakersfield South station location.

#### D. HEAVY MAINTENANCE FACILITY SITE ALTERNATIVES

No parcels containing community facilities would be acquired for any of the heavy maintenance facility site alternatives.

### 5.2.6 Potential Mitigations for Property Displacements and Relocations

Given the potential displacement of residential, commercial and industrial, agricultural, and community facilities, the following mitigation measures are suggested to reduce the nature and magnitude of any impacts.

**Develop relocation plan.** Develop a relocation plan taking into account the large number of displacements and relocations in Northwest and Northeast districts of Bakersfield. This plan should take into account any special needs of those being relocated.

**Provide access modifications to affected farmlands.** If cases where partial property acquisitions result in division of farmlands, the Authority will consider providing overcrossings or undercrossings of the HST track to allow continued use of farmlands. This would include the design overcrossings or undercrossings to allow farm equipment passage. Refer to Section 3.14 (Agricultural Lands) in the EIR/EIS for additional information.

**Explore ways to mitigate negative effects associated with property values.** The Authority will work with the affected communities to explore ways to mitigate any negative effects that could occur as a result of reduced property values for areas in close proximity to the elevated structure.

**Implement measures to reduce impacts associated with the displacement of Bakersfield High School facilities.** The Authority will minimize impacts of the disruption to Bakersfield High School facilities associated with the BNSF Alternative. In part, the Authority will accomplish this by contracting or initiating a safety study as soon as a preferred alignment is identified, and completing it prior to property acquisition This study will include identification and a feasibility analysis of suitable relocation alternatives for Bakersfield High School facilities in conformance with Title 5 requirements. The Authority will coordinate with school and school district officials prior to land acquisition to reconfigure or replace campus facilities as necessary to replace (both temporarily and permanently) displaced classroom space in a manner that will meet new mandates and minimize disruption to school activities.

Bakersfield High School occupies a relatively small campus in a built-out urban area. Because of this, opportunities for relocating the displaced industrial arts building and meeting modern codes and regulations are limited.

**Implement measures to reduce impacts associated with the displacement of the Mercado Latino Tianguis.** Mitigation will minimize community disruptions associated with the BNSF Alternative and the business closure or relocation (of up to 1 year) of the Mercado Latino Tianguis. The loss of the Mercado Latino Tianguis would be a substantial one to the community. In addition to the cultural importance of the facility to the Hispanic community of Kern County, its closure or relocation will create economic hardships for the 118 individual small business owners who currently provide goods and services through the unique marketplace.

To mitigate these losses, the Authority will develop and implement a comprehensive Spanish-language outreach program for the community prior to land acquisition. This program will facilitate the identification of alternatives that would maintain continuity of operation and allow space and access for the types of services currently provided at the Mercado. Preferred alternatives will be located in the immediate vicinity so as not to impact the Hispanic businesses located along adjacent Chamberlain Street, which rely on the customer base currently generated by the Mercado. To avoid disruption to this community amenity, the Authority will construct a replacement facility prior to the demolition of the existing structure.

**Implement measures to reduce impacts associated with the displacement of the Fresno Rescue Mission and associated facilities.** The Authority will minimize impacts associated with the BNSF Alternative and the displacement of the Fresno Rescue Mission and its associated facilities and programs by initiating outreach and coordination with representatives of the Fresno Rescue Mission prior to land acquisition. Suitable relocation sites for the headquarters building will be identified within the immediate neighborhood to minimize disruption in the provision of services to Fresno's homeless population and to preserve the integrity of the continuum of services provided to the area's population. The Authority will work with City of Fresno representatives and the Fresno Rescue Mission to facilitate the proper zoning and permitting of a new facility, which will be constructed prior to demolition of the existing structure.

**Implement measures to reduce impacts associated with the displacement of Mercy Hospital medical complex facilities.** The Authority will minimize impacts from the Bakersfield South Alternative, which would relocate and displace commercial-industrial businesses and facilities associated with the Mercy Hospital medical complex by coordinating with Mercy Hospital officials to identify potential new locations for the relocated medical offices, pharmacy, and parking facilities to minimize disruption to the spectrum of vital medical services provided by this facility. The Authority will initiate consultations with hospital campus planners before property acquisition to identify how displaced amenities can best be replicated to minimize disruption to the provision of medical services. This will include identifying potential replacement office and pharmacy space and alternatives for replacement parking facilities on or in the immediate vicinity of the existing Mercy Hospital campus. Relocated businesses will be encouraged to relocate to such nearby locations, or if such locations cannot be found, the Authority will identify suitable sites for the construction of new facilities to replace those that would be displaced as a result of the project.

**Implement measures to reduce impacts associated with the displacement of religious facilities.** The Authority will minimize impacts associated with the property acquisition of religious facilities by initiating outreach and coordination with the facilities to identify project design modifications that would minimize impacts on facilities and services, and that would avoid splitting functions among different sites. If the project design cannot be altered to avoid such impacts, the entire facility will be relocated to a suitable alternative location.

## 5.3 Environmental Justice

Executive Order 12898, the federal environmental justice policy, requires federal agencies to address the potential for their programs, policies, and activities to have a disproportionately high and adverse human health and environmental effect on minority and low-income populations. Department of Transportation Order 5610.2 on environmental justice interprets "disproportionately high and adverse effect on minority and low-income populations" to mean an adverse effect that is predominately borne by a minority population and/or a low-income population, or will be suffered by the minority population and/or low-income population and is appreciably more severe or greater in magnitude than the adverse effect that will be suffered by the non-minority population and/or non-low-income population. This section provides the methodology and results from an examination of potential EJ effects. This examination took a detailed, step-by-step approach to identify potential disproportionately high and adverse effects on minority or low-income populations in the project study area.

### 5.3.1 Methodology

The analysis presented in Chapter 4 (Affected Environment) of this technical report identified the locations of EJ populations within the project study area (see Appendix A for a detailed description of the EJ methodology). Various resource specialists conducted analyses identifying the potential for project-related effects on environmental resources in the study area, including effects on transportation; air quality and global climate change; noise and vibration; electromagnetic fields and electromagnetic interference; public utilities and energy; hydrology and water resources; hazardous materials/wastes; safety and security; socioeconomics, communities and environmental justice; local growth, station planning, and land use; agricultural lands; parks, recreation, and open space; aesthetics and visual resources, and cultural and paleontological resources. These effects were identified by geographic area, alignment, and type of impact. The EJ outreach that was conducted is described in Chapter 4 (Affected Environment).

In cases where no effects were identified or effects were negligible or moderate for NEPA and impacts were less than significant under CEQA, no further analysis was conducted on the potential of the project to affect an EJ population. The resources that were found to have no

effects, effects that were not substantial, or significant impacts to EJ populations included biological resources and wetlands; hydrology and water resources; geology, soils, and seismicity; local growth, station planning, and land use; and regional growth. All effects that were found to be substantial and significant before mitigation were reviewed to see if a proposed mitigation measure could reduce the effects. If so, no further evaluation was conducted on EJ effects. Effects that would remain substantial and significant after mitigation were then compared to the geographic locations of EJ populations within the study area. This comparison was done to determine if any of these effects occurred disproportionately in EJ communities or if these effects were of a disproportionately high magnitude within EJ communities. If any effect was disproportionate in an EJ community, then the potential for a disproportionately high and adverse effect on minority and low-income populations could be present. If effects were concentrated in non-EJ areas or evenly distributed along the entire alignment, then no disproportionate EJ effects would occur. The findings are presented in Section 5.3.2 (Potential Environmental Justice Effects by Resource Area).

## 5.3.2 Potential Environmental Justice Effects by Resource Area

This section describes effects for all resources that are pertinent to studying disproportionately high and adverse effects on minority and low-income populations along the BNSF Alternative, Corcoran Elevated Alternative, Corcoran Bypass Alternative, Allensworth Bypass Alternative, Wasco-Shafter Bypass Alternative, and Bakersfield South Alternative. After these effects are described, the discussion then examines the effects for their potential to be disproportionately high and adverse in EJ communities along these alignments. No substantial effects or significant impacts were identified for either the public utilities and energy or the hydrology and water resource areas, and as a result, they are not discussed here.

### A. No Project Alternative

Under the No Project Alternative, the HST would not be constructed, but other planned transportation improvements would be made to rail, highway, airport, and transit systems. It should be noted that the improvements associated with some of these projects could require expanding railroad rights-of-way or urban terminal facilities, which are likely to be in urban areas inhabited by predominately minority and low-income populations. It is assumed that any disproportionate effects to minority and low-income populations would be mitigated to the extent possible.

### B. Alternative Alignments

**BNSF Alternative Alignment**

*Transportation (Section 3.2 of the EIR/EIS)*

**Construction-related traffic impacts.** Temporary traffic delays could occur because of construction worker traffic entering and leaving construction parking and staging areas. Effects would be distributed along the entire alignment, but would be concentrated in the urban areas. Before mitigation, the effects would be substantial and significant. With mitigation, the impacts could be reduced to a less-than-significant level with the implementation of Mitigation Measures TR-MM#1 (Off-Street Parking for Construction-Related Vehicles), TR-MM#2 (Maintenance of Pedestrian Access), TR-MM#3 (Maintenance of Bicycle Access), TR-MM #4 (Restriction on Construction Hours), TR-MM#5 (Construction Truck Routes), TR-MM#6 (Protection of Public Roadways during Construction), TR-MM#7 (Protection Maintenance of Public Transit Access and Routes), TR-MM#8 (Construction Transportation Plan), and TR-MM#9 (Construction during Special Events).

**Permanent road closures.** Roads would be closed as a result of the project, and people would be forced to use different roads to cross over or under the HST tracks. Effects could be substantial and significant and would be distributed along the entire alignment, though rural areas would experience more road closures than urban areas. Impacts would be reduced to a less-than-significant level with implementation of mitigation measure TR-MM#10 (Access Maintenance for Property Owners).

**Traffic delays at stations.** In 2035, both the No Project Alternative and the project alternatives would contribute to substantial and significant traffic delays. Impacts can be reduced to a less-than-significant level with the implementation of Mitigation Measures TR-MM#11 (Add Signal to Intersection to Improve LOS/Operation), TR-MM#12 (Restripe Intersections), TR-MM#13 (Revise Signal Cycle Length), TR-MM#14 (Widen Approaches to Intersections), TR-MM#15 (Add Exclusive Turn Lanes to Intersections), and TR-MM#16 (Add New Lanes to Roadway).

**Traffic delays at the HMF.** Worker traffic may cause delays at the start and end of work shifts as the workers enter and exit the HMF site on existing roads. Effects are expected to be moderate and significant, with facility design minimizing effects with turning lanes and traffic controls. Impacts will be reduced to a less-than-significant level with the implementation of Mitigation Measure TR-MM#16 (Add New Lanes to Roadway).

### *Air Quality and Global Climate Change (Section 3.3 of the EIR/EIS)*

**Construction-related regional pollutant emissions effects.** With the concurrent construction of the track, station, and HMF facility, the project would in essence be multiple small- to medium-sized construction projects. The cumulative effects of all these construction sites would lead to the exceedance of San Joaquin Valley Air Pollution Control District thresholds, with the effects being dispersed evenly throughout the alignment. The effects would be substantial and significant even with the proposed mitigation measures.

**Localized "hot spot" impacts from HMF operation.** Five sites for the HMF have been proposed along the alignment. Of these five sites, two were found to have substantial and significant effects due to surrounding uses: the Fresno Works–Fresno HMF Site and the Kern Council of Governments–Wasco HMF Site. The effects from these facilities could be decreased by the implementation of Mitigation Measures AQ-MM#6 (Reduce the Potential Impact of Toxics) and AQ-MM#7 (Reduce the Potential Impact of Stationary Sources. Impacts would be reduced to a less than significant level with mitigation.

### *Noise and Vibration (Section 3.4 of the EIR/EIS)*

**Construction noise effects.** Noise from construction activities would temporarily exceed noise standards evenly along the entire alignment and would affect sensitive receivers. These effects would be substantial and significant, but would be reduced to a less-than-significant level by implementation of Mitigation Measure N&V-MM#1 (Construction Noise Mitigation Measures).

**Construction vibration effects.** Vibrations from construction activities would temporarily exceed vibration standards evenly along the entire alignment and would affect sensitive receivers. These effects would be substantial and significant, but would be reduced to a less-than-significant level by implementation of Mitigation Measure N&V-MM#2 (Construction Vibration Mitigation Measures).

**Operation noise effects.** Noise from the operation of the HST would increase ambient noise levels above noise standards and would affect sensitive receivers. These effects would be substantial and significant, but the implementation of several mitigation measures, including Mitigation Measures N&V-MM#3 (Implement California High-Speed Train Project Noise Mitigation Guidelines), N&V-MM#4 (Vehicle Noise Specification), and N&V-MM#5 (Special Trackwork at

Crossovers and Turnouts) would reduce many of the impacts to a less-than-significant level. Some areas, mainly in rural neighborhoods, would still experience operational noise impacts even with the proposed mitigation.

**Operation vibration effects.** Vibration from operation of the HST would have vibration effects to sensitive receivers that are located directly adjacent to the alignment. These effects would be substantial and significant, but the implementation of Mitigation Measure N&V-MM#6 (Implement Project Vibration Mitigation) would reduce some of the impacts from vibration. Even with the proposed mitigation, effects would be substantial and significant.

### *Electromagnetic Fields and Electromagnetic Interference (Section 3.5 of the EIR/EIS)*

**Effects on workers with implanted medical devices.** Individuals working on the HST with implanted medical devices could experience medical issues while working on certain aspects of the project where electromagnetic fields and electromagnetic interference exist. These issues would constitute a substantial effect and a significant impact, but could be mitigated to a less-than-significant level with the implementation of Mitigation Measure EMF/EMI-1 (Protect Workers with Implanted Medical Devices).

### *Public Utilities and Energy (Section 3.6 of the EIR/EIS)*

**Increased Peak Electricity Demand.** The HST system would increase peak electricity demand by an estimated 480 MW in 2020. This represents a moderate effect and a potentially significant impact, but with mitigation measure PUE-MM#1 (Perform Electrical Supply Analysis), impact would be reduced to a less-than-significant level.

### *Hazardous Materials/Wastes (Section 3.10 of the EIR/EIS)*

**Construction activities that encounter unknown buried hazards.** Construction activities could unearth unknown or abandoned buried hazards that could expose workers and the general public to health hazards. These effects would be evenly dispersed along the entire alignment and would be negligible and less than significant.

**Accidental spills or releases of hazardous materials.** Both construction and operation of the HST system could result in an accidental release of hazardous materials that could expose both workers and the general public to risks. These effects would be evenly dispersed along the entire alignment and would be negligible and less than significant.

### *Safety and Security (Section 3.11 of the EIR/EIS)*

**Construction-related effect on emergency services.** Detours around construction sites could result in increased accident risk and longer emergency response times. These effects would be evenly dispersed along the entire alignment and would be substantial and significant. Impacts could be reduced to a less-than-significant level by implementation of Mitigation Measure TR-MM#8 (Construction Transportation Plan).

**Increased demand for Emergency Services.** There would be an increased demand for fire, rescue, and emergency services at stations and HMFs. This effect would be distributed along the entire alignment, but concentrated in the urban areas. This effect would constitute a moderate effect and a significant impact, but this impact could be reduced to a less-than-significant level with implementation of Mitigation Measure S&S-MM#2 (Pay Impact Fee to Local Fire, Rescue, and Emergency Service Providers for Services at Stations and at the HMF).

### *Socioeconomics, Communities, and Environmental Justice (Section 3.12 of the EIR/EIS)*

**Community cohesion effects.** Construction and operation of the HST would split some communities in half and disrupt their current community character. The communities affected by cohesion impacts are Corcoran and Bakersfield. Effects would be substantial and significant and would remain significant with the proposed mitigation measures.

**Displacement effects.** Construction and operation of the HST would displace a number of residences, businesses, and community buildings. For displacement of residences, the areas of concern include the Northwest and Northeast districts in Bakersfield. For the displacement of businesses, the areas of concern include Fresno's Edison district, unincorporated Fresno County, Wasco, and the Central and Northeast districts of Bakersfield. For the displacement of important community buildings (Bakersfield High School, Mercado Latino Tianguis, Fresno Rescue Mission, Mercy Hospital, and multiple churches) impacts could be reduced to a less-than-significant level with implementation of Mitigation Measures SO-MM#6 (Implement Measures to Reduce Impacts Associated with the Relocation of Important Facilities).

### *Agricultural Lands (Section 3.14 of the EIR/EIS)*

**Conversion of farmland to non-agricultural use.** The loss of agricultural land would be a permanent reduction in land resources. This effect would be substantial and significant. Impacts would remain significant even with implementation of Mitigation Measure Ag-MM#1 (Preserve the Total Amount of Prime Farmland, Farmland of Statewide Importance, Farmland of Local Importance, and Unique Farmland) and Ag-MM#2 (Consolidate Non-Economic Remnants).

### *Parks, Recreation, and Open Space (Section 3.15 of the EIR/EIS)*

**Construction-related park closures.** The project construction would create closures of some facilities, including bike and equestrian facilities along the Kern River Parkway. These closures would create moderate and significant effects. Impacts could be reduced to a less-than-significant level with the implementation of Mitigation Measure PC-MM#1 (Compensation for Staging in Park Property for Construction).

**Construction-related conflict with park character.** Construction of the HST would increase noise and visual disturbances that would affect the character of Father Wyatt Park in Corcoran, Allensworth State Historic Park and the Kern River Parkway in Bakersfield. These effects would be substantial and significant even with the proposed mitigation measures detailed in Sections 3.4 (Noise and Vibration) and 3.16 (Aesthetics and Visual Resources) of the EIS/EIR.

**Operation-related parkland acquisition.** The BNSF Alignment would cross several parks, necessitating the acquisition of some of the land in these parks. The parks that would be affected include Father Wyatt Park, Allensworth State Historic Park, and Kern River Parkway. This crossing of several parks would be a substantial effect and a significant impact. The impacts could be reduced to a less-than-significant level with the implementation of Mitigation Measures PP-MM#1 (Acquisition of Park Property) and PP-MM#2 (Avoidance of Allensworth State Historic Park).

**Operation-related conflict with park character.** The BNSF Alignment would affect the character of Father Wyatt park, Allensworth State Historic Park and Kern River Parkway by introducing noise and visual disturbances to the parks. These effects would be a moderate and significant. The impacts would remain at a significant level even with the implementation of mitigation measures detailed in Sections 3.4 (Noise and Vibration) and 3.16 (Aesthetics and Visual Resources) of the EIS/EIR.

**Operation-related increased use impacts.** As a result of the project, the Amtrak Station Playground in Bakersfield would receive additional use that could increase use to a level that could result in substantial physical deterioration of the playground, which could result in effects that would be substantial and significant. These potentially significant impacts could be decreased with the implementation of Mitigation Measure PP-MM#3 (Collect Additional Maintenance Funds).

### *Aesthetics and Visual Resources (Section 3.16 of the EIR/EIS)*

**Construction-related visual disturbances.** Construction activities would cause visual effects in urban areas for the entirety of the construction phase of the project. The effects would be substantial and potentially significant, but would be reduced to a less-than-significant level with the implementation of Mitigation Measure VQ-MM#1 (Minimize Visual Disruption during Construction).

**Construction-related nighttime lighting impacts.** Intrusive nighttime lighting could result in adverse effects in both rural and urban areas. These effects would be substantial and potentially significant, but impacts could be reduced to a less-than-significant level with the implementation of Mitigation Measure VQ-MM#1 (Minimize Visual Disruption during Construction).

**Lower visual quality (during operation).** The HST system would become a dominant feature in the areas where it would be built. The visual quality within approximately 0.5 mile of the elevated guideway and within 0.25 mile of the at-grade rail would substantially affect visual quality. These effects would be substantial and potentially significant. These impacts would be reduced with the implementation of Mitigation Measures VQ-MM#2 (Minimize Light Disturbance), VQ-MM#3 (Incorporate Design Criteria for Elevated and Station Elements That Can Adapt to Local Context), VQ-MM#4a (Replant Unused Portions of Lands Acquired for the HST) and VQ-MM#4b (Provide Offsite Landscape Screening Where Appropriate), VQ-MM#5 (Landscape Treatments along the HST Project Overcrossings and Retained Fill Elements of the HST), VQ-MM#6 (Provide Sound Barrier Treatments), and VQ-MM#7 (Screen Traction Power Distribution Stations). Even with the proposed mitigation measures, impacts would remain significant for both the urban areas of Corcoran, Wasco, Shafter, and Bakersfield and rural areas.

**New source of substantial light and glare.** Individuals would experience operational night lighting effects. The persons potentially affected would be rural residents in the vicinity of the Kings/Tulare Regional Station, residents residing near any of the proposed HMF site alternatives, and commercial viewers in the vicinity of the Fresno and Bakersfield stations. The effects would be substantial and potentially significant, but could be reduced to a less-than-significant level with the implementation of Mitigation Measure VQ-MM#2 (Minimize Light Disturbance).

**Noise wall would block views.** All the alternatives would require the use of noise walls along portions of the guideway in urbanized areas, potentially blocking existing views or adding to the prominence and incompatible character of the guideways. Effects would be substantial and significant even with proposed Mitigation Measures VQ-MM#3 (Incorporate Design Criteria for Elevated and Station Elements That Can Adapt to Local Context), VQ-MM#4a (Replant Unused Portions of Lands Acquired for the HST) and VQ-MM#4b (Provide Offsite Landscape Screening Where Appropriate), and VQ-MM#6 (Provide Sound Barrier Treatments).

### *Cultural and Paleontological Resources (Section 3.17 of the EIR/EIS)*

**Construction-related impacts to prehistoric and historic archaeological resources.** Construction activities taking place in areas known to contain historical resources or properties would cause substantial physical changes to the resources. As a result, substantial effects and significant impacts would occur along the entirety of the BNSF Alternative. These impacts could be mitigated to a less-than-significant level with the implementation of Mitigation Measures Arch-

MM#1 (Conduct Archaeological Training), Arch-MM#2 (Halt Work in the Event of an Archaeological Discovery), Arch-MM#3 (Plan an Intentional Site Burial Preservation in Place), and Arch-MM-4 (Conduct Archaeological Monitoring in Proximity to CA-KER-2507).

**Historic property and resource effects.** Several historic properties along the BNSF Alternative would experience substantial effects and potentially significant impacts as a result of both construction and operation of the project. The majority of these buildings are concentrated in the downtown districts of urban areas, with Fresno and Bakersfield having the largest number of historic buildings. Impacts would remain significant even with the proposed mitigation measures Hist-MM#1 (Avoid Adverse Vibration Effects), Hist-MM#2 (Develop Protection and Stabilization Measures), Hist-MM#3 (Avoid Historic Architectural Resources at Fresno Works Heavy Maintenance Facility Site), Hist-MM#4 (Minimize Adverse Effects through Relocation of Historic Structures), Hist-MM#5 (Prepare and Submit NRHP Nominations), Hist-MM#6 (Prepare and Submit CRHR Nominations), Hist-MM#7 (Prepare and Submit Historic American Building Survey (HABS)/Historic American Engineering Record (HAER)/ Historic American Landscape Survey (HALS) Documentation), and Hist-MM#8 (Prepare Historic Structure Reports).

**Construction-related paleontological resource effects.** No known fossil sites occur along the project alignment; however, during construction fossil sites could be found anywhere along the alignment. Such sites could represent substantial and significant effects. These impacts could be reduced with the implementation of mitigation measures Pal-MM#1 (Engage Paleontological Resources Specialist to Direct Monitoring during Construction), Pal-MM#2 (Prepare and Implement a Paleontological Resource Monitoring and Mitigation Plan [PRMMP]), and Pal-MM#3 (Halt Construction When Paleontological Resources Are Found).

### *Cumulative Impacts (Section 3.19 of the EIR/EIS)*

**Cumulative impacts.** Almost all resource areas would have potential cumulative effects, but most of these effects could be reduced to a negligible effect or a less-than-significant impact with mitigation. The resource areas where effects would not be able to be reduced to a less-than-significant level include air quality and global climate change, noise and vibration, agricultural lands, aesthetics and visual resources, and cultural and paleontological resources. Effects would not be concentrated in one geographic area but would be dispersed along the entire alignment, expect from aesthetics and visual resources and cultural and paleontological resources where effects are concentrated in urban areas.

## Corcoran Elevated Alternative Alignment

### *Transportation (Section 3.2 of the EIR/EIS)*

Effects would be similar to those of the BNSF Alternative.

### *Air Quality and Global Climate Change (Section 3.3 of the EIR/EIS)*

Effects would be similar to those of the BNSF Alternative.

### *Noise and Vibration (Section 3.4 of the EIR/EIS)*

**Construction noise effects.** Effects would be similar to those of the BNSF Alternative.

**Construction vibration effects.** Effects would be similar to those of the BNSF Alternative.

**Operation noise effects.** Effects would be greater than those described for the BNSF Alternative because more receptors would be exposed to operational noise. Effects would be substantial and significant.

**Operation vibration effects.** Effects would be similar to those of the BNSF Alternative.

### *Electromagnetic Fields and Electromagnetic Interference (Section 3.5 of the EIR/EIS)*

Effects would be similar to those of the BNSF Alternative.

### *Hazardous Materials/Wastes (Section 3.10 of the EIR/EIS)*

Effects would be similar to those of the BNSF Alternative.

### *Safety and Security (Section 3.11 of the EIR/EIS)*

Effects would be similar to those of the BNSF Alternative.

### *Socioeconomics, Communities, and Environmental Justice (Section 3.12 of the EIR/EIS)*

**Community cohesion effects.** Effects would be similar to those of the BNSF Alternative.

**Displacement effects.** Effects would be less than those of the BNSF Alternative because fewer displacements would result.

### *Agricultural Lands (Section 3.14 of the EIR/EIS)*

Effects would be similar to those of the BNSF Alternative.

### *Parks, Recreation, and Open Space (Section 3.15 of the EIR/EIS)*

Effects would be similar to those of the BNSF Alternative.

### *Aesthetics and Visual Resources (Section 3.16 of the EIR/EIS)*

Effects would be similar to those of the BNSF Alternative.

### *Cultural and Paleontological Resources (Section 3.17 of the EIR/EIS)*

Effects would be similar to those of the BNSF Alternative.

### *Cumulative Impacts (Section 3.19 of the EIR/EIS)*

Effects would be similar to those of the BNSF Alternative.

## Corcoran Bypass Alternative Alignment

### *Transportation (Section 3.2 of the EIR/EIS)*

Effects would be similar to those of the BNSF Alternative.

### *Air Quality and Global Climate Change (Section 3.3 of the EIR/EIS)*

Effects would be similar to those of the BNSF Alternative.

### *Noise and Vibration (Section 3.4 of the EIR/EIS)*

**Construction noise effects.** Effects would be similar to those of the BNSF Alternative.

**Construction vibration effects.** Effects would be similar to those of the BNSF Alternative.

**Operation noise effects.** Effects would be less than those described for the BNSF Alternative because fewer receptors would be exposed to operational noise. However, the effects would still be substantial and significant.

**Operation vibration effects.** Effects would be similar to those of the BNSF Alternative.

### *Electromagnetic Fields and Electromagnetic Interference (Section 3.5 of the EIR/EIS)*

Effects would be similar to those of the BNSF Alternative.

### *Hazardous Materials/Wastes (Section 3.10 of the EIR/EIS)*

Effects would be similar to those of the BNSF Alternative.

### *Safety and Security (Section 3.11 of the EIR/EIS)*

**Emergency services construction effects.** Effects would be similar to those of the BNSF Alternative.

**Effect to private airstrip from operation.** The proximity of a private airstrip to the HST system would increase risks to people residing or working in the project area because the project would take the runway approach equipment for that airport. This taking would be a substantial and significant effect. The implementation of Mitigation Measure S&S-MM#1 (Compensation for Loss of a Private Airstrip) would reduce these impacts to a less-than-significant level.

### *Socioeconomics, Communities, and Environmental Justice (Section 3.12 of the EIR/EIS)*

**Community cohesion effects.** Effects would be less than those of the BNSF Alternative because the city of Corcoran would not be split.

**Displacement effects.** Effects would be less than those of the BNSF Alternative because fewer displacements would result.

### *Agricultural Lands (Section 3.14 of the EIR/EIS)*

Effects would be similar to those of the BNSF Alternative.

### *Parks, Recreation, and Open Space (Section 3.15 of the EIR/EIS)*

Effects would be similar to those of the BNSF Alternative.

### *Aesthetics and Visual Resources (Section 3.16 of the EIR/EIS)*

Effects would be less than those of the BNSF Alternative because the Corcoran Bypass Alternative would go around the city of Corcoran, where potentially significant impacts for aesthetics and visual resources would occur.

### *Cultural and Paleontological Resources (Section 3.17 of the EIR/EIS)*

**Construction-related impacts to prehistoric and historic archaeological resources.** Effects would be similar to those of the BNSF Alternative.

**Historic property and resource effects.** No effects would result from the Corcoran Bypass Alternative, whereas one historic property would be affected under the BNSF Alternative.

**Construction-related paleontological resource effects.** Effects would be similar to those of the BNSF Alternative.

### *Cumulative Impacts (Section 3.19 of the EIR/EIS)*

Effects would be similar to those of the BNSF Alternative.

**Allensworth Bypass Alternative Alignment**

### *Transportation (Section 3.2 of the EIR/EIS)*

Effects would be similar to those of the BNSF Alternative.

### *Air Quality and Global Climate Change (Section 3.3 of the EIR/EIS)*

Effects would be similar to those of the BNSF Alternative.

### *Noise and Vibration (Section 3.4 of the EIR/EIS)*

**Construction noise effects.** Effects would be similar to those of the BNSF Alternative.

**Construction vibration effects.** Effects would be similar to those of the BNSF Alternative.

**Operation noise effects.** Effects would be less than those of the BNSF Alternative because fewer receptors would be exposed to operational noise. However, the effects would still be substantial and significant.

**Operation vibration effects.** Effects would be similar to those of the BNSF Alternative.

### *Electromagnetic Fields and Electromagnetic Interference (Section 3.5 of the EIR/EIS)*

Effects would be similar to those of the BNSF Alternative.

### *Hazardous Materials/Wastes (Section 3.10 of the EIR/EIS)*

Effects would be similar to those of the BNSF Alternative.

### *Safety and Security (Section 3.11 of the EIR/EIS)*

Effects would be similar to those of the BNSF Alternative.

### *Socioeconomics, Communities, and Environmental Justice (Section 3.12 of the EIR/EIS)*

Effects would be similar to those of the BNSF Alternative.

### *Agricultural Lands (Section 3.14 of the EIR/EIS)*

Effects would be similar to those of the BNSF Alternative.

### *Parks, Recreation, and Open Space (Section 3.15 of the EIR/EIS)*

No potentially substantial or significant effects were identified along the Allensworth Bypass Alignment. The effects would be less than those under the BNSF Alternative because the Allensworth Bypass Alignment would not affect Allensworth State Historic Park.

### *Aesthetics and Visual Resources (Section 3.16 of the EIR/EIS)*

Effects would be less than those of the BNSF Alternative because the Allensworth Bypass Alignment goes around Allensworth State Historic Park, where potentially significant impacts to aesthetics and visual quality impacts would occur under the BNSF Alternative.

### *Cultural and Paleontological Resources (Section 3.17 of the EIR/EIS)*

**Construction-related impacts to prehistoric and historic archaeological resources.** Effects would be similar to those of the BNSF Alternative.

**Historic property and resource effects.** No effects would occur under the Allensworth Bypass Alternative; where one historic property would be affected under the BNSF Alternative.

**Construction-related paleontological resource effects.** Effects would be similar to those of the BNSF Alternative.

### *Cumulative Impacts (Section 3.19 of the EIR/EIS)*

Effects would be similar to those of the BNSF Alternative.

## Wasco-Shafter Bypass Alternative Alignment

### *Transportation (Section 3.2 of the EIR/EIS)*

Effects would be similar to those of the BNSF Alternative.

### *Air Quality and Global Climate Change (Section 3.3 of the EIR/EIS)*

Effects would be similar to those of the BNSF Alternative.

### *Noise and Vibration (Section 3.4 of the EIR/EIS)*

**Construction noise effects.** Effects would be similar to those of the BNSF Alternative.

**Construction vibration effects.** Effects would be similar to those of the BNSF Alternative.

**Operation noise effects.** Effects would be less than those of the BNSF Alternative because fewer receptors would be exposed to operational noise. However, effects would still be substantial and significant under the Wasco-Shafter Bypass Alternative.

**Operation vibration effects.** Effects would be similar to those of the BNSF Alternative.

### *Electromagnetic Fields and Electromagnetic Interference (Section 3.5 of the EIR/EIS)*

Effects would be similar to those of the BNSF Alternative.

### *Hazardous Materials/Wastes (Section 3.10 of the EIR/EIS)*

Effects would be similar to those of the BNSF Alternative.

### *Safety and Security (Section 3.11 of the EIR/EIS)*

Effects would be similar to those of the BNSF Alternative.

### *Socioeconomics, Communities, and Environmental Justice (Section 3.12 of the EIR/EIS)*

**Community cohesion effects.** Effects would be less than those of the BNSF Alternative because the communities of Wasco and Shafter would not be split.

**Displacement effects.** Effects would be less than those of the BNSF Alternative because fewer displacements would result.

### *Agricultural Lands (Section 3.14 of the EIR/EIS)*

Effects would be similar to those of the BNSF Alternative.

### *Parks, Recreation, and Open Space (Section 3.15 of the EIR/EIS)*

The Wasco-Shafter Bypass would traverse a proposed 5-acre park within the Orchard Park Planned Community in Shafter. The HST would reduce the size of the planned park below the standards in the general plan. This effect would be potentially substantial and significant. This impact could be reduced to a less-than-significant level with the implementation of the mitigation measures detailed in Sections 3.4 (Noise and Vibration) and 3.16 (Aesthetics and Visual Resources) of the EIS/EIR.

### *Aesthetics and Visual Resources (Section 3.16 of the EIR/EIS)*

Effects would be less than those of the BNSF Alternative because the Wasco-Shafter Bypass Alternative would go around the cities of Wasco and Shafter, where significant effects to aesthetics and visual resources would occur under the BNSF Alternative.

### *Cultural and Paleontological Resources (Section 3.17 of the EIR/EIS)*

**Construction-related impacts to prehistoric and historic archaeological resources.** Effects would be similar to those of the BNSF Alternative.

**Historic property and resource effects.** The Wasco-Shafter Bypass would affect one historic property; the BNSF Alternative Alignment would affect two historic properties.

**Construction-related paleontological resource effects.** Effects would be similar to those of the BNSF Alternative.

### *Cumulative Impacts (Section 3.19 of the EIR/EIS)*

Effects would be similar to those of the BNSF Alternative.

## Bakersfield South Alternative Alignment

### *Transportation (Section 3.2 of the EIR/EIS)*

Effects would be similar to those of the BNSF Alternative.

### *Air Quality and Global Climate Change (Section 3.3 of the EIR/EIS)*

Effects would be similar to those of the BNSF Alternative.

### *Noise and Vibration (Section 3.4 of the EIR/EIS)*

Effects would be similar to those of the BNSF Alternative.

#### *Electromagnetic Fields and Electromagnetic Interference (Section 3.5 of the EIR/EIS)*

Mercy Hospital is directly adjacent to the Bakersfield South Alignment, which would cause some portions of the hospital to experience electromagnetic interference that would be too high to operate sensitive equipment. This effect would be potentially substantial and significant. The impact could be mitigated with implementation of Mitigation Measure EMF/EMI-MM#2 (Protect Sensitive Equipment).

#### *Hazardous Materials/Wastes (Section 3.10 of the EIR/EIS)*

Effects would be similar to those of the BNSF Alternative.

#### *Safety and Security (Section 3.11 of the EIR/EIS)*

Effects would be similar to those of the BNSF Alternative.

#### *Socioeconomics, Communities, and Environmental Justice (Section 3.12 of the EIR/EIS)*

Effects would be similar to those of the BNSF Alternative.

#### *Agricultural Lands (Section 3.14 of the EIR/EIS)*

Effects would be similar to those of the BNSF Alternative.

#### *Parks, Recreation, and Open Space (Section 3.15 of the EIR/EIS)*

Effects would be similar to those of the BNSF Alternative.

#### *Aesthetics and Visual Resources (Section 3.16 of the EIR/EIS)*

Effects would be similar to those of the BNSF Alternative.

#### *Cultural and Paleontological Resources (Section 3.17 of the EIR/EIS)*

**Construction-related impacts to prehistoric and historic archaeological resources.** Effects would be similar to those of the BNSF Alternative.

**Historic property and resource effects.** Several historic properties along the Bakersfield South Alternative would be affected as a result of the project. A majority of these buildings are within the cities along the alignment. Fresno and Bakersfield have the largest number of historic buildings.

**Construction-related paleontological resource effects.** Effects would be similar to those of the BNSF Alternative.

#### *Cumulative Impacts (Section 3.19 of the EIR/EIS)*

Effects would be similar to those of the BNSF Alternative.

### 5.3.3 Disproportionately High and Adverse Impacts on EJ Populations

This section describes impacts for all resources that are pertinent to EJ communities because the effects are potentially disproportionately high and adverse with respect to minority and low-income populations along the BNSF Alternative, Corcoran Elevated Alternative, Corcoran Bypass Alternative, Allensworth Bypass Alternative, Wasco-Shafter Bypass Alternative, and Bakersfield South Alternative.

## A. No Project Alternative

Under the No Project Alternative, the HST would not be constructed, but other planned transportation improvements would be made to rail, highway, airport, and transit systems. It is presumed these projects would happen throughout the region and would not disproportionately affect minority and low-income populations, except for those improvements that require expanding railroad rights-of-way or urban terminal facilities, which are likely to be in areas inhabited by predominately minority and low-income populations.

## B. Alternative Alignments

### BNSF Alternative Alignment

Table 5-26 presents a summary of the EJ findings for the BNSF Alternative and the proposed HST stations. Analysis of the alternative alignments (including the bypass alternative alignments) yielded slightly different findings but did not change the overall EJ determinations, so the alternative alignments are discussed separately in the text below rather than presented in the summary table.

**Table 5-26**
EJ Findings for the BNSF Alternative and Station Alternatives by Resource Area

| Resource | BNSF Alternative Alignment and Station Alternatives | |
|---|---|---|
| | Construction | Operation |
| Transportation | N | N |
| Air quality and global climate change | N | NE |
| Noise and vibration | N | N |
| Electromagnetic fields and electromagnetic interference | N | NE |
| Public utilities and energy | N | N |
| Hazardous materials and wastes | N | N |
| Safety and security | N | N |
| Socioeconomics and communities | NE | Y |
| Agricultural lands | N | N |
| Parks, recreation, and open space | Y | Y |
| Aesthetics and visual resources | N | Y |
| Cultural and paleontological resources | N | Y |
| Cumulative impacts | Y | Y |

EJ = environmental justice
N = no disproportionate adverse effect on a minority or low-income population
NE = no effect
Y = disproportionate adverse impact on a minority or low-income population

### *Transportation (Section 3.2)*

All transportation-related impacts could be reduced to a less-than-significant level by the implementation of the proposed mitigation measures, so there would be no disproportionately high and adverse effects on minority and low-income populations.

### *Air Quality and Global Climate Change (Section 3.3)*

Emissions associated with construction would exceed the regional pollutant emission thresholds of the San Joaquin Valley Air Pollution Control District, even after mitigation. Air quality impacts would be evenly dispersed along the entire alignment and would not affect any one area or population more than another. Therefore, the impacts to air quality and global climate change from the construction of the BNSF Alternative would not have disproportionately high and adverse impacts on minority and low-income populations.

### *Noise and Vibration (Section 3.4)*

Noise from construction activities would temporarily exceed noise standards and would affect sensitive receptors. These effects would be substantial and significant, but would be decreased to a less-than-significant level by the proposed mitigation measures. Therefore, noise effects from construction of the BNSF Alternative would have no disproportionately high and adverse effects on minority and low-income populations.

Vibration from construction activities would temporarily exceed vibration standards and would affect sensitive receptors. These effects would be substantial and significant, but would be decreased to a less-than-significant level by implementation of the proposed mitigation measures. Therefore, vibration effects from construction of the BNSF Alternative would have no disproportionately high and adverse effects on minority and low-income populations.

Noise and vibration from the operation of the HST would increase ambient noise levels above noise standards and would affect sensitive receptors. These effects would be substantial and significant. For the most part, these effects could be reduced to a less-than-significant level with mitigation measures. The effects would be distributed along the entire alignment, not focused on a single area, so noise and vibration effects from operation of the HST would not have a disproportionately high and adverse effect on minority and low-income populations.

### *Electromagnetic Fields and Electromagnetic Interference (Section 3.5)*

No electromagnetic field or electromagnetic interference impacts were identified along the BNSF Alternative; therefore, no disproportionately high and adverse effects on minority and low-income populations would result.

### *Public Utilities and Energy (Section 3.6)*

All effects related to public utilities and energy could be reduced to a less-than-significant level by the implementation of the proposed mitigation measures, so no disproportionately high and adverse effects on minority and low-income populations would result.

### *Hazardous Materials/Wastes (Section 3.10)*

All effects related to hazardous materials and wastes would result in a negligible effect and less than significant impact, so no disproportionately high and adverse effects on minority and low-income populations would result.

### *Safety and Security (Section 3.11)*

All effects related to safety and security could be reduced to a less-than-significant level by implementation of the proposed mitigation measures, so no disproportionately high and adverse effects on minority and low-income populations would result.

### *Socioeconomics, Communities, and Environmental Justice (Section 3.12)*

Operation of the HST would divide some communities; remove numerous homes, businesses, and community services or amenities; and permanently alter the character of existing communities or neighborhoods. The persons who would experience these community impacts are located in urban areas. These effects would remain even after the implementation of the proposed mitigation measures. Because the majority of home and business displacements along the BNSF Alignment would occur in Northeast Bakersfield, a community with a high concentration of minority and low-income individuals, a disproportionately high and adverse effect on minority and low-income populations would result.

### *Agricultural Lands (Section 3.14)*

The HST project would result in the loss of agricultural land, a loss that would lead to a permanent reduction in land resources. These effects would be considered substantial. These effects to agricultural lands would occur along the entire BNSF Alternative outside the urban areas. These rural areas that would be affected contain the lowest concentrations of minority and low-income populations in the Fresno to Bakersfield Section. The effects would be evenly distributed across these rural areas and would not affect any one area more than another. Thus, agricultural effects from the BNSF Alternative would not have a disproportionately high and adverse effect on minority and low-income populations.

### *Parks, Recreation, and Open Space (Section 3.15)*

The HST project would have both construction and operation impacts to parks, recreation, and open space. Three parks (Allensworth State Historic Park, Kern River Parkway, and the Amtrak Station Playground) would be affected by temporary closures, visual and character changes, land acquisitions, noise impacts, and increased use.

For Allensworth State Historic Park, the project would introduce a modern feature not consistent with the historical setting that has been recreated. Because the purpose of the Allensworth State Historic Park is to recreate an atmosphere from the past, the intrusion of a modern HST would conflict with established or planned uses of the park. Although the area surrounding Allensworth State Historic Park is sparsely populated, minority and low-income populations are present in the area; also, Allensworth is a unique state park, a memorial to the only California town founded, financed, and governed by African Americans. Thus, the park has special significance to a minority population. The impacts to the park cannot be mitigated to a less-than-significant level.

The Kern River Parkway would experience construction effects from the closure of some of the trails and both the Kern River Parkway and the Father Wyatt Park would experience operation effects from the acquisition of park land and increases in noise in the park. All the effects that are expected to increase the noise level in the parks can be reduced to a less-than-significant level with mitigation. These parks serve the entire community, so no EJ effects would occur.

As a result of the project, the Amtrak Station Playground in Bakersfield would receive additional use that could increase usage to a level where substantial physical deterioration of the playground would occur. However, this effect could be decreased by the implementation of the proposed mitigation measures.

Because the project would result in effects to Allensworth State Historic Park and because the park is important to minority populations, disproportionately high and adverse effects on minority and low-income populations would result.

### *Aesthetics and Visual Resources (Section 3.16)*

The HST project would have both construction and operation effects to aesthetics and visual resources. Construction effects would be concentrated in urban areas, where EJ populations reside. Nighttime lighting would be required, and the construction of the elevated guideways and the resulting visual impacts could not be mitigated to a less-than-significant level with the proposed mitigation measures.

During the operation phase of the project, effects would be distributed along the entire alignment. The elevated portions of the HST guideway would become a dominant feature in the visual landscape, substantially affecting visual quality within approximately 0.5 mile of the BNSF Alternative. The visual effect would occur in those areas where the alignment would be elevated, which is in mostly urban areas along the alignment. Except for a few areas (e.g., the city of Hanford and Bakersfield's Northwest district), these urban areas have high concentrations of minority and low-income populations. Therefore, the project operation would have a disproportionately high and adverse effect on minority and low-income populations. The sections of the alignment that are built at-grade would also have visual effects; however, those effects would occur closer to (within 0.25 mile of) the alignment, and they could be mitigated by the proposed mitigation measures in most areas. An area where the impacts would not be mitigated is near Allensworth State Historic Park. The passing of the train by the park would introduce a feature that is incompatible with the desired look of the park. This feature would affect the state park. The area surrounding Allensworth State Historic Park is sparsely populated; however, minority and low-income populations are present in the area. Furthermore, Allensworth is a unique state park because it is a memorial to the only California town founded, financed, and governed by African Americans. This history gives the park a special significance to a minority population. For these reasons, this aesthetics and visual resource impacts associated with the BNSF Alternative would have a disproportionately high and adverse effect on minority and low-income populations.

Visual effects from the construction and operation of the HST would occur along the entire alignment. The areas that would experience the greatest effects are those within urban areas along the alignment where the train would operate on an elevated guideway. These urban areas have high concentrations of minority and low-income populations. Therefore, the visual effects associated with the BNSF Alternative would have a disproportionately high and adverse effect on minority and low-income populations.

### *Cultural Resources (Section 3.17)*

Construction activities taking place in areas known to contain historical resources or properties could cause substantial and significant physical changes to those resources. Because historical resources or properties are present along the entirety of the BNSF Alternative, construction effects would occur throughout the study area and are therefore not disproportionately borne by EJ communities in either magnitude or frequency. The BNSF Alternative would cause effects to some historic buildings, most of which are concentrated in the downtown areas of Fresno and Bakersfield. Although these historic buildings (such as the old train depot in Bakersfield) are regional resources that the wider community can use and appreciate, they are in areas identified as EJ communities and therefore their loss could be considered a disproportionately high and adverse effect on minority and low-income populations.

### *Cumulative Impacts (Section 3.19)*

Cumulative impacts occur for all resource areas except electromagnetic fields and electromagnetic interference; hazardous materials/wastes; local growth, station planning, and land use; and parks, recreation, and open space. For the resource areas that do have cumulative impacts, all impacts can be reduced to a less-than-significant level with the implementation of mitigation measures except for air quality and global climate change, noise and vibration, agricultural lands, aesthetics and visual resources, and cultural and paleontological resources. Of these resources, three (air quality and global climate change, noise and vibration, and agricultural lands) have cumulative impacts that are spread evenly throughout the study area and therefore do not affect EJ areas. The remaining two resources (aesthetics and visual resources and cultural resources) have effects that are concentrated in urban areas. Because urban areas are where a majority of the EJ populations live in the Fresno to Bakersfield Section, then cumulative impacts have a disproportionately high and adverse effect on minority and low-income populations.

#### Corcoran Elevated Alternative Alignment

The environmental justice effects for the Corcoran Elevated Alternative would be similar to those shown for the BNSF Alternative in Table 5-26 because the alignments are directly adjacent to each other. The Corcoran Elevated Alternative would take fewer residences and businesses in Corcoran but would still split the community.

#### Corcoran, Allensworth, and Wasco-Shafter Bypass Alternative Alignments

The environmental justice effects associated with all three of the bypass alternatives would be smaller than those shown for the BNSF Alternative in Table 5-26 The substantial and significant effects to parks, recreation, and open space associated with Allensworth State Historic Park would be avoided under the Allensworth Bypass Alternative. Substantial noise and visual effects would be somewhat reduced because the bypass alternative alignments traverse areas with fewer sensitive receptors that could be affected by the project. The population densities of these areas outside of Corcoran, Allensworth, Wasco, and Shafter are lower overall and fewer concentrations of minority and low-income populations were identified, so the effects of the HST alignment on these populations would be slightly reduced if the bypass alternatives are incorporated into the project.

#### Bakersfield South Alternative Alignment

The environmental justice effects associated with the Bakersfield South Alternative would be similar to those shown for the BNSF Alternative in Table 5-26. The same communities would be divided, but somewhat different homes, businesses, and community facilities, such as churches, would be displaced (some would be the same, some different). The Bakersfield South Alternative would affect fewer residences and businesses but more churches than the corresponding portion of the BNSF Alternative; however, the Bakersfield South Alternative would have a more substantial effect on Bakersfield High School, which is attended by predominately minority and low-income students.

### C. Station Alternatives

The construction and operation effects associated with the proposed HST stations were analyzed as part of the BNSF Alignment and the alternative alignments. Although the project considers alternative designs (e.g., the Fresno Station–Mariposa and Fresno Station–Kern alternatives for Fresno and the Bakersfield Station–North and Bakersfield Station–South alternatives for Bakersfield), these alternative designs are reconfigurations of station facilities at the same

locations, within almost identical footprints. For this reason, the EJ findings of effect would not vary from one station alternative to another.

The construction and operation of the proposed Kings/Tulare Regional Station would increase urban development pressures on the agricultural lands in the area, because land in the vicinity of the station would be developed to support the station operation. However, this station location is not in an area with high concentrations of minority and low-income individuals. As a result, these station construction effects would not have disproportionately high and adverse effects on minority and low-income populations.

Overall, communities of concern are concentrated in the urban areas of Fresno and Bakersfield, where two of the stations for the Fresno to Bakersfield Section will be built. Therefore, all the station alternatives in these two cities would have disproportionately high and adverse construction and operation effects on minority and low-income populations.

### D. Heavy Maintenance Facility Site Alternatives

Unlike the station alternatives, the five sites proposed for the construction of the HMF (in four different parts of the study area) vary in both size and configuration and thus could result in different effects on EJ populations. Table 5-27 presents a summary of the EJ findings for the proposed HMF sites.

As shown in Table 5-27, of the five proposed HMF sites, two were found to have significant and substantial environmental effects due to the sensitivity of surrounding uses: the Fresno Works–Fresno HMF site and the Kern Council of Governments–Wasco HMF site. The air quality, noise, and aesthetics/visual impacts from the construction and operation of facilities at these two locations would be substantial and significant. Because these two locations are in areas near high concentrations of minority and low-income populations (the Kern Council of Governments–Wasco HMF site is immediately adjacent to the Wasco Farm Labor Camp), these two sites would result in a disproportionately high and adverse effect on minority and low-income populations. The other proposed HMF sites (the Kings County–Hanford HMF site and the Kern Council of Governments–Shafter East and Shafter West HMF sites) do not result in any substantial and significant effects and therefore are not considered to have a disproportionate adverse effect on a minority or low-income population.

**Table 5-27**
Environmental Justice Findings by Heavy Maintenance Facility Location

| Resource | Heavy Maintenance Facility Site | | | | |
|---|---|---|---|---|---|
| | Fresno Works–Fresno | Kings County–Hanford | Kern Council of Governments–Wasco | Kern Council of Governments–Shafter East | Kern Council of Governments–Shafter West |
| Transportation | N | N | N | N | N |
| Air quality and global climate change | Y | N | Y | N | N |
| Noise and vibration | Y | N | Y | N | N |
| Electromagnetic fields and electromagnetic interference | N | N | N | N | N |
| Public utilities and energy | N | N | N | N | N |

**Table 5-27**
Environmental Justice Findings by Heavy Maintenance Facility Location

| Resource | Heavy Maintenance Facility Site | | | | |
|---|---|---|---|---|---|
| | Fresno Works–Fresno | Kings County–Hanford | Kern Council of Governments–Wasco | Kern Council of Governments–Shafter East | Kern Council of Governments–Shafter West |
| Hazardous materials/wastes | N | N | N | N | N |
| Safety and security | N | N | N | N | N |
| Socioeconomics, communities, and environmental justice | N | N | N | N | N |
| Agricultural lands | N | N | N | N | N |
| Parks, recreation, and open space | N | N | N | N | N |
| Aesthetics and visual resources | Y | N | Y | N | N |
| Cultural and paleontological resources | N | N | N | N | N |
| Cumulative impacts | N | N | N | N | N |

EJ = environmental justice
N = no disproportionate adverse effect on a minority or low-income population
N/A = resource not applicable
NE = no effect
Y = disproportionate adverse effect on a minority or low-income population

## E. Project Benefits

In accordance with Executive Order 12898, offsetting benefits should also be considered when evaluating potential disproportionately high and adverse effects on minority and low-income populations. The proposed HST project would bring economic benefits to the study region, including jobs and related income. HST construction and operation jobs would be filled by the regional labor force, so the project would benefit regional workers broadly, but would not disproportionately benefit minority and low-income populations in the absence of special recruitment, training, or job set-aside programs.

Although elevated guideways would introduce substantial adverse aesthetic and visual effects through urban areas, station construction and planned station area improvements in Downtown Fresno and Downtown Bakersfield would improve the aesthetics and visual environment in these locations, benefiting the nearby minority and low-income communities. Other station-related benefits, including improved accessibility and potential property value increases, would most benefit those who live closest to the new stations. In Fresno and Bakersfield, the people who live closest to the new stations would be the adjacent minority and low-income communities. The optional Kings/Tulare Regional Station is in a sparsely populated area that would bring neither disproportionate adverse effects nor benefits to minority and low-income populations.

# 5.4 Other Impacts

## 5.4.1 Relocation of Sensitive Populations

High concentrations of residential unit displacements associated with construction of the project could result in the relocation of high percentages of sensitive populations, including the elderly (over 65), the disabled, female heads of household, and linguistically isolated residents. It follows that adequate relocation plans must be put in place to meet any special needs. Potential impacts from the relocation of sensitive populations are a direct result of project construction and the need to acquire land for the project and its associated structures. Impacts from the relocation of minority and low-income populations are examined specifically in Section 5.3 (Environmental Justice).

The anticipated residential unit displacements resulting from the construction of the HST system are not expected to disproportionately displace sensitive populations; however, it is expected that sensitive populations will be among those relocated by the project. Relocation plans and resources would take this into account and address special needs of such households accordingly. Therefore, the impacts on sensitive populations overall would not be substantial.

### A. ALTERNATIVE ALIGNMENTS

**BNSF Alternative Alignment**

The highest numbers of residential displacements would occur in the Northeast and Northwest districts of Bakersfield under the BNSF Alternative. Within the U.S. Census tracts for these three districts, analysis of Census 2000 data shows that the percentage of the total population that is elderly in these districts is 10.5% and 7.8%, respectively. These percentages are similar to those for Bakersfield as a whole (8.8%) and for Kern County (9.4%). The disabled population in these districts accounts for 24.6% and 14.3%, respectively, of the total population. The values for the Northeast district are somewhat higher than those of Bakersfield as a whole (19.9%) and Kern County (22.5%), and the percentage for the Northwest district is considerably lower. The female head of household population in these districts is 17.8% and 7.9%, respectively. The percentage for the Northeast district is somewhat higher than those for Bakersfield as a whole (14.2%) and Kern County (15.0%), and the percentage for the Northwest district is considerably lower. The percentage of households linguistically isolated in the districts is 9.6% and 1.2%, respectively. The percentage for the Northeast district is higher than in Bakersfield as a whole (5.8%) and Kern County (8.2%). These comparisons suggest that the residential displacements in the Northeast district may affect slightly higher numbers of disabled, female head of household populations, and linguistically isolated populations. Relocation plans and resources would take these possibilities into account.

Table 5-28 provides this breakdown of elderly, disabled, female head of household, and linguistically isolated residents in Kern County, the city of Bakersfield, and the two affected districts of Bakersfield.

**Table 5-28**
Sensitive Populations in Areas with High Concentration of Residential Displacements

| Area | Percent over 65 | Percent Disabled | Percent female Head of Household | Percent Linguistically Isolated |
|---|---|---|---|---|
| Kern County [a] | 9.4% | 22.5% | 15.0% | 8.2% |
| City of Bakersfield [a] | 8.8% | 19.9% | 14.2% | 5.8% |
| Northwest district [b] | 7.8% | 14.3% | 7.9% | 1.2% |
| Northeast district [b] | 10.5% | 24.6% | 17.8% | 9.6% |

Sources:
[a] Data for Kern County and the city of Bakersfield are from U.S. Census Bureau 2007, 2008; California Department of Finance 2009; U.S. Census Bureau, American Community Survey 2008c.
[b] Data for the three districts in Bakersfield are from U.S. Census Bureau 2000j; California Department of Finance 2009; U.S. Census Bureau 2000f.

After the Bakersfield area, the city of Corcoran and unincorporated Fresno and Kings counties contained the most residential displacements. For the unincorporated areas, these relocations are not concentrated in a single community, but are dispersed throughout rural areas. Given that no elderly, disabled care, or women's centers were identified among these displacements, there is no reason to believe that relocation of elderly, disabled, or female head of household populations would occur at a rate greater than that for the county average for these populations. The same is true for individuals who are linguistically isolated, because the percentage of these individuals relocated would be expected to correlate with those of the counties as a whole.

**Corcoran Elevated Alternative Alignment**

High concentrations of residential displacements would not occur under the Corcoran Bypass Alternative. Therefore, the impacts on sensitive populations would be small.

**Corcoran Bypass Alternative Alignment**

High concentrations of residential displacements would not occur under the Corcoran Bypass Alternative. Therefore, the impacts on sensitive populations would be small.

**Allensworth Bypass Alternative Alignment**

High concentrations of residential displacements would not occur under the Allensworth Bypass Alternative. Therefore, the impacts on sensitive populations would be small.

**Wasco-Shafter Bypass Alternative Alignment**

High concentrations of residential displacements would not occur under the Wasco-Shafter Bypass Alternative. Therefore, the impacts on sensitive populations would be small.

**Bakersfield South Alternative Alignment**

High concentrations of residential displacements would occur in and near the city of Bakersfield's Northeast and Northwest districts under the Bakersfield South Alternative. The presence of

sensitive populations in these areas was examined for the BNSF Alternative. The analysis suggests that relocation in these districts may affect high numbers of disabled, female head of household, and linguistically isolated populations in the Northeast district. Therefore, the relocation plans and resources provided will take these populations into account.

#### B. STATION ALTERNATIVES

No residential displacements would be associated with the Fresno and Hanford station alternatives. Residential displacements associated with the Bakersfield Station–North Alternative occur in and near the Central and Northeast districts of Bakersfield. The presence of sensitive populations in these districts was examined for the BNSF Alternative. The analysis suggests that relocations in these districts may affect high numbers of female-headed households and linguistically isolated populations. Therefore, the relocation plans and resources provided will take these populations into account.

#### C. HEAVY MAINTENANCE FACILITY SITE ALTERNATIVES

Residential displacements that would result from the Fresno Works–Fresno HMF site and the Kern Council of Governments–Wasco HMF site would not disproportionately displace sensitive populations. No residential displacements are associated with the Kings County–Hanford HMF site, the Kern Council of Governments–Shafter East HMF site, or the Kern Council of Governments–Shafter West HMF site.

### 5.4.2 Changes in School District Funding

The potential impact of high concentrations of residential unit displacements on school districts was considered based on potential indirect construction impacts on school funding resulting from reductions in student populations in communities with high numbers relocations. School district funding is dependent on student attendance, and the relocation of large populations of students outside existing school districts could therefore reduce funding for the affected school districts.

As described in the residential displacement analysis above, a suitable amount of vacant replacement housing is available in the vicinity of all anticipated displacements, and students would likely have the opportunity to remain in their current school districts; therefore, any effect on school district funding would be small.

#### A. ALTERNATIVE ALIGNMENTS

High concentrations of residential unit displacements would occur in the Northwest and Northeast districts of Bakersfield along the BNSF Alternative. High concentrations of residential displacements would also occur in the Northwest and Northeast districts of Bakersfield along the Bakersfield South Alternative. High concentrations of residential displacements are not associated with the Corcoran Elevated, Corcoran Bypass, Allensworth Bypass, or Wasco-Shafter Bypass Alternative Alignments. As described in the analysis in Section 5.2.2 (Residential Displacements), a suitable amount of vacant replacement housing is available in the vicinity of all anticipated displacements, and students would likely have the opportunity to remain in their current school districts; therefore, any effect on school district funding would be small.

#### B. STATION ALTERNATIVES

No high concentrations of residential displacements would be associated with the station alternatives. Therefore, no effect to school district funding would occur under any of these alternatives.

### C. HEAVY MAINTENANCE FACILITY SITE ALTERNATIVES

Although residential displacements would occur in conjunction with some of the proposed HMF site alternatives, no high concentrations of displacements would occur, and if they did, suitable replacement housing resources are generally available in the vicinity, so impacts on school funding would be small.

## 5.4.3 Agricultural Access Impacts and Road Closures

This analysis examined the potential of the project to act as an "economic barrier" that would restrict access of agricultural operations across the linear project. The analysis identified any specific areas along the project alignment where permanent road closures (i.e., roads that are not routed over the project but rather are terminated at the project) could substantially restrict transportation or access related to agricultural operations. This includes such aspects as moving workers and equipment for cultivating and harvesting fields, as well as delivering products to processing operations and markets. The potential impact of the project on this mobility in the region was measured as the length of any detours associated with road closures that may add substantial cost (time and money) to agricultural operations.

It is beyond the scope of this effort to determine the potential impacts at the individual operation level (i.e., for each farm). Some individual operations may be affected more than others, and this cost to producers and impact on operation feasibility and value must be considered on a case by case basis during the property acquisition portion of the project. Rather, this analysis is focused on identifying any areas where major stretches of the project are projected to result in road closures, thereby limiting access from one side of the project to the other.

Details were obtained on all planned permanent road crossings along the project alignment. The locations of these closures were then spatially located and examined in GIS mapping software to identify the alternative routes available. Potential impacts were measured in terms of the lengths of the resulting detours required to maintain the continued mobility of agriculturally related operations from one side of the alignment to the other. For the purpose of this analysis, detour distances of three miles or less were considered as minor disruptions, whereas detours greater than three miles were considered a potential effect. Detour distances were determined by finding the nearest equivalent size or larger road to the closed road that would allow passage of the detoured traffic from one side of the project to the other.

The analysis identified only one large primary road along the project that would be closed. This closure, which would occur on the proposed BNSF Alternative, is Pond Road in Kern County. The alternative crossings are Schuster Road to the north of Pond Road and Peterson Road to the south.

There were no areas along the project where considerable detours were required; all closed roads appeared to have nearby crossings within reasonable travel distances. Therefore, no substantial impacts on mobility for agricultural operations in the region were identified. The only closure resulting in a detour of more than 2 miles was the closure of McCombs Avenue in Kern County. This closure would lead to a detour of approximately 2.5 miles to the nearest northern crossing (Taussig Avenue). However, since Paso Robles Highway is only 1 mile to the south of McCombs Avenue, the effects of this road closure would also be considered minimal. Also of note would be the closure of Fresno Avenue in Kern County. The resulting detours would not exceed 2 miles, but the detour to the south would pass some residential areas in Shafter that could result in traffic slowdowns and possible disruptions for the affected residences.

Smaller (often unpaved) roads were not identified in the project road closure information and were therefore assumed to result in potential closure. Even assuming all of these smaller roads

were permanently closed, there were no areas, outside of the areas identified above, where detours resulting from closures would be greater than 3 miles from another road providing access across the project. However, while these smaller roads may not serve as routes for cross-alignment movement for the agricultural industry as a whole, their closure may have substantially adverse impacts for individual operations that regularly use these roads for day-to-day operations. Thus, these smaller roads may need to be examined on a case-by-case basis during the property acquisition phase of the project to identify individual operations that may face special circumstances and suffer an adverse impact on operation value as a result of these closures.

### 5.4.4 County and City Property and Sales Tax Effects

The potential impacts of the project on property tax and sales tax revenues collected by county and city jurisdictions were estimated. Reduced property tax revenues were estimated for all permanent property acquisitions. These potential impacts were estimated quantitatively as the estimated reduction in property tax revenue for county and city budgets resulting from the permanent removal of properties from the tax rolls. The longer-term direct operational impacts on property taxes were examined qualitatively through a literature review that examined the potential for changes in property values resulting from train nuisance impacts on residential properties and new station development. Sales tax losses are an indirect impact of construction and were estimated quantitatively for those permanently displaced businesses that collect sales tax for products, goods, or services.

#### A. COUNTY AND CITY PROPERTY TAX LOSSES

Reduced property tax revenues would be an effect of the project that would result from acquisition of land for project construction. Reduced property tax revenues would also be a direct effect of project operation because of the potential reductions in property values associated with train nuisances (e.g., noise, visual impacts). A literature review of property value impacts suggests that the potential loss in value is greatest for those properties near the project but distant from the stations, because those properties would not benefit from the improved mobility and transit access provided by the project. The research supporting both of these findings is presented below.

#### B. ESTIMATED CHANGES IN PROPERTY TAX REVENUES

Municipal governments use property taxes to collect revenue more than any other taxing authority. Municipalities gain their authority to levy property taxes from state law. Property taxes are used to help finance local government services such as public schools, fire and police protection, roads, parks, streets, sewer and/or water treatment systems, garbage removal, public libraries, and many other local services. Taxing land and buildings is one of the oldest forms of taxation in the United States. Before income and sales taxes were instituted, local governments used property-based taxes to finance most of their activities. Property taxes remain a major source of revenue for local governments.

Property tax distribution varies slightly from jurisdiction to jurisdiction and from year to year. A certain percentage of the total property tax revenues is allocated directly to each county, and another portion is distributed to the various cities within each county. The remainder is then allocated to special districts, which provide services such as those mentioned above.

To determine the percentage of property taxes that are apportioned to each of the counties and the cities along the project alignment, tax rates based on the Assembly Bill 8 (AB 8) rates were identified. According to the Kings County Auditor/Controller's Office, AB 8 rates are the most accurate way of determining property tax allocations (Dorna 2010, personal communication). The

AB 8 rates are based on the 1% general property tax distribution process that was adopted in 1979, which defines procedures for counties to allocate their property taxes. Under AB 8, the State of California allocates to each taxing jurisdiction the amount it received in the prior year, plus the change that has occurred in the current year within its boundaries. The revenue allocation of the 1% general property tax levy is calculated pursuant to Revenue and Taxation Code Section 96.5. The property tax allocation percentage for each agency within a Tax Rate Area is then established.

For this analysis, the "County General" rate was used to reflect the percentage of property taxes that are allocated directly to each county and the individual city rates were used to determine the amount allocated to each city. For Kern and Fresno counties, where one composite city tax rate could not be found, an average of all of the individual Tax Rate Area rates within each city was used to estimate each city's portion of the 1% property tax rate.

The following list is a breakdown of the allocation of the 1% AB 8 rates to the counties and the respective cities:

- 31.1% goes to Fresno County
- 25.8% goes to the City of Fresno
- 15.7% goes to Kings County
- 4.9% goes to the City of Hanford
- 0.2% goes to the City of Corcoran
- 36.5% goes to the County of Tulare
- 17.6% goes to Kern County
- 14.4% goes to the City of Bakersfield
- 0.2% goes to the City of Shafter
- 0.2% goes to the City of Wasco

Estimated county and city tax allocations were based on these current AB 8 rates and exclude allocations to special districts, redevelopment agencies, and schools and colleges (Legislative Analyst's Office 1996). Actual property values were obtained from county tax assessor data sources for each parcel proposed for full acquisition by the project (Fresno County 2010c; Kings County 2010b; Tulare County 2010d; Kern County 2010). Some parcels were missing value data; property values for these parcels were estimated using the average of the same type of parcels in the same community. Property tax revenue losses for full residential and commercial takings were estimated assuming the loss of the entire value of the property.

Losses from agricultural lands were calculated differently, because these lands are most often larger parcels that may be split by the project but not fully acquired. Given the typical realignment of agricultural fields that occurs as a result of intersecting transportation projects, these resulting split lands will likely not be lost to county and city property tax rolls but rather acquired by neighboring operations that would continue to pay property taxes. Therefore, property tax losses for acquisitions of agricultural parcels were estimated using the loss of value associated with the affected acreage that would actually be lost to future agricultural production. The rate applied to agricultural lands was also calculated differently because agricultural lands protected under conservation agreements (Williamson Act lands) are taxed at lower property values; a lower rate was applied for agricultural parcels. As determined from Section 3.14 (Agricultural Lands), about 52% of the agricultural land impacted was protected conservation acreages. Also, a 2003 report from the state detailed the economic advantages to these landowners enrolling in conservation programs as a 20% to 75% reduction in property tax rates, or about a 50% reduction on average (Governor's Office of Planning and Research 2003). As a result, all agricultural acreages were taxed at a reduction of 26% of the standard property tax rate to account for these reduced revenues (this rate represents a 50% reduction on 52% of the agricultural acreages).

Estimated losses are in line with the expected locations of residential, business, and agricultural displacements detailed in Section 5.2 (Property Displacements and Relocations). Given the small percentage of total revenues that would be lost as a result of project-related displacements, the overall effect of these revenue losses would be small. However, for jurisdictions currently confronting severe revenue shortfalls and budget crises, even a minor loss of annual revenues could be considered cumulatively considerable.

## Alternative Alignments

### *BNSF Alternative Alignment*

Along the BNSF Alternative, displacement of residences, businesses, and agricultural lands would result in estimated annual losses of $2.5 million in property tax revenue to county and city budgets in the region. This estimated amount represents approximately 0.3% of the total fiscal year 2009/2010 property tax revenue that the counties and cities in the study area. The highest annual dollar-value losses would occur in Kern County ($994,833) and Fresno County ($852,240). Within these county totals, the cities of Bakersfield ($143,572) and Fresno ($219,597) would also experience losses. Losses in the other cities would be marginal. Property tax losses could be balanced over the long run by the increased property tax revenues associated with the intensification of land uses (and increases in property values) resulting from the project.

Table 5-29 provides a summary of the county-level changes in property tax loss associated with each of the alignment alternatives relative to the BNSF Alternative.

**Table 5-29**
BNSF Alternative Property Tax Revenues Lost during Operation (2010$)

| Alternative Alignment | Fresno County | Kings County | Tulare County | Kern County |
|---|---|---|---|---|
| **BNSF** | | | | |
| Property value | $85,223,964 | $64,219,669 | $5,640,049 | $99,483,261 |
| Lost property tax revenues ($) | $852,240 | $642,197 | $56,400 | $994,833 |
| Lost property tax revenues (% of FY 2009/2010 county general fund property tax revenues) | 0.298% | 0.273% | 0.041% | 0.090% |
| **Other Alternative Construction Costs relative to BNSF Alternative** | | | | |
| **Corcoran Elevated** | | | | |
| Property value | $0 | -$25,994,588 | -$7,451 | $0 |
| Lost property tax revenues | $0 | -$259,946 | -$75 | $0 |
| Lost property tax revenues (% of FY 2009/2010 county general fund property tax revenues) | NA | -0.111% | 0.000% | NA |
| **Corcoran Bypass** | | | | |
| Property value | $0 | -$27,809,589 | -$726,755 | $0 |
| Lost property tax revenues | $0 | -$389,657 | -$4,435 | $0 |

**Table 5-29**
BNSF Alternative Property Tax Revenues Lost during Operation (2010$)

| Alternative Alignment | Fresno County | Kings County | Tulare County | Kern County |
|---|---|---|---|---|
| Lost property tax revenues (% of FY 2009/2010 county general fund property tax revenues) | NA | -0.166% | -0.003% | NA |
| **Allensworth Bypass** | | | | |
| Property value | $0 | $0 | -$1,874,763 | +$766,744 |
| Lost property tax revenues | $0 | $0 | -$18,748 | +$7,667 |
| Lost property tax revenues (% of FY 2009/2010 county general fund property tax revenues) | NA | NA | -0.014% | +0.001% |
| **Wasco-Shafter Bypass** | | | | |
| Property value | $0 | $0 | $0 | -$18,190,867 |
| Lost property tax revenues | $0 | $0 | $0 | -$181,909 |
| Lost property tax revenues (% of FY 2009/2010 county general fund property tax revenues) | NA | NA | NA | -0.016% |
| **Bakersfield South** | | | | |
| Property value | $0 | $0 | $0 | +$28,877,124 |
| Lost property tax revenues | $0 | $0 | $0 | +$288,771 |
| Lost property tax revenues (% of FY 2009/2010 county general fund property tax revenues) | NA | NA | NA | +0.026% |

Source: Analysis of Fresno, Kings, Tulare, and Kern county property tax assessed property values for fully acquired parcels and county property tax revenues from adopted budgets for FY 2009/2010.

### *Corcoran Elevated Alternative Alignment*

The Corcoran Elevated Alternative would result in an estimated annual loss of $201,390 in property tax revenue to the budgets of Kings and Tulare County and the cities of Hanford and Corcoran, as a result of project construction. This amount compares with the $461,410 annual loss in property tax revenue associated with the corresponding portion of the BNSF Alternative.

### *Corcoran Bypass Alternative Alignment*

The Corcoran Bypass Alternative would result in an estimated annual loss of $67,319 in property tax revenue to the budgets of Kings and Tulare County and the cities of Hanford and Corcoran as a result of displaced agricultural land. This amount compares with the $461,410 annual loss in property tax revenue associated with the corresponding portion of the BNSF Alternative.

### *Allensworth Bypass Alternative Alignment*

Tulare and Kern counties would experience an estimated $43,764 annual loss of property tax revenue from displaced agricultural land resulting from the construction of the Allensworth Bypass Alternative. This amount compares with the $54,845 annual loss in property tax revenue associated with the corresponding portion of the BNSF Alternative

### *Wasco-Shafter Bypass Alternative Alignment*

The annual losses of property tax revenue associated with the Wasco-Shafter Bypass Alternative are estimated at $23,717. The loss would affect the budgets of Kern County and the Cities of Wasco, Shafter, and Bakersfield, mostly from agricultural displacements. This amount compares with the $205,625 annual loss in property tax revenue associated with the corresponding portion of the BNSF Alternative.

### *Bakersfield South Alternative Alignment*

Along the Bakersfield South Alternative, project construction would result in an estimated $1,065,291 annual loss of property tax revenue to the budgets of Kern County and the Cities of Wasco, Shafter and Bakersfield from displaced residential, business, and agricultural land. This amount compares with the $776,519 annual loss in property tax revenue associated with the corresponding portion of the BNSF Alternative.

## Station Alternatives

The property tax losses associated with the station alternatives are summarized in Table 5-30.

**Table 5-30**
Property Tax Loss for Station Alternatives

| Estimated Annual Tax Loss | Fresno Station–Mariposa Alternative | Fresno Station–Kern Alternative | Kings/Tulare Regional Station | Bakersfield Station–North Alternative | Bakersfield Station–South Alternative |
|---|---|---|---|---|---|
| Property tax loss | $25,368 | $22,936 | $109 | $81,140 | $43,497 |

## Heavy Maintenance Facility Site Alternatives

The property tax losses associated with the HMF alternatives are summarized in Table 5-31.

**Table 5-31**
Property Tax Loss for the HMF Site Alternatives

| Estimated Annual Tax Loss | Fresno Works–Fresno | Kings County–Hanford | Kern Council of Governments–Wasco | Kern Council of Governments–Shafter East | Kern Council of Governments–Shafter West |
|---|---|---|---|---|---|
| Property tax loss | $71,165 | $3,463 | $8,825 | $5,329 | $11,330 |
| HMF = heavy maintenance facility | | | | | |

## C. LONG-TERM IMPACTS ON PROPERTY VALUES

One of the concerns expressed by community residents during scoping meetings was that property values could be adversely affected by the project. The purpose of this section is to summarize findings from previous studies on the impact of rail projects on property values.

There is little doubt that construction of the first railroads in the western United States in the late 1800s had a profound influence on land use and development patterns—and real estate values—in the vicinity of newly created railroad stations. Indeed, the community profiles prepared for the HST project indicate that most of the communities in the study region that would be potentially affected by the project came into existence as a result of the construction of the first railroads through the San Joaquin Valley.

A wave of publicly funded rail transit construction began in the United States in the late 1970s to provide new suburban-to-downtown commuting options in major metropolitan areas. Many research studies were conducted in the latter decades of the twentieth century in an attempt to quantify the economic impact of these public investments and to isolate and identify the effect of constructing new commuter rail lines on residential and commercial real estate values. Although the results of these studies are somewhat mixed, most of them identify some changes in property values, particularly in the vicinity of new transit rail stations.

Although considerable research has been conducted on the property value impacts of rail transit, especially on residential property values near transit stations, it is not clear how these findings would apply to high-speed rail projects. Some categories of potential adverse impacts associated with commuter rail (noise, vibration, visibility) might be similar to those associated with high-speed rail, but it is unclear whether the property value impacts would be similar. For high-speed rail projects, stations are constructed much farther apart than for commuter rail projects, and most trips are intercity trips rather than moving people between suburbs and city centers.

Studies of the impacts of high-speed train projects on property values are not as numerous as those done for transit projects, because most high-speed train systems have not been in place as long and those were built outside of the United States. The first dedicated high-speed rail line in the world (and still the most heavily used) is the Shinkansen system, which began operating in Japan in 1964. The next high-speed train system, France's TGV, began operation 17 years later, in 1981, and now extends almost 3,000 miles. Seven years later, Italy began operating its first high-speed trains, and subsequently systems have been built in many more countries in Europe and Asia (Givoni 2006). The only high-speed passenger rail service operating in the United States at present is Amtrak's Acela Express service, which began operating in 2000 in the densely populated Northeast Corridor, which connects Boston, New York, and Washington, D.C. (Black 2005). These high-speed train systems use differing technologies and operate at different average and maximum speeds. Some (like Shinkansen) have dedicated tracks, but others (like TGV and Acela) share tracks with conventional freight and passenger lines.

Pertinent studies on the impacts of both commuter transit and high-speed train projects are summarized below, with an emphasis on property value impacts.

### Impacts of Rail Transit Projects on Property Values

The results presented in this section are drawn primarily from two literature reviews—one prepared in 1999 summarizing findings from 12 studies of the property value impacts associated with light and heavy rail projects throughout the United States, and the other a literature review completed in 2008 by Reconnecting America's Center for Transit-Oriented Development. The latter focuses more on California studies, but also includes findings from studies conducted in several other major American cities (Chicago, Saint Louis, Dallas, Washington, D.C., Atlanta, and Portland).

Table 5-32 summarizes the findings on the impacts of rail transit projects on residential real estate values. As listed in the findings column, the majority of the studies found that rail transit access had a positive influence on residential property values, with the property value premium for proximity to transit ranging from 2% to 45%. Most of the studies focused on single-family home sales, but several examined condominium sales or apartment rental rates. Only the Landis studies conducted in the early 1990s found no discernable effect, or adverse impacts, associated with proximity to transit, which some analysts attribute to the economic recession that was occurring at the time the data were collected and/or the relative newness of the transit systems studied (i.e., there may not have been a sufficient number of real estate transactions after the opening of the lines to reflect changes in market value) (Reconnecting America, Center for Transit-Oriented Development 2008).

**Table 5-32**
**S**ummary of Findings on Impact of Rail Transit on Residential Real Estate Values

| Author/Year | Rail Transit Type | Location | Findings |
|---|---|---|---|
| Boyce 1972 | Heavy rail | Southern New Jersey (Lindenwold High Speed Line) | +$149 in home price for each dollar of value in commute time savings |
| Blayney-Dyett Associates et al. 1979 | Rapid transit | San Francisco Bay Area (BART) | +17% in single-family home sales price within 500 ft of station |
| Bajic 1983 | Heavy rail | Toronto (Spadina Line) | $2,237 premium for the average home |
| Voith 1991 | Commuter rail | Southern New Jersey (PATCO) | +10% premium for median home price in census tracts served by rail line |
| Voith 1991 | Commuter rail | Suburban Philadelphia (SEPTA) | +3.8% premium for median home price in tracts served by rail line (Philadelphia) |
| Bernick et al. 1991 | Rapid transit | San Francisco Bay Area (BART) | +5% in apartment rental rates w/in 1,320 ft of station |
| VNI Rainbow Appraisal Service 1992 | Light rail | San Diego | +2% increase in single-family home sales price w/in 200 ft of station |
| Nelson 1992 | Heavy rail | Atlanta | +$1,000 in home price for each 100 ft closer to a rail station in low-income census tracts; slight negative effect in high-income tracts |
| Al-Mosaind et al. 1993 | Heavy rail | Portland (MAX Eastside Line) | +10.6% increase in single-family home sale price within 500 meters |
| Gatzlaff 1993 | Heavy rail | Miami (Metrorail) | At most a 5% higher rate of appreciation in sales value compared to the rest of Miami |
| Landis et al. 1994 | Heavy rail | San Mateo County (CalTrain) | Negative effect on proximity to CalTrain |

**Table 5-32**
**S**ummary of Findings on Impact of Rail Transit on Residential Real Estate Values

| Author/Year | Rail Transit Type | Location | Findings |
|---|---|---|---|
| Landis et al. 1994 | Rapid transit | San Francisco Bay Area (BART) | +$2.29 per meter closer to BART in Alameda County; +$1.96 per meter in Contra Costa County |
| Landis et al. 1994 | Light rail | Sacramento | No discernable + or – effect |
| Landis et al. 1994 | Light rail | San Jose | -$1.97 per meter closer to light rail |
| Landis et al. 1994 | Light rail | San Diego (the Trolley) | + $2.72 per meter closer to the Trolley |
| Landis et al. 1995 | Light rail | Sacramento | +6.2% in single-family home sale price w/in 900 ft of station |
| Landis et al. 1995 | Light rail | Santa Clara County (VTA) | -10.8% in single-family home sale price w/in 900 ft of station |
| Cervero 1996 | Rapid transit | Pleasant Hill (BART) | +10–15% in rent for residential units within ¼ mile of BART station |
| Gruen 1997 | Commuter rail | Chicago (Metra) | +20% in single-family home sale price w/in 1,000 ft of station |
| Cervero et al. 2002 | Light rail | San Diego (the Trolley) | +2–18% in condo sales prices and 0–4% increase in apartment rental rates w/in 2,640 ft of station |
| Cervero 2002 | Light rail | Santa Clara County (VTA) | +45% in apartment rental rates w/in 1,320 ft of station |
| Garrett 2004 | Light rail | St. Louis (Metrolink) | +32% in single-family home price w/in 100 ft. |

BART = Bay Area Rapid Transit
PATCO = Port Authority Transit Corporation
SEPTA = Southeastern Pennsylvania Transportation Authority
VTA = Valley Transportation Authority
ft = feet
w/in = within

Source: All author-date cites listed in the first column of this table are listed in full and summarized in Diaz 1999 and Reconnecting America, Center for Transit-Oriented Development 2008.

The studies summarized in Table 5-32 focused on property value impacts in the vicinity of transit stations, due to a presumed relationship between property values and improved accessibility (both of residents to regional jobs and of employers to a larger labor pool). However, this focus does not address the question of property value impacts for real estate near a rail line but not close to a station. Such properties could be exposed to the nuisance impacts associated with rail (noise, vibration, visibility, potential for accidents) without enjoying the benefits of improved accessibility. This question is particularly pertinent to high-speed rail, since the stations tend to be fewer and much farther apart than in commuter rail or light-rail transit systems.

In a study of the property value impacts associated with a variety of disamenities, such as environmental contamination or proximity to linear features like roadways and railroads, Simons (Simons 2006) reviewed several rigorous studies (conducted in Ohio, Georgia, and Norway) of

the relationship between residential property values and proximity to rail lines, and concluded that there were negative property value impacts in the single digits (e.g., 2 or 3%) for residential properties within 750 feet of an active railroad track. Furthermore, he found that this negative impact could increase depending on the amount of whistle blowing and the volume of train trips. Another study that examined the residential property value impacts of four commuter rail lines and six light rail lines around the United States found a wide variety of results in different regions and concluded that home price changes were influenced more by regional housing market conditions than by proximity to railroad tracks (Baldwin and Frank 2008).

Although transit rail studies have focused predominately on the effects of improved access on residential property values, some have examined the impacts on commercial property values, as shown in Table 5-33. Similar to the residential findings, most of the studies identified a positive influence on commercial properties in the vicinity of transit stations, with premiums ranging from 1% to as much as 167%. Only the Landis study published in 1994 found no impact.

**Table 5-33**
Summary of Findings on Impact of Rail Transit on Commercial Real Estate Values

| Author/Year | Rail Transit Type | Location | Findings |
|---|---|---|---|
| Falcke 1978 | Rapid transit | San Francisco Bay Area (BART) | +1% premium for retail space within 500 ft of a station |
| Rybeck 1981 | Rapid transit | Washington, D.C. (Metrorail) | +9% premium for office space within 300 ft of station |
| Rybeck 1981 | Rapid transit | Silver Springs, Maryland (Metrorail) | +14% premium for office space within 300 ft of station |
| VNI Rainbow Appraisal Service 1992 | Light rail | San Diego (Trolley) | +167% premium for retail space within 200 ft of station |
| Cervero 1993 | Rapid transit | Washington D.C. (Metrorail) | +12.3–19.6% premium for office space w/in 300 ft of a station |
| Cervero 1993 | Rapid transit | Atlanta (MARTA system) | +11–15% premium for office space w/in 300 ft of a station |
| Landis et al. 1995 | Rapid transit | San Francisco Bay Area (BART) | No premium impact for office or retail space w/in 2,640 ft of East Bay stations |
| Weinstein et al. 1999 | Light rail | Dallas (DART) | +10% for office space and +30% for retail space w/in 1,320 ft of stations |
| Weinberger 2001 | Light rail | Santa Clara County (VTA) | +15% for office space w/in 2,640 ft of a station |
| Cervero 2002 | Light rail | Santa Clara County (VTA) | +120% for commercial land in a business district w/in 1,320 ft of a station |

BART = Bay Area Rapid Transit
MARTA = Metropolitan Atlanta Rapid Transit Authority
DART = Dallas Area Rapid Transit
VTA = Valley Transportation Authority
ft = feet
w/in = within

Source: Reconnecting America, Center for Transit-Oriented Development 2008.

**Studies and Findings about the Impact of High-Speed Rail on Property Values**

No studies were found that on the specific question of high -speed rail impacts on real estate property values; however, several studies evaluate the broader impacts of high-speed rail projects on growth and development trends and regional economies. Sands (Sands 1993) conducted one of the first reviews of the development effects of the relatively new high-speed rail systems that had been built in Japan, France, and Germany, with a view to identifying the implications for constructing high-speed rail in California. He noted substantial development effects at the regional, urban, and station levels, including changes to population and employment growth rates, ridership, business behavior, and real estate values and activity. These effects were most evident in situations where there was a strong regional economy, excellent links to other transportation modes, and public-sector support for development. In these situations, substantial growth in commercial activity was observed in station vicinities, and overall increases in land values of approximately 20%. Sands predicted that construction of high-speed rail in California would reinforce existing population and employment growth trends, and called for coordination and planning by local government entities and transportation agencies to optimize potential benefits at future station locations.

In a more recent review, Givoni compared the development impacts of high-speed train systems around the world (Givoni 2006). He found that in Japan, regions served by the Shinkansen had higher rates of population and employment growth than those without the service. However, it is not clear whether the higher rates of growth were caused by Shinkansen, or if Shinkansen was built in areas that had higher growth rates. At the station level, the intensity of development that occurred as a result of the new service varied. Where existing stations had been expanded to accommodate Shinkansen, little or no new development occurred around the station. At newly created stations, development appeared to depend on other factors, especially good links to other modes of transportation. (Givoni 2006; Sands 1993).

High-speed rail impacts were also found to vary from station to station in France, with links to other forms of transit again appearing to be key. Substantial growth occurred around the new TGV station in Lyon, where there was high demand for office space and good access to the station, but little development occurred in two other new stations on the same line. Some studies have even found that a connection to the HST network can have a negative impact on the local economy, if unfavorable economic conditions exist in a new station location relative to neighboring cities or regions (Givoni 2006). Similar findings were reported in a 2006 paper prepared by Greengauge 21, reviewing the European experience with economic growth and development associated with new high-speed train stations. The most successful economic stimulus effects were found to be associated with new stations built in regional centers with strong existing service sectors and good transportation links to sub-regional centers (Greengauge 21 2006).

As Givoni concluded, “The evidence from different studies on the effect of HST is mixed and the conclusion is that the introduction of HST alone is not sufficient for social-economic impacts to take place. Such impacts depend on other prevailing conditions,” especially a buoyant local economy that can take advantage of new opportunities offered by improved accessibility, supported by local planning policies “In summary, there is no agreement on the extent to which the HST infrastructure leads to wider socioeconomic impacts....The evidence is mixed and there seems to be disagreement on whether overall impacts, if they exist, are positive or negative.” (Givoni 2006).

In 2010, Andersson et al. published a study of residential property value impacts associated with the Tainan station (Andersson et al. 2010), one of the less urbanized (more suburban) station locations on the relatively new high-speed train system that began operations along Taiwan’s west coast in 2007. Unlike several other stations that were integrated nodes in existing

transportation networks or easily reachable by commuter rail or rapid transit, Tainan station is only accessible by motor vehicle. The authors used several rigorous methods to determine that there had been a small impact on residential values in the vicinity of the new station. They concluded that this was partly the result of its relatively inaccessible location combined with high ticket prices. A typical monthly commuting ticket cost the equivalent of 70% of the median monthly wage in Taiwan (compared with a comparable monthly commuter ticket for trips between Uppsala and Stockholm in Sweden costing about 10% of the median monthly wage). Thus, station accessibility, commute-time savings, and commute costs may all contribute to the complex of factors that can influence (or not influence) real estate values in the vicinity of high-speed rail stations.

**Conclusions**

The studies that have been done to date related to high-speed rail offer no clear consensus on findings. While good data exist on such outcomes as shifts in travel modes resulting from the introduction of new high-speed train service, economic development impacts "are less clear, harder to observe and quantify, and therefore are more controversial" (Givoni 2006). Successful HST station area development (and presumably related real estate price effects) appear to be linked to a number of factors, including robust local economic conditions, strong travel demand, and excellent links to other forms of transit. It is difficult to extrapolate from studies conducted in high-density urbanized areas of Japan, Korea, and Europe to predict property value effects in American communities that are much more dispersed. For example, Japan's Tokaido line connects Tokyo and Osaka, cities with approximately 30 million and 16 million inhabitants, respectively. Furthermore, these cities are far more densely developed than sprawling Central Valley cities such as Fresno and Bakersfield.

The studies show that the potential exists for the values of residential and commercial properties to appreciate as a result of high-speed train projects. Property value increases can result from both the new access to a high-speed train transportation system and the associated intensification of development that can occur around station locations. However, given the potential for nuisance impacts (such as noise and visual impacts) resulting from high-speed trains passing in close proximity, it is possible that some properties could experience a decrease in value. This potential for a decrease in property value may be particularly true for residences and businesses in locations considerably removed from train stations but exposed to some nuisance impacts of the project. These residences and businesses would enjoy relatively few benefits (mainly those deriving from improved accessibility) to offset the nuisance impacts. This balance between the amount of project benefit enjoyed compared to the nuisance factor endured would be unique for each property and would be only one of the many factors influencing the ultimate market value of any particular property.

## D. COUNTY AND CITY SALES TAX EFFECTS

Many goods in California are subject to sales tax. Revenue from sales tax is an important and one of the largest sources of revenue for the state and local jurisdictions. As of 2010, the State of California has a set sales tax rate of 8.25% on all taxable goods. Table 5-34 provides a breakdown of this base sales tax rate. As the table shows, 6.25% of the base sales tax goes to the state while the remaining 2.00% of the tax collected is returned to the local jurisdictions. If the sale took place in an incorporated city, the tax goes to that city; if the sale took place in an unincorporated location, the tax goes to the county.

**Table 5-34**
State of California Sales Tax Breakdown

| Recipient | Percentage | To fund |
|---|---|---|
| State | 6.00% | State General Fund |
| | 0.25% | Paying off state bonds |
| Local jurisdiction | 0.50% | Public Safety Services |
| | 0.50% | Health and Social Services |
| | 0.25% | County Transportation Fund |
| | 0.75% | Local General Fund |
| Total tax | 8.25% | NA |

Source: California Bureau of Equalization 2009.
NA = not applicable

Local jurisdiction recipients of the 1.0% of tax revenues consisting of Public Safety Services (0.50%) and Health And Social Services (0.50%) receive revenues from the state tax pool in proportion to their population totals as a percentage of total state population. For example, the city of Fresno is 1.3% of the population of the State of California and therefore receives 1.3% of the 1.0% collected statewide for Public Safety and Health and Social services.

To further increase revenues, counties and cities are allowed to approve increases on top of the base state sales tax rate. If the local jurisdiction decides to increase the sales tax rate, all proceeds from that increase go to the local jurisdiction. Within the study area for this analysis, the Counties of Fresno and Tulare and the City of Fresno were found to have passed additional increases on the state sales tax rate. Such increases on the sales tax rate typically provide funds for a specific program or project, rather than going to the general fund of a city or county. Both Fresno County and the City of Fresno passed the same increases to the sales tax rate, for a total increase of 0.725%. Of that increase, 0.50% goes to the County Transportation Fund, 0.10% goes to the Fresno County Zoo, and 0.125% goes to the Fresno County Public Library. The tax that Tulare County levied was an additional 0.50%, with all of the extra funding going to increase the resources of the County Transportation Fund.

Estimating sales tax loss was done on a jurisdiction-by-jurisdiction basis, using the 2% local portion of the base sales tax rate (including weighting for population for Public Safety and Health and Social services) plus any specific local increases. All businesses in a certain jurisdiction that were identified as displaced through a full parcel acquisition were evaluated by type of industry and estimated total annual sales. Total annual sales and type of industry either were obtained from the Reference USA database or, in cases where the Reference USA database did not have information on the business, were estimated using similar sizes and types of businesses nearby. Aggregating all sales associated with displaced businesses provided an estimate of total sales losses by industry for each jurisdiction.

However, in most cases when a business is shut down, the sales or at least a large percentage of those sales can be expected to be reallocated to a nearby competitor, thereby decreasing the actual total sales that would be lost in the area. This outcome was taken into account by estimated percentages of loss by business type, with some business types—those whose product or service is not as readily available or with fewer local competitors—suffering a higher percentage of lost sales than other types of businesses—those with more common businesses

with many local competitors. For example, an unusual or highly specialized manufacturing business with few if any similar businesses in the local area is more likely to result in a higher percentage of sales tax lost to the local area than a retail business with many local competitors. These estimated percentages by industry type are presented in Table 5-35.

**Table 5-35**
Estimated Percentage of Sales Lost by Industry

| NAICS Code | Description | Local Sales Tax Impact | |
|---|---|---|---|
| 11 | Agriculture, Forestry, Fishing and Hunting | medium | 8.0% |
| 21 | Mining, Quarrying, and Oil and Gas Extraction | medium | 8.0% |
| 22 | Utilities | low | 1.0% |
| 23 | Construction | medium | 8.0% |
| 31-33 | Manufacturing | medium | 8.0% |
| 42 | Wholesale Trade | no tax | 0.0% |
| 44-45 | Retail Trade | low | 1.0% |
| 48-49 | Transportation and Warehousing | medium | 8.0% |
| 51 | Information | no tax | 0.0% |
| 52 | Finance and Insurance | no tax | 0.0% |
| 53 | Real Estate and Rental and Leasing | no tax | 0.0% |
| 54 | Professional, Scientific, and Technical Services | no tax | 0.0% |
| 55 | Management of Companies and Enterprises | no tax | 0.0% |
| 56 | Administrative and Support and Waste Management and Remediation Services | no tax | 0.0% |
| 61 | Educational Services | no tax | 0.0% |
| 62 | Health Care and Social Assistance | no tax | 0.0% |
| 71 | Arts, Entertainment, and Recreation | medium | 8.0% |
| 72 | Accommodation and Food Services | low | 1.0% |
| 81 | Other Services (except Public Administration) | medium | 8.0% |
| 92 | Public Administration | low | 1.0% |

NAICS = North American Industry Classification System

The resulting lost local sales by industry were then each multiplied by the respective local sales tax rate to estimate total sales tax loss by industry for each jurisdiction. As previously discussed, these percentages were 2.725% for Fresno County and the City of Fresno, 2.5% for Tulare County, and 2.0% for all other jurisdictions. Table 5-36 provides the overall estimated sales tax losses by jurisdiction and by alignment as well as the percentage of total jurisdiction sales tax these losses represent. These sales tax revenue losses would be temporary rather than permanent for the most part, because they would occur during the time when affected businesses are closed for project construction or while displaced businesses relocate to a new location, in many cases within the same taxing jurisdiction. Once the businesses reopen, sales tax revenue generation would resume. Overall, these percentages are a small impact, though for jurisdictions confronting severe revenue shortfalls and budget crises, even a minor loss of annual revenues could be determined to be cumulatively considerable.

**Table 5-36**
Estimated Sales Tax Losses by Jurisdiction and Alignment

| Sales Tax Lost by Alignment | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Alignment | | | | | | | | | | | |
| | BNSF | | Corcoran Elevated | | Corcoran Bypass | | Allensworth Bypass | | Wasco-Shafter Bypass | | Bakersfield South | |
| Jurisdiction | Total $ | Percent | Total $ | Percent | Total $ | Percent | Total $ | Percent | Total $ | Percent | Total $ | Percent |
| Fresno County | $39,443 | 0.09% | — | — | — | — | — | — | — | — | — | — |
| City of Fresno | $187,135 | 0.16% | — | — | — | — | — | — | — | — | — | — |
| Kings County | $50 | 0.00% | $0 | 0.00% | $0 | 0.00% | — | — | — | — | — | — |
| City of Hanford | $0 | 0.00% | — | — | — | — | — | — | — | — | — | — |
| City of Corcoran | $11,732 | 0.88% | $6,460 | 0.48% | $0 | 0.00% | — | — | — | — | — | — |
| Tulare County | $0 | 0.00% | — | — | — | — | $0 | 0.00% | — | — | — | — |
| Kern County | $0 | 0.00% | — | — | — | — | — | — | $2,416 | 0.00% | $0 | 0.00% |
| City of Wasco | $2,994 | 0.30% | — | — | — | — | — | — | $0 | 0.00% | — | — |
| City of Shafter | $1,191 | 0.02% | — | — | — | — | — | — | $0 | 0.00% | — | — |
| City of Bakersfield | $103,336 | 0.19% | — | — | — | — | — | — | $1,613 | 0.00% | $31,757 | 0.06% |

— =not applicable

## Alternative Alignments

### *BNSF Alternative Alignment*

Along the BNSF Alternative, the total estimated annual losses of sales tax revenue in the region would be $345,881. This amount represents an average of 0.11% of the total fiscal year 2009/2010 sales tax revenue that the counties and cities in the region collected. The highest estimated annual sales tax revenue losses are as follows: the City of Fresno ($187,135), the City of Bakersfield ($103,336), and unincorporated Fresno County ($39,443). The remaining estimated losses result from business displacements in Kings County, Kern County, and the Cities of Corcoran, Wasco, and Shafter, for a total of $15,967. All of these losses represent approximately 0.9% or less of the sales tax revenues collected in each of these jurisdictions.

Table 5-37 provides a summary of the changes in sales tax loss associated with each of the alternative alignments relative to the BNSF Alternative Alignment.

**Table 5-37**
Relative Change in Sales Tax Loss by Other Alternative Alignments

| Estimated Annual Tax Loss | BNSF Alternative | Relative Change to the BNSF Alternative Alignment | | | | |
|---|---|---|---|---|---|---|
| | | Corcoran Elevated | Corcoran Bypass | Allensworth Bypass | Wasco-Shafter Bypass | Bakersfield South |
| Sales tax loss | $345,881 | -$5,273 | -$11,732 | $0 | -$1,768 | -$69,966 |

### *Corcoran Elevated Alternative Alignment*

Along the Corcoran Elevated Alternative, which displaces businesses in the city of Corcoran, the estimated annual loss of sales tax revenue for the City of Corcoran would be $6,460. The corresponding portion of the BNSF Alternative would result in a $11,732 loss for the city.

### *Corcoran Bypass Alternative Alignment*

No commercial and industrial business displacements would occur along the Corcoran Bypass Alternative. The corresponding portion of the BNSF Alternative would result in a $11,732 loss for the city.

### *Allensworth Bypass Alternative Alignment*

No commercial and industrial business displacements would occur along the Allensworth Bypass Alternative. Therefore, no losses in sales tax revenues would occur to Tulare County. Because no permanent business displacements would occur in Tulare County along the BNSF Alternative, neither of the alternatives would affect annual sales tax revenues.

### *Wasco-Shafter Bypass Alternative Alignment*

Losses along Wasco-Shafter Bypass Alternative would occur outside of the Wasco and Shafter city limits and would result in losses of $2,416 for Kern County and $1,613 for the City of Bakersfield. The corresponding portion of the BNSF Alternative would result in annual sales tax losses of $2,944 for the City of Wasco, $1,191 for the City of Shafter, and $1,613 for the City of Bakersfield.

***Bakersfield South Alternative Alignment***

The Bakersfield South Alternative would relocate businesses in Bakersfield and result in an estimated annual loss of $31,757 in sales tax revenue to the city. This estimated loss is less than the estimated $101,723 in annual losses that would be attributed to the corresponding portion of the BNSF Alternative.

**Station Alternatives**

The sales tax losses associated with the station alternatives are summarized in Table 5-38.

**Table 5-38**
Sales Tax Loss for Station Alternatives

| Estimated Annual Tax Loss | Fresno Station–Mariposa Alternative | Fresno Station–Kern Alternative | Kings/ Tulare Regional Station | Bakersfield Station–North Alternative | Bakersfield Station–South Alternative |
|---|---|---|---|---|---|
| Sales tax loss | $1,518 | $783 | $0 | $12,037 | $8,385 |

**Heavy Maintenance Facility Site Alternatives**

The sales tax losses associated with the HMF site alternatives are summarized in Table 5-39.

**Table 5-39**
Tax Loss for Heavy Maintenance Facility Site Alternatives

| Estimated Annual Tax Loss | Fresno Works–Fresno | Kings County–Hanford | Kern Council of Governments–Wasco | Kern Council of Governments–Shafter East | Kern Council of Governments–Shafter West |
|---|---|---|---|---|---|
| Sales tax loss | $8,810 | $0 | $0 | $0 | $112 |

## 5.4.5 Physical Deterioration

This section addresses the potential for the project to result in physical deterioration in communities located along the project alignment as well as around the station and HMF locations.[29] This examination is conducted through a review of all potential effects associated with construction and operation that are identified in Chapter 5 of this report. Each of these potential effects is examined to determine if it could reasonably be expected that the resulting changes to a community would lead to physical deterioration. These specific changes are: (a) considerable residential migration out of a community that would be expected to change its character, (b) extensive changes to the business environment in a community that would be expected to result in closures of key “anchor” businesses that support the area and draw in consumers, and (c) large reductions in the fiscal (property and sales tax) revenues collected that

[29] The term physical deterioration is used here to represent the concept of urban decay or blight resulting from the project.

would be expected to reduce the local government's ability to provide necessary services that maintain the quality of the communities.

Overall, assuming special consideration and mitigations by the project in Corcoran and also for the Mercado Latino Tianguis in Northeast Bakersfield, the potential effects identified do not lead to any foreseeable physical deterioration within the communities along the project.

## A. CONSTRUCTION

Construction of the project would provide overall economic benefits for the entire region reducing any existing physical deterioration. These economic benefits include gains in sales tax revenues and job creation as a result of construction spending. The new jobs would be created both directly in the construction sector as well as across other related sectors that supply materials, equipment, and services for the project and its workers. See the other sections in Chapter 5 of this report for a more detailed discussion of the anticipated economic effects of project construction.

The project would also have the potential to result in adverse community disruption and economic effects during construction. These effects are examined below for their potential to result in physical deterioration in communities along the project.

### Disruption or Division of Existing Communities (from Section 5.1.1)

The impacts of noise, dust, visual changes, and changes in traffic patterns would not affect overall community integrity, but would affect to some extent the quality of life in the communities surrounding project construction zones. As a result, all of the alternatives would result in effects on community interactions during construction. Given that there is no expectation that these types of community interaction effects would result in considerable residential migration from communities or key business closures, no physical deterioration is expected.

### Economic Effects (from Sections 5.1.2 and 5.4.4)

HST System construction spending would result in long-term beneficial impacts on sales tax revenues and employment in the region. In the short-term however, there may be adverse effects on property and sales tax revenue and also on the provision of government and community services to accommodate the potential influx of construction workers in the region. This is an important consideration given the current context of challenging county and city budget deficits. However, any short-term effect to local government tax revenues is not expected to occur to the extent where it would result in physical deterioration.

## B. OPERATION

Operation of the project would provide economic benefits and facilitate broader economic expansion for the entire region, thus reducing any existing physical deterioration. These economic advantages include user benefits (travel-time savings, cost reductions, accident reductions) and accessibility improvements for the region's citizens through improved connection of the Central Valley to the rest of California. These benefits accrue not only to travelers on the HST, but also to travelers using other transportation modes in the region because trips would be diverted from highways and airports, resulting in reduced congestion (Cambridge Systematics Inc. 2003, 2007).

The project would also improve accessibility to labor and customer markets in the region, thereby improving the competitiveness of the region's industries and the overall economy. This increase in competitiveness would result from businesses' ability to locate close to a HST station, thus allowing for greater connectivity to the entire state than is currently possible. This increased

connectivity in business operation and employment also translates into improved efficiencies in population growth as new growth concentrates around these stations' areas, thus reducing urban sprawl into the region's agricultural lands (Cambridge Systematics Inc. 2003, 2007).

The project is expected to increase population growth 3% by 2035 in the four-county region in comparison with the No Project Alternative and also result in a 3% increase in regional employment over this same time period (Cambridge Systematics 2010). A recent study determined that this increase in employment would occur across many economic sectors within the region including the service, communications, utilities, finance, insurance, and real estate sectors (Kantor 2008).

This broad-based economic growth would lead to increased fiscal benefits for local jurisdictions through expansion in both the property and sales tax bases for the region. Property tax revenues would increase as property values across the region rise as a result of project benefits and also as new housing to accommodate growth is constructed and added to the tax rolls. Sales tax revenues would increase as a result of increased business activity from the project and from the corresponding growth in the consumer tax base. In addition, the project itself would generate new sales tax revenues through spending related to the HST System operations and maintenance.

The project would also provide a unique opportunity to shape future economic growth in the region. A 2010 study examining these opportunities determined that the HST System would encourage more compact and efficient growth in the region. This growth would encourage development within cities by incorporating more multifamily and attached single-family housing units in downtown areas. This development contrasts to current distributed development trends that result in lower-density, larger-lot, single-family housing located on the outskirts of urban areas.

The resulting economic benefits from this paradigm shift in growth patterns would result in billions of dollars of economic benefits annually to the state in the form of cost savings from more efficient energy use, reductions in infrastructure investment needs, fewer vehicle miles traveled, reductions in greenhouse gas emissions and air pollution, and reductions in household expenditures on energy and water consumption (Calthorpe Associates 2010).

The project would also have the potential to result in adverse community disruption, displacement and relocation, and economic effects during operation. These effects are examined below for their potential to result in physical deterioration in communities along the project.

**Disruption or Division of Existing Communities (from Section 5.1.1)**

The HST project has the potential to cause both beneficial and adverse impacts on social conditions and the quality of life experienced by residents of study area communities and neighborhoods. The project would improve regional access, reduce travel times, and reduce traffic congestion on many local roadways. People who live and/or work in the general vicinity of the proposed stations would likely benefit the most from the proposed new rail facilities. Those who live along the portions of the alignment without station access would not enjoy the same level of mobility and access benefits and would potentially be exposed to adverse project-related effects. These effects include the potential to divide adjacent communities by physically removing homes, businesses, and community facilities.

This effect would be substantial for two small, unincorporated communities along alternative alignments (Newark Avenue northeast of Corcoran and Ponderosa Road northeast of Hanford), as well as in the affected neighborhoods of Bakersfield, where right-of-way acquisition would divide communities and disrupt community facilities such as the Mercado Latino Tianguis, Bakersfield High School, the Mercy Hospital Medical Complex, and several religious facilities.

Although mitigation measures can reduce the impact on specific community facilities, in areas where the project would divide communities, impacts would remain large, even with measures to address noise and visual impacts. However, these divisions of community are not expected to result in considerable residential migration from communities, closures of key businesses or a large reduction in local tax revenue collection and therefore no physical deterioration is expected.

**Displacement and Relocation of Local Residents and Businesses (from Section 5.2)**

Right of way acquisition associated with the BNSF Alternative and Bakersfield South alternative alignments would result in many residential displacements in the Northwest and Northeast districts of Bakersfield. Large numbers of residential displacements would also occur in Corcoran as a result of the BNSF Alternative. However, in all cases there is sufficient numbers of suitable vacant housing in the area and therefore considerable residential migration is not expected.

Commercial and industrial business displacements and required relocations associated with the BNSF and Bakersfield South alternatives would occur in Bakersfield's Central and Northeast districts. Numerous displacements would also occur from commercial and industrial business displacements in Corcoran and Fresno's Edison District as a result of the BNSF Alternative. For the Bakersfield and Fresno displacements, sufficient numbers of suitable vacant business structures are located in the area to house these relocations and therefore no changes are expected in the local business environment. In addition, businesses that would be relocated were not identified as key "anchor" businesses and given the overall size of the economies of Bakersfield and Fresno, these relocations do not represent a significant portion of the city's sales tax base or overall sales revenues. One special consideration is the Mercado Latino Tianguis in Northeast Bakersfield. This is an important economic center for the community housing many small businesses. To address this issue, the project will propose mitigation to build a new structure to house these businesses before the old structure is demolished. This will ensure the businesses in the Mercado are able to continue to operate without considerable disruption.

In Corcoran, 19 businesses would be relocated by the BNSF Alternative in an area that has been identified as lacking suitable current vacancies to relocate these businesses. Given the relative size of Corcoran, the potential for physical deterioration is greater as a result of these relocations. Overall, the sales revenue from the 19 relocated businesses represents 0.88% of the sales tax revenue received by the City of Corcoran. Also, the total taxable sales of these businesses comprise 7.5% of the total taxable sales revenue collected in the City. These percentages suggest that (1) the potential fiscal effects to local sales tax revenues are minor and (2) the businesses being impacted by the project do represent a considerable percentage of total city taxable sales. Therefore, while the potential for physical deterioration from fiscal effects is small, the businesses are important to the overall City economy and a lack of suitable current vacant replacement properties leaves open the possibility that businesses could find it necessary to relocate outside the city. Therefore, the project will need to consult with the city to ensure these businesses have suitable relocation alternatives in Corcoran and do not vacate the city en masse. In consideration of this point, there are some existing vacancies to house some of these businesses (see specific details of the gap analysis in Section 5.2.3 of this report and in the *Fresno to Bakersfield Section: Draft Relocation Impact Report*) so it is not expected that all of these businesses would relocate outside the City. In addition, the City has vacant land available in its local Business Park for relocating these businesses (City of Corcoran 2011). As a result, it is anticipated that the majority of these businesses will relocate in the area and no physical deterioration will result.

**Economic Effects (from Section 5.1.2 and 5.4.4)**

Operation of the HST System would result in benefits to the region, including long-term increases in property and sales tax revenues to the region's local governments. Some short-term reductions

may occur in these revenues as a result of land acquisition, but in the long term, expected gains would outweigh these short-term losses. As a result, there would be a short-term effect from property and sales tax revenue reductions, which is an important consideration given the context of potential county and city budget deficits. Employment in the region would increase as a result of new jobs created by the project. Again, as a result of likely local budget challenges, there is the possibility of a short-term effect on the provision of government and community services from related population growth from an influx in construction workers. There would be effects on agricultural production in the short term and negligible in the long term as farm operations logically reallocate land resources and relocate agricultural facilities. Overall, these effects would not be expected to result in residential migration from communities, key business closures or reduction in tax revenues and thus physical deterioration is not expected.

### 5.4.6 Construction- and Operation-Related Sales Tax Gains

This section describes the local sales tax revenues that would be generated during construction and operation of the project. Unless specifically exempted, all transactions for tangible assets related to the project would be subject to sales tax.

#### A. CONSTRUCTION

Sales tax revenues during construction were derived using the sales tax rates specific to each county (as of April 1, 2010) and the estimated local expenditures on materials and supplies for each year of construction.

The sales tax revenues that would be realized during construction for Fresno, Kings, Tulare, and Kern counties under each of the alternatives would primarily result in beneficial economic effects. Potential sales tax losses as a result of business displacements and closures are discussed in the preceding section. Table 5-40 provides information on the total local expenditures and resulting local sales tax revenues generated by the BNSF Alternative over the construction period. These estimates were generated using cost estimates from Chapter 5 (Project Costs and Operations) of the EIR/EIS document and estimated regional spending for materials and equipment (Authority and FRA 2011a). See Section 5.1.2 Project Job Creation for a breakdown of this regional spending by sector of the economy. The relative differences between the other alternatives and their corresponding portions of the BNSF Alternative are also shown in Table 5-40. For example, the Corcoran Elevated Alternative is estimated to result in an additional $23.09 million in local spending, and when compared with the BNSF Alternative it would generate an additional $326,000 in sales tax revenues. The sales tax rates for the four counties are 8.975% for Fresno County, 8.25% for Kings County, 8.75% for Tulare County, and 8.25% for Kings County; however, the counties only receive a portion of these percentages. A detailed breakdown of the sales tax rate indicates that 6.25% of total sales tax revenue goes to the state, with the remaining percentage going to local government funds for transportation, public safety, and local health and human services. Of the 2.0% that goes to the local governments, half of these taxes go into a state fund and are redistributed based on population. Thus, the estimated sales tax revenues calculated for this analysis are based on each county's relative percentage of the statewide population.

**Table 5-40**
Sales Tax Revenues Generated during Construction

| Alternative Alignment | Local Project Expenditures (millions 2010$) | Local Sales Tax Revenues (millions 2010$) |
|---|---|---|
| BNSF Alternative | $990.45 | $13.98 |
| Other Alternative Alignment Construction Costs Relative to BNSF Alternative Alignment | | |
| Corcoran Elevated | +$23.09 | +$0.326 |
| Corcoran Bypass | -$20.33 | -$0.287 |
| Allensworth Bypass | -$27.15 | -$0.383 |
| Wasco-Shafter Bypass | -$48.27 | -$0.681 |
| Bakersfield South | -$8.00 | -$0.113 |
| Source of expenditures is Authority and FRA 2011a, Chapter 5. | | |

The contributions of the project to the sales tax revenues of the four counties are as shown in Table 5-41. Overall, the sales tax revenue generated from construction activities will add to local government finances, but only during the construction period.

The local sales tax revenues generated from the BNSF Alternative over the construction period are estimated to be around $13.98 million dollars (see Table 5-41). The sales tax revenues lost from displaced businesses under this alternative are estimated to be $345,881 annually (see Table 5-37), which would give the project an overall positive impact on sales tax revenues collected by local governments during the construction period.

**Table 5-41**
Contribution of Sales Tax Revenues during Construction (millions 2010$)

| Alternative Alignment | Fresno County | Kings County | Tulare County | Kern County |
|---|---|---|---|---|
| BNSF Alternative | $6.99 | $0.65 | $2.80 | $3.54 |
| Other Alternative Alignment Construction Costs Relative to BNSF Alternative Alignment | | | | |
| Corcoran Elevated | +$0.163 | +$0.015 | +$0.065 | +$0.083 |
| Corcoran Bypass | -$0.144 | -$0.013 | -$0.054 | -$0.073 |
| Allensworth Bypass | -$0.192 | -$0.018 | -$0.077 | -$0.097 |
| Wasco-Shafter Bypass | -$0.341 | -$0.032 | -$0.136 | -$0.173 |
| Bakersfield South | -$0.057 | -$0.005 | -$0.023 | -$0.027 |

## B. OPERATION

Annual sales tax revenues during operation were estimated using the sales tax rates for each county (as of April 1, 2010) and the estimated local expenditures on materials and supplies. Table 5-42 shows the total operation and maintenance expenditures for the project, the portion of these expenditures on tangible assets that are local, and the resulting local annual sales tax revenue. Examples of materials that are assumed to be purchased locally are gasoline, oil, paint, parts, and light bulbs. The sales tax rates for the four counties are 8.975% for Fresno County, 8.25% for Kings County, 8.75% for Tulare County, and 8.25% for Kern County; however, the counties only receive a portion of these percentages. A detailed breakdown of the sales tax rate indicates that 6.25% of total sales tax revenue goes to the state, with the remaining 2.0% going to local government funds for transportation, public safety, and local health and human services. Of the 2.0% that goes to the local governments, half of these taxes go into a state fund and are redistributed based on population. Thus, the estimated sales tax revenues calculated for this analysis are based on each county's relative percentage of the statewide population.

**Table 5-42**
Annual Sales Tax Revenues during Operation

| Annual Total O&M Expenditures (millions 2010$) | Annual Local Project Expenditures (millions 2010$) | Annual Local Sales Tax Revenues (millions 2010$) |
|---|---|---|
| $328.1 | $50.86 | $0.720 |
| Source of expenditures is Authority and FRA 2011a, Chapter 5. | | |

The contributions of the project to the sales tax revenues of the four counties are as shown in Table 5-43. Although these additional and permanent sales tax revenues account for less than

1% of the total sales tax revenues collected in each county, these additional revenues are beneficial to the economies of the local cities and counties.

**Table 5-43**
Contribution of Sales Tax Revenues during Operation (millions 2010$)

| Category | Fresno County | Kings County | Tulare County | Kern County |
|---|---|---|---|---|
| Annual Local Project Expenditures | $20.23 | $3.32 | $9.50 | $17.81 |
| Annual Local Sales Tax Revenues | $0.359 | $0.033 | $0.144 | $0.182 |

During the operation of the project, the sales tax gain is estimated to be $720,000 annually (see Table 5-42), and the sales tax lost from displacements will begin to decrease due the displaced businesses being re-established at new locations and new businesses moving in to replace those that did not reopen. Project operation would have an overall positive impact on sales taxes collected by local governments.

## 5.4.7 Cumulative Impacts

### A. METHODOLOGY

The cumulative impacts analysis identified 167 past, present, and future development projects whose impacts when added to those of the HST had the potential to create a substantial cumulative contribution (see Appendix D for a map and complete list of these projects). A three-step process was used to filter these projects to identify key projects affecting the following resources:

- Community Character and Cohesion. Impacts are present when there is an adverse change in the character and cohesion of an established neighborhood, such as dividing a neighborhood, or an increase in noise, traffic, access restrictions, parking loss or intrusion, or pedestrian safety hazards such that the integrity of the neighborhood as a whole is changed.
- Housing. Impacts are present when substantial numbers of residences are displaced and suitable replacement housing in the vicinity must be found.
- Environmental Justice. Impacts are present when there is a disproportionate number of occurrences or a disproportionate magnitude of adverse impacts on minority and low-income communities.

The study area for this cumulative analysis consists of the communities affected by the HST project. These communities were chosen as the study area because this is the area where all direct and indirect impacts associated with socioeconomics, communities, and environmental justice would occur.

The first step in the cumulative impact analysis was to identify and remove from consideration those projects whose impacts occur outside the study area. Most of the projects that were removed from consideration under this criterion were transportation projects and industrial,

commercial, and utility construction projects where the project itself and all of the project's resulting impacts were determined to occur entirely outside of the study area communities.

Examples of the types of transportation projects removed from consideration are the interchange improvements on SR 99 at Shaw Ave in the northwestern portion of the city of Fresno (Project 10) and the Lerdo Highway resurfacing and repair project north of the city of Bakersfield (Project 131). Examples of the industrial, commercial, and utility construction projects are mining projects east of the city of Fresno (Projects 40, 41, 42, 45, and 48) and several solar projects in unincorporated Kern County (Projects 118, 119, 122, 126, 136, 146, and 166). These types of localized transportation and other construction projects occurring far from the communities of interest are not expected to coincide with impacts on community character, housing, or environmental justice associated with the HST project. Overall, this step of identifying projects with potential impacts within the study area resulted in the removal of 122 of the past, present, and future projects from consideration, leaving 45 projects for further evaluation.

The second step in the cumulative impact analysis was to determine the potential impacts of the remaining 45 past, present, and future projects on community character, housing, and environmental justice in the communities already determined to have potential direct or indirect impact from the HST project. Those projects not expected to have the same impacts on community character, housing, and environmental justice as the HST project were eliminated from further consideration. For example, housing projects in Tulare County were dropped from consideration due to the determination that the HST project is displacing a very small number of residential units in this area (two units). Also, projects that would not impact community character or housing but that could raise EJ concerns in Bakersfield's Northwest district were dropped from consideration due to the fact that this area does not contain EJ populations. This step of the analysis eliminated an additional 12 projects, leaving 33 projects for further evaluation.

The third step of the process was to examine the remaining 33 projects and analyze them on a case-by-case basis to determine if impacts resulting from the HST project would represent a substantial cumulative contribution to all impacts on community resources in these areas. When a potential substantial cumulative contribution was identified, mitigation measures to decrease the impacts were proposed.

## B. FINDINGS

### City of Fresno

Project 8. The Villas at Fig Garden project in northern Fresno is proposing to increase the housing in the area. However this project will temporarily decrease the housing stock in the area by demolishing the 45 current housing units on the site to replace them with 305 new residential units. This temporary decrease in the housing stock has the potential to cause a cumulative impact with the HST project, which is also displacing residential units. However, examination of vacant housing in the city of Fresno determined that current vacancies can accommodate the total number of displaced households, and construction of new housing would not be necessary.

Project 9. The Fresno Freight Rail Realignment Project traverses the entire city of Fresno. It proposes to merge the two alignments of the BNSF and UP railroads that currently go through the city. Project 9 is proposing to either put both railroads along one of the alignments or to build a new rail that goes around the city for both railroads to share. Project 9 would not displace any housing units and would not split any communities that are not already split by a rail alignment. Trains are already traveling through these communities, so no new impacts on the current EJ populations would occur.

Projects 34 and 35. The CARTS trucking yard project and the SR 99 interchange upgrade at Cedar and North Avenues are taking place directly adjacent to one another in the southern Fresno district of Roosevelt, in an area already heavily used for industrial purposes. The CARTS trucking yard project is proposing to construct a complete truck maintenance facility with several fuel tanks. Neither project would displace residents or affect an EJ population. While the CARTS trucking yard project will increase truck traffic to the area, because the area is already exclusively industrial, no community character or community cohesion impacts would result.

Projects 27, 28, and 29. Three projects in central Fresno along both the BNSF and UP alignments (the Ventura Boulevard widening project, the City of Fresno's water storage tank project, and the SR 99 Monterey Bridge project) are located within 1 mile of each other. While the projects are not displacing any residents or dividing or affecting the community's character, they all are taking place in an area comprised of EJ communities. This area of central Fresno has a very high EJ concentration and construction of all three of these projects at the same time along with the HST project could exacerbate a disproportionate adverse impact on the EJ community. The HST mitigation measure of relocating the Fresno Rescue Mission (an important service provider to the residents of this area) will decrease the impacts of the HST project, but when examined in conjunction with these three other projects, cumulative disproportionate adverse impacts may remain.

In summary, the HST project has the potential to result in a substantial cumulative contribution to EJ impacts in the city of Fresno resulting from construction nuisances. To mitigate this impact, the timing of the construction of these projects should be planned in such a way as to minimize construction impacts on the communities. With such a mitigation measure in place, the direct and indirect impacts of the HST project would not result in a substantial cumulative contribution.

**City of Hanford**

None of the relevant past, present, or future projects that remained for consideration are located in Hanford, and therefore no direct and indirect impacts of the HST project would result in a substantial cumulative contribution in Hanford.

**City of Corcoran**

Project 100. Corcoran's police station project is directly adjacent to the HST alignment. The project is would not displace any housing, and police operations will continue during project construction so there would be no impacts to the provision of services. The population of Corcoran is comprised of a high percentage of minority and low-income persons. However, this is the only other project identified in the city and will result in improved police services to these populations. Therefore, direct and indirect impacts of the HST project would not result in a substantial cumulative contribution to impacts associated with other relevant projects in Corcoran.

**City of Wasco**

Project 125. The Wasco Rose City Enterprise Zone project is proposing to develop a commercial and industrial park on currently vacant land. No housing units would be displaced by the project and Wasco's community character and cohesion is not expected to be affected by the project. The population of Wasco is comprised of a high percentage of minority and low-income individuals. However, this project is located outside the central area of the community, and therefore is not expected to affect any of Wasco's EJ communities. Moreover, the project is the only other project proposed for Wasco and will result in improved economic opportunities for the current population as well as additional business relocation opportunities.

The direct and indirect impacts of the HST project would not result in a substantial cumulative contribution to impacts associated with other relevant projects in Wasco.

**City of Shafter**

Project 129. The North Shafter sewer project proposes to connect housing units in north Shafter to the municipal wastewater system, taking them off the septic tank systems they currently use. The project would not displace any housing units and would not divide or change the character of the community. The project area has very high concentrations of EJ populations, and the project may cause short- term traffic delays when roads are closed so that the new sewage pipes can be installed; however, after it's completed, the project will be an improvement on the services currently provided to residents.

The direct and indirect impacts of the HST project would not result in a substantial cumulative contribution to impacts associated with other relevant projects in Shafter.

**City of Bakersfield**

Project 132. The Rosedale Ranch project in northwest Bakersfield is proposing a mixed-use development with residential, commercial, retail, and industrial buildings. The project will be developed on agricultural land, will not be displacing any housing units, and will not be creating any character or cohesion issues. The project is taking place in Bakersfield's Northwest district, which does not have an EJ population.

Project 148. The Bakersfield Commons project in northwest Bakersfield is proposing a mixed-use development in a large vacant lot that is currently surrounded by both residential and commercial development. Bakersfield's Northwest district does not have an EJ population, so there are no EJ impacts expected from this project. The land is currently vacant, so there would be no displacement or housing impacts. The project has been designed to have minimal impacts on the character of the community: it will place housing units adjacent to other housing units and put commercial buildings near other current commercial buildings.

Project 159. The Mill Creek Linear Park Plan project in Central Bakersfield is a mixed use development project that is part of an effort to revitalize downtown Bakersfield. The project would not displace any housing units and will add 115 new housing units to the area. The project is located in an EJ community but does not divide the community, and is improving community amenities by providing new recreational resources for residents in the immediate vicinity.

Project 139. This is a permit to allow a concrete and asphalt recycling facility in Bakersfield's Northwest district to run five days a week, with 50 to 65 trucks visiting the site each week. The Northwest district does not have an EJ population, so there are no EJ impacts from the project. The site is currently occupied by another industrial use and will not be displacing any housing units.

In summary, the HST project has the potential to result in a substantial cumulative contribution to EJ impacts in the Central district of Bakersfield resulting from construction nuisances. To mitigate this impact, the timing of the construction of these projects should be planned in such a way as to minimize construction impacts on the communities. With such a mitigation measure in place, the direct and indirect impacts of the HST project would not result in a substantial cumulative contribution.

**Unincorporated Fresno County**

Projects 1, 2, 20, 21, 31, 49, 50, 52, 59, and 63. Ten housing-related projects in Fresno County were grouped together. These projects are not expected to disrupt the character or cohesion of the communities and do not impact EJ populations. All of the projects do impact housing, but they are not displacing any homes and are actually adding new homes to the area, and thus improving housing resources. Most of these projects are located outside of the communities of interest, but were examined to identify the increases to the housing stock and the greater availability of vacant housing units in Fresno County for residents displaced by the HST project. The few projects that are within the communities are several miles from the HST alignment, reducing concern about cumulative impacts to community character during construction.

The direct and indirect impacts of the HST project would not result in a substantial cumulative contribution to impacts associated with other relevant projects in unincorporated Fresno County.

**Unincorporated Kings County**

Projects 69 and 83. Two housing-related projects in Kings County were grouped together. These projects are not expected to disrupt the character or cohesion of the communities and do not impact EJ populations. The projects do impact housing, but they are not displacing any homes and are actually adding homes to the area, increasing the regional housing stock. The projects are located outside Hanford and are several miles from the HST alignment, reducing concern about cumulative impacts to community character during construction.

The direct and indirect impacts of the HST project would not result in a substantial cumulative contribution to impacts associated with other relevant projects in unincorporated Kings County.

**Unincorporated Tulare County**

There were no relevant projects in this area and therefore no direct and indirect impacts of the HST project would result in a substantial cumulative contribution in unincorporated Tulare County.

**Unincorporated Kern County**

Projects 134, 135, 140, 150, 161, 162, and 167. Seven housing-related projects in Kern County were grouped together. These projects are not expected to disrupt the character or cohesion of the communities and do not impact EJ populations. All of the projects do impact housing, but they are not displacing any homes and are actually adding homes to the area, increasing the regional housing stock. Most of these projects are located outside of the communities of interest, but were examined at this step to identify the increases to the housing supply and the greater availability of replacement housing units in Kern County for residents displaced by the HST project. The few projects that are within the communities are several miles from the HST alignment, reducing concern about cumulative impacts to community character during construction.

The direct and indirect impacts of the HST project would not result in a substantial cumulative contribution to impacts associated with other relevant projects in unincorporated Kern County.

*This page intentionally left blank*

# Chapter 6
## References

# 6.0 References

## 6.1 Documents and Websites

Andersson, David Emanuel, Oliver F. Shyr, and Johnson Fu. 2010. "Does High-Speed Rail Accessibility Influence Residential Property Prices? Hedonic Estimates from Southern Taiwan." *Journal of Transport Geography.* Volume 18.

Baldwin, Tim, and Shari Frank. 2008. "Fighting the Myths: Impacts of Transit Rail Lines on Adjacent Property Values." Paper presented at APTA Rail Conference.

Bertaut, Carol, and Laurie Pounder. 2009. "The Financial Crisis and U.S. Cross-Border Financial Flows." In *Federal Reserve Bulletin*. http://www.federalreserve.gov/pubs/bulletin/2009/pdf/bulletin_article_november_2009a1.pdf (accessed January 26, 2010).

Black, Clifford R. 2005. "The Acela Express" *Japan Railway & Transport Review 40*. March . http://jrtr.net/jrtr40/pdf/f18_bla.pdf.

California Bureau of Equalization. 2009. http://www.boe.ca.gov/news/sp111500att.htm (accessed January 2011).

California Department of Education. 2010. Ed-Data Profiles and Reports. http://www.ed-data.k12.ca.us/Navigation/fsTwoPanel.asp?bottom=%2Fprofile.asp%3Flevel%3D06%26reportNumber%3D16 (accessed March 24, 2010).

California Department of Finance. 2009. *E-5 Population and Housing Estimates for Cities, Counties and the State, 2001-2009, with 2000 Benchmark*. http://www.dof.ca.gov/research/demographic/reports/estimates/e-5/2009/ (accessed March 25, 2010).

California Department of Finance, Demographic Research Unit. 2007. *Population Projections by Race/Ethnicity, Gender and Age for California and Its Counties 2000–2050*. Reports and Research Papers P3. Sacramento, CA, July 2007. http://www.dof.ca.gov/research/demographic/reports/projections/p-3/.

California Department of Food and Agriculture. 2009. *California Agricultural Highlights, 2008–2009*.

California Department of Industrial Relations. 2010. *General Prevailing Wage Determinations*. http://www.dir.ca.gov/dlsr/PWD/index.htm (accessed June 14, 2010).

California Department of Transportation. 1997. *Community Impact Assessment*. Volume 4 of *Environmental Handbook*. June.

———. 2010a. The Economy: California's Labor Market. http://www.labormarketinfo.edd.ca.gov (accessed January 23, 2010).

———. 2010b. Labor Market Info, County Unemployment Rates (Labor Force).

———. 2010c. Labor Market Info, Major Employers for Counties. http://www.labormarketinfo.edd.ca.gov/majorer/majorer.asp (accessed March 17, 2010).

California High-Speed Rail Authority and USDOT Federal Railroad Administration (Authority and FRA). 2005. *Final Program Environmental Impact Report/Environmental Impact Statement (EIR/EIS) for the Proposed California High-Speed Train System.* Vol. 1, *Report.* Sacramento and Washington, DC: California High-Speed Rail Authority and USDOT Federal Railroad Administration.

———. 2009a. ARRA Funding Fact Sheet. October.

———. 2009c. *Project-Level Environmental Impact Report / Environmental Impact Statement: Project-Level Environmental Analysis Methodologies.* Version 2, February 2009.

———. 2010a. *California High-Speed Train Project EIR/EIS Merced to Fresno Section.*

———. 2010b. *Draft Relocation Impact Report from the Environmental Impact Report/Environmental Impact Statement (EIR/EIS) for the Proposed California High-Speed Train System*. 2010.

———. 2011a. *California High-Speed Train Project EIR/EIS: Fresno to Bakersfield Section.*

———. 2011b. *California High-Speed Train Project EIR/EIS: Fresno to Bakersfield Section: Aesthetics and Visual Resources Technical Report.*

———. 2011c. *California High-Speed Train Project EIR/EIS: Fresno to Bakersfield Section: CEQA Impacts Analysis Technical Report.*

———. 2011d. *California High-Speed Train Project EIR/EIS: Fresno to Bakersfield Section: Noise Technical Report.*

———. 2011e. *California High-Speed Train Project EIR/EIS: Fresno to Bakersfield Section: Transportation Technical Report.*

———. 2011f. *California High-Speed Train Project EIR/EIS: Merced to Fresno Section.*

Caltrans Districts 6 and 10. 2009. *Updated Route 99 Business Plan.* Fresno, CA: September. http://www.dot.ca.gov/dist6/planning/sr99bus/businessplan/route99bpfinal.pdf (accessed August 2010).

Cambridge Systematics Inc. 2010. *California High-Speed Rail County-Level Growth Inducement Projections: Developed for Use in Regional Environmental Studies.* July..

City of Bakersfield. 2002. *Metropolitan Bakersfield General Plan.* Bakersfield, CA: December 11. http://www.bakersfieldcity.us/weblink7/0/doc/902940/Electronic.aspx (accessed September 2010).

———. 2005a. *Downtown Bakersfield Redevelopment Area.* Bakersfield, CA: January. http://www.bakersfieldcity.us/edcd/Pdfs/Redev_Downtown_Area.pdf (accessed September 2010).

———. 2005b. "Bakersfield Redevelopment Highlights: Old Town Kern-Pioneer Bakersfield Redevelopment Area." Bakersfield, CA: January. http://www.bakersfieldcity.us/edcd/Pdfs/Redev_Old_Town_Kern_Area.pdf (accessed September 2010).

———. 2005c. "Bakersfield Redevelopment Highlights: Southeast Bakersfield Redevelopment Area." Bakersfield, CA: January. http://www.bakersfieldcity.us/edcd/Pdfs/Redev_Southeast_%20Area.pdf (accessed September 2010).

———. 2009. *City of Bakersfield Fiscal Year 2009–2010 Proposed Budget.* http://www.bakersfieldcity.us/administration/documents/FY_2009-10_City_of_Bakersfield_Proposed_Budget_Document.pdf (accessed March 25, 2010).

———. 2010. Bakersfield Municipal Code, Bakersfield, California. Seattle, WA: Quality Code Publishing. Current through Ordinance 4621 and the August 2010 code supplement. http://www.qcode.us/codes/bakersfield/ (accessed September 2010).

City of Corcoran. 2007. *Corcoran General Plan 2025, Policies Statement.* Corcoran, CA: March 19, 2007. http://www.quadknopf.com/community_projects/corcoran/PDF_docs/AdoptedPoliciesStatement_3-19-07.pdf (accessed November 2009).

———. 2009a. *Annual Budget, 2008–2009.* Adopted June 2, 2008. http://www.cityofcorcoran.com/civica/filebank/blobdload.asp?BlobID=2582 (accessed March 17, 2010).

———. 2009b. *Corcoran, California, City Code.* Coeur d'Alene, Idaho: Sterling Codifiers, Inc., July 20, 2009. http://sterlingcodifiers.com/codebook/index.php?book_id=396 (accessed November 2009).

City of Fresno. 2007. *City of Fresno: Downtown Transportation and Infrastructure Study* (Fresno, CA: Wilbur Smith Associates, October 2007), http://www.fresnocog.org/files/TransitDocs/Fresno%20Downtown%20Transportation%20and %20Infrastructure%20Study-Final.pdf (accessed August 2010).

———. 2009. *A Guide to the Adopted Budget, Fiscal Year 2009–2010*. Adopted September 30, 2009. http://www.fresno.gov/NR/rdonlyres/E89BD84B-FF24-45C9-A17A-E63B1328A82E/20216/FY2009_2010AdoptedGuidetotheBudget.pdf.

———. 2010. City of Fresno Municipal Code and Charter of Fresno, California. (Tallahassee, Florida: Municipal Code Corporation, Codified through Ordinance No. 2010-22, effective July 1, 2010), http://library.municode.com/index.aspx?clientId=14478&stateId=5&stateName=California (accessed September 2010).

City of Fresno Parks and Recreation. 2010. http://www.fresno.gov/Government/DepartmentDirectory/ParksandRecreation/default.htm (accessed March 10, 2010).

City of Fresno Planning and Development Department. 1989. Central Area Community Plan (Fresno, CA: July 1989), http://www.fresno.gov/NR/rdonlyres/F5847A9B-1351-4899-B8DE-ADA1D11BAFD6/0/CentralAreaCommunityPlan.pdf (accessed August 2010).

———. 1992. Fulton/Lowell Specific Plan (Fresno, CA: April 1992), http://www.fresno.gov/NR/rdonlyres/E16BCD91-5F4A-4B58-B5AD-F8C558DA332D/0/fulton_lowell.pdf (accessed August 2010).

———. 1996a. Roosevelt Community Plan (Fresno, CA: January 23, 1996), http://www.fresno.gov/NR/rdonlyres/88802B1F-C9BE-4A38-BD76-762477AD6E76/0/RooseveltCommunityPlan.pdf (accessed August 2010).

———. 1996b. West Area Community Plan (Fresno, CA: February 1, 1996), http://www.fresno.gov/NR/rdonlyres/42942625-30D2-4372-BBD2-DE2C9D01D0D7/0/WestAreaCommunityPlan.pdf (accessed August 2010).

———. 2002. *2025 Fresno General Plan*. 2002. Adopted February 1, 2002. http://www.fresno.gov/NR/rdonlyres/12A301CD-CB31-456D-9BDF-6A73628D22FE/0/2025FresnoGeneralPlan.pdf (accessed January 4, 2010).

———. 2009. Housing Element, 2008–2013 (Fresno, CA: Advance Planning, March 20, 2009), http://www.fresno.gov/NR/rdonlyres/3341D1B6-554C-48CC-9250-489F6F329B5A/0/HEMarch232009Chapter6.pdf (accessed August 2010), pp. 6-1 to 6-21.

City of Fresno Redevelopment Agency. 2006. Destination Downtown (Fresno, CA: February 14, 2006), http://www.downtownfresno.org/assets/files/Vision2010.pdf (accessed August 2010).

City of Hanford. 2002a. Circulation Element, City of Hanford General Plan (Hanford, CA: June 18, 2002), http://www.ci.hanford.ca.us/civica/filebank/blobdload.asp?BlobID=4732 (accessed November 2009).

———. 2002b. Hazards Management Element, City of Hanford General Plan (Hanford, CA: June 18, 2002), http://www.ci.hanford.ca.us/civica/filebank/blobdload.asp?BlobID=4734 (accessed November 2009).

———. 2002c. Land Use Element, City of Hanford General Plan (Hanford, CA: June 18, 2002), http://www.ci.hanford.ca.us/civica/filebank/blobdload.asp?BlobID=4730 (accessed November 2009).

———. 2002d. Open Space, Conservation and Recreation Element, City of Hanford General Plan (Hanford, CA: June 18, 2002), http://www.ci.hanford.ca.us/civica/filebank/blobdload.asp?BlobID=4733 (accessed November 2009).

———. 2009a. Hanford Parks, Recreation and Open Space Master Plan (Hanford, CA: Norris Design, Fall/Winter 2009), http://www.ci.hanford.ca.us/depts/rec/masterplan.asp (accessed November 2009).

———. 2009b. Title 17 – Zoning, Hanford Municipal Code (Office of the City Clerk, amended May 19, 2009), http://www.ci.hanford.ca.us/civica/filebank/blobdload.asp?BlobID=2398 (accessed November 2009).

City of Hanford. Hanford Police Department. 2010. http://www.ci.hanford.ca.us/depts/police/default.asp.

City of Shafter. 2005a. City of Shafter General Plan (Shafter, CA: prepared by LSA Associates, Inc., April 2005, Draft), http://shafter.com/DocumentView.aspx?DID=242 (accessed September 2010).

———. 2005b. Mission Lakes Specific Plan (Shafter, CA: prepared by The Planning Center, March 2005), http://www.shafter.com/DocumentView.aspx?DID=43 (accessed September 2010).

———. 2006. Orchard Park Specific Plan (Shafter, CA: prepared by Sage Community Group, Inc., July 2006), http://www.shafter.com/DocumentView.aspx?DID=65 (accessed September 2010).

———. 2008. *Annual Operating Budget 2008-2009*. 2008. Adopted June 17, 2008. http://www.shafter.com/DocumentView.aspx?DID=239 (accessed March 17, 2010).

———. 2010. Shafter Code of Ordinances (Tallahassee, FL: Municipal Code Corporation, Codified through Ordinance No. 632, passed May 18, 2010), http://library.municode.com/index.aspx?clientId=16892&stateId=5&stateName=California (accessed September 2010).

City of Wasco. 2008a. *Adopted Annual Operation Budget, Fiscal Year 2008/2009.* 2008. http://www.ci.wasco.ca.us/Public_Documents/WascoCA_Finance/Budget/Budget08-09.pdf (accessed March 17, 2010).

———. 2008b. Downtown Revitalization Study and Downtown Business Marketing Plan (Wasco, CA: Applied Development Economics, December 2008), http://www.ci.wasco.ca.us/Public_Documents/WascoCA_Planning/Wasco%20Presentation_12-17-08.pdf (accessed August 2010).

———. 2009. Five Year Implementation Plan, 2009-2010 through 2013–2014 (Wasco, CA: Urban Features Incorporated, December 2009), http://www.ci.wasco.ca.us/Public_Documents/WascoCA_Council/RDA%205yr%20Implementation%20Plan.pdf (accessed August 2010).

———. 2010a. Agricultural Element, City of Wasco General Plan (Wasco, CA: Quad Knopf, adopted October 2002, amended June 2010), http://www.ci.wasco.ca.us/Public_Documents/WascoCA_Planning/GPA_Chapter_4.pdf (accessed September 2010).

———. 2010b. Circulation Element, City of Wasco General Plan (Wasco, CA: Quad Knopf, adopted October 2002, amended June 2010), http://www.ci.wasco.ca.us/Public_Documents/WascoCA_Planning/GPA_Chapter_5.pdf (accessed September 2010).

———. 2010c. Housing Element, City of Wasco General Plan (Wasco, CA: Quad Knopf, adopted October 2002, amended June 2010), http://www.ci.wasco.ca.us/Public_Documents/WascoCA_Planning/GPA_Chapter_6 (accessed September 2010).

———. 2010d. Land Use Element, City of Wasco General Plan (Wasco, CA: Quad Knopf, adopted October 2002, amended June 2010), http://www.ci.wasco.ca.us/Public_Documents/WascoCA_Planning/GPA_Chapter_2.pdf (accessed September 2010).

———. 2010e. Safety Element, City of Wasco General Plan (Wasco, CA: Quad Knopf, adopted October 2002, amended June 2010), http://www.ci.wasco.ca.us/Public_Documents/WascoCA_Planning/GPA_Chapter_7.pdf (accessed September 2010).

———. 2010f. Wasco Municipal Code: A Codification of the General Ordinances of the City of Wasco, California (Seattle, Washington: Code Publishing Company, current through Ordinance 608, passed May 18, 2010), http://www.codepublishing.com/ca/Wasco/ (accessed September 2010).

Council of Fresno County Governments. 2007. *2007 Fresno County Regional Housing Needs Allocation Plan* (Fresno, CA: April 2007), April 2007. http://www.fresnocog.org/files/Publications/New%20Folder/RHNA%20Plan%20-%20April%202007%20Draft.pdf (accessed August 2010)

County of Kings. 2009. *2009-2010 Final Budget*. 2009. http://www.countyofkings.com/admin/budgets/Kings%20County%20Adopted%20Budget%202009-2010.pdf (accessed March 17, 2010).

Cowan, Tadlock. 2005. *California's San Joaquin Valley: A Region in Transition*. CRS Report for Congress. December 12, 2005...

Department of Transportation Order. 1997. 5610.2 Appendix Definitions, sub.[g]. 1997. http://www.fhwa.dot.gov/environment/ejustice/dot_ord.htm (accessed February 19, 2010).

Diaz, Roderick B. 1999. "Impacts of Rail Transit on Property Values." In *Proceedings of the 1999 Commuter Rail/Rapid Transit Conference*. American Public Transportation Association. May 22-27, 1999.

Eberhardt School of Business. 2009. *Unemployment in the San Joaquin Valley in 2009: Fish or Foreclosure.* Business Forecasting Center August 11, 2009.

Economic Development Research Group. 2010. *The Economic Impacts of High-Speed Rail on Cities and their Metropolitan Areas*. Prepared for the US Conference of Mayors. 2010.

Economics and Statistics Administration and Bureau of Economic Analysis. 1997. *Regional Multipliers – A Users Handbook.* Third Edition. March 1997.

Federal Railroad Administration (FRA). 2005. *High-Speed Ground Transportation Noise and Vibration Impact Assessment*. Washington, DC: U.S. Department of Transportation, October. http://www.fra.dot.gov/downloads/RRDev/final_nv.pdf. Accessed January 2011.

Fresno County. 2000a. Agriculture and Land Use Element, Fresno County General Plan Policy Document (Fresno, CA: October 3, 2000), http://www2.co.fresno.ca.us/4510/4360/General_Plan/GP_Final_policy_doc/AgElement_rj.pdf (accessed August 2010), pp. 2-2 to 2-22.

———. 2000b. Economic Development Element, Fresno County General Plan Policy Document (Fresno, CA: October 3, 2000), http://www2.co.fresno.ca.us/4510/4360/General_Plan/GP_Final_policy_doc/Economic_Development_Element_rj.pdf (accessed August 2010), pp. 1-1 to 1-12.

———. 2000c. Housing Element, Fresno County General Plan Policy Document (Fresno, CA: October 3, 2000), http://www2.co.fresno.ca.us/4510/4360/General_Plan/GP_REVISED_Final_Housing_Element/pdf/ AdoptedElement032503.pdf (accessed August 2010), pp. 7-77 to 7-93.

———. 2000d. Open Space and Conservation Element, Fresno County General Plan Policy Document (Fresno, CA: October 3, 2000), http://www2.co.fresno.ca.us/4510/4360/General_Plan/GP_Final_policy_doc/ Open_Space_Element_rj.pdf (accessed August 2010), pp. 5-1 to 5-37.

———. 2000e. Public Facilities and Services Element, Fresno County General Plan Policy Document (Fresno, CA: October 3, 2000), http://www2.co.fresno.ca.us/4510/4360/General_Plan/GP_Final_policy_doc/Public_Facilities_Element_rj.pdf (accessed August 2010), pp. 4-1 to 4-22.

———. 2000f. Transportation and Circulation Element, Fresno County General Plan Policy Document (Fresno, CA: October 3, 2000), http://www2.co.fresno.ca.us/4510/4360/General_Plan/GP_Final_policy_doc/Transportation_rj.pdf (accessed August 2010), pp. 3-1 to 3-20.

———. 2008. *County Budget for the Fiscal Year Ended June 30, 2009.* Adopted June 20, 2008. 2008. http://www.co.fresno.ca.us/Departments.aspx?id=118.

———. 2010a. Fresno County Bicycle Transportation Master Plan (Fresno, CA: 2010), http://www.co.fresno.ca.us/DepartmentPage.aspx?id=37187 (accessed August 2010).

———. 2010b. Fresno County Spatial Crop Data. Department of Agriculture. County of Fresno. 2010.

———. 2010c. Fresno County Tax Assessor Parcel Data. County Assessor. County of Fresno. 2010.

Givoni, Moshe. 2006. "Development and Impact of the Modern High-speed Train: A Review," Transport Reviews, 26:5, 593-611. September 2006.

Greengauge 21. 2006. "High Speed Trains and the Development and Regeneration of Cities," June 2006.

Governor's Office of Planning and Research. 2003. "California Land Conservation (Williamson) Act Technical Advisory Document". 2003.

Kern Council of Governments. 2001. Kern County Bicycle Facilities Plan (Bakersfield CA, October 2001), http://www.kerncog.org/docs/ped_bike/bikeplan.pdf (accessed August 2010).

———. 2007. 2007 Regional Housing Needs Assessment (Bakersfield CA, June 2007), http://www.kerncog.org/docs/housing/RHNA.pdf (accessed August 2010).

Kern County. 2009. *Final Budget 2009-2010*. 2009. http://www.co.kern.ca.us/cao/budget/fy0910/adopt/finalbudget.pdf (accessed January 4 2010).

———. 2010. Kern County Tax Assessor Parcel Data. County Assessor. County of Kern. 2010.

Kern County Planning Department. 2003. Kern River Specific Trails Plan (Bakersfield, CA: September 9, 2003), http://www.co.kern.ca.us/planning/pdfs/KRSTP.pdf (accessed September 2010).

———. 2007a. Circulation Element, Kern County General Plan (Bakersfield, CA: March 13, 2007), http://www.co.kern.ca.us/planning/pdfs/kcgp/KCGPChp2Circulation.pdf (accessed September 2010).

———. 2007b. Land Use, Conservation, and Open Space Element, Kern County General Plan (Bakersfield, CA: March 13, 2007), http://www.co.kern.ca.us/planning/pdfs/kcgp/KCGPChp1LandUse.pdf (accessed September 2010).

———. 2008. County of Kern Housing Element, 2008-2013 (Bakersfield, CA: December 9, 2008), http://www.co.kern.ca.us/planning/pdfs/he/HE2008_toc.pdf (accessed September 2010).

Kings County..2010a. Kings County Spatial crop data. Department of Agriculture and Measurement Standards. County of Kings. 2010.

———. 2010b. Kings County Tax Assessor Parcel Data. County Assessor. County of Kings. 2010.

Kings County Association of Governments. 2003. Kings County Transit Development Plan (Kings County, CA: September 2003), http://www.co.kings.ca.us/kcag/Plans_Programs/Other%20Plans/2003%20TDP%20Plan.pdf (accessed August 2010).

———. 2005. *2005 Kings County Regional Bicycle Plan* (Kings County, CA: June 22, 2005), http://www.countyofkings.com/kcag/Plans_Programs/Other%20Plans/2005%20Bike%20Plan.pdf (accessed August 2010).

———. 2007. *Kings County 2007 Regional Transportation Plan* (Kings County, CA: May 23, 2007), http://www.co.kings.ca.us/kcag/plans&programs.html (accessed August 2010).

———. 2008. *2008 Kings County Regional Housing Needs Allocation Plan.* (Kings County, CA: August 27, 2008), http://www.countyofkings.com/kcag/Plans_Programs/Final%20RHNA%20Plan%202008.pdf (accessed August 2010).

Kings County Planning Department. 2010a. "2009-2014 Housing Element," 2035 Kings County General Plan (Kings County, CA: June 2010), http://www.countyofkings.com/planning/2035%20draft%20general%20plan/Kings%20County%20Housing%20Element_2010-06-01b_final.pdf (accessed August 2010), pp. 5-1 to 5-49.

———. 2010b. "Circulation Element," 2035 Kings County General Plan (Kings County, CA: adopted January 2010), http://www.countyofkings.com/planning/2035%20draft%20general%20plan/Final%20Docs/ 05%20Circulation%20Element.pdf (accessed August 2010), pp. C-1 to C-57.

———. 2010c. "Health and Safety Element," 2035 Kings County General Plan (Kings County, CA: adopted January 2010), http://www.countyofkings.com/planning/2035%20draft%20general%20plan/Final%20Docs/ 07%20Health%20and%20Safety%20Element.pdf (accessed August 2010), pp. HS-1 to HS-53.

———. 2010d. "Land Use Element," 2035 Kings County General Plan (Kings County, CA: adopted January 2010), http://www.countyofkings.com/planning/2035%20draft%20general%20plan/Final%20Docs/ 02%20Land%20Use%20Element.pdf (accessed August 2010), pp. LU-1 to LU-50.

———. 2010e. "Open Space Element," 2035 Kings County General Plan (Kings County, CA: adopted January 2010), http://www.countyofkings.com/planning/2035%20draft%20general%20plan/Final%20Docs/04%20Open%20Space%20Element.pdf (accessed August 2010), pp. OS-1 to OS-17.

Legislative Analyst's Office. 1996. "Property Taxes: Why Some Local Governments Get More Than Others." Policy Brief. August 21, 1996.

Loopnet. 2010. Commercial and Industrial Real Estate Database Search. 2010. http://www.loopnet.com (accessed July 3, 2010).

Norris Design. 2009. *Hanford Parks, Recreation and Open Space Master Plan, Draft Master Plan, Fall 2009*. 2009. http://www.ci.hanford.ca.us/Recreation%20Department_files/DRAFT%20MASTER%20PLAN%2010%2027%2009.pdf (accessed November 16, 2009).

North of the River Recreation and Park District. n.d. North of River District Map. http://www.norfun.org/District_map_for_Printing-BW.pdf (accessed October 20, 2009).

Primedia. 2010. Rental Apartment and Home Database Search. 2010. http://www.rentals.com/ (accessed July 28, 2010).

Reconnecting America, Center for Transit-Oriented Development. 2008. Capturing the Value of Transit. Prepared for the United States Department of Transportation, Federal Transit Administration. 2008.

Reference USA. 2010. U.S. Businesses Database. http://www.referenceusa.com/. Division of Infogroup.

Rodriguez, Robert. 2010. "Kings County Crop Value Drops 25%."*The Fresno Bee*. June 15, 2010. http://www.fresnobee.com/2010/06/15/1971923/kings-county-crop-value-drops.html.

Sands, Brian D. 1993. "The Development Effects of High-Speed Rail Stations and Implications for California." The University of California Transportation Center. University of California, Berkeley. California High Speed Rail Series Working Paper. UCTC No. 115. April 1993.

Simons, Robert A. 2006. "When Bad Things Happen to Good Property." Washington, DC: Environmental Law Institute, May 2006.

Tulare County. 2009a. *2008 Tulare County Annual Crop and Livestock Report*. Department of Agriculture. County of Tulare. 2009.

———. 2009b. *Recommended Budget 2009-2010.* September 15, 2009. http://www.co.tulare.ca.us/pdfs/200910RecBudget.pdf (accessed March 17, 2010)..

———. 2010a. Tulare County General Plan 2030 Update (February 2010), http://generalplan.co.tulare.ca.us/documents/GeneralPlan2010/GeneralPlan2030Update.pdf (accessed August 2010).

———. 2010b. Housing Element 2009 Update (March 2010), http://www.co.tulare.ca.us/civica/filebank/blobdload.asp?BlobID=5570 (accessed August 2010).

Tulare County Association of Governments. 2007a. "Action Element," 2007 Tulare County Regional Transportation Plan (May 21, 2007), http://www.tularecog.org/rtp.php (accessed August 2010)

———. 2007b. 2007 *Tulare County Regional Bicycle Transportation Plan.*

U.S. Census Bureau. 2000a. (SF-1) DP-1 Profile of General Demographic Characteristics. 2000.

———. 2000b. (SF-3) DP-2 Profile of Selected Social Characteristics. 2000.

———. 2000c. (SF-3) DP-3 Profile of Selected Economic Characteristics. 2000.

———. 2000d. (SF-3) DP-4 Profile of Selected Housing Characteristics. 2000.

———. 2000e. (SF-1) P4 Hispanic or Latino, and Not Hispanic or Latino by Race (Total Population). 2000.

———. 2000f. (SF-1) P20 Households Language by Linguistic Isolation. 2000.

———. 2000g. (SF-3) P88 Ratio of Income in 1999 to Poverty. 2000.

———. 2000h. (SF-3) H19 Household Type (Including Living Alone) By Age of Householder. 2000.

———. 2000i. (SF-3)_P43. Sex by Employment Status for the Population 16+ Years. 2000.

———. 2000j. (SF-1) Summary Table, Demographic Summary Table. 2000.

———. 2001. *Emergency and Transitional Shelter Population: 2000*. Census 2000 Special Reports, CENSR/01-2.2001. October 2001. http://www.census.gov/prod/2001pubs/censr01-2.pdf (accessed April 12, 2010).

———. 2007. B18101, Sex by Age by Disability Status. 2007.

———. 2008. Data Tables. Demographic and Housing Estimates. 2008.

U.S. Census Bureau, American Community Survey. 2005–2007. Summary Table, Selected Social Characteristics. 2005–2007.

———. 2006–2008a. B03002 “Hispanic or Latino Origin by Race”. 2006–2008.

———. 2006–2008b. B11001 “Household Type (Including Living Along)”. 2006–2008.

———. 2006–2008c. B16002 “Household Language by Linguistic Isolation”. 2006–2008.

———. 2006–2008d. B17002 “Ratio of Income to Poverty Level in the Past 12 Months”. 2006–2008.

———. 2006–2008e. Summary Table, Selected Demographic and Housing Estimates. 2006–2008.

———. 2006–2008f. Summary Table, Selected Economic Characteristics. 2006–2008.

———. 2006–2008g. Summary Table, Selected Housing Characteristics. 2006–2008.

———. 2006–2008h. Summary Table, Selected Social Characteristics. 2006–2008.

———. 2007. Summary Table, Selected Social Characteristics. 2007.

———. 2008a. B03002 “Hispanic or Latino Origin by Race”. 2008.

———. 2008b. B11001 “Household Type (Including Living Along)”. 2008.

———. 2008c. B16002 “Household Language by Linguistic Isolation”. 2008.

———. 2008d. B17002 “Ratio of Income to Poverty Level in the Past 12 Months”. 2008.

———. 2008e. Summary Table, Selected Demographic and Housing Estimates. 2008.

———. 2008f. Summary Table, Selected Economic Characteristics. 2008.

———. 2008g. Summary Table, Selected Housing Characteristics. 2008.

———. 2008h. Summary Table, Selected Social Characteristics. 2008.

———. 2009. C25085 "Price Asked". 2009.

U.S. Department of Housing and Urban Development. 2010. HUD Aggregated USPS Administrative Data on Vacancies. 2nd Quarter. June 30, 2010. http://www.huduser.org/portal/datasets/usps.html (accessed July 19, 2010).

U.S. Department of Labor. 2009. Occupational Employment and Wages, 2008. Economic news release. Washington, DC: Bureau of Labor Statistics, May 1, 2009.

URS (URS Corporation). 2009. *Cost Escalation Rate Study for Caltrans District 4 Projects*. Prepared for the California Department of Transportation. May 2009.

Zillow. 2010. Home Real Estate Database Search. 2010. http://www.zillow.com/homes/ (accessed July 7, 2010).

## 6.2 Persons and Agencies Consulted

Arce, Larry. 2010. Larry Arce, Executive Director, Fresno Rescue Mission, Fresno, CA. Personal Communication regarding the displacement of Fresno Rescue Mission facilities to Mara Feeney, Mara Feeney & Associates. June 23, 2010.

Barfield, Gregory. 2010. Gregory Barfield, Homeless Coordinator, City of Fresno, CA. Personal Communication regarding the displacement of Fresno Rescue Mission facilities to Mara Feeney, Mara Feeney & Associates. June 23, 2010.

Brown, Danny. 2010. Danny Brown, Economic Development Coordinator, City of Wasco, CA. Personal communication regarding the economic importance of the Jackson and Perkins Rose Nursery to Mark Metcalfe, URS. July 1, 2010..

Dorna, Ute. Ute Dorna, Kings County Auditor/Controller's Office. Personal communication regarding the most accurate way to calculate property tax allocation to the counties and cities along the project alignment to Aryan Assadi, URS., June 2, 2010.

Edwards, Randy. 2010. Randy Edwards, Dairy Appraiser, Edwards, Lien and Toso Inc. Personal communication to Guyton Durnin, URS, May 13, 2010.

Higginbotham, Gerald. 2010. Gerald Higginbotham, Dairy Farm Advisor, University California Cooperative Extension, CA. Personal communication to Guyton Durnin, URS, May 13, 2010.

Kinney, Chuck. 2010. Chuck Kinney, Kings County, CA. Personal communication (telephone interview) regarding demographics and characteristics of rural communities in Kings County to Sean Rudden, URS, March 19, 2010.

Prout, Margie. 2010. Margie Prout, Executive Assistant, Fresno Rescue Mission, Fresno, CA. Personal communication regarding the demographics of the homeless population served by the Fresno Rescue Mission to Sean Rudden, URS, July 30, 2010.

Rudden, Rus. 2010. Rus Rudden Construction Manager URS Corp. Personal communication to Sean Rudden, Construction Manager, URS, April 27, 2010.

Smith, Peter. 2010. Peter Smith, Kern Council of Governments, CA. Personal communication (telephone interview) regarding demographics and characteristics of rural communities in Kern County to Sean Rudden, URS, March 19, 2010.

Sweeny, Jake. 2010. Jake Sweeny, City of Shafter, CA. Personal communication (telephone interview) regarding community characteristics of the city of Shafter to Mara Feeney, URS, February 3, 2010.

Waters, Jason. 2010. Jason Waters, Tulare Council of Governments, CA. Personal communication (telephone interview) regarding demographics and characteristics of rural communities in Kings County to Sean Rudden, URS, March 19, 2010.

# Chapter 7
## Preparer Qualifications

# 7.0 Preparer Qualifications

The following individuals have made significant contributions to the development of this technical report:

**Mark Metcalfe, Ph.D, Primary Author**

Dr. Metcalfe has 18 years of experience in conducting socioeconomic analysis for projects encompassing a wide spectrum of local and regional economic issues. Throughout his current work, he is responsible for developing and implementing methodologies to create necessary affected environment and environmental consequence documentation for NEPA and CEQA projects. This includes authoring both technical reports and writing EIR/EIS sections for the environmental document. Issues examined in his work include regional growth; land use; substantial and significant changes to community character and cohesion; disproportionate and adverse effects on environmental justice populations; impacts to residents, employees and broader local economies resulting from displacement of residences, businesses and public facilities; project-related short- and long-term employment creation; community access and circulation; project-related fiscal impacts to local jurisdictions, impacts to agricultural operations and overall cumulative project impacts. He has 10 years of experience as a leader of multidisciplinary teams and has authored 20 professional publications on all aspects of his work.

**Mara Feeney, Contributing Author**

Mara Feeney obtained an undergraduate degree in Anthropology and a Master's degree in Community and Regional Planning. She has more than 30 years of professional experience in conducting socioeconomic impact analysis, land use impact analysis, environmental justice evaluations, and community outreach. She has worked on a wide variety of projects throughout the United States and Canada—many of them large-scale and controversial resource development or public works projects. Her assignments on multidisciplinary teams have included evaluation of potential impacts on land use, regional employment and income, population and demographic characteristics, public finance, adopted local plans and policies, farmland, housing, community infrastructure and services, recreation, environmental justice, and quality of life. She is thoroughly familiar with the requirements of NEPA and CEQA, and was an instructor in environmental impact reporting at Sonoma State University.

**David Halsing, Contributing Author**

David Halsing has 12 years of experience in analyzing and modeling natural resources, environmental economics, hazards, and other environmental issues, and has delivered a number of environmental studies, benefit-cost analyses, greenhouse gas inventories, and decision-support tools to clients in federal, state, and regional governments. He has prepared or contributed to several environmental documents and conducted environmental permitting on several major projects. Projects and tasks completed under his management and leadership have been used in land-use planning, water quality management, the evaluation of investments in spatial data infrastructure, conservation planning, watershed and protected area design, and policy/program development.

**Sean Rudden, Contributing Author**

Sean Rudden holds a degree in economics from Sacramento State University and is continuing his education towards a degree in urban land development. He has a varied background in economics, planning, and sustainability. Projects he has worked on range from land use studies, CEQA/NEPA permitting projects, energy reduction campaigns, economic profiles, and disaster preparedness plans.

**Linda Peters, Independent Technical Reviewer**

Linda Peters is the manager of the Planning Division of the San Francisco Office of URS. An environmental planner/archaeologist with 15 years of consulting experience, Ms. Peters has an excellent working knowledge of the National Environmental Policy Act (NEPA) and California Environmental Quality Act (CEQA) processes, and she has prepared environmental documents and cultural resources reports for a wide range of projects throughout California, Arizona, Nevada, Utah, and Wyoming. She has worked for the past 10 years preparing NEPA/CEQA documents for a variety of local, state, and federal agencies. Specifically, she has an exceptional working knowledge of U.S. Department of Transportation requirements for federally funded projects, and understands the appropriate protocols and procedures to successfully obtain environmental clearance on projects in a timely manner. Since 2001, she has prepared Section 4(f) evaluations for projects funded by the FHWA, FTA, FRA as both stand-alone documents and as chapters or sections in NEPA documentation. Ms. Peters worked in conjunction with the FHWA and ADOT to develop the ADOT/FHWA Local Government Section/Transportation Enhancement and Scenic Roads Section Checklist and Completion Guidelines.

# Appendix A
## Methodologies

## Table of Contents

**Appendix A Methodologies ..... A-1**
A.1. Environmental Justice Methodology ..... A-1
A.1.1. Description and Objective ..... A-1
A.1.2. Proposed Project-Level Environmental Analysis Methodologies ..... A-1
A.1.3. Key Assumptions ..... A-1
A.1.4. Information and Data Requirements ..... A-2
A.1.5. Methodology ..... A-3
A.1.6. References ..... A-10
A.2. Community and Neighborhoods Methodology ..... A-11
A.2.1. Description and Objective ..... A-11
A.2.2. Proposed Project-Level Environmental Analysis Methodologies ..... A-11
A.2.3. Key Assumptions ..... A-11
A.2.4. Information and Data Requirements ..... A-12
A.2.5. Methodology ..... A-13
A.2.6. References ..... A-15
A.3. Property Methodology ..... A-17
A.3.1. Description and Objective ..... A-17
A.3.2. Proposed Project-Level Environmental Analysis Methodologies ..... A-17
A.3.3. Key Assumptions ..... A-17
A.3.4. Information and Data Requirements ..... A-18
A.3.5. Methodology ..... A-18
A.3.6. References ..... A-23

### Tables

**Table A-1** Information and Data Used in Environmental Justice Analysis ..... A-2
**Table A-2** Comparison of Census Poverty Threshold and HHS Poverty Guidelines ..... A-5
**Table A-3** Information and Data Used in Community Profiles ..... A-12
**Table A-4** Information and Data Used in Property Acquisition and Relocation Analysis ..... A-18

*This page intentionally left blank*

## Acronyms and Abbreviations

| | |
|---|---|
| AB 8 | Assembly Bill 8 |
| ACS | U.S. Census Bureau, American Community Survey |
| APN | assessor parcel number |
| Authority | California High-Speed Rail Authority |
| BEA | U.S. Department of Commerce Bureau of Economic Analysis |
| Caltrans | California Department of Transportation |
| CDBG | Community Development Block Grant |
| CPI-U | Consumer Price Index |
| EIR/EIS | Environmental Impact Report/Environmental Impact Statement |
| EJ | environmental justice |
| GNIS | Geographic Names Information System |
| HHS | Department of Health and Human Services |
| HST | high-speed train |
| NAICS | North American Industry Classification System |
| NAS | National Academy of Sciences |
| OMB | Office of Management and Budget |
| RIMS II | Regional Input-Output Modeling System |

*This page intentionally left blank*

# Appendix A Methodologies

Appendix A includes a detailed discussion of the methodologies for the environmental justice (A.1), community and neighborhoods (A.2), and property (A.3) analysis conducted in this report. A reference list of key informational sources is provided at the end of each discussion.

## A.1. Environmental Justice Methodology

This methodology section provides details on objectives, data sources, and the steps taken in the environmental justice analysis to identify affected environment and environmental consequences.

### A.1.1. Description and Objective

The purpose of this methodology section is to summarize the approach that was used to develop the environmental justice (EJ) findings for this technical report. The EJ areas identified will be used to (1) inform the outreach team as to the areas in need of special EJ outreach consideration and (2) evaluate both the long-term (project operation) and short-term (project construction) impacts on identified EJ areas.

### A.1.2. Proposed Project-Level Environmental Analysis Methodologies

The process for identifying EJ population locations in the baseline conditions report followed the methodology provided in *California High-Speed Train Project-Level Environmental Analysis Methodologies* (Authority and FRA 2010). No variations from these procedures were made for the Fresno to Bakersfield analysis. The baseline report contains substantial technical analysis to determine presence or absence of EJ areas along the project alignment alternatives. A key data source was the 2000 Census; however, considerable efforts were made to validate or update the 2000 data to avoid overlooking potential environmental justice groups or clusters.

### A.1.3. Key Assumptions

The analysis incorporated the following assumptions:

- EJ populations can be minority, low income, or both. The analysis for identifying EJ areas was conducted at the Census block level to identify minority populations and at the block group level to identify low-income populations. This difference in scale of analysis reflects the fact that income is not reported by the Census at the block level, and therefore block groups provide the finest level of analysis possible for examining poverty data but since they are larger geographic areas, they provide less accuracy especially in rural areas (see step 3 in Section A.1.5 below for an examination of this point).

- The EJ analysis examined all Census blocks (for minority populations) and block groups (for low-income populations) that lie completely or partially within a ½-mile radius of the alignment and stations facility locations.

- Minorities were defined as all individuals not identified as White only in the Census, including those identified as Hispanic or Latino.

- A Census block was identified as an EJ area if the minority population exceeded 50% of the total population of the block or if the minority population was more than 10 percentage points higher than the average for the surrounding area. (See below for analysis on how preliminary EJ findings differed using these different criteria.)

- Low-income persons were defined as those with incomes below the Census poverty threshold. (See below for the justification for using the Census-identified low-income populations.)
- A Census block group was identified as an EJ area if the low-income population exceeded 25% of the total population of the block group or if the low-income population was more than 10 percentage points higher than the average for the surrounding area. (See below for analysis on how preliminary EJ findings differed using these different criteria.)
- The base data set used for the EJ analysis was the 2000 Census. While this information is now a decade old and new 2010 Census data will not be available until mid-2011, the decennial Census is considered the most reliable source of data on race and ethnicity. This reliability is derived from the fact that the data are based on a 100% population survey, rather than sampling or estimating techniques. In addition, the California Department of Transportation (Caltrans) has stated that minority and low-income characteristics are slow to change in California communities, thus making the Census data reliable over a relatively long period (Caltrans 1997). Nonetheless, preliminary findings based on analysis of 2000 Census data were validated using both quantitative and qualitative methods. (See below for a detailed description of this validation process.)
- The public outreach team was provided with all EJ area findings to allow for specific community outreach activities to be tailored to the needs of the identified EJ communities.

### A.1.4. Information and Data Requirements

Table A-1 describes the information and data elements that were required and how they were used in the environmental justice analysis.

**Table A-1**
Information and Data Used in Environmental Justice Analysis

| Information and Data Required | Description of Use |
|---|---|
| **Base Analysis** | |
| 2000 Census data<br>• Total Population (SF-1: P1)<br>• Race (SF-1: P4)<br>• Number in Poverty (SF-3: P88) | 2000 Census block (race) and block group (income) data were used to identify the locations of minority populations and low-income populations. |
| **2000 Census Validation of Minority and Low-Income Populations** | |
| ACS 2008 and 2006–2008<br>• Total Population (B01003)<br>• Race (B03002)<br>• Number in Poverty (B17002) | 2008 (areas with greater than 65,000 population) and 2006–2008 (areas with 20,000 to 65,000 population) ACS data were used to examine changes in minority and low-income populations at the county and community level since 2000. |
| 1999 and 2008 data from the California Department of Social Services, Food Stamp Participation Database | Analysis was conducted on data pertaining to food stamp program participation by zip code for the project area. |

**Table A-1**
Information and Data Used in Environmental Justice Analysis

| Information and Data Required | Description of Use |
|---|---|
| 2000 and 2009 data from the California Department of Education, School Fiscal Services Division, Free and Reduced Price Meal Eligibility Database | Analysis involved grouping schools into the appropriate zip code and examining how participation in the free and reduced-fee lunch programs has changed over this time. |
| 2002 and 2009 Fresno and Kern County social services participation data | Analysis involved examining populations by zip code in Fresno and Kern Counties participating in social assistance programs. |
| 2009 Kern County Housing Authority Section 8 participation data | Analysis involved examining the number of Section 8 participants by zip code in Kern County. |
| 2000–2009 California Tax Credit Allocation Committee, Low-Income Housing Tax Credit Program Database | Analysis was conducted to determine the locations of new low-income housing projects developed in the region under the Low-Income Housing Tax Credit Program. |
| Relevant county and city reports | Analysis included reviewing EJ findings from CDBG Consolidated Plans and Action Plans; the Council of Fresno County Governments Environmental Justice Report; and the Kern Council of Governments Environmental Justice Report. |
| Comments from local experts | Outreach was conducted to obtain local expert insights about any substantial developments or demographic changes that may have occurred in the study area over the past decade that could lead to a change in the EJ population areas identified. Maps of 2000 Census based findings were also provided to these experts for their review and comment. |
| ACS = U.S. Census Bureau, American Community Survey<br>CDBG = Community Development Block Grant | |

## A.1.5. Methodology

Addressing environmental justice issues involves procedural and technical considerations. Procedural considerations include reaching out to ensure that minority and low-income populations are effectively engaged in public involvement processes. The following section does not address the procedural process but rather focuses on the technical analysis conducted for this baseline conditions report. Technical considerations involve such issues as the choice of appropriate data sets and assumptions used for the identification of potentially affected populations for environmental justice assessments. The basic steps undertaken for this analysis were as follows:

**Step 1: Initial Screening to Identify Minority and Low-Income Populations**

Those communities and neighborhoods with a meaningfully greater population of minority and low income residents were identified through the use of Census SF1 data (P4) at the block level for race and Census SF3 data (P88) at the block group level for income. The analyses examined all blocks (race) and block groups (income) within a ½ mile radius of the station locations and

train alignment. Blocks and block groups with zero population in the study area were identified to show land areas with no population and therefore no potential EJ impacts

EJ minority blocks met at least one of the following criteria: (1) minority population that is greater than 50% of the total block population; or (2) minority population that is more than 10 percentage points higher than the average of the surrounding area. Respondents to the 2000 Population Census that did not identify themselves as White only in the racial identity question are considered part of a minority population. Specifically, minority populations for each block are equal to the total population for the block (SF-1: P004001) minus the number of individuals identified as not Hispanic or Latino and of one race, White alone (SF-1: P004005).

EJ low-income block groups met at least one of the following criteria: (1) low-income population that is greater than 25% of the total population of the block group; or (2) low-income population that is more than 10 percentage points higher than the average of the surrounding area. Low income means a person whose median household income is at or below 0.99 of the Census poverty threshold.

The 2000 Census poverty threshold was used to identify low-income block groups. Specifically, low-income is defined based on the ratio of income in 1999 to Census poverty level, with all individuals below 1.0 of the Census poverty threshold (SF3-P88) identified as low income. The Census poverty threshold is calculated following the Office of Management and Budget (OMB) Statistical Policy Directive 14, using a set of money income thresholds that vary by family size and composition to determine who is living in poverty. If a family's total income is less than the appropriate family's threshold (considering size and type), then that family and every individual in it is considered to be living in poverty. The official Census poverty thresholds do not vary geographically, but they are updated for inflation using the Consumer Price Index (CPI-U). The official poverty definition uses money income before taxes and does not consider capital gains or non-cash benefits (such as public housing, Medicaid, and food stamps).

The Census poverty threshold is the original version of the federal poverty measure developed by the Social Security Administration. The threshold is used mainly for statistical purposes—for instance, preparing the estimates of the number of Americans in poverty for each year's report. The poverty guidelines are the other version of the federal poverty measure. They are issued each year, generally in the winter, in the Federal Register by the Department of Health and Human Services (HHS). The guidelines are a simplification of the poverty thresholds for use for administrative purposes—for instance, determining financial eligibility for certain federal programs. Both the thresholds and the guidelines are the same for all mainland states, regardless of regional differences in the cost of living and both are updated annually for price changes using the CPI-U (Department of Health and Human Services 2009; Institute for Research on Poverty 2009). When considering regional differences in poverty measures, the state of California Department of Finance uses a geographically adjusted poverty guideline for counties throughout the State. The Census threshold is being used in this analysis, however using either the federal guidelines or the geographically adjusted state measure would produce similar results in this environmental justice analysis as these three poverty measures are very similar in value. Table A-2 presents a comparison of the various 2008 poverty measures for families of various sizes.

The Decennial Census provides the number of individuals with a given ratio of income to the Census poverty threshold for their household size and number of dependents. Specifically, the data provide the number of individuals with income-to-poverty ratios of 0–0.5, 0.5–0.75, 0.75–1.0, 1.0–1.25, 1.25–1.5, 1.5–1.75, 1.75–1.85, 1.85–2.0, and over 2 times the poverty threshold. Thus, for example, these data can be used to derive the number of people whose income was less than 1.5 times the Census poverty threshold. An appropriate question to ask when using this data is what is the appropriate ratio to use when defining low-income? The Project-Level Environmental Analysis Methodologies calls for low-income to be defined as the number of

individuals with an income-to-poverty ratio of below 1.0 (Authority and FRA 2010). However, given the higher cost of living as compared to the national average in some areas of California, it is important to consider whether or not 1.0 is a fair measure of low-income for the study area.

**Table A-2**
Comparison of Census Poverty Threshold and HHS Poverty Guidelines

| Family Size | U.S. Census Bureau Poverty Thresholds, 2008[a] | Department of Health and Human Services 2009 Poverty Guidelines [b] | Poverty Guidelines for California Counties, 2008[c] |
|---|---|---|---|
| One person | $10,991 | $10,830 | $10,400 |
| Two people | $14,051 | $14,570 | $14,000 |
| Three people | $17,163 | $18,310 | $17,600 |
| Four people | $22,025 | $22,050 | $21,200 |
| Five people | $26,049 | $25,790 | $24,800 |
| Six people | $29,456 | $29,530 | $28,400 |

Note: Because of disparate but reasonable labeling practices, the Census Bureau poverty thresholds for 2008 and the 2009 HHS poverty guidelines both reflect price changes through calendar year 2008. So, despite the labels, the 2009 poverty guidelines are not one year more up to date than the poverty thresholds for 2008 but are approximately equal to the 2008 thresholds.

[a] U.S. Census Bureau 2009a; Institute for Research on Poverty 2009.

[b] U.S. Department of Health and Human Services 2009; Institute for Research on Poverty 2009.

[c] California Department of Finance 2009. These poverty guidelines are for the counties of Fresno, Kings, Tulare, and Kern.

A recent environmental justice study performed for a project in the Port of Los Angeles used a National Academy of Sciences (NAS) methodology for adjusting poverty thresholds to incorporate regional housing costs (Los Angeles Harbor Department 2008a, 2008b). This NAS methodology was developed specifically to measure poverty levels in California incorporating the higher cost of living in California relative to the rest of the nation. Results of that analysis determined that an individual with an income-to-poverty ratio below 1.25 was the appropriate definition of low-income in Los Angeles County. The study area for the California High-Speed Train (HST) Project is the San Joaquin Valley and indices show that the composite cost of living for the Fresno area—the largest urban area in the San Joaquin Valley—is 82% of that of Los Angeles (U.S. Census Bureau 2009b). Therefore, given that the detailed NAS methodology yielded 1.25 for Los Angeles County, defining low-income in the Fresno to Bakersfield study area as an income-to-poverty ratio of below 1.0 is considered appropriate.

Given that the study area crosses highly urbanized areas (i.e., the cities of Fresno and Bakersfield) and rural areas (i.e., the agricultural lands between communities), it is important to identify EJ populations according to population density. Therefore, population densities were calculated for all blocks within the EJ study area. The top one-third percentile of population densities was identified as high density and is representative of those blocks with greater than 7,922 persons per square mile. The middle one-third percentile was identified as medium density and is representative of those blocks with greater than 2,431 and less than 7,922 persons per square mile. The bottom one-third percentile was identified as low density and is representative of those blocks with less than 2,431 persons per square mile. In this way, population density is relative to the EJ study area as a whole and consistent throughout the region. That is, for

example, a high population density block in Fresno County meets the same criteria as a high population density block in Kern County.

**Step 2: Comparison of Absolute and Relative EJ Criteria**

An analysis was undertaken to determine how the use of different absolute and relative EJ minority and low-income criteria affected the identification of EJ areas. That is, for example, to what extent do the identified EJ areas change using the greater than 50% of population minority criteria as compared to the greater than 10 percentage points over the (1) State, (2) San Joaquin Valley and (3) Southern San Joaquin Valley averages?

The specific criteria examined were:

Minority (of Census block population)

- > 50%
- > 63.3% (10 percentage points over State average)
- > 64.0% (10 percentage points over San Joaquin Valley average)
- > 66.5% (10 percentage points over Southern San Joaquin Valley average)

Low-income (of Census block group population)

- >25%
- > 24.2% (10 percentage points over State average)
- > 30.5% (10 percentage points over San Joaquin Valley average)
- > 32.2% (10 percentage points over Southern San Joaquin Valley average)

The results of the analysis were input into ArcView (a Geographic Information System) to allow for visual inspection of how the identified EJ areas changed using each of the criteria. The first finding of this analysis was that using the greater 50% criteria for minority and the greater than 25% criteria for low-income (and given the linear nature of this project), the alignment passes through approximately an equal proportion of EJ and non-EJ areas and populations. This is demonstrated in the results where 44% of the blocks in the study area containing 56% of the population and 57% of block groups containing 55% of the population are identified as EJ areas, based on minority status and income, respectively. Note that the population numbers are slightly above 50% but given the high average for minorities and low-income residents in the San Joaquin Valley (54% and 20.5% of the population, respectively), and even higher percentages in the four counties examined (56.5% and 22.2%), this population is representative of the overall population in the region. That is, it is expected that the project would pass through a similar number of EJ and non-EJ areas compared with other potential alignments through the four counties. This result is also demonstrated in Figure B-2, Figure B-3, Figure B-4, and Figure B-5 in the Appendix B community profiles.

The question then becomes how these areas are concentrated along the alignment to allow for examination of potential disproportionate impacts. The second finding of this analysis is that concentrations of EJ areas in the Fresno to Bakersfield section are stable under these criteria. That is, changing the criteria will marginally change the shape and size of identified EJ areas but there are no high concentration EJ area clusters that appear or disappear as a result of using the different criteria. There may be individual blocks or block groups that are isolated – not surrounded by other EJ blocks or block groups – and these do appear or disappear as a result of changing criteria. However, in almost all cases, these isolated blocks and block groups are of very low population density, located between communities in rural portions of the study area. These low population “islands” would not be considered EJ areas as they are not representative of a large concentration of minority and low-income population in the area, and in many instances

few or no residents of the Census block or block group in question actually reside within the study area limits.

As a result of these findings, the greater than 50% criterion for minority and the greater than 25% criterion for low-income were used in order to be more inclusive when identifying EJ areas. Using these criteria provided the most conservative analysis and did not substantially change the findings pertaining to identification of EJ populations.

**Step 3: Examining Block vs. Block-Group Results**

The analysis conducted at the block level is much more precise than the analysis at the block group level. This is a result of the fact that the size of the block group areas extend greatly outside the ½ mile EJ study area, making it sometimes difficult to pinpoint the locations of low income EJ populations within the study area. This fact is emphasized in the total population numbers in the study area within the region by block (128,689) and block group (243,609). The more expansive block group areas capture almost twice the population, meaning almost half of these 243,609 individuals are actually outside the ½ mile study area and should not be considered in the EJ analysis. Examination of the locations of the minority blocks and the low-income block groups shows a consistent overlap of these populations (i.e., all low-income EJ block group areas contain at least one minority EJ block). Since an EJ area needs to meet only one of these criteria, the more precise minority results using block level data are presented and examined for the region, counties, cities in the baseline conditions report. It is important to note that there are rural sections of the study area containing minority blocks that are not identified as low income. These sections include (1) the study area south of the city of Fresno to the Fresno County border, (2) north and south of Hanford in King's County, and (3) south of Wasco and north of Shafter and south of Shafter and north of Bakersfield in Kern County. These sections contain minority EJ blocks but not low-income EJ block groups. All other EJ areas are considered to be both minority and low-income areas. Consultation with local planners, housing authorities and council of governments confirmed this overlap of minority and low-income populations and they agreed with the use of block level data to accurately capture the locations of these populations. This consultation was undertaken as a map review by these local experts and that process is detailed in Step 4 below.

**Step 4: Validation of EJ Areas Identified Using 2000 Census Block Data**

Given the potential for changes in population characteristics since the 2000 Census, the study area was examined quantitatively and qualitatively to identify any potential EJ areas that may have emerged since the 2000 Census. This additional step was undertaken to ensure that no pockets of EJ populations are overlooked inadvertently because of data limitations.

All outreach conducted for this task began by asking 27 local agencies and organizations if they are aware of any better data than the 2000 Census data for identifying the locations of minority and low-income populations in the study area. No agency or organization contacted could identify any better data source. Even so, this best data available are a decade old and it is important to verify that there have not been substantial changes in the locations of EJ populations over the last 10 years. Therefore, we conducted analysis on proxy data and undertook outreach to local agencies and organizations to verify our EJ results. Overall, this data analysis and outreach effort supported the EJ areas identified in the 2000 Census as an accurate representation of current conditions. Specific comments received from local agencies were incorporated but the number of changes were small in relation to the entire project area.

Proxy data sources were identified that might indicate the current locations of EJ populations. This proxy data included examining American Community Survey data for 2006 through 2008 as well as data on participation in social service, food stamp, Section 8 housing, and school free or

reduced-fee lunch programs in the study area. This participation data was available by zip code and allowed for identification of the current participants in these programs. This zip code analysis was most useful in urban areas where there are multiple zip codes for smaller areas, thereby allowing for a more detailed examination of specific locations. Analysis of these data sets confirmed the EJ areas identified using the 2000 Census data. In addition, a data set from the California Tax Credit Allocation Committee, Low-Income Housing Tax Credit Program was obtained that identified all the low-income housing developed under this program over the last 10 years. An examination of these low-income housing developments in the study area found that they were located in high population density EJ areas identified by the 2000 Census data. This finding again suggests that the Census is capturing the locations of EJ populations today.

An examination of county and city reports found that Census 2000 data are still representative of the locations of EJ populations. This is based on the fact that policy and decision making affecting minority and low-income populations is being made using this data. Specifically, the 2006-2010 Community Development Block Grant (CDBG) Consolidated Plans and current CDBG Action Plans for the Cities of Fresno and Bakersfield find that these investment efforts are targeting the same EJ areas identified by the Census data (City of Fresno Planning and Development Department 2005; City of Fresno Budget and Management Studies Division 2009; City of Bakersfield 2009a, 2009b). Again this suggests that the 2000 Census information is capturing the current locations of low-income and minority populations. Also, a 2003 Kern Council of Governments report on EJ identifies similar EJ areas (Kern Council of Governments 2003). Finally, a recent report completed by the Council of Fresno County Governments in May 2009 identified EJ areas within the county (Council of Fresno County Governments 2009). This report yielded results similar to our analysis and therefore supports the accuracy of the areas identified by the 2000 Census data.

The outreach to local agencies and organizations included (1) an interview asking about changes in conditions that would lead to changes in EJ population identification and (2) local expert review of the preliminary EJ block level maps created using the 2000 Census data to see if the EJ areas identified are representative of current minority and low-income conditions. The interviews with representatives of local agencies and organizations did not reveal any recent developments or changes in demographics that would greatly affect the location of minority and low-income populations along the study area. This suggests that the 2000 Census is still relevant for evaluating current EJ conditions. The local expert review of the 2000 Census block level EJ maps also confirmed the findings based on the Census data. In total, 22 agencies were sent copies of the EJ maps and asked to review and comment on the findings obtained using 2000 Census data. Of these 22 agencies, 16 responded with comments, including:

- City of Fresno Planning Office
- Fresno County Department of Public Works and Planning
- Fresno County Council of Governments
- Kern County Housing Authority
- City of Bakersfield Office of Economic and Community Development
- City of Bakersfield, Development Services - Planning
- City of Shafter Planning Department
- Kern Council of Governments
- Kings County Housing Authority
- Kings County Community Development Agency – Planning
- City of Hanford Community Development Department
- City of Corcoran Community Development Department
- Kings County Association of Governments
- County of Tulare Housing Authority
- Tulare County Association of Governments
- San Joaquin Valley Air Pollution Control District Environmental Justice Advisory Group

These county and city planning, housing and development officials were asked to note any changes in the maps that are not representative of the current locations of minority and low-income populations, to the best of their knowledge. These local experts had some minor changes to the Census-based results, but these changes were very small in comparison to the overall results for the entire area. Specifically, the comments from these experts resulted in 31 Census blocks changing – with 25 being added as new EJ areas and 6 removed as no longer being EJ areas – out of the 2,935 total blocks in the EJ study area. This result suggests that use of the 2000 Census was a valid basis for identifying the current locations of EJ populations in the study area.

**Step 5: Identification of Disproportionate High and Adverse Effects on EJ Populations**

The baseline analysis conducted in steps 1 through 4 above identified the location of EJ populations within the project study area. Executive Order 12898, the federal environmental justice policy, requires federal agencies to address the potential for their programs, policies, and activities to have disproportionately high adverse human health and environmental effects on minority and low-income populations. Department of Transportation Order 5610.2 on environmental justice interprets a "disproportionately high and adverse effect on minority and low-income populations" to mean an adverse effect that is predominately borne by a minority population and/or a low-income population, or will be suffered by the minority population and/or low-income population and is appreciably more severe or greater in magnitude than the adverse effect that will be suffered by the non-minority population and/or non-low-income population.

Analyses conducted by various resource specialists identified substantial project-related impacts on environmental resources in the study area, including transportation; air quality and global climate change; noise and vibration; electromagnetic field and electromagnetic interference; public utilities and energy; hazardous materials and wastes; safety and security; community cohesion; property displacement; station planning; land use and development; agricultural lands; parks, recreation and open space; aesthetics and visual quality; and cultural resources. These impacts were identified by area, alternative alignment, and by type of impact, but without regard to whether they might have a disproportionately high and adverse effect on minority and low-income populations.

For this EJ analysis, findings from the pertinent resource analyses were reviewed and summarized. Where impacts were found not to be substantial (or to have no impact), no further analysis was done on the potential to impact an EJ population. All impacts that were found to be substantial before mitigation were reviewed to consider the population affected and the presence of EJ populations. If mitigation measures were proposed that could reduce impacts, no further evaluation was conducted. Impacts that would remain substantial after mitigation were compared to the EJ population baseline analysis to determine whether the impact might disproportionately affect such populations.

Executive Order 12898 requires that federal agencies ensure effective public participation and access to information. Consequently, a key component of compliance with Executive Order 12898 is outreach to the potentially affected minority and/or low-income populations to discover issues of importance that may not otherwise be apparent. Outreach to affected communities has been and will continue to be conducted as part of the Authority and FRA decision-making process. An extensive public and agency outreach program was conducted throughout the environmental impact report / environmental impact statement (EIR/EIS) process, and will continue through design and construction phases. Many meetings were held with local officials; public, local and regional organizations; and government agencies. Meetings were also held with representatives of affected communities along the HST alternatives, including those communities containing predominantly minority and low-income populations. These efforts are document in this report as well as in Chapter 7 of the EIR/EIS, Public and Agency Involvement.

## A.1.6. References

California Department of Finance. 2009. Table D-22. In *California Statistical Abstract.* 2009.

California Department of Transportation (Caltrans). 1997. *Community Impact Assessment: Caltrans Environmental Handbook, Volume 4.* Sacramento: Caltrans, Environmental Program, June 1997.

California High-Speed Rail Authority and USDOT Federal Railroad Administration (Authority and FRA). 2010. *California High Speed Train: Project-Level Environmental Methodologies, Version 3*. February 2010.

City of Bakersfield. 2009a. Chapter IV, Housing Market Analysis and Needs Assessment. In *Consolidated Plan 2010.* 2009.

———. 2009b. *Fifth Program Year Action Plan, 2009/10*. 2009.

City of Fresno Budget and Management Studies Division. 2009. *Fiscal Year 2009–2010 Annual Action Plan.* 2009

City of Fresno Planning and Development Department. 2005. *Consolidated Plan, Fiscal Years 2006–2010*. 2005.

Council of Fresno County Governments. 2009. *Fresno County Environmental Justice Plan*. Fresno, CA: May 2009.

Department of Health and Human Services. 2009. "Frequently Asked Questions Related to Poverty Guidelines and Poverty." http://aspe.hhs.gov/poverty/faq.shtml (accessed October 20, 2009).

Institute for Research on Poverty. 2009. "What Are Poverty Thresholds and Poverty Guidelines?" http://www.irp.wisc.edu/faqs/faq1.htm (accessed October 20, 2009).

Kern Council of Governments. 2003. *Environmental Justice Report, Kern County*. November 2003.

Los Angeles Harbor Department. 2008a. *Environmental Impact Statement Environmental Impact Report, Berth 97-109 Container Terminal Project.* Volume 3, *Appendixes,* Chapter 5. Los Angeles: Los Angeles Harbor Department, Environmental Management Division, April 30, 2008.

———. 2008b. *Environmental Impact Statement Environmental Impact Report, Berth 97-109 Container Terminal Project.* Volume 3, *Appendixes,* Appendix G. Los Angeles: Los Angeles Harbor Department, Environmental Management Division, April 30, 2008.

U.S. Census Bureau. 2009a. *Weighted Average Poverty Thresholds, 2008*. Released September 2009.

———. 2009b. Table 706. In *2009 Statistical Abstract.* 2009.

U.S. Department of Health and Human Services. 2009. *Poverty Guidelines*. Released February 28, 2009.

# A.2. Community and Neighborhoods Methodology

## A.2.1. Description and Objective

The purpose of this methodology section is to summarize the approach that was used to develop the community conditions for this technical report. The community baseline conditions will be documented in community profiles describing population and demographics, income and poverty, housing, the economy, community facilities and circulation and access. The information gathered for the community profiles will be used to evaluate both the short-term (project construction) and the long-term (project operation) impacts on these communities.

## A.2.2. Proposed Project-Level Environmental Analysis Methodologies

The process for analyzing community conditions in the baseline report followed the *California High-Speed Train Project-Level Environmental Analysis Methodologies* (Authority and FRA 2010). No variations from these procedures were made in compiling the Fresno to Bakersfield Baseline Conditions Report, which contains substantial descriptive information and trends analysis for potentially affected communities within the study area.

## A.2.3. Key Assumptions

The analysis incorporated the following assumptions:

- The study area for community profiles is a ½-mile radius from the alignment and proposed station facility locations, including bypasses and alternative station locations. This study area encompasses land in four counties (Fresno, Kings, Tulare and Kern) and six incorporated cities (Fresno, Hanford, Corcoran, Wasco, Shafter, and Bakersfield) within the four-county region. The geographically larger and more populated urban areas (Fresno and Bakersfield) were divided into separate districts in order to focus on demographic and economic characteristics of the specific districts within the larger metropolitan areas that would be affected by the project.

- Community facilities in the smaller cities (Hanford, Corcoran, Wasco, and Shafter) were identified for the entire community given the relatively small number of facilities and the importance of each in a small community. Community facilities in the larger cities (Fresno and Bakersfield) were examined only within the ½ mile study area, given the large number and diversity of such facilities in these major urban centers and the fact that community facilities are the heart of a community.

- Rural areas between the six cities were examined for community characteristics to the extent possible, given data limitations.

- Every effort was made to present the most recent data available for all sections of the profiles. However, data availability varied widely for different variables (population, income, housing, etc.) and also across different geographic areas (counties, cities, and unincorporated places). As a result, there are many different sources used, creating the potential for inconsistencies in some of the values presented. For example, total population data for 2009 was obtained from the California Department of Finance and is presented in the report as the most recent total population count available. However, this 2009 total population data from DOF does not provide information about the racial composition of the population. Therefore, older (2008) data from the U.S. Census Bureau were used to describe community racial characteristics. The total population figures from these two sources will not be equal, because they use different reference years. Such differences, where they occur, are noted in the profiles to provide clarification and avoid confusing the reader.

### A.2.4. Information and Data Requirements

Table A-3 describes the information and data elements that were required for this analysis and identifies how these are used in the community profiles. For recent data estimates, U.S. Census Bureau, American Community Survey (ACS) single-year estimates for 2008 are available for all counties and the cities of Bakersfield and Fresno, because all these jurisdictions have a population of greater than 65,000. By contrast, Hanford, Corcoran, and Wasco each have a population of less than 65,000 but greater than 20,000, and therefore ACS three-year (2006–2008) average estimates are available. The city of Shafter, with a population of less than 20,000 as of January 2010 has no recent estimates available from the ACS.

**Table A-3**
Information and Data Used in Community Profiles

| Information and Data Required | Description of Use |
|---|---|
| **Community Profile Characteristics** | |
| Population and Demographics<br>• U.S. Census Bureau 2000 Racial and Ethnicity Characteristics (P4), age profile (DP-1), household type profile (H7), and linguistic isolation (P20).<br>• U.S. Census Bureau 2006–2008 and 2008 American Community Survey Racial and Ethnicity Characteristics (B03002), age profile (demographic and housing estimates), household type profile (B11001), linguistic isolation (B16002), and disabilities (selected social characteristics)<br>• California Department of Finance 2009 and 2035 total and projected population and 2009 household profile (E-5 population and housing estimates) | Analysis of this data provides a description of total population; population growth trends; race and household characteristics for 2000, the present, and 2035 (projected). |
| Income and Poverty<br>• U.S. Census Bureau 2000 median annual household income (selected economic characteristics) and income level to poverty (P88)<br>• U.S. Census Bureau 2006–2008 and 2008 American Community Survey annual household income (selected economic characteristics) and income level to poverty (B17002) | Analysis of this data provides a description of income and poverty and changes from 2000 to the present. |
| Housing<br>• U.S. Census Bureau 2000 home ownership and length of residence (selected housing characteristics)<br>• U.S. Census Bureau 2006–2008 and 2008 American Community Survey home ownership and length of residence (selected housing characteristics)<br>• California Department of Finance 2000 and 2009 building stock inventory (E-5 population and housing estimates) | Analysis of this data provides a description of housing stock, ownership and length of residence and changes from 2000 to the present. |

**Table A-3**
Information and Data Used in Community Profiles

| Information and Data Required | Description of Use |
|---|---|
| Economy<br>• California Employment Development Department, 2009 25 largest employers by county, 2000, 2008, and October 2009 total employment and unemployment, 2000, 2008 and 2016 occupation by type. | Analysis of this data provides a description of the economy, employment, key employers and sectors from 2000 to the present and projected to 2016. |
| Fiscal<br>• County and city budget data | Analysis of this data provides a description of current budget conditions as well as the importance of revenues generated through property and sales taxes. |
| Community Facilities<br>National Institute of Building Sciences, *Earthquake Loss Estimation Methodology, HAZUS MH MR3 Technical Manual,* prepared for the Department of Homeland Security Emergency Preparedness and Response Directorate Federal Emergency Management Agency Mitigation Division, Washington, D.C. (NIBS 2003) (Hospitals, Churches, Community Centers, Public Buildings)<br>• Department of the Interior, U.S. Geological Survey, National Mapping Division, Branch of Geographic Names, Geographic Names Information System (GNIS) files (hdl:1902.5/630217, National Archives and Records Administration) (USGS 1992) (Emergency Service Structures and Schools)<br>• Review aerial photographs and GoogleEarth resources<br>• Interview local planners and administrators<br>• Conduct field visits | Analysis will identify key community facilities within the study area. |
| Circulation and Access<br>• County and city bicycle and pedestrian paths | Analysis will identify key non-motorized circulation routes within the communities. |
| **Community Profile Policies** | |
| • County and city General Plans<br>• Other Key Relevant Plans | Analysis of general plans and other key relevant plans will identify potential conflicts between the project and local jurisdictions' adopted goals and policies. |

## A.2.5. Methodology

Technical considerations involve the use of appropriate data sets and assumptions for the identification of communities and the characteristics of those communities. The basic steps undertaken for this analysis were as follows:

**Step 1: Define Communities**

For the purposes of this baseline conditions report, the region was defined as the four counties of Fresno, Kings, Tulare, and Kern. Given the proposed project alignment, the ½ mile radius study

area was determined to fall within six cities within these 4 counties (Fresno, Hanford, Corcoran, Wasco, Shafter, and Bakersfield). The cities of Hanford, Corcoran, Wasco, and Shafter were examined as a whole given their smaller geographic area and more homogeneous populations. The cities of Fresno and Bakersfield were determined to be too large and comprised of too many distinct neighborhoods and heterogeneous populations to be examined as a whole. Therefore, these cities were examined by districts to create more project-focused areas for analysis. For the city of Fresno, data are presented for the city as a whole, but also for the designated districts of Central, Edison, and Roosevelt. For Bakersfield, data are presented for the city as a whole, as well as for the Northwest, Central and Northeast districts. These are the districts within the two major cities that the project alignment would traverse. District boundaries were determined based on current definitions used by city staff (Fresno), interviews with local planners (Bakersfield), and examination of Census boundaries (tract, block group, and block) to approximate data collection to match the district boundaries as closely as possible.

**Step 2: Identify and Obtain Relevant Community Data for Profiles**

Data were collected and analyzed for individual profiles that were created for the region as a whole, as well as for each of the four counties (Fresno, Kings, Tulare, and Kern), and the six cities (Fresno, Hanford, Corcoran, Wasco, Shafter, and Bakersfield) in the study area. These profiles provide relevant information on population and demographics, income, housing, economic and fiscal conditions, non-motorized circulation and access within communities (pedestrian and bicycle) and community facilities. A variety of data sources were used to quantify past, current and future conditions, where available. Specific jurisdictional goals, objectives and policies related to housing, economic development, non-motorized circulation, and community facilities are also summarized for each affected jurisdiction. Maps depicting the physical boundaries of communities and the relative location of community facilities with reference to the study area are provided. Characteristics of the region, counties, and cities in the project area are compared with each other (and sometimes to the state) to provide context and to highlight similarities and differences.

Identifying the locations community facilities required examination of aerial photographs, GIS data sets constructed from publicly available USGS Geographic Names Information System (GNIS) data, the HAZUS MH MR3 facility location database and GoogleEarth resources, as well as interviews with local planners or other knowledgeable persons and field research.

The rural areas and communities that lie between the urban cities along the alignment consist mainly of farmland and open space, and study area profiles are mainly qualitative, based upon review of aerial photographs, data from the U.S. Geological Survey Geographic Names Information System, information obtained from the Economic and Social Research Institute, Google Earth, and site visits. Communities were identified by reviewing maps, through discussion with local officials, and were visited to identify existing conditions.

**Step 3: Review County and City General Plans and Other Key Relevant Local Plans and Regulations**

General plans were reviewed to identify those elements relevant to socioeconomics, communities, and environmental justice, including land use, transportation and circulation, housing, open space and conservation, community facilities and services, and economic development. Pertinent adopted goals and policies from these elements were summarized in the community profiles. Other key relevant local or regional plans were also reviewed and summarized to the extent that they relate to these community issues in the study area. In addition, municipal zoning ordinances are cited with respect to land use regulations that promote the character, health, safety, and the general welfare of communities.

**Step 4: Identify Division of Community Impacts**

Preliminary impacts were identified through intensive review of aerial photographs and GIS layers showing the spatial relationship between the proposed action and alternatives and existing community resources. Census information, Assessor's parcel data, and other databases (e.g., Reference USA) were used to identify the number and type of community facilities that may be displaced or disrupted. Secondary research (such as review of local planning documents and city websites) was conducted on the unique attributes and resources of the affected communities. Preliminary impact findings were verified through field research and discussions with persons knowledgeable about local community conditions and neighborhood characteristics, such as local elected officials, service providers, city planners, and community residents.

Indirect impacts on homes, businesses, or community facilities and services that would not be displaced by the project but that would remain in close proximity to it were also considered. These indirect impacts included both temporary impacts during project construction and long-term impacts during project operation. Indirect impacts on service districts, police and fire departments, and recreation resources resulting from the displacement of households and businesses were also considered. In addition, changes in parking and non-motorized access were evaluated to determine temporary and permanent impacts on affected communities, the resources within them, and community cohesion.

**Step 5: Examine Project Related Job Creation and Provision of Government Services**

An analysis was conducted to determine if such project-related job creation both during construction (short-term) and operation (long-term) could result in the need for additional government facilities to serve community along the project alignment.

The U.S. Department of Commerce Bureau of Economic Analysis (BEA) Regional Input-Output Modeling System (RIMS II) multipliers were used to estimate the direct, indirect and induced employment created during construction of the project. Increases in direct employment result from new jobs generated through spending on the project itself. Indirect employment is created in existing businesses in the region that may supply goods and services to the project, such as equipment suppliers, construction companies and maintenance firms. Induced employment is created in new or existing businesses, such as retail stores, gas stations, banks, restaurants, and service companies that supply goods and services to workers and their families. BEA RIMS II type II annual regional economic final demand and direct effect employment multipliers were used to generate these estimates. See section 5.1 of this report for more details on this methodology along with all interim results.

Analyses conducted by Cambridge Systematics provided estimates of the long-term employment resulting from the operation of the HST. These new long-term jobs are created as businesses are attracted to the region and businesses already located in the region expand, and spatial reallocation of employment results from changes in business location by firms benefiting from the increased mobility provided by the HST project (Cambridge Systematics Inc. 2010).

## A.2.6. References

California High-Speed Rail Authority and USDOT Federal Railroad Administration (Authority and FRA). 2010. *California High Speed Train Project-Level Environmental Methodologies, Version 3*. February 2010.

Cambridge Systematics Inc. 2010. *California High Speed Rail County-Level Growth Inducement Projections: Developed for Use in Regional Environmental Studies.* July 2010.

National Institute of Building Sciences (NIBS). 2003. *Earthquake Loss Estimation Methodology: HAZUS MH MR3 Technical Manual*. Prepared for the Department of Homeland Security Emergency Preparedness and Response Directorate. Washington, DC: Federal Emergency Management Agency Mitigation Division, 1992.

U.S. Geological Survey (USGS). 1992. Geographic Names Information System (GNIS) files. Washington, D.C.: Department of the Interior, U.S. Geological Survey, National Mapping Division, Branch of Geographic Names, National Archives and Records Administration, 1992.

# A.3. Property Methodology

## A.3.1. Description and Objective

The purpose of this methodology section is to summarize the approach that was used to develop the property acquisition and relocation affected environment for this technical report. The property acquisition and relocation information will be documented in the report to describe the type, number, and total acreage of privately held residential, commercial, industrial, and agricultural parcels intersected by the project footprint. This information will be used to evaluate the type and magnitude of both the short-term (project construction) and the long-term (project operation) impacts on the surrounding communities.

## A.3.2. Proposed Project-Level Environmental Analysis Methodologies

The process for analyzing property acquisition and relocation in the baseline report followed the *California High-Speed Train Project-Level Environmental Analysis Methodologies* (Authority and FRA 2010). No variations from these procedures were made for the Fresno to Bakersfield Section.

## A.3.3. Key Assumptions

The analysis incorporated the following assumptions:

- The project footprint being used in this analysis may vary from the final project footprint, but is assumed to be a good approximation for the purpose of initial screening and identification of the numbers and types of parcels that could be affected by the project. It is assumed that, as a whole, the footprint captures a reasonably accurate estimate of the numbers and types of properties potentially affected (residential, commercial, industrial, and agricultural) by the project. Therefore, this preliminary property analysis is only an approximation of the parcels that would be affected by the project and is used to identify the potential magnitude of socioeconomic and community impacts. This analysis should not be considered to be a comprehensive identification of the real estate acquisition needs of the project. It is rather a good starting point for such an analysis and a useful tool for comparing the relative impacts associated with BNSF Alternative Alignment vs. bypass alternatives as well as proposed and alternative station locations.

- The availability of specific parcel data varies by county, as not all counties collect the same information about specific parcel characteristics. Where attributes are not available, GIS, aerial photos and windshield surveys will be used to supplement this data when possible.

- Potential full parcel acquisition was identified if the project facilities would displace existing structures or take a substantial portion of the property that would affect its continued use. In the case of full acquisition, all residences and businesses on the parcel are assumed displaced and relocated. Many parcels would be partially acquired, and displacement and relocation of the residences and businesses located on the parcel might not be necessary. However, this does not mean there would be no potential impacts on these structures. For example, residences might not be displaced but rather the residents temporarily moved if they are located close to construction area nuisances such as noise, dust, and traffic during the construction period. Also, businesses located near construction areas might close temporarily to allow for construction lay-down areas, in cases where access in and out of the facility would be restricted and also where buildings would need to be modified to exist adjacent to the project. At this stage of project design, identifying the individual circumstances surrounding each of these potential occurrences on partial acquisitions is not possible. To be conservative in this analysis and to avoid underestimating displacements, all residences and businesses on partially acquired parcels, including those that may ultimately

be temporary impacts, are counted as displacements and relocations. This assumption allows for an initial understanding of potential property impacts. The final full and partial parcel acquisition decisions would ultimately be determined on a case-by-case basis during the land acquisition and real estate appraisal portion of the project.

## A.3.4. Information and Data Requirements

Table A-4 describes the information and data elements that were required for this analysis and identifies how these are used in the property acquisition and relocation analysis.

**Table A-4**
Information and Data Used in Property Acquisition and Relocation Analysis

| Information and Data Required | Description of Use |
|---|---|
| Current project footprint (GIS layer) | Used to overlay county parcel shape files and identify those parcels potentially affected by the project |
| Current alignment alternatives | Used to identify the parcels that are affected by the project alternatives to allow for comparison. |
| Parcel characteristic attributes<br>• ID number (APN)<br>• Location (Property Address)<br>• Land use<br>• Area<br>• Assessed value<br>• Owner address<br>• Number and Age of structures<br>• Square footage of structures | Analysis of this data provides a description of the numbers, sizes, types, values, and exiting uses of properties that fall within the current project footprint. |
| APN = assessor parcel number<br>GIS = Geographic Information System | |

## A.3.5. Methodology

Technical considerations involve the use of appropriate data sets and assumptions for the identification of parcels intersected by the current project footprint. The basic steps undertaken for this analysis were as follows:

**Step 1: Collect Parcel Characteristics Data**

This information was collected from two sources. The first source was the affected counties themselves. The four county assessor and GIS offices were contacted and a list of the desired data attributes was submitted (assessor parcel number [APN], location, land use, area, value, number of units, number of structures, type of structure, year built, square footage of structure, and owner). The counties were unable to provide data on number of structures or type of structure. Also, there was no direct information on number of residential units located on a parcel. Instead, the land use codes and field site visits were examined to distinguish single family residences from multi-family residences. Because Fresno County data omitted information on structural attributes (year built and square footage), a private data vendor was used to provide this data for use in the report.

Initially, parcel information across all four counties within a 1mile buffer area from the project alignment was created. The parcels intersected by the project alignment footprint were then identified within this one mile buffer zone by overlaying the GIS layers for parcel shape files and the proposed and alternative alignment and station locations.

**Step 2: Develop the Property Baseline**

Land use codes obtained from the county data sources were used to identify all privately held parcels intersecting the project footprint. These types of privately held parcels were residential, commercial, industrial and agricultural. A category of "public" parcels was also used in order to capture any potential impacts to community facilities and non-profits, such as police and fire stations, parks, schools, religious facilities or community centers. The number of privately held parcels by type was calculated and total acreage determined. Maps were created showing the location of these parcel types within the communities.

**Step 3: Identify Residential, Commercial, Industrial, Agricultural and Community Facilities Located on Parcels to be Acquired**

Property parcels, or the portions thereof, that would need to be acquired for the HST project were identified using aerial photographs, conceptual engineering plans, profiles, and right-of-way data showing potential parcel acquisitions. Potential full and partial acquisitions were tabulated for the project alternatives.

***Residential***

Residential property acquisitions were compiled in a Microsoft Excel database containing details for each affected parcel, including the estimated number of residential units, land use, assessed value, size of parcel, and street address. The number of residential units on a parcel was approximated using the available county land use assessment and field observations.

Census 2000 data on average household size were used to estimate the number of residents relocated for each community. The data, although a decade old, were the best available to identify differences in household size by Census tract in the districts of Fresno and Bakersfield (the areas with the highest potential for high concentrations of residential displacements). An analysis was also conducted to determine the number of suitable replacement housing units in the communities of the relocated residents. Suitable in this analysis is similar housing located within the same community. As construction is scheduled to begin in 2012, current vacancy rates were considered to be a good indicator of the availability of suitable replacement properties. In addition, these vacancies are expected to remain, given recent problems in the real estate sector that have left a surplus of residential units as a result of overbuilding and foreclosures. This analysis involved a search in each community for vacant housing using the HUD Aggregated USPS Administrative Data on Address Vacancies and a search of vacant housing properties in real estate listings (U.S. Department of Housing and Urban Development 2010; Zillow 2010; Primedia 2010). To identify the likely availability of suitable replacement housing, the locations of vacant residential properties were identified by census tract and zip code along the project alternative alignments and compared with the projected numbers of displaced residences in these areas.

***Commercial and Industrial***

The analysis for non-residential properties containing commercial and industrial businesses included estimating the number, type, and size (by number of employees and amount of annual sales) of businesses relocated.

County data on parcel characteristics were obtained to identify specific parcel information such as land use, assessed value, size of parcel, and street address. These direct construction impacts

were compiled in a Microsoft Excel database containing details for each affected parcel, including a count of the number of businesses and relevant business characteristics. The number and type of businesses on each parcel, as classified in the North American Industry Classification System (NAICS), were identified using the Reference USA database. Field visits were conducted to obtain any additional information that was needed.

An analysis was also conducted to determine the number of suitable replacement properties in the communities of the relocated businesses. This involved a community search for vacant commercial and industrial properties using HUD Aggregated USPS Administrative Data on Address Vacancies and a search of vacant commercial and industrial properties in real estate listings (U.S. Department of Housing and Urban Development 2010; Loopnet 2010). Locations of vacant commercial and industrial properties were identified by census tract and zip code along the BNSF Alignment, and were compared with the projected numbers of relocated businesses in these areas to identify the likely availability of suitable replacement properties.

### *Agricultural*

Examination of agricultural businesses involved the identification of direct construction impacts associated with the number of split parcels, as well as the number of parcels where agricultural facilities (such as, processing facilities, warehouses, barns, or silos) would be displaced. Split agricultural parcels—those parcels divided into two or more separate pieces by the project—represent potential impacts. If split parcels are subsequently bought and sold by neighboring operations, there will be a temporary impact on production during this logistical reorganization. In addition, where farm units are not logically rearranged to incorporate resulting splits, there will be added operational expenses (new infrastructure, staff time, extra gasoline) associated with access to fields for irrigation, pesticide application, harvesting, and other farm equipment operations. The count of parcels with displaced agricultural facilities provides an indication of impacts on agriculture in the region. These impacts are associated with the temporary loss of the facility functions as it is moved or replaced and the resulting direct impact on farmers as well as the indirect impacts on the businesses involved in processing and transporting the agricultural products that are dependent on those facilities.

In addition, a dollar value estimate of permanent agricultural production value lost within 500 feet of the centerline of the project alternatives was calculated and the corresponding potential job loss was estimated. These losses are a result of both land acquisition and potential yield impacts on crops located near the project during train operation. Data indicating the locations of particular crop production and animal agriculture operations were obtained from county agricultural sources (Fresno County 2010; Kings County 2010; Tulare County 2010; Kern County 2010). The value of the particular crops affected by the project footprint was then estimated using county price data for each crop and animal product assuming all production within 50 feet of the alternative alignment's centerline would be displaced.

Crops from 50 feet to 500 feet were examined for losses due to the project footprint as well as potential yield losses associated with reduced efficiencies in pest management and harvesting operations, reduced pollination services, and increased dust from train operation. Special consideration was given to prime farmland because replacing production lost on this limited resource would be more difficult. Corresponding job loss was calculated using data supplied by the California Employment Development Department and the California Department of Food and Agriculture (California Employment Development Department 2008; California Department of Food and Agriculture 2009).

All the analysis on agricultural businesses provides an indication of impacts from each of the HST alternatives from the perspective of the agricultural sector across the region. Some individual operations may be affected more than others, and this cost to producers and impact on operation

feasibility and value will be considered on a case-by-case basis during the land acquisition phase of the project.

**Step 4: Determining Impacts to Agricultural Operations**

Examination of agricultural businesses involved the identification of direct construction impacts associated with the number of split parcels, as well as the number of parcels where agricultural facilities (such as, processing facilities, warehouses, barns, or silos) would be displaced. Split agricultural parcels—those parcels divided into two or more separate pieces by the project—represent potential impacts. If split parcels are subsequently bought and sold by neighboring operations, there will be a temporary impact on production during this logistical reorganization. In addition, where farm units are not logically rearranged to incorporate resulting splits, there will be added operational expenses (new infrastructure, staff time, extra gasoline) associated with access to fields for irrigation, pesticide application, harvesting, and other farm equipment operations. The count of parcels with displaced agricultural facilities provides an indication of impacts on agriculture in the region. These impacts are associated with the temporary loss of the facility functions as it is moved or replaced and the resulting direct impact on farmers as well as the indirect impacts on the businesses involved in processing and transporting the agricultural products that are dependent on those facilities.

In addition, a dollar value estimate of permanent agricultural production value lost within 500 feet of the centerline of the project alternatives was calculated and the corresponding potential job loss was estimated. These losses are a result of both land acquisition and potential yield impacts on crops located near the project during train operation. Data indicating the locations of particular crop production and animal agriculture operations were obtained from county agricultural sources (Fresno County 2010; Kings County 2010; Tulare County 2010; Kern County 2010). The value of the particular crops affected by the project footprint was then estimated using county price data for each crop and animal product assuming all production within 50 feet of the alternative alignment's centerline would be displaced.

Crops from 50 feet to 500 feet were examined for losses due to the project footprint as well as potential yield losses associated with reduced efficiencies in pest management and harvesting operations, reduced pollination services, and increased dust from train operation. Special consideration was given to prime farmland because replacing production lost on this limited resource would be more difficult. Corresponding job loss was calculated using data supplied by the California Employment Development Department and the California Department of Food and Agriculture (California Employment Development Department 2008; California Department of Food and Agriculture 2009).

All the analysis on agricultural businesses provides an indication of impacts from each of the HST alternatives from the perspective of the agricultural sector across the region. Some individual operations may be affected more than others, and this cost to producers and impact on operation feasibility and value will be considered on a case-by-case basis during the land acquisition phase of the project.

Permanent road closures resulting from the project were examined to identify any impacts on regional access for agricultural operations, such as moving workers and equipment for cultivating and harvesting fields as well as delivering products to processing facilities and markets. This analysis focused on identifying areas where substantial stretches of the project are projected to result in road closures, thereby limiting regional access from one side of the project to the other. The potential impacts on individual farms from road closures were not calculated.

**Step 5: Determining Relocation of Sensitive Populations**

In communities with high concentrations of projected displacements, the demographics of the residents relocated were obtained to identify populations that may require special relocation services. These sensitive populations are in addition to the EJ populations identified below. Census 2000 data were collected to identify elderly (over 65), disabled, female head of household, and linguistically isolated populations, and to determine if there would be a construction impact resulting from the relocation of a high number of these sensitive populations. This analysis was performed with 2000 Census data, the most recent data available, to obtain census tract level data representative of the communities within the city of Bakersfield, where high concentrations of residential displacements occur.

**Step 6: Determining Changes in School District Funding**

The potential impact of high concentrations of displacements on school districts was considered based on potential indirect construction impacts on school funding. This impact on funding is a result of reductions in student populations in communities with high numbers of residential displacements. School district funding is dependent on student attendance, and relocations of large populations of students out of current school districts could therefore reduce funding for affected school districts. Displacement results were examined for areas with high concentrations of displacements and no available housing in the current school district.

**Step 7: Calculate Resulting Property and Sales Tax Effects**

***Property Tax Losses***

This analysis estimated the changes to county and city tax revenues resulting from property acquisition. Estimated county and city tax allocations were based on these current Assembly Bill 8 (AB 8) rates and exclude allocations to special districts, redevelopment agencies, and schools and colleges (Legislative Analyst's Office 1996). Actual property values were obtained from county tax assessor data sources for each parcel proposed for acquisition by the project (Fresno County 2010; Kings County 2010; Tulare County 2010; Kern County 2010). Some parcels were missing value data; property values for these parcels were estimated using the average of the same type of parcels located in the same community. Property tax revenue losses for full residential and commercial takings were estimated assuming the loss of the entire value of the property.

Losses from acquired agricultural lands were calculated differently as these are most often larger parcels that may only be split by the project. Given the typical realignment of agricultural fields that occurs as a result of intersecting transportation projects, these resulting split lands will likely not be lost to county and city property tax rolls but rather acquired by neighboring operations that would continue to use the land for production and thus pay the taxes. Therefore, property tax losses for full and partial takings of agricultural parcels were estimated using the loss of value associated with the affected acreage that would actually be lost to future production.

***Sales Tax Losses***

Sales tax losses are an indirect impact of construction and were estimated quantitatively for those permanently displaced businesses that collect sales tax for products, goods, or services. Data on annual sales were obtained for all projected businesses displaced from the Reference USA database, a service of InfoGroup. Using the sales data for the identified displaced businesses in each city and county, sales taxes collected by the businesses were calculated by industry. When a business is displaced, it can relocate in the same jurisdiction to ensure access by its current clientele. Even if the displaced business leaves the area, much of its sales will be transferred to a nearby competitor, thereby changing the source of the sales but not the local sales tax collected. However, businesses with few competitors in a location may have some

portion of their displaced sales move outside the current tax jurisdiction. This possibility was taken into account through estimated percentages of local sales loss by business type, with those businesses with fewer local competitors having a higher percentage of sales lost to the local area.

Once a total estimated sales loss was calculated by jurisdiction, these sales loss values were then multiplied by the appropriate percentages that the local governments collect in sales tax. These tax loss values were then compared to the total revenue collected through sales tax to estimate the percentage impact that business displacements would have on sales tax revenue in these jurisdictions.

#### *Sales Tax Gains*

To evaluate the contribution of the project to local sales tax revenues during the construction and operation period, the total local sales tax revenues generated from local purchases (such as wood, concrete, steel, and electrical equipment) were calculated under each of the alternatives. The proportion of the local purchases that are likely to be purchased within each of the four counties is assumed to be proportional to the size of the county. Based on the 2010 population estimates, the split in population between Fresno, Kings, Tulare, and Kern is 39.8%, 6.5%, 18.7% and 35.0%, respectively. Therefore, since Fresno and Kern are the largest counties in the project area, almost 75% of the local purchases that are made within the region are assumed to be made in these counties.

## A.3.6. References

California Department of Food and Agriculture. 2009. *California Agricultural Highlights, 2008–2009.*

California Employment Development Department. 2008. *California Statewide Agricultural Employment, 2007.* Employment Development Department. State of California.

California High-Speed Rail Authority and USDOT Federal Railroad Administration (Authority and FRA). 2010. *California High Speed Train Project-Level Environmental Methodologies, Version 3.* February 2010.

Fresno County. 2010b. Fresno County spatial crop data. County of Fresno, Department of Agriculture. 2010.

Kern County. 2010. Kern County Tax Assessor parcel data. County of Kern, County Assessor. 2010.

Kings County. 2010a. Kings County Spatial crop data. Department of Agriculture and Measurement Standards. County of Kings. 2010.

Legislative Analyst's Office. 1996. "Property Taxes: Why Some Local Governments Get More Than Others." Policy Brief. August 21, 1996.

Loopnet. 2010. Commercial and Industrial Real Estate Database Search. 2010. http://www.loopnet.com (accessed July 3, 2010).

Primedia. 2010. Rental Apartment and Home Database Search. 2010. http://www.rentals.com/ (accessed July 28, 2010).

Tulare County. 2010c. Tulare County spatial crop data. 2010.

U.S. Department of Housing and Urban Development. 2010. HUD aggregated USPS administrative data on vacancies. 2nd Quarter. June 30, 2010. http://www.huduser.org/portal/datasets/usps.html (accessed July 19, 2010).

Zillow. 2010. Home Real Estate Database Search. 2010. http://www.zillow.com/homes/ (accessed July 7, 2010).

## Table of Contents

**Appendix B Community Baseline Data ..... B-1**
B.1 Region ..... B-1
B.2 Fresno County ..... B-19
B.3 Kings County ..... B-34
B.4 Tulare County ..... B-50
B.5 Kern County ..... B-65
B.6 City of Fresno ..... B-82
B.7 City of Hanford ..... B-112
B.8 City of Corcoran ..... B-126
B.9 City of Wasco ..... B-143
B.10 City of Shafter ..... B-160
B.11 City of Bakersfield ..... B-176
B.12 Rural Areas ..... B-211
B.12.1 City of Fresno to City of Hanford ..... B-211
B.12.2 City of Hanford to City of Corcoran ..... B-212
B.12.3 City of Corcoran to City of Wasco ..... B-213
B.12.4 City of Wasco to City of Shafter ..... B-214
B.12.5 City of Shafter to City of Bakersfield ..... B-214
B.13 References ..... B-215

### Tables

**Table B-1** Racial and Ethnicity Characteristics of the Region ..... B-2
**Table B-2** Numbers and Types of Households in the Region ..... B-4
**Table B-3** Income Level to Poverty Line in the Region ..... B-5
**Table B-4** Housing Stock in the Region ..... B-7
**Table B-5** Home Ownership in the Region ..... B-16
**Table B-6** Employment in the Region ..... B-17
**Table B-7** Occupation by Type in the Region ..... B-17
**Table B-8** Racial and Ethnicity Characteristics of Fresno County ..... B-20
**Table B-9** Numbers and Types of Households in Fresno County ..... B-22
**Table B-10** Income Level to Poverty Line in Fresno County ..... B-23
**Table B-11** Housing Stock in Fresno County ..... B-27
**Table B-12** Home Ownership in Fresno County ..... B-28
**Table B-13** Length of Residence in Fresno County ..... B-28
**Table B-14** Largest Employers in Fresno County, 2010 ..... B-29
**Table B-15** Employment in Fresno County ..... B-31
**Table B-16** Occupation by Type in Fresno County ..... B-32
**Table B-17** Racial and Ethnicity Characteristics of Kings County ..... B-35
**Table B-18** Numbers and Types of Household in Kings County ..... B-37
**Table B-19** Income Level to Poverty Line in Kings County ..... B-39
**Table B-20** Housing Stock in Kings County ..... B-42
**Table B-21** Home Ownership in Kings County ..... B-43
**Table B-22** Length of Residence in Kings County ..... B-44
**Table B-23** Largest Employers in Kings County, 2010 ..... B-45
**Table B-24** Employment in Kings County ..... B-47
**Table B-25** Occupations by Type in Kings County ..... B-47
**Table B-26** Racial and Ethnicity Characteristics of Tulare County ..... B-51
**Table B-27** Numbers and Types of Households in Tulare County ..... B-53
**Table B-28** Income Level to Poverty Line in Tulare County ..... B-54

**Table B-29** Housing Stock in Tulare County ..... B-58
**Table B-30** Home Ownership in Tulare County ..... B-59
**Table B-31** Length of Residence in Tulare County ..... B-59
**Table B-32** Largest Employers in Tulare County 2010 ..... B-60
**Table B-33** Employment in Tulare County ..... B-62
**Table B-34** Occupation by Type in Tulare County ..... B-63
**Table B-35** Racial and Ethnicity Characteristics of Kern County ..... B-66
**Table B-36** Numbers and Types of Households in Kern County ..... B-68
**Table B-37** Income Level to Poverty Line in Kern County ..... B-70
**Table B-38** Housing Stock in Kern County ..... B-75
**Table B-39** Home Ownership in Kern County ..... B-75
**Table B-40** Length of Residence in Kern County ..... B-76
**Table B-41** Largest Employers in Kern County 2010 ..... B-77
**Table B-42** Employment in Kern County ..... B-79
**Table B-43** Occupation by Type in Kern County ..... B-79
**Table B-44** Racial and Ethnicity Characteristics of the City of Fresno ..... B-86
**Table B-45** Racial and Ethnicity Characteristics of the City of Fresno District Populations ..... B-87
**Table B-46** Numbers and Types of Households in the City of Fresno ..... B-90
**Table B-47** Districts Households in the City of Fresno by Type ..... B-91
**Table B-48** Income Level to Poverty Line in the City of Fresno ..... B-92
**Table B-49** Poverty Rates in the City of Fresno Districts ..... B-93
**Table B-50** Housing Stock in the City of Fresno ..... B-97
**Table B-51** Housing Stock in Fresno Districts ..... B-98
**Table B-52** Home Ownership of Occupied Units in Fresno ..... B-98
**Table B-53** Housing Ownership Rates in Fresno Districts ..... B-99
**Table B-54** Length of Residence in the City of Fresno ..... B-99
**Table B-55** Length of Residence in Fresno Districts ..... B-100
**Table B-56** Employment and Unemployment in the City of Fresno ..... B-100
**Table B-57** Employment and Unemployment in Fresno Districts ..... B-101
**Table B-58** Occupation in the City of Fresno by Type ..... B-101
**Table B-59** Public Buildings in the City of Fresno ..... B-107
**Table B-60** City of Fresno Police, Fire, and Medical Facilities ..... B-108
**Table B-61** City of Fresno Schools ..... B-109
**Table B-62** Religious Facilities in the City of Fresno ..... B-109
**Table B-63** City of Fresno Parks ..... B-110
**Table B-64** City of Fresno Bicycle Paths within the Study Area ..... B-111
**Table B-65** Racial and Ethnicity Characteristics of the City of Hanford ..... B-113
**Table B-66** Numbers and Types of Households in the City of Hanford ..... B-115
**Table B-67** Income Level to Poverty Line in the City of Hanford ..... B-116
**Table B-68** Housing Stock in the City of Hanford ..... B-117
**Table B-69** Home Ownership of Occupied Units in the City of Hanford ..... B-118
**Table B-70** Length of Residence in the City of Hanford ..... B-118
**Table B-71** Employment and Unemployment in the City of Hanford ..... B-119
**Table B-72** Occupation in the City of Hanford by Type ..... B-119
**Table B-73** City of Hanford Public Buildings ..... B-122
**Table B-74** City of Hanford Police, Fire, and Medical Facilities ..... B-123
**Table B-75** City of Hanford Schools ..... B-124
**Table B-76** Racial and Ethnicity Characteristics of the City of Corcoran ..... B-127
**Table B-77** Numbers and Types of Households in the City of Corcoran ..... B-129
**Table B-78** Income Level to Poverty Line in the City of Corcoran ..... B-130
**Table B-79** Corcoran Housing Stock in the City of Corcoran ..... B-133
**Table B-80** Home Ownership of Occupied Units in the City of Corcoran ..... B-134
**Table B-81** Length of Residence in the City of Corcoran ..... B-134

**Table B-82** Employment and Unemployment in the City of Corcoran ..... B-135
**Table B-83** Occupation in the City of Corcoran by Type ..... B-135
**Table B-84** City of Corcoran Public Buildings ..... B-138
**Table B-85** City of Corcoran Police, Fire, and Medical Facilities ..... B-139
**Table B-86** City of Corcoran Schools ..... B-139
**Table B-87** Religious Facilities in the City of Corcoran within the Study Area ..... B-140
**Table B-88** City of Corcoran Parks within the Study Area ..... B-141
**Table B-89** City of Corcoran Bicycle Paths ..... B-142
**Table B-90** Racial and Ethnicity Characteristics of the City of Wasco ..... B-144
**Table B-91** Numbers and Types of Households in the City of Wasco ..... B-146
**Table B-92** Income Level to Poverty Line in the City of Wasco ..... B-147
**Table B-93** Housing Stock in the City of Wasco ..... B-151
**Table B-94** Home Ownership of Occupied Units in the City of Wasco ..... B-151
**Table B-95** Length of Residence in the City of Wasco ..... B-152
**Table B-96** Employment and Unemployment in the City of Wasco ..... B-152
**Table B-97** Occupation by Type in the City of Wasco ..... B-153
**Table B-98** City of Wasco Public Buildings ..... B-154
**Table B-99** City of Wasco Police, Fire, and Medical Facilities ..... B-156
**Table B-100** City of Wasco Schools ..... B-157
**Table B-101** Religious Facilities in the City of Wasco within the Study Area ..... B-157
**Table B-102** City of Wasco Parks within the Study Area ..... B-158
**Table B-103** City of Wasco Bicycle Paths ..... B-159
**Table B-104** Racial and Ethnicity Characteristics of the City of Shafter ..... B-161
**Table B-105** Numbers and Types of Households in the City of Shafter ..... B-162
**Table B-106** Income Level to Poverty Line in the City of Shafter ..... B-163
**Table B-107** Housing Stock in the City of Shafter ..... B-166
**Table B-108** Home Ownership of Occupied Units in the City of Shafter ..... B-167
**Table B-109** Length of Residence in the City of Shafter ..... B-167
**Table B-110** Employment and Unemployment in the City of Shafter ..... B-168
**Table B-111** Occupation in the City of Shafter by Type ..... B-168
**Table B-112** City of Shafter Public Buildings ..... B-171
**Table B-113** City of Shafter Police, Fire, and Medical Facilities ..... B-172
**Table B-114** City of Shafter Schools ..... B-172
**Table B-115** Religious Facilities in the City of Shafter ..... B-173
**Table B-116** Parks in the City of Shafter ..... B-174
**Table B-117** Bikeways in the City of Shafter ..... B-175
**Table B-118** Racial and Ethnicity Characteristics of the City of Bakersfield ..... B-180
**Table B-119** Racial and Ethnicity Characteristics of the City of Bakersfield District Populations ..... B-181
**Table B-120** Numbers and Types of Households in the City of Bakersfield ..... B-184
**Table B-121** Households in the City of Bakersfield Districts by Type ..... B-185
**Table B-122** Income Level to Poverty Line in the City of Bakersfield ..... B-186
**Table B-123** Poverty Rates in the City of Bakersfield Districts ..... B-187
**Table B-124** Housing Stock in the City of Bakersfield ..... B-191
**Table B-125** Housing Stock in Bakersfield Districts ..... B-192
**Table B-126** Home Ownership of Occupied Units in the City of Bakersfield ..... B-192
**Table B-127** Housing Ownership Rates in the City of Bakersfield District Neighborhoods ..... B-193
**Table B-128** Length of Residence in the City of Bakersfield ..... B-193
**Table B-129** Length of Residence in the Bakersfield Districts ..... B-194
**Table B-130** Employment and Unemployment in the City of Bakersfield ..... B-194
**Table B-131** Employment and Unemployment in the Bakersfield Districts ..... B-195
**Table B-132** Occupation in the City of Bakersfield by Type ..... B-195
**Table B-133** City of Bakersfield Public Buildings ..... B-197

**Table B-134** City of Bakersfield Police, Fire, and Medical Facilities ..... B-201
**Table B-135** City of Bakersfield Schools ..... B-203
**Table B-136** Religious Facilities in the City of Bakersfield ..... B-204
**Table B-137** Parks in the City of Bakersfield ..... B-207
**Table B-138** Bicycle Paths in the City of Bakersfield ..... B-209

**Figures**

**Figure B-1** Region Age Profile, 2000 and 2008 ..... B-3
**Figure B-2** Fresno County EJ Populations for the Wider Area ..... B-8
**Figure B-3** Kings County EJ Populations for the Wider Area ..... B-9
**Figure B-4** Tulare County EJ Populations for the Wider Area ..... B-10
**Figure B-5** Kern County EJ Populations for the Wider Area ..... B-11
**Figure B-6** Fresno County EJ Block Populations in the Study Area ..... B-12
**Figure B-7** Kings County EJ Block Populations in the Study Area ..... B-13
**Figure B-8** Tulare County EJ Block Populations in the Study Area ..... B-14
**Figure B-9** Kern County EJ Block Populations in the Study Area ..... B-15
**Figure B-10** Fresno County Age Profile, 2000 ..... B-21
**Figure B-11** Fresno County Age Profile, 2008 ..... B-21
**Figure B-12** Fresno County North EJ Block Populations ..... B-25
**Figure B-13** Fresno County South EJ Block Populations ..... B-26
**Figure B-14** Kings County Age Profile, 2000 ..... B-36
**Figure B-15** Kings County Age Profile, 2008 ..... B-37
**Figure B-16** Kings County North EJ Block Populations ..... B-40
**Figure B-17** Kings County South EJ Block Populations ..... B-41
**Figure B-18** Tulare County Age Profile, 2000 ..... B-52
**Figure B-19** Tulare County Age Profile, 2008 ..... B-52
**Figure B-20** Tulare County North EJ Block Populations ..... B-56
**Figure B-21** Tulare County South EJ Block Populations ..... B-57
**Figure B-22** Kern County Age Profile, 2000 ..... B-67
**Figure B-23** Kern County Age Profile, 2008 ..... B-68
**Figure B-24** Kern County North EJ Block Populations ..... B-71
**Figure B-25** Kern County Central EJ Block Populations ..... B-72
**Figure B-26** Kern County South EJ Block Populations ..... B-73
**Figure B-27** Districts within the City of Fresno ..... B-83
**Figure B-28** City of Fresno Age Profile, 2000 ..... B-88
**Figure B-29** City of Fresno Age Profile, 2008 ..... B-89
**Figure B-30** City of Fresno District Age Profile, 2000 ..... B-89
**Figure B-31** City of Fresno North EJ Block Populations ..... B-95
**Figure B-32** City of Fresno South EJ Block Populations ..... B-96
**Figure B-33** City of Fresno Central District Facility Locations ..... B-104
**Figure B-34** City of Fresno Edison District Facility Locations ..... B-105
**Figure B-35** City of Fresno Roosevelt District Facility Locations ..... B-106
**Figure B-36** City of Hanford Age Profile, 2000 ..... B-114
**Figure B-37** City of Hanford Age Profile, 2006–2008 ..... B-114
**Figure B-38** City of Hanford Facility Locations ..... B-121
**Figure B-39** City of Corcoran Age Profile, 2000 ..... B-128
**Figure B-40** City of Corcoran Age Profile, 2006–2008 ..... B-128
**Figure B-41** City of Corcoran EJ Block Populations ..... B-132
**Figure B-42** City of Corcoran Facility Locations ..... B-137
**Figure B-43** City of Wasco Age Profile, 2000 ..... B-145
**Figure B-44** City of Wasco Age Profile, 2006–2008 ..... B-145
**Figure B-45** City of Wasco EJ Block Populations ..... B-149
**Figure B-46** City of Wasco Facility Locations ..... B-155

**Figure B-47** City of Shafter Age Profile, 2000 ..... B-162
**Figure B-48** City of Shafter EJ Block Populations ..... B-165
**Figure B-49** City of Shafter Facility Locations ..... B-170
**Figure B-50** Districts within the City of Bakersfield ..... B-177
**Figure B-51** City of Bakersfield Age Profile, 2000 ..... B-182
**Figure B-52** City of Bakersfield Age Profile, 2008 ..... B-182
**Figure B-53** City of Bakersfield District Age Profile, 2000 ..... B-183
**Figure B-54** City of Bakersfield West EJ Block Populations ..... B-189
**Figure B-55** City of Bakersfield East EJ Block Populations ..... B-190
**Figure B-56** City of Bakersfield Northwest District Facility Locations ..... B-198
**Figure B-57** City of Bakersfield Central District Facility Locations ..... B-199
**Figure B-58** City of Bakersfield Northeast District Facility Locations ..... B-200

*This page intentionally left blank*

## Acronyms and Abbreviations

| | |
|---|---|
| CDP | Census Designated Place |
| EIR/EIS | Environmental Impact Report / Environmental Impact Statement |
| EJ | environmental justice |
| HST | high-speed train |
| I-5 | Interstate 5 |
| IT&TC | International Trade and Transportation Center |
| NAS | Naval Air Station |
| OSHPD | Office of Statewide Health Planning and Development |
| SR | State Route |

*This page intentionally left blank*

# Appendix B Community Baseline Data

This appendix provides individual data profiles for the overall study area as a whole and for each of the four counties (Fresno, Kings, Tulare, and Kern), six cities (Fresno, Hanford, Corcoran, Wasco, Shafter, and Bakersfield) and rural areas between the cities within the study area. The data in these profiles were used to generate the affected environment in Chapter 4 of this technical report. These profiles provide detailed information on population and demographics, income, housing, economic and fiscal conditions, community facilities, and non-motorized circulation and access within communities (pedestrian and bicycle). Data to specifically quantify past, current, and future conditions are provided when available.

## B.1 Region

The region includes the four counties of Fresno, Kings, Tulare, and Kern. These counties lie within the southern portion of the San Joaquin Valley of central California—one of the most productive agricultural areas in the world, yet at the same time one of the most economically depressed areas in the nation. Agriculture provides a great deal of employment, but many of these jobs are seasonal and low-paying (Cowan 2005).

In 2007, the four counties in the region ranked first (Fresno), second (Tulare), third (Kern), and eighth (Kings) in agricultural revenues generated in California (California Department of Food and Agriculture 2009). Although agriculture has dominated the economy of the region in the past, the economy has been diversifying in recent decades to become more oriented toward services. Direct employment in agriculture has declined slowly and steadily over the last two decades as agricultural land is urbanized and work in the fields is mechanized. In addition, on a year-to-year basis, unemployment can rise among farm workers during specific natural events, such as freezing conditions, heat waves, flooding, and drought. From 2000 to 2005, home construction and retail sales helped fuel employment and local government revenues in the region, but the decline of the real-estate market and the nationwide economic recession have led to high rates of foreclosure, unemployment, and poverty (Cowan 2005; Great Valley Center 2009).

Two major highways—Interstate 5 (I-5) and State Route (SR) 99—are the main north-south transportation routes through the region and also through the state. Most of the population growth and urban development in the region has occurred along SR 99, formerly U.S. 99, which connects the major population centers of Fresno and Bakersfield, while land uses along the I-5 corridor have remained more rural and agricultural. SR 99 generally follows the route of the earlier railroad development of the last half of the 19th century. Most of the larger cities of the San Joaquin Valley were established along that rail corridor and then linked by roads in the early 20th century. The route for I-5 was identified in the early studies for an interstate highway system in the 1940s and provided the shortest route between population centers in the north and the south while avoiding developed areas of the valley.

The subsections below describe the demographic and economic characteristics of the residents of the study area as a whole (the data presented are aggregated from the four counties in the region). Other community profiles describe the characteristics of the individual counties, cities, and communities within the region.

### A. POPULATION AND DEMOGRAPHICS

The population of the four-county region in 2000 was 1,958,534. By 2009, the population had grown to approximately 2,365,695, for an annual average growth rate of 2.3%, which is greater than the annual statewide growth rate of 1.4% during the same period (California Department of Finance 2009a, 2009b). Minorities, in this analysis, are defined as all individuals not identified as White-only in the Census, including those identified as Hispanic. Individuals of a non-Hispanic

White background made up 43.5% of the region's population in 2000, while persons of Hispanic ethnicity of any race made up 43.3% of the population. Between 2000 and 2008, the percentages of these two groups shifted substantially, with the total non-Hispanic White population decreasing to about 38% and the Hispanic of all races population growing by almost 7%, or 289,916 people. Persons of Hispanic ethnicity now represent approximately half the population of the region.

When examining population data for the region it is important to consider the fact that there are a number of prisons in these counties. As a result, a relatively high percentage of the population in the region is institutionalized. In 2009, 2.24% of the statewide population was institutionalized, whereas 3.68% of the population in the region was institutionalized. The impact of this institutionalized population on the data presented is noted where this fact is important to correct interpretation of the data.

The regional population is expected to nearly double by 2035, to more than 4.1 million people, as shown in Table B-1. In line with current trends, it is expected that the Hispanic population will continue to grow at a faster rate than other groups in the region and will represent nearly 60% of the population in 2035.

**Table B-1**
Racial and Ethnicity Characteristics of the Region

| Race | Number of People in 2000[a] | Percentage of Total Population | Number of People in 2008[b] | Percentage of Total Population | Number of People in 2035[c] | Percentage of Total Population |
|---|---|---|---|---|---|---|
| **Non-Hispanic White** | 852,445 | 43.5 | 854,390 | 37.4 | 1,163,093 | 28.0 |
| **Minority** | 1,106,089 | 56.5 | 1,431,015 | 62.6 | 2,992,788 | 72.0 |
| Hispanic of all races | 848,979 | 43.3 | 1,138,895 | 49.8 | 2,449,095 | 58.9 |
| Non-Hispanic Black or African-American | 93,676 | 4.8 | 104,876 | 4.6 | 187,351 | 4.5 |
| Non-Hispanic American Indian and Alaska Native | 16,423 | 0.8 | 13,746 | 0.6 | 32,880 | 0.8 |
| Non-Hispanic Asian | 99,547 | 5.1 | 121,384 | 5.3 | 276,350 | 6.6 |
| Non-Hispanic Native Hawaiian and Other Pacific Islander | 1,859 | 0.1 | 2,150 | 0.1 | 3,051 | 0.1 |
| Non-Hispanic, some other race | 3,113 | 0.2 | 6,371 | 0.3 | NA | NA |
| Non-Hispanic, two or more races | 42,492 | 2.2 | 43,593 | 1.9 | 44,061 | 1.1 |
| **Total** | 1,958,534 | 100.0 | 2,285,405 | 100.0 | 4,155,881 | 100.0 |

[a] Analysis of U.S. Census Bureau 2000e.
[b] Analysis of U.S. Census Bureau, American Community Survey 2008a.
[c] California Department of Finance, Demographic Research Unit 2007.

Note: The California DOF does not provide annual racial and ethnicity characteristics estimates, so the most current source, 2008 ACS is used. This use explains the difference between the 2009 total population estimates presented above and the 2008 totals in this table.

Note: Percentages may total slightly less or more than 100% due to rounding.

ACS = U.S. Census Bureau, American Community Survey
DOF = Department of Finance
NA = not available

Changes in the age distribution of the regional population between 2000 and 2008 are illustrated in Figure B-1. As this figure shows, the average age of the predominant age group has shifted downward somewhat as a result of recent immigration trends. However, these changes do not reveal any overall substantial shift in the age profile of the region (U.S. Census Bureau 2000e; U.S. Census Bureau, American Community Survey 2008a).

According to the California Department of Finance, 606,395 households were present in the region in 2000, with an average household size of 3.11 persons. In 2009, the number of households grew to 715,664, and the average household size increased to 3.18 persons (California Department of Finance 2009a, 2009b).

Approximately 75% of all households in the region are family households; however, the percentage of married-couple households has decreased since 2000, and the percentage of households headed by a single female or a single male has increased. These changes are presented in Table B-2.

Linguistic isolation among households in the region is prevalent. Of the 606,395 families living in the region in 2000, some 56,975 were linguistically isolated, meaning that 9.4% of all households did not have someone over the age of 14 with the ability to speak English very well.[1] This percentage has increased since 2000, with 11.0% of the households of the region estimated to be linguistically isolated in 2008 (U.S. Census Bureau 2000f; U.S. Census Bureau, American Community Survey 2006–2008c).

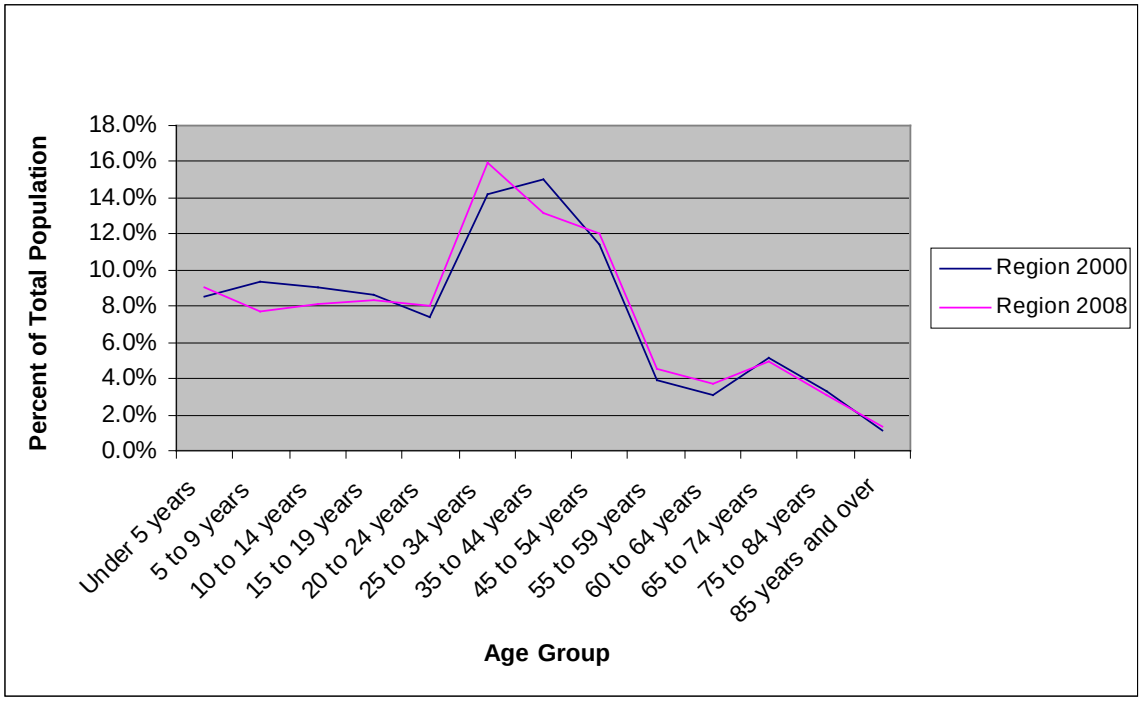



**Figure B-1**
Region Age Profile, 2000 and 2008

[1] According to the U.S. Census Bureau, a household is linguistically Isolated if "no member 14 years old and over speaks only English or speaks a non-English language and speaks English very well. In other words, all members 14 years old and over have at least some difficulty with English."

**Table B-2**
Numbers and Types of Households in the Region

| Household | Number of Households in 2000[a] | Percentage of Total Households | Number of Households in 2008[b] | Percentage of Total Households |
|---|---|---|---|---|
| Family households (families) | 459,846 | 75.8 | 509,827 | 74.1 |
| Married-couple family | 336,723 | 55.5 | 352,832 | 51.3 |
| Female householder, no husband present | 87,851 | 14.5 | 107,734 | 15.7 |
| Male householder, no wife present | 35,272 | 5.8 | 49,261 | 7.2 |
| Non-family households | 146,549 | 24.2 | 177,865 | 25.9 |
| Householder living alone | 119,175 | 19.7 | 140,410 | 20.4 |
| Total | 606,395 | 100.0 | 687,692 | 100.0 |

[a] Analysis of U.S. Census Bureau 2000h.
[b] Analysis of U.S. Census Bureau, American Community Survey 2008b.

Note: California DOT does not provide number of households by type for 2009, so ACS 2000 and 2008 data were used in this table. This use explains the difference between the 2000 and 2009 total household estimates presented above and the totals in this table.

Note: Percentages may total slightly less or more than 100% due to rounding.

ACS = U.S. Census Bureau, American Community Survey
DOT = Department of Finance

In 2007,[2] 15.8% of persons over the age of 5 had some sort of disability, self-care limitation, or low-mobility issue. A much higher percentage of persons over the age of 64 (47.4%) had disability issues; only 12.2% of people between 5 and 65 had some sort of disability (U.S. Census Bureau, American Community Survey 2007)

## B. INCOME AND POVERTY

The median annual household income in 1999 in the region was $34,976. By 2008, that income had increased by 32% to $46,137 (U.S. Census Bureau 2000g;U.S. Census Bureau, American Community Survey 2008d).This rate of growth is higher than that of the state as a whole, which experienced a growth of 28.5% over the same period.

In 1999, 417,913 persons (or 22.2% of the population) in the region lived below the poverty line. By 2008, the number of persons living in poverty increased to 468,429 people, but the percentage living in poverty decreased to 21.4% of the population. These changes are shown in Table B-3.

[2] The U.S. Census Bureau does not recommend making comparisons between the 2000 and 2007 disability figures; for this reason, the more current information is presented.

**Table B-3**
Income Level to Poverty Line in the Region

| Income Level as a Percentage of Poverty Line | Number of People in Income Group in 1999[a] | Percentage of Total Population Evaluated | Number of People in Income Group in 2008[b] | Percentage of Total Population Evaluated |
|---|---|---|---|---|
| Under 0.50 | 175,321 | 9.3 | 181,563 | 8.3 |
| 0.50 to 0.74 | 112,200 | 6.0 | 135,219 | 6.2 |
| 0.75 to 0.99 | 130,392 | 6.9 | 151,647 | 6.9 |
| 1.00 to 1.24 | 139,678 | 7.4 | 156,664 | 7.2 |
| 1.25 to 1.49 | 131,872 | 7.0 | 140,954 | 6.4 |
| 1.50 to 1.74 | 112,254 | 6.0 | 132,718 | 6.1 |
| 1.75 to 1.84 | 44,095 | 2.3 | 63,418 | 2.9 |
| 1.85 to 1.99 | 54,575 | 2.9 | 67,044 | 3.1 |
| 2.00 and over | 984,027 | 52.2 | 1,161,822 | 53.0 |
| Total | 1,884,414 | 100.0 | 2,191,049 | 100.0 |

[a] Analysis of U.S. Census Bureau 2000g.
[b] Analysis of U.S. Census Bureau, American Community Survey 2008d.

Note: Not all individuals are evaluated by the Census for income level to poverty line status. This practice explains why population totals in this table may not match population totals presented in the population and demographics section above. Also, 2000 Census data on income is are representative of conditions in 1999.

Note: Percentages may total slightly less or more than 100% due to rounding.

Although the data in Table B-3 show that median incomes increased and poverty remained somewhat constant up to 2008, since the beginning of the current economic recession income levels have begun to decrease. In addition, unemployment has increased dramatically since 2008 (see Subsection E [Economy], below) and therefore it can be assumed that household income levels have decreased and poverty rates have increased beyond the numbers reported here (U.S. Census Bureau 2009).

## C. ENVIRONMENTAL JUSTICE POPULATION

This section presents the locations of environmental justice (EJ) populations within the study area in the region. The definitions used to define EJ populations and a description of the data and methodology that were used can be found in the EJ methodology discussion in Appendix A-1.

According to Census data, the approximate total population living in the study area across the entire region in 2000 was 128,689, or 6.5% of the total population of 1,958,534 persons in the four counties. Kern County has the largest percentage of individuals in the study area (62.5% of the residents in the study area are in Kern County), followed by Fresno (28%), Kings (9%), and Tulare (0.5%). The total population within the study area presents a count of potentially affected individuals. The actual number of individuals affected may be much smaller than these baseline totals as the study area will likely not be affected across its entire area.

The region as a whole has a high percentage of minority and low-income individuals. According to the 2000 Census, 56.5% of the total population is minority and 22.2% of the total population is living below the U.S. Census poverty threshold. Within the study area, these percentages are even higher, because minorities make up 69.3% of the study area population and low-income individuals make up 29.3% of the study area population. Within the region, Hispanics are the predominate minority in EJ areas, accounting for 80% of the minority population (U.S. Census Bureau 2000e).

The following eight figures (Figure B-2, Figure B-3, Figure B-4, Figure B-5, Figure B-6, Figure B-7, Figure B-8, and Figure B-9) show the locations of EJ populations across the region. Orange is used to indicate U.S. Census blocks containing EJ populations, darker orange is representative of EJ blocks with higher-population densities, that is, the more-urbanized areas. The red-dashed lines represent the study area, and the purple line is the project alignment.

Figure B-2, Figure B-3, Figure B-4, and Figure B-5 show the locations of EJ populations, both within and outside the study area corridor. Census blocks outside the study area were identified at the level of the region to add context to the study area results. As shown on the figures, the study area corridor through the region passes through EJ populations similar to those in areas outside the study area corridor. In other words, the evidence indicates that the study area passes through concentrations of EJ populations that are similar to those found in the surrounding areas.

Figure B-6, Figure B-7, Figure B-8, and Figure B-9 focus specifically on the study area. As the figures show, high concentrations of EJ populations are found in the urban areas of Fresno (city), Corcoran, Wasco, Shafter, and Bakersfield. Unincorporated rural areas in between these urban areas have pockets of low-density EJ populations.

In terms of land area, the total area of the Census blocks that fall within the ½ mile study area totals 350.4 square miles, of which 112.3 square miles (or 32.1%) are identified as EJ blocks.[3] Fresno County accounts for the highest percentage of this EJ area, with 37.9 square miles (or 33.7% of the total EJ block area in the region), and Kings County the least, with 12.7 square miles (11.3%). Tulare and Kern counties have EJ block areas of 25.6 square miles and 36.1 square miles, respectively.

The vast majority of the total area of these EJ blocks within the study area is rural (102.8 of the 112.3 square miles, or 92%), with a low-density population. Only 9.5 square miles (or 8%) of the EJ area contains the more-urban medium- and high-density populations (U.S. Census Bureau 2000a).

## D. HOUSING

A total of 654,501 housing units were present in the region in 2000. Housing vacancy rates ranged from 5.9% in Kings County to 9.9% in Kern County, with the region having an average housing vacancy rate of 7.4%, which was higher than the state average of 5.9% (California Department of Finance 2009a, 2009b). By 2009, the regional housing stock had grown to 769,358 units, a 17.5% increase, with the county, regional, and state vacancy rates remaining about the same. Approximately 72% of existing units are single-family homes, 20% are multi-family units, and 8% are mobile homes, as shown in Table B-4.

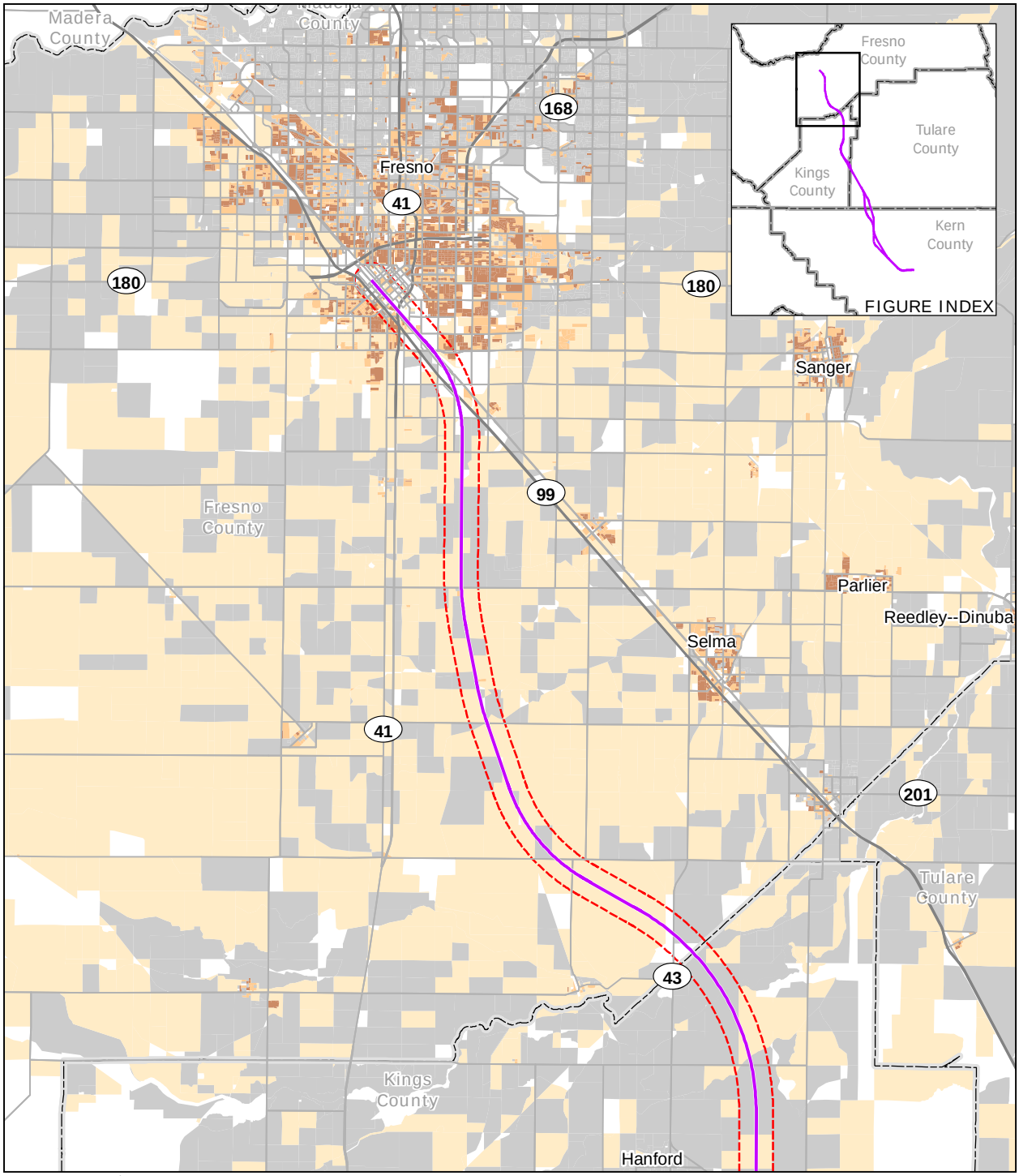
[3] The area calculated for the EJ analysis will be different from the areas presented in other sections because the study area for EJ includes all U.S. Census blocks that are completely or partially contained within the 0.5-mile radius of the alignment. Therefore, the areas of partially contained U.S. Census blocks that are outside the 0.5-mile are included. This difference will be larger in rural areas, where the U.S. Census blocks are larger.

**Table B-4**
Housing Stock in the Region

| Housing Type | Number of Units in 2000 | Percentage of Total Units | Number of Units in 2009 | Percentage of Total Units |
|---|---|---|---|---|
| Single-family detached | 439,645 | 67.2 | 532,551 | 69.2 |
| Single-family attached | 23,719 | 3.6 | 24,397 | 3.2 |
| Multifamily 2 to 4 units | 54,035 | 8.3 | 60,719 | 7.9 |
| Multifamily 5 units or greater | 79,761 | 12.2 | 89,266 | 11.6 |
| Mobile homes | 57,341 | 8.8 | 62,425 | 8.1 |
| Total | 654,501 | 100.0 | 769,358 | 100.0 |

Source: California Department of Finance 2009a, 2009b.

Note: Percentages may total slightly less or more than 100% due to rounding.




PRELIMINARY DRAFT/SUBJECT TO CHANGE - HST ALIGNMENT IS NOT DETERMINED

May 16, 2011

Source: Environmental justice analysis - URS, 2010

N

0 2 4
Miles

0 4 8
Kilometers

Road

Alternative alignments

County boundary

Half-mile buffer from alignment

EJ population density

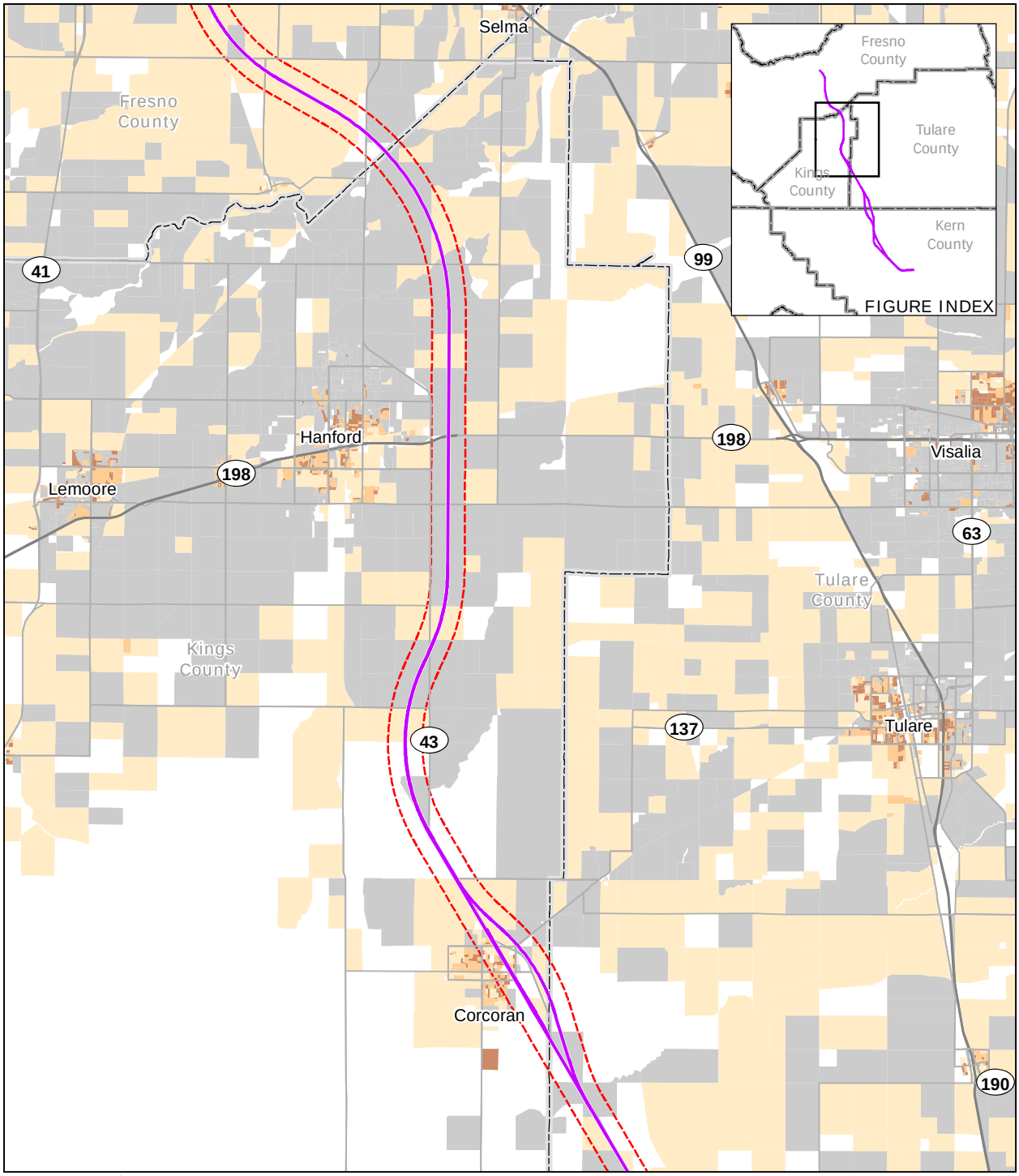
High

Medium

Low

Not EJ

Figure B-2
Fresno County
EJ Populations for the Wider Area




PRELIMINARY DRAFT/SUBJECT TO CHANGE - HST ALIGNMENT IS NOT DETERMINED

Source: Environmental justice analysis - URS, 2010

May 16, 2011

N

0 2 4
Miles

0 4 8
Kilometers

Road

Alternative alignments

County boundary

Half-mile buffer from alignment

EJ population density

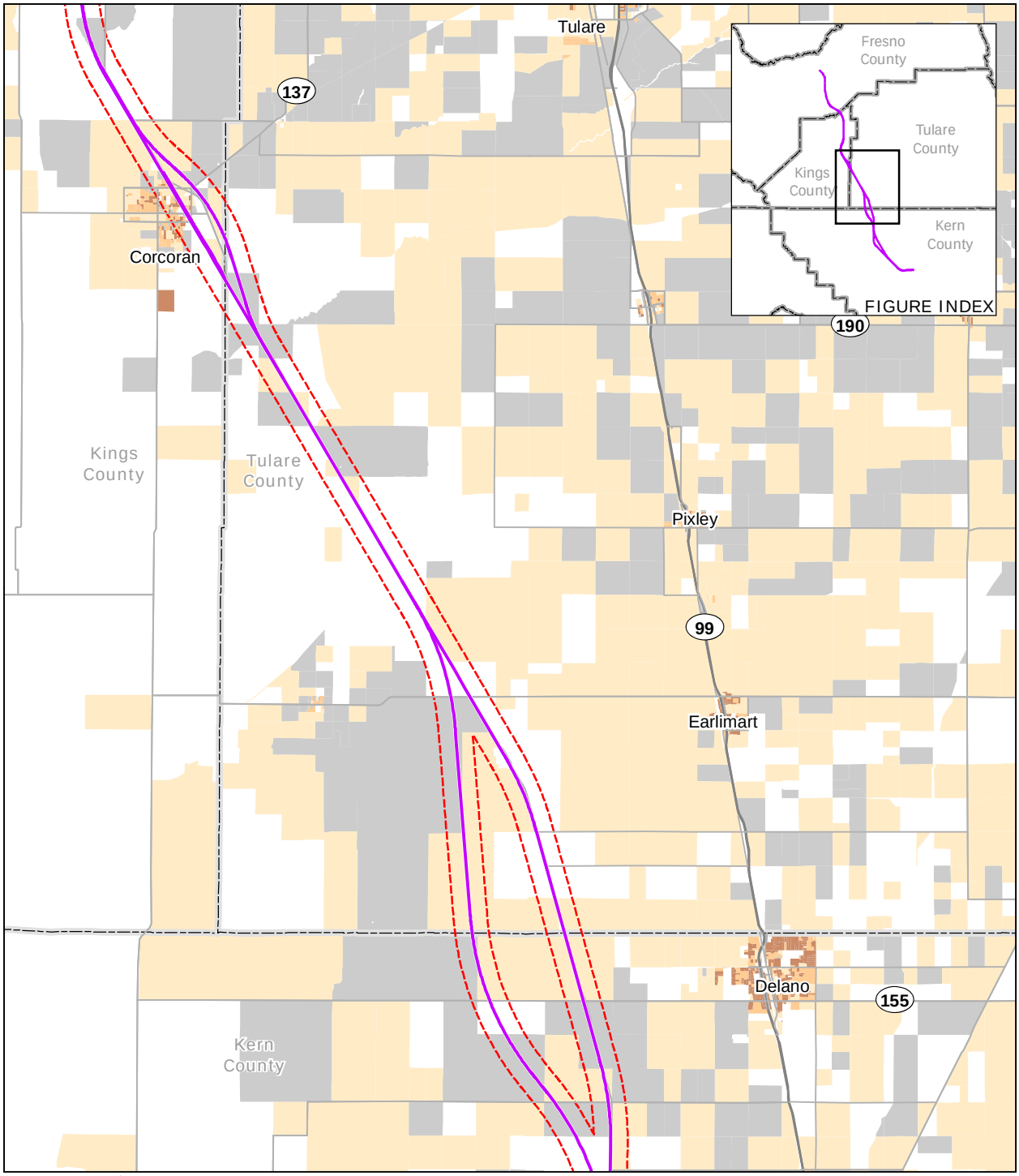
High

Medium

Low

Not EJ

Figure B-3
Kings County
EJ Populations for the Wider Area




PRELIMINARY DRAFT/SUBJECT TO CHANGE - HST ALIGNMENT IS NOT DETERMINED

Source: Environmental justice analysis - URS, 2010

May 16, 2011

N

0 2 4
Miles

0 4 8
Kilometers

Road

Alternative alignments

County boundary

Half-mile buffer from alignment

EJ population density

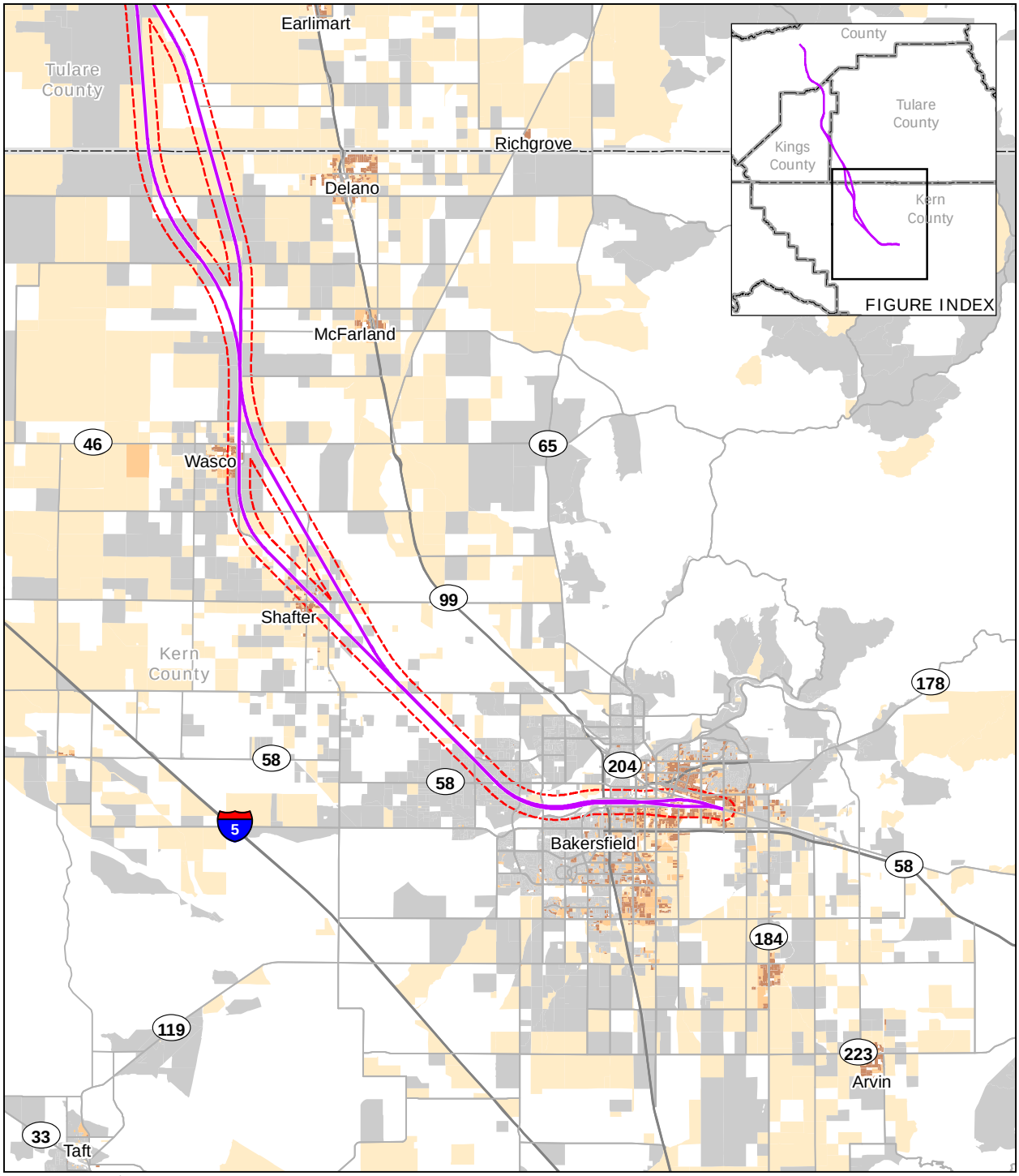
High

Medium

Low

Not EJ

Figure B-4
Tulare County
EJ Populations for the Wider Area




PRELIMINARY DRAFT/SUBJECT TO CHANGE - HST ALIGNMENT IS NOT DETERMINED

May 16, 2011

Source: Environmental justice analysis - URS, 2010

N

0 2 4 Miles

0 4 8 Kilometers

Road

Alternative alignments

County boundary

Half-mile buffer from alignment

EJ population density

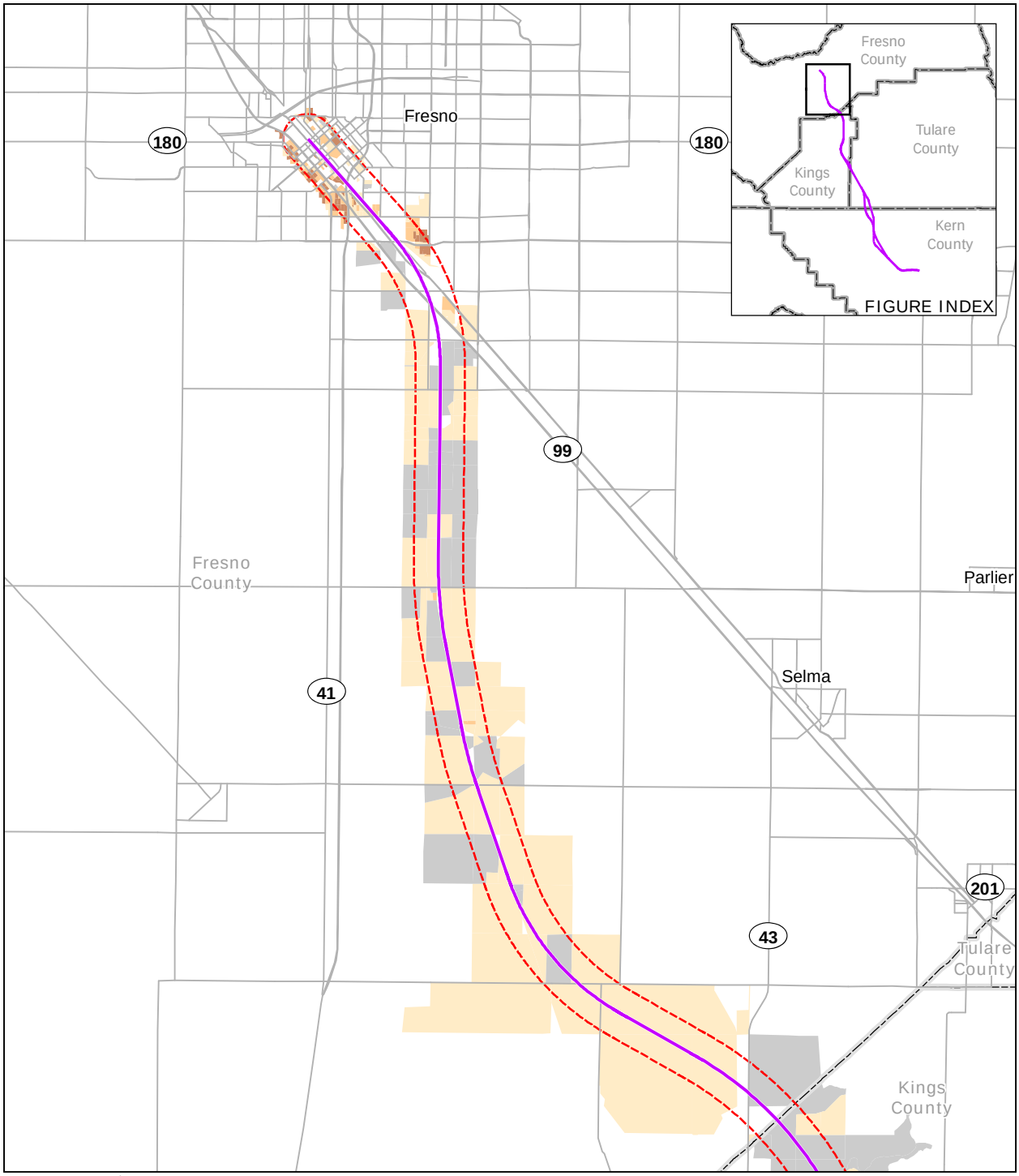
High

Medium

Low

Not EJ

Figure B-5
Kern County
EJ Populations for the Wider Area




PRELIMINARY DRAFT/SUBJECT TO CHANGE - HST ALIGNMENT IS NOT DETERMINED

Source: Environmental justice analysis - URS, 2010

May 16, 2011

N

0 2 4 Miles

0 4 8 Kilometers

Road

Alternative alignments

County boundary

Half-mile buffer from alignment

EJ population density

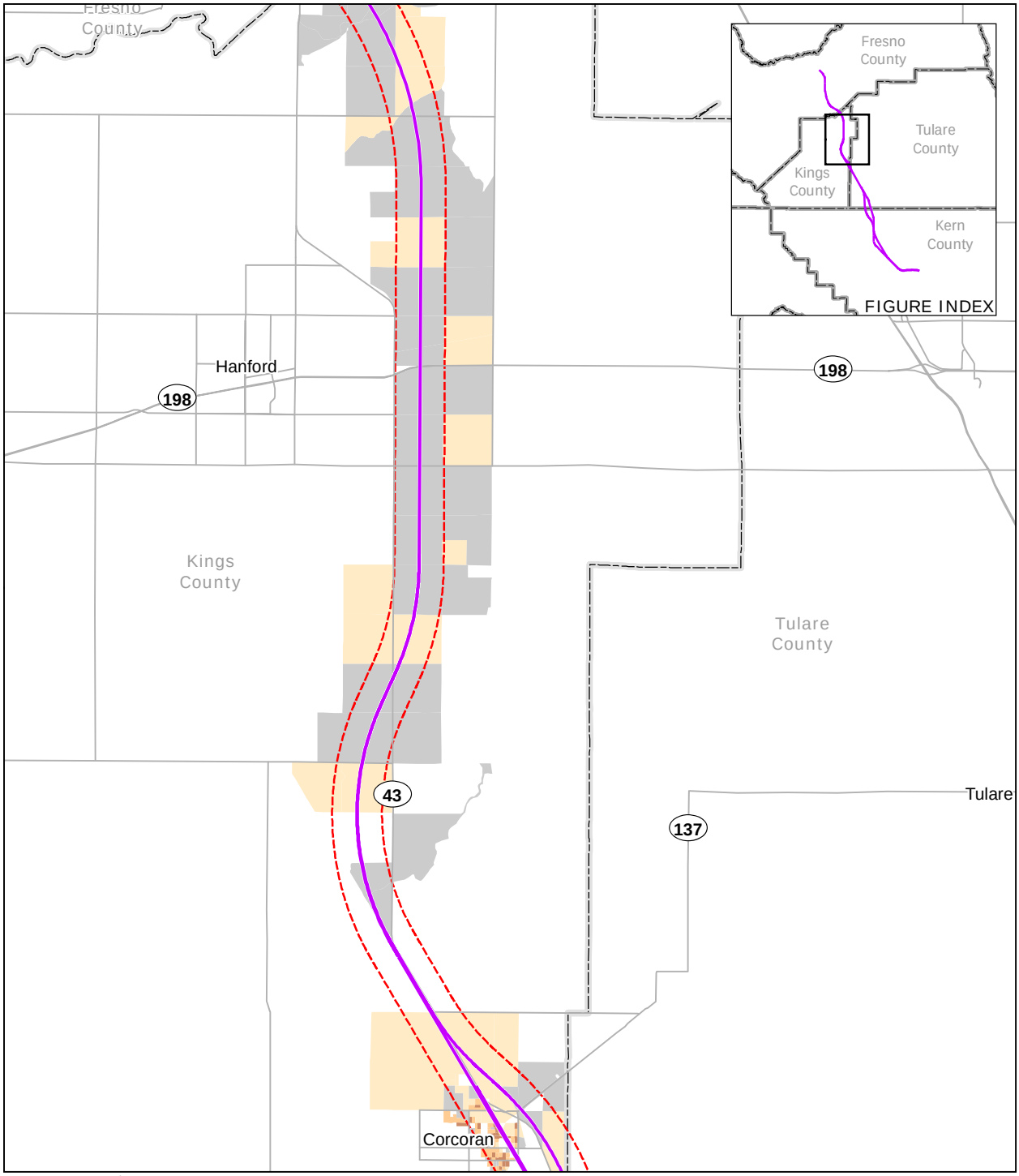
High

Medium

Low

Not EJ

Figure B-6
Fresno County
EJ Block Populations




PRELIMINARY DRAFT/SUBJECT TO CHANGE - HST ALIGNMENT IS NOT DETERMINED

May 16, 2011

Source: Environmental justice analysis - URS, 2010

N

0 2 4 Miles

0 4 8 Kilometers

Road

Alternative alignments

County boundary

Half-mile buffer from alignment

EJ population density

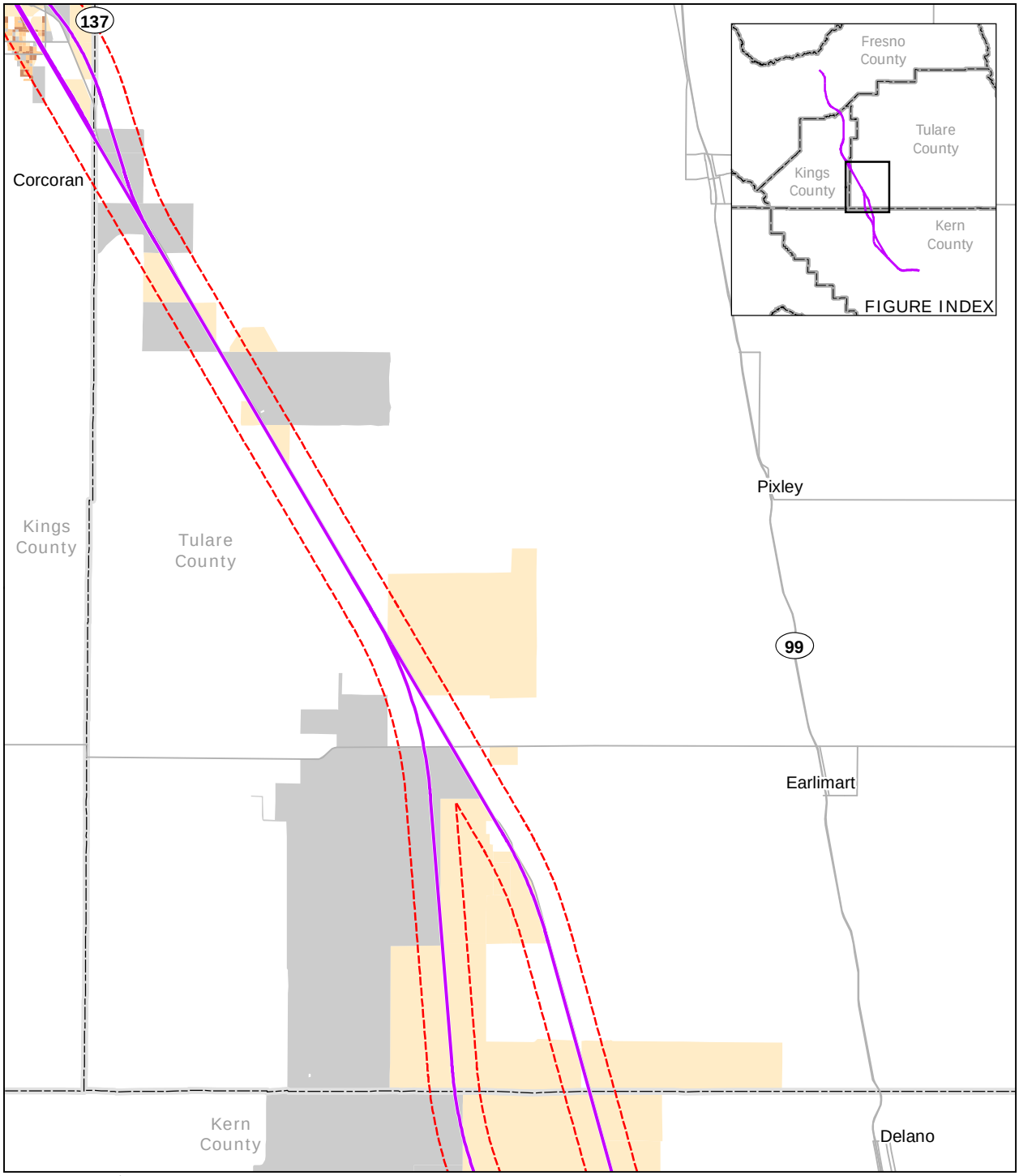
High

Medium

Low

Not EJ

Figure B-7
Kings County
EJ Block Populations




PRELIMINARY DRAFT/SUBJECT TO CHANGE - HST ALIGNMENT IS NOT DETERMINED

May 16, 2011

Source: Environmental justice analysis - URS, 2010

N

0 2 4 Miles

0 4 8 Kilometers

Road

Alternative alignments

County boundary

Half-mile buffer from alignment

EJ population density

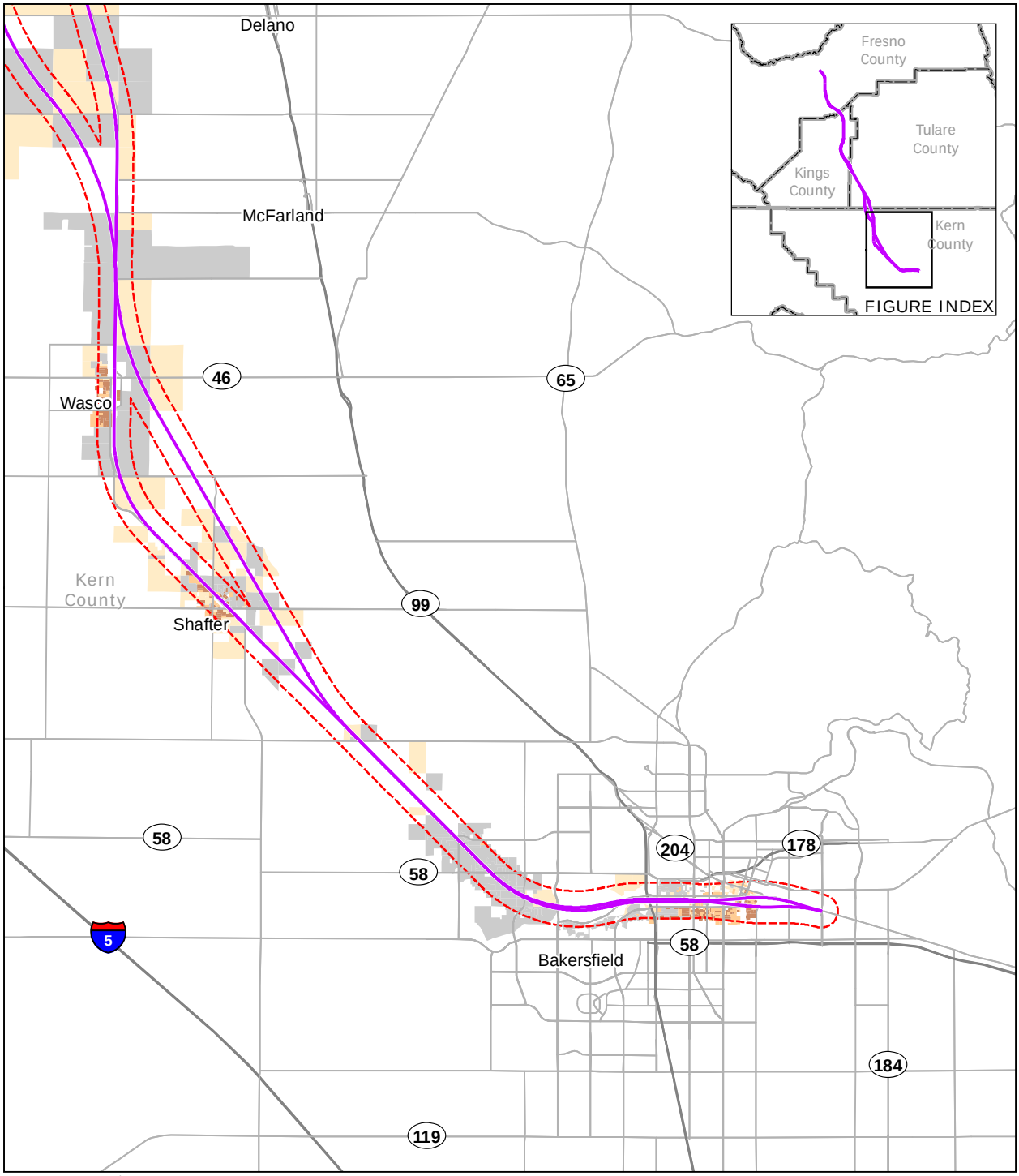
High

Medium

Low

Not EJ

Figure B-8
Tulare County
EJ Block Populations




PRELIMINARY DRAFT/SUBJECT TO CHANGE - HST ALIGNMENT IS NOT DETERMINED

May 16, 2011

Source: Environmental justice analysis - URS, 2010

N

0 2 4 Miles

0 4 8 Kilometers

Road

Alternative alignments

County boundary

Half-mile buffer from alignment

EJ population density

High

Medium

Low

Not EJ

Figure B-9
Kern County
EJ Block Populations

As shown in Table B-5, an estimated 687,692 housing units in the region were occupied in 2008, an increase of 12.5% from 2000 levels, when 606,395 units were occupied in the region. Owner occupancy rates ranged from 53.7% in Fresno County to 59.6% in Kern County, with an overall regional owner occupancy rate of 56.8%. The percentage of home ownership in the region has been decreasing since 2000. This trend is most likely associated with the rising number of foreclosures, single-person households, and single-parent families in the region and may also be reflecting the relatively high number of home foreclosures that have been occurring in the Central Valley and throughout the state over the past several years.

**Table B-5**
Home Ownership in the Region

| Home Ownership | Number of Occupied Units in 2000[a] | Percentage of Total Occupied Units | Number of Occupied Units in 2008[b] | Percentage of Total Occupied Units |
|---|---|---|---|---|
| Own | 359,671 | 59.3 | 390,762 | 56.8 |
| Rent | 246,724 | 40.7 | 296,930 | 43.2 |
| Total occupied housing units | 606,395 | 100.0 | 687,692 | 100.0 |

[a] Analysis of U.S. Census Bureau 2000b.
[b] Analysis of U.S. Census Bureau, American Community Survey 2008h.
Note: Percentages may total slightly less or more than 100% due to rounding.

As of 2008, approximately 66% of the region's occupied housing units had new residents move into the structure since 2000, with 15.2% of the units having more established residents who had lived in the structure since at least 1990 (analysis of U.S. Census Bureau 2000b; analysis of U.S. Census Bureau, American Community Survey 2008h). The data on resident tenure are provided in detail for each of the countries and cities below.

## E. ECONOMY

Levels of employment and income in the region have historically lagged behind employment and income levels in other parts of the state. The region was largely untouched by the bursting of the ".com" bubble and the loss of tourism following the 9/11 tragedy. However, the real-estate boom generated many jobs in construction, fueled retail sales, and generated increased sales and property tax revenues. Therefore, the region has been one of the hardest-hit areas in the nation since the real-estate bubble burst in 2007, with substantial increases in unemployment and foreclosure rates and sharp declines in housing prices (Bertaut and Pounder 2009).

The farming industry has traditionally been the driving force in the economy of the region (Cowan 2005). A large number of people employed in the region work in agriculture or related industries. These types of industries tend to provide seasonal work and to pay lower wages than those of other occupations, and these characteristics influence household incomes in the region (Bureau of Labor Statistics 2008).

Table B-6 presents information on annual labor force participation rates and unemployment rates in 2000, 2008, and 2009. Data are provided for 2009 to show the effects of the recent economic downturn. From 2000 to 2008, the number of people employed increased and the unemployment rate remained steady. However, beginning in 2009 the economic recession began to impact the labor force; the data show that unemployment in the region grew rapidly, hitting a high in 2009 of 14.9%, which was higher than the state average of 11.4%.

**Table B-6**
Employment in the Region

| Labor Status | Number in 2000 | Percentage of Total Labor Force | Number in 2008 | Percentage of Total Labor Force | Number in 2009 | Percentage of Total Labor Force |
|---|---|---|---|---|---|---|
| Employed | 815,200 | 90.3 | 949,700 | 89.6 | 912,900 | 85.1 |
| Unemployed | 87,300 | 9.7 | 109,900 | 10.4 | 159,300 | 14.9 |
| Total | 902,600 | 100.0 | 1,059,600 | 100.0 | 1,072,200 | 100.0 |

Source: California Employment Development Department 2010a.
Note: Percentages may total slightly less or more than 100% due to rounding.

As shown in Table B-7, agriculture and related industries remain the single-largest employment sector in the region; with the number of people employed expected to remain stable through 2016. Employment in the "educational, health, and social services" sector has grown substantially since 2000 and is expected to continue growing. By 2016, this sector will employ about the same number of people as the agriculture sector.

**Table B-7**
Occupation by Type in the Region

| Occupation | Number Employed in 2000[a] | Percentage of Total Employed | Number Employed in 2008[a] | Percentage of Total Employed | Number Employed in 2016[b] | Percentage of Total Employed |
|---|---|---|---|---|---|---|
| Agriculture, forestry, fishing and hunting, and mining | 155,100 | 21.1 | 153,000 | 18.3 | 156,000 | 16.9 |
| Construction | 33,000 | 4.5 | 41,500 | 5.0 | 55,200 | 6.0 |
| Manufacturing | 53,700 | 7.3 | 57,100 | 6.8 | 61,300 | 6.6 |
| Wholesale trade | 22,000 | 3.0 | 25,300 | 3.0 | 28,700 | 3.1 |
| Retail trade | 72,100 | 9.8 | 82,600 | 9.9 | 93,100 | 10.1 |
| Transportation and warehousing, and utilities | 22,600 | 3.1 | 26,900 | 3.2 | 29,000 | 3.1 |
| Information | 8,900 | 1.2 | 9,100 | 1.1 | 9,300 | 1.0 |
| Finance, insurance, real estate, and rental and leasing | 26,000 | 3.5 | 29,000 | 3.5 | 32,100 | 3.5 |
| Professional, scientific, management, administrative, and waste management services | 57,500 | 7.8 | 67,200 | 8.1 | 79,700 | 8.6 |

**Table B-7**
Occupation by Type in the Region

| Occupation | Number Employed in 2000[a] | Percentage of Total Employed | Number Employed in 2008[a] | Percentage of Total Employed | Number Employed in 2016[b] | Percentage of Total Employed |
|---|---|---|---|---|---|---|
| Educational, health, and social services | 116,700 | 15.9 | 143,100 | 17.2 | 154,500 | 16.7 |
| Arts, entertainment, recreation, accommodation and food services | 50,400 | 6.9 | 61,200 | 7.3 | 69,500 | 7.5 |
| Other services (except public administration) | 20,500 | 2.8 | 21,400 | 2.6 | 35,300 | 3.8 |
| Public administration | 95,700 | 13.0 | 116,500 | 14.0 | 120,500 | 13.0 |
| Total people employed | 734,200 | 100.0 | 833,900 | 100.0 | 924,200 | 100.0 |

[a] California Employment Development Department 2010b.
[b] California Employment Development Department 2010d.

Note: This table provides a count of occupations, and the previous employment table provides a count of resident workers. The total employed for these two sets of numbers will not be equal given those from outside the region that commute to work in the region and those residents of the region who commute to other communities for work. Farm workers brought in daily by bus from outside the area would be an example.

Note: Percentages may total slightly less or more than 100% due to rounding.

## F. FISCAL

State and local governments have been hit hard by loss of tax revenues. Property taxes are being permanently reset at much lower levels with the sale of foreclosed homes. Even homes that have not been resold are subject to temporary property tax reductions linked to Proposition 8. Most local governments in the region are involved in reducing staff, cutting services, and furloughing employees. Detailed fiscal characteristics are not presented at the level of the region; rather, they are discussed in the individual profiles for the counties and cities.

## G. COMMUNITY FACILITIES AND AMENITIES

Besides the amenities that give the varied communities in the region their unique sense of place (these are described in the individual profiles for the counties and cities in the region), some amenities may be viewed as more regional in nature. For example, the region has two California State University campuses (one in each of the two biggest cities: Fresno and Bakersfield) that draw students from throughout the region and beyond. The south San Joaquin Valley also abounds in major recreation resources, which are used by residents and visitors alike. These resources include Inyo National Forest, Giant Sequoia National Monument, Kings Canyon National Park, Sequoia National Park, Isabella Lake, and numerous state-run historical parks, recreation areas, and game preserves.

## H. CIRCULATION AND ACCESS

Non-motorized circulation issues associated with pedestrian and bicycle transportation are a key concern in the analysis. Descriptions of non-motorized (pedestrian and bicycle) facilities are discussed in the individual profiles for the counties and cities. Issues associated with main roads, public transportation, and parking can also affect communities. More details on these aspects can

be found in the Transportation section of the Environmental Impact Report / Environmental Impact Statement (EIR/EIS).

## B.2 Fresno County

Fresno County is the second-largest county in the region, after Kern, and the most populous. Like Kern County, Fresno County stretches across the San Joaquin Valley from the crest of the Sierra Nevada in the east to the Coastal Range in the west. It is the fifth-largest county in California, encompassing nearly 6,000 square miles of land. There are 15 incorporated cities in Fresno County. Approximately 27 square miles, or 0.45%, of this area is in the study area for the socioeconomics, communities, and environmental justice analysis.

The area became part of the United States in 1846 as a result of the Mexican War. Fresno County was established in 1856, with Millerton as the county seat. Originally, the county was much larger than it is today. Early settlers built canals to bring water to the arid areas of the county, transforming barren land into rich soil. With the arrival of the Central Pacific Railroad in 1872 and the formation of the town of Fresno on a vacant plain, people were attracted to the area and farmers began to grow grain and hay and to raise livestock in the vicinity of the railroad.

Water projects such as the Central Valley Project (1930s through 1970s) and the State Water Project (1960 to the present) have transformed Fresno County into the most-productive agricultural area of California. Fresno County has been the top agricultural producer in the state for 45 consecutive years. A wide variety of crops are grown throughout the county, but the eastern section of the county is the heart of the raisin production industry in the United States (RMM Design Group 2000; Fresno County Convention & Visitors Bureau 2009).

The Coalinga oil field, in the western part of the county, was the most productive oil field in California early in the 20th century. It now ranks as the eighth-largest oil field in the state.

Both I-5 and SR 99 are major transportation routes that pass through Fresno County from north to south. Most of the county's urban development has occurred along the SR 99 corridor, which passes through the city of Fresno, the fifth-largest city in California.

### A. POPULATION AND DEMOGRAPHICS

Fresno County had a population of 799,407 in 2000, and this population grew to 942,298 in 2009, for an approximate annual average growth rate of 2.0%. This rate is slightly less than the growth rate of 2.3% experienced in the region during the same period (California Department of Finance 2009a, 2009b). Most of the recent growth has occurred in and around the city of Fresno. Fresno County's population is expected to grow to over 1.5 million people by 2035 (California Department of Finance 2007).

As shown in Table B-8, Fresno County's population was approximately 40% non-Hispanic White and 60% minority in 2000. Since then, the percentage of non-Hispanic White residents has decreased and the percentage of Hispanic residents of all races has increased substantially, with other minority racial groups increasing slightly. These trends are expected to continue into the future. The California Department of Finance projects that Fresno County's population in 2035 will be approximately one-quarter non-Hispanic White and three-quarters minority, with persons of Hispanic origin remaining the largest single racial or ethnic group. The minority population is projected to make up a larger percentage of the total population in Fresno County than in the region as a whole.

**Table B-8**
Racial and Ethnicity Characteristics of Fresno County

| Race | Number of People in 2000[a] | Percentage of Total Population | Number of People in 2008[b] | Percentage of Total Population | Number of People in 2035[c] | Percentage of Total Population |
|---|---|---|---|---|---|---|
| **Non-Hispanic White** | 317,522 | 39.7 | 318,520 | 35.0 | 352,177 | 22.8 |
| **Minority** | 481,885 | 60.3 | 590,633 | 65.0 | 1,195,405 | 77.2 |
| Hispanic of all races | 351,636 | 44.0 | 443,078 | 48.7 | 915,107 | 59.1 |
| Non-Hispanic Black or African-American | 40,291 | 5.0 | 44,939 | 4.9 | 71,358 | 4.6 |
| Non-Hispanic American Indian and Alaska Native | 6,223 | 0.8 | 5,615 | 0.6 | 13,994 | 0.9 |
| Non-Hispanic Asian | 63,029 | 7.9 | 76,237 | 8.4 | 176,735 | 11.4 |
| Non-Hispanic Native Hawaiian and Other Pacific Islander | 682 | 0.1 | 721 | 0.1 | 1,012 | 0.1 |
| Non-Hispanic, some other race | 1,451 | 0.2 | 3,553 | 0.4 | NA | NA |
| Non-Hispanic, two or more races | 18,573 | 2.3 | 16,490 | 1.8 | 17,199 | 1.1 |
| **Total** | 799,407 | 100.0 | 909,153 | 100.0 | 1,547,582 | 100.0 |

[a] Analysis of U.S. Census Bureau 2000e.
[b] Analysis of U.S. Census Bureau, American Community Survey 2008a.
[c] California Department of Finance, Demographic Research Unit 2007.

Note: The California DOF does not provide annual estimates of racial and ethnicity characteristics, so the most current source, the 2008 ACS, is used. This use explains the difference between the 2009 total population estimates presented above and the 2008 totals in this table.

Note: Percentages may total slightly less or more than 100% due to rounding.

ACS = U.S. Census Bureau, American Community Survey
DOF = Department of Finance
NA = not available

Figure B-10 and Figure B-11 illustrate the age distribution of the county population compared with that of the population of the region. The data for 2000 and 2008 illustrate that the age distribution for the county and region is similar. Since 2000, the largest age cohort of the population has shifted to being somewhat younger for both the county and the region, although the slight differences between the reference years do not reveal any large swing in the age profile of the county (U.S. Census Bureau 2000a; U.S. Census Bureau, American Community Survey 2008e).

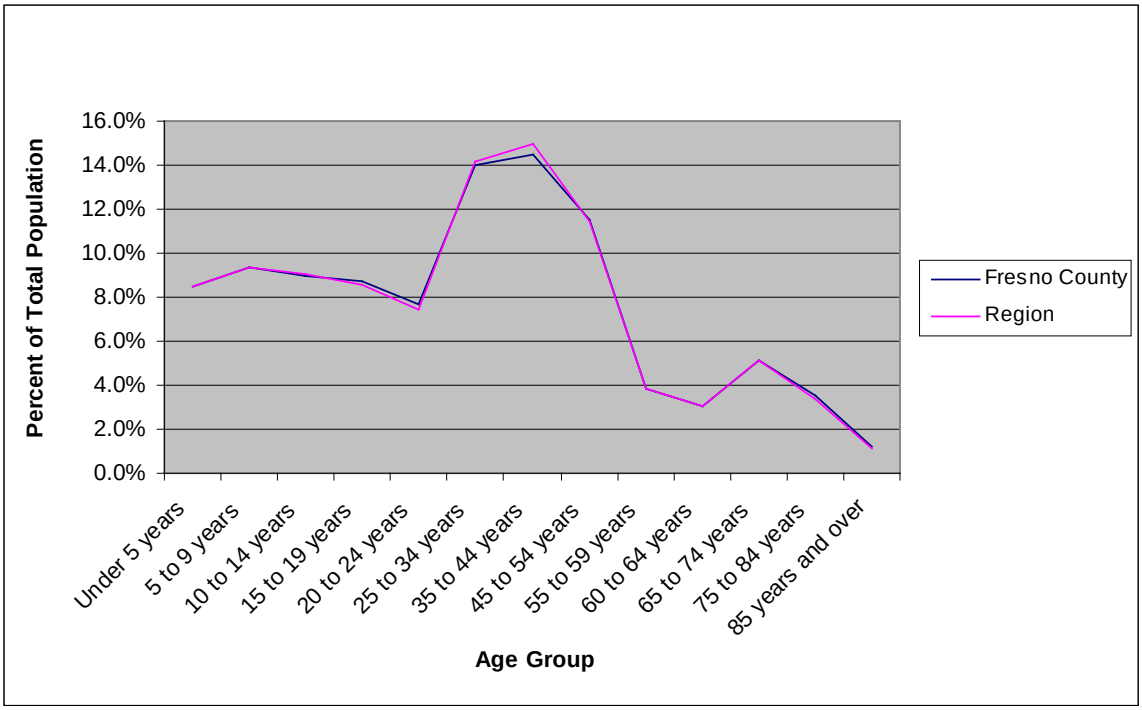



**Figure B-10**
Fresno County Age Profile, 2000

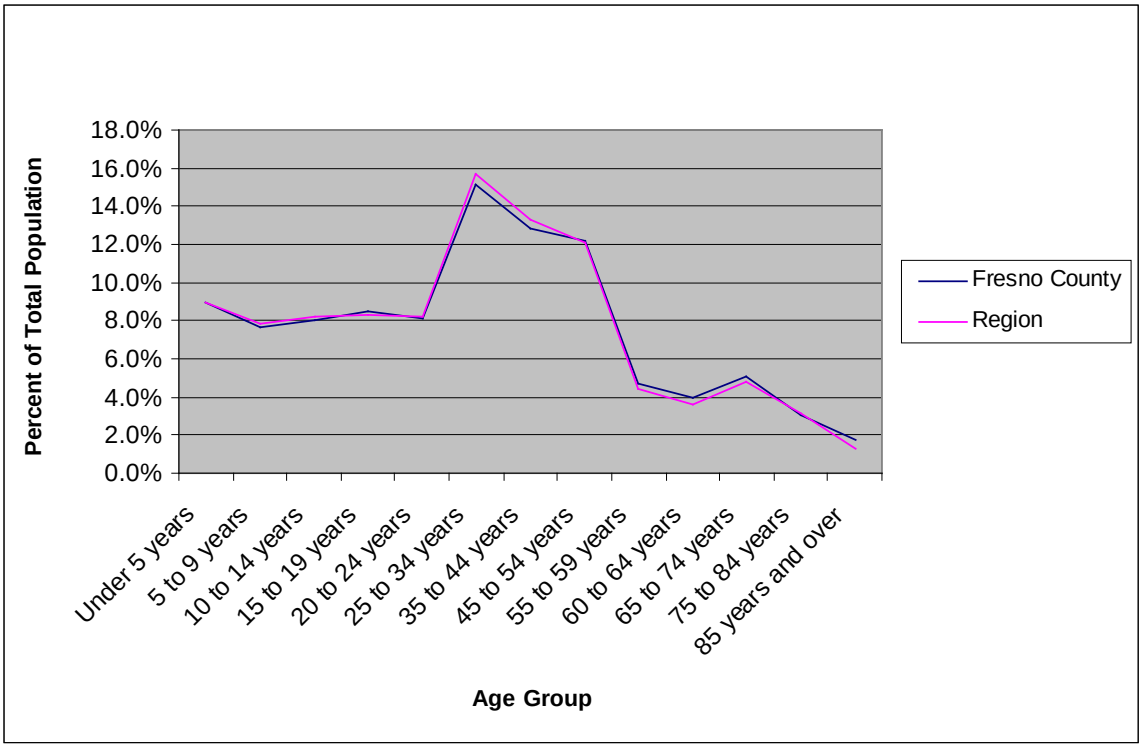



**Figure B-11**
Fresno County Age Profile, 2008

According to the California Department of Finance, 252,940 households were present in Fresno County in 2000, with an average household size of 3.09 people. By 2009, the number of households had grown to 292,429, and the average household size had increased to 3.15 people (California Department of Finance 2009a, 2009b). Both the increase in the number of households and in the average household size is similar to trends in the region over the same time period.

The composition of households in the county is similar to that in the region, as well, and has not changed substantially since 2000. As Table B-9 shows, approximately 75% of the households are family households; however, the percentage of married-couple households decreased over the period, leaving more single-female and single-male family households, which is consistent with changes in the region.

**Table B-9**
Numbers and Types of Households in Fresno County

| Household | Number of Households in 2000[a] | Percentage of Total Households | Number of Households in 2008[b] | Percentage of Total Households |
|---|---|---|---|---|
| Family households (families) | 187,808 | 74.3 | 199,881 | 71.7 |
| Married-couple family | 135,101 | 53.4 | 135,260 | 48.5 |
| Female householder, no husband present | 38,107 | 15.1 | 45,702 | 16.4 |
| Male householder, no wife present | 14,600 | 5.8 | 18,919 | 6.8 |
| Non-family households | 65,132 | 25.7 | 79,083 | 28.3 |
| Householder living alone | 52,091 | 20.6 | 61,246 | 22.0 |
| Total | 252,940 | 100.0 | 278,964 | 100.0 |

[a] Analysis of U.S. Census Bureau 2000h.
[b] Analysis of U.S. Census Bureau, American Community Survey2008b.

Note: California DOF does not provide number of households by type for 2009, so ACS 2000 and 2008 data were used in this table. This use explains the difference between the 2000 and 2009 total household estimates presented above and the totals in this table.

Note: Percentages may total slightly less or more than 100% due to rounding.

ACS = U.S. Census Bureau, American Community Survey
DOF = Department of Finance

In 2000, of the 252,940 families in Fresno County, 24,753 of them were linguistically isolated; thus, 9.8% of the families in the county did not have someone in the household over the age of 14 with the ability to speak English very well.[4] This percentage is similar to the 9.4% average for the region. In 2008, the percentage of linguistically isolated families in Fresno County increased to 10.4%; this increase was slightly less than that experienced in the region (U.S. Census Bureau 2000f; U.S. Census Bureau, American Community Survey 2008c).

[4] According to the U.S. Census Bureau, a household is linguistically isolated if “no member 14 years old and over speaks only English or speaks a non-English language and speaks English very well.” In other words, all members 14 years old and over have at least some difficulty with English.

In 2007,[5] of the 808,629 non-institutionalized persons over the age of 5 in Fresno County, 15.3% had some sort of disability, self-care limitation, or low-mobility issue. A relatively high percentage (45%) of those over the age of 64 had disabilities, whereas 11.8% of persons 64, or younger, were disabled. All of these percentages are similar to those in the region (U.S. Census Bureau, American Community Survey, 2007).

## B. INCOME AND POVERTY

In 1999, the median annual household income in Fresno County was $34,725, which was slightly lower than that of the region. In 2008, median income increased by 26.0% to $43,737 per year, which is also lower than the median income in the region, both in terms of the percentage change and total income (U.S. Census Bureau 2000g; U.S. Census Bureau, American Community Survey 2008d).

In 1999, 179,085 people, or 22.9% of the population, in Fresno County lived below the poverty line, a percentage that is slightly higher than that of the region (22.2%). As shown in Table B-10, in 2008, the population living below the poverty line increased to 198,547 people, and the corresponding percentage decreased slightly to 22.3% of the population. This slight decrease is again similar to trends in the region.

**Table B-10**
Income Level to Poverty Line in Fresno County

| Income Level as a Percentage of Poverty Line | Number of People in Income Group in 1999[a] | Percentage of Total Population Evaluated | Number of People in Income Group in 2008[b] | Percentage of Total Population Evaluated |
|---|---|---|---|---|
| Under 0.50 | 78,834 | 10.1 | 76,557 | 8.6 |
| 0.50 to 0.74 | 47,654 | 6.1 | 58,603 | 6.6 |
| 0.75 to 0.99 | 52,597 | 6.7 | 63,387 | 7.1 |
| 1.00 to 1.24 | 57,000 | 7.3 | 72,220 | 8.1 |
| 1.25 to 1.49 | 53,964 | 6.9 | 58,632 | 6.6 |
| 1.50 to 1.74 | 45,787 | 5.9 | 51,980 | 5.9 |
| 1.75 to 1.84 | 18,304 | 2.3 | 23,686 | 2.7 |
| 1.85 to 1.99 | 23,439 | 3.0 | 24,567 | 2.8 |
| 2.00 and over | 404,715 | 51.7 | 458,853 | 51.6 |
| Total | 782,294 | 100.0 | 888,485 | 100.0 |

[a] Analysis of U.S. Census Bureau 2000g.
[b] Analysis of U.S. Census Bureau, American Community Survey 2008d.
Note: Not all individuals are evaluated by the Census for income level to poverty line status. This practice explains why population totals in this table may not match population totals presented in the population and demographics section above. Also, 2000 Census data on income is are representative of conditions in 1999.
Note: Percentages may total slightly less or more than 100% due to rounding.

[5] The U.S. Census Bureau does not recommend making comparisons between the 2000 and 2007 disability figures; for this reason, the more current information is presented.

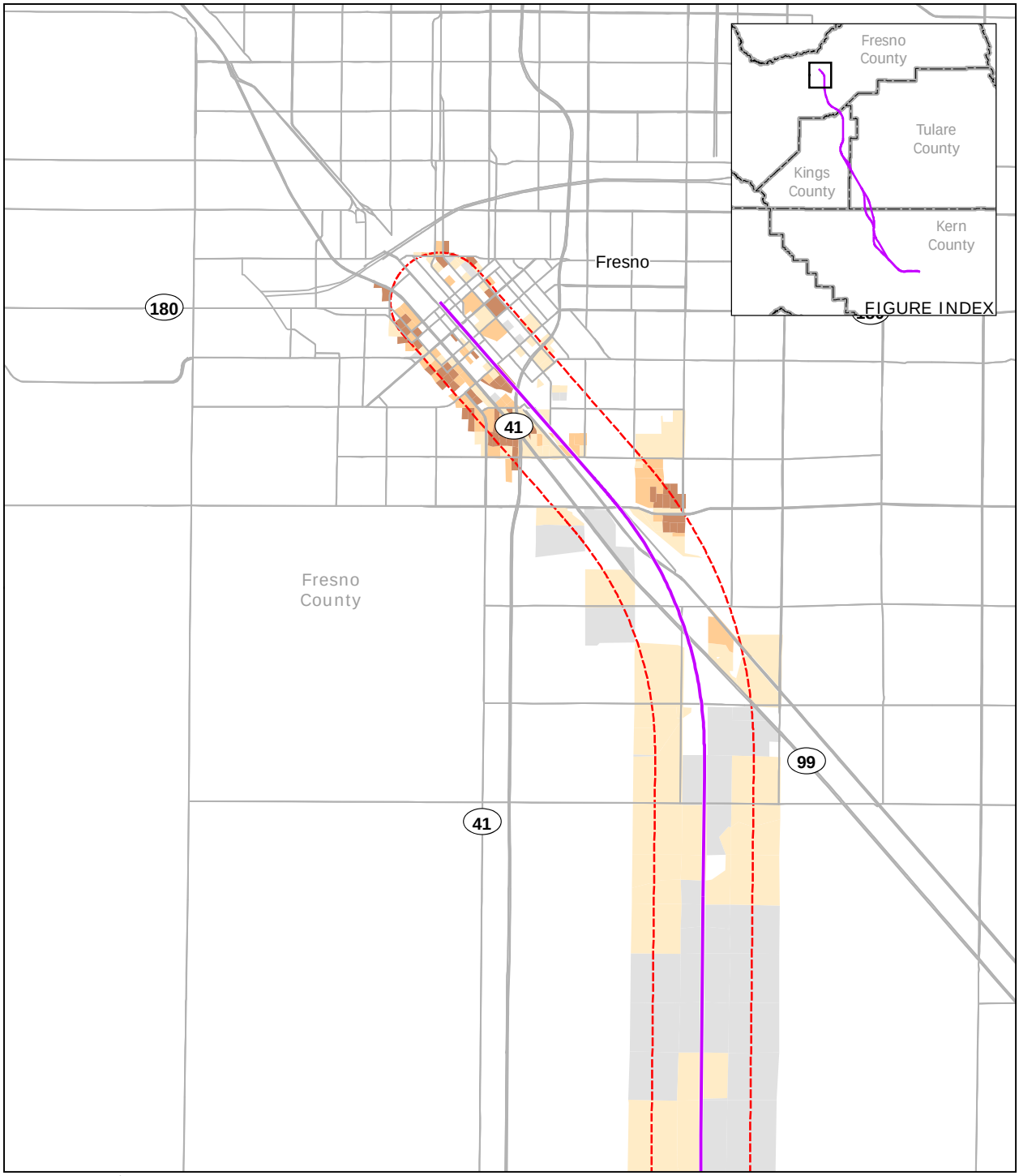
Although the data in Table B-10 show that median incomes increased and poverty remained somewhat constant up until 2008, income levels have begun to decrease since the beginning of the current economic recession. Because unemployment has increased dramatically since 2008, it can be assumed that household income levels have decreased and poverty rates have increased beyond the numbers reported here (U.S. Census Bureau 2009).

## C. ENVIRONMENTAL JUSTICE POPULATION

This section presents the locations of EJ populations within the study area in Fresno County. The definitions used to define EJ populations and a description of the data and methodology that were used can be found in the EJ Methodology Appendix A-1.

Figure B-12 and Figure B-13 identify the locations of EJ populations within the study area in Fresno County. Orange is used to indicate U.S. Census blocks containing EJ populations, darker orange is representative of EJ blocks with higher-population densities, that is, the more-urbanized areas. The red-dashed lines represent the study area, and the purple line is the project alignment. The total area of Census blocks in Fresno County that falls within the study area is 55.1 square miles, with 37.9 square miles, or 68.7%, identified as EJ blocks.[6] The majority of this EJ area is rural low-density population (91.9%); the medium-density (3.8%) and the high-density (4.3%) populations are concentrated in the city of Fresno (U.S. Census Bureau 2000a).

[6] The area calculated for the EJ analysis will be different than the areas presented in other sections because the study area for EJ includes all U.S. Census blocks that are completely or partially contained within the ½-mile radius of the alignment. Therefore, the areas of partially contained U.S. Census blocks that are outside the ½-mile are included. This difference will be larger in rural areas, where U.S. Census blocks are larger.




PRELIMINARY DRAFT/SUBJECT TO CHANGE - HST ALIGNMENT IS NOT DETERMINED

Source: Environmental justice analysis - URS, 2010

May 16, 2011

N

0 0.5 1 Miles

0 1 2 Kilometers

Road

Alternative alignments

County boundary

Half-mile buffer from alignment

EJ population density

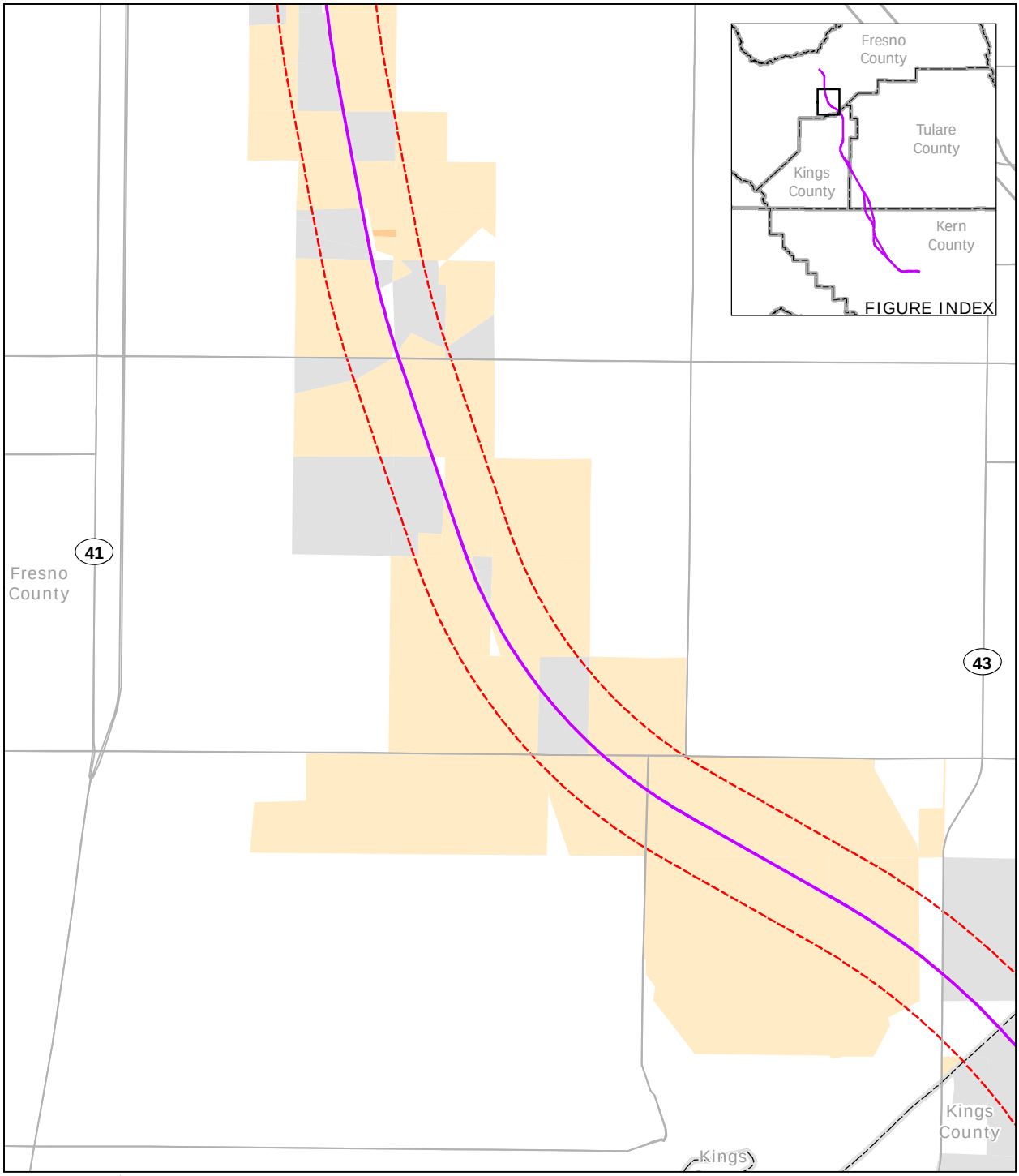
High

Medium

Low

Not EJ

Figure B-12
Fresno County North
EJ Block Populations




PRELIMINARY DRAFT/SUBJECT TO CHANGE - HST ALIGNMENT IS NOT DETERMINED

Source: Environmental justice analysis - URS, 2010

May 16, 2011

N

0 0.5 1
Miles

0 1 2
Kilometers

Road

Alternative alignments

County boundary

Half-mile buffer from alignment

EJ population density

High

Medium

Low

Not EJ

Figure B-13
Fresno County South
EJ Block Populations

According to the 2000 Census, the approximate total population within the study area in Fresno County was 36,078, or 28% of the total population contained within the study area for the region and 4.5% of the total population of Fresno County. The total population within the study area presents a count of potentially affected individuals. The actual number of individuals affected may be much smaller than these baseline totals as the study area will likely not be affected across its entire area.

Fresno County has a high percentage of minority and low-income individuals. According to the 2000 Census, 60.3% of the county's total population is minority and 22.9% is living below the Census poverty threshold. Within the study area in Fresno County, these percentages are much higher: minorities make up 76.2% of the study area population and low-income individuals make up 37.7%. Hispanics are the predominate minority in the EJ areas, accounting for 73.5% of the minority population. Densely populated EJ areas are found in the urban section of the study area in the city of Fresno. Specifically, EJ areas are concentrated east of SR 99 and north of SR 180. Densely populated concentrations are also present in the study area between SR 180 and SR 41. South of the city of Fresno, an EJ concentration with a high population density occurs in Calwa, and a continuous string of low-population-density EJ areas extends all the way to the county border (U.S. Census Bureau 2000a).

## D. HOUSING

As of 2009, 312,559 housing units are present in Fresno County, which represents an increase of 15.4% from the 270,767 units in 2000 (see Table B-11). The majority (70.1%) of the housing units in the county are single-family homes. The percentage of single-family homes increased slightly between 2000 and 2008, which is consistent with trends in the region. The estimated housing vacancy rate for Fresno County was 6.6% in 2000 and 6.4% in January 2009 (California Department of Finance 2009a, 2009b). These rates are similar to those for the region as a whole.

**Table B-11**
Housing Stock in Fresno County

| Housing Type | Number of Units in 2000 | Percentage of Total Units | Number of Units in 2009 | Percentage of Total Units |
|---|---|---|---|---|
| Single-family detached | 175,370 | 64.8 | 209,119 | 66.9 |
| Single-family attached | 10,063 | 3.7 | 10,083 | 3.2 |
| Multifamily 2 to 4 units | 24,162 | 8.9 | 25,706 | 8.2 |
| Multifamily 5 units or greater | 47,830 | 17.7 | 53,585 | 17.1 |
| Mobile homes | 13,342 | 4.9 | 14,066 | 4.5 |
| Total | 270,767 | 100.0 | 312,559 | 100.0 |

Source: California Department of Finance 2009a, 2009b.
Note: Percentages may total slightly less or more than 100% due to rounding.

The percentage of home ownership in Fresno County has been decreasing since 2000, as shown in Table B-12. This trend is most likely due to an increase in the number of single-person households and single-parent families moving to the area and the recent wave of foreclosures. The increase in housing units and decrease in home ownership percentage in Fresno County are consistent with changes in the region.

**Table B-12**
Home Ownership in Fresno County

| Home Ownership | Number of Occupied Units in 2000[a] | Percentage of Total Occupied Units | Number of Occupied Units in 2008[b] | Percentage of Total Occupied Units |
|---|---|---|---|---|
| Own | 142,856 | 56.5 | 149,799 | 53.7 |
| Rent | 110,084 | 43.5 | 129,165 | 46.3 |
| Total Occupied Housing Units | 252,940 | 100.0 | 278,964 | 100.0 |

[a] Analysis of U.S. Census Bureau 2000b.
[b] Analysis of U.S. Census Bureau, American Community Survey2008h.

Note: Percentages may total slightly less or more than 100% due to rounding.

As shown in Table B-13, residents of 64.7% of the occupied housing units in Fresno County in 2008 had moved into their homes since 2000, while about 16% of the households were more established, having lived in the same homes since at least 1990. These percentages are similar to those for the region as a whole.

**Table B-13**
Length of Residence in Fresno County

| Length of Residence | Number of Housing Units 2000[a] | Percentage of Total Occupied Housing Units | Number of Housing Units in 2008[b] | Percentage of Total Occupied Housing Units |
|---|---|---|---|---|
| Moved in 2005, or later | NA | NA | 118,455 | 42.5 |
| Moved in 2000 to 2004 | NA | NA | 61,877 | 22.2 |
| Moved in 1990 to 1999 | 178,036 | 70.4 | 54,336 | 19.5 |
| Moved in 1980 to 1989 | 34,306 | 13.6 | 20,278 | 7.3 |
| Moved in 1970 to 1979 | 21,541 | 8.5 | 14,000 | 5.0 |
| Moved in 1969, or earlier | 19,057 | 7.5 | 10,018 | 3.6 |
| Total housing units | 252,940 | 100.0 | 278,964 | 100.0 |

[a] Analysis of U.S. Census Bureau 2000d.
[b] Analysis of U.S. Census Bureau, American Community Survey 2008g.

Note: Percentages may total slightly less or more than 100% due to rounding.

NA = not available

The Fresno County Housing Element indicates that housing costs in Fresno County are relatively low compared to other parts of the state, but because household incomes are also low, the percentage of households paying more than 30% of household income on housing costs is greater in the county (Fresno County Planning Commission 2003). Because of seasonal

employment and high unemployment rates, housing affordability remains a challenge in the county. Also, many housing units, especially in rural areas, are aging or substandard.

Fresno County was among the 10 hardest-hit counties in the nation when the recent residential real-estate bubble burst. By the end of 2008, housing prices in the county had fallen 42% from the 2006 market peak (Mullins 2009).

Most of the housing resources within the study area in Fresno County lie within the urban limits of the city of Fresno. South of Fresno, the proposed right-of-way follows the existing railroad right-of-way south through agricultural lands dotted with scattered farmsteads. The right-of-way passes about 2 miles east of Easton and about 5 miles to the east of Caruthers, then leaves the existing railroad right-of-way between East Conejo Avenue and East Elkhorn Avenue to head southeasterly, across cultivated fields. The right-of-way passes just east of the community of Laton before entering into Kings County.

## E. ECONOMY

Levels of employment and income in the county have historically lagged behind those of the state. The real-estate boom several years ago generated many jobs in construction, fueled retail sales, and generated increased sales and property tax revenues. However, the San Joaquin Valley has been one of the hardest-hit areas in the nation since the real-estate bubble burst in 2007, with substantial increases in unemployment and foreclosure rates and sharp declines in housing prices (Bertaut and Pounder 2009).

In 2008, Fresno County was the leading agricultural county in the state, with over $5,662,895,000 in sales. The 10 leading crops and their percentage of production were grapes (12.7%), almonds (10.4%), poultry (9.8%), milk (8.1%), tomatoes (7.9%), cattle and calves (5.7%), peaches (3.4%), oranges (3.2%), garlic (3.0%), and nectarines (2.7%). Over the decades, Fresno County has continued to increase production in agricultural goods, but many in the county fear that with more water restrictions output will begin to decrease (Fresno Department of Agriculture 2008).

Table B-14 shows the 25 largest employers in the county. Ten of these employers are potentially in the study area.

**Table B-14**
Largest Employers in Fresno County, 2010

| Businesses | City | Address | Industry Type | Employment Size | Potentially Within Study Area |
|---|---|---|---|---|---|
| Aetna | Fresno | 1385 E Shaw Ave | Insurance | 500–999 employees | No |
| Cargill Meat Solutions | Fresno | 3115 S Fig Ave | Locker plants | 1,000–4,999 employees | No |
| Casino College | Fresno | 1776 N Fine Ave | Casinos | 1,000–4,999 employees | No |
| Central Ag Inc. | Clovis | 202 Clovis Ave #B | Payroll preparation service | 1,000–4,999 employees | No |
| Community Medical Centers | Fresno | 2823 Fresno St | Physicians and surgeons | 5,000–9,999 employees | Yes |

**Table B-14**
Largest Employers in Fresno County, 2010

| Businesses | City | Address | Industry Type | Employment Size | Potentially Within Study Area |
|---|---|---|---|---|---|
| Community Regional Medical Center | Fresno | 2823 Fresno St | Hospitals | 1,000–4,999 employees | Yes |
| Corrections Dept | Coalinga | 24863 W Jayne Ave | State govt–correctional Institutions | 1,000–4,999 employees | No |
| Foster Farms | Fresno | 2960 S Cherry Ave | Poultry farms | 1,000–4,999 employees | No |
| Fresno County Economic | Fresno | 1900 Mariposa Mall # 303 | County government–general offices | 1,000–4,999 employees | Yes |
| Fresno County Education Dept | Fresno | 11 S Teilman Ave | County government–education programs | 500-999 employees | Yes |
| Fresno County Health Dept | Fresno | 1221 Fulton Mall | Physicians and surgeons | 500–999 employees | Yes |
| Fresno County Sheriff's Dept | Fresno | 2200 Fresno St | Sheriff | 1,000–4,999 employees | Yes |
| Fresno County Sheriffs Office | Fresno | 2200 Fresno St | Sheriff | 1,000-4,999 employees | Yes |
| Fresno Medical Center | Fresno | 7300 N Fresno St | Hospitals | 500–999 employees | No |
| Fresno Police Dept | Fresno | 2323 Mariposa St | Law enforcement | 1,000–4,999 employees | Yes |
| Fresno Police-Mgmt Support | Fresno | 2326 Fresno St | Law enforcement | 500–999 employees | Yes |
| Fresno State | Fresno | 5241 N Maple Ave | Schools-universities and colleges academic | 1,000–4,999 employees | No |
| Hall Ag Svc | Mendota | 39936 W North Ave | Harvesting–contract | 500–999 employees | No |
| Harris Ranch Beef Co | Selma | 16277 S McCall Ave | Meat packers (Mfrs) | 500–999 employees | No |
| Ito Packing Co Inc. | Reedley | 707 W South Ave | Exporters (Whls) | 1,000–4,999 employees | No |
| Pelco Inc. | Clovis | 3500 Pelco Way | Security guard and patrol service | 500–999 employees | No |

**Table B-14**
Largest Employers in Fresno County, 2010

| Businesses | City | Address | Industry Type | Employment Size | Potentially Within Study Area |
|---|---|---|---|---|---|
| Play It Safe Intl | Fresno | 1289 N Temperance Ave | Safety consultants | 500–999 employees | No |
| St Agnes Medical Center | Fresno | 1303 E Herndon Ave | Hospitals | 1,000–4,999 employees | No |
| Stamoules Produce | Mendota | 904 S Lyon Ave | Exporters (Whls) | 1,000-4,999 employees | No |
| Zacky Farms | Fresno | 2020 S East Ave | Food brokers (Whls) | 1,000–4,999 employees | Yes |

Source: California Employment Development Department 2010c.

Note: Addresses represent primary business offices that may not house the majority of employees. Also, businesses potentially located within the study area are highlighted in bold text.

Ave = avenue
Dept = department
E = east
Intl = international
Mfrs = manufacturers
N = north
S = south
St = street
Svs = services
W = west
Whls = wholesale

Unemployment within the county has spiked in the past year. The data for the period between 2000 and 2008, as shown in Table B-15, indicate that the unemployment rate was consistent and the number of employees steadily increased (by 41,500 or an average of 1.5% per year). However, 2009 saw a sharp increase with unemployment rates rising to 15.1%.

**Table B-15**
Employment in Fresno County

| Labor Status | Number in 2000 | Percentage of Total Labor Force | Number in 2008 | Percentage of Total Labor Force | Number in 2009 | Percentage of Total Labor Force |
|---|---|---|---|---|---|---|
| Employed | 347,700 | 89.6 | 389,200 | 89.4 | 372,500 | 84.9 |
| Unemployed | 40,400 | 10.4 | 46,000 | 10.6 | 66,200 | 15.1 |
| Total labor force | 388,100 | 100.0 | 435,200 | 100.0 | 438,700 | 100.0 |

Source: California Employment Development Department 2010a.

Note: Percentages may total slightly less or more than 100% due to rounding.

Fresno County is a productive region for agriculture; however, agriculture does not employ the largest percentage of the work force. Instead, education, health, and social services constitute the largest sector, employing approximately 21.2% of the total labor force, as shown in Table B-

16. Since 2000, no large shifts in occupation by type have occurred although the number of people employed in agriculture declined by approximately 12%. It is expected that the number of people employed in agricultural and related occupations will continue to decrease through 2016. The breakdown of occupations by type for Fresno County is similar to that of the region, which indicates that the economic base of the county is not greatly different than that of the region.

**Table B-16**
Occupation by Type in Fresno County

| Occupation | Number Employed in 2000[a] | Percentage of Total Employed | Number Employed in 2008[a] | Percentage of Total Employed | Number Employed in 2016[b] | Percentage of Total Employed |
|---|---|---|---|---|---|---|
| Agriculture, forestry, fishing and hunting, and mining | 56,000 | 17.2 | 49,300 | 14.0 | 48,500 | 12.5 |
| Construction | 15,100 | 4.6 | 17,900 | 5.1 | 24,300 | 6.2 |
| Manufacturing | 27,600 | 8.5 | 27,000 | 7.7 | 28,300 | 7.3 |
| Wholesale trade | 12,100 | 3.7 | 12,900 | 3.7 | 14,100 | 3.6 |
| Retail trade | 31,800 | 9.7 | 35,200 | 10.0 | 38,100 | 9.8 |
| Transportation and warehousing, and utilities | 9,100 | 2.8 | 11,100 | 3.2 | 11,100 | 2.9 |
| Information | 5,000 | 1.5 | 4,400 | 1.2 | 4,300 | 1.1 |
| Finance, insurance, real estate, and rental and leasing | 13,400 | 4.1 | 14,700 | 4.2 | 16,300 | 4.2 |
| Professional, scientific, management, administrative, and waste management services | 25,500 | 7.8 | 30,900 | 8.8 | 35,400 | 9.1 |
| Educational, health, and social services | 63,200 | 19.4 | 74,600 | 21.2 | 80,600 | 20.7 |
| Arts, entertainment, recreation, accommodation, and food services | 24,300 | 7.4 | 28,000 | 8.0 | 32,500 | 8.4 |

**Table B-16**
Occupation by Type in Fresno County

| Occupation | Number Employed in 2000[a] | Percentage of Total Employed | Number Employed in 2008[a] | Percentage of Total Employed | Number Employed in 2016[b] | Percentage of Total Employed |
|---|---|---|---|---|---|---|
| Other services (except public administration) | 10,400 | 3.2 | 10,700 | 3.0 | 20,400 | 5.2 |
| Public administration | 32,800 | 10.1 | 35,400 | 10.1 | 35,200 | 9.0 |
| Total People Employed | 326,300 | 100.0 | 352,100 | 100.0 | 389,100 | 100.0 |

[a] California Employment Development Department 2010b.
[b] California Employment Development Department 2010d.

Note: This table provides a count of occupations, and the previous employment table provides a count of resident workers. The total employed for these two sets of numbers will not be equal given those from outside the county that commute to work in the county and those residents of the county who commute to other counties for work.

Note: Percentages may total slightly less or more than 100% due to rounding.

## F. FISCAL

In fiscal year 2008–2009, Fresno County had an annual budget of $1,501,239,097. Revenues from that budget included $96,874,070 in property taxes and $142,532,795 in sales taxes, representing 6.45% and 9.49% of the total budget, respectively (Fresno County).

## G. COMMUNITY FACILITIES AND AMENITIES

Fresno County encompasses thousands of square miles and a diversity of terrains. Therefore, the county offers a wide variety of recreational amenities and tourist attractions, from skiing in the Sierras to traveling along the Blossom Trail when fruit trees are in bloom. Major scenic and recreational resources include Kings Canyon National Park, the Sierra National Forest, the Sequoia National Forest, Pine Flat Lake, Huntington Lake, Shaver Lake, and Mendota Wildlife Area. The city of Fresno and vicinity has an abundance of city parks, golf courses, country clubs, and entertainment venues. Fresno is also home to a California State University campus and several other private colleges. Key community facilities in the study area are listed in the city of Fresno profile.

## H. CIRCULATION AND ACCESS

Circulation and access within a community are important to community character and quality of life. Non-motorized circulation issues associated with pedestrian and bicycle transportation are a key concern in the analysis. Critical pedestrian and bicycle paths are listed in the city of Fresno profile below. Issues associated with main roads, public transportation, and parking can also affect communities. More details on these aspects can be found in the Transportation section of the EIR/EIS.

# B.3 Kings County

Kings County, the smallest of the four counties in the region, lies generally south and east of Fresno County, west of Tulare County, and north of Kern County. It is named after the Kings River, which runs along the northern boundary of the county and then southward into the Tulare Basin, a rich agricultural area. Kings County was created in 1893 from the western portion of Tulare County. In 1908, an additional 100 acres of land from Fresno County was incorporated into Kings County. The county now encompasses almost 1,400 square miles of predominately flat terrain with approximately 31 square miles, or 2.2%, of this land within the study area for the socioeconomic, communities, and environmental justice analysis. Approximately 84% of the county's land area is used for agricultural production, with dairy products being the primary commodity, although cattle, field crops, apiary products, cotton, fruit, and nuts are also produced (Kings County 2004).

Hanford is the county seat and the largest city in Kings County, with almost one-third of the population. There are three other incorporated cities in the county—Avenal, Corcoran and Lemoore—as well as four unincorporated community service areas: Armona, Home Garden, Kettleman City, and Stratford. Three state prisons, the Santa Rosa Rancheria, and Lemoore Naval Air Station also accommodate a portion of the county's population, in addition to providing jobs outside of the agricultural sector (Kings County Economic Development Corporation and Job Training Office 2009). Kettleman Hills, in the western portion of the county, is one of the few licensed Class I hazardous waste disposal facilities in the western United States.

Key transportation facilities serving the county include I-5 and SR 99, which connect Kings County to the San Francisco Bay Area and the greater Los Angeles Area. SR 41 provides a northeast-southwest connection between the Central Coast and Yosemite, and SR 198 provides valley communities access to SR 99 and Sequoia National Park. Railroads have played an important part in the county's economic development. The BNSF railroad provides access to Stockton, Sacramento, and Bakersfield, as well as a link to Amtrak service. The San Joaquin Valley Railroad provides east-west links to Huron and the Visalia-Porterville area (Kings County 2009).

Like other counties in the state and the nation, Kings County has experienced economic challenges in recent years, including a drop in housing construction starts and home values, and increasing unemployment. To some extent, Kings County has fared better than other counties in the region, because of the high number of stable government jobs. On the other hand, the important agricultural sector has confronted unusual hardships in recent years, including persistent drought from 2005 through 2009, a record heat spell in 2006 that resulted in the loss of many cattle, a devastating freeze in January 2007 that affected local crops, and recent declines in milk prices along with higher feed prices.

The Kings County Economic Development Corporation anticipates additional job losses in the future as a result of the recession's effect on government revenues at all levels and a slow economic recovery. Nonetheless, it is working to improve the county's future economic prospects through new job-training programs, as well as by assembling industrial land and coordinating funding for infrastructure development to attract new industries to the county (Kings County Economic Development Corporation and Job Training Office 2009).

### A. POPULATION AND DEMOGRAPHICS

Kings County had a population of 129,461 in 2000, which grew to approximately 154,743 in 2009, for an approximate annual average growth rate of 2.2% each year. This was slightly lower than the growth rate of 2.3% experienced in the region during the same period (California

Department of Finance 2009a, 2009b). The county's population is expected to nearly double by 2035, to approximately 275,000 people.

As shown in Table B-17, Kings County's population was approximately 40% non-Hispanic White and 60% minority in 2000. Since then, the percentage of non-Hispanic White residents has decreased, while the percentage of Hispanic residents of all races has increased substantially and other minority racial groups have increased slightly. These trends are expected to continue in the future. The California Department of Finance projects that Kings County's population in 2035 will be approximately 33% non-Hispanic White and 66% minority, with persons of Hispanic origin remaining the largest single racial or ethnic group. When compared to projected population growth for the region, both the total minority population and the Hispanic population in Kings County will account for a smaller percentage of the total population.

**Table B-17**
Racial and Ethnicity Characteristics of Kings County

| Race | Number of People in 2000[a] | Percentage of Total Population | Number of People in 2008[b] | Percentage of Total Population | Number of People in 2035[c] | Percentage of Total Population |
|---|---|---|---|---|---|---|
| **Non-Hispanic White** | 53,817 | 41.6 | 55,611 | 37.2 | 90,417 | 32.9 |
| **Minority** | 75,644 | 58.4 | 93,907 | 62.8 | 184,159 | 67.1 |
| Hispanic of all races | 56,461 | 43.6 | 73,680 | 49.3 | 148,873 | 54.2 |
| Non-Hispanic Black or African-American | 10,418 | 8.0 | 11,253 | 7.5 | 24,346 | 8.9 |
| Non-Hispanic American Indian and Alaska Native | 1,304 | 1.0 | 1,756 | 1.2 | 1,769 | 0.6 |
| Non-Hispanic Asian | 3,884 | 3.0 | 4,634 | 3.1 | 5,434 | 2.0 |
| Non-Hispanic Native Hawaiian and Other Pacific Islander | 192 | 0.1 | 39 | 0.0 | 430 | 0.2 |
| Non-Hispanic, some other race | 229 | 0.2 | 271 | 0.2 | NA | NA |
| Non-Hispanic, two or more races | 3,156 | 2.4 | 2,274 | 1.5 | 3,307 | 1.2 |
| **Total** | 129,461 | 100.0 | 149,518 | 100.0 | 274,576 | 100.0 |

[a] Analysis of U.S. Census Bureau 2000 e.
[b] Analysis of U.S. Census Bureau, American Community Survey 2008a.
[c] California Department of Finance, Demographic Research Unit 2007.

Note: The California DOF does not provide annual estimates of racial and ethnicity characteristics, so the most current source, the 2008 ACS, is used. This use explains the difference between the 2009 total population estimates presented above and the 2008 totals in this table.

Note: Percentages may total slightly less or more than 100% due to rounding.

ACS = U.S. Census Bureau, American Community Survey
DOF = Department of Finance
NA = not available

Figure B-14 and Figure B-15 illustrate the age distribution of the county population compared with the regional population for 2000 and 2008. These figures illustrate that the age distribution of the county and region are very similar, with the highest concentration of population in the middle-aged groups. Since 2000, the largest age cohort of the population has shifted to being somewhat younger. Slight differences between the years are present; however, those changes do not reveal any swing in the age profile of the county. It does not appear that the county has a larger or smaller number of either children or elderly individuals when compared to the region (U.S. Census Bureau 2000a; U.S. Census Bureau, American Community Survey 2008e).

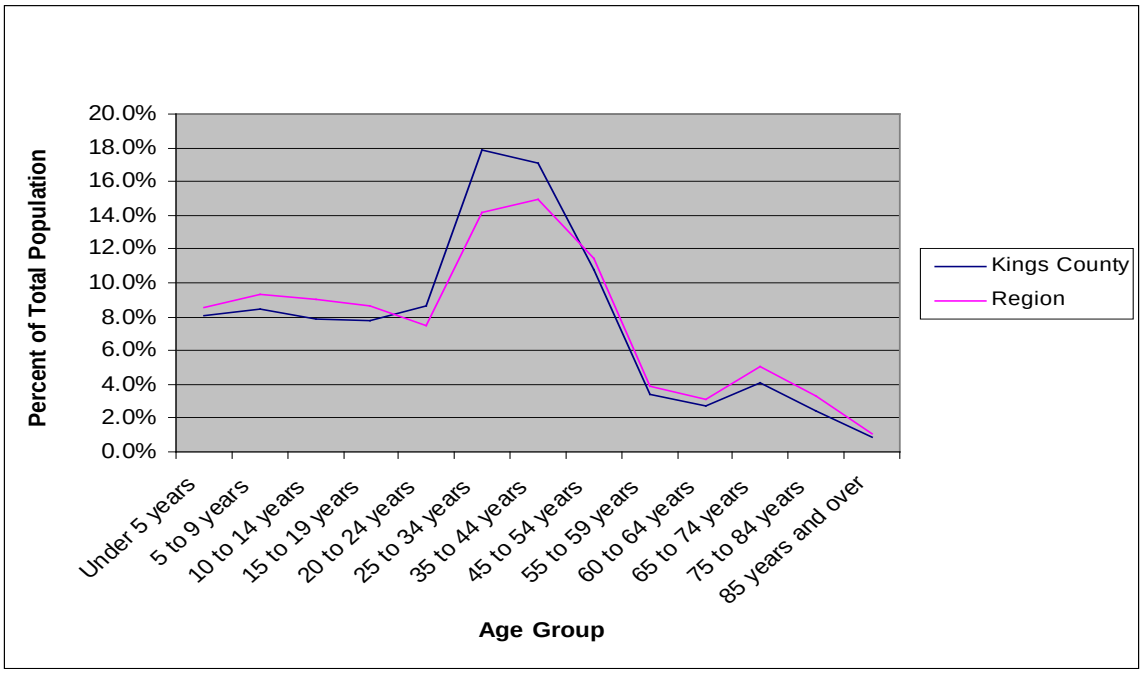



**Figure B-14**
Kings County Age Profile, 2000

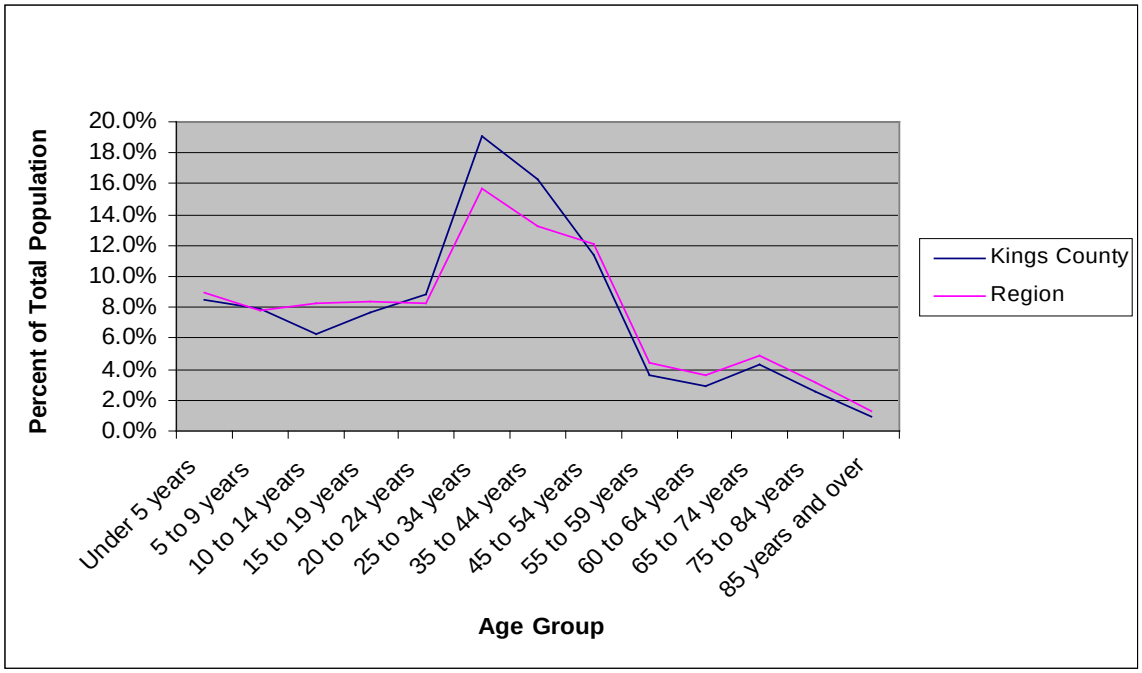



**Figure B-15**
Kings County Age Profile, 2008

According to the California Department of Finance, there were 34,418 households with an average household size of 3.18 persons per household. In 2009, the number of households grew to 40,061, and the average household size increased to 3.30 people per households. County average household sizes for both 2000 and 2008 were larger than the average household size for the region.

As Table B-18 shows, the makeup of households within the county has not changed greatly since 2000 and is very similar to that of the region (California Department of Finance 2009a, 2009b). Approximately 75% of the households are family households; however, the percentage of married-couple households decreased over the period leaving more single-female and single-male family households, which is consistent with changes in the region.

**Table B-18**
Numbers and Types of Household in Kings County

| Household | Number of Households in 2000[a] | Percentage of Total Households | Number of Households in 2008[b] | Percentage of Total Households |
|---|---|---|---|---|
| Family households (families) | 27,065 | 78.6 | 30,593 | 75.5 |
| Married-couple family | 20,185 | 58.6 | 22,038 | 54.4 |
| Female householder, no husband present | 4,895 | 14.2 | 5,230 | 12.9 |
| Male householder, no wife present | 1,985 | 5.8 | 3,325 | 8.2 |
| Non-family households | 7,353 | 21.4 | 9,902 | 24.5 |

**Table B-18**
Numbers and Types of Household in Kings County

| Household | Number of Households in 2000[a] | Percentage of Total Households | Number of Households in 2008[b] | Percentage of Total Households |
|---|---|---|---|---|
| Householder living alone | 5,838 | 17.0 | 7,355 | 18.2 |
| Total | 34,418 | 100.0 | 40,495 | 100.0 |

[a] Analysis of U.S. Census Bureau 2000h.
[b] Analysis of U.S. Census Bureau, American Community Survey 2008b.

Note: California DOF does not provide number of households by type for 2009, so ACS 2000 and 2008 data were used in this table. This use explains the difference between the 2000 and 2009 total household estimates presented above and the totals in this table.

Note: Percentages may total slightly less or more than 100% due to rounding.

ACS = U.S. Census Bureau, American Community Survey
DOF = Department of Finance

In 2000, of the 34,418 households in the county, 2,985 of them were linguistically isolated, or 8.7% of the households did not have someone over the age of 14 with the ability to speak English very well, which is slightly less but comparable to the region.[7] This percentage has increased since 2000 at a rate faster than the increase in the region as a whole: 4,976 (12.3%) of the households in the county were identified as linguistically isolated in 2008 (U.S. Census Bureau 2000f).

In 2007,[8] of the 113,598 non-institutionalized persons over the age of five, 13% of the people in the county had some sort of disability, self-care limitation or low-mobility issue. A higher percentage of those over the age of 64 had disabilities, with 43.6% of persons having a disability, while 10.1% of persons 64, or younger, were disabled (U.S. Census Bureau, American Community Survey 2007).

## B. INCOME AND POVERTY

In 1999, the median annual household income in the county was $35,749, which was slightly higher than for the region. By 2008, median annual household income had increased to $50,962 (or 42.6%), which is also higher than for the region, both in terms of percentage change and total income (U.S. Census Bureau 2000g).

In 1999, 21,307 people, or 19.5% of the population, lived below the poverty line, a percentage which is only slightly below that of the region. In 2008, that number had decreased to 20,689 people, and the corresponding percentage decreased to 16% of the population. Similar changes occurred throughout the region. These values are presented in Table B-19.

[7] According to the U.S. Census Bureau, a household is linguistically isolated if “no member 14 years old and over speaks only English or speaks a non-English language and speaks English very well.” In other words, all members 14 years old, and over, have at least some difficulty with English.

[8] The U.S. Census Bureau does not recommend making comparisons between the 2000 and 2007 disability figures; for this reason, the more current information is presented.

**Table B-19**
Income Level to Poverty Line in Kings County

| Income Level as a Percentage of Poverty Line | Number of People in Income Group in 1999[a] | Percentage of Total Population Evaluated | Number of People in Income Group in 2008[b] | Percentage of Total Population Evaluated |
|---|---|---|---|---|
| Under 0.50 | 7,477 | 6.8 | 8,303 | 6.4 |
| 0.50 to 0.74 | 5,482 | 5.0 | 7,386 | 5.7 |
| 0.75 to 0.99 | 8,348 | 7.6 | 5,000 | 3.9 |
| 1.00 to 1.24 | 7,898 | 7.2 | 4,929 | 3.8 |
| 1.25 to 1.49 | 8,472 | 7.8 | 8,712 | 6.7 |
| 1.50 to 1.74 | 7,048 | 6.5 | 6,655 | 5.1 |
| 1.75 to 1.84 | 2,995 | 2.7 | 6,239 | 4.8 |
| 1.85 to 1.99 | 3,806 | 3.5 | 3,646 | 2.8 |
| 2.00 and over | 57,681 | 52.8 | 78,715 | 60.7 |
| Total | 109,207 | 100.0 | 129,585 | 100.0 |

[a] Analysis of U.S. Census Bureau 2000g.
[b] Analysis of U.S. Census Bureau, American Community Survey 2008d.

Note: Not all individuals are evaluated by the Census for income level to poverty line status. This procedure explains why population totals in this table may not match population totals presented in the population and demographics section above. Also, 2000 Census data on income are representative of conditions in 1999.

Note: Percentages may total slightly less or more than 100% due to rounding.

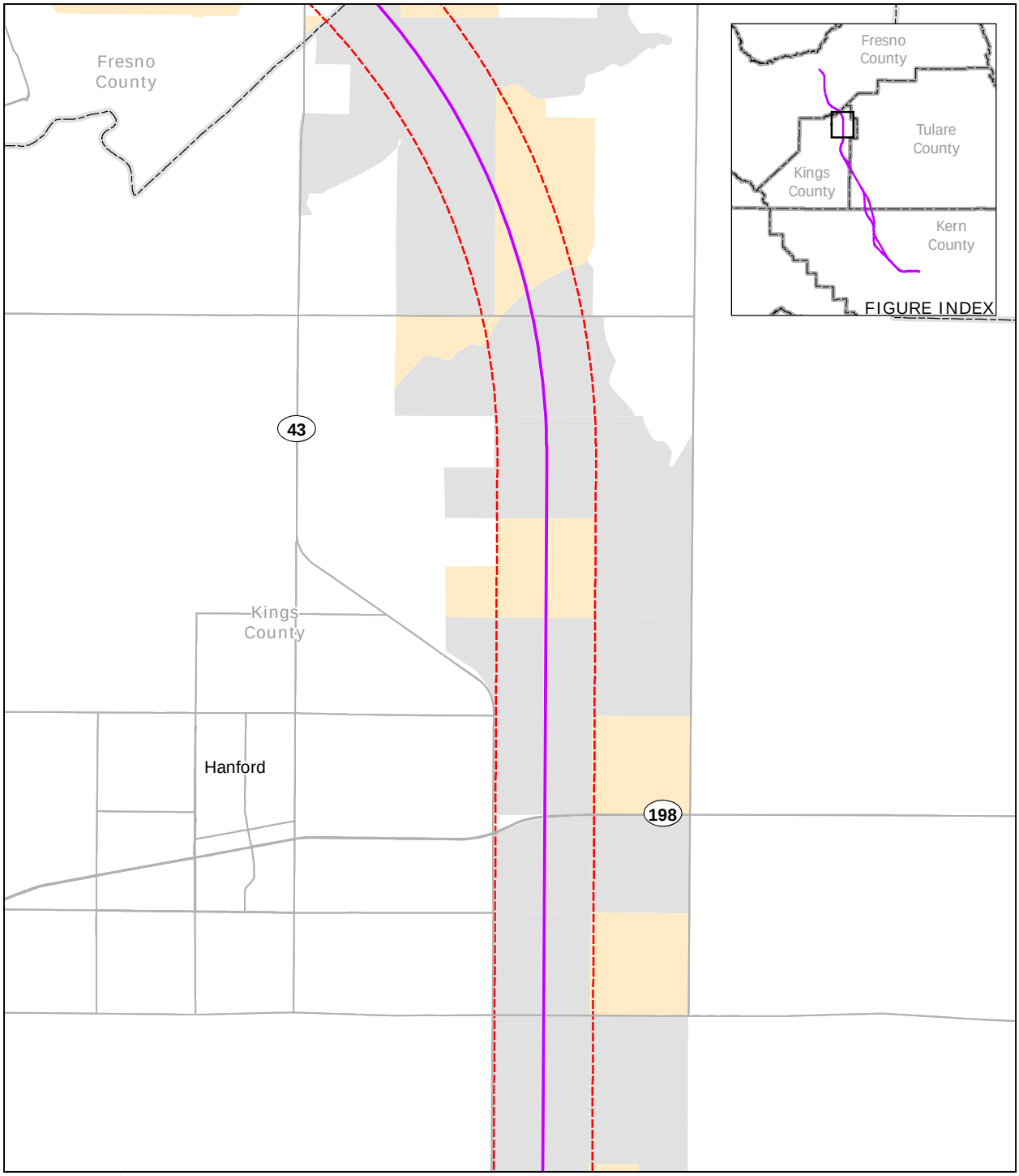
While the above data show that median incomes increased and poverty decreased from 2000 through 2008, since the beginning of the current economic recession, income levels have begun to decrease. Since unemployment has increased substantially since 2008, it can be assumed that household income levels have decreased and poverty rates have increased beyond the numbers reported here (U.S. Census Bureau 2009).

## C. ENVIRONMENTAL JUSTICE POPULATION

This section presents the locations of EJ populations within the study area in Kings County. The definitions used to define EJ populations and a description of the data and methodology that were used can be found in the EJ Methodology Appendix A-1.

Figure B-16 and Figure B-17 identify the locations of EJ populations within the study area in Kings County. Orange is used to indicate U.S. Census blocks containing EJ populations, darker orange is representative of EJ blocks with higher-population densities, that is, the more-urbanized areas. The red-dashed lines represent the study area, and the purple line is the project alignment. The total area of Census blocks in Kings County that falls within the study area is 70.7 square miles, with 12.7 square miles, or 17.9%, identified as EJ blocks. [9] The majority of this EJ area is rural low-density population (95.4%) with medium density (3.3%) and high density (1.3%) concentrated in Corcoran (U.S. Census Bureau 2000a).

[9] The area calculated for the EJ analysis is different than the area presented in other sections because the study area for EJ includes all U.S. Census blocks that are completely or partially contained within the 0.5-mile radius. of the alignment. Therefore, the areas of partially contained U.S. Census blocks that are outside the 0.5 mile are included. This difference will be larger in rural areas, where U.S. Census blocks are larger.




PRELIMINARY DRAFT/SUBJECT TO CHANGE - HST ALIGNMENT IS NOT DETERMINED

May 16, 2011

Source: Environmental justice analysis - URS, 2010

N

0 0.5 1 Miles

0 1 2 Kilometers

Road

Alternative alignments

County boundary

Half-mile buffer from alignment

EJ population density

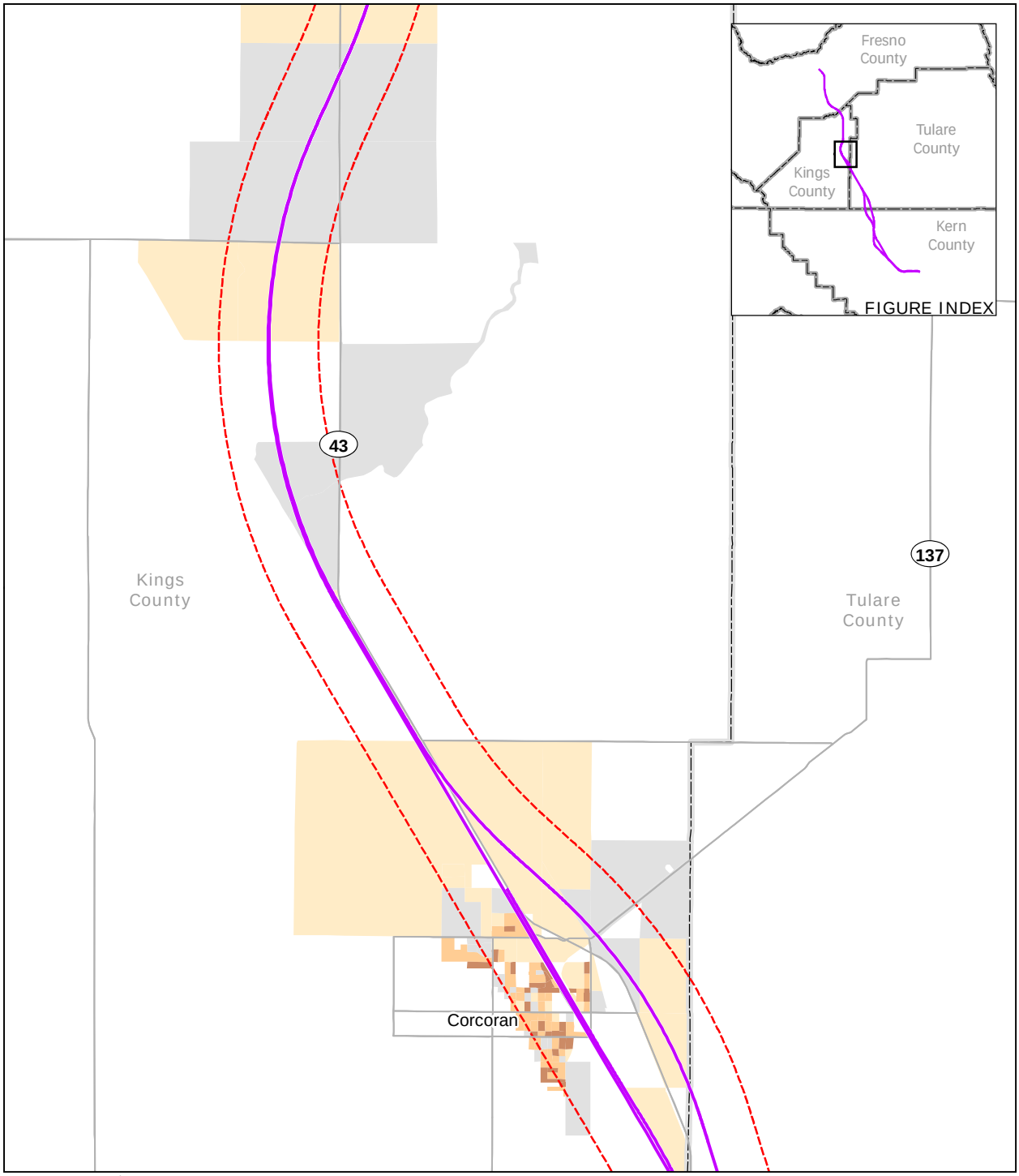
High

Medium

Low

Not EJ

Figure B-16
Kings County North
EJ Block Populations




PRELIMINARY DRAFT/SUBJECT TO CHANGE - HST ALIGNMENT IS NOT DETERMINED

May 16, 2011

Source: Environmental justice analysis - URS, 2010

N

0 0.5 1 Miles

0 1 2 Kilometers

Road

Alternative alignments

County boundary

Half-mile buffer from alignment

EJ population density

High

Medium

Low

Not EJ

Figure B-17
Kings County South
EJ Block Populations

According to the 2000 Census, the approximate total population in the study area in Kings County is 11,466, or 9% of the total population contained in the study area for the region, and 8.9% of the total population of Kings County. The total population within the study area presents a count of potentially affected individuals. The actual number of individuals affected may be much smaller than these baseline totals because the study area will likely not be affected across its entire area.

Kings County has a high percentage of minority and low-income individuals. According to the 2000 Census, 58.4% of the total population is minority and 19.5% is living below the Census poverty threshold. Within the study area in Kings County, the percentage of minorities is much higher, with minorities making up 69.3% of the total study area population. Low-income individuals comprise a similar percentage of the population in the study area at 20%. Within Kings County, Hispanics are the predominate minority in EJ areas, accounting for 72.1% of the minority population. Scattered rural low-density population EJ areas are found in the study area through the county's northern section. The city of Corcoran contains the only concentrated urban EJ population within the study area in the county. However, the Corcoran Bypass Alternative Alignment, passing east and outside of Corcoran, encounters fewer and lower-density EJ areas (U.S. Census Bureau 2000a). More details on the differences between BNSF Alternative Alignment and the Corcoran Bypass Alignment are provided in the profile of the city of Corcoran.

## D. HOUSING

Kings County is unique in that about 12% of the county population is housed in group quarters, including the three state prison facilities located at Avenal and Corcoran and numerous military housing units at Naval Air Station (NAS) Lemoore. NAS Lemoore has approximately 1,630 housing units on base, not enough to house the 7,500 enlisted personnel and officers employed at the station, so some of these personnel, along with U.S. Navy civilian employees, seek accommodation in the surrounding communities (Kings County 2009). The descriptions of the county housing stock and household characteristics below exclude group quarters.

As of 2009, there are 42,484 housing units in the county, which is an increase of 16.2% from the 36,563 units present in 2000 number. As is typical in rural areas, the majority of the housing units in the county are single-family homes, as shown in Table B-20. Hanford and Corcoran have the highest percentages of single-family homes, while Avenal and Lemoore have the highest percentages of multi-family units. The highest percentage of mobile home housing is in the unincorporated rural areas (Kings County 2009). Housing vacancy rates within the county were 5.9% in 2000 and slightly dropped in 2009 to 5.7% (California Department of Finance 2009a, 2009b). These rates were slightly below that of the region as a whole.

**Table B-20**
Housing Stock in Kings County

| Housing Type | Number of Units in 2000 | Percentage of Total Units | Number of Units in 2009 | Percentage of Total Units |
|---|---|---|---|---|
| Single-family detached | 25,393 | 69.4 | 30,067 | 70.8 |
| Single-family attached | 2,144 | 5.9 | 2,637 | 6.2 |
| Multifamily 2 to 4 units | 2,722 | 7.4 | 3,013 | 7.1 |
| Multifamily 5 units or greater | 4,226 | 11.6 | 4,494 | 10.6 |

**Table B-20**
Housing Stock in Kings County

| Housing Type | Number of Units in 2000 | Percentage of Total Units | Number of Units in 2009 | Percentage of Total Units |
|---|---|---|---|---|
| Mobile homes | 2,078 | 5.7 | 2,273 | 5.4 |
| Total | 36,563 | 100.0 | 42,484 | 100.0 |

Source: California Department of Finance 2009a, 2009b.
Note: Percentages may total slightly less or more than 100% due to rounding.

As seen in Table B-21, home ownership in the county has been stable since 2000, decreasing only slightly. This decrease is less than the decrease in ownership rates seen throughout the region as a whole.

**Table B-21**
Home Ownership in Kings County

| Home Ownership | Number of Occupied Units in 2000[a] | Percentage of Total Occupied Units | Number of Occupied Units in 2008[b] | Percentage of Total Occupied Units |
|---|---|---|---|---|
| Own | 19,250 | 55.9 | 22,409 | 55.3 |
| Rent | 15,168 | 44.1 | 18,086 | 44.7 |
| Total Occupied Housing Units | 34,418 | 100.0 | 40,495 | 100.0 |

[a] Analysis of U.S. Census Bureau 2000d.
[b] Analysis of U.S. Census Bureau, American Community Survey 2008g.
Note: Percentages may total slightly less or more than 100% due to rounding.

The 2000 Census indicated that more than 60% of all housing units in Kings County were less than 30 years old (i.e., built since 1970), about 27% were 30 to 50 years old, and 13% were over 50 years old. Units found most in need of repair tended to be the older units. The older homes were concentrated in Avenal, Corcoran, and unincorporated areas of the county, while newer units were concentrated in Hanford and Lemoore. Despite the large extent of farming in Kings County, there are no farm worker camps in the county (Kings County).[10]

As shown in Table B-22, in 2008, residents of about two-thirds of the occupied housing units in Kings County have moved into their homes since 2000, while 14.5% of households have lived in the same residences since at least 1990. The length of residence in the county is similar to the region.

[10] Kings County, *Housing Element, rev. draft*.

**Table B-22**
Length of Residence in Kings County

| Length of Residence | Number of Housing Units in 2000[a] | Percentage of Total Occupied Housing Units | Number of Housing Units in 2008[b] | Percentage of Total Occupied Housing Units |
|---|---|---|---|---|
| Moved in 2005, or later | NA | NA | 19,236 | 47.5 |
| Moved in 2000 to 2004 | NA | NA | 7,899 | 19.5 |
| Moved in 1990 to 1999 | 24,205 | 70.3 | 7,467 | 18.4 |
| Moved in 1980 to 1989 | 4,704 | 13.7 | 2,514 | 6.2 |
| Moved in 1970 to 1979 | 2,866 | 8.3 | 1,624 | 4.0 |
| Moved in 1969, or earlier | 2,643 | 7.7 | 1,755 | 4.3 |
| Total housing units | 34,418 | 100.0 | 40,495 | 100.0 |

[a] Analysis of U.S. Census Bureau 2000d.
[b] Analysis of U.S. Census Bureau, American Community Survey 2008g.
Note: Percentages may total slightly less or more than 100% due to rounding.
NA = not available

According to data obtained from the Kings County Board of Realtors, the average selling price for a three-bedroom home in Kings County declined by approximately one-third between 2007 and 2009 (Kings County Board of Realtors 2010).

There are relatively few housing units located within the 0.5-mile study area in Kings County outside of existing incorporated communities. The study area alignment passes into Kings County just west of SR 43, the Central Valley Highway. It passes through rural agricultural lands with scattered farmsteads, passing just to the east of Hanford, then paralleling SR 43 south to Nevada Avenue, passing just west of the Corcoran Irrigation District Reservoir. From there, BNSF Alternative Alignment travels south through Corcoran along Otis and Santa Fe avenues, while the Corcoran Bypass skirts the town on the eastern side, east of SR 43. The study area for the BNSF Alternative Alignment passing through Corcoran encompasses a large portion of the residential area of Corcoran, while the Corcoran Bypass study area encompasses fewer of Corcoran's residential areas. From Corcoran, the alignments travel south parallel to SR 43 and into Tulare County.

## E. ECONOMY

Employment and income in the county have historically lagged behind the state. The recent real-estate boom generated many jobs in construction, fueled retail sales, and generated increased sales and property tax revenues. However, the San Joaquin Valley was one of the hardest-hit areas in the nation when the real-estate bubble burst in 2007, and the United States entered the biggest economic recession since the Great Depression. As a result of the recession, the county has seen substantial increases in unemployment and foreclosure rates and sharp declines in housing prices (Bertaut and Pounder 2009). However, because of the large number of persons employed by the government working at the state prisons and Lemoore Naval Air Station, Kings County has been buffered from the recession more than have other counties in the San Joaquin Valley.

In 2008, Kings County was the eighth-most-productive agricultural county in the state, with $1,760,168,000 in sales. The 10 leading crops and their percentage of production were milk (38.1%), cotton (8.0%), cattle and calves (6.8%), alfalfa (5.9%), tomatoes (5.7%), corn (5.5%), grain wheat (4.3%), pistachios (3.0%), silage wheat (2.3%), and peaches (2.2%). Kings County has continued to increase production in agricultural goods, but many in the county fear that with more water restrictions, output will begin to decrease (County of Kings Department of Agriculture and Measurement 2009).

Table B-23 shows the 25 largest employers in the county. Three of these employers are located near the project.

**Table B-23**
Largest Employers in Kings County, 2010

| Businesses | City | Address | Industry Type | Employment Size | Near Alignment |
|---|---|---|---|---|---|
| Badasci & Wood Transport | Lemoore | 14147 18th Ave | Trucking | 100–249 employees | No |
| California State Prison | Corcoran | 900 Quebec Ave | State govt–correctional institutions | 1,000–4,999 employees | Yes |
| California State Prison | Corcoran | 4001 King Ave | State govt–correctional institutions | 1,000–4,999 employees | Yes |
| Central Valley Genl Hospital | Hanford | 1025 N Douty St | Hospitals | 250–499 employees | No |
| Central Valley Meat Co Inc. | Hanford | 10431 8¾ Ave | Meat packers (Mfrs) | 250–499 employees | Yes |
| Con Agra Foods Inc. | Hanford | 9301 Lacey Blvd | Food brokers (Whls) | 250–499 employees | No |
| Del Monte Foods Co | Hanford | 10652 Jackson Ave | Canned specialties (Mfrs) | 1,000–4,999 Employees | No |
| Exopack | Hanford | 10801 Iona Ave | Plastics–foil and coated paper bags (Mfrs) | 100–249 employees | No |
| Hanford Community Hospital | Hanford | 460 Kings County Dr | Hospitals | 250–499 employees | No |
| Hanford Community Medical Center | Hanford | 450 Greenfield Ave | Hospitals | 500–999 employees | No |
| J G Boswell Co | Corcoran | 27905 6th Ave | Exporters (Whls) | 100–249 employees | No |
| J G Boswell Co | Corcoran | 710 Bainum Ave | Cotton goods–manufacturers | 100–249 employees | No |
| Keenan Farms | Kettleman City | 31510 Plymouth Ave | Salted and roasted nuts and seeds (Mfrs) | 100–249 employees | No |
| Kings County Government Center | Hanford | 1400 W Lacey Blvd | Government offices–county | 1,000–4,999 employees | No |

**Table B-23**
Largest Employers in Kings County, 2010

| Businesses | City | Address | Industry Type | Employment Size | Near Alignment |
|---|---|---|---|---|---|
| Kmart | Lemoore | 215 W Hanford Armona Rd | Department stores | 100-249 employees | No |
| Lemoore High School | Lemoore | 101 E Bush St | Schools | 250–499 employees | No |
| Leprino Foods Co | Lemoore | 490 F St | Cheese processors (Mfrs) | 250–499 employees | No |
| Leprino Foods Co | Lemoore | 351 Belle Haven Dr | Cheese processors (Mfrs) | 250–499 Employees | No |
| Nichols Farms | Hanford | 13762 1st Ave | Farms | 100–249 employees | No |
| Sentinel | Hanford | 300 W 6th St | Newspapers–publishers (Mfrs) | 100-249 employees | No |
| Tachi Palace Hotel & Casino | Lemoore | 17225 Jersey Ave | Casinos | 1,000–4,999 employees | No |
| U.S. Naval Air Station | Lemoore | 700 Avenger Ave | Federal government–national security | 5,000–9,999 employees | No |
| U.S. Naval Hospital | Lemoore | 937 Franklin Blvd | Hospitals | 250–499 employees | No |
| Walmart Supercenter | Hanford | 250 S 12th Ave | Department stores | 500–999 employees | No |
| Warmerdam Packing | Hanford | 15650 Excelsior Ave | Fruits and vegetables–growers and shippers | 250–499 employees | No |

Source: California Employment Development Department 2010c.

Note: Addresses represent primary business offices that may not house the majority of employees. Also, businesses potentially located within the study area are highlighted in bold text.

GenI = General
Govt = government
Mfrs = manufacturer
Whls = wholesale

Unemployment within the county has spiked in the past year. The economic recession that began in 2007 has started to affect the number of workers that businesses employed in 2009. When compared to the data for 2000, the unemployment rates for 2008 are not greatly different, and the number of employees steadily increased by 8,400, or by 2.4%, each year, as shown in Table B-24. However, in 2009, unemployment rates increased to an annual average of 14.6%.

**Table B-24**
Employment in Kings County

| Labor Status | Number in 2000 | Percentage of Labor Force | Number in 2008 | Percentage of Labor Force | Number in 2009 | Percentage of Labor Force |
|---|---|---|---|---|---|---|
| Employed | 44,300 | 90.0 | 52,700 | 89.3 | 52,200 | 85.4 |
| Unemployed | 4,900 | 10.0 | 6,300 | 10.7 | 8,900 | 14.6 |
| Total labor force | 49,200 | 100.0 | 59,000 | 100.0 | 59,400 | 100.0.0 |

Source: California Employment Development Department 2010a.
Note: Percentages may total slightly less or more than 100% due to rounding.

Public administration is by far the largest employment base in the county, with 31.6% of the total labor force. This is primarily due to the large number of state prisons and the presence of the Lemoore Naval Air Station. Since 2000, no single occupation group experienced a dramatic shift in its percentage of the labor force makeup. Also, as can be seen in Table B-25, agricultural employment declined between 2000 and 2008, showing that agriculture is playing less of a role in the employment base than it has in the past. Despite these recent declines, the California Employment Development Department is projecting an increase in agricultural employment with the sector growing in the county by about 2,200 employees by 2016.

**Table B-25**
Occupations by Type in Kings County

| Occupation | Number Employed in 2000[a] | Percentage of Total Employed | Number Employed in 2008[a] | Percentage of Total Employed | Number Employed in 2016[b] | Percentage of Total Employed |
|---|---|---|---|---|---|---|
| Agriculture, forestry, fishing and hunting, and mining | 7,700 | 20.3 | 6,700 | 15.3 | 8,900 | 18.8 |
| Construction | 1,100 | 2.9 | 1,200 | 2.7 | 1,500 | 3.2 |
| Manufacturing | 3,600 | 9.5 | 4,600 | 10.5 | 4,800 | 10.1 |
| Wholesale trade | 600 | 1.6 | 600 | 1.4 | 600 | 1.3 |
| Retail trade | 3,600 | 9.5 | 4,100 | 9.4 | 4,300 | 9.1 |
| Transportation and warehousing, and utilities | 500 | 1.3 | 900 | 2.1 | 1,000 | 2.1 |
| Information | 300 | 0.8 | 300 | 0.7 | 400 | 0.8 |
| Finance, insurance, real estate, and rental and leasing | 1,100 | 2.9 | 1,000 | 2.3 | 1,100 | 2.3 |

**Table B-25**
Occupations by Type in Kings County

| Occupation | Number Employed in 2000[a] | Percentage of Total Employed | Number Employed in 2008[a] | Percentage of Total Employed | Number Employed in 2016[b] | Percentage of Total Employed |
|---|---|---|---|---|---|---|
| Professional, scientific, management, administrative, and waste management services | 1,300 | 3.4 | 1,100 | 2.5 | 1,300 | 2.7 |
| Educational, health and social services | 2,800 | 7.4 | 4,400 | 10.0 | 4,700 | 9.9 |
| Arts, entertainment, recreation, accommodation and food services | 2,200 | 5.8 | 2,800 | 6.4 | 3,100 | 6.5 |
| Other services (except public administration) | 600 | 1.6 | 500 | 1.1 | 700 | 1.5 |
| Public administration | 12,500 | 33.0 | 15,600 | 35.6 | 15,000 | 31.6 |
| Total People Employed | 37,900 | 100.0 | 43,800 | 100.0 | 47,400 | 100.0 |

[a] California Employment Development Department 2010b.
[b] California Employment Development Department 2010d.

Note: This table provides a count of occupations, and the previous employment table provides a count of resident workers. The total employed for these two sets of numbers will not be equal given those from outside the county that commute to work in the county and those residents of the county who commute to other counties for work.

Note: Percentages may total slightly less or more than 100% due to rounding.

## F. FISCAL

For fiscal year 2008–2009, Kings County had an annual budget of $182,447,882. Revenues from that budget included $40,907,287 in property taxes and $1,797,384 in sales taxes, which were 22.4% and 1% of the total budget, respectively (County of Kings 2009).

## G. COMMUNITY FACILITIES AND AMENITIES

Because Kings County is located in a relatively flat valley that is primarily used for farming, there are fewer scenic and recreational attractions than are found in the surrounding counties in the region. Tulare Lake, once an important drainage basin that contained one of the largest inland freshwater lakes in the world, has been eliminated through the damming of rivers to retain runoff for flood control and the management of the flows to support agricultural use of the lakebed. In very wet years, high flows in the Kings River are diverted north to the Fresno Slough and into the San Joaquin River to prevent the lake from reforming.

There are no national or state parks within the county limits and no state university campuses, although there are several colleges—including a campus of West Hills Community College in Lemoore, Chapman University College, College of the Sequoias, and San Joaquin Valley College located in Hanford, as well as a Columbia College branch in Lemoore. There are several Indian gambling casinos in the county, and there are local history museums in Hanford and Lemoore. The County Department of Public Works maintains two small county parks with developed ball

fields and play areas—Burris Park, near Kingsburg, and Hickey Park, located between Hanford and Lemoore. Other community facilities within the study area are listed in the profiles for the cities of Hanford and Corcoran.

## H. CIRCULATION AND ACCESS

Circulation and access within a community are important to community character and quality of life. Non-motorized circulation issues associated with pedestrian and bicycle transportation are a key concern in the analysis. Critical pedestrian and bicycle paths are listed in the city profiles for Hanford and Corcoran below. Issues associated with main roads, public transportation, and parking can also affect communities. More details on these aspects can be found in the Transportation section of the EIR/EIS.

# B.4 Tulare County

Tulare County, in the southeastern portion of the San Joaquin Valley, encompasses almost 5,000 square miles of land of valley, foothills, and mountainous terrain, stretching from the crest of the Sierra Nevada in the east to the fertile Tulare Lake Basin in the west. Along the crest of the Sierras, Tulare County reaches to the peak of Mt. Whitney, the highest point in the continental United States. Approximately 31 square miles, or 0.6%, of this land lies within the study area for the socioeconomic, communities, and environmental justice analysis. Visalia is the county seat, as well as the biggest employment center and largest city in the county. Tulare County has seven other incorporated cities: Dinuba, Exeter, Farmersville, Lindsay, Porterville, Tulare, and Woodlake (Tulare County Planning Department 2007).

Tulare County was formed in 1852 from what was originally Mariposa County, a huge territory that included lands that are now part of Fresno, Tulare, Kern, Kings, and Inyo counties. Some of the people attracted to the area during the California gold rush decided to stay and farm. In 1893, Kings County was created when residents of the western part of Tulare County voted to separate and form their own new county. Tulare County was named for Tulare Lake, a large inland lake, most of which is now in Kings County, where it has been reclaimed for farming.

Many of the communities in Tulare County developed shortly after the arrival of the railroad in the early 1870s. With the railroad came fencing and the end of the open range as property values increased and settlers turned to grain farming. The Tulare Lake Basin, with its fertile soils, favorable climate, and relatively flat terrain, was well suited to farming, and it became one of the most productive agricultural areas in the country (Kings County Office of Education 1997). In 2007, Tulare County was second only to Fresno County in agricultural production. Milk is now Tulare County's main agricultural product, but oranges, grapes, and cattle are also produced (California Department of Food and Agriculture 2009).

Approximately 44% of the land in Tulare County is in agricultural use, but over half is open space and parkland. Most farming occurs in the valley land in the western half of the county, while the eastern half of the county is dominated by large national parks and national forest lands. The Tule River Indian Reservation is also located in the foothills east of Porterville. Most of Tulare County's population is concentrated in the valley cities located in the western half of the county.

SR 99 is the main north-south roadway through Tulare County, linking local residents with Fresno County to the north and Kern County to the south. SR 63, SR 65, SR 190, and SR 198 connect the county's major cities with the public lands and recreation areas to the east (Tulare County Planning Department 2007).

### A. POPULATION AND DEMOGRAPHICS

Tulare County had a population of 368,021 in 2000, which grew to approximately 441,481 in 2009, for an approximate annual average growth rate of 2.2% each year. This was slightly lower than the growth rate of 2.3% experienced in the four-county region during the same period (California Department of Finance 2009a, 2009b). The county's population is expected to nearly double by 2035, to approximately 810,000 people.

As shown in Table B-26, Tulare County's population was approximately 40% non-Hispanic White and 60% minority in 2000. Since then, the percentage of White residents has remained about the same, while the percentage of Hispanic residents of all races has increased substantially and other minority racial groups have increased slightly. These trends are expected to continue in the future. The California Department of Finance projects that Tulare County's population in 2035 will be approximately 25% non-Hispanic White and 75% minority, with persons of Hispanic origin

remaining the largest single racial or ethnic group. This is similar to the projected population growth for these groups across the region.

**Table B-26**
Racial and Ethnicity Characteristics of Tulare County

| Race | Number of People in 2000[a] | Percentage of Total Population | Number of People in 2008[b] | Percentage of Total Population | Number of People in 2035[c] | Percentage of Total Population |
|---|---|---|---|---|---|---|
| **Non-Hispanic White** | 153,916 | 41.8 | 151,954 | 35.6 | 204,508 | 25.3 |
| **Minority** | 214,105 | 58.2 | 274,322 | 64.4 | 605,281 | 74.7 |
| Hispanic of all races | 186,846 | 50.8 | 245,178 | 57.5 | 551,600 | 68.1 |
| Non-Hispanic Black or African-American | 5,122 | 1.4 | 5,360 | 1.3 | 5,767 | 0.7 |
| Non-Hispanic American Indian and Alaska Native | 3,011 | 0.8 | 2,687 | 0.6 | 7,523 | 0.9 |
| Non-Hispanic Asian | 11,457 | 3.1 | 12,012 | 2.8 | 32,774 | 4.0 |
| Non-Hispanic Native Hawaiian and Other Pacific Islander | 257 | 0.1 | 262 | 0.1 | 418 | 0.1 |
| Non-Hispanic, some other race | 444 | 0.1 | 1,283 | 0.3 | NA | NA |
| Non-Hispanic, two or more races | 6,968 | 1.9 | 7,540 | 1.8 | 7,199 | 0.9 |
| **Total** | 368,021 | 100.0 | 426,276 | 100.0 | 809,789 | 100.0 |

[a] Analysis of U.S. Census Bureau 2000e.
[b] Analysis of U.S. Census Bureau, American Community Survey 2008a.
[c] California Department of Finance, Demographic Research Unit 2007.

Note: The California DOF does not provide annual estimates of racial and ethnicity characteristics, so the most current source, 2008 ACS, is used. This use explains the difference between the 2009 total population estimates presented above and the 2008 totals in this table.

Note: Percentages may total slightly less or more than 100% due to rounding.

ACS = U.S. Census Bureau, American Community Survey
DOF = Department of Finance
NA = not available

Figure B-18 and Figure B-19 illustrate the age distribution of the county population compared with the regional population for 2000 and 2008. As these figures illustrate, the age distribution of the county and regional populations is very similar, with the highest concentration of population in the middle-aged groups. Since 2000, the largest age cohort of the population has shifted to being somewhat younger. Slight differences between the reference years are apparent; however, the age profile of the county appears to be very similar to that of the region (U.S. Census Bureau 2000a; U.S. Census Bureau, American Community Survey 2008e).

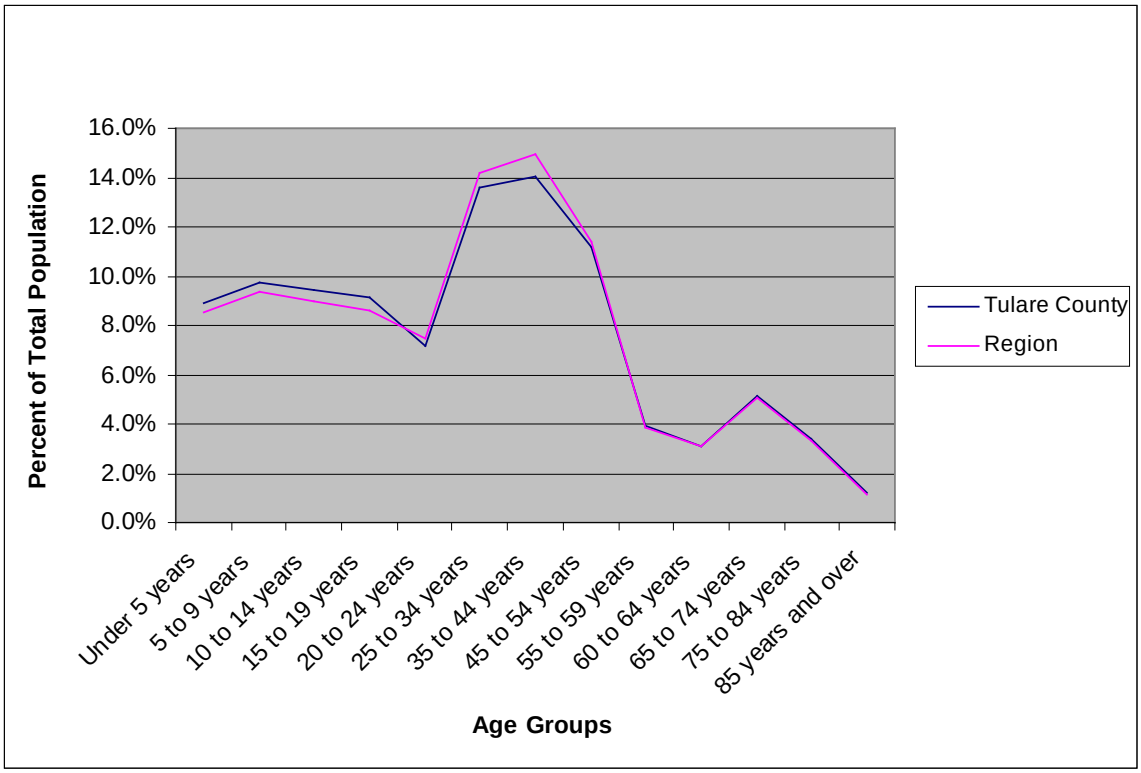



**Figure B-18**
Tulare County Age Profile, 2000

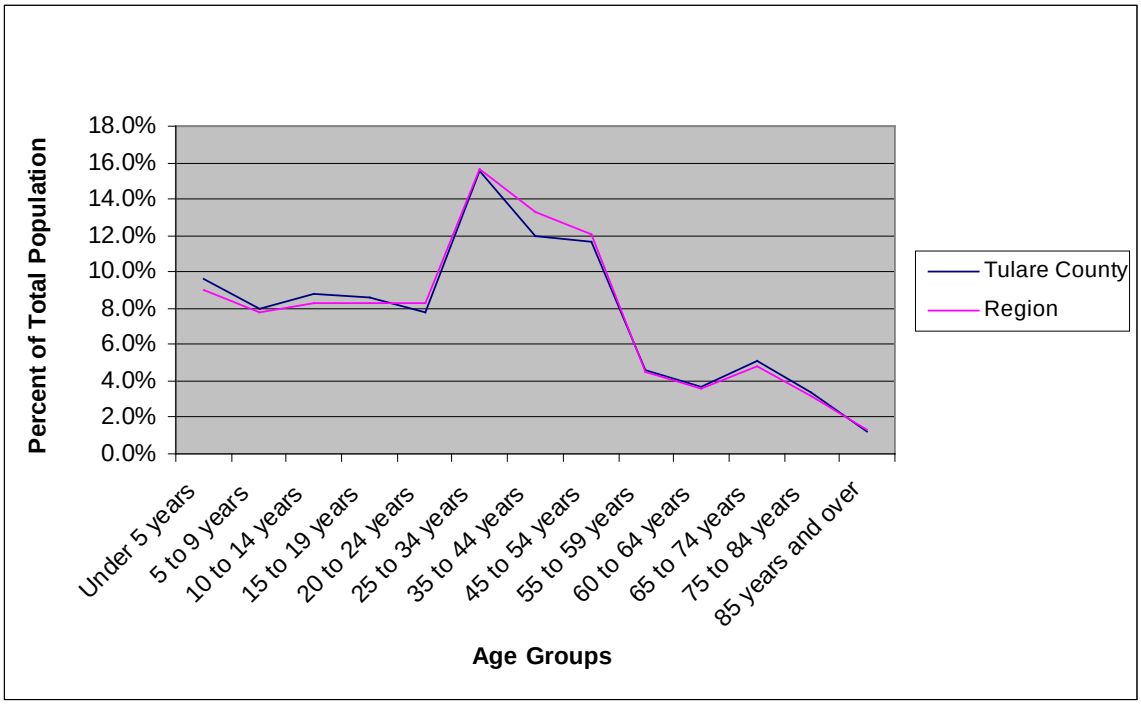



**Figure B-19**
Tulare County Age Profile, 2008

According to the California Department of Finance, in 2000 there were 110,385 households in Tulare County, with an average household size of 3.28 persons per household. In 2009, the number of households grew to 130,958 and the average household size increased to 3.33 people per households (California Department of Finance 2009a, 2009b). Average household sizes in the county were larger than household sizes in the region in both 2000 and 2008.

As Table B-27 shows, the makeup of households within the county has not changed substantially since 2000 and is very similar to that of the region. Approximately 80% of the households are family households; however, the percentage of married-couple households decreased over the period, leaving more single-female- and single-male-headed family households, a change consistent with those observed in the region.

**Table B-27**
Numbers and Types of Households in Tulare County

| Household | Number of Households in 2000[a] | Percentage of Total Households | Number of Households in 2008[b] | Percentage of Total Households |
|---|---|---|---|---|
| Family households (families) | 87,579 | 79.3 | 100,393 | 80.9 |
| Married-couple family | 65,184 | 59.1 | 70,641 | 56.9 |
| Female householder, no husband present | 15,524 | 14.1 | 20,262 | 16.3 |
| Male householder, no wife present | 6,871 | 6.2 | 9,490 | 7.7 |
| Non-family households | 22,806 | 20.7 | 23,654 | 19.1 |
| Householder living alone | 18,923 | 17.1 | 20,303 | 16.4 |
| Total | 110,385 | 100.0 | 124,047 | 100.0 |

[a] Analysis of U.S. Census Bureau 2000h.
[b] Analysis of U.S. Census Bureau, American Community Survey 2008b.

Note: California DOF does not provide number of households by type for 2009, so ACS 2000 and 2008 data were used in this table. This use explains the difference between the 2000 and 2009 total household estimates presented above and the totals in this table.

Note: Percentages may total slightly less or more than 100% due to rounding.

ACS = U.S. Census Bureau, American Community Survey
DOF = Department of Finance

In 2000, of the 110,385 households in the county, 12,223 were linguistically isolated (11.1%) meaning these households did not have someone over the age of 14 with the ability to speak English very well, a higher percentage compared to that of the region.[11] This percentage has increased in Tulare County at a rate slightly faster than in the region as a whole, with 16,681 of the households (13.4%) identified as linguistically isolated in 2008 (U.S. Census Bureau 2000f; U.S. Census Bureau, American Community Survey 2008c).

[11] According to the U.S. Census Bureau, a household is linguistically Isolated if “no member 14 years old and over speaks only English or speaks a non-English language and speaks English very well. In other words, all members 14 years old, and over, have at least some difficulty with English.”

In 2007,[12] of the 377,575 non-institutionalized persons over the age of five, 15.7% of the people in the county had some sort of disability, self-care limitation, or low-mobility issue. A higher percentage of those over the age of 64 had disabilities, with 49.7% of such persons having a disability, while 11.8% of persons 64, or younger, were disabled. These percentages are similar to those in the region as a whole (U.S. Census Bureau, American Community Survey 2007).

## B. INCOME AND POVERTY

In 1999, the median annual household income in the county was $33,983, which was slightly less than the median annual household income for the region. In 2008, the median annual household income had increased by 32.8% to $45,117, which is also less than for the region (U.S. Census Bureau 2000g; U.S. Census Bureau, American Community Survey 2008d).

In 1999, 86,572 Tulare County residents (or 23.9% of the population) lived below the poverty line, which is only slightly below the poverty rate of the region. By 2008, that number had increased slightly to 90,877 people, and the corresponding percentage decreased to 21.6% of the population (see Table B-28).

**Table B-28**
Income Level to Poverty Line in Tulare County

| Income Level as a Percentage of Poverty Line | Number of People in Income Group in 1999[a] | Percentage of Total Population Evaluated | Number of People in Income Group in 2008[b] | Percentage of Total Population Evaluated |
|---|---|---|---|---|
| Under 0.50 | 35,150 | 9.7 | 34,718 | 8.3 |
| 0.50 to 0.74 | 24,497 | 6.8 | 27,768 | 6.6 |
| 0.75 to 0.99 | 26,925 | 7.4 | 28,391 | 6.8 |
| 1.00 to 1.24 | 30,503 | 8.4 | 28,713 | 6.8 |
| 1.25 to 1.49 | 27,295 | 7.5 | 29,858 | 7.1 |
| 1.50 to 1.74 | 21,355 | 5.9 | 26,759 | 6.4 |
| 1.75 to 1.84 | 8,812 | 2.4 | 14,293 | 3.4 |
| 1.85 to 1.99 | 10,021 | 2.8 | 11,581 | 2.8 |
| 2.00 and over | 177,584 | 49.0 | 218,109 | 51.9 |
| Total | 362,142 | 100.0 | 420,190 | 100.0 |

[a] Analysis of U.S. Census Bureau 2000g.
[b] Analysis of U.S. Census Bureau, American Community Survey 2008d.

Note: Not all individuals are evaluated by the Census for income level to poverty line status. This practice explains why population totals in this table may not match population totals presented in the population and demographics section above. Also, 2000 Census data on income are representative of conditions in 1999.

Note: Percentages may total slightly less or more than 100% due to rounding.

[12] The U.S. Census Bureau does not recommend making comparisons between the 2000 and 2007 disability figures; for this reason, the more current information is presented.

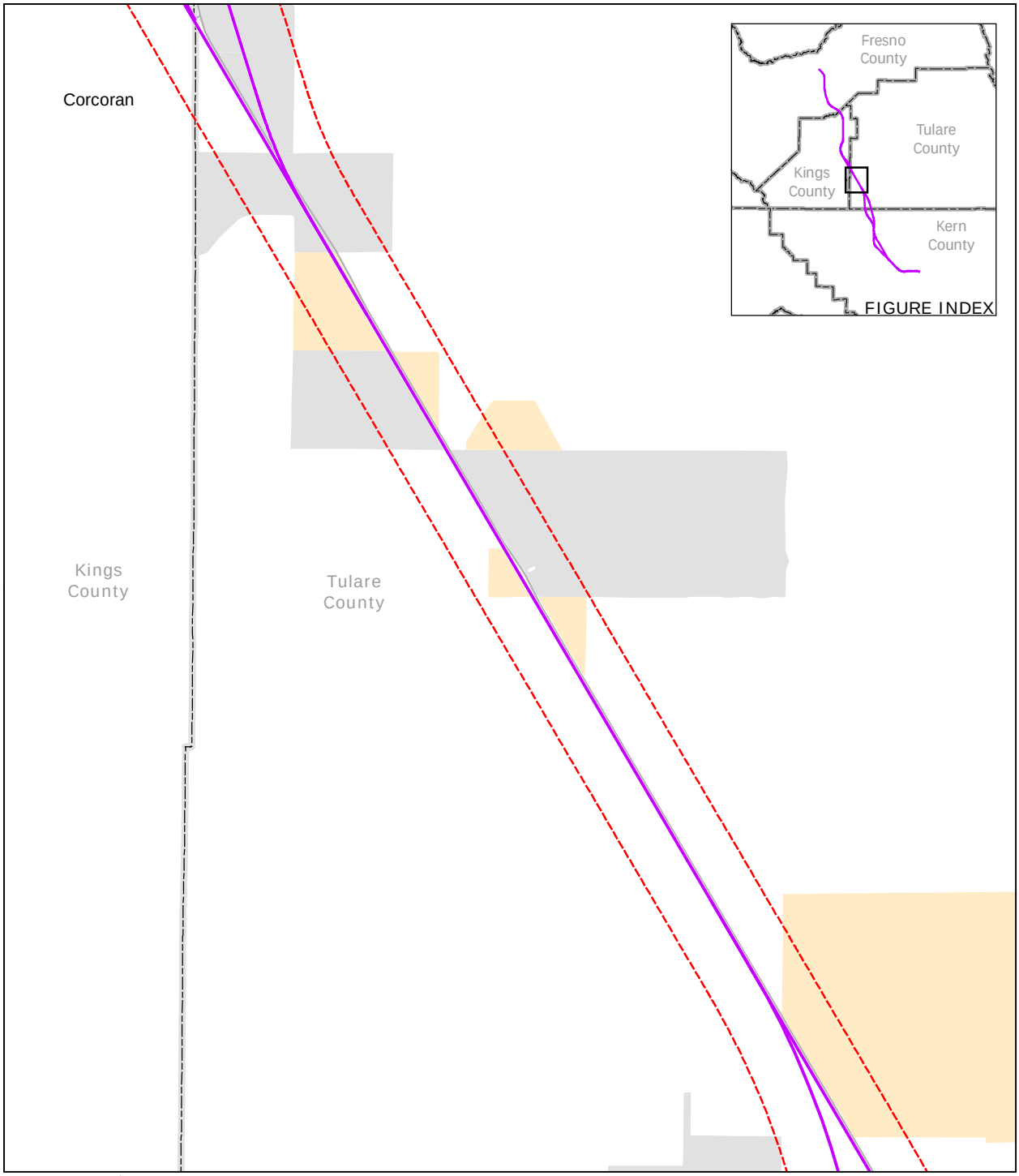
While the above data show that median incomes increased and poverty decreased from 2000 through 2008, income levels have decreased since the beginning of the current economic recession. Unemployment has increased substantially since 2008, so it can be assumed that household income levels have decreased and poverty rates have increased beyond the numbers reported here (U.S. Census Bureau 2009).

## C. ENVIRONMENTAL JUSTICE POPULATION

This section presents the locations of EJ populations within the study area in Tulare County. The study area is located in the remote, very lightly populated southwest corner of the county. The definitions used to define EJ populations and a description of the data sources and methodology that were used can be found in the EJ Methodology Appendix A-1.

Figure B-20 and Figure B-21 identify the locations of EJ populations within the study area in Tulare County. Orange is used to indicate U.S. Census blocks containing EJ populations, darker orange is representative of EJ blocks with higher-population densities, that is, the more-urbanized areas. The red-dashed lines represent the study area, and the purple line is the project alignment. The total area of Census blocks within Tulare County along BNSF Alternative Alignment that falls within the study area is 94.7 square miles, with 36.7 square miles (or 38.7% identified as EJ blocks. [13] Of this EJ area, 100% is composed of low population density. The total area within Tulare County along the Allensworth Bypass in the study area is 80.6 square miles, with 28.8 square miles, or 35.8%, identified as EJ blocks. Of this EJ area, 100% is composed of low population density (U.S. Census Bureau 2000a).

[13] The area calculated for the EJ analysis is different than the area presented in other sections because the study area for EJ includes all U.S. Census blocks that are completely or partially contained within the 0.5-mile radius of the alignment. Therefore, the areas of partially contained U.S. Census blocks that are outside the 0.5 mile are included. This difference will be larger in rural areas, where U.S. Census blocks are larger.




PRELIMINARY DRAFT/SUBJECT TO CHANGE - HST ALIGNMENT IS NOT DETERMINED

Source: Environmental justice analysis - URS, 2010

May 16, 2011

N

0 0.5 1
Miles

0 1 2
Kilometers

Road

Alternative alignments

County boundary

Half-mile buffer from alignment

EJ population density

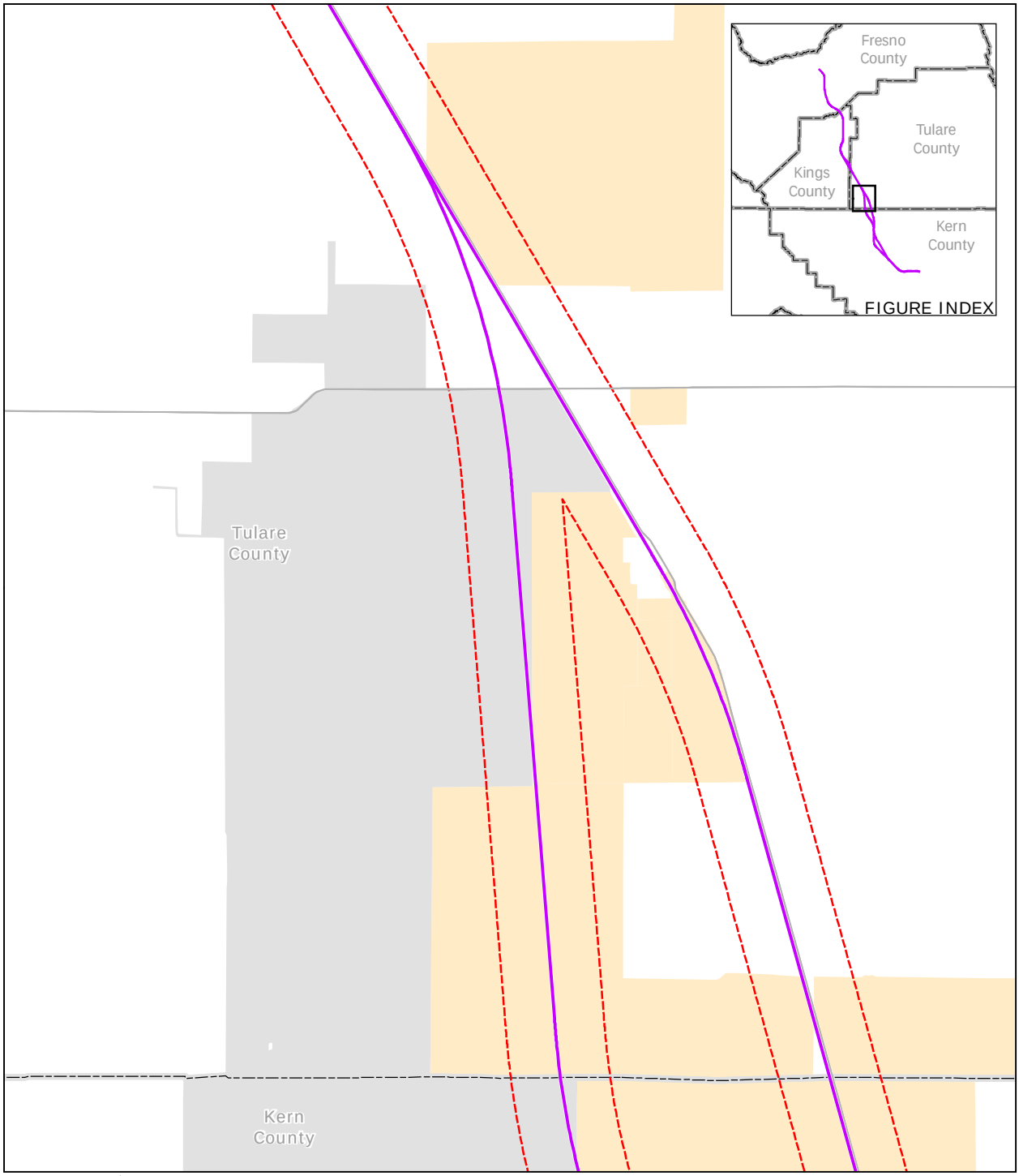
High

Medium

Low

Not EJ

Figure B-20
Tulare County North
EJ Block Populations




PRELIMINARY DRAFT/SUBJECT TO CHANGE - HST ALIGNMENT IS NOT DETERMINED

Source: Environmental justice analysis - URS, 2010

May 16, 2011

N

0 0.5 1
Miles

0 1 2
Kilometers

Road

Alternative alignments

County boundary

Half-mile buffer from alignment

EJ population density

High

Medium

Low

Not EJ

Figure B-21
Tulare County South
EJ Block Populations

According to the 2000 Census, the approximate total population within the study area in Tulare County was 619, or 0.5% of the total population contained in the study area for the region and 0.2% of the total county population. The two project alignment alternatives fall within different sets of EJ population blocks in Tulare County. The total population within the study area presents a count of potentially affected individuals. The actual number of individuals affected may be much smaller than these baseline totals as the study area will likely not be affected across its entire area.

Tulare County has a high percentage of minority and low-income individuals. According to the data in the 2000 Census, 58.2% of the total population was minority and 23.9% was living below the Census poverty threshold. Within the study area in Tulare County, these percentages are much higher. Minorities make up 83% of the study area population, and low-income individuals make up 35.3% of the study area population. Within Tulare County, Hispanics are the predominate minority in EJ areas, accounting for 89.3% of the minority population. Scattered rural low-density population EJ areas are found throughout the county. A small concentration of these low-density rural EJ areas is found in association with BNSF Alternative Alignment in the community of Allensworth, adjacent to the Colonel Allensworth State Historic Park, whereas the Allensworth Bypass Alternative Alignment traverses an area where there is less population and a smaller percentage of minority residents (U.S. Census Bureau 2000a). Although the Census blocks show a low-density EJ population in the vicinity of the Allensworth Bypass Alternative, this is only because of the size of the Census blocks in this rural area. Much of the area along the Allensworth Bypass is unpopulated. Because the original community was built on the shore of the historic Tulare Lake, the soils to the west of Allensworth are made up of lakebed sediments that do not support the construction of roads or structures.

## D. HOUSING

As of 2009, there were 141,509 housing units within the county, an increase of 18.3% from the 2000 housing stock of 119,639 units. As can be seen in Table B-29, the majority of the housing units in Tulare County are single-family detached homes. The percentage of these homes continues to increase—a trend that is similar to that of the region. Housing vacancy rates within the county were 7.7% in 2000 and dropped slightly in 2009 to 7.5% (California Department of Finance 2009a, 2009b). These rates are not substantially different than those observed in the region.

**Table B-29**
Housing Stock in Tulare County

| Housing Type | Number of Units in 2000 | Percentage of Total Units | Number of Units in 2009 | Percentage of Total Units |
|---|---|---|---|---|
| Single-family detached | 87,838 | 73.4 | 105,627 | 74.6 |
| Single-family attached | 4,740 | 4.0 | 4,915 | 3.5 |
| Multifamily 2 to 4 units | 8,514 | 7.1 | 10,273 | 7.3 |
| Multifamily 5 units or greater | 7,819 | 6.5 | 8,945 | 6.3 |
| Mobile homes | 10,728 | 9.0 | 11,749 | 8.3 |
| Total | 119,639 | 100.0 | 141,509 | 100.0 |

Source: California Department of Finance 2009a, 2009b.

Note: Percentages may total slightly less or more than 100% due to rounding.

The rate of home ownership in Tulare County has been decreasing since 2000, as shown in Table B-30. This decrease is most likely due to an increase in the number of single-person households and single-parent families moving to the area, combined with recent real-estate market conditions. Both the increase in the total number of housing units and the decrease in the home ownership rate are consistent with trends observed in the region as a whole.

**Table B-30**
Home Ownership in Tulare County

| Home Ownership | Number of Occupied Units in 2000[a] | Percentage of Total Occupied Units | Number of Occupied Units in 2008[b] | Percentage of Total Occupied Units |
|---|---|---|---|---|
| Own | 67,904 | 61.5 | 73,086 | 58.9 |
| Rent | 42,481 | 38.5 | 50,961 | 41.1 |
| Total Occupied Housing Units | 110,385 | 100.0 | 124,047 | 100.0 |

[a] Analysis of U.S. Census Bureau 2000d.
[b] Analysis of U.S. Census Bureau, American Community Survey 2008g.
Note: Percentages may total slightly less or more than 100% due to rounding.

As shown in Table B-31, residents of 64.2% of the occupied housing units in Tulare County in 2008 had moved into their homes since 2000, whereas 16.9% of households were more established, having lived in the same residences since at least 1990. These values are similar to those observed in the region as a whole.

**Table B-31**
Length of Residence in Tulare County

| Length of Residence | Number of Housing Units in 2000[a] | Percentage of Total Occupied Housing Units | Number of Housing Units in 2008[b] | Percentage of Total Occupied Housing Units |
|---|---|---|---|---|
| Moved in 2005, or later | NA | NA | 51,262 | 41.3 |
| Moved in 2000 to 2004 | NA | NA | 28,364 | 22.9 |
| Moved in 1990 to 1999 | 74,433 | 67.4 | 23,361 | 18.8 |
| Moved in 1980 to 1989 | 17,286 | 15.7 | 10,793 | 8.7 |
| Moved in 1970 to 1979 | 10,823 | 9.8 | 6,363 | 5.1 |
| Moved in 1969, or earlier | 7,843 | 7.1 | 3,904 | 3.1 |
| Total housing units | 110,385 | 100.0 | 124,047 | 100.0 |

[a] Analysis of U.S. Census Bureau 2000d.
[b] Analysis of U.S. Census Bureau, American Community Survey 2008g.
Note: Percentages may total slightly less or more than 100% due to rounding.
NA = not available

The high-speed train (HST) alignment enters Tulare County southwest of Corcoran, following the existing railroad right-of-way parallel to SR 43, through sparsely populated rural agricultural areas. The project passes through Angiola, then just west of the Pixley National Wildlife Refuge. From there, the BNSF Alternative Alignment continues to follow the existing railroad right-of-way adjacent to SR 43 (the Central Valley Highway), while the Allensworth Bypass runs farther to the west, across natural areas and cultivated fields well outside the community of Allensworth and the Allensworth State Historic Park, before crossing into Kern County. In this vicinity, the Allensworth Bypass study area contains almost no housing units, while the BNSF Alternative Alignment study area encompasses a portion of the community of Allensworth's residential neighborhood.

## E. ECONOMY

Employment and income in Tulare County have historically lagged behind that of the state as a whole. The recent real-estate boom generated many jobs in construction, fueled retail sales, and generated increased sales and property tax revenues. However, the San Joaquin Valley was one of the hardest-hit areas in the nation when the real-estate bubble burst in 2007 and the United States entered the worst economic recession since the Great Depression. As a result of the recession, the county has seen substantial increases in unemployment and foreclosure rates and sharp declines in housing prices (Bertaut and Pounder 2009).

In 2008, Tulare County was the second-largest agriculturally productive county in the state, with over $5 billion in sales. The 10 leading crops and their percentage of total agricultural production were milk (35.8%), oranges (11.8%), cattle and calves (10.0%), grapes (9.7%), alfalfa (4.3%), corn (4.3%), almonds (1.8%), tangerines (1.7%), silage (1.6%), and pistachios (1.6%). The value of agricultural production in the county varies greatly with the sharp price swings in the price of milk. Tulare County has continued to increase production in agricultural goods, but many in the county fear that with more water restrictions output will begin to decrease (Tulare County Agricultural Commissioner/Sealer 2009).

Table B-32 presents the 25 largest employers in the county, none of which are located within the HST alignment study area.

**Table B-32**
Largest Employers in Tulare County 2010

| Businesses | City | Address | Industry Type | Employment Size | Near Alignment |
|---|---|---|---|---|---|
| College of the Sequoias | Visalia | 915 S Mooney Blvd | Schools–universities and colleges academic | 500–999 employees | No |
| Eagle Mountain Casino | Porterville | 681 S Tule Rd | Casinos | 500–999 employees | No |
| Enns Packing Co | Dinuba | 4572 Avenue 400 | Fruits and vegetables–growers and shippers | 500–999 employees | No |
| Facility Partners | Visalia | NA | Real estate developers | 500–999 employees | No |
| Fruit Patch Inc. | Dinuba | 38773 Road 48 | Fruits and vegetables–growers and shippers | 500–999 employees | No |

**Table B-32**
Largest Employers in Tulare County 2010

| Businesses | City | Address | Industry Type | Employment Size | Near Alignment |
|---|---|---|---|---|---|
| Haagen-Dazs Shop | Tulare | 970 E Continental Ave | Ice cream parlors | 500–999 employees | No |
| Jostens | Visalia | 29625 Road 84 | Publishers–book (Mfrs) | 500–999 employees | No |
| Kaweah Delta Health Care Dist | Visalia | 400 W Mineral King Ave | Hospitals | 1,000–4,999 employees | No |
| Kings Canyon National Park | Kings Canyon National Park | 83918 Grant Grove Dr | Parks | 250–499 employees | No |
| Land O'Lakes Inc. | Tulare | 380 S M St | Food products (Whls) | 250–499 employees | No |
| Monrovia Nursery Co | Woodlake | 32643 Road 196 | Nurseries–plants trees, etc. (Whls) | 500–999 employees | No |
| Porterville Developmental Center | Porterville | 26501 Avenue 140 | Mental health services | 500–999 employees | No |
| Ruiz Food Products Inc. | Dinuba | 501 S Alta Ave | Mexican food products (Mfrs ) | 1,000–4,999 employees | No |
| Sierra View District Hospital | Porterville | 465 W Putnam Ave | Hospitals | 500–999 employees | No |
| Sun Pacific Farming | Exeter | 1300 Myer Rd | Ranches | 500–999 employees | No |
| Tulare County Admin Office | Visalia | 2800 W Burrel Ave | Government offices–county | 1,000–4,999 employees | No |
| Tulare County Child Care Program | Visalia | 6515 W Goshen Ave | Child care service | 500–999 employees | No |
| Tulare County Resource Mgmt | Visalia | 5961 S Mooney Blvd | Government offices–county | 250–499 employees | No |
| Tulare County Sheriff | Visalia | 2404 W Burrel Ave | Sheriff | 500–999 employees | No |
| Tulare District Hospital | Tulare | 869 N Cherry St | Hospitals | 500-999 employees | No |
| U.S. Cotton Classing Office | Visalia | 7100 W Sunnyview Ave | Government offices–U.S. | 250–499 employees | No |
| Valhalla Sales & Marketing | Dinuba | 4731 Avenue 400 | Fruits and vegetables–growers and shippers | 1,000–4,999 employees | No |

**Table B-32**
Largest Employers in Tulare County 2010

| Businesses | City | Address | Industry Type | Employment Size | Near Alignment |
|---|---|---|---|---|---|
| Walmart | Porterville | 1250 W Henderson Ave | Department stores | 250–499 employees | No |
| Walmart Distribution Center | Porterville | 1300 South F St | Distribution centers (Whls) | 1,000–4,999 employees | No |
| Wawona Packing Co | Cutler | 12133 Avenue 408 | Fruits and vegetables–growers and shippers | 500–999 employees | No |

Source: California Employment Development Department 2010c.

Note: Addresses represent primary business offices that may not house the majority of employees. Also, businesses potentially located within the study area are highlighted in bold text.

Dist = district
Mfrs = manufacturers
Mgmt = management
Whls = wholesale

Unemployment within the county has spiked in the past year, reflecting nationwide economic recession conditions. When compared to the 2000 data, 2008 unemployment rates are not greatly different, and the number of employees steadily increased by 25,900, or by 2.1% per year on average in Tulare County. However, in 2009, unemployment rates increased sharply to an annual average of 15.3% (see Table B-33).

**Table B-33**
Employment in Tulare County

| Labor Status | Number in 2000 | Percentage of Labor Force | Number in 2008 | Percentage of Labor Force | Number in 2009 | Percentage of Labor Force |
|---|---|---|---|---|---|---|
| Employed | 153,900 | 89.6 | 179,800 | 89.1 | 174,100 | 84.7 |
| Unemployed | 17,800 | 10.4 | 21,900 | 10.9 | 31,400 | 15.3 |
| Total Labor Force | 171,800 | 100.0 | 201,700 | 100.0 | 205,600 | 100.0 |

Source: California Employment Development Department 2010a.

Note: Percentages may total slightly less or more than 100% due to rounding.

The county is a productive agricultural region, with occupations in agriculture and related industries providing the largest employment base. However, since 2000, public administration has continued to grow in size and is projected to be approximately the same size as the agriculture sector in 2016. Since 2000, no occupation group has had a large shift within the county's labor force. As can be seen in Table B-34, the breakdown of occupation by type is similar to that of the region.

**Table B-34**
Occupation by Type in Tulare County

| Occupation | Number Employed in 2000[a] | Percentage of Total Employed | Number Employed in 2008[a] | Percentage of Total Employed | Number Employed in 2016[b] | Percentage of Total Employed |
|---|---|---|---|---|---|---|
| Agriculture, forestry, fishing and hunting, and mining | 34,900 | 26.2 | 37,100 | 24.7 | 36,800 | 22.8 |
| Construction | 5,200 | 3.9 | 6,200 | 4.1 | 7,500 | 4.6 |
| Manufacturing | 11,700 | 8.8 | 11,800 | 7.8 | 13,300 | 8.2 |
| Wholesale trade | 3,600 | 2.7 | 4,200 | 2.8 | 4,600 | 2.8 |
| Retail trade | 13,500 | 10.1 | 15,700 | 10.4 | 16,700 | 10.3 |
| Transportation and warehousing, and utilities | 4,600 | 3.5 | 5,300 | 3.5 | 5,900 | 3.6 |
| Information | 1,100 | 0.8 | 1,400 | 0.9 | 1,500 | 0.9 |
| Finance, insurance, real estate, and rental and leasing | 3,900 | 2.9 | 4,400 | 2.9 | 4,900 | 3.0 |
| Professional, scientific, management, administrative, and waste management services | 8,500 | 6.4 | 9,900 | 6.6 | 10,900 | 6.7 |
| Educational, health and social services | 7,600 | 5.7 | 10,900 | 7.2 | 11,700 | 7.2 |
| Arts, entertainment, recreation, accommodation and food services | 7,400 | 5.6 | 8,800 | 5.9 | 9,500 | 5.9 |
| Other services (except public administration) | 2,800 | 2.1 | 3,100 | 2.1 | 3,400 | 2.1 |
| Public administration | 28,300 | 21.3 | 31,600 | 21.0 | 35,000 | 21.6 |
| Total People Employed | 133,100 | 100.0 | 150,400 | 100.0 | 161,700 | 100.0 |

**Table B-34**
Occupation by Type in Tulare County

| Occupation | Number Employed in 2000[a] | Percentage of Total Employed | Number Employed in 2008[a] | Percentage of Total Employed | Number Employed in 2016[b] | Percentage of Total Employed |
|---|---|---|---|---|---|---|

[a] California Employment Development Department 2010b.
[b] California Employment Development Department 2010d.

Note: This table provides a count of occupations, and the previous employment table provides a count of resident workers. The total employed for these two sets of numbers will not be equal given those from outside the county that commute to work in the county and those residents of the county who commute to other counties for work.

Note: Percentages may total slightly less or more than 100% due to rounding.

## F. FISCAL

For the fiscal year 2008-2009, Tulare County had an annual budget of $734,248,355. Revenues from that budget included $107,074,577 in property taxes and $5,973,898 in sales taxes, which were 14.6% and 0.8% of the total budget, respectively (Tulare County 2009).

## G. COMMUNITY FACILITIES AND AMENITIES

Tulare County offers a wide variety of regional attractions and amenities. The mountainous eastern half of the county provides year-round recreation opportunities, including fishing, boating, hiking, and skiing. The Sequoia National Park is entirely within Tulare County. This park includes the Giant Sequoia National Monument, a 327,760-acre area containing the tallest trees in the world. In addition, more than 60% of the Sequoia National Forest is situated within the county, as well as portions of the Sequoia National Forest, the Kings Canyon National Park, and the Inyo National Forest. Lake Kaweah and Lake Success, located in the foothills, offer camping, boating, hiking, and other recreation opportunities. Mt. Whitney, on the county's eastern border, is the highest mountain in the continental United States. Wildlife preserves include Monache Meadows Wildlife Area, the South Sierra Wilderness Area, and the Pixley National Wildlife Refuge.

The State of California maintains the Mountain Home State Forest, located within the Sequoia National Forest, as well as Colonel Allensworth State Historic Park, which commemorates the only community in California to be founded, financed, and governed by African-Americans. Tulare County operates 13 parks, offering an array of picnic, camping, sports, and play areas. The city of Tulare is home to the International Agri-Center, which annually hosts the World Agricultural Expo and houses the California Antique Farm Equipment Museum. Tulare County's cities maintain additional parks, theaters, and local history museums. The county is also home to several minor league sports teams, including the Visalia Rawhide (a feeder team to the Arizona Diamondbacks) and two minor league football teams (in Visalia and Tulare). The Central California Basketball League is based in Porterville.

## H. CIRCULATION AND ACCESS

Circulation and access within a community are important to community character and quality of life. Non-motorized circulation issues associated with pedestrian and bicycle transportation are a key concern in the analysis. No critical pedestrian or bicycle paths were identified within the study area in Tulare County. Issues associated with main roads, public transportation, and parking can also affect communities. More details on these aspects can be found in the Transportation section of the EIR/EIS.

# B.5 Kern County

Kern County stretches across the Mojave Desert in the east, over the southern end of the Sierra Nevada, and across the San Joaquin Valley to the Coastal Range in the west. It is the third-largest county in California, encompassing over 8,000 square miles of varied terrain, including fertile valleys, foothills, mountains, and deserts. Approximately 76 square miles, or 0.95%, of this land is within the study area for the socioeconomic, communities, and environmental justice analysis. The city of Bakersfield, roughly halfway between Los Angeles and Fresno, is the county seat and the largest city in Kern County (County of Kern Planning Department 2011).

In addition to Bakersfield—by far the largest urban area in the county—there are 10 smaller cities in the county. In 2000, about 42% of Kern County residents lived in rural areas, and over half of all land in the county was farmland (Umbach 2002).

Kern County was established in 1866, with the now-abandoned mining town of Havilah as the original county seat. Mining in the desert and mountain regions was the most important economic activity in the early days of the county's history, but agriculture rose in importance after settlers began draining the swampy areas of the valley floor. Kern County is now the fourth-largest producer of agricultural products in California (California Department of Food and Agriculture 2009).

While agriculture clearly plays an important role, Kern County's economy is more diversified than that of other counties in the South San Joaquin Valley region. Kern County is the largest oil-producing county in California, having over 70% of the state's oil reserves. It is also an important center for national defense and space activities, with Edwards Air Force Base and China Lake Naval Weapons Center being two of the county's major employers. In recent years, high-tech computer companies and transportation and distribution facilities have located in Kern County, and tourism has increased as well (Kern County Planning Department 2008).

Although an integral part of California's Great Central Valley, Kern County is also linked in important ways to the coastal regions of California to the south and west. Much of Kern County's growth in the past decade has been fueled by intense development pressures spilling over from these coastal areas, as both residents and business owners sought cheaper land and lower living costs (Kern County Planning Department 2008).

Kern County's Economic Development Strategy identifies a number of challenges in sustaining future economic strength and preserving the quality of life. While the county has several advantages such as economic diversification, abundant land, low cost of living, and relatively low business costs, there are also problems—including the cyclical and uncertain nature of the oil and aerospace industry, the seasonal nature of agricultural employment, the limited educational and skills attainment of the Kern County labor force, the high percentage of low-income residents, and the high rate of out-migration among young people (County of Kern 2007 [2005]).

### A. POPULATION AND DEMOGRAPHICS

Kern County had a population of 661,645 in 2000, which grew to approximately 827,173 in 2009 for an approximate annual average growth rate of 2.8% a year. This was higher than the growth rate of 2.3% experienced in the four-county region during the same period (California Department of Finance 2009a, 2009b). Most of the recent growth has occurred in the wealthier west and northwest areas of Bakersfield. The county's population is expected to nearly double to over 1.5 million people by 2035.

As shown in Table B-35, Kern County's population was approximately 50% non-Hispanic White and 50% minority in 2000. Since then, the percentage of non-Hispanic White residents has

decreased, while the number of Hispanic residents of all races has increased substantially and other minority racial groups have changed slightly, with these trends expected to continue into the future. The California Department of Finance projects that Kern County's population in 2035 will be approximately one-third non-Hispanic White and two-thirds minority, with persons of Hispanic origin remaining the largest single racial or ethnic group. When compared to projected population growth for the region as a whole, the total minority population and Hispanic population in Kern County will account for a smaller percentage of the total population.

**Table B-35**
Racial and Ethnicity Characteristics of Kern County

| Race | Number of People in 2000[a] | Percentage of Total Population | Number of People in 2008[b] | Percentage of Total Population | Number of People in 2035[c] | Percentage of Total Population |
|---|---|---|---|---|---|---|
| **Non-Hispanic White** | 327,190 | 49.5 | 328,305 | 41.0 | 515991 | 33.9 |
| **Minority** | 334,455 | 50.5 | 472,153 | 59.0 | 1,007,943 | 66.1 |
| Hispanic of all races | 254,036 | 38.4 | 376,959 | 47.1 | 833,515 | 54.7 |
| Non-Hispanic Black or African-American | 37,845 | 5.7 | 43,324 | 5.4 | 85,880 | 5.6 |
| Non-Hispanic American Indian and Alaska Native | 5,885 | 0.9 | 3,688 | 0.5 | 9,594 | 0.6 |
| Non-Hispanic Asian | 21,177 | 3.2 | 28,501 | 3.6 | 61,407 | 4.0 |
| Non-Hispanic Native Hawaiian and Other Pacific Islander | 728 | 0.1 | 1,128 | 0.1 | 1,191 | 0.1 |
| Non-Hispanic, some other race | 989 | 0.1 | 1,264 | 0.2 | NA | NA |
| Non-Hispanic, two or more races | 13,795 | 2.1 | 17,289 | 2.2 | 16,356 | 1.1 |
| **Total** | 661,645 | 100.0 | 800,458 | 100.0 | 1,523,934 | 100.0 |

[a] Analysis of U.S. Census Bureau 2000e.
[b] Analysis of U.S. Census Bureau, American Community Survey 2008a.
[c] California Department of Finance, Demographic Research Unit 2007.

Note: The California DOF does not provide annual estimates of racial and ethnicity characteristics, so the most current source, 2008 ACS, is used. This practice explains the difference between the 2009 total population estimates presented above and the 2008 totals in this table.

Note: Percentages may total slightly less or more than 100% due to rounding.

ACS = U.S. Census Bureau, American Community Survey
DOF = Department of Finance
NA = not available

Figure B-22 and Figure B-23 illustrate the age distribution of the county population compared with the region for 2000 and 2008. As these figures illustrate the age distribution of the county and regional populations is very similar, with the highest concentration of population in the middle-aged groups. Since 2000, the largest age cohort of the population has shifted to being somewhat younger. Slight differences between the reference years are present; however, those changes do not reveal any large swing in the age profile of the county. The county's population age profile remains very similar to that of the region (U.S. Census Bureau 2000a; U.S. Census Bureau, American Community Survey 2008e).

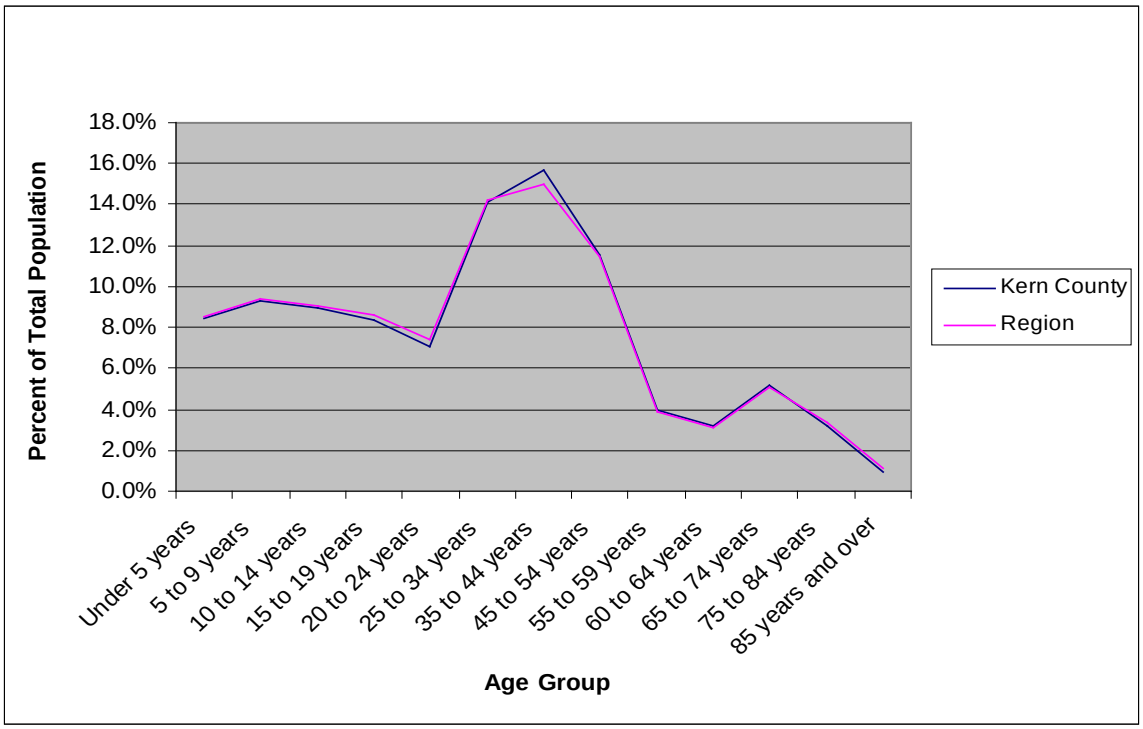



**Figure B-22**
Kern County Age Profile, 2000

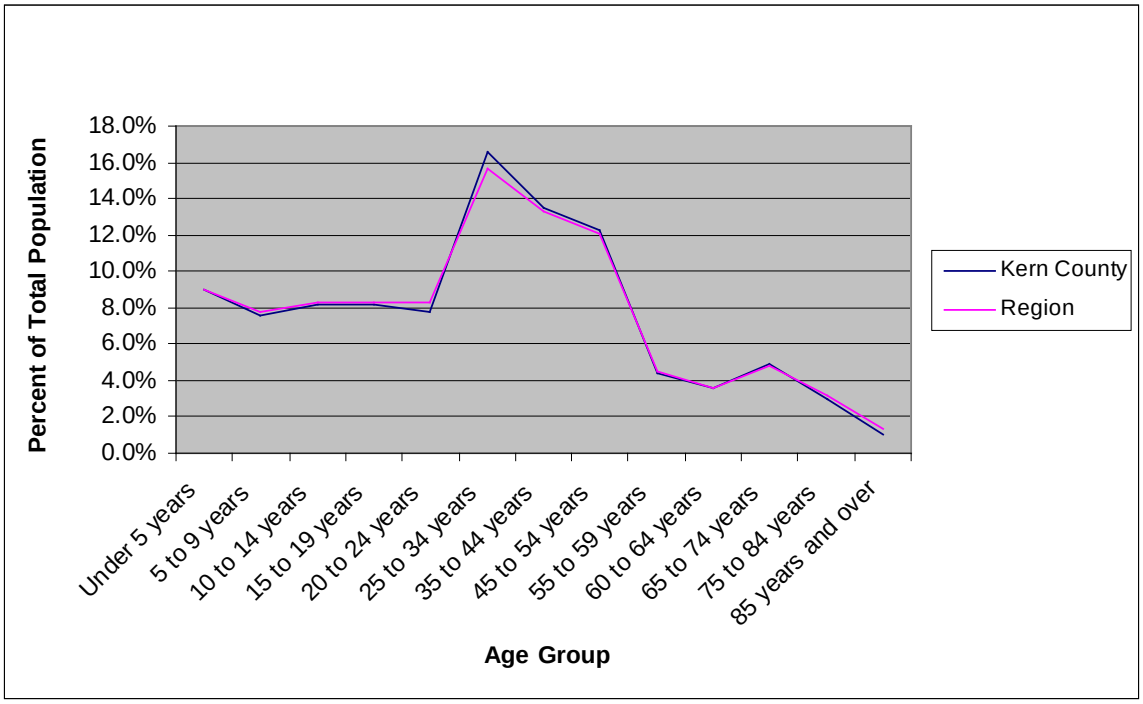



**Figure B-23**
Kern County Age Profile, 2008

According to the California Department of Finance, in 2000 there were 208,652 households with an average household size of 3.03 persons per household. In 2009, the number of households grew to 252,216 and the average household size increased to 3.13 persons per household (California Department of Finance 2009a, 2009b). Household sizes in Kern County were smaller than those found in the region as a whole in both 2000 and 2008.

As Table B-36 shows, the makeup of households within the county has not changed greatly since 2000 and is very similar to that of the region. Approximately 75% of the households are family households; however, the percentage of married-couple households decreased over the period leaving more single-female and single-male family households, which is consistent with changes in the region.

**Table B-36**
Numbers and Types of Households in Kern County

| Household | Number of Households in 2000[a] | Percentage of Total Households | Number of Households in 2008[b] | Percentage of Total Households |
|---|---|---|---|---|
| Family households (families) | 157,394 | 75.4 | 178,960 | 73.3 |
| Married-couple family | 116,253 | 55.7 | 124,893 | 51.1 |
| Female householder, no husband present | 29,325 | 14.1 | 36,540 | 15.0 |
| Male householder, no wife present | 11,816 | 5.7 | 17,527 | 7.2 |
| Non-family households | 51,258 | 24.6 | 65,226 | 26.7 |

**Table B-36**
Numbers and Types of Households in Kern County

| Household | Number of Households in 2000[a] | Percentage of Total Households | Number of Households in 2008[b] | Percentage of Total Households |
|---|---|---|---|---|
| Householder living alone | 42,323 | 20.3 | 51,506 | 21.1 |
| Total | 208,652 | 100.0 | 244,186 | 100.0 |

[a] Analysis of U.S. Census Bureau 2000h.
[b] Analysis of U.S. Census Bureau, American Community Survey 2008b.
Note: California DOF does not provide number of households by type for 2009, so ACS 2000 and 2008 data were used in this table. This use explains the difference between the 2000 and 2009 total household estimates presented above and the totals in this table.
Note: Percentages may total slightly less or more than 100% due to rounding.
ACS = U.S. Census Bureau, American Community Survey
DOF = Department of Finance

In 2000, of the 208,652 households in the county, 17,014 of them were linguistically isolated, or 8.2% of the households did not have someone over the age of 14 with the ability to speak English very well, which is less when compared to that of the region.[14] This percentage has increased at a rate similar to the region as a whole with 24,725 of the households (10.1%) in the county being linguistically isolated in 2008 (U.S. Census Bureau 2000f; U.S. Census Bureau, American Community Survey 2008c).

In 2007,[15] of the 683,512 non-institutionalized persons over the age of five, 17% had some sort of disability, self-care limitation, or low-mobility issue. A higher percentage of those over the age of 64 had disabilities with 49.6% of persons having a disability, while 13.4% of persons 64, or younger, were disabled. All of these values are similar to those of the region (U.S. Census Bureau, American Community Survey 2007).

## B. INCOME AND POVERTY

In 1999, the median annual household income in the county was $35,446, which was slightly higher than that of the region. In 2008, the median annual household income increased by 26.2% to $44,733, which is also less than the increase for the region (U.S. Census Bureau 2000g; U.S. Census Bureau, American Community Survey 2008d).

In 1999, 130,949, or 20.7%, of the population lived below the poverty line, which is only slightly below that of the region. In 2008, that number increased to 158,316 people (see Table B-37) and the corresponding percentage increased slightly to 21% of the population, which was counter to the overall decrease in percentage seen in the region during the same time period.

[14] According to the U.S. Census Bureau, a household is linguistically Isolated if “no member 14 years old and over speaks only English or speaks a non-English language and speaks English very well. In other words, all members 14 years old and over have at least some difficulty with English.

[15] The U.S. Census Bureau does not recommend making comparisons between the 2000 and 2007 disability figures; for this reason, the more current information is presented.

**Table B-37**
Income Level to Poverty Line in Kern County

| Income Level as a Percentage of Poverty Line | Number of People in Income Group in 1999[a] | Percentage of Total Population Evaluated | Number of People in Income Group in 2008[b] | Percentage of Total Population Evaluated |
|---|---|---|---|---|
| Under 0.50 | 53,860 | 8.5 | 61,985 | 8.2 |
| 0.50 to 0.74 | 34,567 | 5.5 | 41,462 | 5.5 |
| 0.75 to 0.99 | 42,522 | 6.7 | 54,869 | 7.3 |
| 1.00 to 1.24 | 44,277 | 7.0 | 50,802 | 6.7 |
| 1.25 to 1.49 | 42,141 | 6.7 | 43,752 | 5.8 |
| 1.50 to 1.74 | 38,064 | 6.0 | 47,324 | 6.3 |
| 1.75 to 1.84 | 13,984 | 2.2 | 19,200 | 2.6 |
| 1.85 to 1.99 | 17,309 | 2.7 | 27,250 | 3.6 |
| 2.00 and over | 344,047 | 54.5 | 406,145 | 54.0 |
| Total | 630,771 | 100.0 | 752,789 | 100.0 |

[a] Analysis U.S. Census Bureau 2000g.
[b] Analysis of U.S. Census Bureau, American Community Survey 2008d.

Note: Not all individuals are evaluated by the Census for income level to poverty line status. This practice explains why population totals in this table may not match population totals presented in the population and demographics section above. Also, 2000 Census data on income are representative of conditions in 1999.

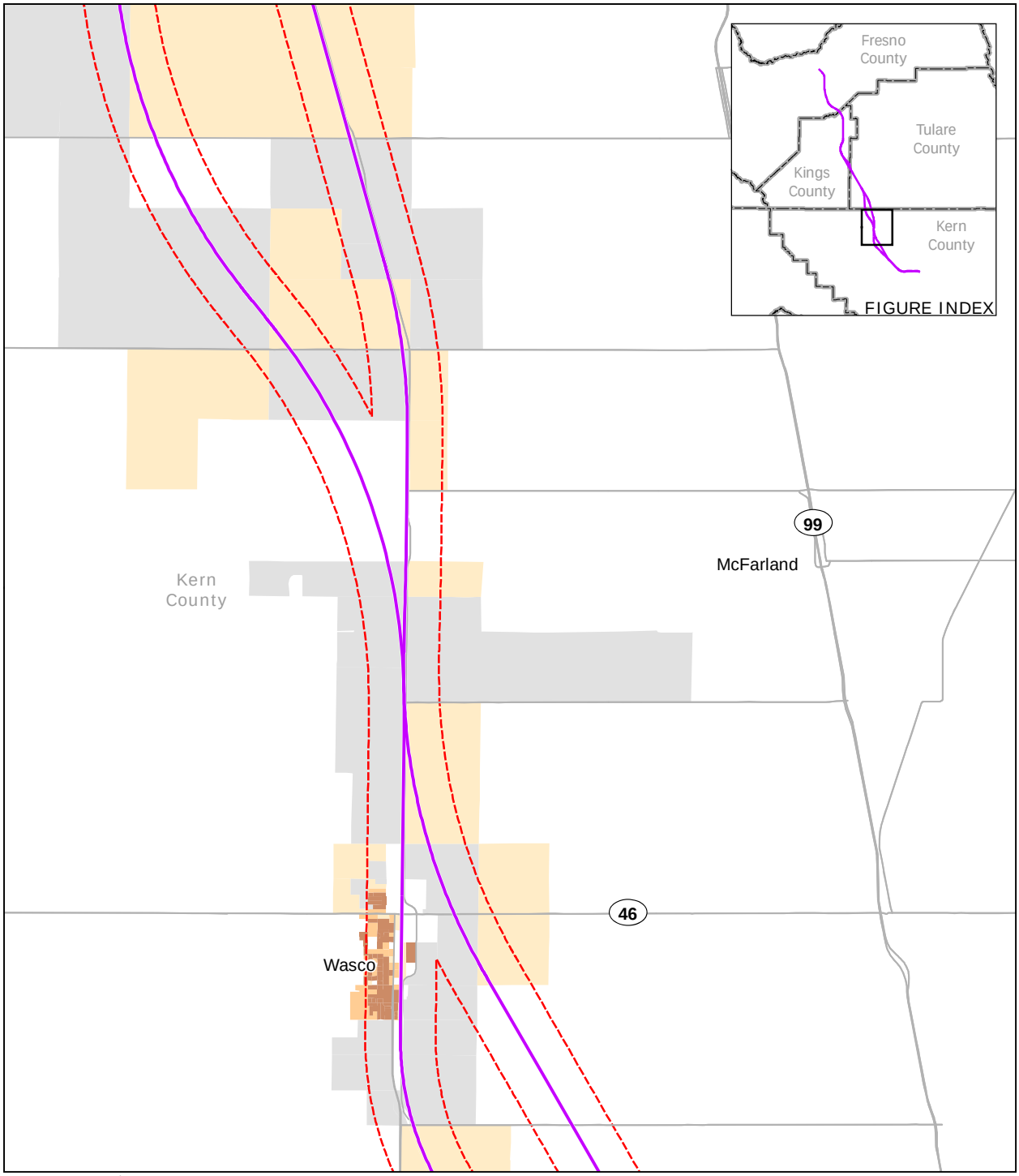
Note: Percentages may total slightly less or more than 100% due to rounding.

While the above data show that median incomes increased and poverty decreased from 2000 through 2008, it should be noted that since the beginning of the current economic recession income levels have declined. Since unemployment has increased substantially since 2008, it can be assumed that household income levels have decreased and poverty rates have increased beyond the numbers reported here (U.S. Census Bureau 2009).

## C. ENVIRONMENTAL JUSTICE POPULATION

This section describes the locations of EJ populations within the study area in Kern County. The definitions used to define EJ populations and a description of the data and methodology that were used can be found in the EJ Methodology Appendix A-1.

Figure B-24, Figure B-25, and Figure B-26 identify the locations of EJ populations within the study area in Kern County. Orange is used to indicate U.S. Census blocks containing EJ populations, darker orange is representative of EJ blocks with higher-population densities, that is, the more-urbanized areas. The red-dashed lines represent the study area, and the purple line is the project alignment. The total area of Census blocks within Kern County that falls within the study area is 128.9 square miles with 36.1 square miles, or 28%, identified as EJ




PRELIMINARY DRAFT/SUBJECT TO CHANGE - HST ALIGNMENT IS NOT DETERMINED

May 16, 2011

Source: Environmental justice analysis - URS, 2010

N

0 0.5 1
Miles

0 1 2
Kilometers

Road

Alternative alignments

County boundary

Half-mile buffer from alignment

EJ population density

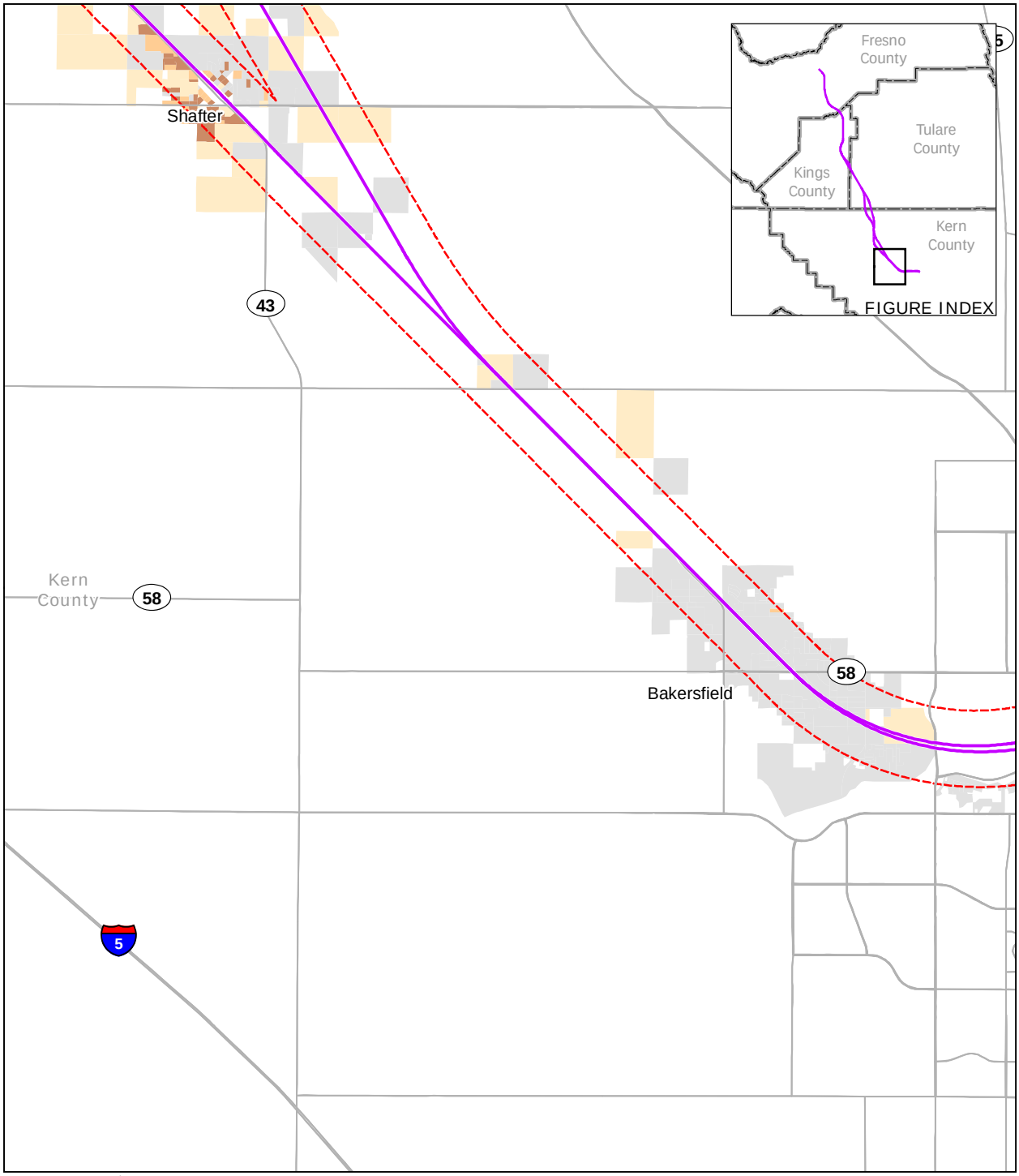
High

Medium

Low

Not EJ

Figure B-24
Kern County North
EJ Block Populations




PRELIMINARY DRAFT/SUBJECT TO CHANGE - HST ALIGNMENT IS NOT DETERMINED

May 16, 2011

Source: Environmental justice analysis - URS, 2010

N

0 0.5 1
Miles

0 1 2
Kilometers

Road

Alternative alignments

County boundary

Half-mile buffer from alignment

EJ population density

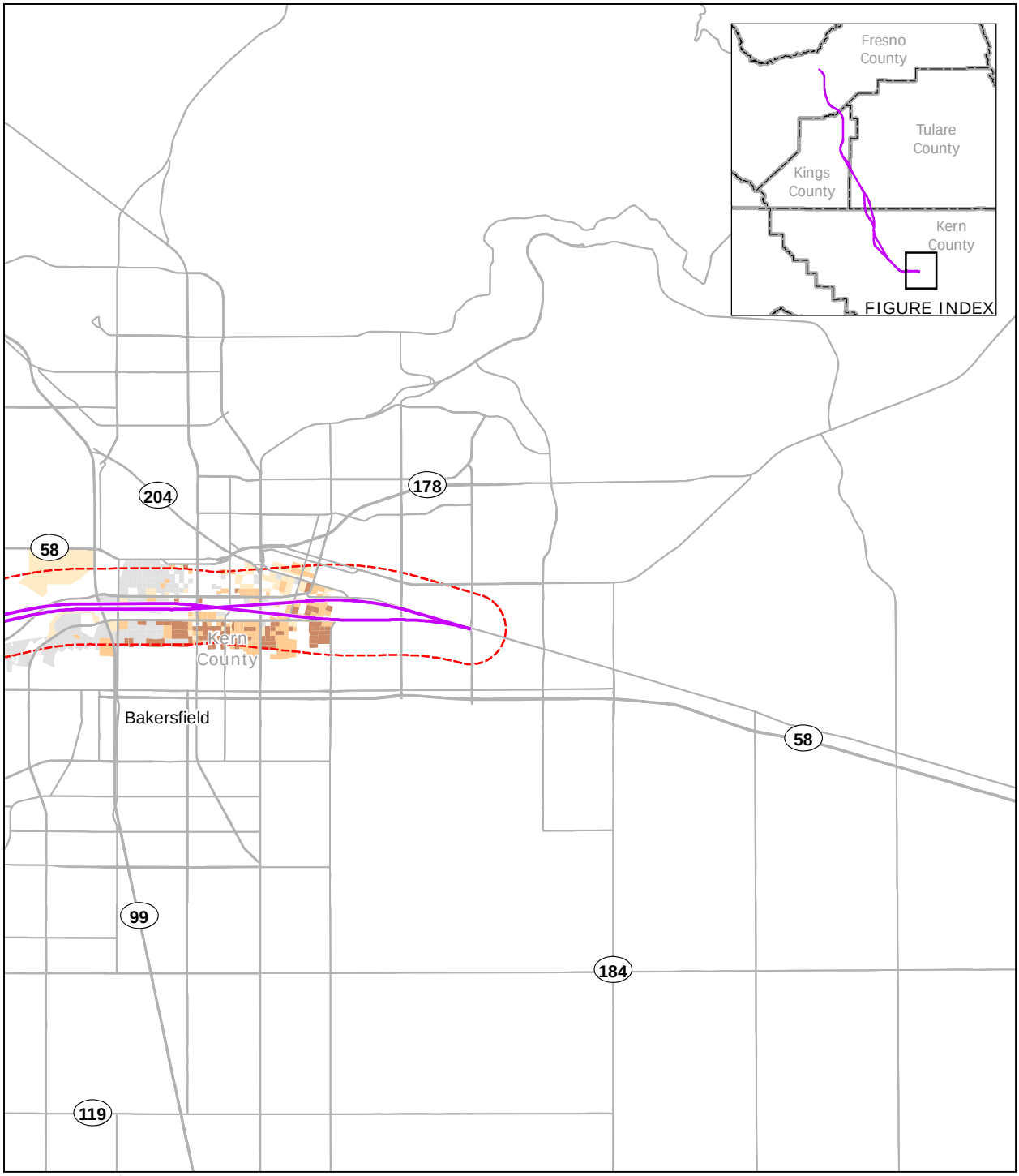
High

Medium

Low

Not EJ

Figure B-25
Kern County Central
EJ Block Populations




PRELIMINARY DRAFT/SUBJECT TO CHANGE - HST ALIGNMENT IS NOT DETERMINED

May 16, 2011

Source: Environmental justice analysis - URS, 2010

N

0 0.5 1
Miles

0 1 2
Kilometers

Road

Alternative alignments

County boundary

Half-mile buffer from alignment

EJ population density

High

Medium

Low

Not EJ

Figure B-26
Kern County South
EJ Block Populations

blocks. [16] The majority of this EJ area is rural low-density population (83.7%) with medium density (7.9%) and high density (8.4%) concentrated in Wasco, Shafter, and Bakersfield (U.S. Census Bureau 2000).

According to 2000 Census data, the total population within the EJ study area was 80,526 in 2000, or 62.5% of the total population contained in the study area for the region and 12.1% of the total population of Kern County. The total population within the study area presents a count of potentially affected individuals. The actual number of individuals affected may be much smaller than these baseline totals because the study area will likely not be affected across its entire area.

Kern County has a high percentage of minority and low-income individuals. According to the 2000 Census, 50.5% of the total population is minority and 20.8% is living below the Census poverty threshold. Within the study area in Kern County, these percentages are much higher, with minorities making up 66% and low-income individuals making up 26.3% of the study area population. Within Kern County, Hispanics are the predominate minority in EJ areas, accounting for 85.2% of the minority population. Scattered low-density EJ areas are found in the northern section of the county. The city of Wasco contains a concentration of higher-population-density EJ areas. However, the Wasco-Shafter bypass extending to the east and passing outside of Wasco encounters only a few low-density EJ areas. The area between Wasco and Shafter has scattered low-density EJ areas. Shafter itself contains a high concentration of high-density EJ areas. Again, however, the bypass extending to the east and passing outside of Shafter encounters few low-density EJ areas. The region between Shafter and Bakersfield contains very few EJ areas and those that exist are low density. Central Bakersfield contains high concentrations of EJ areas. Specifically, the study area between SR 99/58 and Fairfax Road is almost entirely composed of EJ Census blocks. There are scattered low-density EJ blocks from the area east of Central Bakersfield to the end of the study area (U.S. Census Bureau 2000).

More details about the differences in EJ areas encountered by the BNSF Alternative Alignment and the bypass alternatives are provided in the profiles of the cities of Wasco and Shafter.

## D. HOUSING

As of 2009, there were 279,769 housing units in Kern County, which represents an increase of 20.8% from the 2000 number of 231,567 units. This growth is higher than that seen in the region as a whole (17.5%) and was driven by the dramatic growth in Bakersfield over this period. As Table B-38 shows, the majority of housing units in the county are single-family homes. The percentage of single-family homes has been increasing, a trend that is similar to that of the region. Housing vacancy rates in the county were 9.9% in 2000, decreasing slightly to 9.8% in 2009 (California Department of Finance 2009a, 2009b). These vacancy rates are somewhat higher than those seen in the region. The Kern County Housing Element states that approximately 10% of owner-occupied homes and 23% of renter-occupied homes in Kern County are overcrowded (Kern County Planning Department 2008b). In addition, an estimated 20% of the county's housing stock is in need of rehabilitation, and 3% to 4% needs replacement. It is also important to note that hundreds of families in Kern County occupy military housing units associated with the China Lake Naval Weapons Station or Edwards Air Force Base (Kern County Planning Department 2008b).

[16] The area calculated for the EJ analysis is different than the area presented in other sections because the study area for EJ includes all U.S. Census blocks that are completely or partially contained within the ½-mile radius of the alignment. Therefore, the areas of partially contained U.S. Census blocks that are outside the ½ mile are included. This difference will be larger in rural areas, where U.S. Census blocks are larger.

**Table B-38**
Housing Stock in Kern County

| Housing Type | Number of Units in 2000 | Percentage of Total Units | Number of Units in 2009 | Percentage of Total Units |
|---|---|---|---|---|
| Single-family detached | 156,361 | 67.5 | 195,588 | 69.9 |
| Single-family attached | 8,383 | 3.6 | 8,536 | 3.1 |
| Multifamily 2 to 4 units | 20,462 | 8.8 | 23,787 | 8.5 |
| Multifamily 5 units or greater | 23,308 | 10.1 | 25,591 | 9.1 |
| Mobile homes | 23,053 | 10.0 | 26,267 | 9.4 |
| Total | 231,567 | 100.0 | 279,769 | 100.0 |

Source: California Department of Finance 2009a, 2009b.
Note: Percentages may total slightly less or more than 100% due to rounding.

The rate of home ownership in Kern County has been decreasing since 2000, as shown in Table B-39. This decrease may be due to an increase in the number of single-person households and single-parent families moving to the area, as well as the high rate of home foreclosures observed in the past few years. Both the increase in the total housing stock and the decrease in the home ownership rate are consistent with changes seen in the region.

**Table B-39**
Home Ownership in Kern County

| Home Ownership | Number of Occupied Units in 2000[a] | Percentage of Total Occupied Units | Number of Occupied Units in 2008[b] | Percentage of Total Occupied Units |
|---|---|---|---|---|
| Own | 129,661 | 62.1 | 145,468 | 59.6 |
| Rent | 78,991 | 37.9 | 98,718 | 40.4 |
| Total occupied housing units | 208,652 | 100.0 | 244,186 | 100.0 |

[a] Analysis of U.S. Census Bureau 2000d.
[b] Analysis of U.S. Census Bureau, American Community Survey 2008g.
Note: Percentages may total slightly less or more than 100% due to rounding.

As shown in Table B-40, in 2008, residents of 68.6% of the Kern County occupied housing units had moved into their homes since 2000, while 13.6% of households were more established, having lived in the same residences since at least 1990. The percentage of the units in the county that have turned over in the past 8 years is much higher than that of the region, reflecting strong population growth, particularly in the Bakersfield vicinity.

**Table B-40**
Length of Residence in Kern County

| Length of Residence | Number of Housing Units in 2000[a] | Percentage of Total Occupied Housing Units | Number of Housing Units in 2008[b] | Percentage of Total Occupied Housing Units |
|---|---|---|---|---|
| Moved in 2005, or later | NA | NA | 106,996 | 43.8 |
| Moved in 2000 to 2004 | NA | NA | 60,548 | 24.8 |
| Moved in 1990 to 1999 | 148,628 | 71.2 | 43,529 | 17.8 |
| Moved in 1980 to 1989 | 30,956 | 14.8 | 17,084 | 7.0 |
| Moved in 1970 to 1979 | 16,164 | 7.7 | 9,521 | 3.9 |
| Moved in 1969, or earlier | 12,904 | 6.2 | 6,508 | 2.7 |
| Total Housing Units | 208,652 | 100.0 | 244,186 | 100.0 |

[a] Analysis of U.S. Census Bureau 2000d.
[b] Analysis of U.S. Census Bureau, American Community Survey 2008g.
Note: Percentages may total slightly less or more than 100% due to rounding.
NA = not available

Kern County was among the 10 hardest-hit counties in the nation when the recent residential real-estate bubble burst. By the end of 2008, housing prices in Kern County had fallen 45% from the 2006 market peak and then fell an additional 17% through October 2009 (Integrated Asset Services 2009; Mullins 2009).

The study area corridor at the northern end of Kern County passes through rural agricultural lands with few housing units. From the Tulare County border just south of Allensworth, two alternative alignments travel south through sparsely populated areas and merge again near Elmo, north of the city of Wasco. Many housing units in Wasco lie within the study area for the BNSF Alternative Alignment, while very few homes lie within the study area for the more easterly Wasco-Shafter Bypass Alternative Alignment. The alignments continue southeasterly from Wasco, entering into an area of active oil well-drilling, passing Palmo on the east, with very few housing units in the study area until the alignments enter the city of Bakersfield.

## E. ECONOMY

Employment and income in the county have historically lagged behind that of the state. The recent real-estate boom generated many jobs in construction, fueled retail sales, and generated increased sales and property tax revenues. However, the San Joaquin Valley was one of the hardest-hit areas in the nation when the real-estate bubble burst in 2007 and the United States entered the worst economic recession since the Great Depression. As a result of the recession, the county has seen substantial increases in unemployment and foreclosure rates and sharp declines in housing prices (Bertaut and Pounder 2009).

In 2008, Kern County was the third-leading agricultural county in the state with $4,033,312,000 in sales. The 10 leading crops and their percentage of production were milk (14.9%), grapes (13.9%), citrus (12.1%), almonds (9.6%), carrots (9.4%), alfalfa (7.0%), cattle and calves (5.5%), pistachios (4.8%), potatoes (2.3%), and silage and forage (2.3%). Kern County has

continued to increase production in agricultural goods, but many in the county fear that with more water restrictions output will begin to decrease (Kern County Department of Agriculture and Measurement Standards 2009).

Table B-41 shows the 25 largest employers in the county. Nine of these employers are potentially in the study area.

**Table B-41**
Largest Employers in Kern County 2010

| Businesses | City | Address | Industry Type | Employment Size | Near Alignment |
|---|---|---|---|---|---|
| Bakersfield Memorial Hospital | Bakersfield | 420 34th St | Hospitals | 1,000–4,999 employees | Yes |
| Bolthouse Farms | Bakersfield | 7200 E Brundage Ln | Fruits and vegetables–brokers (Whls) | 1,000–4,999 employees | Yes |
| Chevron Corp | Bakersfield | 9525 Camino Media | Oil refiners (Mfrs) | 1,000–4,999 employees | No |
| Edwards AFB | Edwards | 215 E Mojave Blvd | AFB federal government–national security | 10,000+ employees | No |
| Frito-Lay Inc. | Bakersfield | 28801 Highway 58 | Potato chips, corn chips/snacks (Mfrs) | 500–999 employees | No |
| Giumarra Vineyards Corp | Bakersfield | 11220 Edison Hwy | Wineries (Mfrs) | 500–999 employees | Yes |
| Grimmway Farms | Arvin | 11412 Malaga Rd | Fruits and vegetables–brokers (Whls) | 1,000–4,999 employees | No |
| Human Services Dept | Bakersfield | 100 E California Ave | County government–social/human resources | 500–999 employees | Yes |
| Kern County Human Svc Dept | Bakersfield | 100 E California Ave | County government–social/human resources | 1,000–4,999 employees | Yes |
| Kern County Medical Center | Bakersfield | 1700 Mount Vernon Ave | Hospitals | 1,000–4,999 employees | Yes |
| Kern County School Supt | Bakersfield | 1300 17th St | Schools | 1,000–4,999 employees | Yes |
| Marko Zanivovich Inc. | McFarland | 31381 Pond Rd | Fruits and vegetables–growers and shippers | 1,000–4,999 employees | No |
| Mercy Hospital | Bakersfield | 2215 Truxtun Ave | Hospitals | 1,000–4,999 employees | Yes |

**Table B-41**
Largest Employers in Kern County 2010

| Businesses | City | Address | Industry Type | Employment Size | Near Alignment |
|---|---|---|---|---|---|
| Nabors Well Svc Co | Bakersfield | 7515 Rosedale Hwy | Oil well services | 1,000–4,999 employees | Yes |
| Naval Air Warfare Center | Ridgecrest | 1 Administration Cir | Federal government–national security | 5,000–9,999 employees | No |
| Paramount Citrus | Delano | 1901 S Lexington St | Food products (Whls) | 500–999 employees | No |
| Paramount Farms | Lost Hills | 13646 Highway 33 | Fruits and vegetables–growers and shippers | 500–999 employees | No |
| San Joaquin Community Hospital | Bakersfield | 2615 Chester Ave | Hospitals | 1,000–4,999 Employees | No |
| State Farm Operations Center | Bakersfield | 900 Old River Rd | Management services | 1,000–4,999 Employees | No |
| Sun Pacific | Bakersfield | 33374 Lerdo Hwy | Ranches | 500–999 Employees | No |
| TUV Industry Svc | Ridgecrest | 1126 W Ward Ave | Contractors–engineering, general | 500–999 Employees | No |
| U.S. Borax Inc. | Boron | 14886 Borax Rd | Mining companies | 1,000–4,999 Employees | No |
| U.S. Naval Air Weapons Station | Ridgecrest | 902 Nimitz St | Federal government–national security | 500–999 Employees | No |
| U.S. Navy Public Affairs Office | Ridgecrest | Naval Air Warfare Center Weapons | Federal government–national security | 5,000–9,999 Employees | No |
| W Radio | Bakersfield | 1100 Mohawk St #280 | Radio stations and broadcasting companies | 500–999 Employees | No |

Source: California Employment Development Department 2010c.

Note: Addresses represent primary business offices that may not house the majority of employees. Also, businesses potentially located within the study area are highlighted in bold text.

AFB = Air Force base
Cnt = center
Corp = corporation
Dept = department
Mfrs = manufacturers
Supt = superintendent
Svs = services
Whls = wholesale

Unemployment in the county has spiked in the past year, as it has in the region. The economic recession that began in 2007 has started to affect the number of workers businesses employ in 2009. When comparing the data for 2008 with that for 2000, unemployment rates are similar. The number of employees increased by 58,700 or by an average of 2.7% each year (see Table B-42). However, in 2009, unemployment rates increased sharply to an annual average of 14.4%.

**Table B-42**
Employment in Kern County

| Labor Status | Number in 2000 | Percentage of Labor Force | Number in 2008 | Percentage of Labor Force | Number in 2009 | Percentage of Labor Force |
|---|---|---|---|---|---|---|
| Employed | 269,300 | 91.8 | 328,000 | 90.2 | 314,100 | 85.6 |
| Unemployed | 24,200 | 8.2 | 35,700 | 9.8 | 52,800 | 14.4 |
| Total labor force | 293,500 | 100.0 | 363,700 | 100.0 | 366,900 | 100.0 |

Source: California Employment Development Department 2010a.
Note: Percentages may total slightly less or more than 100% due to rounding.

Since 2000, there has been no large shift in the basic makeup of labor force occupations in Kern County (see Table B-43). While the percentage of the labor force employed in agriculture and resource extraction has declined somewhat since 2000, this sector still employs the largest percentage of the labor force. The breakdown of occupation by type in Kern County is similar to that of the region.

**Table B-43**
Occupation by Type in Kern County

| Occupation | Number Employed in 2000[a] | Percentage of Total Employed | Number Employed in 2008[a] | Percentage of Total Employed | Number Employed in 2016[b] | Percentage of Total Employed |
|---|---|---|---|---|---|---|
| Agriculture, forestry, fishing and hunting, and mining | 56,500 | 23.8 | 59,900 | 20.8 | 61,800 | 19.0 |
| Construction | 11,600 | 4.9 | 16,200 | 5.6 | 21,900 | 6.7 |
| Manufacturing | 10,800 | 4.6 | 13,700 | 4.8 | 14,900 | 4.6 |
| Wholesale trade | 5,700 | 2.4 | 7,600 | 2.6 | 9,400 | 2.9 |
| Retail trade | 23,200 | 9.8 | 27,600 | 9.6 | 34,000 | 10.4 |
| Transportation and warehousing, and utilities | 8,400 | 3.5 | 9,600 | 3.3 | 11,000 | 3.4 |
| Information | 2,500 | 1.1 | 3,000 | 1.0 | 3,100 | 1.0 |
| Finance, insurance, real estate, and rental and leasing | 7,600 | 3.2 | 8,900 | 3.1 | 9,800 | 3.0 |

**Table B-43**
Occupation by Type in Kern County

| Occupation | Number Employed in 2000[a] | Percentage of Total Employed | Number Employed in 2008[a] | Percentage of Total Employed | Number Employed in 2016[b] | Percentage of Total Employed |
|---|---|---|---|---|---|---|
| Professional, scientific, management, administrative, and waste management services | 22,200 | 9.4 | 25,300 | 8.8 | 32,100 | 9.8 |
| Educational, health and social services | 43,100 | 18.2 | 53,200 | 18.5 | 57,500 | 17.6 |
| Arts, entertainment, recreation, accommodation and food services | 16,500 | 7.0 | 21,600 | 7.5 | 24,400 | 7.5 |
| Other services (except public administration) | 6,700 | 2.8 | 7,100 | 2.5 | 10,800 | 3.3 |
| Public administration | 22,100 | 9.3 | 33,900 | 11.8 | 35,300 | 10.8 |
| Total people employed | 236,900 | 100.0 | 287,600 | 100.0 | 326,000 | 100.0 |

[a] California Employment Development Department 2010b.
[b] California Employment Development Department 2010d.

Note: This table provides a count of occupations, and the previous employment table provides a count of resident workers. The total employed for these two sets of numbers will not be equal given those from outside the county that commute to work in the county and those residents of the county who commute to other counties for work.

Note: Percentages may total slightly less or more than 100% due to rounding.

## F. FISCAL

For the fiscal year 2008-2009, Kern County had an annual budget of $1,645,347,432. Revenues from that budget included $233,022,289 in property taxes and $43,244,444 in sales taxes which were 14.2% and 2.6% of the total budget respectively (County of Kern 2009).

## G. COMMUNITY FACILITIES AND AMENITIES

Kern County offers a wide variety of scenic attractions and tourism destinations, from skiing in the Sierras to whitewater rafting and fly-fishing on the wild and scenic Kern River. Major recreational resources include the Los Padres National Forest and Isabella Lake, the Audubon Society's Kern River Preserve, the Kern National Wildlife Refuge, the California Living Museum (a preserve of native animals and plants), the Tule Elk State Reserve, Red Rock Canyon State Park, Trona Pinnacles, and Fort Tejon State Park. There is a burgeoning wine industry developing in the Tehachapi region, and there are many local museums and sites that attract visitors—including the Tehachapi Loop, Pioneer Village, West Kern Oil Museum, Buck Owens Crystal

Palace, the Trail of 100 Giants, and the Air Force Flight Test Museum. There are also five auto-racing tracks in Kern County, as well as places dedicated to off-roading, such as Jawbone Canyon and Dave Springs (Kern County Board of Trade n.d.). A list of specific community facilities and amenities in the study area are provided in the profiles for the cities of Wasco, Shafter, and Bakersfield.

## H. CIRCULATION AND ACCESS

Circulation and access within a community are important to community character and quality of life. Non-motorized circulation issues associated with pedestrian and bicycle transportation are a key concern in the analysis. Critical pedestrian and bicycle paths are listed in the city profiles for Wasco, Shafter, and Bakersfield below. Issues associated with main roads, public transportation, and parking can also affect communities. More details on these aspects can be found in the Transportation section of the EIR/EIS.

## B.6 City of Fresno

Fresno is the county seat of Fresno County and the economic hub of the central San Joaquin Valley. It is the largest city in the region and the fifth-largest city in California (California Department of Finance 2009a, 2009b). The city has a total area of about 105 square miles; approximately 5 square miles, or 4.8%, of this land is in the study area for the socioeconomics, communities, and environmental justice analysis.

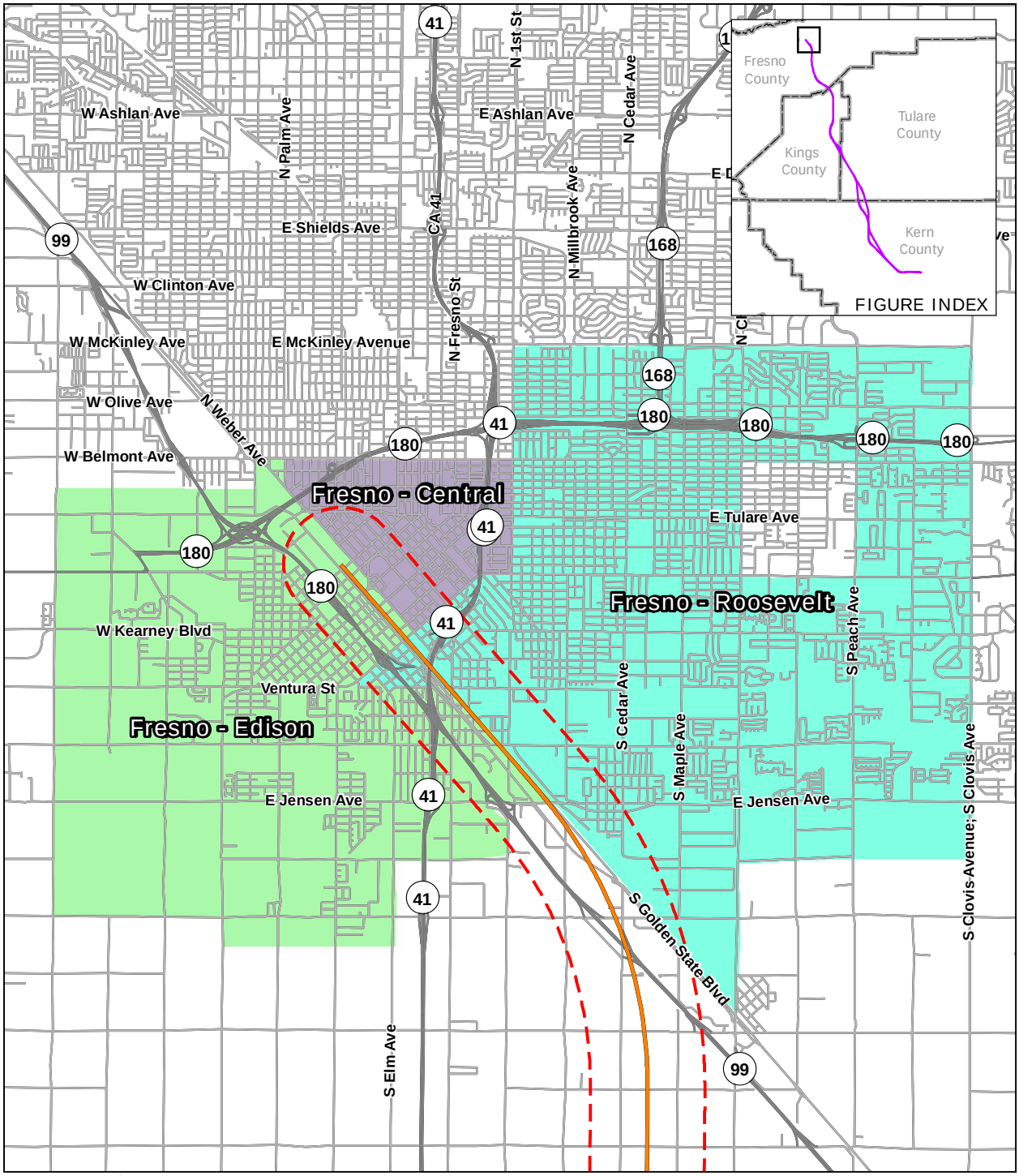
"Fresno" is the Spanish word for ash trees, which historically were found in abundance along the San Joaquin River. In 1872, the Central Pacific Railroad established a new station called "Fresno Station" in the valley farmland area. Many new residents were attracted to this location to escape other flood-prone areas along the San Joaquin River and to enjoy the conveniences that rail access provided. In 1874, the county seat was moved from Millerton to Fresno, which became an incorporated city in 1885.

Many Armenian families emigrated to the United States in the late 19th century to escape war and genocide. Many settled in the Fresno area because it looked similar to the country they had left behind, and because there was a growing Armenian community there. By 1906, Armenian families owned 16,000 acres of raisin grape vines and fruit- and nut-processing businesses (Hayk 2009). The Armenian community is still active in Fresno and an Armenian Heritage Museum is located within the city.

Population growth in the Fresno area accelerated after World War II, including a wave of Soviet Armenians who moved from Germany to the United States. Population growth remained strong throughout the last half of the 20th century, and the population is almost half a million today. As Fresno's population grew, urban neighborhoods with distinctive characters emerged, including Old Fig Garden, the Tower District, Sunnyside, Sierra Sky Park, Westside, and Woodward Park.

SR 99 is the main north-south freeway serving Fresno, linking it to the state capital in the north and the Los Angeles area to the south. SR 168, SR 180, and SR 41 serve as urban freeway spokes that radiate outward from the central part of the city to provide access across the Fresno-Clovis metropolitan area. As conventional highways in the rural areas, they connect Fresno to other cities in the region and to the parks and mountain areas in the Sierra Nevada as well as to the Central Coast. The city has also been well served by several rail lines, with Union Pacific Railroad, BNSF Railway, and the San Joaquin Railroad all having facilities that serve the city.

The affected environment for the HST project falls within three of Fresno's districts: Central, Edison, and Roosevelt. A map showing the boundaries of these districts is provided in Figure B-27. Data are presented for each of these districts in the subsections below, as well as for the city of Fresno as a whole.




PRELIMINARY DRAFT/SUBJECT TO CHANGE - HST ALIGNMENT IS NOT DETERMINED

Sources: URS, 2010

May 10, 2011

N

0 1 2
Miles

0 2 4
Kilometers

Road

Alternative alignments

Half-mile buffer from alignment

Figure B-27
Districts within the
City of Fresno

The HST project would enter Fresno northwest of the downtown area and move southeastward, through three of Fresno's oldest and poorest neighborhoods. The alignment would generally parallel the existing UPRR tracks, passing through the southwestern portion of the Central district, touching the northeastern edge of the Edison district, and traversing the southern section of the Roosevelt district. The neighborhoods along this study area have much higher percentages of minority residents than the city of Fresno as a whole, larger average family sizes, lower educational attainment levels, lower median household incomes, and substantially higher rates of unemployment. The following paragraphs provide an overview of the history and distinctive characteristics of the Central, Edison, and Roosevelt neighborhoods.

**Central.** Fresno's Central district, which is bounded by SR 41, SR 99, and SR 180, encompasses approximately 1,500 acres of land in the historic downtown area of the city. Fresno's origins are rooted in the Central neighborhood; the city began here with the arrival of the Central Pacific Railroad in 1872. The railroad company plotted the original three sections of land that would become Fresno, laid out a street grid, gave the streets their names, and donated land for a county courthouse, which was built in 1874. The historic water tower was built in 1894, and the first city hall was erected in 1907. Ten high-rise buildings were constructed in the Central district between 1913 and 1929, but this construction boom ended with the crash of the stock market and the beginning of the Great Depression.

After World War II, construction of suburban residential subdivisions and shopping malls came into fashion, creating competition with the historic Central business district. Fresno worked to reverse the decline of its inner city by adopting an ambitious revitalization plan. The city opened the Fulton Mall in 1964 as part of its downtown redevelopment effort. Other major public construction projects completed in this area during the 1960s included conversion of U.S. Highway 99 to a full freeway (later to be redesignated SR 99 when I-5 was completed), the new county courthouse, and the Convention Center complex.

By the 1970s and 1980s, Fresno had grown so much that a concept of multiple centers emerged. The city shifted emphasis from trying to preserve the Central district as the major retail services center to encouraging mixed uses, including new office and residential construction, convention-related development, and light-industrial park development adjacent to SR 99. Redevelopment efforts focused on addressing blight conditions and encouraging development in parts of the Central area outside the traditional Central business district. In recent decades, Fresno has continued to see rapid growth toward the north, and fringe area development continues to contribute to the Central district's struggle to maintain economic stability and social vitality (Central Area Planning Task Force 1989). In 2000, the Central district had the lowest median household income of the three districts potentially affected by the project and the highest unemployment rate, at 30%—or more than three times the citywide rate at that time.

HST alignments through the Central district run parallel to the existing railroad tracks, approximately midway between G and H streets and from SR 180 to SR 41, an area that is predominately industrial. This corridor also includes the largest homeless encampment in the San Joaquin Valley at the point where SR 41 crosses the UPRR.

**Edison.** The Edison district of Fresno, which is named after Edison High School, lies immediately adjacent to and southwest of Central. When the site for the city of Fresno was selected by the Central Pacific Railroad in 1872, homes were initially constructed on both sides of the railroad tracks. However, once the railroad depot and county courthouse were built on the north side of the tracks, development established a pattern of moving toward the north and east. This trend of developing away from Edison was reinforced by the construction of Fresno Normal School (now the Fresno City College campus) in 1911 and St. Agnes Hospital in 1929 and the extension of the city's streetcar system to the north and east from the downtown area.

With the historical practice of ethnically discriminatory deed restrictions (not declared illegal until 1948), many immigrant groups—including Germans, Asians, and Armenians—became segregated on the "other side of the tracks," in Edison. Later waves of African-Americans and Hispanic minorities also settled in this area, in part because of discrimination in other parts of the city and in part because of affordable housing options in the area. Development patterns in Edison have tended to follow the SR 180 corridor toward the west and the SR 41 corridor toward the south, with the area between these major corridors filling in more gradually (City of Fresno Planning and Development Department 1977).

In 2000, Edison's population was 97% minority, compared with 63% citywide, mainly because of the concentration of African-Americans (36% of the neighborhood population, compared with 11% citywide). In terms of median household income and unemployment rates, Edison fares substantially worse than the city of Fresno population as a whole, but falls between the adjoining Central and Roosevelt neighborhoods, where these indicators are worse and better, respectively (U.S. Census Bureau 2000). In a recent study, the Federal Reserve Bank attributed the entrenched poverty in West Fresno to several factors, including a history of housing discrimination in other parts of the city, a preponderance of publicly subsidized housing units in the area, and a lack of educational and skill-development opportunities (Cytron 2009).

The HST alignment touches the northeastern edges of Edison in two locations: at the extreme northeastern tip of the area at SR 180 near H Street, paralleling South Railroad Avenue from the Central neighborhood boundary at SR 41, to the Roosevelt neighborhood boundary at East Jensen Avenue.

**Roosevelt.** The Roosevelt district encompasses approximately 30 square miles, occupying much of Fresno's southeastern quadrant. It is bounded by East Avenue and SR 41 on the west, McKinley Avenue on the north, and Temperance Avenue on the east; and it has an irregular southern boundary that follows portions of Jensen, Minnewawa, North, Barton, and Central avenues. The district is named after Roosevelt High School, which occupies a central location in this large neighborhood. The Central and Edison districts lie immediately adjacent to Roosevelt's western boundary.

As Fresno expanded northward in the latter part of the 20th century, Roosevelt was distinguished by its wide variety of residential developments, older strip commercial corridors, and highly diverse population (in terms of ethnicity, family sizes, education, and incomes). Although the eastern portion of the area is dominated by single-family homes, overall this neighborhood has the highest population density of any in Fresno. East Kings Canyon Road is the main commercial corridor in Roosevelt, with many office and commercial sites and medium-high density residential developments and public uses, including the Valley Medical Center of Fresno and the county fairgrounds. This area is also home to the Internal Revenue Service Center and Fresno Pacific University.

Historically, the impetus for growth in Roosevelt was provided by proximity to the downtown area and both the Santa Fe and Southern Pacific railroad tracks, as well as the eastern extension of the Huntington Avenue trolley line. Waves of immigrants were attracted to this area by relatively inexpensive land and affordable housing. Development occurred somewhat haphazardly, with the leapfrog development occurring beyond what was then the city limits resulting in the inadequate extension of public utilities to piecemeal development projects and a shortage of public schools and parks to serve Roosevelt's growing population. In 1992, the city adopted the Roosevelt Community Plan to address issues of irregular quality of development, overcrowded schools, and the need for more rationalized public services and economic stimulus programs (City of Fresno Planning and Development Department 1992).

In 2000, residents of Roosevelt were 84% minority, compared with 63% citywide. The average household size was 3.75, the largest household size of the three affected districts. The median household income of $24,023 was well below the citywide income of $32,236, but almost 50% higher than that of Edison and twice the median household income of Central.

The HST alignments would traverse the southwestern, predominately industrial, portion of the Roosevelt district, entering this area just west of the intersection of East Jensen Avenue and Railroad Avenue, then traveling along the northeastern edge of the North Avenue Industrial Triangle, crossing Golden State Boulevard just east of South Orange Avenue, and crossing SR 99 south of East North Avenue. From there, the alignment travels south to the city limits through an area of mixed-industrial uses and farmland.

## A. POPULATION AND DEMOGRAPHICS

In 2000, Fresno had a population of 427,652 residents, and by 2009, the population had grown to 495,913, for an annual average growth rate of 1.8%, which is lower than the growth rates of Fresno County (2%) and the region (2.3%) during the same period (California Department of Finance 2009a, 2009b).

Table B-44 provides information on race and ethnicity for the Fresno population in 2000 and 2008. As the table indicates, Fresno's minority population, which represented 63% of all residents in 2000, increased to almost 67% of all residents in 2008. This total percentage of minority population is similar to that of Fresno County (65%) and the region (63%).[17]

**Table B-44**
Racial and Ethnicity Characteristics of the City of Fresno

| Race | Number of People in 2000[a] | Percentage of Total Population | Number of People in 2008[b] | Percentage of Total Population |
|---|---|---|---|---|
| **Non-Hispanic White** | 159,473 | 37.3 | 158,068 | 33.3 |
| **Minority** | 268,179 | 62.7 | 316,602 | 66.7 |
| Hispanic of all races | 170,520 | 39.9 | 221,094 | 46.6 |
| Non-Hispanic Black or African-American | 34,357 | 8.0 | 35,508 | 7.5 |
| Non-Hispanic American Indian and Alaska Native | 3,259 | 0.8 | 1,586 | 0.3 |
| Non-Hispanic Asian | 47,136 | 11.0 | 46,813 | 9.9 |
| Non-Hispanic Native Hawaiian and Other Pacific Islander | 427 | 0.1 | 219 | 0.0 |
| Non-Hispanic, some other race | 728 | 0.2 | 398 | 0.1 |

[17] U.S. Census ACS single-year estimates for 2008 are available for Bakersfield and Fresno, because both of these cities have a population of greater than 65,000. By contrast, Hanford, Corcoran, and Wasco each have a population of less than 65,000 but greater than 20,000, and therefore 2006–2008 average estimates are available. The City of Shafter, with a population of less than 20,000, currently has no recent estimates available from the ACS.

**Table B-44**
Racial and Ethnicity Characteristics of the City of Fresno

| Race | Number of People in 2000[a] | Percentage of Total Population | Number of People in 2008[b] | Percentage of Total Population |
|---|---|---|---|---|
| Non-Hispanic, two or more races | 11,752 | 2.7 | 10,984 | 2.3 |
| **Total** | 427,652 | 100.0 | 474,670 | 100.0 |

[a] Analysis of U.S. Census Bureau 2000e.
[b] Analysis of U.S. Census Bureau, American Community Survey 2008a.

Note: California DOF does not provide population projections at the city level. Also, the DOF does not provide annual estimates of racial and ethnicity characteristics, so the most current source, 2008 ACS, is used. This practice explains the difference between the 2009 total population estimates presented above and the 2008 totals in this table.

Note: Percentages may total slightly less or more than 100% due to rounding.

ACS = U.S. Census Bureau, American Community Survey
DOF = Department of Finance

Populations for the three affected districts in Fresno are shown in Table B-45. The only data available to examine these areas is Census 2000 data aggregated at the Census tract level to match as closely as possible district boundaries. More detail on the development of these boundaries and on the specific Census tracts involved is provided in the community methodology in Appendix A-2. The Census 2000 populations of the neighborhoods vary widely, ranging from 16,754 people in the Central district to 102,489 people in Roosevelt. All of the districts have very high concentrations of minority populations, with each district having a minority population of at least 84%, which is much higher than the city as a whole (63%).

**Table B-45**
Racial and Ethnicity Characteristics of the City of Fresno District Populations

| Race | Central | | Edison | | Roosevelt | |
|---|---|---|---|---|---|---|
| | 2000 | Percentage | 2000 | Percentage | 2000 | Percentage |
| **Non-Hispanic White** | 2,092 | 12.5 | 713 | 3.0 | 15,955 | 15.6 |
| **Minority** | 14,662 | 87.5 | 22,980 | 97.0 | 86,534 | 84.4 |
| Hispanic of all races | 10,767 | 64.3 | 11,206 | 47.3 | 60,166 | 58.7 |
| Non-Hispanic Black or African-American | 1,516 | 9.0 | 8,630 | 36.4 | 6,881 | 6.7 |
| Non-Hispanic American Indian and Alaska Native | 138 | 0.8 | 99 | 0.4 | 791 | 0.8 |
| Non-Hispanic Asian | 1,656 | 9.9 | 2,626 | 11.1 | 15,853 | 15.5 |
| Non-Hispanic Native Hawaiian and Other Pacific Islander | 0 | 0.0 | 0 | 0.0 | 51 | 0.0 |

**Table B-45**
Racial and Ethnicity Characteristics of the City of Fresno District Populations

| Race | Central | | Edison | | Roosevelt | |
|---|---|---|---|---|---|---|
| | 2000 | Percentage | 2000 | Percentage | 2000 | Percentage |
| Non-Hispanic, some other race | 97 | 0.6 | 0 | 0.0 | 124 | 0.1 |
| Non-Hispanic, two or more races | 488 | 2.9 | 419 | 1.8 | 2,668 | 2.6 |
| **Total** | 16,754 | 100.0 | 23,693 | 100.0 | 102,489 | 100.0 |

Source: Analysis of U.S. Census Bureau 2000e.
Note: Percentages may total slightly less or more than 100% due to rounding.

The age distribution of Fresno's population did not change substantially between 2000 and 2008. As Figure B-28 and Figure B-29 show, Bakersfield experienced the same shift as the county and the region toward a slightly younger population (U.S. Census Bureau 2000a; U.S. Census Bureau, American Community Survey 2008e).

The age profile for the three districts in Figure B-30 shows that in 2000 they all had a similar distribution of elderly and young populations, although Central had a higher percentage of individuals between the ages of 20 and 44 years (U.S. Census Bureau 2000a; U.S. Census Bureau, American Community Survey 2008e).

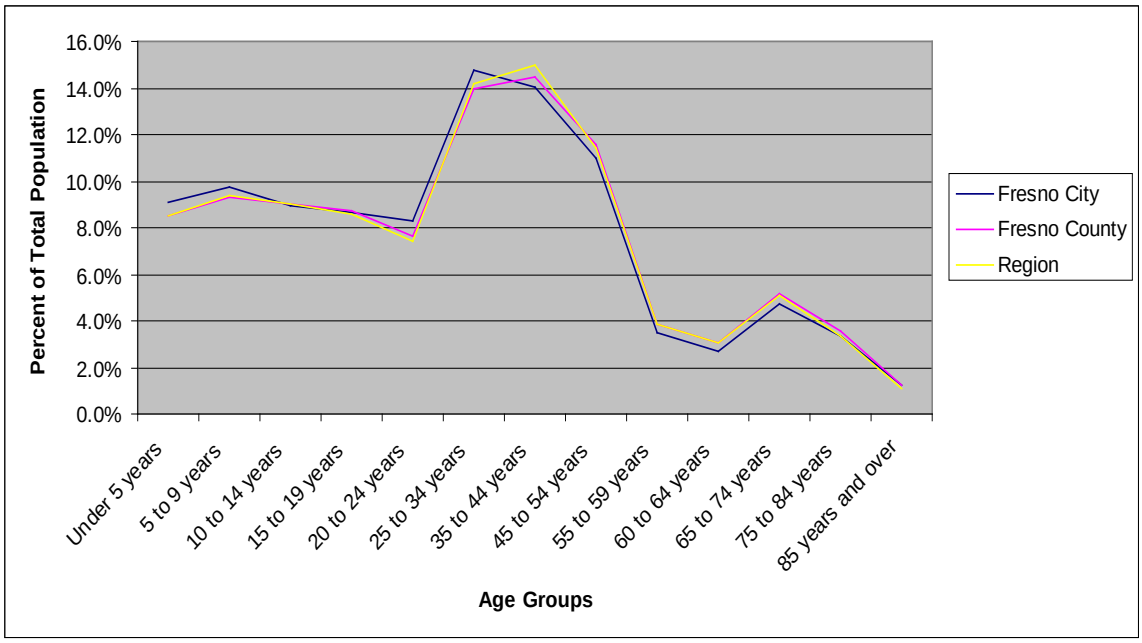



**Figure B-28**
City of Fresno Age Profile, 2000

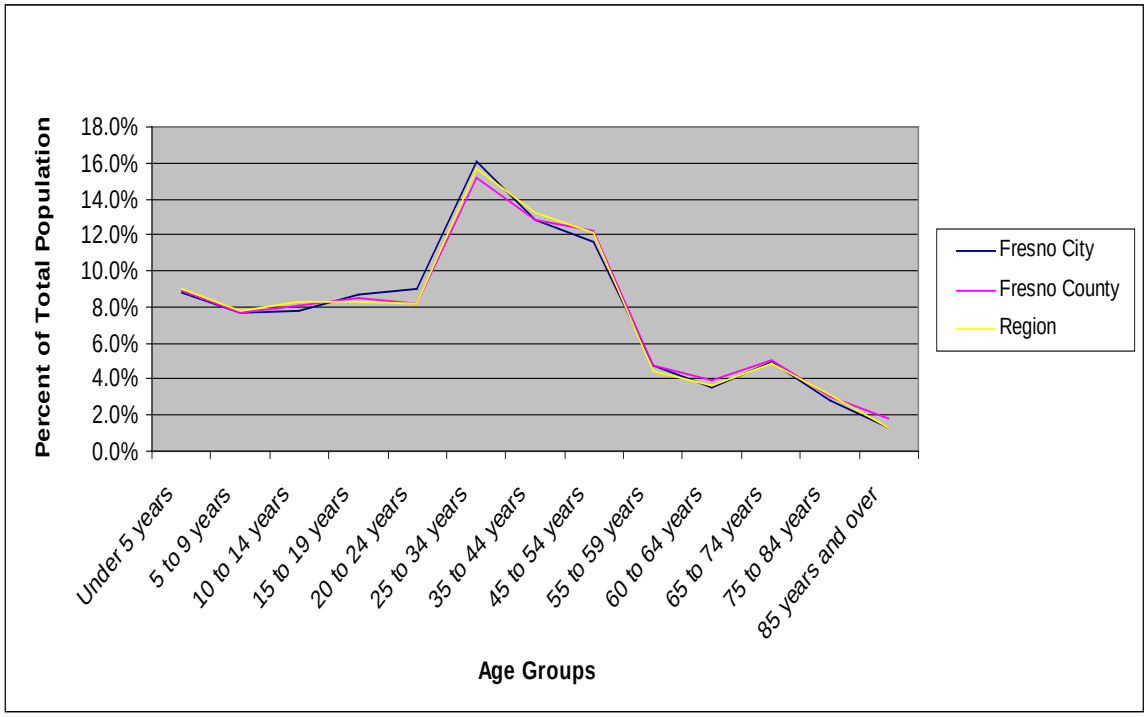



**Figure B-29**
City of Fresno Age Profile, 2008

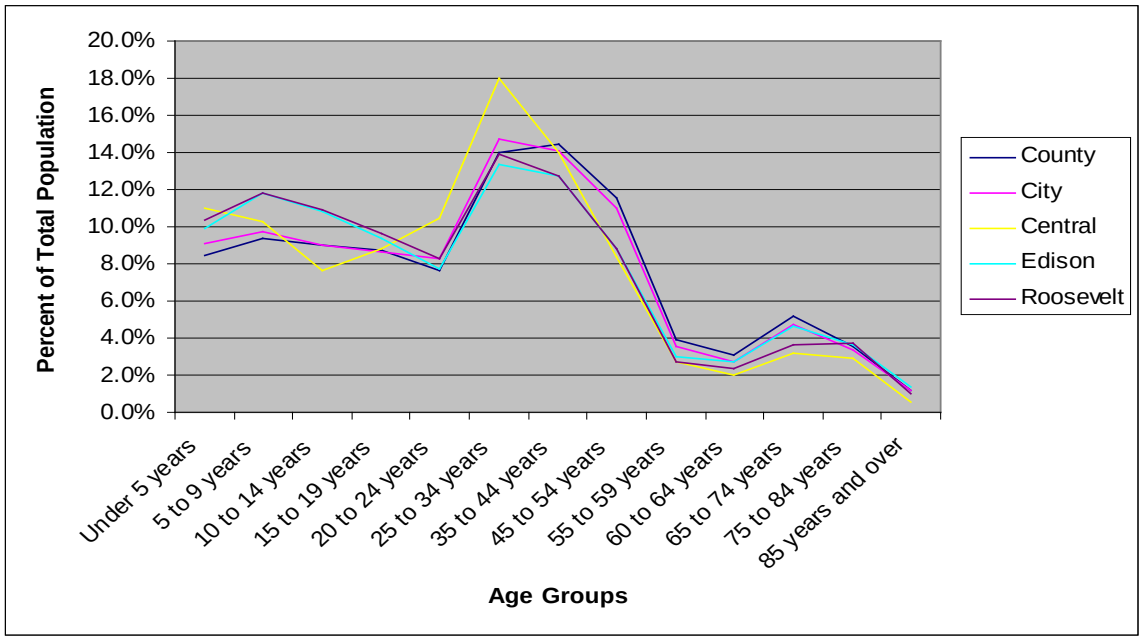



**Figure B-30**
City of Fresno District Age Profile, 2000

In 2000, 140,079 households were present in Fresno, with an average household size of 2.99 people. By 2009, both the number of households and the average household size had increased to 159,523 households and 3.05 people, respectively (California Department of Finance 2009a, 2009b). The average household size for Fresno is smaller than that of the county (3.15) and the region (3.3).

As Table B-46 shows, the makeup of households within Fresno has changed somewhat since 2000. Approximately 70% of the households were family households in 2000, but that percentage decreased to 68.4% in 2008. Furthermore, the percentage of married-family couples decreased by 3.6% during the same period, and the number of non-family and male householder family households increased.

**Table B-46**
Numbers and Types of Households in the City of Fresno

| Household | Number of Households in 2000[a] | Percentage of Total Households | Number of Households in 2008[b] | Percentage of Total Households |
|---|---|---|---|---|
| Family households (families) | 98,484 | 70.4 | 103,041 | 68.4 |
| Married-couple family | 66,155 | 47.3 | 65,766 | 43.7 |
| Female householder, no husband present | 24,350 | 17.4 | 26,787 | 17.8 |
| Male householder, no wife present | 7,979 | 5.7 | 10,488 | 7.0 |
| Non-family households | 41,467 | 29.6 | 47,569 | 31.6 |
| Householder living alone | 32,567 | 23.3 | 34,949 | 23.2 |
| Total | 139,951 | 100.0 | 150,610 | 100.0 |

[a] Analysis of U.S. Census Bureau 2000h.
[b] Analysis of U.S. Census Bureau, American Community Survey 2008b.

Note: California DOF does not provide number of households by type for 2009, so ACS 2000 and 2008 data were used in this table. This use explains the difference between the 2000 and 2009 total household estimates presented above and the totals in this table.

Note: Percentages may total slightly less or more than 100% due to rounding.

ACS = U.S. Census Bureau, American Community Survey
DOF = Department of Finance

In 2000, average household size in the districts was similar in Edison (3.74) and Roosevelt (3.75), but the average household size in Central (3.33) was smaller (U.S. Census Bureau 2000h). This difference could be due to the urban nature of the area and the lower percentage of family households in and around the downtown.

As Table B-47 shows, in 2000, the three districts each had a different household makeup. Central had a lower percentage of family households (64.8%) than the city average (70.4%), whereas Edison (75.9%) and Roosevelt (78.9%) had higher percentages than the city. Similar trends were seen for married-couple families; thus, single-parent and non-family percentages were highest in Central (66.8%) and lower in Edison (60.2%) and Roosevelt (50.1%).

**Table B-47**
Districts Households in the City of Fresno by Type

| Household | Central | | Edison | | Roosevelt | |
|---|---|---|---|---|---|---|
| | 2000 | Percentage | 2000 | Percentage | 2000 | Percentage |
| Family households (families) | 2,701 | 64.8 | 4,731 | 75.9 | 21,144 | 78.9 |
| Married-couple family | 1,383 | 33.2 | 2,312 | 37.1 | 13,389 | 49.9 |
| Female householder, no husband present | 941 | 22.6 | 1,971 | 31.6 | 5,489 | 20.5 |
| Male householder, no wife present | 377 | 9.1 | 448 | 7.2 | 2,266 | 8.5 |
| Non-family households | 1,464 | 35.2 | 1,500 | 24.1 | 5,663 | 21.1 |
| Householder living alone | 774 | 18.6 | 500 | 8.0 | 1,896 | 7.1 |
| Total | 4,165 | 100.0 | 6,231 | 100.0 | 26,807 | 100.0 |

Source: Analysis of U.S. Census Bureau 2000h.

Note: Percentages may total slightly less or more than 100% due to rounding.

In 2000, 12,901 of the 139,951 households in the city were linguistically isolated, meaning that 9.2% of households did not have someone in the household over the age of 14 with the ability to speak English very well.[18] This percentage was slightly lower than the corresponding percentage for the county (9.8%) and the region (9.4%). Similar to the county and the region, in 2008, Fresno experienced an increase in the percentage of households that are linguistically isolated, increasing to 9.7%; however, this percentage was still below that of the county and the region (U.S. Census Bureau 2000f; U.S. Census Bureau, American Community Survey 2008c). In the three districts, linguistic isolation was much higher than in the city as a whole: 25.8% in Central, 18.7% in Roosevelt, and 16.7% in Edison (U.S. Census Bureau 2000f).

In 2007,[19] of the 427,490 non-institutionalized persons over the age of 5 in Fresno, 15.8% had some sort of disability, self-care limitation, or low-mobility issue. For people between the ages of 5 and 65, 12.3% were classified as disabled, whereas for persons 65 and over, 48.8% were classified as disabled, a much higher rate (U.S. Census Bureau 2000b; U.S. Census Bureau, American Community Survey 2007). These percentages are similar to those observed in both the county and the region.

[18] According to the U.S. Census Bureau, a household is linguistically Isolated if "no member 14 years old and over speaks only English or speaks a non-English language and speaks English very well." In other words, all members 14 years old and over have at least some difficulty with English.

[19] The U.S. Census Bureau does not recommend making comparisons between the 2000 and 2007 disability figures; for this reason, the more current information is presented.

Across the districts, disability rates in both the Central (30%) and Edison (30.6%) districts were higher than those seen in Roosevelt (25.1%). Most notably, Edison had a very high rate of persons over the age of 65 with disabilities (68.6%) (U.S. Census Bureau 2000b).[20]

## B. INCOME AND POVERTY

In 1999, the median annual household income in Fresno was $32,236, which was lower than the $34,725 median in the county and $34,976 in the region. By 2008, the median annual household income in Fresno had increased by 24.5% to $40,134. Although substantial, this increase in median household income was still below the increases seen for both the county and the region (26% and 32%, respectively) during the same period (U.S. Census Bureau 2000g; U.S. Census Bureau, American Community Survey 2008d).

With regard to the median annual incomes across the three districts, in 1999, all three districts were greatly below the city as a whole. Central ($12,085) was the lowest, with Edison ($16,437) and Roosevelt ($24,023) higher but still well below the citywide median household income (U.S. Census Bureau 2000g).

In 1999, 109,703 persons, or 26.2%, of the population of Fresno, lived below the poverty line, which was higher than the similar percentage for the county (22.9%) and the region (22.2%). By 2008, the number of people living below the poverty line had increased to 119,188 people but the percentage had decreased to 25.5% (see Table B-48). This decrease in the percentage of the population living below the poverty line is consistent with trends seen in the county and the region during the same period.

**Table B-48**
Income Level to Poverty Line in the City of Fresno

| Income Level as a Percentage of Poverty Line | Number of People in Income Group in 1999[a] | Percentage of Total Population Evaluated | Number of People in Income Group in 2008[b] | Percentage of Total Population Evaluated |
|---|---|---|---|---|
| Under 0.50 | 50,725 | 12.1 | 53,721 | 11.5 |
| 0.50 to 0.74 | 28,802 | 6.9 | 35,503 | 7.6 |
| 0.75 to 0.99 | 30,176 | 7.2 | 29,964 | 6.4 |
| 1.00 to 1.24 | 30,911 | 7.4 | 30,985 | 6.6 |
| 1.25 to 1.49 | 27,887 | 6.7 | 24,732 | 5.3 |
| 1.50 to 1.74 | 23,578 | 5.6 | 30,841 | 6.6 |
| 1.75 to 1.84 | 9,110 | 2.2 | 11,973 | 2.6 |
| 1.85 to 1.99 | 12,624 | 3.0 | 10,931 | 2.3 |
| 2.00 and over | 205,120 | 49.0 | 238,526 | 51.1 |
| Total | 418,933 | 100.0 | 467,176 | 100.0 |

[20]Comparisons between 2007 ACS and 2000 Census disability data is not recommended due to a change in the definition of “disabled.” 2000 data is only presented to illustrate differences between districts and not differences between the districts and the city/county/Region.

**Table B-48**
Income Level to Poverty Line in the City of Fresno

| Income Level as a Percentage of Poverty Line | Number of People in Income Group in 1999[a] | Percentage of Total Population Evaluated | Number of People in Income Group in 2008[b] | Percentage of Total Population Evaluated |
|---|---|---|---|---|

[a] Analysis of U.S. Census Bureau 2000g.
[b] Analysis of U.S. Census Bureau, American Community Survey 2008d.

Note: Not all individuals are evaluated by the Census for income level to poverty line status. This practice explains why population totals in this table may not match population totals presented in the population and demographics section above. Also, 2000 Census data on income are representative of conditions in 1999.

Note: Percentages may total slightly less or more than 100% due to rounding.

As shown in Table B-49, the poverty rate for each of the three districts in 1999 was well above that of the city of Fresno (26.2%). Central had the highest poverty rate, with 57.8% of the population in poverty. Edison (48%) and Roosevelt (38.2%) were lower but still much higher than the city as a whole.

**Table B-49**
Poverty Rates in the City of Fresno Districts

| Income as a Percentage of Poverty Line | Central | | Edison | | Roosevelt | |
|---|---|---|---|---|---|---|
| | 1999 | Percentage | 1999 | Percentage | 1999 | Percentage |
| Under 0.50 | 4,629 | 32.7 | 5,759 | 24.7 | 17,210 | 17.1 |
| 0.50 to 0.74 | 1,950 | 13.8 | 2,746 | 11.8 | 11,008 | 10.9 |
| 0.75 to 0.99 | 1,595 | 11.3 | 2,673 | 11.5 | 10,238 | 10.2 |
| 1.00 to 1.24 | 1,619 | 11.4 | 2,686 | 11.5 | 10,382 | 10.3 |
| 1.25 to 1.49 | 729 | 5.1 | 1,490 | 6.4 | 8,145 | 8.1 |
| 1.50 to 1.74 | 659 | 4.7 | 1,882 | 8.1 | 7,020 | 7.0 |
| 1.75 to 1.84 | 230 | 1.6 | 520 | 2.2 | 2,775 | 2.8 |
| 1.85 to 1.99 | 601 | 4.2 | 611 | 2.6 | 3,651 | 3.6 |
| 2.00 and over | 2,160 | 15.2 | 4,914 | 21.1 | 30,222 | 30.0 |
| Total | 14,172 | 100.0 | 23,281 | 100.0 | 100,651 | 100.0 |

Source: Analysis of U.S. Census Bureau 2000g.

Note: Not all individuals are evaluated by the Census for income level to poverty line status. This practice explains why population totals in this table may not match population totals presented in the population and demographics section above. Also, 2000 Census data on income are representative of conditions in 1999.

Note: Percentages may total slightly less or more than 100% due to rounding.

Although the data in this table show that median incomes increased and poverty rates, as a whole, decreased in Fresno from 1999 to 2008, since the beginning of the current economic recession, income levels have begun to decrease. Since unemployment has increased dramatically since 2008, it can be assumed that household income levels have decreased and poverty rates increased beyond the numbers reported here (U.S. Census Bureau 2009).

## C. ENVIRONMENTAL JUSTICE POPULATION

This section describes the locations of EJ populations within the study area in Fresno. The definitions used to define EJ populations and a description of the data sources and methodology that were used can be found in the EJ methodology Appendix A-1.

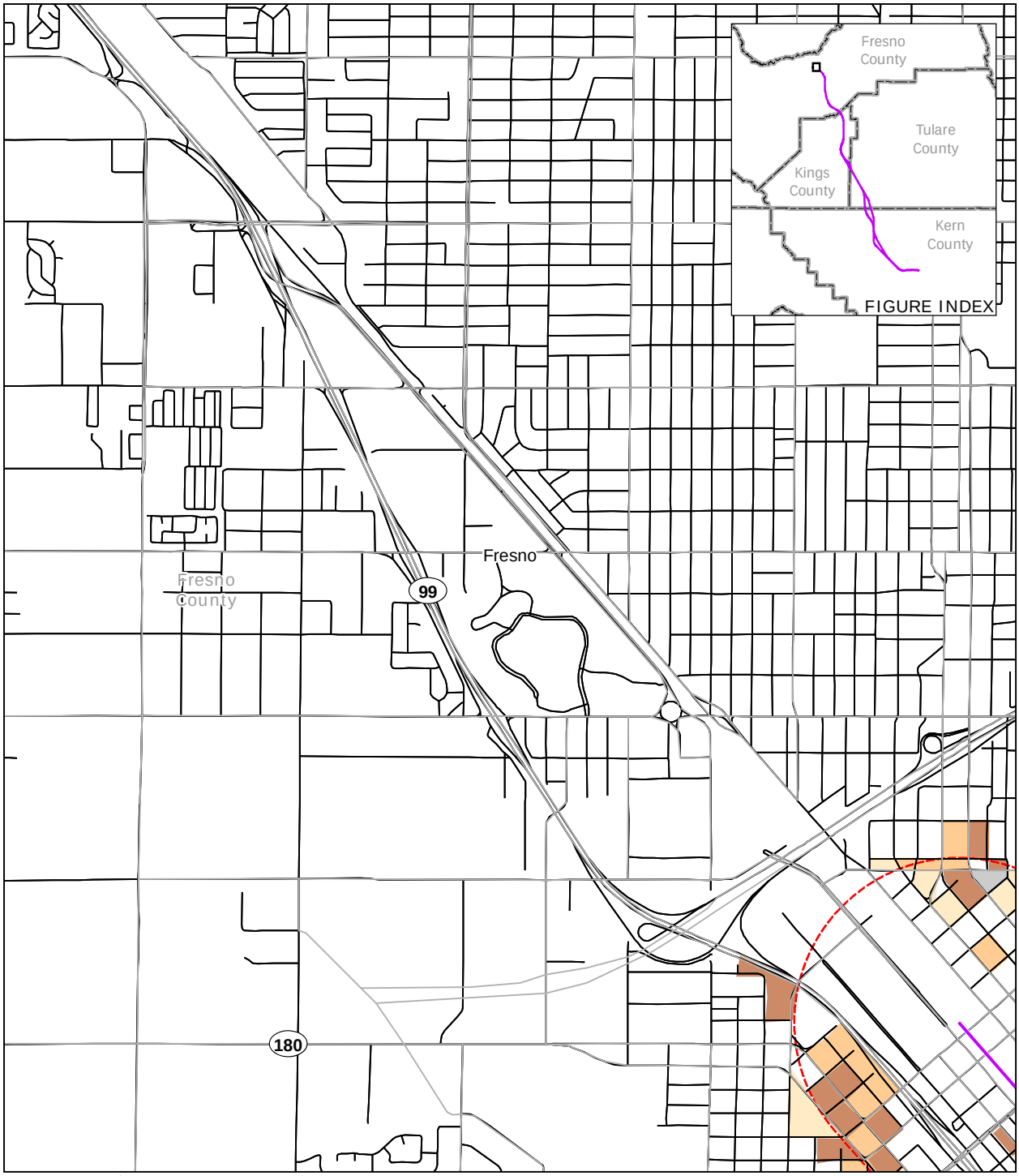
Figure B-31 and Figure B-32 identify the locations of EJ populations within the study area in the city of Fresno. Orange is used to indicate U.S. Census blocks containing EJ populations, darker orange is representative of EJ blocks with higher-population densities, that is, the more-urbanized areas. The red-dashed lines represent the study area, and the purple line is the project alignment. Given the close proximity of BNSF Alternative Alignment to the Fresno West alternative, these two alternatives are examined as a single study area. The total area of census blocks in the city of Fresno that falls within the study area is 10.9 square miles, with 4.7 square miles, or 43.3%, identified as EJ blocks.[21] The area is split between low-density (40.4%), medium-density (25.9%), and high-density (33.7%) blocks (U.S. Census Bureau 2000a).

According to 2000 Census data, the approximate total population living within the study area in Fresno in 2000 was 31,055. This represents 86.1% of the total population contained in the study area in all of Fresno County, or about 7.3% of the city of Fresno's population. The total population within the study area presents a count of potentially affected individuals. The actual number of individuals affected may be much smaller than these baseline totals because the study area will likely not be affected across its entire area.

Fresno has a high percentage of minority and low-income individuals. According to the 2000 Census, 62.7% of the total population of the city is minority and 24.7% is living below the Census poverty threshold. Within the study area in Fresno, these percentages are much higher (minorities make up 77.2% of the study area population, and low-income individuals make up 40% of the study area population). Within the city, Hispanics are the predominate minority in EJ areas, accounting for 71.2% of the minority population. Central contains scattered EJ areas, some with high-density populations, and Edison contains a consistent stretch of densely populated EJ areas along the study area's southern extent. The Roosevelt district around Calwa, where the study area curves southward to leave the city, also contains a concentration of EJ areas with higher-density populations (U.S. Census Bureau 2000a). Of additional note is the neighborhood of West Fresno, a predominately African-American community in Fresno. While this neighborhood is an EJ area, it falls just outside of the study area for this section of the HST project.

Fresno is also the location of the largest homeless encampment within the San Joaquin Valley. Hundreds of homeless individuals live in makeshift shelters under the SR 41 freeway structures between the Central and Edison districts. Located in this area are a rescue mission, the Poverello House (a women's shelter) and other facilities that serve this population. Both the homeless encampment and the rescue mission facilities are located within the study area. The EJ results presented here based on the Census data may not reflect the presence of this homeless population. Census 2000 data collection methods attempted to include homeless in the overall population counts but limitations in this data collection effort could lead to underestimation of homeless populations in various locations (U.S. Census Bureau 2001). In any event, this community is being considered as an EJ population given the level of services in the vicinity and the obvious existence of an underserved population.

[21] The area calculated for the EJ analysis is different than the areas presented in other sections. because the study area for EJ includes all U.S. Census blocks that are completely or partially contained within the 0.5-mile radius of the alignment. Therefore, the areas of partially contained U.S. Census blocks that are outside the 0.5 mile are included. This difference is larger in rural areas, where U.S. Census blocks are larger.




PRELIMINARY DRAFT/SUBJECT TO CHANGE - HST ALIGNMENT IS NOT DETERMINED

Source: Environmental justice analysis - URS, 2010

May 16, 2011

N

0 1,000 2,000
Feet

0 500 1,000
Meters

Road

Alternative alignments

County boundary

Half-mile buffer from alignment

EJ population density

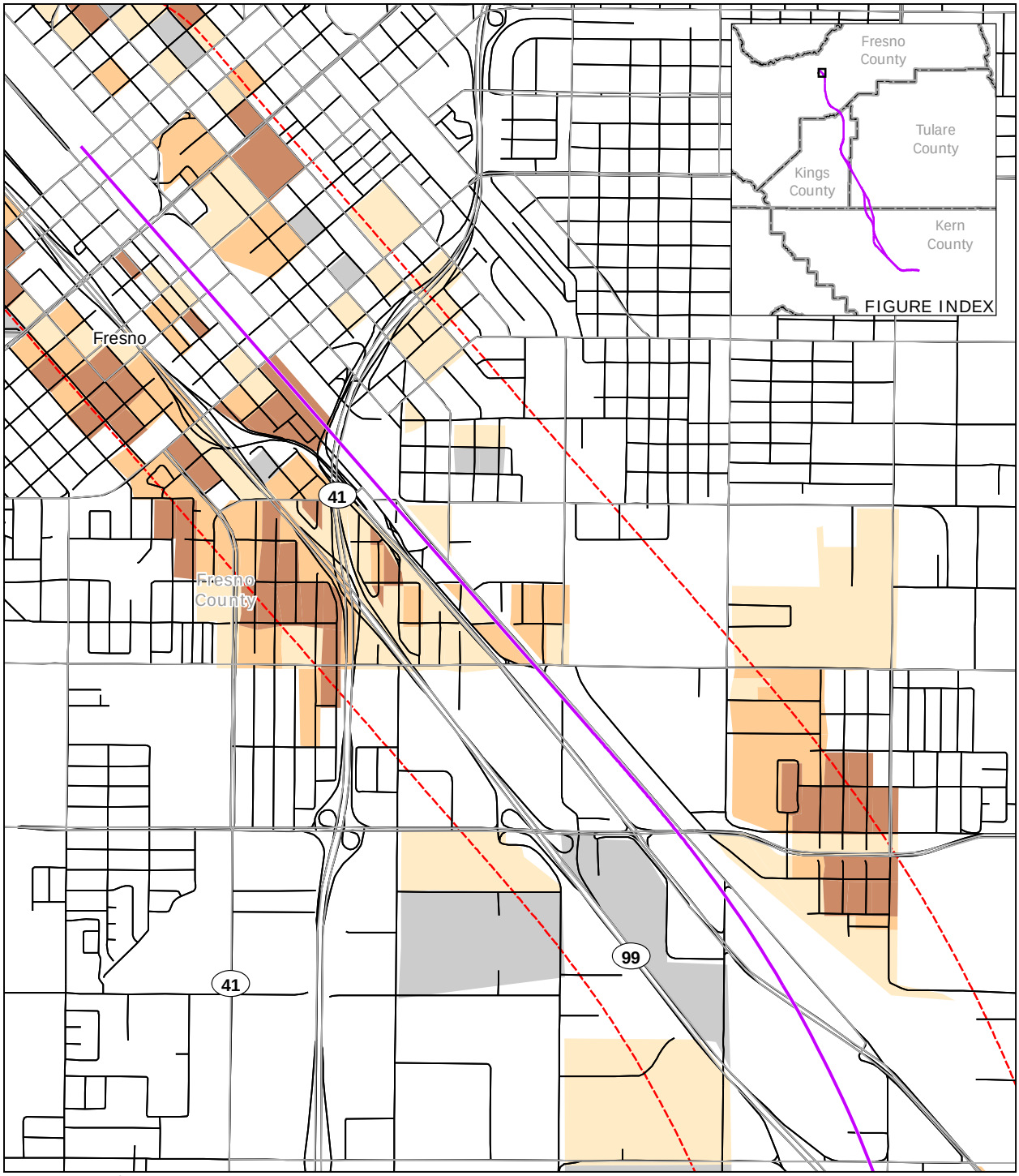
High

Medium

Low

Not EJ

Figure B-31
City of Fresno North
EJ Block Populations




PRELIMINARY DRAFT/SUBJECT TO CHANGE - HST ALIGNMENT IS NOT DETERMINED

May 16, 2011

Source: Environmental justice analysis - URS, 2010

N

0 1,000 2,000
Feet

0 500 1,000
Meters

Road

Alternative alignments

County boundary

Half-mile buffer from alignment

EJ population density

High

Medium

Low

Not EJ

Figure B-32
City of Fresno South
EJ Block Populations

## D. HOUSING

In 2000, an estimated 149,025 housing units were present in Fresno. By 2009, that number had increased to 169,715 units, for a growth of 13.8%. As seen in both the county and the region, the largest increase in the Fresno housing stock occurred in single-family detached homes, which accounted for 77% of the housing stock growth. As Table B-50 shows, the housing inventory is different in the city than in either the county or the region, with a larger percentage of multifamily residences and a smaller percentage of single-family homes. These characteristics reflect the more-urban nature of Fresno compared with the unincorporated areas in the region. Fresno has a larger stock of multifamily housing than Bakersfield, the other major urban area in the region. Housing vacancy rates within the city were 6% in 2000 and remained at similar levels in 2009 (California Department of Finance 2009a, 2009b). The 2009 rates for the city are lower than the rates of either the county (6.4%) or the region (7.4%).

**Table B-50**
Housing Stock in the City of Fresno

| Housing Type | Number of Units in 2000[a] | Percentage of Total Units | Number of Units in 2009[b] | Percentage of Total Units |
|---|---|---|---|---|
| Single-family detached | 86,592 | 58.1 | 102,634 | 60.5 |
| Single-family attached | 6,028 | 4.0 | 6,028 | 3.6 |
| Multifamily 2 to 4 units | 16,308 | 10.9 | 17,130 | 10.1 |
| Multifamily 5 units or greater | 36,174 | 24.3 | 40,000 | 23.6 |
| Mobile Homes | 3,923 | 2.6 | 3,923 | 2.3 |
| Total | 149,025 | 100.0 | 169,715 | 100.0 |

[a] Analysis of U.S. Census Bureau 2000d.
[b] Analysis of California Department of Finance 2009a, 2009b.

Note: Percentages may total slightly less or more than 100% due to rounding.

The composition of the housing stock in 2000 varied substantially among the three affected districts. The Central district had a much higher percentage of multifamily units when compared to either the Edison or Roosevelt districts. When compared to the city as a whole, the Roosevelt district reflected the citywide housing stock very closely, whereas the Central district had a much higher percentage of multifamily units and the Edison district had a high percentage of single-family homes, as shown in Table B-51.

**Table B-51**
Housing Stock in Fresno Districts

| Housing Type | Central | | Edison | | Roosevelt | |
|---|---|---|---|---|---|---|
| | 2000 | Percentage | 2000 | Percentage | 2000 | Percentage |
| Single-family detached | 1,277 | 26.8 | 4,593 | 68.2 | 16,768 | 58.0 |
| Single-family attached | 248 | 5.2 | 354 | 5.3 | 1,058 | 3.7 |
| Multifamily 2 to 4 units | 986 | 20.7 | 1,138 | 16.9 | 3,561 | 12.3 |
| Multifamily 5 units or greater | 2,244 | 47.1 | 603 | 9.0 | 6,944 | 24.0 |
| Mobile homes | 8 | 0.2 | 49 | 0.7 | 572 | 2.0 |
| Total | 4,763 | 100.0 | 6,737 | 100.0 | 28,903 | 100.0 |

Source: Analysis of U.S. Census Bureau 2000d.
Note: Percentages may total slightly less or more than 100% due to rounding.

Table B-52 shows that the rate of home ownership in Fresno has decreased since 2000. This decrease in the rate of home ownership is consistent with changes seen in the county and the region over this period.

**Table B-52**
Home Ownership of Occupied Units in Fresno

| Home Ownership | Number of Occupied Units in 2000[a] | Percentage of Total Occupied Units | Number of Occupied Units in 2008[b] | Percentage of Total Occupied Units |
|---|---|---|---|---|
| Own | 70,915 | 50.7 | 72,062 | 47.8 |
| Rent | 69,036 | 49.3 | 78,548 | 52.2 |
| Total occupied housing units | 139,951 | 100.0 | 150,610 | 100.0 |

Sources:
[a] Analysis of U.S. Census Bureau 2000d.
[b] Analysis of U.S. Census Bureau, American Community Survey 2008g.
Note: Percentages may total slightly less or more than 100% due to rounding.

Table B-53 shows that the rate of home ownership varied widely across the three districts in 2000. The Central district, which is the most urban of the districts, had the highest percentage of individuals who rent (86.2.%); the residents of this district were about twice as likely to rent as the residents of the city as a whole (43.2%). Edison (59.5%) and Roosevelt (56.4%) had lower percentages of renters, but these percentages were still above that of the city as a whole.

**Table B-53**
Housing Ownership Rates in Fresno Districts

| Home Ownership | Central | | Edison | | Roosevelt | |
|---|---|---|---|---|---|---|
| | 2000 | Percentage | 2000 | Percentage | 2000 | Percentage |
| Own | 574 | 13.8 | 2,524 | 40.5 | 11,694 | 43.6 |
| Rent | 3,591 | 86.2 | 3,707 | 59.5 | 15,113 | 56.4 |
| Total occupied housing units | 4,165 | 100.0 | 6,231 | 100.0 | 26,807 | 100.0 |

Source: Analysis of U.S. Census Bureau 2000h.
Note: Percentages may total slightly less or more than 100% due to rounding.

As of 2008, residents of 69.4% of the occupied housing units in Fresno had moved into their homes since 2000, while 13.6% of households were more established, having lived in the same residences since at least 1990 (see Table B-54). This percentage of recent unit turnover is higher and the percentage of more-established residents is lower in the city of Fresno than in the county (64.7% and 15.9%) and the region (66% and 15.2%).

**Table B-54**
Length of Residence in the City of Fresno

| Length of Residence | Number of Housing Units in 2000[a] | Percentage of Total Occupied Housing Units | Number of Housing Units in 2008[b] | Percentage of Total Occupied Housing Units |
|---|---|---|---|---|
| Moved in 2005, or later | NA | NA | 70,629 | 46.9 |
| Moved in 2000 to 2004 | NA | NA | 33,959 | 22.5 |
| Moved in 1990 to 1999 | 105,454 | 75.4 | 25,464 | 16.9 |
| Moved in 1980 to 1989 | 16,696 | 11.9 | 10,006 | 6.6 |
| Moved in 1970 to 1979 | 9,424 | 6.7 | 6,457 | 4.3 |
| Moved in 1969, or earlier | 8,377 | 6.0 | 4,095 | 2.7 |
| Total Housing Units | 139,951 | 100.0 | 150,610 | 100.0 |

[a] Analysis of U.S. Census Bureau 2000d.
[b] Analysis of U.S. Census Bureau, American Community Survey 2008g.
Note: Percentages may total slightly less or more than 100% due to rounding.

In 2000, the Edison district had a higher percentage of housing units having the same residents for 20 years or more, than either the Central or Roosevelt districts. Table B-55 shows that slightly more than a quarter of the housing units in the Edison district had been occupied by the same residents for at least 20 years, while in the Central and Roosevelt district, 81.6% and 73.1% of units respectively had turned over within the past 10 years.

**Table B-55**
Length of Residence in Fresno Districts

| Length of Residence | Central | | Edison | | Roosevelt | |
|---|---|---|---|---|---|---|
| | 2000 | Percentage | 2000 | Percentage | 2000 | Percentage |
| Moved in 1990 to 1999 | 3,400 | 81.6 | 3,914 | 62.8 | 19,600 | 73.1 |
| Moved in 1980 to 1989 | 448 | 10.8 | 721 | 11.6 | 3,260 | 12.2 |
| Moved in 1970 to 1979 | 145 | 3.5 | 656 | 10.5 | 1,777 | 6.6 |
| Moved in 1969, or earlier | 172 | 4.1 | 940 | 15.1 | 2,170 | 8.1 |
| Total housing units | 4,165 | 100.0 | 6,231 | 100.0 | 26,807 | 100.0 |

Sources: Analysis of U.S. Census Bureau 2000d.

Note: Percentages may total slightly less or more than 100% due to rounding.

## E. ECONOMY

Fresno's economy has traditionally been dependent on agriculture, and Fresno County remains number one of all counties in the nation in terms of agricultural production. Although the economic base of the city of Fresno has become more diversified, many jobs (e.g., food processing, manufacturing, warehousing, and distribution) are still linked to the agricultural activities in the surrounding area. Despite the strength of the agricultural sector, unemployment in Fresno remains high and wages relatively low (City of Fresno Planning and Development Department 2002).

Between 2000 and 2008, the number of workers in Fresno's labor force grew by 24,800, and the unemployment rate increased slightly from 9.7% to 9.9% (see Table B-56). In 2009, the city, county, and region all experienced increased unemployment. The 14.2% unemployment rate that Fresno experienced in 2009 was similar to the unemployment rate in both the county (15.1%) and the region (14.9%) at that time.

**Table B-56**
Employment and Unemployment in the City of Fresno

| Labor Status | Number in 2000 | Percentage of Labor Force | Number in 2008 | Percentage of Labor Force | Number in 2009 | Percentage of Labor Force |
|---|---|---|---|---|---|---|
| Employed | 184,500 | 90.3 | 206,600 | 90.1 | 197,700 | 85.8 |
| Unemployed | 19,900 | 9.7 | 22,700 | 9.9 | 32,700 | 14.2 |
| Total labor force | 204,400 | 100.0 | 229,200 | 100.0 | 230,300 | 100.0 |

Source: California Employment Development Department 2010a.

Note: Percentages may total slightly less or more than 100% due to rounding.

Employment data from 2000 across districts in Fresno shows that individuals living in the Central district were much more likely to be unemployed in 2000 than those living in either the Edison or Roosevelt districts, as shown in Table B-57.[22]

**Table B-57**
Employment and Unemployment in Fresno Districts

| Labor Status | Central | | Edison | | Roosevelt | |
|---|---|---|---|---|---|---|
| | 2000 | Percentage | 2000 | Percentage | 2000 | Percentage |
| Employed | 3,241 | 70.0 | 5,657 | 77.0 | 28,138 | 83.2 |
| Unemployed | 1,389 | 30.0 | 1,691 | 23.0 | 5,700 | 16.8 |
| Total labor force | 4,630 | 100.0 | 7,348 | 100.0 | 33,838 | 100.0 |

Source: Analysis of U.S. Census Bureau 2000c.

Note: Percentages may total slightly less or more than 100% due to rounding.

As shown in Table B-58, public administration is the largest occupational sector in Fresno. The occupational profile of Fresno is different than that of either the county or the region, because a much smaller percentage of the work force in the city of Fresno participates in agriculture and related activities, and a much larger percentage of the work force participates in professional and service occupations. Information on employment by occupation type is not available at the district level.

**Table B-58**
Occupation in the City of Fresno by Type

| Occupation | Number of Employed in 2001 | Percentage of Total Employed | Number of Employed in 2008 | Percentage of Total Employed |
|---|---|---|---|---|
| Agriculture, forestry, fishing and hunting, and mining | 11,414 | 5.8 | 8,622 | 3.7 |
| Construction | 11,160 | 5.7 | 12,876 | 5.5 |
| Manufacturing | 15,654 | 8.0 | 17,559 | 7.5 |
| Wholesale trade | 9,194 | 4.7 | 10,320 | 4.4 |
| Retail trade | 22,313 | 11.4 | 24,221 | 10.4 |
| Transportation and warehousing, and utilities | 4,856 | 2.5 | 6,317 | 2.7 |
| Information | 3,710 | 1.9 | 3,733 | 1.6 |

[22] Comparing 2000 unemployment rates for the city or Region to unemployment rates shown for the districts is not recommended. These numbers were obtained from different data sources that use different methodologies. District level data is presented to illustrate the differences between the districts economically.

**Table B-58**
Occupation in the City of Fresno by Type

| Occupation | Number of Employed in 2001 | Percentage of Total Employed | Number of Employed in 2008 | Percentage of Total Employed |
|---|---|---|---|---|
| Finance, insurance, real estate, and rental and leasing | 11,624 | 5.9 | 12,505 | 5.4 |
| Professional, scientific, management, administrative, and waste management services | 19,928 | 10.2 | 26,065 | 11.2 |
| Educational, health and social services | 26,049 | 13.3 | 32,219 | 13.9 |
| Arts, entertainment, recreation, accommodation and food services | 16,933 | 8.7 | 20,133 | 8.7 |
| Other services (except public administration) | 8,465 | 4.3 | 13,805 | 5.9 |
| Public administration | 34,116 | 17.5 | 44,213 | 19.0 |
| Total People Employed | 195,416 | 100.0 | 232,588 | 100.0 |

Sources: California Employment Development Department 2010b.

Note: This table provides a count of occupations, and the previous employment table provides a count of resident workers. The total employed for these two sets of numbers will not be equal given those from outside the community that commute to work in the city and those residents of the city who commute to other communities for work.

Note: Percentages may total slightly less or more than 100% due to rounding.

## F. FISCAL

In fiscal year 2008, the City of Fresno had an annual budget of $726,713,800. Of that amount, $71,679,800 was obtained through property taxes and $77,149,100 from sales taxes, which accounted for 10.6% and 9.9% of the budget, respectively (City of Fresno 2009).

## G. COMMUNITY FACILITIES AND AMENITIES

As the fifth-largest city in California and one of the main economic and service hubs of the Central Valley, Fresno offers a wide array of local attractions and entertainment opportunities. Fresno has an active arts community, including a local philharmonic orchestra, an opera, and several theater groups. Fresno hosts an annual film festival. It has several museums, including the including the African-American Museum of the San Joaquin Valley, Fresno Art Museum, Artes Americas, and an Armenian Museum.

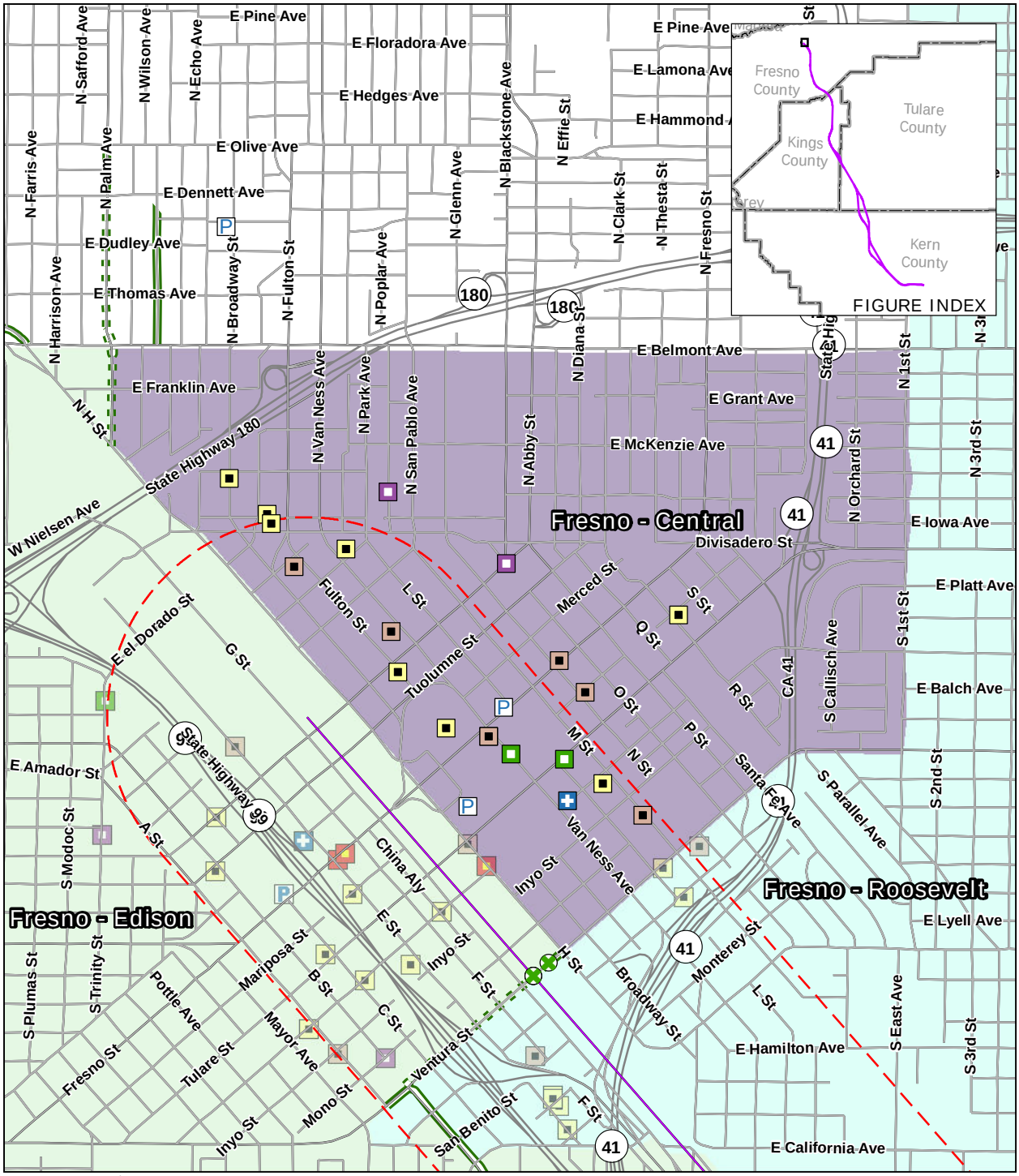
Fresno has a California State University campus that attracts students from throughout the region and beyond. The recently built Save Mart Center in Fresno is home to the Fresno State Bulldogs men's and women's basketball teams and also serves as a venue for major concerts and other sports events. Fresno is also home to minor league baseball, football, soccer, and hockey teams (Explore Fresno n.d.).

The City of Fresno maintains more than 50 city parks and three municipal golf courses. Fresno's recreation resources include a 110-acre sports park with numerous playing fields, the 159-acre Roeding Regional Park, which contains the city zoo, and the 300-acre Woodward Regional Park, which includes a bird sanctuary (City of Fresno 2010).

Facilities of primary concern for the socioeconomics, communities, and environmental justice analysis are the locations of public buildings, public-safety fire and police stations, medical services, schools, places of worship, and parks. Given the extensive number of community facilities in Fresno, only the facilities within the study area are listed below. Figure B-33, Figure B-34, and Figure B-35 provide maps of the affected districts that show these facility locations.

**Public Buildings**

The city of Fresno has many public buildings. Public buildings in this context are meant to represent community centers and other facilities open to the public. Fresno is one of the cultural centers of the San Joaquin Valley, and as a result, the city has many more public building and venues than most of the other cities in the Central Valley. Furthermore, both the State of California and the federal government have multiple offices in the city. A majority of these state and federal office buildings are located within the study area, along with many of the city and county office buildings. Other buildings within the study area include libraries, museums, and community centers. A majority of these buildings (16 of the 18 total) are within the Central neighborhood. The Edison neighborhood has two facilities and the Roosevelt neighborhood has none. The public buildings in the study area are listed in Table B-59.




PRELIMINARY DRAFT/SUBJECT TO CHANGE - HST ALIGNMENT IS NOT DETERMINED

Source: URS, 2010

May 10, 2011

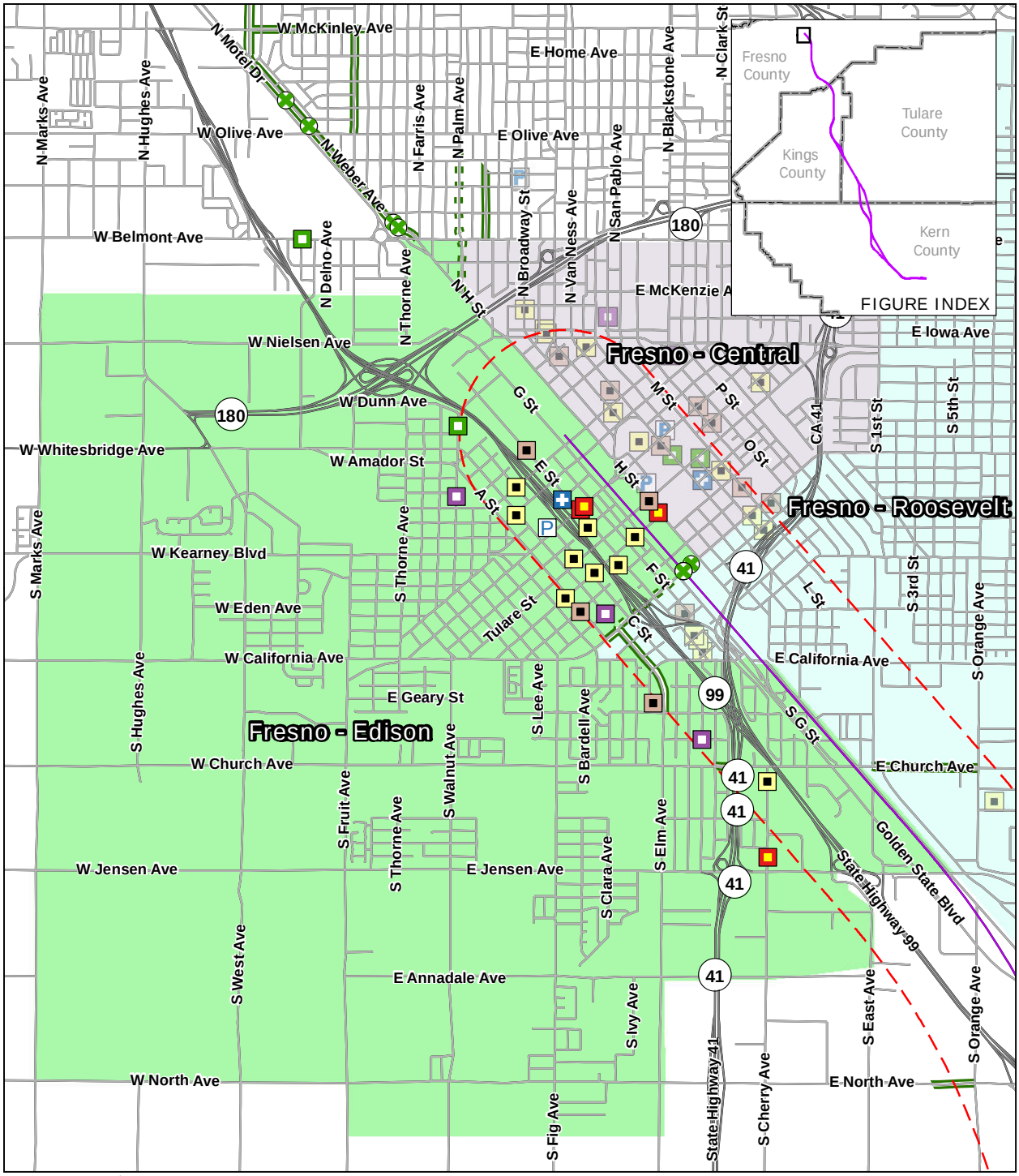
N

0 500 1,000 Feet

0 250 500 Meters

- Alignment (Fresno to Bakersfield)
- Existing bike path
- Proposed bike path
- Road
- Half-mile buffer from alignment
- Bike path/Alternative crossing
- Fire
- Hospitals
- Park
- Places of Worship
- Police
- Public Buildings
- Schools

Figure B-33
City of Fresno Central District Facility Locations




PRELIMINARY DRAFT/SUBJECT TO CHANGE - HST ALIGNMENT IS NOT DETERMINED

Source: URS, 2010

May 10, 2011

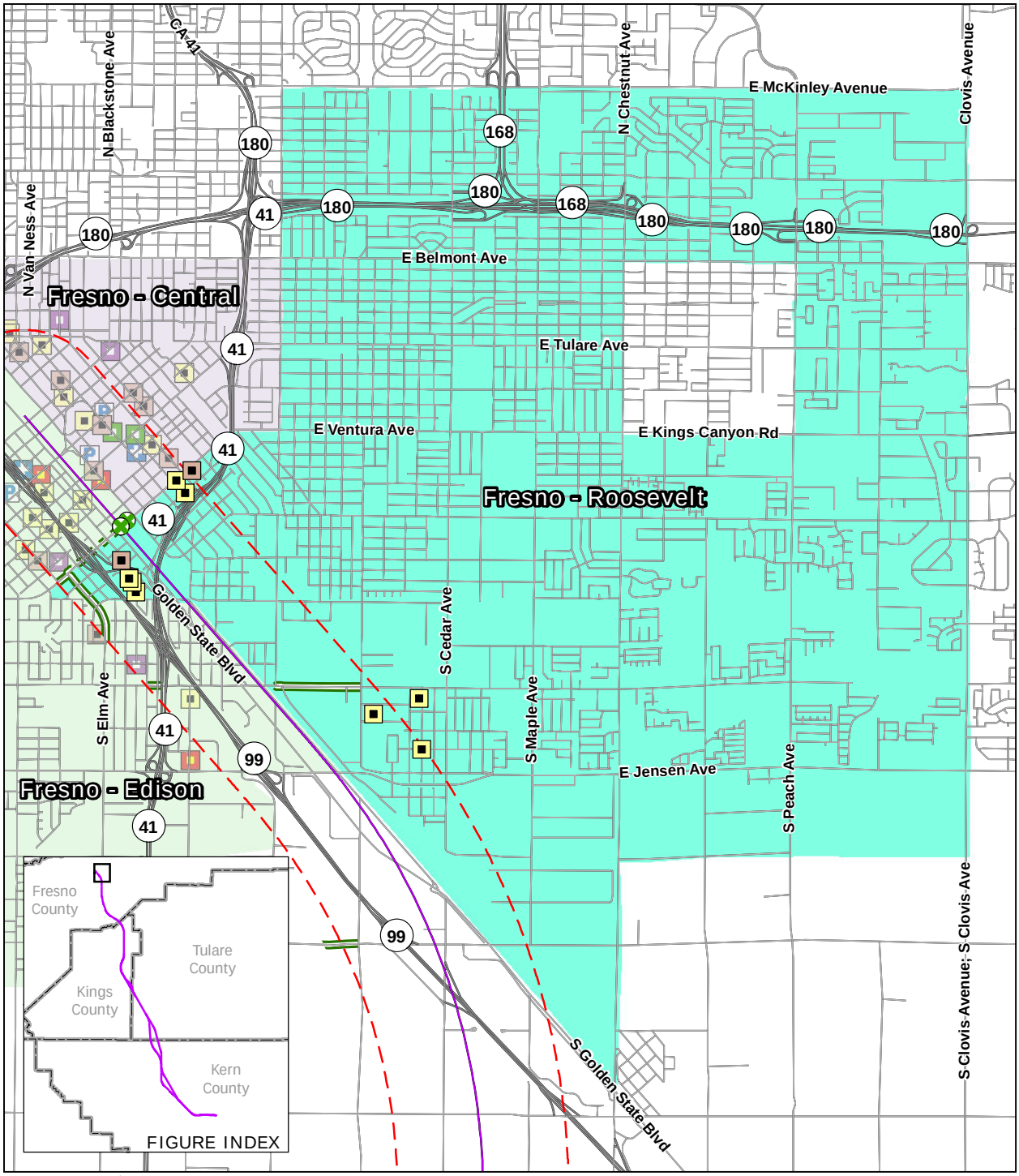
N

0 1,000 2,000 Feet

0 500 1,000 Meters

- Alignment (Fresno to Bakersfield)
- Existing bike path
- Proposed bike path
- Road
- Half-mile buffer from alignment
- Bike path/Alternative crossing
- Fire
- Hospitals
- Park
- Places of Worship
- Police
- Public Buildings
- Schools

Figure B-34
City of Fresno Edison
District Facility Locations




PRELIMINARY DRAFT/SUBJECT TO CHANGE - HST ALIGNMENT IS NOT DETERMINED

May 10, 2011

Source: URS, 2010

N

0 1,000 2,000
Feet

0 500 1,000
Meters

- Alignment (Fresno to Bakersfield)
- Existing bike path
- Proposed bike path
- Road
- Half-mile buffer from alignment
- Bike path/Alternative crossing
- Fire
- Hospitals
- Park
- Places of Worship
- Police
- Public Buildings
- Schools

Figure B-35
City of Fresno Roosevelt
District Facility Locations

**Table B-59**
Public Buildings in the City of Fresno

| Facility Name | Location | Additional Details | District |
|---|---|---|---|
| Dickey Youth Development Center | 1515 Divisadero St | Community Center | Central |
| Armenian Community Center | 2348 Ventura St | Community Center | Central |
| Frank H Ball Community Center | 760 Mayor Ave | Community Center | Edison |
| King of Kings Community Center | 2267 South Geneva Ave | Community Center | Edison |
| St Agnes Holy Cross Center for Women | 421 F St | Community Center | Central |
| Fresno Bee Editorial Library | 1626 E St | Library | Central |
| Fresno County Free Library | 2420 Mariposa St | Library | Central |
| Fresno County Office of Education | 1111 Van Ness St | Education | Central |
| African-American Museum | 1857 Fulton St | Museum | Central |
| Veteran Memorial Museum | 2425 Fresno St | Museum | Central |
| Fresno Grizzlies Baseball | 1800 Tulare St | Sports | Central |
| Fresno County Government Center | 2281 Tulare St | Government | Central |
| Fresno Convention Center | 700 M St | Community Center | Central |
| Federal Courthouse | 2500 Tulare St | Court | Central |
| State of California Court of Appeals | 2424 Ventura St | Court | Central |
| Fresno County Superior Court | 1100 Van Ness Ave | Court | Central |
| Fresno City Hall | 2600 Fresno St | City Offices | Central |
| State Office Building | Mariposa Mall | State Offices | Central |
| Sources: National Institute of Building Sciences 2003; USGS 1992; Google 2010, map of Fresno. | | | |

## Public Safety

### *Police*

Fresno has six police stations throughout the city, and the county sheriff has two stations in the city. Of these stations, four are within the study area. Three of the police stations are located in the Central district while the remaining station is in the Edison district. The city has a total of 849 sworn police officers, and the county sheriff has a total of 907 sworn officers (City of Fresno 2002).

### *Fire*

Fresno has 26 fire stations throughout the city. Of these stations, four are within the study area, three in the Central district and one in the Edison district. The city employs 383 firefighters and has a desired response time of 5 minutes.

### *Medical*

Because Fresno is one of the major cities of the Central Valley, it has a large number of regional and local medical facilities. According to the Office of Statewide Health Planning and Development (OSHPD) the city has 73 licensed medical facilities (12 hospitals, 17 primary-care facilities, 6 specialty-care facilities, 17 hospices, and 20 long-term care facilities). Of these facilities, only two are within the study area, both in the Central district.

The police, fire, and medical facilities within the study area are listed in Table B-60.

**Table B-60**
City of Fresno Police, Fire, and Medical Facilities

| Facility Name | Location | Additional Details | District |
|---|---|---|---|
| **Police** | | | |
| Police Headquarters | 2323 Mariposa Mall | Headquarters | Central |
| Police – Southwest | 1211 Fresno St | Substation | Edison |
| Police – Central | 940 N Broadway | Substation | Central |
| Sheriff Headquarters | 2200 Fresno St | Headquarters | Central |
| **Fire** | | | |
| City Headquarters/City Training | 911 H St | Headquarters | Central |
| City Repair and Maintenance | 1420 Fresno St | Corporation yard | Central |
| Station 3 | 1406 Fresno St | Fire station | Central |
| Station 7 | 2571 S Cherry | Fire station | Edison |
| **Medical** | | | |
| Bright Horizon Hospice Services | 2115 Kern St | Hospice | Central |
| Baart Community Healthcare E Street Clinic | 1235 E St | Primary care facility | Central |
| Sources: National Institute of Building Sciences 2003; USGS 1992; Google 2010, map of Fresno. | | | |

## Schools

The Fresno Unified School District runs schools within the study area and covers over half of the city of Fresno (Central Unified, Clovis Unified, and other similar districts cover the rest). It has 95 schools ranging from pre-schools to high schools and has approximately 76,621 students (California Department of Education 2010). Five schools are located within the study area (three in the Edison district and two in the Central district); they are listed in Table B-61.

**Table B-61**
City of Fresno Schools

| Facility Name | Location | Additional Details | District |
|---|---|---|---|
| Columbia Elementary School | 1025 S Trinity St | School | Edison |
| Lincoln Elementary School | 1100 Mono St | School | Edison |
| Kirk Elementary | 2000 E Belgravia | School | Edison |
| Lowell Elementary School | 171 N Popular Ave | School | Central |
| Fresno Adult School | 2500 Stanislaus St | School | Central |
| Sources: National Institute of Building Sciences 2003; USGS 1992; Google 2010, map of Fresno. | | | |

## Religious Facilities

Because Fresno is a major metropolitan area, numerous religious facilities and faiths are represented. Similar to public buildings, a large number of religious facilities are in the Central district (14 of the 26 such facilities identified), with the remainder in the Edison (11 facilities) and Roosevelt (1 facility) districts. The religious facilities identified within the study area are listed in Table B-62.

**Table B-62**
Religious Facilities in the City of Fresno

| Facility Name | Location | Additional Details | District |
|---|---|---|---|
| Fresno Buddhist Temple | 1340 Kern St | Religious | Central |
| Masjid Al Aqabah | 1528 Kern St | Religious | Central |
| Fresno Temple Church of God | 208 E St | Religious | Central |
| Bethel Temple of Church of God | 1224 Kern St | Religious | Edison |
| Bethel Lutheran Church | 187 N Broadway | Religious | Central |
| Iglesia de Jesucristo Palabra Miel Fresno | 843 E Divisadero St | Religious | Central |
| United Apostolic Church | 1762 Van Ness Ave* | Religious | Central |
| Iglesia Apostolica Unida | 2123 Amador St | Religious | Central |
| Church of Apostolic Assembly of Faith in Christ Jesus Second | 110 N Yosemite Ave | Religious | Central |
| Downtown Church | 1441 Fulton St | Religious | Central |
| Flipside 13 Christian Church | 1243 Fulton Mall | Religious | Central |
| Iglesia Centro Christiano Pueblo De Dios | 855 M St* | Religious | Central |
| Holy Trinity Armenian Church | 2226 Ventura St | Religious | Central |

**Table B-62**
Religious Facilities in the City of Fresno

| Facility Name | Location | Additional Details | District |
|---|---|---|---|
| Abundant Life Christian Assembly Church | 2222 Santa Clara St* | Religious | Central |
| Rosa De Saron Assembly of God Church | 3707 E Laurite Ave* | Religious | Central |
| Calwa United Methodist Church | 2540 S 10th St | Religious | Roosevelt |
| SW Cherry Church | 2433 S Cherry St* | Religious | Edison |
| Greater Faith Missionary Church | 260 E St | Religious | Edison |
| First Union Missionary Baptist Church | 304 E St | Religious | Edison |
| Apostolic Holy Ghost Revival Tabernacle | 304 E St* | Religious | Edison |
| St Genevieve's Church | 1127 Tulare St | Religious | Edison |
| First Mexican Baptist Church | 1340 Mariposa St | Religious | Edison |
| Word of Life Church of God in Christ | 936 Kern St | Religious | Edison |
| St John's Church | 2814 Mariposa St* | Religious | Edison |
| God Abundance Harvest Church | 1024 Tuolumne St* | Religious | Edison |
| True Love Tabernacle Church | 111 W Whites Bridge Ave | Religious | Edison |

Sources: National Institute of Building Sciences 2003; 1992; Google 2010, map of Fresno.
* = Address not readily available so approximated.

## Parks

Through its Parks, After School, Recreation and Community Services Department, the City of Fresno operates and maintains a few parks and recreation facilities within the study area (see Table B-63). Additional detailed park information can be found in the Parks and Recreation section of the EIR/EIS.

**Table B-63**
City of Fresno Parks

| Facility Name | Location | Additional Details | District |
|---|---|---|---|
| Fulton Mall | Fulton St between Tuolumne St and Inyo St | Pedestrian mall | Central |
| Fresno County Plaza | 2220 Tulare St | Public open space | Central |
| Fresno County Courthouse Park | 1100 Van Ness Ave | Neighborhood park | Central |

Sources: City of Fresno 2010; Google 2010, map of Fresno.

## H. CIRCULATION AND ACCESS

Non-motorized circulation issues associated with pedestrian and bicycle transportation are the focus of this analysis. However, issues associated with main roads, public transportation, and parking can also affect communities. More details on these aspects can be found in the Transportation section of the EIR/EIS.

The *City of Fresno General Plan* calls for a continuous and easily accessible bikeway and trail system throughout the metropolitan area (City of Fresno Planning and Development Department 2002). Incorporating bikeways and bicycle facilities in new development and linking bikeways is a priority. To accomplish this goal, the general plan sets as a priority incorporating bikeways and bicycle facilities in new development and linking existing and proposed bikeways. A list of Fresno bike paths in the study area is provided in Table B-64.

**Table B-64**
City of Fresno Bicycle Paths within the Study Area

| Facility Name | Location | Additional Details |
|---|---|---|
| Palm Ave | H St to Olive | Install Class II Bike Lane - Proposed |
| Ventura St | H St to B St | Install Class II - Proposed |
| West Ave | Yale Ave to Clinton Ave | Install Parking Bays - Proposed |
| B St | Ventura St to California Ave | Class II Bike Lane |
| Church Ave | Lily Ave to SR 41 | Class II Bike Lane |
| Church Ave | East Ave to Orange Ave | Class II Bike Lane |
| Elm St | California Ave to Florence Ave | Class II Bike Lane |
| Fruit Ave | McKinley Ave to Olive Ave | Class II Bike Lane |
| McKinley Ave | West Ave to Palm Ave | Class II Bike Lane |
| North Ave | East Ave to Orange Ave | Class II Bike Lane |
| Ventura St | B St to A St | Class II Bike Lane |
| Weber Ave | Belmont Ave to West Ave | Class II Bike Lane |
| West Ave | Weber Ave to Clinton Ave | Class II Bike Lane |
| Wilson Ave | Olive Ave to Belmont Ave | Class II Bike Lane, Class III Bike Route at intersection of Wilson and Belmont |
| Source: Council of Fresno County Governments 2007a. | | |

# B.7 City of Hanford

Hanford is the county seat and the largest community in Kings County. The city has a total area of about 13 square miles with approximately 0.3 square mile, or 2%, of this land within the study area for the socioeconomic, communities, and environmental justice analysis. Like many communities in the San Joaquin Valley, Hanford came into being as a result of construction of the Central and Southern Pacific Railroad system in the 1870s. It was named after an executive with Southern Pacific Railroad Company. The city incorporated in 1891 and was designated the county seat in 1893, when Kings County was formed from the western part of Tulare County (Roberts 2005).

Hanford is served by SR 43 and SR 198. SR 43 bypasses the city along its eastern side, while SR 198 cuts through the city from east to west, separating the municipal airport and county fairgrounds, as well as some residential neighborhoods, from the historic downtown area. The BNSF railroad tracks cut through the city from north to south (as does the People's Ditch, a local irrigation canal), and the San Joaquin Valley Railway tracks run generally from east to west, north of SR 198. These railroads provide freight service to Hanford, and Amtrak provides passenger rail service. A major retail complex on the west side of the city includes major stores such as Walmart, Target, Sears, and Gottschalks. Other smaller retailers and commercial services are scattered throughout the city (City of Hanford Planning Division 2002).

The city of Hanford has worked to preserve its history while embracing growth and development. Notable buildings include the Hanford Civic Auditorium, the Hanford Carnegie Museum, the Fox Theater, and the Bastille, a former county jail that is now a restaurant and nightclub. China Alley commemorates the Chinese immigrants who came to help build the railroads and work on farms in the area. The city has an Art Center for visual arts exhibits and teaching, a symphony orchestra, a local theater group, and several museums.

The city has a swimming pool, adventure park, auto-racing oval, and several civic parks and sports fields, including a Youth Athletic Complex. Advanced educational opportunities are provided by the College of the Sequoias, West Hills College, and Chapman University. The Kings County Workforce Investment Board provides job-training programs, and the city has several business incentive programs, including a City Enterprise Zone, Foreign Trade Zone, and industrial park infrastructure development, to attract new businesses and diversify the local economy (Hanford Conference and Visitor's Agency n.d.).

## A. POPULATION AND DEMOGRAPHICS

In 2000, Hanford had a population of 41,686 residents. By 2009, the population had grown to 52,687, for an average annual growth rate of 2.9%. This growth rate is higher than that seen in Kings County (2.2%) and the region (2.3%) during the same period (California Department of Finance 2009a, 2009b).

Table B-65 provides information on race and ethnicity for the Hanford population in 2000 and an average value for the years 2006-2008. As this table indicates, Hanford's minority population, which represented approximately half of all residents in 2000, increased to approximately 60% of all residents by 2006-2008. This total percentage of minority population is similar to that of Kings County (59%) and the region (63%).[23]

**Table B-65**
Racial and Ethnicity Characteristics of the City of Hanford

| Race | Number of People in 2000[a] | Percentage of Total Population | Number of People in 2006-2008[b] | Percentage of Total Population |
|---|---|---|---|---|
| **Non-Hispanic White** | 20,794 | 49.9 | 21,094 | 41.2 |
| **Minority** | 20,892 | 50.1 | 30,050 | 58.8 |
| Hispanic of all races | 16,116 | 38.7 | 23,279 | 45.5 |
| Non-Hispanic Black or African-American | 1,989 | 4.8 | 3,741 | 7.3 |
| Non-Hispanic American Indian and Alaska Native | 305 | 0.7 | 411 | 0.8 |
| Non-Hispanic Asian | 1,164 | 2.8 | 2,135 | 4.2 |
| Non-Hispanic Native Hawaiian and Other Pacific Islander | 59 | 0.1 | 0 | 0.0 |
| Non-Hispanic, some other race | 55 | 0.1 | 0 | 0.0 |
| Non-Hispanic, two or more races | 1,204 | 2.9 | 484 | 0.9 |
| **Total** | 41,686 | 100.0 | 51,144 | 100.0 |

[a] Analysis of U.S. Census Bureau 2000e.
[b] Analysis of U.S. Census Bureau, American Community Survey 2006–2008a.

Notes: California DOF does not provide population projections at the city level. Also, the DOF does not provide annual estimates of racial and ethnicity characteristics, so the most current source, 2006–2008 ACS, is used. This practice explains the difference between the 2009 total population estimates presented above and the 2006–2008 totals in this table.

Note: Percentages may total slightly less or more than 100% due to rounding.

ACS = U.S. Census Bureau, American Community Survey
DOF = Department of Finance

The age distribution of Hanford's population has experienced little change since 2000 and is similar to the county and region, as shown in Figure B-36 and Figure B-37 (U.S. Census Bureau 2000a; U.S. Census Bureau, American Community Survey 2006–2008e).

[23] U.S. Census ACS single-year estimates for 2008 are available for Bakersfield and Fresno, because each of these cities has a population greater than 65,000. By contrast, Hanford, Corcoran, and Wasco each has a population of less than 65,000 but greater than 20,000, and therefore 2006 to 2008 average estimates are available. The city of Shafter, with a population of less than 20,000, currently has no recent estimates available from the ACS.

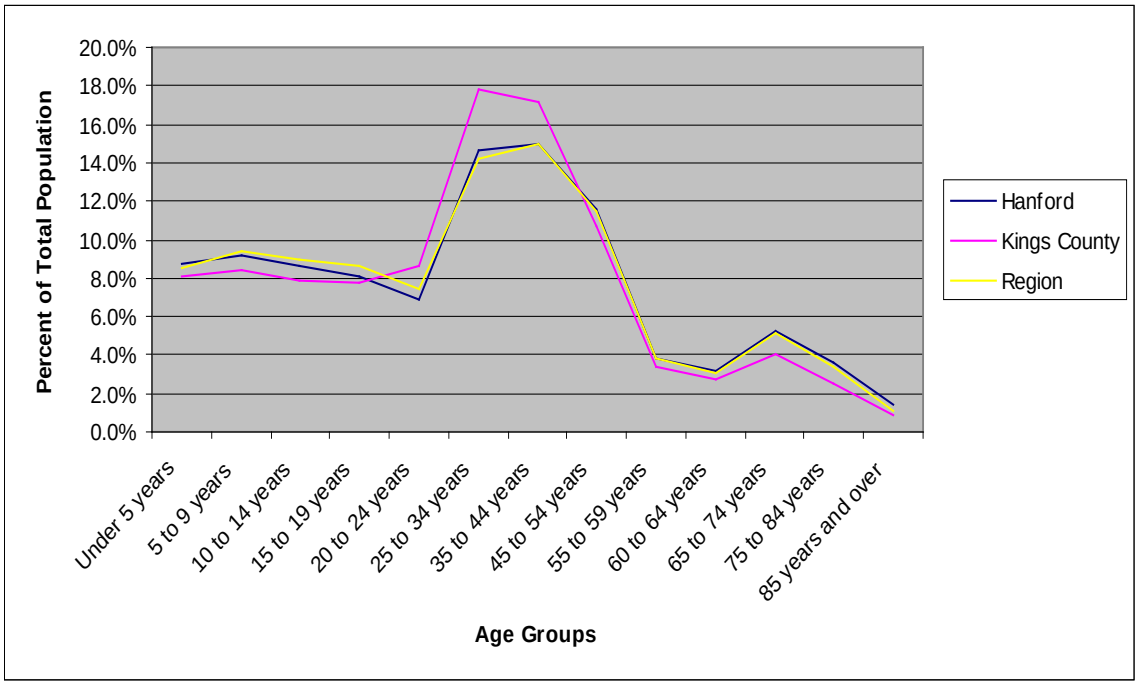



**Figure B-36**
City of Hanford Age Profile, 2000

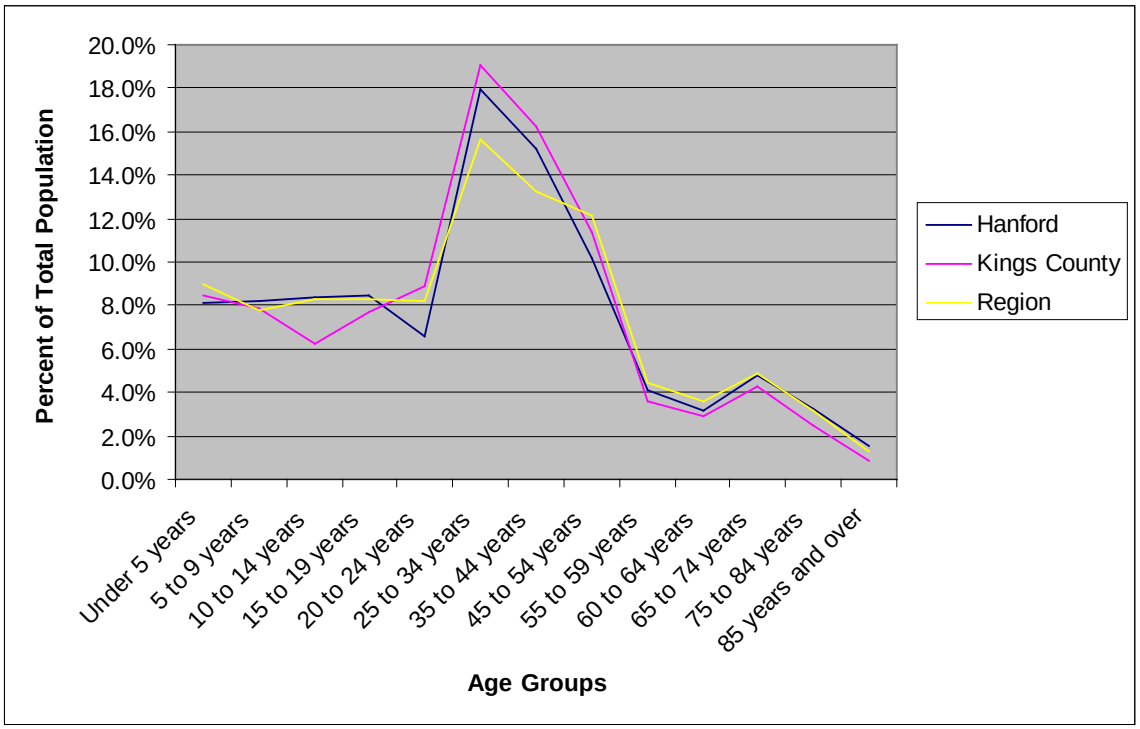



**Figure B-37**
City of Hanford Age Profile, 2006–2008

In 2000, there were 13,913 households in Hanford with an average household size of 2.93 persons per household. By 2009, both the number of households and the average household size had increased, to 17,015 and 3.05, respectively (California Department of Finance 2009a, 2009b). The 2009 average household size for Hanford is lower than that of either Kings County (3.18) or the region (3.3).

As Table B-66 shows, the makeup of households within Hanford has changed little since 2000. In 2000, approximately 74.5% of the households were family households, similar to the 2006–2008 three year average estimate of 74.0%. Also similar to trends seen in both the county and region were decreases in the percentage of married-couple families and increases in single-parent households in Hanford.

**Table B-66**
Numbers and Types of Households in the City of Hanford

| Household | Number of Households in 2000[a] | Percentage of Total Households | Number of Households in 2006–2008[b] | Percentage of Total Households |
|---|---|---|---|---|
| Family households (families) | 10,363 | 74.5 | 12,042 | 74.0 |
| Married-couple family | 7,623 | 54.8 | 8,669 | 53.3 |
| Female householder, no husband present | 2,090 | 15.0 | 2,389 | 14.7 |
| Male householder, no wife present | 650 | 4.7 | 984 | 6.0 |
| Non-family households | 3,550 | 25.5 | 4,225 | 26.0 |
| Householder living alone | 2,864 | 20.6 | 3,434 | 21.1 |
| Total | 13,913 | 100.0 | 16,267 | 100.0 |

Sources:
[a] Analysis of U.S. Census Bureau 2000h.
[b] Analysis of U.S. Census Bureau, American Community Survey 2008b.

Note: California DOF does not provide number of households by type for 2009, so ACS 2006–2008 data were used. This explains the difference between the 2009 total household estimates presented above and the 2006–2008 totals in this table.

Note: Percentages may total slightly less or more than 100% due to rounding.

ACS = U.S. Census Bureau, American Community Survey
DOF = Department of Finance

In 2000, 729 of the 13,913 households in the city were linguistically isolated, meaning that 5.2% of households did not have someone over the age of 14 with the ability to speak English very well, a lower percentage than that in the county (8.7%) and region (9.4%).[24] Since 2000, the city has experienced an increase in linguistic isolation similar to the county as a whole, with 9.2% of Hanford households linguistically isolated in 2008. This percentage is still below the county (12.3%) and region (11.0%) (U.S. Census Bureau 2000a; U.S. Census Bureau, American Community Survey 2006–2008e).

[24] According to the U.S. Census Bureau, a household is linguistically Isolated if "no member 14 years old and over speaks only English or speaks a non-English language and speaks English very well. In other words, all members 14 years old and over have at least some difficulty with English.

In 2007,[25] of the 44,012 non-institutionalized persons over the age of 5 in Hanford, 16.0% had some sort of disability, self-care limitation, or low-mobility issue. For people between the ages of 5 and 65, 13.5% were classified as disabled, while persons 65, and over, had a much-higher rate of disability (38.6%) (U.S. Census Bureau, 2000b; U.S. Census Bureau, American Community Survey, 2005–2007). These percentages are similar to those seen in both the county and region.

## B. INCOME AND POVERTY

In 1999, the median annual household income in Hanford was $37,582, compared with $35,749 in Kings County and $34,976 in the region. The median household income in Hanford increased to $51,520 by 2006-2008 again with the income in Hanford remaining higher than in either the county or region (U.S. Census Bureau 2000g; U.S. Census Bureau, American Community Survey 2008d).

In 1999, 7,059 persons, or 17.3% of the population, lived below the poverty line, which was similar to the county (19.5%) and region (22.2%) poverty rates. The number of individuals living below the poverty line increased after 1999, and by 2006-2008 it is estimated that 8,246 people were living below the poverty line. Even with this increase in the number of people below the poverty line, the percentage of population below the poverty line decreased to 16.9% (see Table B-67).

**Table B-67**
Income Level to Poverty Line in the City of Hanford

| Income Level as a Percentage of Poverty Line | Number of People in Income Group in 1999[a] | Percentage of Total Population Evaluated | Number of People in Income Group in 2006–2008[b] | Percentage of Total Population Evaluated |
|---|---|---|---|---|
| Under 0.50 | 2,298 | 5.6 | 2,448 | 5.0 |
| 0.50 to 0.74 | 1,808 | 4.4 | 3,042 | 6.2 |
| 0.75 to 0.99 | 2,953 | 7.2 | 2,756 | 5.6 |
| 1.00 to 1.24 | 2,566 | 6.3 | 2,058 | 4.2 |
| 1.25 to 1.49 | 2,514 | 6.2 | 2,046 | 4.2 |
| 1.50 to 1.74 | 2,598 | 6.4 | 2,649 | 5.4 |
| 1.75 to 1.84 | 1,045 | 2.6 | 1,899 | 3.9 |
| 1.85 to 1.99 | 1,265 | 3.1 | 907 | 1.9 |
| 2.00 and over | 23,825 | 58.3 | 31,069 | 63.6 |
| Total | 40,872 | 100.0 | 48,874 | 100.0 |

[a] Analysis of U.S. Census Bureau 2000g.
[b] Analysis of U.S. Census Bureau, American Community Survey 2006–2008d.

Note: Not all individuals are evaluated by the Census for income level to poverty line status. This practice explains why population totals in this table may not match population totals presented in the population and demographics section above. Also, 2000 Census data on income are representative of conditions in 1999.

Note: Percentages may total slightly less or more than 100% due to rounding.

[25] The U.S. Census Bureau does not recommend making comparisons between the 2000 and 2007 disability figures; for this reason, the more current information is presented.

While median incomes increased and poverty rates decreased from 1999 through 2006-2008, it should be noted that since the beginning of the current economic recession income levels have begun to decrease. Because unemployment has increased substantially since 2008, it can be assumed that household incomes have decreased and poverty rates have increased beyond the numbers reported here (U.S. Census Bureau 2009).

## C. ENVIRONMENTAL JUSTICE POPULATION

The study area intersects only a small portion of Hanford, where no EJ areas were identified (U.S. Census Bureau 2000a).

## D. HOUSING

In 2000, there were an estimated 14,722 housing units in Hanford. By 2009, that number had grown to 17,981 for an increase of 22.1%. Similar to both the county and region, the largest increase in Hanford housing stock occurred in single-family detached homes, which accounted for 84.4% of the housing stock growth.

As Table B-68 shows, the composition of the housing stock in Hanford is similar to the county and the region, except for a smaller percentage of mobile homes. Housing vacancy rates in the city were 5.4% in 2000 and remained approximately the same in 2009 (California Department of Finance 2009a, 2009b). These rates are lower than the 2009 rates of both the county (5.7%) and the region (7.4%).

**Table B-68**
Housing Stock in the City of Hanford

| Housing Type | Number of Units in 2000 | Percentage of Total Units | Number of Units in 2009 | Percentage of Total Units |
|---|---|---|---|---|
| Single-family detached | 10,401 | 70.6 | 13,154 | 73.2 |
| Single-family attached | 552 | 3.7 | 864 | 4.8 |
| Multifamily 2 to 4 units | 1,387 | 9.4 | 1,538 | 8.6 |
| Multifamily 5 units or greater | 2,041 | 13.9 | 2,082 | 11.6 |
| Mobile Homes | 341 | 2.3 | 343 | 1.9 |
| Total | 14,722 | 100.0 | 17,981 | 100.0 |

Source: California Department of Finance 2009a.
Note: Percentages may total slightly less or more than 100% due to rounding.

The rate of home ownership in Hanford has decreased slightly since 2000, as shown in Table B-69. This observed decrease in the rate of home ownership is similar to the county and region, which both experienced comparable decreases over this period.

**Table B-69**
Home Ownership of Occupied Units in the City of Hanford

| Home Ownership | Number of Occupied Units in 2000[a] | Percentage of Total Occupied Units | Number of Occupied Units in 2006–2008[b] | Percentage of Total Occupied Units |
|---|---|---|---|---|
| Own | 8,252 | 59.3 | 9,551 | 58.7 |
| Rent | 6,661 | 40.7 | 6,716 | 41.3 |
| Total occupied housing units | 13,913 | 100.0 | 16,267 | 100.0 |

[a] Analysis of U.S. Census Bureau 2000d
[b] Analysis of U.S. Census Bureau, American Community Survey 2006–2008g.
Note: Percentages may total slightly less or more than 100% due to rounding.

As of 2008, residents of 62.5% of the occupied housing units in Hanford had moved into their homes since 2000, while 14.5% of households were more established, having lived in the same residences since at least 1990 (see Table B-70). These percentages are both similar to the county (67% and 14.5%) and the region (66% and 15.2%) as a whole.

**Table B-70**
Length of Residence in the City of Hanford

| Length of Residence | Number of Housing Units in 2000[a] | Percentage of Total Occupied Housing Units | Number of Housing Units in 2006–2008[b] | Percentage of Total Occupied Housing n Units |
|---|---|---|---|---|
| Moved in 2005, or later | NA | NA | 5,247 | 32.3 |
| Moved in 2000 to 2004 | NA | NA | 4,907 | 30.2 |
| Moved in 1990 to 1999 | 10,019 | 72.0 | 3,766 | 23.2 |
| Moved in 1980 to 1989 | 1,886 | 13.6 | 1,116 | 6.9 |
| Moved in 1970 to 1979 | 1,071 | 7.7 | 600 | 3.7 |
| Moved in 1969, or earlier | 937 | 6.7 | 631 | 3.9 |
| Total housing units | 13,913 | 100.0 | 16,267 | 100/0 |

[a] Analysis of U.S. Census Bureau 2000d.
[b] Analysis of U.S. Census Bureau, American Community Survey 2006–2008g.
Note: Percentages may total slightly less or more than 100% due to rounding.
NA = not available

## E. ECONOMY

As is the case for many communities in the San Joaquin Valley, Hanford was traditionally a farming community, although it has expanded its economic base in recent decades. Between 2000 and 2008, Hanford's labor force grew by 2,900 workers, while unemployment increased

from 8.7% to 9.4% (see Table B-71). During 2009, the city, county, and region all experienced increased unemployment with unemployment in Hanford reaching 12.8%, slightly lower than the county (14.6%) and the region (14.9%).

**Table B-71**
Employment and Unemployment in the City of Hanford

| Labor Status | Number in 2000 | Percentage of Labor Force | Number in 2008 | Percentage of Labor Force | Number in 2009 | Percentage of Labor Force |
|---|---|---|---|---|---|---|
| Employed | 17,800 | 91.3 | 21,200 | 90.6 | 21,000 | 87.2 |
| Unemployed | 1,700 | 8.7 | 2,200 | 9.4 | 3,100 | 12.8 |
| Total Labor Force | 19,500 | 100.0 | 23,400 | 100.0 | 24,100 | 100.0 |

Source: California Employment Development Department 2010a.
Note: Percentages may total slightly less or more than 100% due to rounding.

As shown in Table B-72, public administration is the largest occupation group within the city limits of Hanford. The occupational profile of Hanford is very different than that of either the county or region, with a much smaller percentage of the work force participating in agricultural-related jobs. Other occupations employed a higher percentage of Hanford's labor force than did either the county or the region. This is most likely due to Hanford's proximity to several major regional employers, such as NAS Lemoore and the Corcoran state prisons.

**Table B-72**
Occupation in the City of Hanford by Type

| Occupation | Number Employed in 2001 | Percentage of Total Employed | Number Employed in 2008 | Percentage of Total Employed |
|---|---|---|---|---|
| Agriculture, forestry, fishing and hunting, and mining | 2,246 | 12.5 | 3,458 | 15.4 |
| Construction | 996 | 5.5 | 713 | 3.2 |
| Manufacturing | 1,664 | 9.2 | 2,344 | 10.4 |
| Wholesale trade | 986 | 5.5 | 367 | 1.6 |
| Retail trade | 1,884 | 10.5 | 3,151 | 14.0 |
| Transportation and warehousing, and utilities | 419 | 2.3 | 413 | 1.8 |
| Information | 315 | 1.7 | 253 | 1.1 |
| Finance, insurance, real estate, and rental and leasing | 565 | 3.1 | 696 | 3.1 |
| Professional, scientific, management, administrative, and waste management services | 793 | 4.4 | 752 | 3.4 |

**Table B-72**
Occupation in the City of Hanford by Type

| Occupation | Number Employed in 2001 | Percentage of Total Employed | Number Employed in 2008 | Percentage of Total Employed |
|---|---|---|---|---|
| Educational, health and social services | 2,506 | 13.9 | 3,762 | 16.8 |
| Arts, entertainment, recreation, accommodation and food services | 1,397 | 7.7 | 1,722 | 7.7 |
| Other services (except public administration) | 328 | 1.8 | 960 | 4.3 |
| Public administration | 3,927 | 21.8 | 3,850 | 17.2 |
| Total people employed | 18,026 | 100.0 | 22,441 | 100.0 |

Source: California Employment Development Department 2010b.

Note: This table provides a count of occupations, and the previous employment table provides a count of resident workers. The total employed for these two sets of numbers will not be equal given those from outside the community that commute to work in the city and those residents of the city who commute to other communities for work.

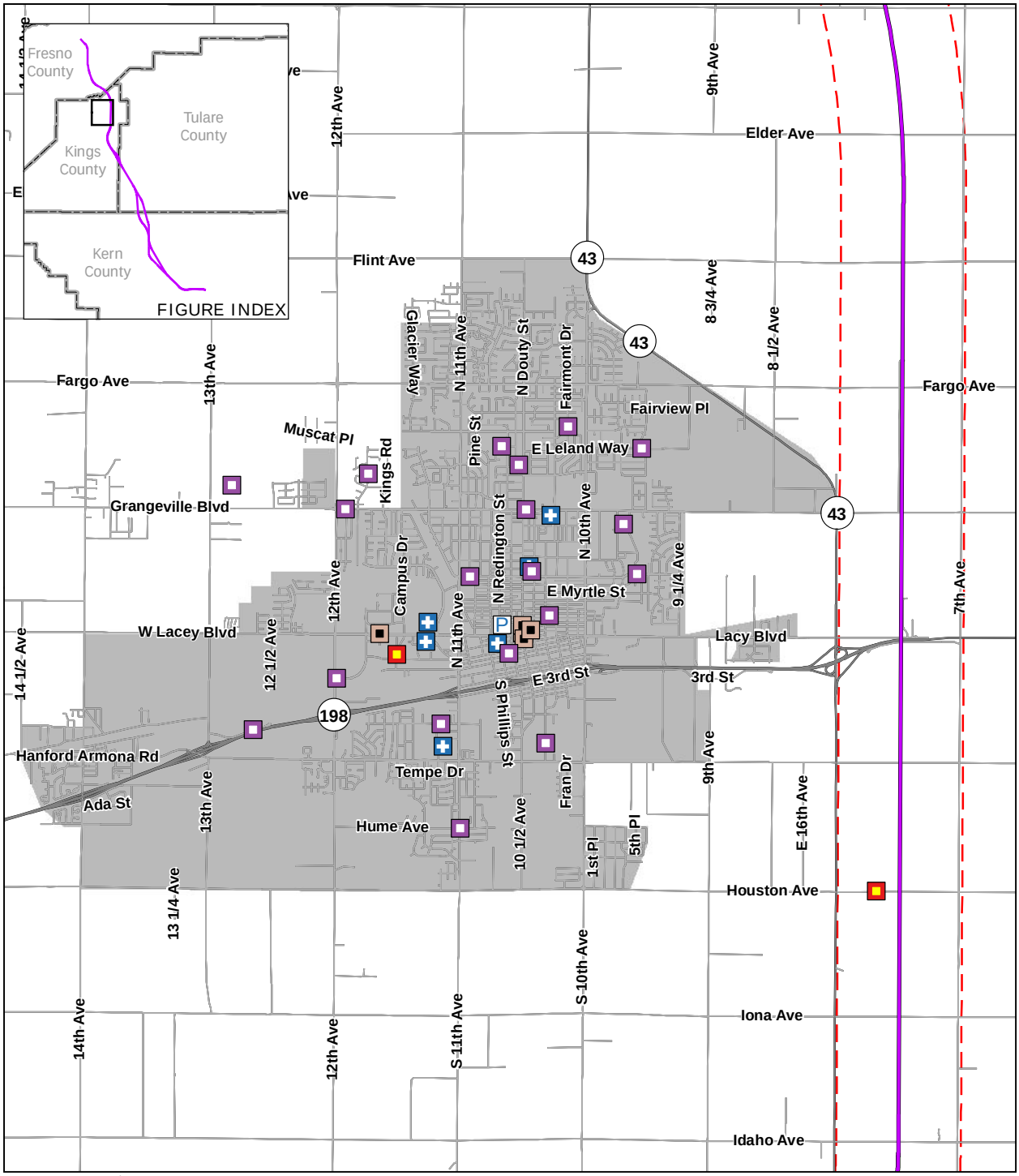
Note: Percentages may total slightly less or more than 100% due to rounding.

## F. FISCAL

In the 2008-2009 fiscal year the annual operating budget for the City of Hanford was $55,735,830. Of that budget, $10,735,830 came from property tax and $5,879,320 came from sales tax which represented 19.5% and 10.7% of the budget respectively (City of Hanford 2009).

## G. COMMUNITY FACILITIES AND AMENITIES

Facilities of primary concern for the socioeconomics, communities, and environmental justice analysis are the locations of public buildings; public-safety, fire and police stations; medical services; schools; places of worship; and parks. Each of these types of facilities is listed below, and Figure B-38 provides a map of the community showing these facility locations.




PRELIMINARY DRAFT/SUBJECT TO CHANGE - HST ALIGNMENT IS NOT DETERMINED
Source: URS, 2010

May 10, 2011

N

0 2,000 4,000
Feet

0 1,000 2,000
Meters

- Alignment (Fresno to Bakersfield)
- Existing bike path
- Proposed bike path
- Road
- Half-mile buffer from alignment
- Urban area
- Bike path/Alternative crossing
- Fire
- Hospitals
- Park
- Places of Worship
- Police
- Public Buildings
- Schools

Figure B-38
City of Handford
Facility Locations

## Public Buildings

The city of Hanford has numerous public buildings that serve the needs of the community (see list in Table B-73). Public buildings in this context are meant to represent community centers and other facilities open to the public. The County Government Center provides a wide range of services for all residents of Kings County. The city offices house the entire administrative presence of the city, and this building serves as the city hall. There are also two libraries operated by the county and the Carnegie Museum. None of these facilities are located in the study area.

**Table B-73**
City of Hanford Public Buildings

| Facility Name | Location | In Study Area |
|---|---|---|
| Hanford city offices | 315, 317, 319 Douty St | No |
| Kings County Library | 401 N Douty St | No |
| Hanford Carnegie Library | 109 E 8th St | No |
| Kings County Government Center | 1400 W Lacey Blvd | No |
| U.S. Social Security Administration | 330 N Harris St | No |
| Sources: National Institute of Building Sciences 2003; USGS 1992; Google 2010, map of Hanford. | | |

## Public Safety

### *Police*

There are two law-enforcement facilities in Hanford, the sheriff's headquarters and the police station. Neither of the stations is within the study area. Hanford has 49 full-time police officers, while the Kings County sheriff has 159 full-time officers (City of Hanford 2010; Coleman 2010).

### *Fire*

There are four fire stations in Hanford. Three of the stations are operated by Kings County, while the remaining station is operated by the city. One of these stations is located in the study area. There are 21 full-time fire fighters and the city has set an average response time of 5 minutes (Hanford Chamber of Commerce accessed 2009).

### *Medical*

There are six medical facilities in the community of Hanford. All facilities listed below are certified by the OSHPD. None of the facilities are within the study area.

Table B-74 lists the public-safety facilities with addresses.

**Table B-74**
City of Hanford Police, Fire, and Medical Facilities

| Facility Name | Location | Additional Details | In Study Area |
|---|---|---|---|
| **Police** | | | |
| Police Station 1 | 425 N Irwin | Headquarters | No |
| Sheriff Station 1 | 1326 Patterson Ave | Headquarters | No |
| **Fire** | | | |
| County Fire Station 1 | 280 N Campus Drive | Fire station | No |
| County Fire Station 2 | 14680 Excelsior Ave | Fire station | No |
| County Fire Station 3 | 7622 Houston Ave | Fire station | Yes |
| City Fire Station 1 | 315 N Douty | Fire station | No |
| **Medical** | | | |
| Family Heath Care Network – Hanford | 329 W 8th St | Primary care | No |
| Hacienda Rehabilitation and Health Care Center | 361 E Grangeville Blvd | Long-term care – 133 beds | No |
| Hanford Nursing and Rehabilitation Center | 1007 W Lacey Blvd | Long-term care – 124 beds | No |
| Kings Nursing and Rehabilitation Center | 851 Leslie Lane | Long-term care – 67 beds | No |
| Central Valley General Hospital | 1025 N Douty St | Hospital – 49 beds | No |
| Hanford Community Medical Center | 450 Greenfield Ave | Hospital – 64 beds | No |
| Sources: National Institute of Building Sciences 2003; USGS 1992; Google 2010, map of Hanford. | | | |

## Schools

There are 20 schools within the community of Hanford and they have a total of approximately 9,442 students, between the Hanford Elementary and Hanford Joint Union High School Districts (California Department of Education 2010). Of all the schools, 14 are public institutions and the remaining six schools are private. None of the schools are located within the study area. Table B-75 lists the school facilities with addresses.

**Table B-75**
City of Hanford Schools

| Facility Name | Location | Additional Details | In Study Area |
|---|---|---|---|
| Hamilton Elementary | 1269 Leland Way | Public | No |
| Lee Richmond Elementary | 939 Katie Hammond Lane | Public | No |
| Lincoln Elementary | 832 S Harris St | Public | No |
| Martin Luther King Elementary | 820 Hume Ave | Public | No |
| Monroe Elementary | 300 Monroe Dr | Public | No |
| Roosevelt Elementary | 870 W Davis St | Public | No |
| Simas Elementary | 1875 Fitzgerald Lane | Public | No |
| Washington Elementary | 2245 N Fairmont Dr | Public | No |
| John F Kennedy Jr. High | 1000 E Florinda Ave | Public | No |
| Woodrow Wilson Jr. High | 601 W Florinda St | Public | No |
| Hanford High School | 120 E Grangeville Blvd | Public | No |
| Hanford West High School | 1150 Lacey Blvd | Public | No |
| Sierra Pacific High School | 1259 N 13th Ave | Public | No |
| Western Christian School | 1594 W Grangeville Blvd | Private | No |
| St. Rose/McCarthy Catholic School | 1000 N Harris St | Private | No |
| Valley Oaks Christian School | 120 W Colonial Dr | Private | No |
| Heritage Christian Academy | 310 E 10th St | Private | No |
| San Joaquin Valley College | 215 W 7th St | Private | No |
| Brandman University | 325 Mall Drive | Private | No |
| College of the Sequoias | 12582 13th Rd | Public | No |
| Sources: National Institute of Building Sciences 2003; USGS 1992; Google 2010, map of Hanford. | | | |

## Religious Facilities

Hanford has many places of worship. The majority of these facilities belong to Christian denominations, with no Muslim or Jewish facilities identified. There are two temples in the community, which are Buddhist and Taoist. Because of the large number of religious facilities and the fact that none are located within the study area footprint, they are not listed.

## Parks

Through its Recreation Department and Parks Division, the city operates and maintains 21 outdoor facilities/parks, which include 9 mini parks (generally less than 2 acres), 3 neighborhood

parks (generally 3 to 4 acres) 5 larger community parks (from as small as about 6 acres to 36 acres), 3 special-use parks with various facilities, and 1 regional special-use park that houses several types of ball fields. The park is about 172 acres. In addition, the city has agreements with the local school district and the College of the Sequoias to jointly use other recreation facilities (Norris Design 2009). No Hanford parks are located within the study area so they are not listed. Additional detailed park information can be found in the Park and Recreation section of the EIR/EIS document.

## H. CIRCULATION AND ACCESS

Of primary concern to the socioeconomics, communities, and environmental justice analysis are non-motorized circulation issues associated with pedestrian and bicycle transportation. However, issues associated with main roads, public transportation, and parking can also affect communities. More details on these aspects can be found in the Transportation section of the EIR/EIS.

In the *City of Hanford General Plan*, the importance of bicycle facilities is recognized and a comprehensive bicycle plan is adopted as part of the Kings County RTP. The need to improve existing pedestrian facilities within the city is acknowledged (City of Hanford Planning Division 2002). No critical pedestrian or bicycle paths are found to fall within the study area in Hanford.

# B.8 City of Corcoran

Corcoran is located in eastern Kings County, approximately 15 miles south of the county seat, Hanford, and about 15 miles west of SR 99. The city has a total area of about 6.5 square miles with approximately 2.4 square miles, or 37%, of this land within the study area for the socioeconomic, communities, and environmental justice analysis.

At the turn of the 20th century, Corcoran served as a junction for the San Francisco and San Joaquin Valley railroad lines, which were later purchased by the Santa Fe Railroad. The community was named after either General Corcoran, a San Joaquin Valley pioneer who operated a steamboat between Stockton and Tulare Lake, or for Thomas Corcoran, a former railroad superintendent with Santa Fe Pacific.

In 1905, the town consisted of a small store, a blacksmith shop, and scattered farmsteads. At that time, a prominent southern California developer purchased 32,000 acres of land and began building homes and businesses to serve the surrounding agricultural community, which was engaged primarily in the growing of grains, alfalfa, and sugar beets (City of Corcoran n.d., About the City). Farming expanded across the rich lands of the Tulare Lake bed as the lake was drained, flood protection achieved, and irrigation water secured through the early and mid-1900s.

Many of Corcoran's residents are employed in farming or food-processing. The primary crops produced today are cotton, tomatoes, wheat, and hay. The J.G. Boswell Company, founded in 1925, operates its largest farm and has its food processing division in Corcoran and employs approximately 1,200 people. Many of the company's processing facilities are within the study area along the BNSF mainline. J.G. Boswell is a major contributor to the Corcoran Community Foundation, which has worked to bring multimillion dollar facilities, such as the Technology Learning Center and the YMCA with its Olympic swimming pool and 162-foot water slide, to this relatively small community (City of Corcoran n.d., About the City).

Within Corcoran's city limits, but south of the main city site, there are two California state prison facilities. Together, these two facilities have an annual operating budget of over $500 million. They currently employ approximately 4,100 staff and house over 13,000 inmates (California Department of Corrections and Rehabilitation 2010). While the two state prisons provide a substantial number of jobs, many of the prison workers choose to live in larger communities with more diverse housing options and more move-up housing opportunities (Quad Knopf 2005).

The city of Corcoran strives to maintain a "small-town character" and proudly calls itself the "Farming Capital of California." For a small city, Corcoran has a wide variety of active service organizations and fraternal clubs, including 4-H, Kiwanis, Lions, American Legion, several women's auxiliary clubs, and active 4-H and Future Farmers of America programs. The city is engaged in improving the facades of downtown buildings and preparing industrial parks to attract new businesses to help diversify the city's economic base (City of Corcoran n.d., About the City).

### A. POPULATION AND DEMOGRAPHICS

In 2000, Corcoran had a population of 20,843 residents, and by 2009, the population had grown to 25,893 people, for an average annual growth rate of 2.7%. This growth rate is higher than both growth rates seen in Kings County (2.2%) and the region (2.3%) during the same period (California Department of Finance 2009a, 2009b).

Table B-76 provides information on race and ethnicity for the Corcoran population in 2000 and an average value for the years 2006-2008. As this table indicates, Corcoran's minority population, which represented approximately 75% of all residents in 2000, increased to 80% of all residents

by 2006-2008. This total percentage of minority population is much higher than that of Kings County (59%) and the region (63%).[26] Not only does Corcoran have a higher-than-average number of individuals of Hispanic background, but it also has a higher percentage of individuals of African-American descent when compared to that of the county and region. This higher percentage is possibly due to the presence of Corcoran's two state prisons.

**Table B-76**
Racial and Ethnicity Characteristics of the City of Corcoran

| Race | Number of People in 2000[a] | Percentage of Total Population | Number of People in 2006–2008[b] | Percentage of Total Population |
|---|---|---|---|---|
| **Non-Hispanic White** | 3,479 | 24.1 | 4,875 | 19.2 |
| **Minority** | 10,979 | 75.9 | 20,502 | 80.8 |
| Hispanic of all races | 8,618 | 59.6 | 15,878 | 62.6 |
| Non-Hispanic Black or African-American | 2,029 | 14.0 | 3,251 | 12.8 |
| Non-Hispanic American Indian and Alaska Native | 77 | 0.5 | 392 | 1.5 |
| Non-Hispanic Asian | 102 | 0.7 | 505 | 2.0 |
| Non-Hispanic Native Hawaiian and Other Pacific Islander | 2 | 0.0 | 13 | 0.1 |
| Non-Hispanic, some other race | 9 | 0.1 | 114 | 0.4 |
| Non-Hispanic, two or more races | 142 | 1.0 | 349 | 1.4 |
| **Total** | 14,458 | 100.0 | 25,377 | 100.0 |

[a] Analysis of U.S. Census Bureau 2000e.
[b] Analysis of U.S. Census Bureau, American Community Survey 2006–2008a.
Notes: California DOF does not provide population projections at the city level. Also, the DOF does not provide annual estimates of racial and ethnicity characteristics, so the most current source, ACS 2006–2008, is used. This use explains the difference between the 2009 total population estimates presented above and the 2006–2008 totals in this table. In addition, the large difference in the total population numbers presented in this table and those provided by DOF is due to an error in the Census 2000 data for Corcoran (a retraction was later published by the Census); however, only the total population numbers were updated, not the breakdown of racial and ethnicity characteristics. Finally, Census 2000 data for racial and ethnicity characteristics do not include the institutionalized population, of which Corcoran has a large number given the presence of the Corcoran state prison facilities.

Note: Percentages may total slightly less or more than 100% due to rounding.
ACS = U.S. Census Bureau, American Community Survey
DOF = Department of Finance

Figure B-39 and Figure B-40 show that the age distribution of Corcoran's population has changed since 2000. When compared to the county and region, Corcoran has a larger number of individuals between 20 and 59 years. As a result the percentages of both younger and older persons are smaller than those in the county or region. The large number of individuals between the ages of 20 and 44 may be due to the presence of Corcoran's two state prison facilities (U.S. Census Bureau 2000a; U.S. Census Bureau, American Community Survey 2006–2008e).

[26] U.S. Census ACS single-year estimates for 2008 are available for Bakersfield and Fresno, because each of these cities has a population greater than 65,000. By contrast, Hanford, Corcoran, and Wasco each has a population of less than 65,000 but greater than 20,000, and therefore 2006–2008 average estimates are available. The City of Shafter, with a population of less than 20,000, currently has no recent estimates available from the ACS.

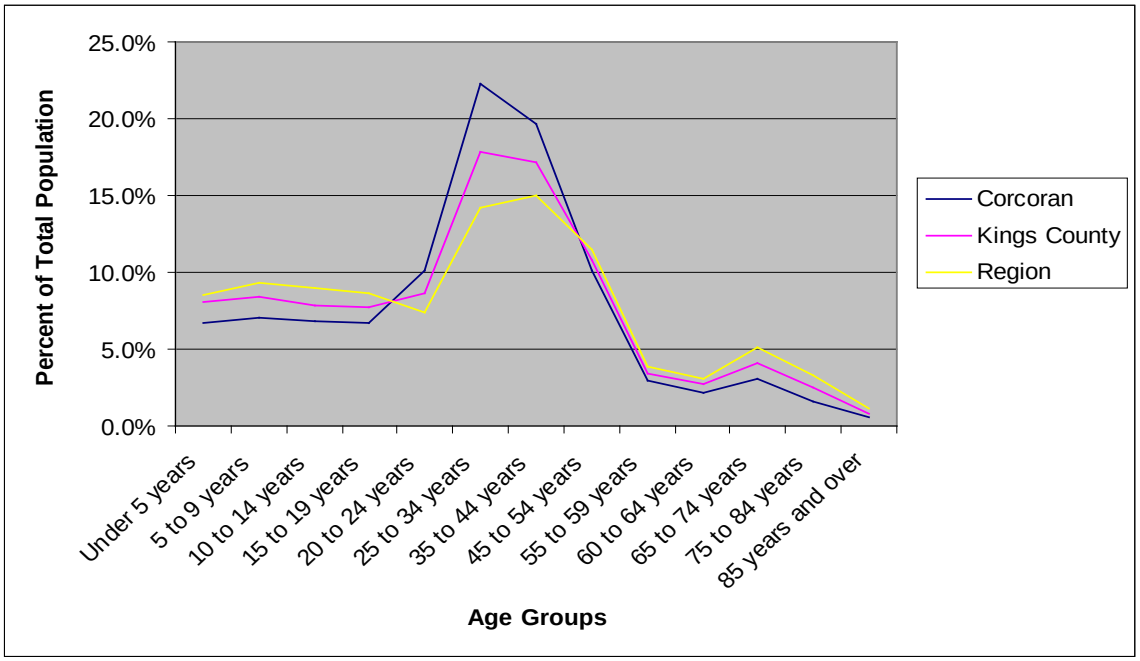



**Figure B-39**
City of Corcoran Age Profile, 2000

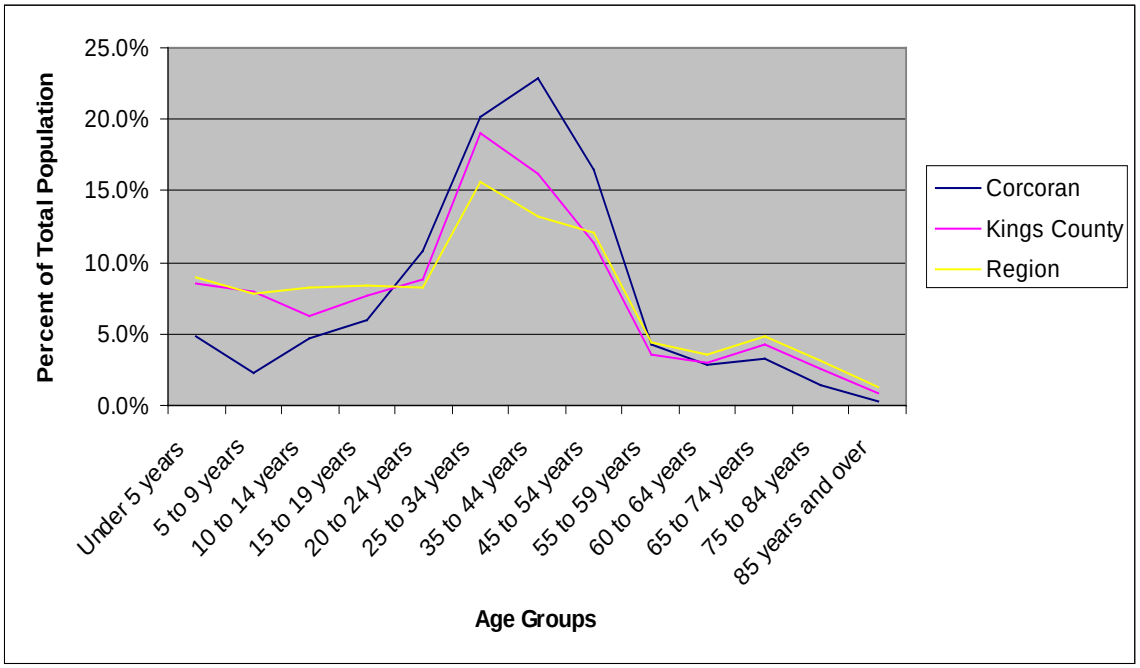



**Figure B-40**
City of Corcoran Age Profile, 2006–2008

In 2000, there were 2,722 households in Corcoran with an average household size of 3.44 people per household. By 2009, both the number of households and the average household size had

increased, to 3,653 and 3.58, respectively (California Department of Finance 2009a, 2009b). The average household size for Corcoran remains higher than that of either Kings County (3.18) or the region (3.3).

The makeup of households within Corcoran has changed little since 2000, as shown in Table B-77. In 2000, approximately 80% of the households were family households, which is similar to the 2006-2008 three year average estimate. Similar to both the county and region are the decreases in the percentage of married-couple families and the increases in single-parent households. Of note is the large increase (almost 50%) in the number of female-headed households in Corcoran, which is not reflected at the county or region level. This could be a result of families moving to the community to be close to husbands and fathers located in the nearby prison facilities.

**Table B-77**
Numbers and Types of Households in the City of Corcoran

| Household | Number of Households in 2000[a] | Percentage of Total Households | Number of Households in 2006-2008[b] | Percentage of Total Households |
|---|---|---|---|---|
| Family households (families) | 2,180 | 80.1 | 2,903 | 81.7 |
| Married-couple family | 1,448 | 53.2 | 1,625 | 45.7 |
| Female householder, no husband present | 455 | 16.7 | 851 | 24.0 |
| Male householder, no wife present | 277 | 10.2 | 427 | 12.0 |
| Non-family households | 542 | 19.9 | 649 | 18.3 |
| Householder living alone | 441 | 16.2 | 627 | 17.7 |
| Total | 2,722 | 100.0 | 3,552 | 100.0 |

[a] Analysis of U.S. Census Bureau 2000h.
[b] Analysis of U.S. Census Bureau, American Community Survey 2006–2008b.

Note: California DOF does not provide number of households by type for 2009, so ACS 2000 and 2006–2008 data were used in this table. This use explains the difference between the 2000 and 2009 total household estimates presented above.

Note: Percentages may total slightly less or more than 100% due to rounding.

ACS = U.S. Census Bureau, American Community Survey
DOF = Department of Finance

In 2000, 330 of the 2,722 households in the city were linguistically isolated, meaning that 12.1% of households did not have someone in the household over the age of 14 with the ability to speak English very well, a higher percentage than that in the county (8.7%) and region (9.4%) (U.S. Census Bureau 2000f).[27] More-recent data are not available from the Census American Community Survey for 2006-2008; however, with the increase in minority population and the trends seen in both the county and region, it can be assumed that linguistic isolation has not

[27] According to the U.S. Census Bureau, a household is linguistically Isolated if "no member 14 years old and over speaks only English or speaks a non-English language and speaks English very well." In other words, all members 14 years old and over have at least some difficulty with English.

decreased and more than likely has increased since 2000 and still remains above county and region levels.

In 2007,[28] of the 10,600 non-institutionalized persons over the age of 5 in Corcoran, 18.9% had some sort of disability, self-care limitation, or low-mobility issue. For persons between the ages of 5 and 65, 14.5% were classified as disabled, while persons 65 and over had a much higher rate of disability (54.3%) (U.S. Census Bureau 2000b; U.S. Census Bureau, American Community Survey 2005–2007). These percentages are similar to those seen in both the county and region.

## B. INCOME AND POVERTY

In 1999, the median annual household income in Corcoran was $30,783, compared with $35,749 in Kings County and $34,976 in the region. Household income in Corcoran increased to $35,340 in 2006-2008; however, income in Corcoran remained below the median household income in the county and region (U.S. Census Bureau 2000g; U.S. Census Bureau, American Community Survey 2006–2008d).

In 1999, 2,496 persons, or 26.9% of the population, lived below the poverty line (see Table B 78), which was higher than the rates seen in the county (19.5%) and the region (22.2%). The number of individuals living below the poverty line has continued to increase, and it is estimated that by 2006-2008 there were 2,636 people living below the poverty line. Even with this increase in the number of people living below the poverty line, the percentage of population below the poverty line decreased to 20.9%. This decrease in the percentage of the population living below the poverty line is similar to trends seen in the county and region.

**Table B-78**
Income Level to Poverty Line in the City of Corcoran

| Income Level as a Percentage of Poverty Line | Number of People in Income Group in 1999[a] | Percentage of Total Population Evaluated | Number of People in Income Group in 2006-2008[b] | Percentage of Total Population Evaluated |
|---|---|---|---|---|
| Under 0.50 | 1,053 | 11.4 | 1,569 | 12.4 |
| 0.50 to 0.74 | 486 | 5.2 | 526 | 4.2 |
| 0.75 to 0.99 | 957 | 10.3 | 541 | 4.3 |
| 1.00 to 1.24 | 552 | 6.0 | 1,090 | 8.6 |
| 1.25 to 1.49 | 960 | 10.4 | 1,020 | 8.1 |
| 1.50 to 1.74 | 586 | 6.3 | 929 | 7.4 |
| 1.75 to 1.84 | 299 | 3.2 | 531 | 4.2 |

[28] The U.S. Census Bureau does not recommend making comparisons between the 2000 and 2007 disability figures; for this reason, the more current information is presented.

**Table B-78**
Income Level to Poverty Line in the City of Corcoran

| Income Level as a Percentage of Poverty Line | Number of People in Income Group in 1999[a] | Percentage of Total Population Evaluated | Number of People in Income Group in 2006-2008[b] | Percentage of Total Population Evaluated |
|---|---|---|---|---|
| 1.85 to 1.99 | 421 | 4.5 | 573 | 4.5 |
| 2.00 and over | 3,955 | 42.7 | 5,846 | 46.3 |
| Total | 9,269 | 100.0 | 12,625 | 100.0 |

[a] Analysis of U.S. Census Bureau 2000g.
[b] Analysis of U.S. Census Bureau, American Community Survey 2006–2008d.
Note: Not all individuals are evaluated by the Census for income level to poverty line status. This practice explains why population totals in this table may not match population totals presented in the population and demographics section above. This difference is especially important in Corcoran, where there is a large institutionalized population at the Corcoran state prison facilities that are not evaluated for income to poverty status. Also, 2000 Census data on income are representative of conditions in 1999.
Note: Percentages may total slightly less or more than 100% due to rounding.

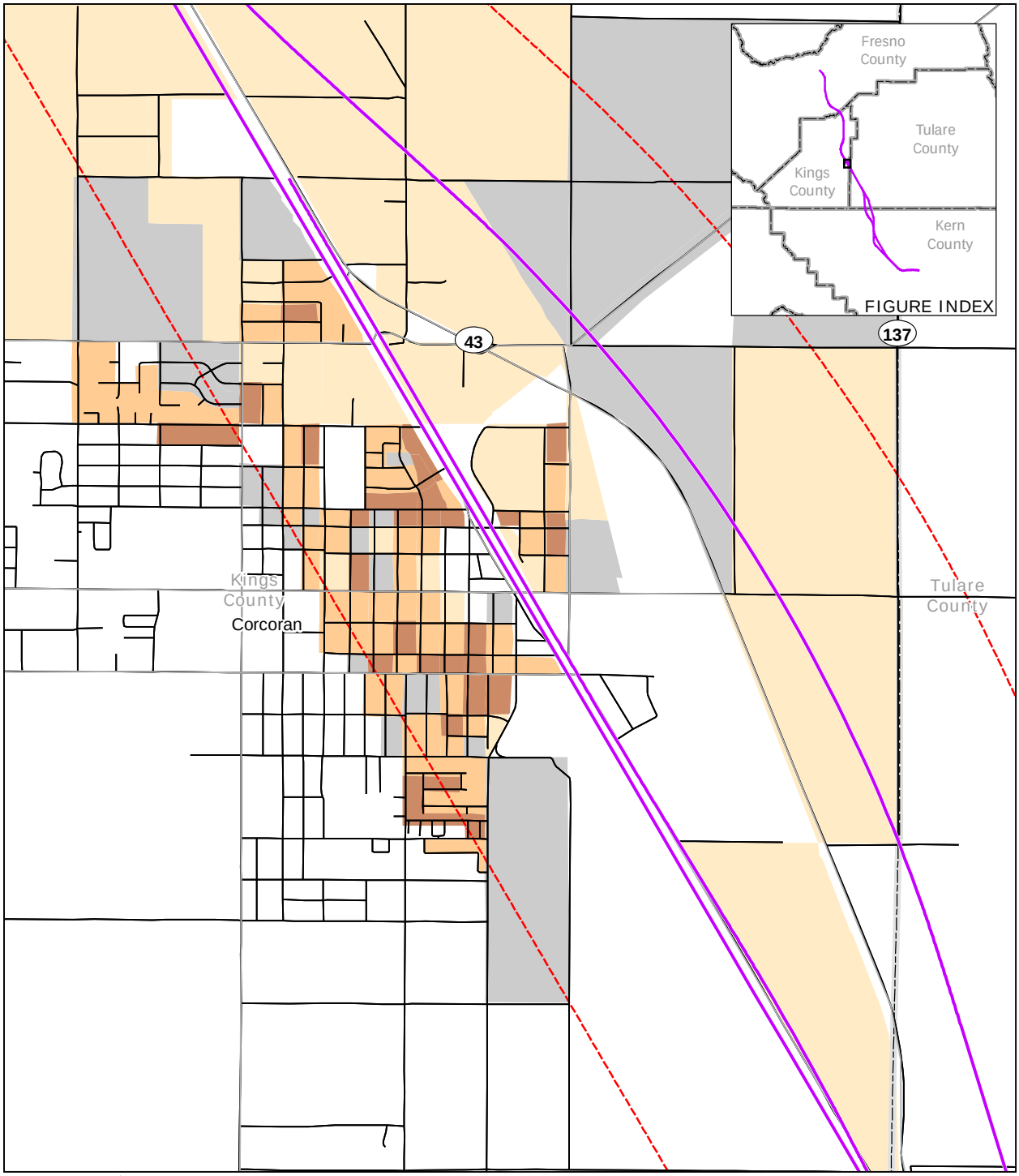
While the data indicate that median incomes increased and poverty rates decreased from 1999 through 2006-2008, it should be noted that since the beginning of the current economic recession income levels have begun to decrease. Because unemployment has increased substantially since 2008, it can be assumed that household income levels have decreased and poverty rates have increased beyond the numbers reported here (U.S. Census Bureau 2009).

## C. ENVIRONMENTAL JUSTICE POPULATION

This section presents the locations of EJ populations within the study area in Corcoran. The definitions used to define EJ populations and a description of the data sources and methodology that were used can be found in the EJ Methodology Appendix A-1.

Figure B-41 identifies the locations of EJ populations within the study area in Corcoran. Orange is used to indicate U.S. Census blocks containing EJ populations, darker orange is representative of EJ blocks with higher-population densities, that is, the more-urbanized areas. The red-dashed lines represent the study area, and the purple line is the project alignment. The total area of Census blocks in Corcoran along the BNSF Alternative Alignment that falls within the study area is 36.2 square miles, with 7.9 square miles or 21.8% identified as EJ blocks. [29] The majority of this EJ area is low-density population (92.6%), with medium-density (5.4%) and high-density (2%) blocks on the west side of the study area within the city limits. The total Census block area in Corcoran along the Corcoran Bypass Alternative Alignment intersecting the study area is 42.6 square miles, with 4.2 square miles, or 9.8%, identified as EJ blocks. The vast majority of this EJ area is low-density population (99.6%) (U.S. Census Bureau 2000a).

[29] The area calculated for the EJ analysis is different than the areas presented in other sections because the study area for EJ includes all U.S. Census blocks that are completely or partially contained within the ½-mile radius of the alignment. Therefore, the areas of partially contained U.S. Census blocks that are outside the ½ mile are included. This difference is larger in rural areas, where U.S. Census blocks are larger.




PRELIMINARY DRAFT/SUBJECT TO CHANGE - HST ALIGNMENT IS NOT DETERMINED

Source: Environmental justice analysis - URS, 2010

May 16, 2011

N

0 1,000 2,000
Feet

0 500 1,000
Meters

Road

Alternative alignments

County boundary

Half-mile buffer from alignment

EJ population density

High

Medium

Low

Not EJ

Figure B-41
City of Corcoran
EJ Block Populations

According to the 2000 Census, the approximate total population within the study area for the BNSF Alternative Alignment through Corcoran is 10,240, or 89% of the total population contained in the study area in all of Kings County and about 50% of the population of Corcoran. The total population within the EJ study area for the Corcoran Bypass Alternative Alignment east of Corcoran is 692, or 6% of the total population contained in the study area in all of Kings County. The total population within the study area presents a count of potentially affected individuals. The actual number of individuals affected may be much smaller than these baseline totals as the study area will likely not be affected across its entire area.

Corcoran has a high percentage of minority and low-income individuals. According to the 2000 Census, 75.9% of the total population is minority and 29.4% is living below the Census poverty threshold. Within the study area in Corcoran for BNSF Alternative Alignment (through town), the percentage of minorities is similar, 73.4%, and the percentage of low-income individuals is lower, at 24.2%. Within the city, Hispanics are the predominate minority in EJ areas, accounting for 71.6% of the minority population. The study area for the BNSF Alternative Alignment through the city contains a concentration of high- and medium-density EJ areas that are fairly continuous throughout the study area within the Corcoran city limits, particularly to the west of SR 43 and Pickerell Avenue. The study area for the Corcoran Bypass Alternative Alignment (to the east of the town) contains a much lower total population with a lower percentage of minorities, 63.3% and of low-income individuals 17.1%. The study area for the Corcoran Bypass Alternative contains scattered low-population EJ areas (U.S. Census Bureau 2000a).

## D. HOUSING

In 2000, there were an estimated 3,020 housing units in the city of Corcoran. By 2009, that number had grown to 3,981, for a growth of 31.8%. As also seen in both the county and region, the largest increase in the Corcoran housing stock occurred in single-family detached homes, which accounted for 81.8% of the housing stock growth. As Table B-79 shows, the composition of the housing stock in Corcoran is very similar to the county and region except for the smaller percentage of mobile homes. Housing vacancy rates within the city were 8.2% in 2000 and remained approximately the same in 2009 (California Department of Finance 2009a, 2009b). These 2009 rates are higher than the rates of both the county (5.7%) and the region (7.4%).

**Table B-79**
Corcoran Housing Stock in the City of Corcoran

| Housing Type | Number of Units in 2000 | Percentage of Total Units | Number of Units in 2009 | Percentage of Total Units |
|---|---|---|---|---|
| Single-family detached | 2,144 | 71.0 | 2,930 | 73.6 |
| Single-family attached | 180 | 6.0 | 180 | 4.5 |
| Multifamily 2 to 4 units | 270 | 8.9 | 373 | 9.4 |
| Multifamily 5 units or greater | 303 | 10.0 | 334 | 8.4 |
| Mobile homes | 123 | 4.1 | 164 | 4.1 |
| Total | 3,020 | 100.0 | 3,981 | 100.0 |

Source: California Department of Finance 2009a.

Note: Percentages may total slightly less or more than 100% due to rounding.

The rate of home ownership in Corcoran has increased since 2000, as shown in Table B-80. This observed increase in the rate of home ownership is counter to trends observed in the county and region, which both experienced decreases over this period.

**Table B-80**
Home Ownership of Occupied Units in the City of Corcoran

| Home Ownership | Number of Occupied Units in 2000[a] | Percentage of Total Occupied Units | Number of Occupied Units in 2006–2008[b] | Percentage of Total Occupied Units |
|---|---|---|---|---|
| Own | 1,558 | 57.2 | 2,138 | 60.2 |
| Rent | 1,164 | 42.8 | 1,414 | 39.8 |
| Total occupied housing units | 2,722 | 100.0 | 3,552 | 100.0 |

[a] Analysis of U.S. Census Bureau 2000d.
[b] Analysis of U.S. Census Bureau, American Community Survey 2006–2008g.
Note: Percentages may total slightly less or more than 100% due to rounding.

Residents of over half (55.4%) of the occupied housing units in Corcoran in 2008 had moved into their homes since 2000, while 22.8% of these households were more established, having lived in the same unit since at least 1990 (see Table B-81). The percentage of the units that have turned over in the city in the past 8 years is substantially less than that in the county (67%) and region (66%). Similarly, the percentage of units that have had the same residents since at least 1990 is substantially higher, suggesting that the population of Corcoran is more stable than the surrounding areas.

**Table B-81**
Length of Residence in the City of Corcoran

| Length of Residence | Number of Housing Units in 2000[a] | Percentage of Total Occupied Housing Units | Number of Housing Units in 2006-2008[b] | Percentage of Total Occupied Housing Units |
|---|---|---|---|---|
| Moved in 2005, or later | NA | NA | 1,037 | 29.2 |
| Moved in 2000 to 2004 | NA | NA | 931 | 26.2 |
| Moved in 1990 to 1999 | 1,831 | 67.3 | 773 | 21.8 |
| Moved in 1980 to 1989 | 347 | 12.7 | 346 | 9.7 |
| Moved in 1970 to 1979 | 289 | 10.6 | 296 | 8.3 |
| Moved in 1969, or earlier | 255 | 9.4 | 169 | 4.8 |
| Total housing units | 2,722 | 100.0 | 3,552 | 100.0 |

Sources:
[a] Analysis of U.S. Census Bureau 2000d.
[b] Analysis of U.S. Census Bureau, American Community Survey 2006–2008g.
Note: Percentages may total slightly less or more than 100% due to rounding.
NA = not available

## E. ECONOMY

Corcoran has historically been an agricultural community; however, the two Corcoran state prison facilities (opened in 1988 and 1997) are now the largest employer in the community. Between 2000 and 2008, the number of workers in Corcoran's labor force grew by 700, while unemployment increased from 10.8% to 11.4%, as shown in Table B-82. During 2009, the city, county, and region all experienced increases in unemployment reaching an annual rate of 15.2% in 2009, similar to the increase in both the county (14.6%) and region (14.4%).

**Table B-82**
Employment and Unemployment in the City of Corcoran

| Labor Status | Number in 2000 | Percentage of Labor Force | Number in 2008 | Percentage of Labor Force | Number in 2009 | Percentage of Labor Force |
|---|---|---|---|---|---|---|
| Employed | 3,300 | 89.2 | 4,000 | 90.9 | 3,700 | 82.2 |
| Unemployed | 400 | 10.8 | 500 | 11.4 | 700 | 15.6 |
| Total over the age of 16 | 3,700 | 100.0 | 4,400 | 100.0 | 4,500 | 100.0 |

Source: California Employment Development Department 2010a.
Note: Percentages may total slightly less or more than 100% due to rounding.

As shown in Table B-83, public administration is the largest occupation within the city. The occupational profile of Corcoran is very different than that of either the county or region, with a much smaller percentage of the work force participating in agricultural-related activities. When compared to other communities, Corcoran has a very high percentage of individuals working in the public-administration field, which can be explained by the presence of two major state prison facilities. While there are large numbers of employees working at the prisons, many of the skilled employees commute from long distances across the San Joaquin Valley to these jobs. While the prison industry is huge in the San Joaquin Valley, the small local communities near each site rarely enjoy the majority of the benefits of the jobs or of the income generated.

**Table B-83**
Occupation in the City of Corcoran by Type

| Occupation | Number of Employed in 2001 | Percentage of Total Employed | Number of Employed in 2008 | Percentage of Total Employed |
|---|---|---|---|---|
| Agriculture, forestry, fishing and hunting, and mining | 524 | 10.5 | 372 | 7.6 |
| Construction | 256 | 5.1 | 92 | 1.9 |
| Manufacturing | 395 | 7.9 | 541 | 11.1 |
| Wholesale trade | 98 | 2.0 | 89 | 1.8 |
| Retail trade | 164 | 3.3 | 198 | 4.1 |
| Transportation and warehousing, and utilities | 89 | 1.8 | 87 | 1.8 |

**Table B-83**
Occupation in the City of Corcoran by Type

| Occupation | Number of Employed in 2001 | Percentage of Total Employed | Number of Employed in 2008 | Percentage of Total Employed |
|---|---|---|---|---|
| Information | 13 | 0.3 | * | * |
| Finance, insurance, real estate, and rental and leasing | 45 | 0.9 | 39 | 0.8 |
| Professional, scientific, management, administrative, and waste management services | * | * | 20 | 0.4 |
| Educational, health, and social services | 89 | 1.8 | * | * |
| Arts, entertainment, recreation, accommodation, and food services | 122 | 2.4 | 160 | 3.3 |
| Other services (except public administration) | 74 | 1.5 | 202 | 4.1 |
| Public administration | 3,139 | 62.7 | 3,068 | 63.0 |
| Total people employed | 5,008 | 100.0 | 4,868 | 100.0 |

Source: California Employment Development Department 2010b.

Note: * indicates instances in which the EDD would not release employment numbers for certain occupations because of privacy issues related to the fact that fewer than three employers reported quarterly employment data. Also, this table provides a count of occupations, and the previous employment table provides a count of resident workers. The total employed for these two sets of numbers will not be equal given those from outside the community that commute to work in the city and those residents of the city who commute to other communities for work.

Note: Percentages may total slightly less or more than 100% due to rounding.

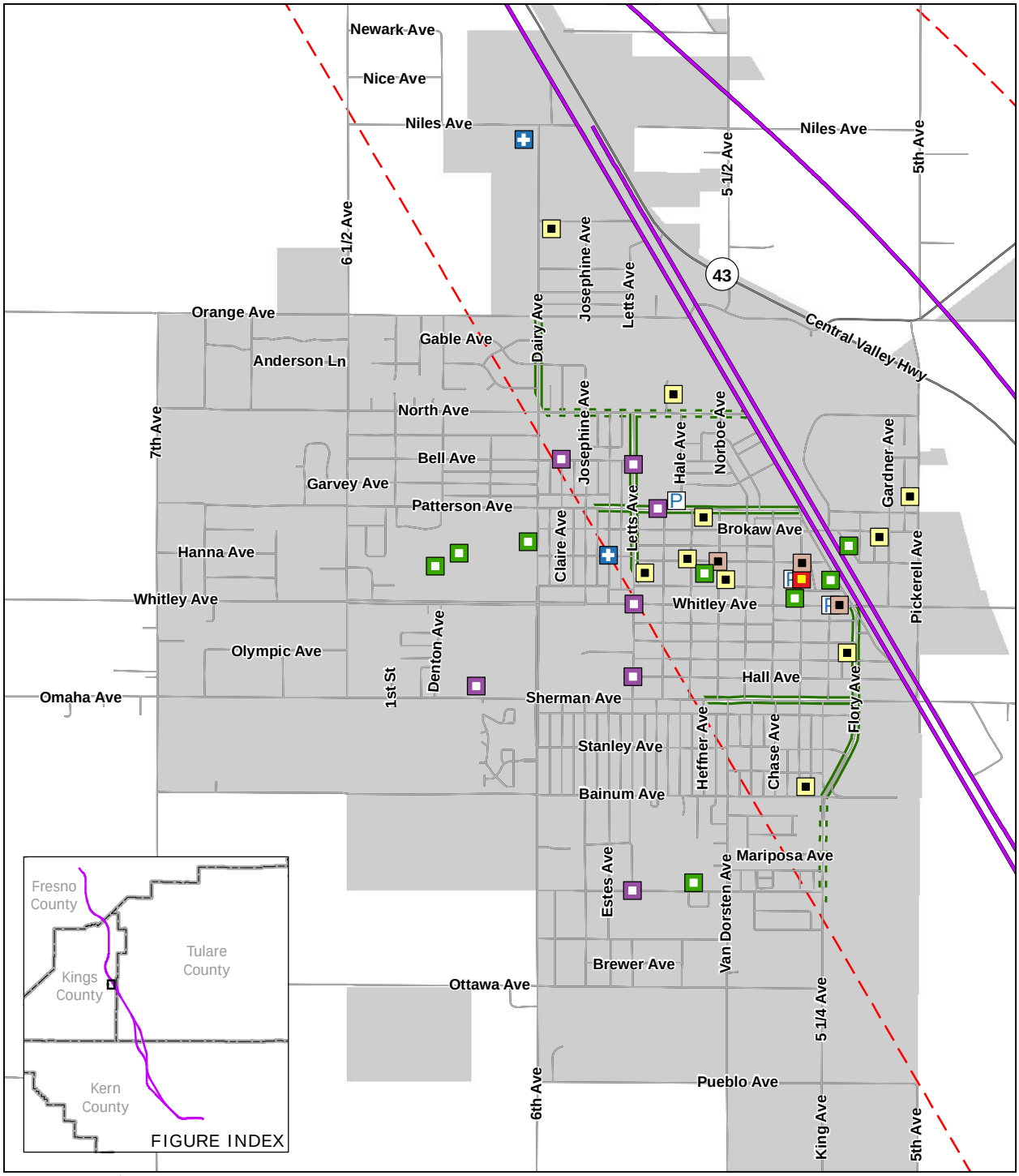
EDD = Employment Development Department

## F. FISCAL

For the fiscal years covering 2007-2008, the City of Corcoran had an annual budget of $14,870,654 in with $1,182,780 of that coming from sales tax and $226,000 coming from property tax. These two revenue sources accounted for 9.5% of the annual budget of the city (City of Corcoran 2009).

## G. COMMUNITY FACILITIES AND AMENITIES

Facilities of primary concern for the socioeconomics, communities, and environmental justice analysis are the locations of public buildings, public-safety fire and police stations, medical services, schools, places of worship and parks. Each of these types of facilities is listed below and Figure B-42 provides a map of the community showing these facility locations.




PRELIMINARY DRAFT/SUBJECT TO CHANGE - HST ALIGNMENT IS NOT DETERMINED

Source: URS, 2010

May 10, 2011

N

0 500 1,000
Feet

0 250 500
Meters

- Alignment (Fresno to Bakersfield)
- Existing bike path
- Proposed bike path
- Road
- Half-mile buffer from alignment
- Urban area
- Bike path/Alternative crossing
- Fire
- Hospitals
- Park
- Places of Worship
- Police
- Public Buildings
- Schools

Figure B-42
City of Corcoran
Facility Locations

## Public Buildings

The city of Corcoran has three public buildings that serve the needs of the community. Public buildings in this context are meant to represent community centers and other facilities open to the public. One building houses the administrative offices of the city and serves as the city hall. Another building is a library operated by Kings County, and the remaining one is a veteran's center. The names and addresses of these facilities are listed in Table B-84.

**Table B-84**
City of Corcoran Public Buildings

| Facility Name | Location | In Study Area |
|---|---|---|
| Corcoran City Hall | 832 Whitley Ave | Yes |
| Kings County Library | 1001 Chittenden Ave | Yes |
| Veteran's Memorial Building | 1000 Van Dorsten | Yes |
| Sources: National Institute of Building Sciences 2003; USGS 1992; Google 2010, Map of Corcoran. | | |

## Public Safety

### *Police*

There are two law enforcement stations in the city of Corcoran, a sheriff's station and a police station. Both of the stations are in the study area. Corcoran has 15 full-time police officers, while the Kings County sheriff has 159 full-time officers serving the entire county (City of Corcoran 2009).

### *Fire*

There is one fire station in the city, which is operated by the Kings County Fire Department. The station lies within the study area. The Kings County Fire Department has 60 firefighters on staff and has an average response time of 5 minutes (Kings County 2010).

### *Medical*

There are two medical facilities in the community of Corcoran. The Corcoran District Hospital, an independent hospital with 32 beds, is in the study area. The second facility is a clinic run by Kings County that offers care to individuals during business hours. This clinic is outside the study area. No other OSHPD-registered facilities are in Corcoran.

Table B-85 lists the city's police, fire, and medical facilities.

**Table B-85**
City of Corcoran Police, Fire, and Medical Facilities

| Facility Name | Location | Additional Details | In Study Area |
|---|---|---|---|
| **Police** | | | |
| Police Headquarters | 832 Whitley Ave | Headquarters | Yes |
| Police Station 2 | 1031 Chittenden Ave | Substation | Yes |
| Sheriff Station 1 | 1326 Patterson Ave | Substation | Yes |
| **Fire** | | | |
| County Fire Station 1 | 1031 Chittenden Ave | NA | Yes |
| **Medical** | | | |
| Corcoran District Hospital | 1310 Hanna Ave | General acute care – 32 beds | Yes |
| Kings County Health Clinic | 102 Dairy Ave | Is not a licensed state facility | No |
| Sources: National Institute of Building Sciences 2003; USGS 1992; Google 2010, map of Corcoran. | | | |

## Schools

There are six public schools and one private school in Corcoran. The six public schools, which are overseen by the Corcoran Joint Unified School District, have a total enrollment of approximately 3,257 students (California Department of Education 2010). There are two high schools in the community, with the remaining schools being elementary, middle, or private schools. Three of these schools are located within the study area, as indicated in Table B-86.

**Table B-86**
City of Corcoran Schools

| Facility Name | Location | Additional Details | In Study Area |
|---|---|---|---|
| Corcoran High School | 1100 Letts Ave | Public | No |
| John C Fremont Elementary School | 1900 Bell Ave | Public | Yes |
| Bret Harte Elementary School | 1300 Letts Ave | Public | No |
| Mark Twain Elementary School | 1500 Oregon Ave | Public | No |
| Jubilee Christian Academy | 2116 Sherman Ave | Private | No |
| John Muir Middle School | 707 Letts Ave | Public | Yes |
| Kings Lake High Continuation | 1520 Patterson Ave | Public | Yes |
| Sources: National Institute of Building Sciences 2003; USGS 1992; Google 2010, map of Corcoran. | | | |

## Religious Facilities

Corcoran has many places of worship, all of which appear to belong to Christian denominations, with no Muslim, Jewish, or other types of religious institutions identified. The 10 religious facilities that are located within the study area are identified in Table B-87.

**Table B-87**
Religious Facilities in the City of Corcoran within the Study Area

| Facility Name | Location | Additional Details |
|---|---|---|
| Our Lady of Lourdes Catholic Church | 1404 Hanna Ave | Religious |
| First Southern Baptist Church | 144 Dairy Ave | Religious |
| Church of Jesus Christ Latter-day Saints | 1450 North Ave | Religious |
| First Missionary Baptist Church | 1315 Patterson Ave | Religious |
| First Presbyterian Church | 1001 Letts Ave | Religious |
| New Life Tabernacle | 1021 Van Dorsten Ave | Religious |
| Church of Light | 750 Pickerell Ave | Religious |
| First Baptist Church | 900 Gardner Ave | Religious |
| Corcoran Pentecostal Church | 1725 Chittenden Ave | Religious |
| New Hope Fellowship Assembly of God | 1200 Flory Ave | Religious |
| Sources: National Institute of Building Sciences 2003; USGS 1992; Google 2010, map of Corcoran. | | |

## Parks

There are approximately 48 acres of existing park land in Corcoran. Some parks are operated by the City of Corcoran, some by the Corcoran Community Foundation, and some are operated jointly by these two entities and the local YMCA. In addition, the Corcoran Unified School District has approximately 44 acres of additional play fields, open space, and indoor recreational facilities that are available for public use. Facilities at each park vary, depending on size of facility, location, and community demands.

The city's general plan calls for two areas of additional park and open space: one small park along Oregon Avenue between 6th and 6½ Avenues, and a larger one north of Orange Avenue and east of 6½ Avenue. Table B-88 lists the facilities that lie within the study area. Additional detailed park information can be found in the Park and Recreation section of the EIR/EIS.

**Table B-88**
City of Corcoran Parks within the Study Area

| Facility Name | Location | Additional Details | In Study Area |
|---|---|---|---|
| Father Wyatt Park | SW of Brokaw Ave and Flory Ave, adjacent to E side of BNSF Railway | Mini park | Yes |
| John Maroot Park | SE of intersection of Hanna Ave and Hale Ave | Mini park | Yes |
| Christmas Tree Park | Two blocks west of the train station | Mini park | Yes |
| James G. Boswell II Community Park | NE of Whitley Ave and Dairy Ave | Community park | No |
| John Muir Junior High School | 707 Letts Ave | Sports complex | Yes |
| Fremont Elementary School | 1900 Bell Ave | Sports complex | Yes |
| Sources: City of Corcoran n.d., Parks; Google 2010, map of Corcoran. | | | |

## H. CIRCULATION AND ACCESS

Of primary concern to the socioeconomics, communities, and environmental justice analysis are non-motorized circulation issues associated with pedestrian and bicycle transportation. However, issues associated with main roads, public transportation, and parking can also affect communities. More details on these aspects can be found in the Transportation section of the EIR/EIS.

The General Plan calls for enhanced availability and accessibility of alternative modes of transportation, including such walking and bicycling. In addition, streets are to be developed that promote safe and pleasant conditions for residents, pedestrians, and bicyclists. The city has existing bicycle pathways and has plans to add additional ones in the future. The city's General Plan calls for bike routes to provide safe passage throughout the city and to link schools and parks (Quad Knopf 2007). Most of the proposed bicycle routes are considered to be oriented towards commuters. All city bike routes, current and planned, are on the west side of the existing BNSF Railway tracks and do not cross the tracks (Kings County Planning Department 2007). Table B-89 lists the existing and proposed bike paths in Corcoran.

**Table B-89**
City of Corcoran Bicycle Paths

| Facility Name | Location | Additional Details | In Study Area |
|---|---|---|---|
| Letts Ave | Omaha Ave to North Ave | Class II Bikeway–Existing | Yes |
| Flory Ave | Banium Ave to Otis Ave and BNSF Railway | Class II Bikeway–Existing | No |
| Sherman Ave | 6th Ave to Flory Ave | Class II Bikeway–Existing | Yes |
| Patterson Ave | 6th Ave to Otis Ave and BNSF Railway | Class II Bikeway–Existing | Yes |
| Letts Ave/Patterson Ave | John Muir Junior High School | Class II Bikeway–Existing | Yes |
| Whitley Ave/Otis Ave | Amtrak Station | Bicycle Parking | Yes |
| North Ave | 6½ Avenue to Otis Ave and BNSF tracks | Class II Bikeway–Existing | Yes |
| King Ave | Bainum Ave to Corcoran Prison | Class II Bikeway–Existing | Yes |
| North Ave | 6½ Avenue to Otis Ave and BNSF tracks | Class II Bikeway–Proposed | Yes |
| King Ave | Bainum Ave to Corcoran Prison | Class II Bikeway–Proposed | Yes |

Source: Kings County Planning Department 2007.
BNSF = BNSF Railway

# B.9 City of Wasco

Wasco is located approximately 24 miles northeast of Bakersfield, in the northwestern portion of Kern County. The city has a total area of about 7.6 square miles, with approximately 2.2 square miles, or 29%, of this land within the study area for the socioeconomics, communities, and environmental justice analysis. Wasco is located at the junction of SR 43 and SR 46. Its location in the midst of agricultural lands several miles away from the busy SR 99 has helped preserve a rural quality of life and small-town atmosphere (City of Wasco Planning Division 2002).

Settlement of the Wasco area began in the late 1800s, with the arrival of the Santa Fe Railroad in 1897. By 1900, approximately 300 families had settled in the area. Originally named "Dewey" and then "Deweyville," the town was renamed Wasco in 1900. The city was incorporated in 1945 (City of Wasco n.d.).

Agriculture has been the historical mainstay of Wasco's economy. In the early days, cotton and potatoes were important crops, but today Wasco is known for providing approximately 55% of all roses grown in the United States. The many rose fields surrounding the community provide scenic beauty during the blooming period, when the scent of roses can pervade the city (City of Wasco n.d.; Wasco Union High School District 2004).

Wasco has suffered an economic downturn in recent years, reflecting the statewide and nationwide recession. Several key local industries have gone out of business since 2007, building permits have plummeted, and several major planned subdivisions are now in default or foreclosure status. Wasco state prison is currently the largest single employer in the area. Many Wasco households are low income, but the community has numerous facilities and programs to help address the needs of low-income households, including farm workers (Brown 2009; Willdan Engineering 2009).

### A. POPULATION AND DEMOGRAPHICS

In 2000, Wasco had a population of 21,263 residents; by 2009, the population had grown to 25,434 for an average annual growth rate of 2.2% (California Department of Finance 2009a, 2009b). This growth rate is lower than the growth rate seen in the county (2.8%) but similar to the growth rate seen in the region (2.3%) during the same period.

Table B-90 provides information on race and ethnicity for Wasco in 2000 and average values for the years 2006-2008. As this table indicates, Wasco's minority population (those not non-Hispanic White), which represented approximately 80% of all residents in 2000, increased to over 85% of all residents by 2006-2008. The total percentage of minority population in Wasco is substantially higher than that of the county (59%) and the region (63%).[30]

[30] U.S. Census ACS single-year estimates for 2008 are available for Bakersfield and Fresno, because each of these cities has a population greater than 65,000. By contrast, Hanford, Corcoran, and Wasco individually have a population of less than 65,000 but greater than 20,000, and therefore 2006–2008 average estimates are available. Shafter, with a population of less than 20,000, currently has no recent estimates available from the ACS.

**Table B-90**
Racial and Ethnicity Characteristics of the City of Wasco

| Race | Number of People in 2000[a] | Percentage of Total Population | Number of People in 2006-2008[b] | Percentage of Total Population |
|---|---|---|---|---|
| **Non-Hispanic White** | 4,588 | 21.6 | 3,264 | 14.8 |
| **Minority** | 16,675 | 78.4 | 18,851 | 85.2 |
| Hispanic of all races | 14,187 | 66.7 | 16,444 | 74.4 |
| Non-Hispanic Black or African-American | 2,088 | 9.8 | 1,668 | 7.5 |
| Non-Hispanic American Indian and Alaska Native | 97 | 0.5 | 96 | 0.4 |
| Non-Hispanic Asian | 126 | 0.6 | 368 | 1.7 |
| Non-Hispanic Native Hawaiian and Other Pacific Islander | 24 | 0.1 | 20 | 0.1 |
| Non-Hispanic, some other race | 34 | 0.2 | 54 | 0.2 |
| Non-Hispanic, two or more races | 119 | 0.6 | 201 | 0.9 |
| **Total** | 21,263 | 100.0 | 22,115 | 100.0 |

[a] Analysis of U.S. Census Bureau 2000e.
[b] Analysis of U.S. Census Bureau, American Community Survey 2006–2008a.

Notes: California DOF does not provide population projections at the city level. Also, the DOF does not provide annual estimates of racial and ethnicity characteristics, so the most current source, ACS 2006-2008, is used. This practice explains the difference between the 2009 total population estimates presented above and the 2006–2008 totals in this table.

Note: Percentages may total slightly less or more than 100% due to rounding.

ACS = U.S. Census Bureau, American Community Survey
DOF = Department of Finance

Figure B-43 and Figure B-44 show that the age distribution of Wasco's population has changed little since 2000 (U.S. Census Bureau 2000a; U.S. Census Bureau, American Community Survey 2006–2008e). When compared to the county and region, Wasco's age distribution has a much higher percentage of middle-aged individuals, with somewhat lower percentages of younger and older individuals. This is most likely due to the presence of Wasco state prison within the city limits.

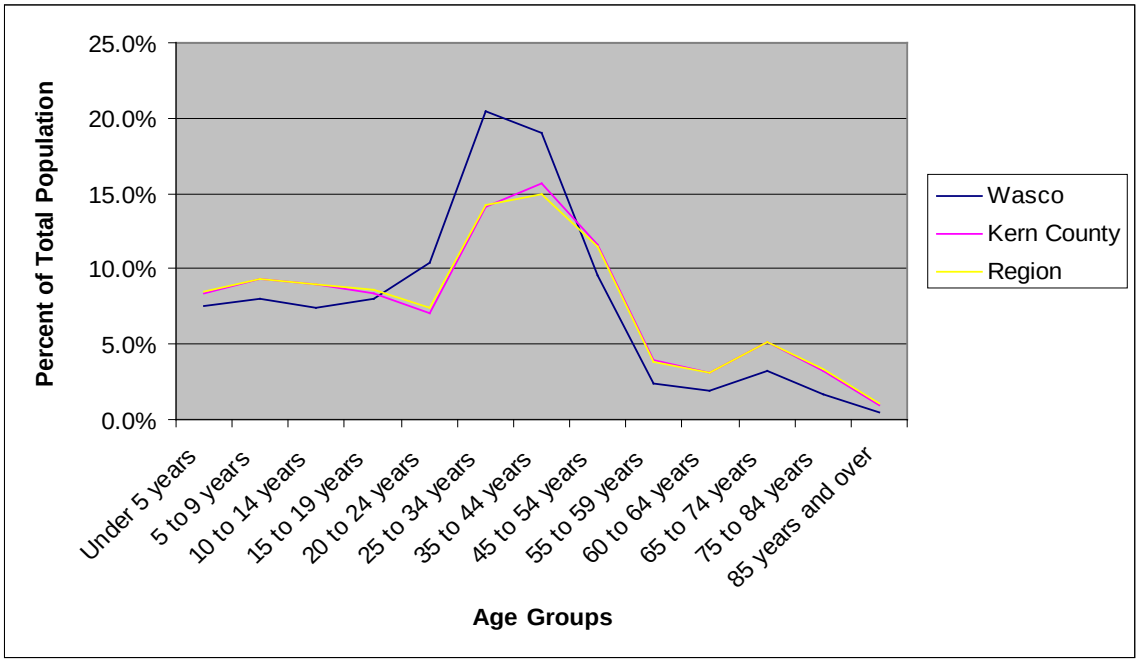



**Figure B-43**
City of Wasco Age Profile, 2000

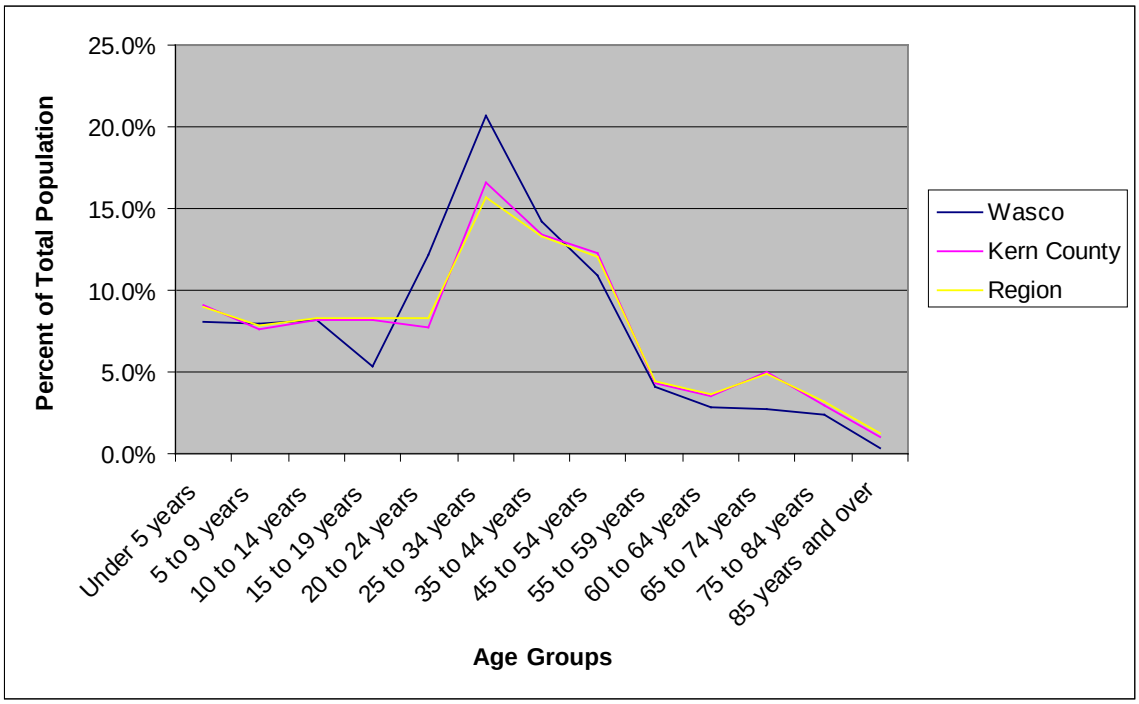



**Figure B-44**
City of Wasco Age Profile, 2006–2008

In 2000, there were 3,983 households in Wasco, with an average household size of 3.79 people per household. By 2009, both the number of households and the average household size had increased, to 4,882 and 3.92, respectively (California Department of Finance 2009a, 2009b). The average household size for Wasco is higher than that of either the county (3.13) or the region (3.3).

As Table B-91 shows, the makeup of households within Wasco has changed little since 2000. Approximately 86% of the households were family households in 2000, decreasing to 80% by 2006-2008. Similar to trends seen in both the county and region, Wasco experienced a decrease in the percentage of married-couple families and an increase in single-parent households over this same period.

**Table B-91**
Numbers and Types of Households in the City of Wasco

| Household | Number of Households in 2000[a] | Percentage of Total Households | Number of Households in 2006-2008[b] | Percentage of Total Households |
|---|---|---|---|---|
| Family households (families) | 3,434 | 86.2 | 3,959 | 80.3 |
| Married-couple family | 2,484 | 62.4 | 2,575 | 52.2 |
| Female householder, no husband present | 690 | 17.3 | 844 | 17.1 |
| Male householder, no wife present | 260 | 6.5 | 540 | 11.0 |
| Non-family households | 549 | 13.8 | 971 | 19.7 |
| Householder living alone | 473 | 11.9 | 823 | 16.7 |
| Total | 3,983 | 100.0 | 4,930 | 100.0 |

[a] Analysis of U.S. Census Bureau 2000h.
[b] Analysis of U.S. Census Bureau, American Community Survey 2006–2008b.

Note: California DOF does not provide number of households by type for 2009, so ACS 2000 and 2006–2008 data were used in this table. This use explains the difference between the 2000 and 2009 total household estimates presented above.

Note: Percentages may total slightly less or more than 100% due to rounding.

ACS = U.S. Census Bureau, American Community Survey
DOF = Department of Finance

In 2000, 804 of the 3,983 households in the city were linguistically isolated, meaning that 20.2% of families did not have someone in the household over the age of 14 with the ability to speak English very well, a higher percentage than that in the county (8.2%) and region (9.4%) (U.S. Census Bureau 2000f).[31] More-recent data are not available from the Census American Community Survey for 2006-2008; however, with the increase in minority population and the trends seen in both the county and region, it can be assumed that linguistic isolation has not

[31] According to the U.S. Census Bureau, a household is linguistically Isolated if “no member 14 years old and over speaks only English or speaks a non-English language and speaks English very well.” In other words, all members 14 years old and over have at least some difficulty with English.

decreased and more than likely has increased since 2000 and still remains above county and Regional levels.

In 2007,[32] of the 15,544 non-institutionalized persons over the age of 5 in Wasco, 14.2% had some sort of disability, self-care limitation, or low-mobility issue. Of persons between the ages of 5 and 65, 11.8% were classified as disabled, while persons 65, and over, had a higher rate of disability (47.5%) (U.S. Census Bureau 2000b; U.S. Census Bureau, American Community Survey 2005–2007). These percentages are similar to those seen in both the county and region.

## B. INCOME AND POVERTY

In 1999, the median annual household income in Wasco was $28,997, compared with $35,446 in Kern County and $34,976 in the region. Household income in Wasco had increased over the past few years to $34,640; however, the median income in Wasco remains below both the county and region (U.S. Census Bureau 2000g; U.S. Census Bureau, American Community Survey 2006–2008d).

As shown in Table B-92, 4,126 persons or 27.5% of the population lived below the poverty line in 1999, which was higher than the county (20.7%) and region (22.2%) poverty rates. The number of individuals living below the poverty line increased, and it is estimated that 4,635 people (28.3%), were living below the poverty line by 2006 to 2008,. This increase in percentage is in contrast to the decrease in the region as a whole but similar to the increase seen in the county.

While the above data show that median incomes increased and poverty rates increased only slightly from 1999 through 2006-2008, it should be noted that income levels have begun to decrease since the beginning of the current economic recession. Since unemployment has increased substantially since 2008, it can be assumed that household income levels have decreased and poverty rates have increased beyond the numbers reported here (U.S. Census Bureau 2009).

**Table B-92**
Income Level to Poverty Line in the City of Wasco

| Income Level As a Percentage of Poverty Line | Number of People in Income Group in 1999[a] | Percentage of Total Population Evaluated | Number of People in Income Group in 2006-2008[b] | Percentage of Total Population Evaluated |
|---|---|---|---|---|
| Under 0.50 | 1,282 | 8.6 | 2,115 | 12.9 |
| 0.50 to 0.74 | 1,128 | 7.5 | 737 | 4.5 |
| 0.75 to 0.99 | 1,716 | 11.4 | 1,783 | 10.9 |
| 1.00 to 1.24 | 1,794 | 12.0 | 1,056 | 6.4 |
| 1.25 to 1.49 | 1,440 | 9.6 | 1,677 | 10.2 |
| 1.50 to 1.74 | 922 | 6.2 | 885 | 5.4 |
| 1.75 to 1.84 | 325 | 2.2 | 722 | 4.4 |

[32] The U.S. Census Bureau does not recommend making comparisons between the 2000 and 2007 disability figures; for this reason, the more current information is presented.

**Table B-92**
Income Level to Poverty Line in the City of Wasco

| Income Level As a Percentage of Poverty Line | Number of People in Income Group in 1999[a] | Percentage of Total Population Evaluated | Number of People in Income Group in 2006-2008[b] | Percentage of Total Population Evaluated |
|---|---|---|---|---|
| 1.85 to 1.99 | 433 | 2.9 | 248 | 1.5 |
| 2.00 and over | 5,950 | 39.7 | 7,161 | 43.7 |
| Total | 14,990 | 100.0 | 16,384 | 100.0 |

[a] Analysis of U.S. Census Bureau 2000g.
[b] Analysis of U.S. Census Bureau, American Community Survey 2006–2008d.

Note: Not all individuals are evaluated by the Census for income level to poverty line status. This practice explains why population totals in this table may not match population totals presented in the population and demographics section above. This difference is especially important in Wasco, where there is a large institutionalized population at the state prison facilities that are not evaluated for income to poverty status. Also, 2000 Census data on income are representative of conditions in 1999.

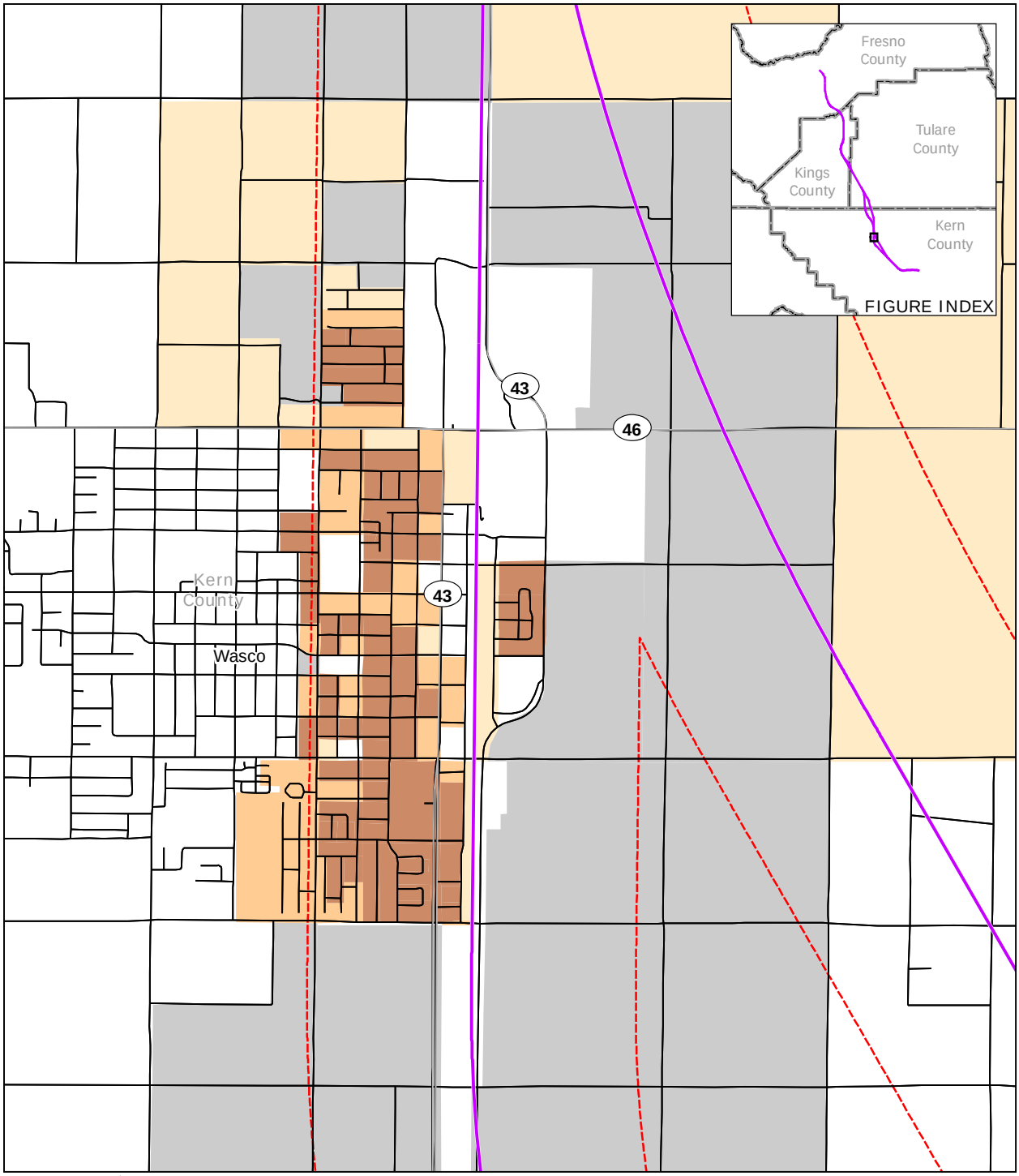
Note: Percentages may total slightly less or more than 100% due to rounding.

## C. ENVIRONMENTAL JUSTICE POPULATION

This section describes the locations of EJ populations in the city of Wasco within the study area. The definitions used to define EJ populations and a description of the data sources and methodology that were used can be found in the EJ Methodology Appendix A-1.

Figure B-45 identifies the locations of EJ populations in Wasco within the study area. Orange is used to indicate U.S. Census blocks containing EJ populations, darker orange is representative of EJ blocks with higher-population densities, that is, the more-urbanized areas. The red-dashed lines represent the study area, and the purple line is the project alignment. Total areas for this section of BNSF Alternative Alignment are calculated for Wasco and Shafter together given that the bypass is compared to the BNSF Alternative Alignment section that runs through both towns. The total area of the Census blocks in Wasco and Shafter along BNSF Alternative Alignment intersecting the study area is 55.3 square miles, with 11.7 square miles or 21.2% identified as EJ blocks.[33] The majority of the EJ area is low population density (88.1%) with medium density (4.4%) and high density (7.5%) comprising the rest. The total area of the Census block along the Wasco-Shafter Bypass that intersects the study area is 58.2 square miles, with 7.8 square miles or 13.4% identified as EJ blocks. Of this EJ area, 100% is composed of low-density population (U.S. Census Bureau 2000a).

[33] The area calculated for the EJ analysis is different than the areas presented in other sections because the study area for EJ includes all U.S. Census blocks that are completely or partially contained within the 0.5-mile radius of the alignment. Therefore, the areas of partially contained U.S. Census blocks that are outside the 0.5-mile are included. This difference is larger in rural areas, where U.S. Census blocks are larger.




PRELIMINARY DRAFT/SUBJECT TO CHANGE - HST ALIGNMENT IS NOT DETERMINED

May 16, 2011

Source: Environmental justice analysis - URS, 2010

N

0 1,000 2,000
Feet

0 500 1,000
Meters

Road

Alternative alignments

County boundary

Half-mile buffer from alignment

EJ population density

High

Medium

Low

Not EJ

Figure B-45
City of Wasco
EJ Block Populations

Total populations for this segment of BNSF Alternative Alignment are calculated for Wasco and Shafter together. According to 2000 Census data, the approximate total population within the BNSF Alternative Alignment study area in 2000 was 19,649, or 24.4% of the total population contained in the study area in all of Kern County. The total population in the Wasco-Shafter Bypass study area was 2,582, or 3.2% of the total population contained in the study area in all of Kern County. The total population in the study area presents a count of potentially affected individuals. The actual number of individuals affected may be much smaller than these baseline totals inasmuch as the study area will likely not be affected across its entire area.

Wasco has a high percentage of minority and low-income residents. In the 2000 Census, 78.4% of the total population was minority and 27.6% of city residents were living below the Census poverty threshold. Within the BNSF Alternative Alignment study area in Wasco, both the percentage of minorities (68.7%) and persons living in poverty (25%) are lower than the citywide figures, with Hispanics the predominate minority, representing 93% of the minority population residing in this study area.

Within the Wasco-Shafter Bypass study area, these percentages are considerably lower, with minorities making up 19.3% of the population and low-income individuals representing 18.7% of the population. Hispanic populations also comprise the key minority demographic (69.7%) in this study area.

Along BNSF Alternative Alignment, Wasco contains a concentration of mostly high-population density EJ areas along the entire extent of the study area within the city. These EJ areas are for the most part west of SR 43 extending between SR 43 and Griffith Avenue, with the exception of a major farm labor housing development east of SR 43. The study area for the Wasco-Shafter Bypass Alternative to the east of Wasco and Shafter contains scattered, very lightly populated EJ areas (U.S. Census Bureau 2000a).

## D. HOUSING

In 2000, there were an estimated 4,256 housing units in Wasco. By 2009, that number had grown to 5,231, for an increase of 22.9%. As also seen in both the county and region, the largest increase in the Wasco housing stock occurred in single-family detached homes, which accounted for 80.1% of the housing-stock growth. As Table B-93 shows, the composition of the housing inventory is similar to the that of the county and region, except for the smaller percentage of mobile homes. Housing vacancy rates in the city were 6.7% in 2000 and remained approximately the same in 2009
(California Department of Finance 2009a, 2009b). These 2009 rates are similar to those in the region (7.4%) but are lower than those of the county (9.8%).

**Table B-93**
Housing Stock in the City of Wasco

| Housing Type | Number of Units in 2000 | Percentage of Total Units | Number of Units in 2009 | Percentage of Total Units |
|---|---|---|---|---|
| Single-family detached | 3,069 | 72.1 | 3,850 | 73.6 |
| Single-family attached | 326 | 7.7 | 361 | 6.9 |
| Multifamily 2 to 4 units | 413 | 9.7 | 445 | 8.5 |
| Multifamily 5 units or greater | 318 | 7.5 | 441 | 8.4 |
| Mobile homes | 130 | 3.1 | 134 | 2.6 |
| Total | 4,256 | 100.0 | 5,231 | 100.0 |

Source: California Department of Finance 2009a.

Table B-94 shows that the rate of home ownership in Wasco has decreased since 2000, consistent with changes seen in the county and region over this same period.

**Table B-94**
Home Ownership of Occupied Units in the City of Wasco

| Home Ownership | Number of Occupied Units in 2000[a] | Percentage of Total Occupied Units | Number of Occupied Units in 2006–2008[b] | Percentage of Total Occupied Units |
|---|---|---|---|---|
| Own | 2,293 | 57.6 | 2,504 | 50.8 |
| Rent | 1,690 | 42.4 | 2,426 | 49.2 |
| Total Occupied Housing Units | 3,983 | 100.0 | 4,930 | 100.0 |

[a] Analysis of U.S. Census Bureau 2000d.
[b] Analysis of U.S. Census Bureau, American Community Survey 2006–2008g.
Note: Percentages may total slightly less or more than 100% due to rounding.

As shown in Table B-95, residents of 61.3% of the occupied housing units in Wasco in 2008 had moved into their homes since 2000, while 19.8% of households in the city were more established, having lived in the same home since 1990, or earlier. The percentage of recent turnover is lower and the percentage of more-established residents is higher in Wasco than in the county (68.6% and 13.6%) and region (66% and 15.2%), suggesting a somewhat more-stable community than is typical of the surrounding region.

**Table B-95**
Length of Residence in the City of Wasco

| Length of Residence | Number of Housing Units in 2000[a] | Percentage of Total Occupied Housing Units | Number of Housing Units in 2006-2008[b] | Percentage of Total Occupied Housing Units |
|---|---|---|---|---|
| Moved in 2005, or later | NA | NA | 2,019 | 41.0 |
| Moved in 2000 to 2004 | NA | NA | 1,003 | 20.3 |
| Moved in 1990 to 1999 | 2,852 | 71.6 | 932 | 18.9 |
| Moved in 1980 to 1989 | 502 | 12.6 | 403 | 8.2 |
| Moved in 1970 to 1979 | 399 | 10.0 | 273 | 5.5 |
| Moved in 1969, or earlier | 230 | 5.8 | 300 | 6.1 |
| Total housing units | 3,983 | 100.0 | 4,930 | 100.0 |

[a] Analysis of U.S. Census Bureau 2000d.
[b] Analysis of U.S. Census Bureau, American Community Survey 2006–2008g.
Note: Percentages may total slightly less or more than 100% due to rounding.

## E. ECONOMY

Wasco was traditionally a farming community, and as such, a large number of jobs in the city service the agriculture industry. Between 2000 and 2008, the number of workers in Wasco's labor force grew by 1,600, while unemployment increased from 15.6% to 18.8% (see Table B-96). During 2009, the city, county, and region all experienced increased unemployment. Wasco's annual average unemployment rate of 26.1% in 2009 was substantially higher than that seen in both the county (14.4%) and the region (14.9%) that year.

**Table B-96**
Employment and Unemployment in the City of Wasco

| Labor Status | Number in 2000 | Percentage of Labor Force | Number in 2008 | Percentage of Labor Force | Number in 2009 | Percentage of Labor Force |
|---|---|---|---|---|---|---|
| Employed | 5,400 | 84.4 | 6,600 | 82.5 | 6,300 | 73.9 |
| Unemployed | 1,000 | 15.6 | 1,500 | 18.8 | 2,200 | 26.1 |
| Total Labor Force | 6,400 | 100.0 | 8,000 | 100.0 | 8,500 | 100.0 |

Source: California Employment Development Department 2010a.
Note: Percentages may total slightly less or more than 100% due to rounding.

As shown in Table B-97, public administration is the largest occupation within the city limits of Wasco. The occupational profile of Wasco is very different than that of either the county or region, with two groups dominating 70% of the occupational profile. It appears that in Wasco most occupations are either in the agriculture industry or related to the state prison. While there

are large numbers of employees working at the prison, many of the skilled employees commute from long distances across the San Joaquin Valley to these jobs. While the prison industry is an important part of the San Joaquin Valley economy, it is possible that the small communities near each site do not enjoy the majority of the benefits of the jobs or of the income generated.

**Table B-97**
Occupation by Type in the City of Wasco

| Occupation | Number of Employed in 2001 | Percentage of Total Employed | Number of Employed in 2008 | Percentage off Total Employed |
|---|---|---|---|---|
| Agriculture, forestry, fishing and hunting, and mining | * | * | 2,106 | 33.9 |
| Construction | 40 | 1.3 | 53 | 0.9 |
| Manufacturing | 39 | 1.3 | 322 | 5.2 |
| Wholesale trade | 112 | 3.6 | 20 | 0.3 |
| Retail trade | 273 | 8.8 | 417 | 6.7 |
| Transportation and warehousing, and utilities | * | * | 26 | 0.4 |
| Information | * | * | 0 | 0.0 |
| Finance, insurance, real estate, and rental and leasing | 59 | 1.9 | 63 | 1.0 |
| Professional, scientific, management, administrative, and waste management services | 100 | 3.2 | 64 | 1.0 |
| Educational, health and social services | * | * | 315 | 5.1 |
| Arts, entertainment, recreation, accommodation and food services | 109 | 3.5 | 267 | 4.3 |
| Other services (except public administration) | 41 | 1.3 | 117 | 1.9 |
| Public administration | 2,319 | 75.0 | 2,557 | 41.2 |
| Total people employed | 3,092 | 100.0 | 6,210 | 100.0 |

Source: California Employment Development Department 2010b.

Note: * indicates instances in which the EDD would not release employment numbers for certain occupations because of privacy issues related to the fact that fewer than three employers reported quarterly employment data. This table provides a count of occupations, and the previous employment table provides a count of resident workers. The total employed for these two sets of numbers will not be equal given those from outside the community that commute to work in the city and those residents of the city who commute to other communities for work.

Note: Percentages may total slightly less or more than 100% due to rounding.

EDD = Employment Development Department

## F. FISCAL

During the 2008-2009 fiscal year, the city had an annual budget of $24,840,132, with $692,533 (2.8%) coming from property taxes and $1,143,000 (4.6%) coming from sales taxes (City of Wasco 2008).

## G. COMMUNITY FACILITIES AND AMENITIES

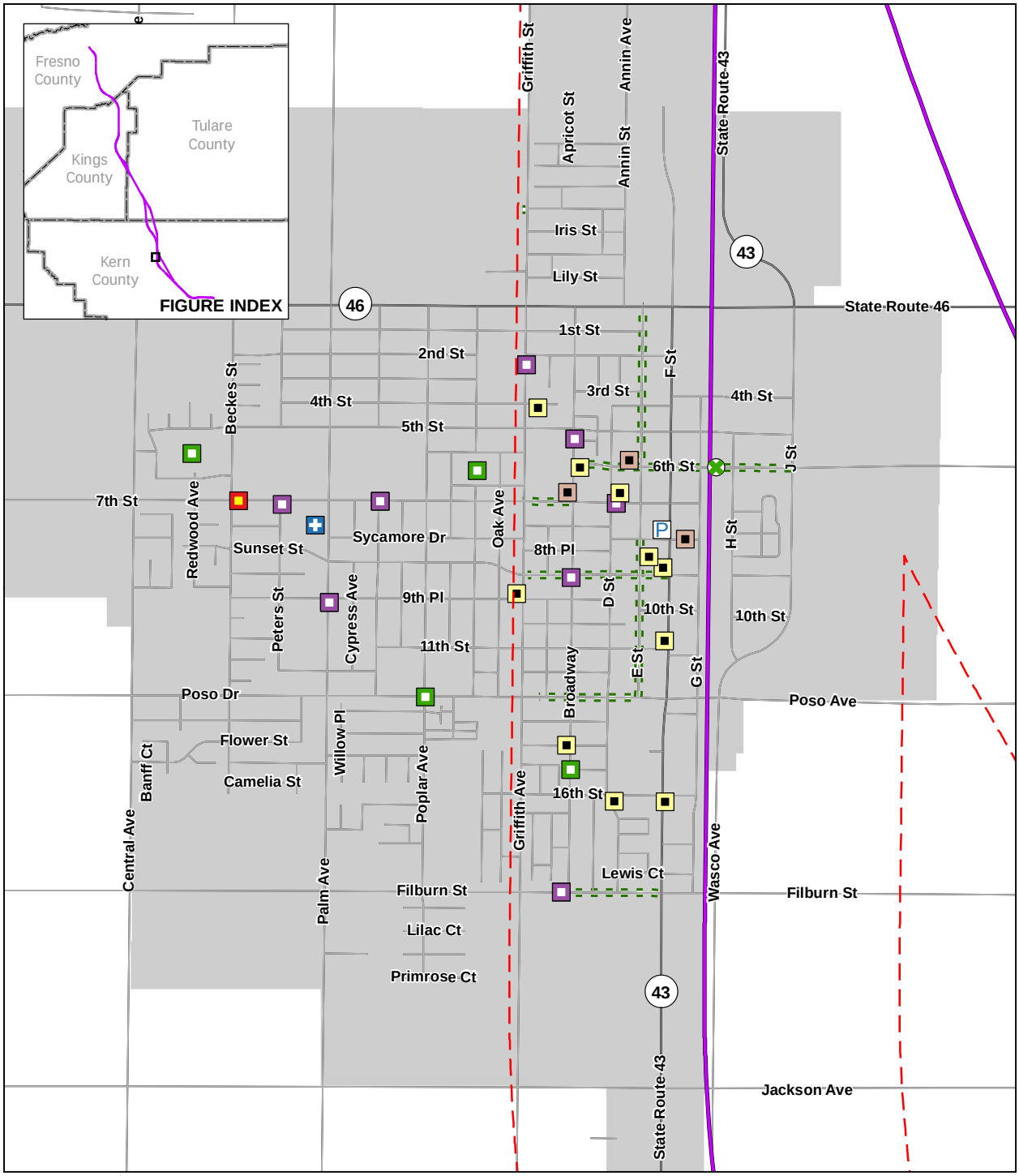
Facilities of primary concern for the socioeconomics, communities, and environmental justice analysis are public buildings, public-safety fire and police stations, medical services, schools, places of worship, and parks. Each of these types of facilities is listed in tables that follow below. Figure B-46 also provides a map of the community showing locations of these facilities.

### Public Buildings

The city of Wasco has several public buildings (see Table B-98) that serve the needs of the community. Public buildings in this context are meant to represent community centers and other facilities open to the public. One building houses the administrative offices of the city and serves as the city hall. The other buildings include the library operated by Kern County and the local historical society museum. All of these buildings are in the study area.

**Table B-98**
City of Wasco Public Buildings

| Facility Name | Location | In Study Area |
|---|---|---|
| Wasco City Hall | 746 8th St | Yes |
| Wasco Public Library | 1102 7th St | Yes |
| Wasco Historical Society Museum | 918 6th St | Yes |
| Sources: National Institute of Building Sciences 2003; USGS 1992; Google 2010, map of Wasco. | | |




PRELIMINARY DRAFT/SUBJECT TO CHANGE - HST ALIGNMENT IS NOT DETERMINED

Source: URS, 2010

May 10, 2011

Alignments (Fresno to Bakersfield)

Existing bike path

Proposed bike path

Road

Half-mile buffer from Alternative

Urban area

Bike path/Alternative crossing

Fire

Hospitals

Park

Places of Worship

Police

Public Buildings

Schools

N

0 500 1,000 Feet

0 250 500 Meters

Figure B-46
City of Wasco
Facility Locations

## Public Safety

### *Police*

There is a single county sheriff's station in Wasco; the city does not operate its own police force. The station is in the study area. The Kern County sheriff has 984 full-time officers (Kern County Sheriff's Office n.d.).

### *Fire*

There is one fire station in Wasco, which is operated by the Kern County Fire Department. The station is located in the study area. The Kern County Fire Department has 546 firefighters and has an average response time of 15 minutes within the county (Kern County Fire Department 2010).

### *Medical*

There is one medical facility in the community of Wasco. The North Kern Hospital is an independent medical center and is located in the study area. No other OSHPD registered facilities are located in Wasco. See Table B-99 for location information on these public-safety facilities.

**Table B-99**
City of Wasco Police, Fire, and Medical Facilities

| Facility Name | Location | Additional Details | In Study Area |
|---|---|---|---|
| **Police** | | | |
| Sheriff Station | 748 F St | Substation | Yes |
| **Fire** | | | |
| Kern County Fire Department | 2424 7th St | Station 31 | Yes |
| **Medical** | | | |
| Wasco Medical Dental Center/North Kern Hospital | 2101 7th St | Community clinic | Yes |
| Sources: National Institute of Building Sciences 2003; USGS 1992; Google 2010, map of Wasco. | | | |

## Schools

There are nine public and private schools within the community of Wasco (see Table B-100). The public schools (Wasco Union High and Wasco Union Elementary School District facilities) have a total enrollment of approximately 4,917 students (California Department of Education 2010). Wasco High School is the only high school in the community, with the remaining schools being elementary, middle, or private schools. Of all the schools, five are located in the study area.

**Table B-100**
City of Wasco Schools

| Facility Name | Location | Additional Details | In Study Area |
|---|---|---|---|
| Wasco High School | 1900 7th St | Public | No |
| John L Prueitt Elementary | 3501 7th St | Public | No |
| Karl F Clemens Elementary | 523 Broadway | Public | Yes |
| Palm Avenue Elementary | 1017 Palm Ave | Public | No |
| Teresa Burke Elementary | 1301 Filburn | Public | Yes |
| Thomas Jefferson Middle School | 305 Griffith Ave | Public | Yes |
| Bethany Christian School | 942 7th St | Private | Yes |
| St Johns School | 909 Broadway Ave | Private | Yes |
| North Kern Christian School | 710 Peters St | Private | No |
| Sources: National Institute of Building Sciences 2003; USGS 1992; Google 2010, map of Wasco. | | | |

## Religious Facilities

Wasco has many places of worship within the city, all belonging to Christian denominations. Ten of these facilities are within the study area (see Table B-101 for a listing of the 10 places of worship).

**Table B-101**
Religious Facilities in the City of Wasco within the Study Area

| Facility Name | Location | Additional Details | In Study Area? |
|---|---|---|---|
| Griffith Avenue Baptist Church | 408 Griffith Ave | NA | Yes |
| Free Will Baptist Church | 938 7th St | NA | Yes |
| Assembly of God Church of Wasco | 600 Broadway St | NA | Yes |
| Church of God | 812 9th St | NA | Yes |
| Jehovah's Witnesses | 820 E St | NA | Yes |
| St. John the Evangelist Catholic Church | 1300 9th Pl | NA | Yes |
| Apostolic Faith Temple | 1802 F St | NA | Yes |
| Apostolic Church | 1820 D St* | NA | Yes |
| Truelight Missionary Baptist Church | 1104 14th St | NA | Yes |
| First Baptist Church | 1079 F St* | NA | Yes |
| Sources: National Institute of Building Sciences 2003; USGS 1992; Google 2010, map of Wasco.<br>Note: * indicates that address not readily available, so address shown is an approximation. | | | |

**Parks**

The city of Wasco currently has four parks and is planning to construct two additional recreational facilities. Westside Park and Frank Barker Memorial Park are the largest at 16 and 20 acres, respectively. Cormack Park, formerly a county park and now deeded to the city, is smaller at 7 acres, and Southgate Park is the smallest at about one-third acre. The planned recreational facilities are a soccer complex that will be about 12 acres and a baseball complex that will be about 16 acres (Rodriquez 2009; Scott 2009; City of Wasco 2005). Table B-102 provides a listing of relevant park facilities. Additional detailed park information can be found in the Park and Recreation section of the EIR/EIS.

**Table B-102**
City of Wasco Parks within the Study Area

| Facility Name | Location | Additional Details | In Study Area? |
|---|---|---|---|
| Westside Park | Beckes Ave and 5th St | Sports park | No |
| Frank Barker Memorial Park | Poplar St and Poso Ave | Community park | No |
| Southgate Park | 15th St and Broadway Ave | Mini park | Yes |
| Cormack Park | 6th St and Oak Ave | Sports park | Yes |
| Karl F. Clemens Elementary School | 523 Broadway | Sports park | Yes |
| John L. Prueitt Elementary School | 3501 7th St | Sports park | No |
| Palm Avenue Elementary School | 1017 Palm Ave | Sports park | No |
| Teresa Burke Elementary School | 1301 Filburn Ave | Sports park | Yes |
| Thomas Jefferson Middle School | 305 Griffith Ave | Sports park | Yes |
| Bethany Christian School | 942 7th St | Private park | Yes |
| Wasco Union High School | 1900 7th St | Sports park | No |
| Sources: City of Wasco 2005, 34; Google 2010, map of Wasco. | | | |

## H. CIRCULATION AND ACCESS

Of primary concern to the socioeconomics, communities, and environmental justice analysis are non-motorized circulation issues associated with pedestrian and bicycle transportation. However, issues associated with main roads, public transportation, and parking can also affect communities. More details on these aspects can be found in the Transportation section of the EIR/EIS.

The *City of Wasco General Plan* calls for pedestrian-friendly features to define and create neighborhoods (City of Wasco Planning Division 2002). The General Plan also calls for the development of an integrated Bicycle Access Plan for the city. Table B-103 provides a list of existing and proposed bike path facilities. As can be seen by this list, Wasco currently has limited existing facilities but is planning for many more bike paths.

**Table B-103**
City of Wasco Bicycle Paths

| Street | Location | Designation |
|---|---|---|
| NA | Looped Class I bike path around Westside Park | Class I, Existing |
| Poso Ave | South side of Barker Park from Maple to Birch | Class I, Existing |
| East side of Central Ave | Filburn Ave to Eucalyptus Ave | Class I, Proposed |
| West side of Central Ave | Eucalyptus to SR 46 | Class I, Proposed |
| North side of Filburn Ave | Central Ave to Griffith Ave | Class I, Proposed |
| South side of Filburn Ave | Griffith Ave to SR 43 | Class I, Proposed |
| Gromer Rd | Griffith Ave extension to Annin Rd | Class I, Proposed |
| Palm Ave | Filburn Ave to Margalo Rd extension | Class II, Proposed |
| Poplar Ave | Filburn Ave to 5th St | Class II, Proposed |
| Birch Ave | 7th St to 1st St | Class II, Proposed |
| E St | 6th St to SR 46 | Class II, Proposed |
| E St | Poso Ave to 8th St | Class II, Proposed |
| Poso Ave | Central Ave to 8th St | Class II, Proposed |
| Sunset Ave | Palm Ave to SR 43 | Class II, Proposed |
| 7th St | Central Ave to Broadway Ave | Class II, Proposed |
| 6th St | Broadway Ave to J St | Class II, Proposed |
| South side of 5th St | Beckes Ave to Palm Ave | Class II, Proposed |
| Margalo Road extension | Central Ave to Griffith Ave | Class II, Proposed |

Source: Kern Council of Governments 2001.

SR = State Route

# B.10 City of Shafter

Shafter is in Kern County, just northwest of Bakersfield. The city has a total area of about 18 square miles with approximately 10 square miles, or 56%, of this land in the study area for the socioeconomic, communities, and environmental justice analysis. The city is bisected from northwest to southeast by parallel corridors comprising SR 43 and the BNSF railroad tracks. The majority of the incorporated area of Shafter is agricultural land without a great amount of urbanization. The land was added to the city to capture industrial sites remote from the city center along SR 99 and 7th Standard Road, as well as to reserve land for future growth and protect it from being absorbed by the rapid northward expansion of Bakersfield. The urbanized part of Shafter is approximately 4 square miles.

Shafter began its history as a loading facility for the Santa Fe Railroad in the late 1800s. It was named after General William Rufus Shafter, who commanded American forces in Cuba during the Spanish-American War in 1898, and who retired to Kern County in 1901. Although the first post office opened in Shafter in 1898, the town did not grow substantially until around 1913, when the Kern County Land Company opened the Green Hotel and began selling lots in the community (Shafter Historical Society n.d.).

Potatoes were Shafter's most important crop historically, but cotton, nuts, and alfalfa have become important in recent decades, as well as fruit and vegetable packing. In 1922, the University of California established its 120-acre farm, a cotton field research station, at Shafter. This facility, now on the National Register of Historic Places, was very influential in making California a successful competitor in cotton production in the 20th century (University of California Agriculture and Natural Resources 2010).

The City of Shafter was incorporated in 1938. During World War II, Minter Air Field housed 7,000 American troops and 600 prisoners of war. Today, this airport adjacent to SR 99 is used mainly by crop dusters and private aircraft. Minter Field has an air museum, and the Shafter Historical Society maintains the Shafter Depot Museum honoring the town's railroad history, the Harlin P. Wilson Agricultural Museum, and the historic Green Hotel, which is also on the National Register of Historic Places.

Shafter's city limits, which encompass a substantial amount of farmland and open space, extend eastward to SR 99 and southeast almost to the Bakersfield city limits. According to the city's community development director, Shafter has worked hard to attract a variety of commercial and industrial employers (such as a major Target warehousing facility and a variety of large food-processing facilities) to three main areas of the community: the 700-acre International Trade and Transportation Center (7th Standard Road at Santa Fe), a smaller node within the city (at Beach and Lerdo Road), and the industrial park surrounding the airport (Lerdo Road at SR 99). The city has annexed land to continue to provide jobs for its residents, and also to address the issue of jobs/housing balance by continuing to provide a variety of housing options, including "move-up" housing for those who move into higher paying non-agricultural jobs (such as prison jobs at the nearby Wasco state prison) (Sweeny 2010).

### A. POPULATION AND DEMOGRAPHICS

In 2000, Shafter had a population of 12,736 residents; by 2009, the population had grown to 15,812, for an average annual growth rate of 2.7% (California Department of Finance 2009a, 2009b). This was higher than the growth rate seen in the region (2.3%), but similar to that of the county (2.8%) during the same period.

Table B-104 provides information on race and ethnicity for the Shafter population in 2000. No Census data are available after 2000 throughout Shafter's profile because of the smaller size of

the city as compared to other communities in the study area.[34] As this table indicates, Shafter's minority population, which represented approximately 70% of all residents in 2000 is a higher percentage of the population than is seen in either the county (50.5%) or the region (56.5%).

**Table B-104**
Racial and Ethnicity Characteristics of the City of Shafter

| Race | Number of People in 2000 | Percentage of Total Population |
|---|---|---|
| **Non-Hispanic White** | 3,693 | 29.0 |
| **Minority** | 9,043 | 71.0 |
| Hispanic of all races | 8,667 | 68.1 |
| Non-Hispanic Black or African-American | 181 | 1.4 |
| Non-Hispanic American Indian and Alaska Native | 59 | 0.5 |
| Non-Hispanic Asian | 38 | 0.3 |
| Non-Hispanic Native Hawaiian and Other Pacific Islander | 10 | 0.1 |
| Non-Hispanic, some other race | 6 | 0.0 |
| Non-Hispanic, two or more races | 82 | 0.6 |
| **Total** | 12,736 | 100.0 |

Source: Analysis of U.S. Census Bureau 2000e.
Note: California DOF does not provide population projections at the city level.
Note: Percentages may total slightly less or more than 100% due to rounding.
DOF = Department of Finance

Figure B-47 shows that the age distribution of Shafter's population in 2000. Shafter's population is generally slightly younger than, but on the whole similar to, that of both the county and region (U.S. Census Bureau 2000f).

In 2000, there were 3,293 households in Shafter with an average household size of 3.67 people per household. By 2009, both the number of households and the average household size had increased, to 4,000 and 3.80, respectively (California Department of Finance 2009a, 2009b). The average household size for Shafter is higher than that of either the county (3.13) or the region (3.3).

[34] U.S. Census ACS single-year estimates for 2008 are available for Bakersfield and Fresno, because each of these cities has a population greater than 65,000. By contrast, Hanford, Corcoran, and Wasco each have a population of less than 65,000 but greater than 20,000, and therefore 2006–2008 average estimates are available. The City of Shafter, with a population of less than 20,000, currently has no recent estimates available from the ACS.

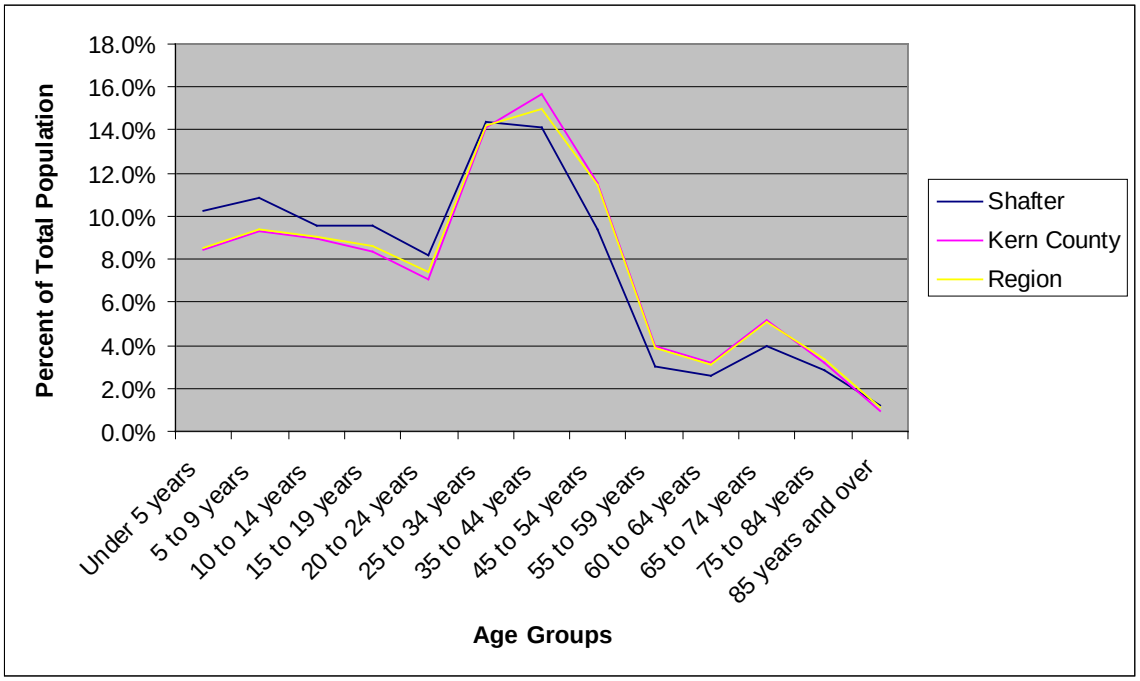



**Figure B-47**
City of Shafter Age Profile, 2000

The makeup of households in Shafter is similar to the county and region, with family households comprising 84.3% of all households in 2000, as shown in Table B-105.

**Table B-105**
Numbers and Types of Households in the City of Shafter

| Household | Number of Households in 2000 | Percentage of Total Households |
|---|---|---|
| Family households (families) | 2,779 | 84.3 |
| Married-couple family | 2,072 | 62.9 |
| Female householder, no husband present | 499 | 15.1 |
| Male householder, no wife present | 208 | 6.3 |
| Non-family households | 517 | 15.7 |
| Householder living alone | 435 | 13.2 |
| Total | 3,296 | 100.0 |

Source: Analysis of U.S. Census Bureau 2000h.
Note: Percentages may total slightly less or more than 100% due to rounding.

In 2000, 562 of the 3,293 households in the city were linguistically isolated, meaning that 17.1% of families did not have someone in the household over the age of 14 with the ability to speak English very well, a higher rate than in either the county (8.2%) or region (9.4%) (U.S. Census

Bureau 2000f).[35] More-recent information is not available from the Census American Community Survey for 2006–2008. However, with the increase in minority population and the trends seen in both the county and region, it can be assumed that linguistic isolation has not decreased and more than likely has increased since 2000 and still remains above county and region levels.

In 2000, 21.8% of non-institutionalized persons in Shafter had some sort of disability, self-care limitation, or low-mobility issue. For persons between the ages of 5 and 65, 18.8% were classified as disabled, while persons 65, and over, had a higher rate of disability (52.5%) (U.S. Census Bureau 2000b).[36]

## B. INCOME AND POVERTY

The median annual household income in 1999 in Shafter was $29,515, compared to $35,446 in Kern County and $34,976 in the region (U.S. Census Bureau 2000g).

As shown in Table B-106, 3,534 persons, or 29.2% of Shafter's population, lived below the poverty line in 1999, which was higher than either the county (20.7%) or region (22.2%) poverty rates.

**Table B-106**
Income Level to Poverty Line in the City of Shafter

| Income Level as a Percentage of Poverty Line | Number of People in Income Group in 1999 | Percentage of Total Population Evaluated |
|---|---|---|
| Under 0.50 | 1,433 | 11.8 |
| 0.50 to 0.74 | 1,221 | 10.1 |
| 0.75 to 0.99 | 880 | 7.3 |
| 1.00 to 1.24 | 1,276 | 10.5 |
| 1.25 to 1.49 | 1,045 | 8.6 |
| 1.50 to 1.74 | 1,063 | 8.8 |
| 1.75 to 1.84 | 263 | 2.2 |
| 1.85 to 1.99 | 383 | 3.2 |
| 2.00 and over | 4,547 | 37.5 |
| Total | 12,111 | 100.0 |

Source: Analysis of U.S. Census Bureau 2000g.

Note: Not all individuals are evaluated by the Census for income level to poverty line status. This practice explains why population totals in this table may not match population totals presented in the population and demographics section above. Also, 2000 Census data on income are representative of conditions in 1999.

Note: Percentages may total slightly less or more than 100% due to rounding.

[35] According to the U.S. Census Bureau, a household is linguistically isolated if "no member 14 years old and over speaks only English or speaks a non-English language and speaks English very well." In other words, all members 14 years old and over have at least some difficulty with English.

[36] Comparisons between 2007 ACS and 2000 Census disability data is not recommended due to a change in the definition of "disabled." 2000 Census data is presented for Shafter to illustrate conditions in Shafter in 2000 but should not be compared to 2007 data for other communities.

Since unemployment has dramatically increased throughout the region since 2008, it can be assumed that household income levels have decreased and poverty rates have increased in the last year (U.S. Census Bureau 2009).

## C. ENVIRONMENTAL JUSTICE POPULATION

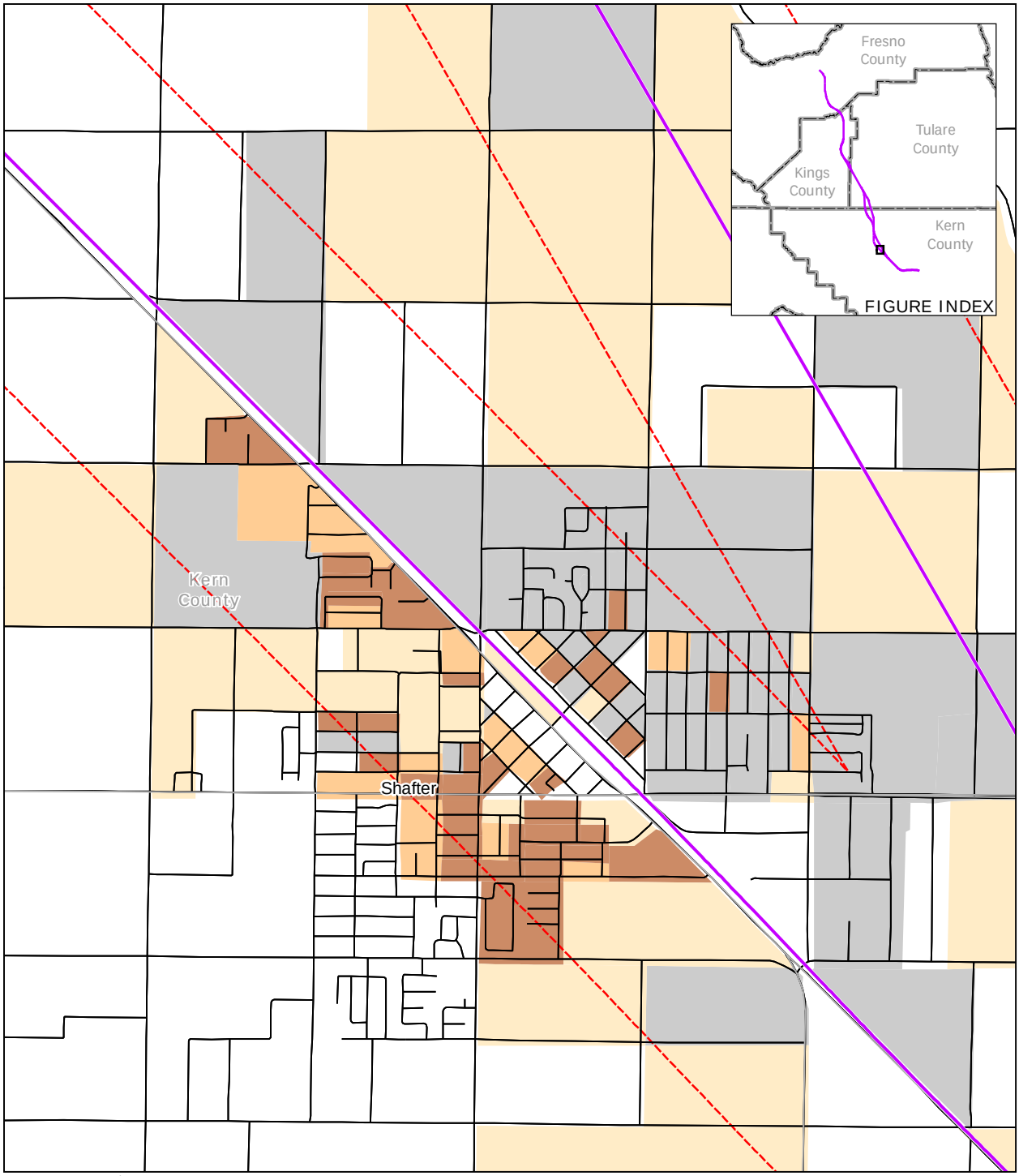
This section presents the locations of EJ populations in Shafter within the study area. The definitions used to define EJ populations and a description of the data sources and methodology that were used can be found in the EJ Methodology Appendix A-1.

Figure B-48 identifies the locations of EJ populations in Shafter within the study area. Orange is used to indicate U.S. Census blocks containing EJ populations, darker orange is representative of EJ blocks with higher-population densities, that is, the more-urbanized areas. The red-dashed lines represent the study area, and the purple line is the project alignment. Total areas for this section of BNSF Alternative Alignment are calculated for Wasco and Shafter together given that the bypass is compared to the BNSF Alternative Alignment section that runs through both towns. The total area of Census blocks within the cities of Wasco and Shafter along BNSF Alternative Alignment that falls within the study area is 55.3 square miles, with 11.7 square miles (or 21.2%) identified as EJ blocks.[37] The majority of the EJ area is low population density (88.1%), with medium density (4.4%) and high density (7.5%) comprising the remaining area. The total Census block area along the Wasco-Shafter Bypass that intersects the study area is 58.2 square miles, with 7.8 square miles (or 13.4%) identified as EJ blocks. Of this EJ area, 100% is composed of low-density population (U.S. Census Bureau 2000a).

Total populations for this section of BNSF Alternative Alignment are calculated for Wasco and Shafter together because the bypass is compared to the BNSF Alternative Alignment section that runs through both towns. According to the 2000 Census, the approximate total population within the BNSF Alternative Alignment study area is 19,649, or 24.4% of the total population contained in the study area in all of Kern County. The total population within the Wasco-Shafter Bypass study area is 2,582, or 3.2% of the total population contained in the study area in all of Kern County. The total population within the study area presents a count of potentially affected individuals. The actual number of individuals affected may be much smaller than these baseline totals as the study area will likely not be affected across its entire area.

Shafter has a high percentage of minority and low-income individuals. According to the 2000 Census, 71% of the total population is minority and 28.9% is living below the Census poverty threshold. Within the BNSF Alternative Alignment study area in Shafter, both the percentage of minorities (68.7%) and low-income residents (25%) are lower than in the city as a whole, with Hispanics the predominate minority, accounting for 93% of the minority population. The BNSF right-of-way through Shafter is a major dividing line with the high school and newer, upscale housing to the northeast of the BNSF railroad. Low-income neighborhoods and the traditional downtown area are to the southwest of the BNSF.

[37] The area calculated for the EJ analysis is different than the areas presented in other sections because the study area for EJ includes all U.S. Census blocks that are completely or partially contained within the 0.5-mile radius of the alignment. Therefore, the areas of partially contained U.S. Census blocks that are outside the 0.5-mile are included. This difference is larger in rural areas, where U.S. Census blocks are larger.




PRELIMINARY DRAFT/SUBJECT TO CHANGE - HST ALIGNMENT IS NOT DETERMINED

Source: Environmental justice analysis - URS, 2010

May 16, 2011

N

0 1,000 2,000
Feet

0 500 1,000
Meters

Road

Alternative alignments

County boundary

Half-mile buffer from alignment

EJ population density

High

Medium

Low

Not EJ

Figure B-48
City of Shafter
EJ Block Populations

]Within the Wasco-Shafter Bypass study area, minorities make up 19.3% and low-income individuals make up 18.7% of the population, both less than that in the BNSF Alternative Alignment study area. Hispanic populations also comprise the key minority demographic, representing 69.7% of the minority population. Shafter contains medium- and high-density EJ areas in the central part of the city, mostly located west of SR 43. There is also small concentration of medium- and high-population density EJ areas east of SR 43 located in between Walker Street, East Tulare Avenue, and Mannel Avenue. The study area for the bypass alternative to the east of Wasco and Shafter contains scattered, very lightly populated EJ areas (U.S. Census Bureau 2000a).

## D. HOUSING

In 2000, there were an estimated 3,623 housing units in Shafter. By 2009, that number had grown to 4,402, for a growth of 21.5%. As also seen in both the county and region, the largest increase in the Shafter housing stock occurred in single-family detached homes, which accounted for 91.7% of the housing stock growth. As Table B-107 shows, the composition of the local housing stock is similar to the that of the county and region. Housing vacancy rates within the city were 9.1% in 2000 and remained approximately the same in 2009 (California Department of Finance 2009a, 2009b). These rates are higher than those observed in the region (7.4%) but lower than those in the county (9.8%).

**Table B-107**
Housing Stock in the City of Shafter

| Housing Type | Number of Units in 2000 | Percentage of Total Units | Number of Units in 2009 | Percentage of Total Units |
|---|---|---|---|---|
| Single-family detached | 2,718 | 75.0 | 3,459 | 78.6 |
| Single-family attached | 177 | 4.9 | 177 | 4.0 |
| Multifamily 2 to 4 units | 280 | 7.7 | 274 | 6.2 |
| Multifamily 5 units or greater | 237 | 6.5 | 283 | 6.4 |
| Mobile homes | 211 | 5.8 | 209 | 4.7 |
| Total | 3,623 | 100.0 | 4,402 | 100.0 |

Source: California Department of Finance 2009a.
Note: Percentages may total slightly less or more than 100% due to rounding.

Table B-108 shows that the rate of home ownership in 2000 in Shafter was 60%, which was similar to that of both the county and the region.

**Table B-108**
Home Ownership of Occupied Units in the City of Shafter

| Home Ownership | Number of Occupied Units in 2000 | Percentage of Total Occupied Units |
|---|---|---|
| Own | 1,983 | 60.2 |
| Rent | 1,313 | 39.8 |
| Total occupied housing units | 3,296 | 100.0 |

Source: Analysis of U.S. Census Bureau d.
Note: Percentages may total slightly less or more than 100% due to rounding.

As shown in Table B-109, residents of 66.2% of the occupied housing units in Shafter had moved into their homes between 1990 and 2000, while 18.6% of households were more established, having lived in the same residence since at least 1980.[38] These values are similar for the county (71.2% and 13.9%) and the region (70.4% and 16%) for the same period.

**Table B-109**
Length of Residence in the City of Shafter

| Length of Residence | Number of Housing Units in 2000 | Percentage of Total Occupied Housing Units |
|---|---|---|
| Moved in 2005 or later | NA | NA |
| Moved in 2000 to 2004 | NA | NA |
| Moved in 1990 to 1999 | 2,183 | 66.2 |
| Moved in 1980 to 1989 | 499 | 15.1 |
| Moved in 1970 to 1979 | 304 | 9.2 |
| Moved in 1969, or earlier | 310 | 9.4 |
| Total housing units | 3,296 | 100.0 |

Source: Analysis of U.S. Census Bureau 2000d.
Note: Percentages may total slightly less or more than 100% due to rounding.

## E. ECONOMY

Shafter has traditionally been a farming community, with most of the industries serving the agricultural needs. Between 2000 and 2008, the number of workers in Shafter's labor force grew by 1,200 while unemployment increased from 14.9% to 16.9%, as shown in Table B-110. In 2009, the city, county, and region all experienced increased unemployment with the 2009 annual average unemployment rate of 25.1% experienced in Shafter being higher than either the county (14.4%) or region (14.9%).

[38] Since Shafter data are not available for years after 2000, the analysis was adjusted to compare 1990–2000 and pre-1980 data to identify community stability of and length of residency trends.

**Table B-110**
Employment and Unemployment in the City of Shafter

| Labor Status | Number in 2000 | Percentage of Labor Force | Number in 2008 | Percentage of Labor Force | Number in 2009 | Percentage of Labor Force |
|---|---|---|---|---|---|---|
| Employed | 4,000 | 85.1 | 4,900 | 83.1 | 4,700 | 74.9 |
| Unemployed | 700 | 14.9 | 1,000 | 16.9 | 1,600 | 25.1 |
| Total labor force | 4,700 | 100.0 | 5,900 | 100.0 | 6,200 | 100.0 |

Source: California Employment Development Department 2010a.
Note: Percentages may total slightly less or more than 100% due to rounding.

As shown in Table B-111, agriculture and related occupations comprise the largest occupational sector in Shafter. Between 2000 and 2008, the agriculture industry experienced substantial growth, more than doubling in size, in large part due to the opening of the Bidart Brothers apple packing facility and the expansion of Grimmway's citrus and carrot packaging facilities in Shafter (Sweeny 2010). The occupational profile of Shafter is even more dominated by the agriculture sector than that of either the county or region.

**Table B-111**
Occupation in the City of Shafter by Type

| Occupation | Number Employed in 2001 | Percentage of Total Employed | Number Employed in 2008 | Percentage of Total Employed |
|---|---|---|---|---|
| Agriculture, forestry, fishing and hunting, and mining | 752 | 25.4 | 2,094 | 38.9 |
| Construction | 87 | 2.9 | 144 | 2.7 |
| Manufacturing | 230 | 7.8 | 168 | 3.1 |
| Wholesale trade | 302 | 10.2 | 430 | 8.0 |
| Retail trade | 153 | 5.2 | 351 | 6.5 |
| Transportation and warehousing, and utilities | * | * | 927 | 17.2 |
| Information | * | * | 18 | 0.3 |
| Finance, insurance, real estate, and rental and leasing | 15 | 0.5 | 108 | 2.0 |
| Professional, scientific, management, administrative, and waste management services | * | * | 21 | 0.4 |
| Educational, health and social services | * | * | 220 | 4.1 |
| Arts, entertainment, recreation, accommodation and food services | 155 | 5.2 | 271 | 5.0 |

**Table B-111**
Occupation in the City of Shafter by Type

| Occupation | Number Employed in 2001 | Percentage of Total Employed | Number Employed in 2008 | Percentage of Total Employed |
|---|---|---|---|---|
| Other services (except public administration) | 88 | 3.0 | 11 | 0.2 |
| Public administration | 1,177 | 39.8 | 617 | 11.5 |
| Total people employed | 2,959 | 100.0 | 5,380 | 100.0 |

Source: California Employment Development Department 2010b.

Note: * indicates instances in which the EDD would not release employment numbers for certain occupations because of privacy issues related to the fact that fewer than three employers reported quarterly employment data. Also, this table provides a count of occupations, and the previous employment table provides a count of resident workers. The total employed for these two sets of numbers will not be equal given those from outside the community that commute to work in the city and those residents of the city who commute to other communities for work.

Note: Percentages may total slightly less or more than 100% due to rounding.

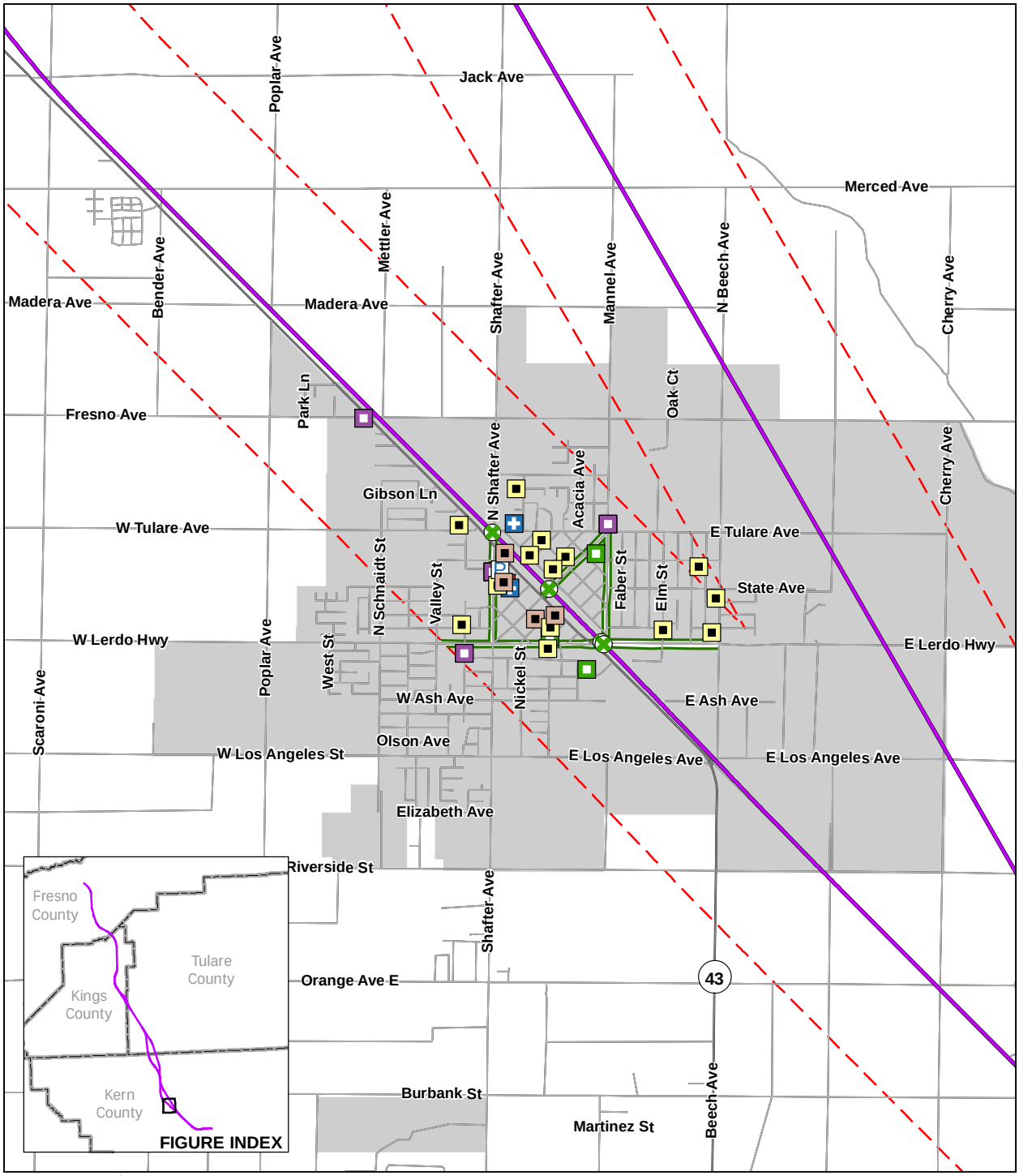
EDD = Employment Development Department

## F. FISCAL

During the 2008-2009 fiscal year, the City of Shafter had an annual budget of approximately $42,000,000, with $587,000 in sales taxes and $4,418,863 in property tax revenues accounting for 1.4% and 10.5% of all revenues, respectively (City of Shafter 2008).

## G. COMMUNITY FACILITIES AND AMENITIES

Facilities of primary concern for the socioeconomics, communities, and environmental justice analysis are the locations of public buildings, public-safety fire and police stations, medical services, schools, places of worship and parks. Each of these types of facilities is listed below and Figure B-49 provides a map of the community showing these facility locations.




PRELIMINARY DRAFT/SUBJECT TO CHANGE - HST ALIGNMENT IS NOT DETERMINED

Source: URS, 2010

May 10, 2011

N

0 1,000 2,000 Feet

0 500 1,000 Meters

Alignments (Fresno to Bakersfield)

Existing bike path

Proposed bike path

Road

Half-mile buffer from Alternative

Urban area

Bike path/Alternative crossing

Fire

Hospitals

Park

Places of Worship

Police

Public Buildings

Schools

Figure B-49
City of Shafter
Facility Locations

## Public Buildings

Shafter has five public buildings that serve the needs of the community. Public buildings in this context are meant to represent community centers and other facilities open to the public. One building houses the city administrative offices and serves as the city hall. Other buildings include the local library, which is operated by the county, and three museums. The city hall, as well as two of the museums, lies within the study area, as shown in Table B-112.

**Table B-112**
City of Shafter Public Buildings

| Facility Name | Location | In Study Area? |
|---|---|---|
| City Hall | 336 Pacific Ave | Yes |
| Shafter Public Library | 236 James St | No |
| Minter Field Air Museum | 401 Vultee Ave | No |
| Shafter Depot Museum | 150 Central Valley Highway | Yes |
| The Green Hotel | 560 James St | Yes |
| Sources: National Institute of Building Sciences 2003; USGS 1992; Google 2010, map of Shafter. | | |

## Public Safety

### *Police*

There is one police station in Shafter operated by the City of Shafter. The station is in the study area. Shafter has 21 full-time police officers (City of Shafter 2010b).

### *Fire*

There is one fire station in Shafter operated by Kern County. The station is in the study area and has 546 firefighters with an average emergency response time of 15 minutes (Kern County Fire Department 2010).

### *Medical*

There are two medical facilities within Shafter that are certified by OSHPD, and both are located within the study area. Neither of these facilities has an emergency medical department.

Table B-113 provides the addresses of these public-safety facilities.

**Table B-113**
City of Shafter Police, Fire, and Medical Facilities

| Facility Name | Location | Additional Details | In Study Area? |
|---|---|---|---|
| **Police** | | | |
| Shafter Police Department | 201 Central Valley Highway | Headquarters | Yes |
| **Fire** | | | |
| Kern County Fire Station | 325 Sunset Ave | Fire station | Yes |
| **Medical** | | | |
| Golden Living Center - Shafter | 140 E Tulare Ave | Long-term care – 99 beds | Yes |
| Joy Carino Kimpo Women's Health Center | 320 James St | Community clinic | Yes |
| Sources: National Institute of Building Sciences 2003; USGS 1992; Google 2010. map of Shafter. | | | |

## Schools

There are five public schools in Shafter, with a total enrollment of approximately 3,124 students. All of the schools except the high school are managed by the Richland Union Elementary School District. All five of these local schools are located in the study area. Table B-114 provides the addresses for these facilities (California Department of Education 2010).

**Table B-114**
City of Shafter Schools

| Facility Name | Location | Additional Details | In Study Area? |
|---|---|---|---|
| Golden Oak Elementary | 190 S Wall St | Public | Yes |
| Redwood Elementary | 331 Shafter Ave | Public | Yes |
| Sequoia Elementary | 500 E Fresno Ave | Public | Yes |
| Richland Junior High | 331 Shafter Ave | Public | Yes |
| Shafter High School | 526 Mannel Ave | Public | Yes |
| Sources: National Institute of Building Sciences 2003; USGS 1992; Google 2010, map of Shafter. | | | |

## Religious Facilities

Shafter has many places of worship. Table B-115 identifies churches that lie within the study area, all of which belong to Christian denominations.

**Table B-115**
Religious Facilities in the City of Shafter

| Facility Name | Location | Additional Details | In Study Area? |
|---|---|---|---|
| Shafter Missionary Baptist Church | 202 Golden West Ave | Religious | Yes |
| Ebenezer Reformed Church | 235 James St | Religious | Yes |
| First Mexican Baptist Church | 285 E Lerdo Highway | Religious | Yes |
| Shafter Christian Fellowship | 632 James St | Religious | Yes |
| Sovereign Grace Church | 505 Sunset Ave | Religious | Yes |
| Mennonite Brethren Church | 400 Kern St | Religious | Yes |
| Home Fellowship Church | 520 California Ave | Religious | Yes |
| First Southern Baptist Church | 250 Kern St | Religious | Yes |
| First Assembly of God Church | 150 Elm St | Religious | Yes |
| Church of Christ | 850 Minter Ave | Religious | Yes |
| Valley Bible Church | 350 Pine St | Religious | Yes |
| Free Will Baptist Church | 155 Redwood Dr | Religious | Yes |
| St. Mark's Episcopal Church | 295 Beech Ave | Religious | Yes |
| Spanish Assembly of God | 154 W Tulare Ave | Religious | Yes |
| Sources: National Institute of Building Sciences 2003; USGS 1992; Google 2010, map of Shafter. | | | |

## Parks

Shafter has three existing neighborhood parks of about 5 acres in size, a larger community park of 15 acres that is still under construction, and a grassed town square. The parks identified within the study area and their locations are provided in Table B-116. Additional detailed park information can be found in the Parks and Recreation section of the EIR/EIS.

**Table B-116**
Parks in the City of Shafter

| Facility Name | Location | Additional Details | In Study Area? |
|---|---|---|---|
| Mannel Park | Mannel Ave between Lerdo Highway and Tulare Ave | Neighborhood park | Yes |
| Kirchemann Park | North of Euclid Ave, just west of Central Valley Highway | Sports complex | Yes |
| James Park | Northwest corner of Lerdo Highway and James St | Mini park | Yes |
| Shafter High School | 526 Mannel Ave | Sports complex | Yes |
| Richland Junior High/Redwood Elementary School | 331 Shafter Ave | Sports complex | Yes |
| Sequoia Elementary School | 500 E Fresno Ave | Sports complex | Yes |
| Golden Oak Elementary | 190 S Wall St | Sports complex | Yes |
| Sources: City of Shafter 2010a; Google 2010, map of Shafter. | | | |

## H. CIRCULATION AND ACCESS

Of primary concern to the socioeconomics, communities, and environmental justice analysis are non-motorized circulation issues associated with pedestrian and bicycle transportation. However, issues associated with main roads, public transportation, and parking can also affect communities, and more details on these aspects can be found in the Transportation section of the EIR/EIS.

The *City of Shafter General Plan* sets out policies to support alternatives to automotive transport, including pedestrian and bicycle travel between residential and commercial areas (LSA Associates 2005). Shafter has both existing bicycle pathways and proposed bicycle pathways within the city and surrounding region. Table B-117 provides a list of these facilities.

**Table B-117**
Bikeways in the City of Shafter

| Facility Name | Location | Additional Details | In Study Area? |
|---|---|---|---|
| Lerdo Highway | Approximately Poplar Ave to Beech St | Class II Bike Lane | Yes |
| Shafter Ave | Lerdo Highway to Tulare Ave | Class II Bike Lane | Yes |
| Mannel Ave | Lerdo Highway to Tulare Ave | Class II Bike Lane | Yes |
| Central Ave | Diagonally northwest from BNSF Railway tracks and SR 43 to intersection of Tulare Ave to Mannel Ave | Class II Bike Lane | Yes |

Source: LSA Associates, Inc. 2005.
SR = State Route

## B.11 City of Bakersfield

Bakersfield, located at the southern end of the San Joaquin Valley, is equidistant (110 miles) from Fresno to the north and Los Angeles to the south. The city has a total area of about 115 square miles with approximately 8 square miles, or 7%, within the study area for the socioeconomics, communities, and environmental justice analysis. Bakersfield is the county seat, the largest city, and the principal commercial center in Kern County. It ranks as the 11th-most populous city in California (California Department of Finance 2009a, 2009b).

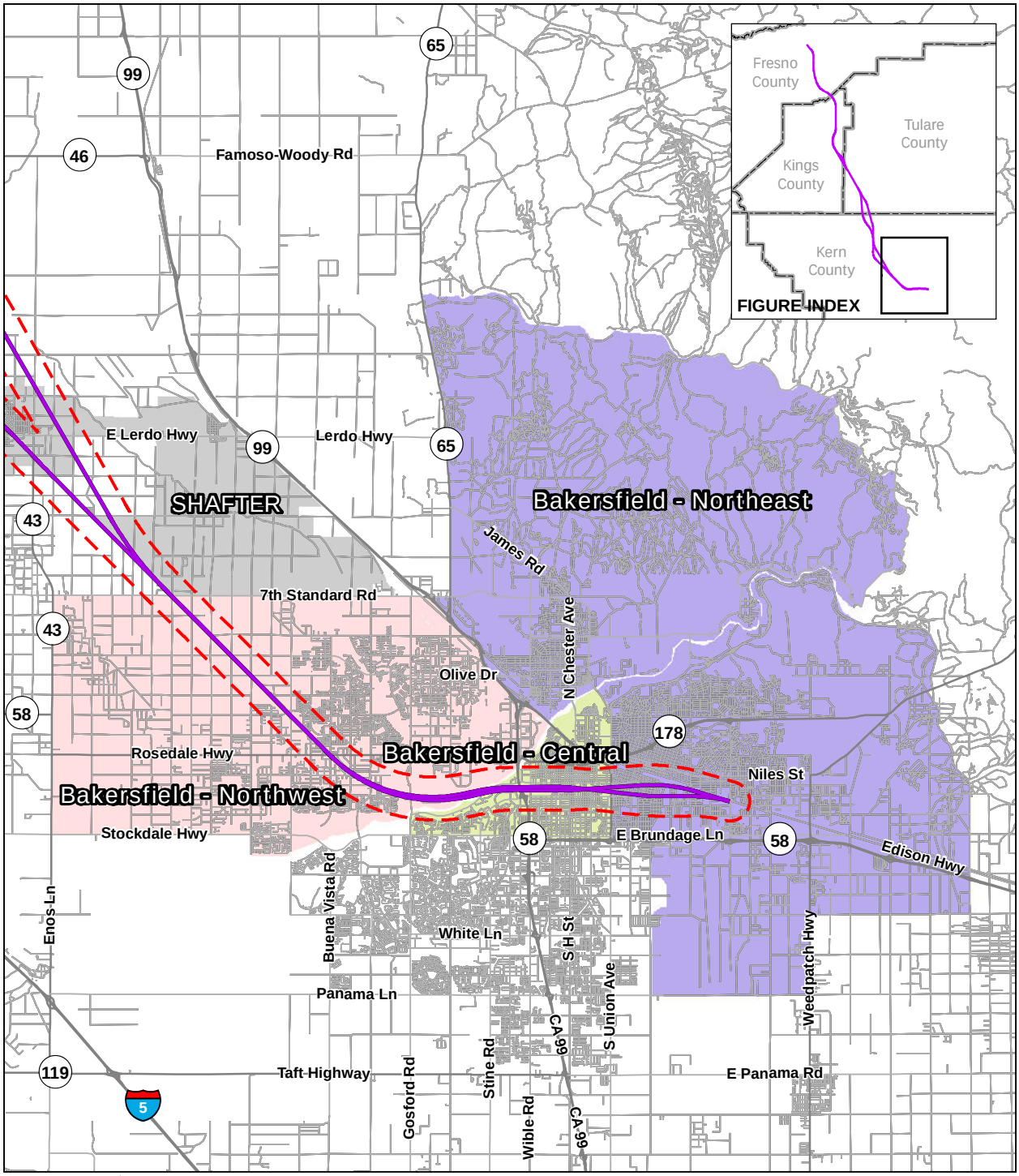
The city is named after Colonel Thomas Baker, who came to California during the gold rush and served in the California legislature. In 1863, Colonel Baker purchased 600 acres of land near the Kern River and began draining swamps and irrigating arid areas. He laid out a town site in 1869, and the area that had been known as Kern Island was renamed Baker's Field. Colonel Baker invited migrants to stop and rest and feed their sheep or cattle on his land. After a town site was established, he donated land to people interested in opening businesses in Bakersfield.

The city incorporated in 1873 and replaced Havilah as the county seat. The discovery of oil in Kern County fueled a continuing population boom into the 20th century (City of Bakersfield 2010b; MIG 2007).

Top employers in Bakersfield now include government entities such as Edwards Air Force Base, Kern County, and China Lake Naval Weapons Center, as well as an array of private companies that process agricultural products. The relatively high unemployment rate in Bakersfield, compared to some other areas in California, is in part due to the cyclical (oil production and aerospace) and seasonal (agricultural) nature of employment in the area.

From 2002 to 2005, when housing prices in the Los Angeles and San Diego metropolitan areas increased substantially, buyers recognized the relative affordability of inland cities like Bakersfield, sparking a residential construction boom. Between 2005 and 2007, Bakersfield enjoyed increases in building permit revenues, sales tax revenues, and property tax revenues, largely as a result of the very active residential construction. Bakersfield has not escaped the impact of the nationwide recession. With the credit market collapse and sharp declines in home prices, Bakersfield has been coping with reduced revenues, as well as increasing rates of unemployment, foreclosures, and bankruptcies.

For this analysis, information is presented for the city as a whole, as well as for three more-specific subareas, in order to facilitate more detailed examination of the affected environment. These districts are the Northwest, Central, and Northeast. A map showing the boundaries of these districts is provided in Figure B-50.




PRELIMINARY DRAFT/SUBJECT TO CHANGE - HST ALIGNMENT IS NOT DETERMINED
Source: URS, 2010

May 10, 2011

Alternative alignments

Road

Half-mile buffer from Alternative

N

0 2 4
Miles

0 4 8
Kilometers

Figure B-50
Districts within the City of Bakersfield

The HST project would enter Bakersfield through the Northwest district, a mix of rural agricultural land, older unincorporated communities, and massive new suburban developments. The alignment would then turn eastward and pass through the middle of the Central district (the oldest part of town, including the downtown), then continue east and southeast through the city's Northeast district, a diverse mix of older and newer residential developments with pockets of industrial-commercial and institutional uses. A general description of these three districts is provided below.

**Northwest.** The northwest district of Bakersfield is bounded by 7th Standard Road and Shafter on the north, by SR 99/204 and the Kern River on the east, by the Kern River and Stockdale Highway on the south, and by SR 43 on the west. This large area encompasses both farmland and new suburban developments, and it encompasses the old historic unincorporated communities of Rosedale, Fruitvale, and Greenacres. The western half of this neighborhood remains predominately in large parcel rural agricultural uses, while the eastern half contains numerous residential subdivisions, many of them master-planned developments constructed in the past two decades. SR 58 (the Bluestar Memorial Highway) is the main east-west roadway through this large district, crossing the Kern River to connect the area with Bakersfield's downtown and civic center complex.

Residents of the Northwest district had a substantially different profile from residents of Bakersfield as a whole in 2000, with much higher median household income, a higher rate of homeownership, and smaller average household size. The population in this district was almost 80% White and only 20% minority, compared with Bakersfield's 49% minority population. The median household income in the Northwest ($59,298) was double that of the Central and Northeast districts and about 50% higher than the citywide median household income in 2000. This district has been the site of most of the residential growth for affluent families over the last two decades.

**Central.** The Central district is bounded by the Kern River on the north, Union Avenue and Route 204 on the east, SR 58 on the south, and SR 99 on the west. This district encompasses the original town site that was developed in the 19th century, including the historic "Baker's Field" (a 10-acre field planted in alfalfa, where Colonel Baker would invite travelers to rest and graze their animals en route between Visalia and Los Angeles) and the original Baker homestead at 19th and N Street, as well as land Colonel Baker donated for the town's first civic buildings. The discovery of oil in Kern County in 1899 caused a construction boom in this area, with the intersection of Chester and 19th streets serving as the heart of the commercial downtown area (Bailey 1984; Maynard 1997).

Today, the Central district includes not only the traditional downtown and civic center area, but also two substantial, older residential neighborhoods—Riviera-Westchester in the north and Oleander-Sunset in the south—with the existing railroad tracks and adjacent commercial-industrial development separating these two established residential areas. There is also a cluster of hospitals in this neighborhood, including Mercy Hospital, San Joaquin Community Hospital, and Bakersfield Memorial Hospital. The Central district has community parks sprinkled throughout both the commercial and residential areas, including Beach Park, Sam Lynn Ball Park, Central Park, Beale Park, Jastro Park, and Lowell Park, as well as facilities associated with the Bakersfield High School campus. The Arena-Convention Center complex, located roughly in the center of this neighborhood, was developed in the 1960s to promote convention business and tourism. The new Amtrak Station is also located in this area near the proposed Bakersfield HST station location.

The population of the Central district in 2000 was comparable in ethnic mix and household size to the city as a whole. However, the rate of home ownership was substantially lower (43% versus

60%, respectively), as was median household income ($27,291 for Central versus $39,982 for Bakersfield as a whole).

**Northeast.** The Northeast district lies immediately adjacent to the Central district on its north and east sides, extending all the way to the foothills of the Sierra Nevada range. This large area includes suburban areas of Bakersfield east of the downtown area and north of the Kern River, as well as rural agricultural areas. It also encompasses the older and still unincorporated communities of Oildale and Edison. Oildale, which lies north of the Kern River between SR 99 and the Kern oil field, was settled by Dust Bowl migrants in the 1930s and is now a predominately White working-class community. Edison (originally named Wade) was established with the arrival of the railroad in 1903, in a location that was about 10 miles east of Bakersfield at that time.

The Northeast district experienced a surge in home construction in the late 1940s and early 1950s, as part of the nationwide postwar economic growth spurt. In the 1950s, a major new campus was established for Bakersfield College on the crest of what would come to be known as College Heights, spurring rapid growth in that area in the 1960s. The Rio Bravo resort community, constructed in the Northeast neighborhood in the 1970s, remains one of the largest tennis resorts in the country (where the Grand Masters tournament is hosted annually) and also included a golf course, numerous soccer fields, an equestrian center, and airstrip. Rio Bravo subsequently attracted similar developments in the vicinity (Bailey 1984).

The HST alignment would pass through the southernmost portion of the Northeast district, well to the south of Oildale and Rio Bravo but passing through Edison and surrounding suburban neighborhoods of Bakersfield. The population of the Northeast neighborhood in 2000 was comparable in ethnic mix, household size, and homeownership rates to the city of Bakersfield as a whole, although the median household income was somewhat lower ($30,312 in the Northeast versus $39,982 for Bakersfield as a whole).

## A. POPULATION AND DEMOGRAPHICS

In 2000, Bakersfield had a population of 247,057 residents, growing to 333,719 in 2009, for an average annual growth rate of 3.9% (California Department of Finance 2009a, 2009b). This growth rate is much higher than the growth rates of the county (2.8%) and the region (2.3%) during the same period.

Table B-118 provides information on race and ethnicity for the Bakersfield population in 2000 and 2008. As this table indicates, Bakersfield's minority population, which represented approximately half of all residents in 2000, increased to 60% of all residents in 2008. This total percentage of minority population is similar to that of Kern County (59%) and the region as a whole (63%).[39]

[39] U.S. Census ACS single-year estimates for 2008 are available for Bakersfield and Fresno, because each of these cities has a population greater than 65,000. By contrast, Hanford, Corcoran, and Wasco each has a population of less than 65,000 but greater than 20,000, and therefore 2006–2008 average estimates are available. The City of Shafter, with a population of less than 20,000, currently has no recent estimates available from the ACS.

**Table B-118**
Racial and Ethnicity Characteristics of the City of Bakersfield

| Race | Number of People in 2000[a] | Percentage of Total Population | Number of People in 2008[b] | Percentage of Total Population |
|---|---|---|---|---|
| **Non-Hispanic White** | 126,183 | 51.1 | 128,166 | 39.8 |
| **Minority** | 120,874 | 48.9 | 193,812 | 60.2 |
| Hispanic of all races | 80,170 | 32.5 | 139,453 | 43.3 |
| Non-Hispanic Black or African-American | 21,987 | 8.9 | 27,718 | 8.6 |
| Non-Hispanic American Indian and Alaska Native | 2,053 | 0.8 | 1,459 | 0.5 |
| Non-Hispanic Asian | 10,239 | 4.1 | 15,445 | 4.8 |
| Non-Hispanic Native Hawaiian and Other Pacific Islander | 188 | 0.1 | 490 | 0.2 |
| Non-Hispanic, some other race | 335 | 0.1 | 1,068 | 0.3 |
| Non-Hispanic, two or more races | 5,902 | 2.4 | 8,179 | 2.5 |
| **Total** | 247,057 | 100.0 | 321,978 | 100.0 |

[a] Analysis of U.S. Census Bureau 2000e.
[b] Analysis of U.S. Census Bureau, American Community Survey 2006–2008a.

Note: California DOF does not provide population projections at the city level. Also, the DOF does not provide annual estimates of racial and ethnicity characteristics, so the most current source, ACS 2008, is used. This practice explains the difference between the 2009 total population estimates presented above and the 2008 totals in this table.

Note: Percentages may total slightly less or more than 100% due to rounding.

ACS = U.S. Census Bureau, American Community Survey
DOF = Department of Finance

Populations for the three districts in Bakersfield are provided in Table B-119. The only data available to examine these areas are Census 2000 data aggregated at the Census tract level to match as closely as possible district boundaries. More detail on the development of these boundaries and the specific Census tracts included is provided in the Community Methodology Appendix A-2. The Census 2000 populations of the three districts vary widely, ranging from 38,610 people in the Central district to 140,082 people in the Northeast district. Both the Central and Northeast districts had similar percentages of minorities when compared to Bakersfield as a whole, while the Northwest neighborhood had a much lower percentage of minorities.

**Table B-119**
Racial and Ethnicity Characteristics of the City of Bakersfield District Populations

| Race | Central | | Northeast | | Northwest | |
|---|---|---|---|---|---|---|
| | 2000 | Percentage | 2000 | Percentage | 2000 | Percentage |
| **Non-Hispanic White** | 18,715 | 48.5 | 62,014 | 44.3 | 42,735 | 81.2 |
| **Minority** | 19,895 | 51.5 | 78,068 | 55.7 | 9,888 | 18.8 |
| Hispanic of all races | 12,634 | 32.7 | 65,497 | 46.8 | 6,301 | 12.0 |
| Non-Hispanic Black or African-American | 4,698 | 12.2 | 6,276 | 4.5 | 794 | 1.5 |
| Non-Hispanic American Indian and Alaska Native | 394 | 1.0 | 1,423 | 1.0 | 481 | 0.9 |
| Non-Hispanic Asian | 952 | 2.5 | 1,954 | 1.4 | 1,019 | 1.9 |
| Non-Hispanic Native Hawaiian and Other Pacific Islander | 7 | 0.0 | 119 | 0.1 | 22 | 0.0 |
| Non-Hispanic, some other race | 85 | 0.2 | 90 | 0.1 | 177 | 0.3 |
| Non-Hispanic, two or more races | 1,125 | 2.9 | 2,709 | 1.9 | 1,094 | 2.1 |
| **Total** | 38,610 | 100.0 | 140,082 | 100.0 | 52,623 | 100.0 |

Source: Analysis of U.S. Census Bureau 2000e.

Note: Percentages may total slightly less or more than 100% due to rounding.

The age distribution of Bakersfield's population did not change substantially between 2000 and 2008. As Figure B-51 and Figure B-52 show, Bakersfield experienced a similar shift as the county and region to a slightly younger population (U.S. Census Bureau 2000a; U.S. Census Bureau, American Community Survey 2008e).

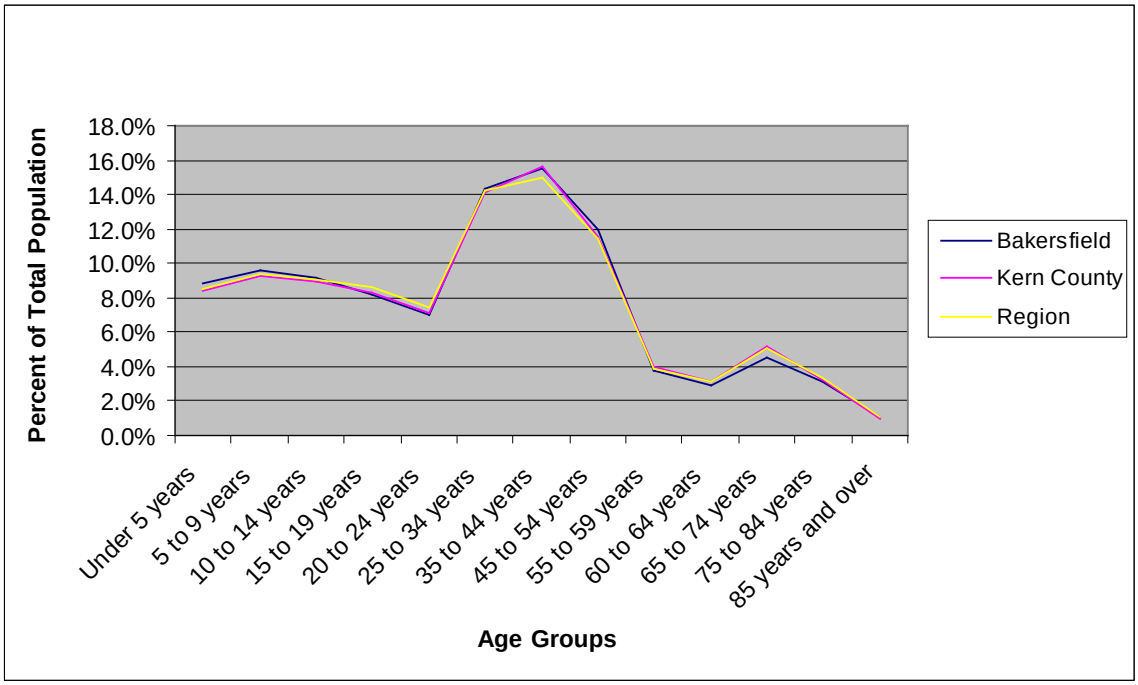



**Figure B-51**
City of Bakersfield Age Profile, 2000

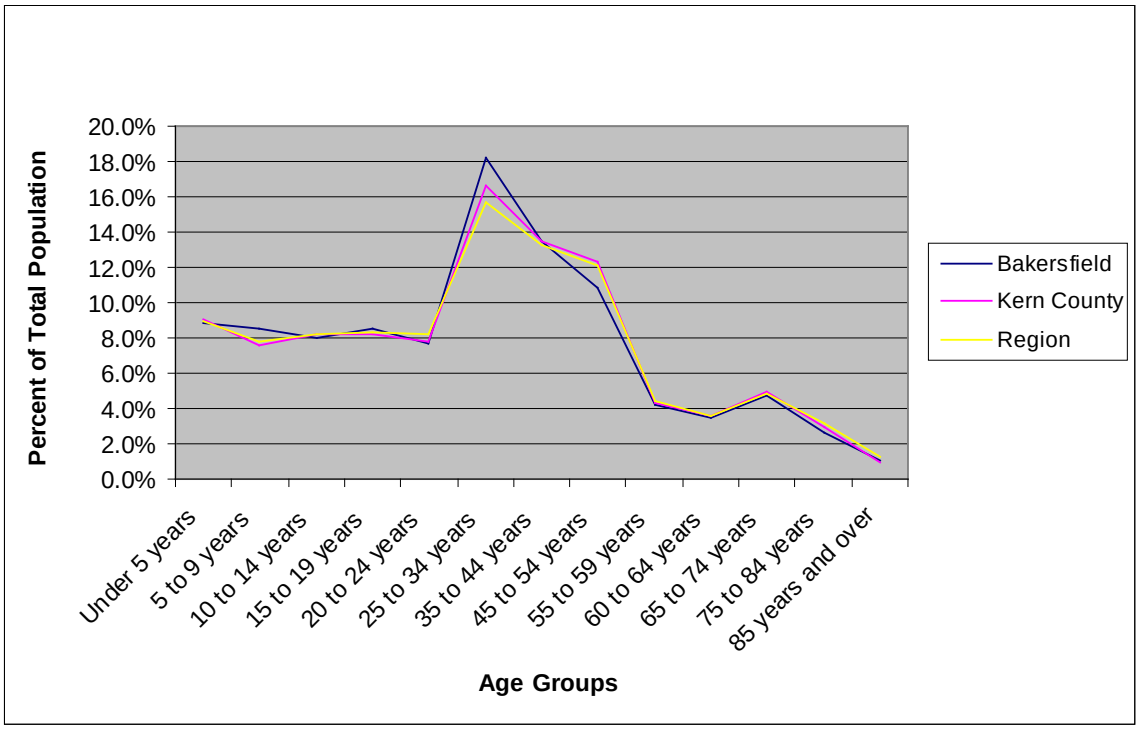



**Figure B-52**
City of Bakersfield Age Profile, 2008

The age profile for the districts (illustrated in Figure B-53) shows that they all have a similar distribution of elderly and young populations, although the Northwest district does have a slightly different profile, with a lower percentage of 20- to 24-year-olds and a higher percentage of 35- to 54-year-olds (U.S. Census Bureau 2000a).

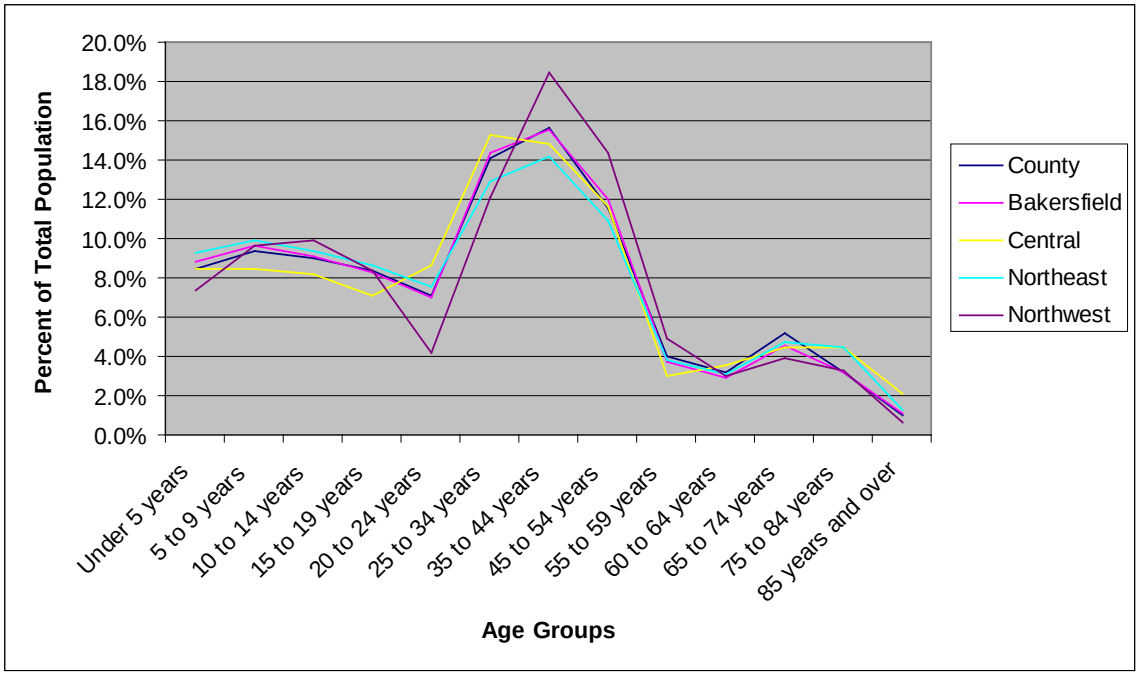



**Figure B-53**
City of Bakersfield District Age Profile, 2000

In 2000, there were 83,428 households in Bakersfield, with an average household size of 2.92 people per household. By 2009, both the number of households and the average household size had increased to 109,449 and 3.02, respectively (California Department of Finance 2009a, 2009b). The average household size for Bakersfield is smaller than that of either the county (3.13) or the region (3.3).

As Table B-120 shows, the makeup of households within Bakersfield has changed since 2000. Approximately 74% of the households were family households in 2000, which decreased to 71.6% by 2008. Furthermore, the percentage of married-family couples decreased by approximately 3% during this same period, and there was an increase in the number of non-family households and in male-householder families.

**Table B-120**
Numbers and Types of Households in the City of Bakersfield

| Household | Number of Households in 2000[a] | Percentage of Total Households | Number of Households in 2008[b] | Percentage of Total Households |
|---|---|---|---|---|
| Family households (families) | 61,525 | 73.7 | 75,654 | 71.6 |
| Married-couple family | 44,737 | 53.6 | 53,267 | 50.4 |
| Female householder, no husband present | 12,204 | 14.6 | 15,000 | 14.2 |
| Male householder, no wife present | 4,584 | 5.5 | 7,387 | 7.0 |
| Non-family households | 21,903 | 26.3 | 30,004 | 28.4 |
| Householder living alone | 17,956 | 21.5 | 22,931 | 21.7 |
| Total | 83,428 | 100.0 | 105,658 | 100.0 |

[a] Analysis of U.S. Census Bureau 2000i.
[b] Analysis of U.S. Census Bureau, American Community Survey 2008b.

Note: California DOF does not provide number of households by type for 2009, so ACS 2000 and 2008 data were used in this table. This use explains the difference between the 2000 and 2009 total household estimates presented above and the totals in this table.

Note: Percentages may total slightly less or more than 100% due to rounding.

ACS = U.S. Census Bureau, American Community Survey
DOF = Department of Finance

In 2000, average household size was similar in the Northeast (3.07) and Northwest (3.03) districts, while the Central district's average household size (2.57) was smaller (U.S. Census Bureau 2000a). This could be due to the urban nature of the area as well as the lower percentage of family households in and around the downtown area.

As Table B-121 shows, in 2000, there were differences in the makeup of households in the districts. Central had a low percentage of family households (62.5%) below the city average (73.7%). Northeast was similar to the city average (73.9%), while Northwest had a higher-than-average family household percentage (84.2%). The same trend in percentages was true for married-coupled families. Single-parent and non-family percentages were highest in Central (62.5%), similar to the city average in Northeast (50.9%) and lowest in the Northwest (27%).

**Table B-121**
Households in the City of Bakersfield Districts by Type

| Household | Central | | Northeast | | Northwest | |
|---|---|---|---|---|---|---|
| | 2000 | Percentage | 2000 | Percentage | 2000 | Percentage |
| Family households (families) | 9,030 | 62.5 | 33,241 | 73.9 | 14,558 | 84.2 |
| Married-couple family | 5,420 | 37.5 | 22,150 | 49.2 | 12,707 | 73.5 |
| Female householder, no husband present | 2,736 | 18.9 | 7,965 | 17.7 | 1,318 | 7.6 |
| Male householder, no wife present | 874 | 6.0 | 3,126 | 6.9 | 533 | 3.1 |
| Non-family households | 5,417 | 37.5 | 11,748 | 26.1 | 2,740 | 15.8 |
| Householder living alone | 1,869 | 12.9 | 3,929 | 8.7 | 1,041 | 6.0 |
| Total | 14,447 | 100.0 | 44,989 | 100.0 | 17,298 | 100.0 |

Source: Analysis of U.S. Census Bureau 2000h.
Note: Percentages may total slightly less or more than 100% due to rounding.

In 2000, 4,799 of the 83,428 households in the city were linguistically isolated, meaning that 5.8% of families did not have someone in the household over the age of 14 with the ability to speak English very well, a lower percentage than that in the county (8.2%) and region (9.4%). Similar to the county and region in 2008, Bakersfield experienced an increase (to 6.8%) in families that are linguistically isolated, but this was still below the comparable county and region percentages (U.S. Census Bureau 2000f; U.S. Census Bureau, American Community Survey 2008c).

Among the districts, Northeast (8.9%) did have a higher percentage of linguistic isolation than the city (5.8%), but the rate was similar to the county (8.2%) and region (9.4%). The Northwest had a very low percentage (1.2%), while Central (5.6%) was similar to the city average (U.S. Census Bureau 2000f).

In 2007,[40] of the 290,157 non-institutionalized persons over the age of 5 in Bakersfield, 16.8% had some sort of disability, self-care limitation, or low-mobility issue. For people between the ages of 5 and 65, 13.1% were classified as disabled, while persons 65, and over, had a much higher rate of disability (52.3%) (U.S. Census Bureau, 2000b; U.S. Census Bureau, American Community Survey 2007). These percentages are similar to those seen in both the county and region.

Comparing disabilities across the districts in 2000 shows that both the Central (23.8%) and Northeast (24.6%) districts had much higher percentages of persons with disabilities than the Northwest district (14.3%). This was true for person across all age groups (U.S. Census Bureau 2000b).

[40] The U.S. Census Bureau does not recommend making comparisons between the 2000 and 2007 disability figures; for this reason, the more current information is presented.

## B. INCOME AND POVERTY

In 1999, the median annual household income in Bakersfield was $39,982, higher than the $35,446 median in the county and $34,976 in the region. By 2008, the median annual household income in Bakersfield had increased by 26.1% to $50,409. Although substantial, this increase in median household income was below the percentage increases seen in the region (32%), but similar to the increase seen in the county (26.2%) during the same period (U.S. Census Bureau 2000g; U.S. Census Bureau, American Community Survey 2008d).

Looking at the median incomes across the districts, in 1999, both the Central ($27,291) and Northeast ($30,885) neighborhoods had lower median incomes when compared to Bakersfield as a whole ($39,982), while the Northwest ($61,910) had a median income well above that of the city (U.S. Census Bureau 2000g).

In 1999, 43,781 persons, or 18% of the population of Bakersfield, lived below the poverty line, a rate that was lower than the rates seen in the county (20.7%) and region (22.2%). By 2008, that number had increased to 53,286 people, with the percentage decreasing to 16.7% (see Table B-122). This decrease in the percentage of the population living below the poverty line is not consistent with the trend in the county but is similar to the decrease seen in the region as a whole during the same period.

**Table B-122**
Income Level to Poverty Line in the City of Bakersfield

| Income Level as a Percentage of Poverty Line | Number of People in Income Group in 1999[a] | Percentage of Total Population Evaluated | Number of People in Income Group in 2008[b] | Percentage of Total Population Evaluated |
|---|---|---|---|---|
| Under 0.50 | 19,289 | 7.9 | 23,397 | 7.3 |
| 0.50 to 0.74 | 11,974 | 4.9 | 13,510 | 4.2 |
| 0.75 to 0.99 | 12,518 | 5.1 | 16,379 | 5.1 |
| 1.00 to 1.24 | 13,800 | 5.7 | 14,315 | 4.5 |
| 1.25 to 1.49 | 12,354 | 5.1 | 19,308 | 6.1 |
| 1.50 to 1.74 | 11,213 | 4.6 | 19,616 | 6.2 |
| 1.75 to 1.84 | 5,344 | 2.2 | 7,656 | 2.4 |
| 1.85 to 1.99 | 6,042 | 2.5 | 10,113 | 3.2 |
| 2.00 and over | 151,081 | 62.0 | 194,152 | 61.0 |
| Total | 243,615 | 100.0 | 318,446 | 100.0 |

[a] Analysis of U.S. Census Bureau 2000g.
[b] Analysis of U.S. Census Bureau, American Community Survey 2008d.

Note: Not all individuals are evaluated by the Census for income level to poverty line status. This practice explains why population totals in this table may not match population totals presented in the population and demographics section above. Also, 2000 Census data on income are representative of conditions in 1999.

Note: Percentages may total slightly less or more than 100% due to rounding.

In 1999, poverty rates for two of the districts—Central (25.5%) and Northeast (27.1%)—were well above the citywide poverty rate (18%), while the Northwest neighborhood had a very low percentage of persons living in poverty (6.8%), as shown in Table B-123.

**Table B-123**
Poverty Rates in the City of Bakersfield Districts

| Income Level as a Percentage of Poverty Line | Central | | Northeast | | Northwest | |
|---|---|---|---|---|---|---|
| | 1999 | Percentage | 2000 | Percentage | 2000 | Percentage |
| Under 0.50 | 4,137 | 11.1 | 15,696 | 11.4 | 1,321 | 2.5 |
| 0.50 to 0.74 | 2,700 | 7.3 | 10,182 | 7.4 | 739 | 1.4 |
| 0.75 to 0.99 | 2,642 | 7.1 | 11,654 | 8.4 | 928 | 1.8 |
| 1.00 to 1.24 | 3,073 | 8.3 | 11,383 | 8.2 | 815 | 1.6 |
| 1.25 to 1.49 | 2,204 | 5.9 | 10,507 | 7.6 | 996 | 1.9 |
| 1.50 to 1.74 | 2,085 | 5.6 | 8,881 | 6.4 | 1,399 | 2.7 |
| 1.75 to 1.84 | 911 | 2.4 | 3,905 | 2.8 | 685 | 1.3 |
| 1.85 to 1.99 | 955 | 2.6 | 4,065 | 2.9 | 672 | 1.3 |
| 2.00 and over | 18,532 | 49.8 | 61,953 | 44.8 | 44,812 | 85.6 |
| Total | 37,239 | 100.0 | 138,226 | 100.0 | 52,367 | 100.0 |

Source: Analysis of U.S. Census Bureau 2000g.

Note: Not all individuals are evaluated by the Census for income level to poverty line status. This practice explains why population totals in this table may not match population totals presented in the population and demographics section above. Also, 2000 Census data on income are representative of conditions in 1999.

Note: Percentages may total slightly less or more than 100% due to rounding.

While the above data show that median incomes increased and poverty rates in Bakersfield as a whole decreased from 1999 through 2008, it should be noted that since the beginning of the current economic recession income levels have begun to decrease. Monthly unemployment statistics have increased substantially since 2008, so it can be assumed that household income levels have decreased and poverty rates have increased beyond the numbers reported here (U.S. Census Bureau 2009).

## C. ENVIRONMENTAL JUSTICE POPULATION

This section presents the locations of EJ populations within the study area in Bakersfield. The definitions used to define EJ populations and a description of the data sources and methodology that were used can be found in the EJ Methodology Appendix A-2.

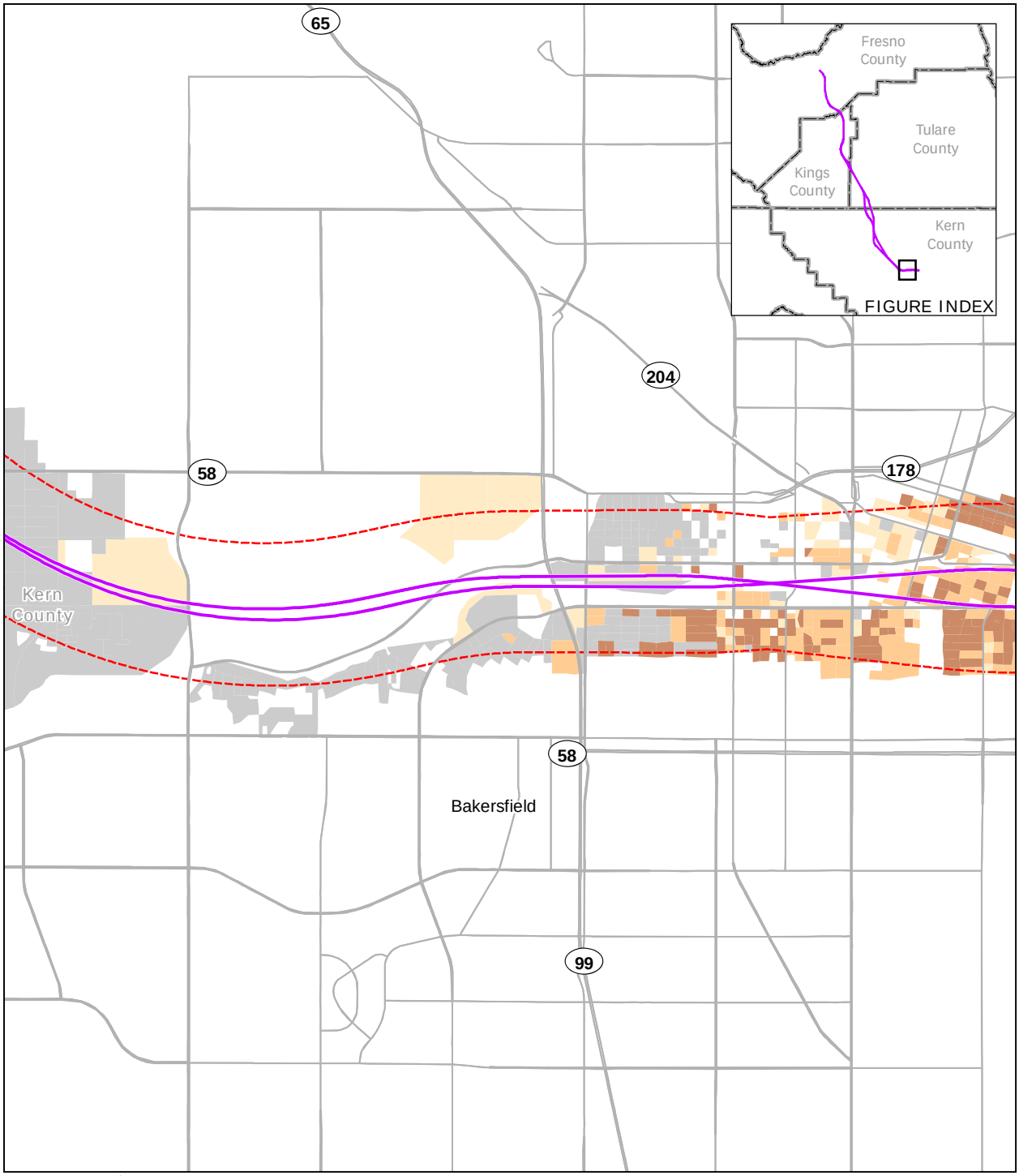
Figure B-54 and Figure B-55 identify the locations of EJ populations within the study area in the Bakersfield. Orange is used to indicate U.S. Census blocks containing EJ populations, darker orange is representative of EJ blocks with higher-population densities, that is, the more-urbanized areas. The red-dashed lines represent the study area, and the purple line is the project alignment. Given the close proximity of BNSF Alternative Alignment to the Bakersfield South

Alternative Alignment, these two alternatives are examined as a single study area. The total area of Census blocks in Bakersfield that falls within the study area is 11 square miles with 3 square miles, or 27.2%, identified as EJ blocks. [41] The area is roughly evenly split between low-density (38.6%), medium-density (33.4%) and high-density (28%) blocks (U.S. Census Bureau 2000a).

According to 2000 Census data, the approximate total population within the EJ study area in Bakersfield was 30,546 in 2000, or 37.9% of the total population contained in the study area in all of Kern County, or about 12.4% of the city of Bakersfield population. The total population within the study area presents a count of potentially affected individuals. The actual number of individuals affected may be much smaller than these baseline totals inasmuch as the study area will likely not be affected across its entire area.

Bakersfield has a high percentage of minority and low-income individuals, although these percentages are the lowest of any subarea within the region. According to the 2000 Census, 48.9% of the total population is minority and 19.2% is living below the Census poverty threshold. Within the study area in Bakersfield, these percentages are much higher, with minorities representing 60.8% of the population and low-income individuals making up 24.8% of the study area population. Within the city, Hispanics are the predominate minority in EJ areas, accounting for 72.5% of the minority population. No concentrations of high density population EJ areas were identified in the Northwest district of Bakersfield. Central Bakersfield contains concentrations of high-density EJ areas, particularly south of Truxtun Avenue. The study area in the Northeast district of Bakersfield contains concentrations of high-density EJ areas both north and south of Edison Highway, moving west to east from Central Bakersfield through Oswell Street (U.S. Census Bureau 2000a).

[41] The area calculated for the EJ analysis is different than the areas presented in other sections because the study area for EJ includes all U.S. Census blocks that are completely or partially contained within the ½-mile radius of the alignment. Therefore, the areas of partially contained U.S. Census blocks that are outside the ½ mile are included. This difference is larger in rural areas, where U.S. Census blocks are larger.




PRELIMINARY DRAFT/SUBJECT TO CHANGE - HST ALIGNMENT IS NOT DETERMINED

May 16, 2011

Source: Environmental justice analysis - URS, 2010

N

0 0.5 1 Miles

0 1 2 Kilometers

Road

Alternative alignments

County boundary

Half-mile buffer from alignment

EJ population density

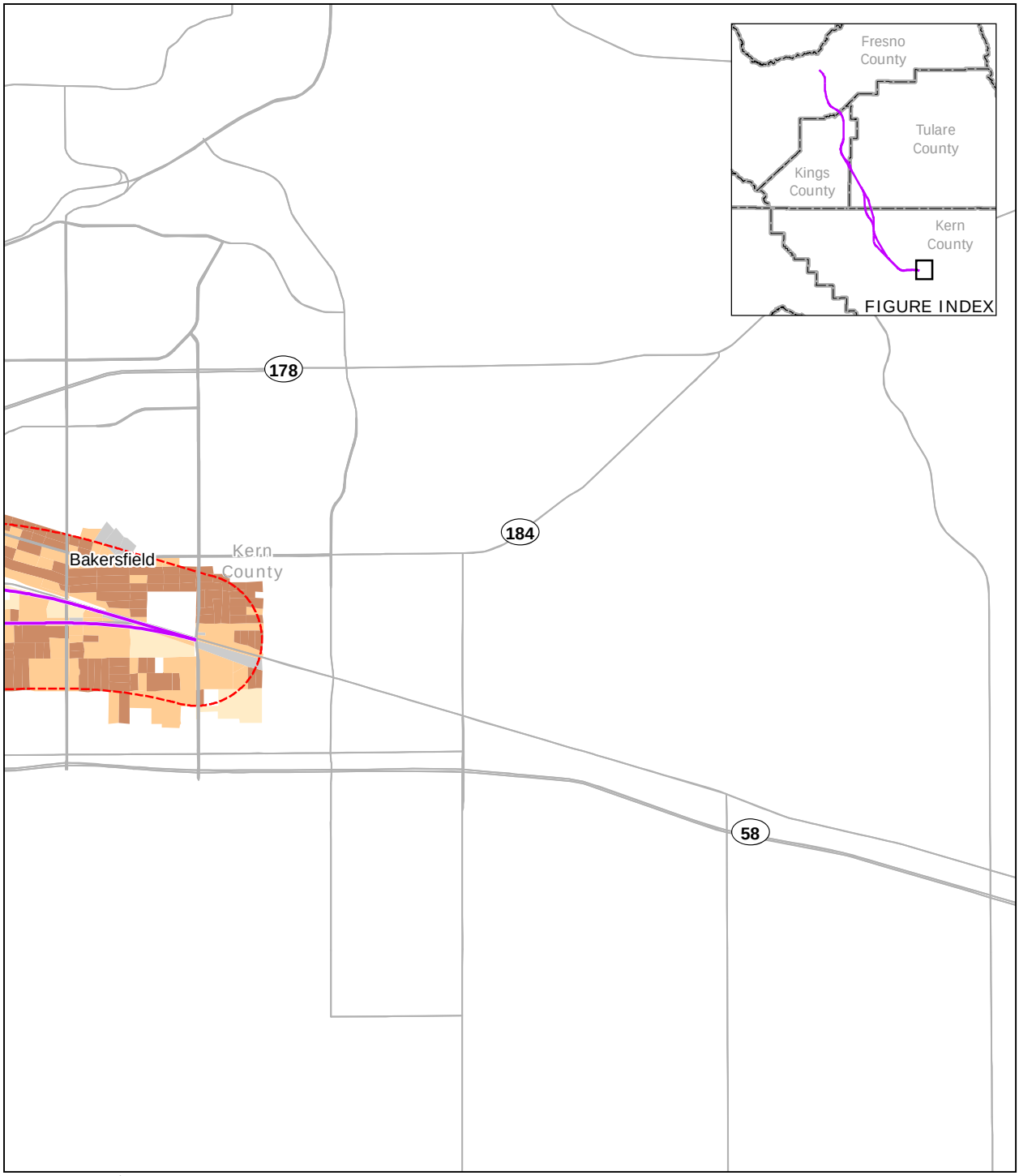
High

Medium

Low

Not EJ

Figure B-54
City of Bakersfield West
EJ Block Populations




PRELIMINARY DRAFT/SUBJECT TO CHANGE - HST ALIGNMENT IS NOT DETERMINED

May 16, 2011

Source: Environmental justice analysis - URS, 2010

N

0 0.5 1
Miles

0 1 2
Kilometers

Road

Alternative alignments

County boundary

Half-mile buffer from alignment

EJ population density

High

Medium

Low

Not EJ

Figure B-55
City of Bakersfield East
EJ Block Populations

## D. HOUSING

In 2000, there were an estimated 88,189 housing units in Bakersfield. By 2009, that number had grown to 115,775, for an increase of 31.3%. This growth was greatly above the growth experienced in the county (20.8%) and the region (17.5%). Similar to trends in both the county and region, the largest increase in the Bakersfield housing stock occurred in single-family detached homes, which accounted for 89.2% of the housing stock growth. As Table B-124 shows, the composition of the city's housing stock is similar to the county and region except for the smaller percentage of mobile homes. Housing vacancy rates within the city were 5.5% in 2000 and remained similar in 2009 (California Department of Finance 2009a, 2009b). These 2009 rates are lower than the rates of both the county (9.8%) and the region (7.4%).

**Table B-124**
Housing Stock in the City of Bakersfield

| Housing Type | Number of Units in 2000 | Percentage of Total Units | Number of Units in 2009 | Percentage of Total Units |
|---|---|---|---|---|
| Single-family detached | 57,582 | 65.3 | 82,194 | 71.0 |
| Single-family attached | 3,221 | 3.7 | 3,224 | 2.8 |
| Multifamily 2 to 4 units | 9,993 | 11.3 | 11,646 | 10.1 |
| Multifamily 5 units or greater | 14,855 | 16.8 | 15,971 | 13.8 |
| Mobile homes | 2,538 | 2.9 | 2,740 | 2.4 |
| Total | 88,189 | 100.0 | 115,775 | 100.0 |

Source: California Department of Finance 2009a.

Note: Percentages may total slightly less or more than 100% due to rounding.

A comparison of the 2000 housing stock by district shows some large differences in terms of the numbers and types of housing units. The Central district had the lowest percentage of single-family homes and a very high percentage of multifamily housing, while the Northeast showed a higher percentage of single-family homes. The Northwest district had the highest percentage of single-family homes, comprising 86.2% of the total housing stock, as shown in Table B-125.

**Table B-125**
Housing Stock in Bakersfield Districts

| Housing Type | Central | | Northeast | | Northwest | |
|---|---|---|---|---|---|---|
| | 2000 | Percentage | 2000 | Percentage | 2000 | Percentage |
| Single family – detached | 7,848 | 50.1 | 32,917 | 67.4 | 15,502 | 86.2 |
| Single family – attached | 775 | 4.9 | 2,027 | 4.2 | 131 | 0.7 |
| Multifamily 2 to 4 units | 2,944 | 18.8 | 5,436 | 11.1 | 478 | 2.7 |
| Multifamily 5 units or greater | 3,651 | 23.3 | 5,262 | 10.8 | 1,068 | 5.9 |
| Mobile homes | 451 | 2.9 | 3,183 | 6.5 | 800 | 4.4 |
| Total | 15,669 | 100.0 | 48,825 | 100.0 | 17,979 | 100.0 |

Source: Analysis of U.S. Census Bureau 2000d.
Note: Percentages may total slightly less or more than 100% due to rounding.

Table B-126 shows that the rate of home ownership in Bakersfield has decreased since 2000. This decrease in the home ownership rate is consistent with changes seen in the county and region over this period.

**Table B-126**
Home Ownership of Occupied Units in the City of Bakersfield

| Home Ownership | Number of Occupied Units in 2000[a] | Percentage of Total Occupied | Number of Occupied Units in 2008[b] | Percentage of Total Occupied |
|---|---|---|---|---|
| Own | 50,394 | 60.4 | 60,475 | 57.2 |
| Rent | 33,034 | 39.6 | 45,183 | 42.8 |
| Total occupied housing units | 83,428 | 100.0 | 105,658 | 100.0 |

[a] Analysis of U.S. Census Bureau 2000d.
[b] Analysis of U.S. Census Bureau, American Community Survey 2008g.
Note: Percentages may total slightly less or more than 100% due to rounding.

Table B-127 shows that the rate of home ownership across districts varied widely in 2000. The Central district, which is the most urban of the districts, had the highest percentage of individuals who rent (57.5%), substantially higher than did the city as a whole (39.6%). In contrast, the Northwest district has the lowest percentage of renters (14.6%), greatly below the city average. The Northeast district had rates more similar to the city averages.

**Table B-127**
Housing Ownership Rates in the City of Bakersfield District Neighborhoods

| Home Ownership | Central | | Northeast | | Northwest | |
|---|---|---|---|---|---|---|
| | 2000 | Percentage | 2000 | Percentage | 2000 | Percentage |
| Own | 6,139 | 42.5 | 25,501 | 56.7 | 14,773 | 85.4 |
| Rent | 8,308 | 57.5 | 19,488 | 43.3 | 2,525 | 14.6 |
| Total occupied housing units | 14,447 | 100.0 | 44,989 | 100.0 | 17,298 | 100.0 |

Source: Analysis of U.S. Census Bureau 2000h.
Note: Percentages may total slightly less or more than 100% due to rounding.

As shown in Table B-128, residents of 75.4% of the occupied housing units in Bakersfield in 2008 had moved into their homes since 2000, while only 9.4% of the households had lived in the same residences since at least 1990. The rate of recent turnover is higher and the percentage of more-established residents is lower in Bakersfield than in the county (68.6% and 13.6%) and region (66% and 15.2%). This may suggest a newer population and a potentially less stable community base.

**Table B-128**
Length of Residence in the City of Bakersfield

| Length of Residence | Number of Housing Units in 2000[a] | Percentage of Total Occupied Housing Units | Number of Housing Units in 2008[b] | Percentage of Total Occupied Housing Units |
|---|---|---|---|---|
| Moved in 2005, or later | NA | NA | 52,409 | 49.6 |
| Moved in 2000 to 2004 | NA | NA | 27,277 | 25.8 |
| Moved in 1990 to 1999 | 63,920 | 76.6 | 15,986 | 15.1 |
| Moved in 1980 to 1989 | 10,716 | 12.8 | 5,433 | 5.1 |
| Moved in 1970 to 1979 | 4,777 | 5.7 | 2,546 | 2.4 |
| Moved in 1969, or earlier | 4,015 | 4.8 | 2,007 | 1.9 |
| Total housing units | 83,428 | 100.0 | 105,658 | 100.0 |

[a] Analysis of U.S. Census Bureau 2000d.
[b] Analysis of U.S. Census Bureau, American Community Survey 2008g.
Note: Percentages may total slightly less or more than 100% due to rounding.
NA = not available

In 2000, both the Central and Northeast districts had a higher percentage of housing units with the same residents for at least 10 years than did the Northwest district. Table B-129 shows that about 30% of the housing units in these two districts were occupied by residents who had moved in before 1990, while in the Northwest district, almost 80% of the district's units had new residents in the past 10 years, a much higher rate of population turnover than observed in the other two districts.

**Table B-129**
Length of Residence in the Bakersfield Districts

| Length of Residence | Central | | Northeast | | Northwest | |
|---|---|---|---|---|---|---|
| | 2000 | Percentage | 2000 | Percentage | 2000 | Percentage |
| Moved in 1990 to 1999 | 10,497 | 72.7 | 30,168 | 67.1 | 13,800 | 79.8 |
| Moved in 1980 to 1989 | 1,802 | 12.5 | 6,230 | 13.8 | 2,131 | 12.3 |
| Moved in 1970 to 1979 | 1,059 | 7.3 | 3,872 | 8.6 | 816 | 4.7 |
| Moved in 1969, or earlier | 1,089 | 7.5 | 4,719 | 10.5 | 551 | 3.2 |
| Total housing units | 14,447 | 100.0 | 44,989 | 100.0 | 17,298 | 100.0 |

Sources: Analysis of U.S. Census Bureau 2000d.

Note: Percentages may total slightly less or more than 100% due to rounding.

## E. ECONOMY

Bakersfield has traditionally had a diversified economy, with both the oil and gas industry and agriculture playing major roles. Between 2000 and 2008, the number of workers in Bakersfield's labor force grew by 29,100, while unemployment increased from 5.7% to 6.8%, as shown in Table B-130. In 2009, the city, county, and region all experienced increased unemployment; however, the 2009 annual average unemployment rate of 10.1% experienced in Bakersfield is lower than the rate experienced in either the county (14.4%) or region (14.9%).

**Table B-130**
Employment and Unemployment in the City of Bakersfield

| Labor Status | Number in 2000 | Percentage of Labor Force | Number in 2008 | Percentage of Labor Force | Number in 2009 | Percentage of Labor Force |
|---|---|---|---|---|---|---|
| Employed | 118,100 | 94.3 | 143,800 | 93.2 | 137,800 | 89.9 |
| Unemployed | 7,100 | 5.7 | 10,500 | 6.8 | 15,500 | 10.1 |
| Total Labor Force | 125,200 | 100.0 | 154,300 | 100.0 | 153,200 | 100.0 |

Source: California Employment Development Department 2010a.

Note: Percentages may total slightly less or more than 100% due to rounding.

In 2000, unemployment rates for both the Central and Northeast districts were much higher than that for the Northwest district, as shown in Table B-131.[42]

**Table B-131**
Employment and Unemployment in the Bakersfield Districts

| Labor Status | Central | | Northeast | | Northwest | |
|---|---|---|---|---|---|---|
| | 2000 | Percentage | 2000 | Percentage | 2000 | Percentage |
| Employed | 12,079 | 81.5 | 43,256 | 79.5 | 17,509 | 87.6 |
| Unemployed | 2,739 | 18.5 | 11,121 | 20.5 | 2,481 | 12.4 |
| Total labor force | 14,818 | 100.0 | 54,377 | 100.0 | 19,990 | 100.0 |

Sources: Analysis of U.S. Census Bureau 2000c.
Note: Percentages may total slightly less or more than 100% due to rounding.

As shown in Table B-132, public administration is the largest occupational sector in Bakersfield. The occupational profile of Bakersfield is very different than that of either the county or region, with a much smaller percentage of the work force participating in agricultural-related activities, while other occupations that represented a small percentage of the county and region profile are larger here. This is most likely a reflection of the much higher level of urbanization seen in Bakersfield than in the county or region as a whole. Occupation by type is not available at the district level.

**Table B-132**
Occupation in the City of Bakersfield by Type

| Occupation | Number Employed in 2001 | Percentage of Total Employed | Number Employed in 2008 | Percentage of Total Employed |
|---|---|---|---|---|
| Agriculture, forestry, fishing and hunting, and mining | 15,744 | 10.9 | 23,986 | 13.3 |
| Construction | 11,293 | 7.8 | 14,648 | 8.1 |
| Manufacturing | 5,137 | 3.6 | 6,367 | 3.5 |
| Wholesale trade | 4,370 | 3.0 | 6,732 | 3.7 |
| Retail trade | 17,513 | 12.1 | 20,786 | 11.6 |
| Transportation and warehousing, and utilities | 4,620 | 3.2 | 5,536 | 3.1 |
| Information | 2,061 | 1.4 | 2,713 | 1.5 |
| Finance, insurance, real estate, and rental and leasing | 6,323 | 4.4 | 7,239 | 4.0 |

[42] Comparing 2000 unemployment rates for the city or Region to unemployment rates shown for the districts is not recommended. These numbers were obtained from different data sources that use different methodologies. District level data is presented to illustrate the differences between the districts economically.

**Table B-132**
Occupation in the City of Bakersfield by Type

| Occupation | Number Employed in 2001 | Percentage of Total Employed | Number Employed in 2008 | Percentage of Total Employed |
|---|---|---|---|---|
| Professional, scientific, management, administrative, and waste management services | 16,657 | 11.6 | 16,978 | 9.4 |
| Educational, health, and social services | 15,002 | 10.4 | 19,284 | 10.7 |
| Arts, entertainment, recreation, accommodation, and food services | 12,101 | 8.4 | 15,549 | 8.6 |
| Other services (except public administration) | 4,769 | 3.3 | 6,986 | 3.9 |
| Public administration | 28,564 | 19.8 | 33,148 | 18.4 |
| Total People Employed | 144,154 | 100.0 | 179,952 | 100.0 |

Source: California Employment Development Department 2010b.

Note: This table provides a count of occupations, and the previous employment table provides a count of resident workers. The total employed for these two sets of numbers will not be equal given those from outside the community that commute to work in the city and those residents of the city who commute to other communities for work.

Note: Percentages may total slightly less or more than 100% due to rounding.

## F. FISCAL

During the 2008-2009 fiscal year, the City of Bakersfield had an annual budget of approximately $181,174,000 with $62,270,000 in sales taxes and $66,086,000 in property taxes accounting for 34.4% and 36.5% of revenues, respectively (City of Bakersfield 2010a).

## G. COMMUNITY FACILITIES AND AMENITIES

As the largest city in Kern County, Bakersfield offers a relatively wide array of amenities, compared to smaller communities in the county and region. It has a convention center, a symphony orchestra, a planetarium, an art museum, a natural history museum, the California Living Museum (Bakersfield Zoo), and the Kern County Museum, a historical museum with many Native American and frontier life artifacts. The city has its own professional baseball, football, basketball, and hockey teams, as well as three public golf courses and numerous private country clubs. It is home to the 40-acre Kern County Soccer Park with 24 playing fields. The City of Bakersfield maintains 53 local parks offering a variety of recreation resources, as well as miles of biking and hiking trails, including a portion of the Kern River Parkway.

Bakersfield is home to several major college and university campuses—including California State University, Bakersfield; San Joaquin Valley College; University of LaVerne; and Bakersfield College. Other local points of interest include Old Town, which has a concentration of Basque restaurants, the Buck Owens Crystal Palace, the Majestic Fox Theater, and other theater and music venues.

Facilities of primary concern for the socioeconomics, communities, and environmental justice analysis are the locations of public buildings, public-safety fire and police stations, medical services, schools, places of worship, and parks. Given the extensive number of community

facilities in this urbanized center, only facilities that lie within the study area are listed below. Figure B-56, Figure B-57, and Figure B-58 provide maps of the districts showing these facility locations.

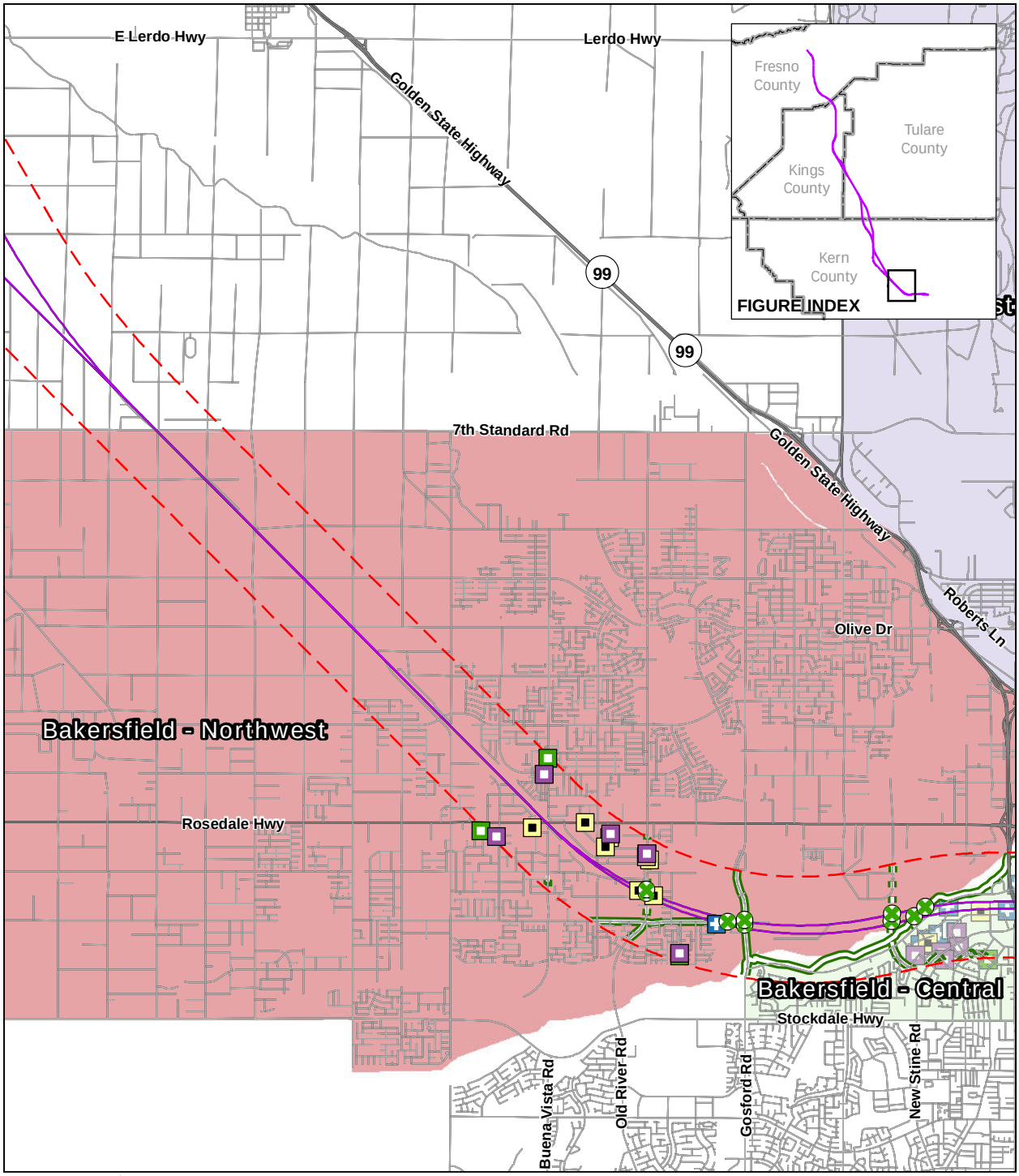
**Public Buildings**

There are many public buildings in Bakersfield. Public buildings in this context are meant to represent community centers and other facilities open to the public. There are 10 public buildings within the study area, including libraries, museums, community centers, and government offices. Seven of these facilities are within the Central district and three are in the Northeast district, as shown in Table B-133.

**Table B-133**
City of Bakersfield Public Buildings

| Facility Name | Location | District |
|---|---|---|
| Bakersfield City Hall | 1600 Truxtun Ave | Central |
| Kern County Administration | 1115 Truxtun Ave | Central |
| Beale Memorial Library | 701 Truxtun Ave | Central |
| Buena Vista Museum of Natural History | 2018 Chester Ave | Central |
| Bakersfield Museum of Art | 1930 R St | Central |
| California Living Museum Foundation | 1300 17th St | Central |
| Crystal Palace and Museum | 2800 Buck Owens Blvd | Central |
| Greenacres Community Center | 2014 Calloway | Northeast |
| Martin Luther King Community Center | 1000 S Owens St | Northeast |
| Community Center Vanguard | 1701 Niles St | Northeast |

Sources: National Institute of Building Sciences 2003; USGS 1992; Google 2010, map of Bakersfield.




PRELIMINARY DRAFT/SUBJECT TO CHANGE - HST ALIGNMENT IS NOT DETERMINED

Source: URS, 2010

May 10, 2011

N

0 0.5 1 Miles

0 1 2 Kilometers

Alignments (Fresno to Bakersfield)

Half-mile buffer from Alternative

Existing bike path

Proposed bike path

Road

Bike path/Alternative crossing

Fire

Hospitals

Park

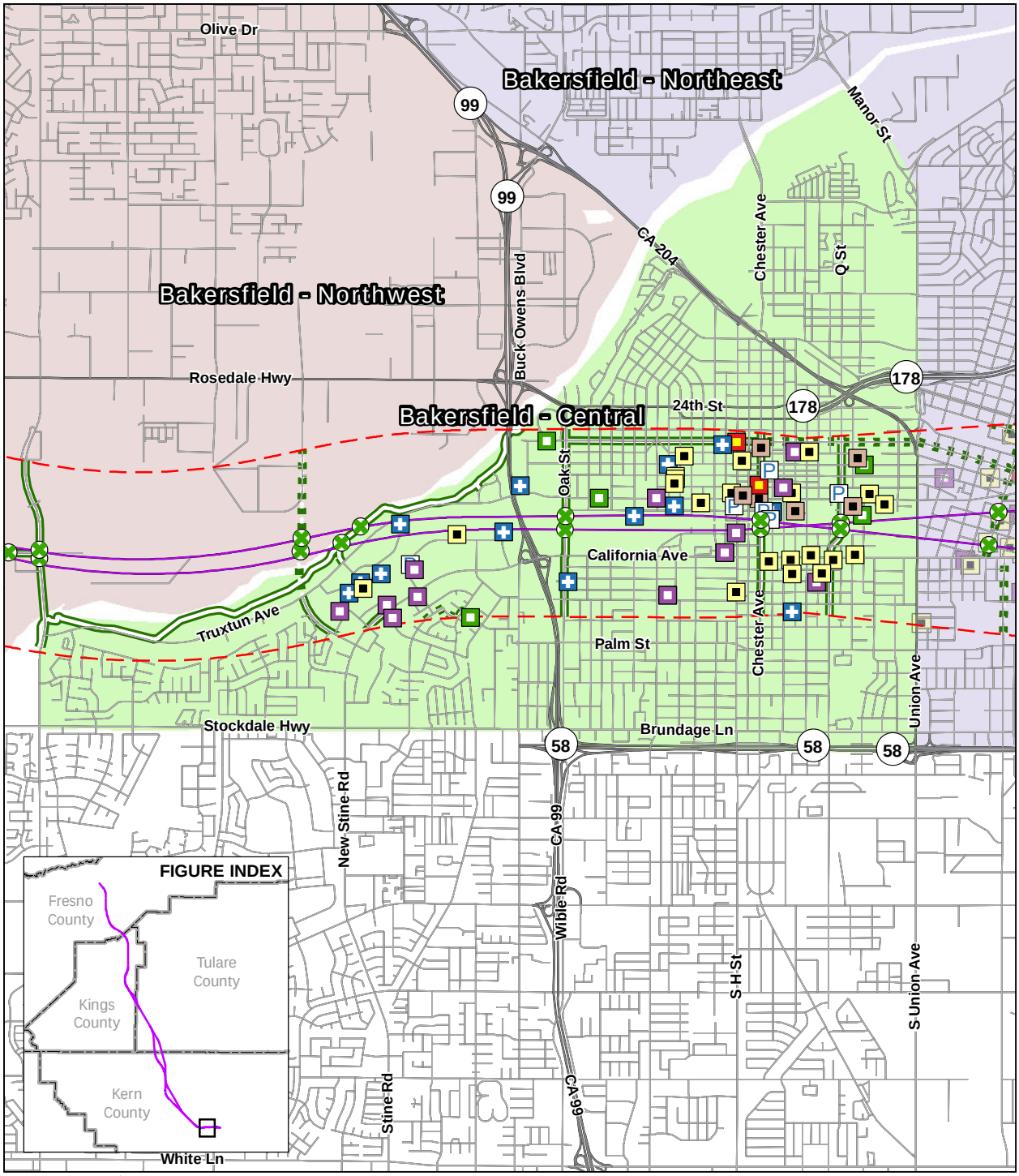
Places of Worship

Police

Public Buildings

Schools

Figure B-56
City of Bakersfield Northwest
District Facility Locations




PRELIMINARY DRAFT/SUBJECT TO CHANGE - HST ALIGNMENT IS NOT DETERMINED

Source: URS, 2010

May 10, 2011

N

0 1,000 2,000
Feet

0 500 1,000
Meters

Alignments (Fresno to Bakersfield)

Existing bike path

Proposed bike path

Road

Half-mile buffer from Alternative

Bike path/Alternative crossing

Fire

Hospitals

Park

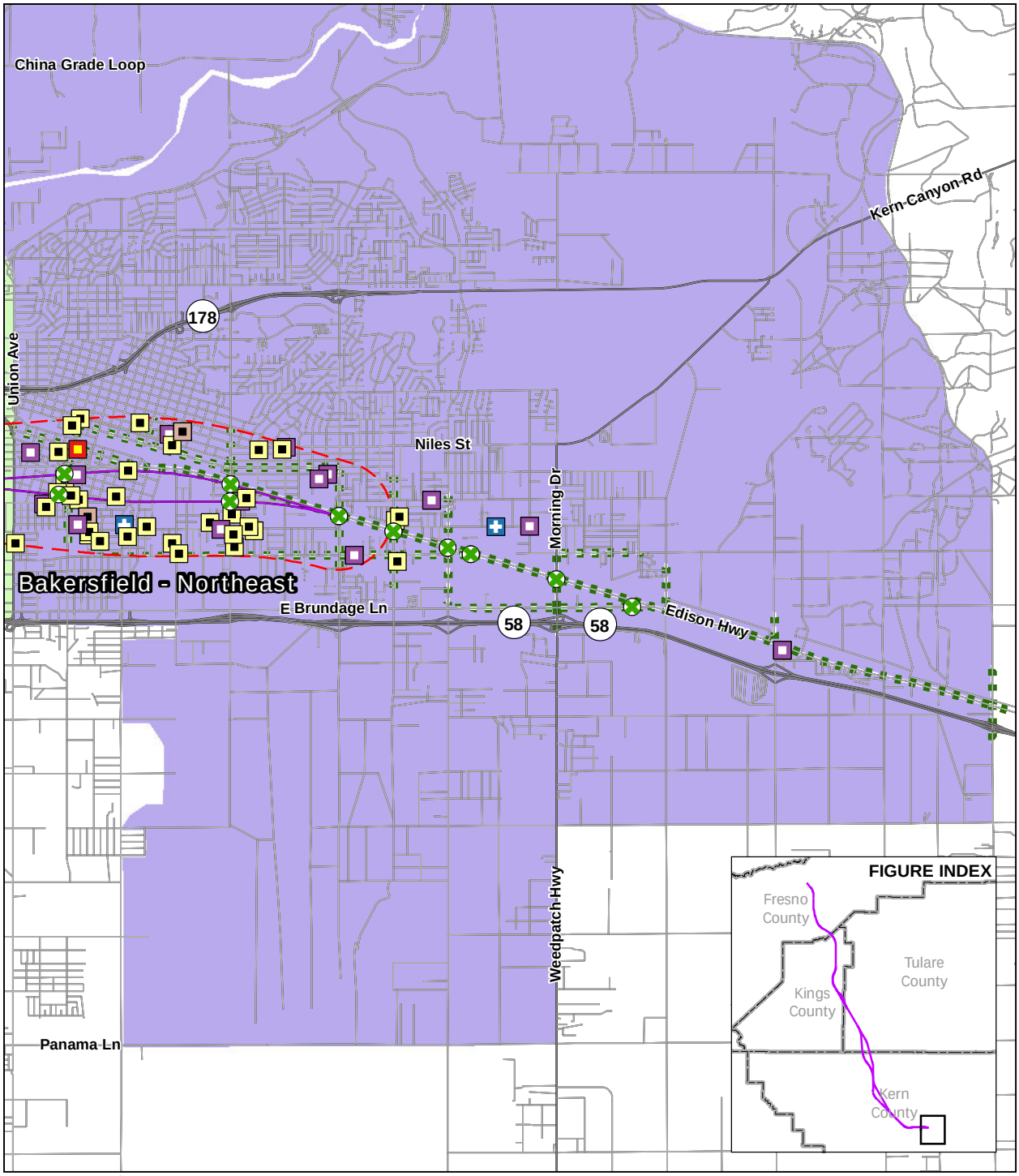
Places of Worship

Police

Public Buildings

Schools

Figure B-57
City of Bakersfield Central District Facility Locations




PRELIMINARY DRAFT/SUBJECT TO CHANGE - HST ALIGNMENT IS NOT DETERMINED

Source: URS, 2010

May 10, 2011

N

0 0.5 1 Miles

0 1 2 Kilometers

- Alignments (Fresno to Bakersfield)
- Existing bike path
- Proposed bike path
- Road
- Half-mile buffer from Alternative
- Bike path/Alternative crossing
- Fire
- Hospitals
- Park
- Places of Worship
- Police
- Public Buildings
- Schools

Figure B-58
City of Bakersfield Northeast
District Facility Locations

## Public Safety

### *Police*

Bakersfield has a total of four police stations, one of which is located in the study area. The county sheriff has one station, a jail, and a crime lab. Two federal law enforcement agencies have offices within the study area as well: the FBI and the federal Bureau of Alcohol, Tobacco, and Firearms. All these facilities are located within the Central district except for the FBI building, which is located within the Northwest district. The city has a total of 335 sworn police officers, while the sheriff's office has a total of 984 sworn officers) (City of Bakersfield Police Department 2008; Kern County Sheriff's Office n.d.).

### *Fire*

The city of Bakersfield has a total of 26 fire stations spread throughout the city. Of these stations, three are located within the study area, with two in the Central district and one in the Northeast. The city employs 200 full-time firefighters, and they have a desired average response time of 7 minutes (City of Bakersfield 2010b; City of Bakersfield 2009).

### *Medical*

Being one of the major cities of the Central Valley, Bakersfield has a large number of medical facilities. According to OSHPD there are 60 licensed medical facilities within the city (10 hospitals, 12 primary care, 11 specialty care, 17 hospices, and 10 long-term care). Of these facilities, 18 are located within the study area, with 9 in the Central district, 3 in the Northeast, and 6 in the Northwest.

Table B-134 provides a listing of these facilities within the study area.

**Table B-134**
City of Bakersfield Police, Fire, and Medical Facilities

| Facility Name | Location | Additional Details | District |
|---|---|---|---|
| **Police** | | | |
| Federal Bureau of Investigation | 4550 California Ave | Office building | Northwest |
| Bakersfield Police | 1601 Truxtun Ave | Headquarters | Central |
| Kern County Sheriff | 1501 L St | Headquarters | Central |
| Kern County Sheriff – Jail | 1415 Truxtun Ave | County jail | Central |
| Kern County Sheriff – Crime Lab | 1300 18th St | Crime lab | Central |
| U.S. Alcohol, Tobacco, and Firearms | 800 Truxtun Ave | Office | Central |
| **Fire** | | | |
| Bakersfield Fire Department | 1715 Chester Ave | Headquarters | Central |
| Bakersfield Fire Station | 2101 H St | Station | Central |
| Bakersfield Fire Station | 716 E 21st St | Station | Northeast |

**Table B-134**
City of Bakersfield Police, Fire, and Medical Facilities

| Facility Name | Location | Additional Details | District |
|---|---|---|---|
| **Medical** | | | |
| Bakersfield Brimhall Dialysis | 8501 Brimhall Rd | Chronic dialysis | Northwest |
| Bakersfield Dialysis Center | 5143 Office Park Dr | Chronic dialysis | Northwest |
| Clinica Sierra Vista Mobile Health Services | 815 Dr. Martin Luther King Jr. Blvd | Community clinic | Northeast |
| East Bakersfield Community Health Center | 815 Dr. Martin Luther King Jr. Blvd | Community clinic | Northeast |
| Planned Parenthood | 2535 16th St | Community clinic | Central |
| Bakersfield Pregnancy Center | 1801 21st St | Free clinic | Central |
| HealthSouth Bakersfield Rehabilitation Hospital | 5001 Commerce Dr | General acute care – 60 beds | Northwest |
| Mercy Hospital, Bakersfield | 2215 Truxtun Ave | General acute care – 144 beds | Central |
| American Health Associates, Inc. | 930 Oak St | Home health agency | Central |
| Around-the-Clock Home Care | 5251 Office Park Dr | Home health agency | Northwest |
| Gifted Arms Home Healthcare Services | 1701 Westwind Dr | Home health agency | Central |
| Interim Healthcare, Bakersfield | 4801 Truxtun Ave | Home health agency | Northwest |
| Mercy Memorial Home Health | 1600 D St | Home health agency | Central |
| Mercy Hospice | 1600 D St | Hospice | Central |
| ProCare Hospice, Bakersfield | 1400 Easton Dr | Hospice | Northwest |
| Valley Convalescent Hospital, Bakersfield | 1205 Eighth St | Long-term care facility – 87 beds | Central |
| Crestwood Psychiatric Health Facility | 6700 Eucalyptus Dr, Suite B | Psychiatric health facility – 14 beds | Northeast |
| Life Line Therapy | 1902 B St, Suite B | Rehabilitation clinic | Central |
| Sources: National Institute of Building Sciences 2003; USGS 1992; Google 2010, map of Bakersfield. | | | |

## Schools

The Bakersfield City School District and the Kern High School District are the largest school districts in the Bakersfield area, with 41 elementary and middle schools and 25 high schools, serving 27,263 and 37,783 students, respectively. Several other school districts serve the area, including Rosedale Unified (5,325 students), Fruitvale Elementary (3,237 students), Fairfax Elementary (2,122 students) and Edison Elementary (1,112 students) (California Department of Education 2010). Thirty-one schools were found to be within the study area (10 in the Northwest district, 7 in the Central district, and 14 in the Northeast district). Table B-135 provides a listing of these schools.

**Table B-135**
City of Bakersfield Schools

| Facility Name | Location | Additional Details | District |
|---|---|---|---|
| Rosedale North Elementary School | 11500 Meacham Ave | Public | Northwest |
| Independence Elementary School | 2345 Old Farm Road | Public | Northwest |
| Country Christian School | 2416 Dean Ave | Private | Northwest |
| Fruitvale Jr. High School | 2114 Callaway Dr | Public | Northwest |
| Columbia Elementary School | 703 Mondavi Way | Public | Northwest |
| Stockdale Christian School | 4901 California Ave | Private | Northwest |
| American Indian Education Center | 1001 Tower Way | Private | Northwest |
| Little Red School House | 4601 California Ave | Private | Northwest |
| University of Phoenix | 4900 California Ave | Private | Northwest |
| National University | 4560 California Ave | Private | Northwest |
| Franklin Elementary School | 2400 Truxtun Ave | Public | Central |
| William Penn Elementary | 2201 San Emidio Ave | Public | Central |
| Bakersfield High School | 1241 G St | Public | Central |
| Light House Christian School | 1417 H St | Private | Central |
| Kern County School Superintendent | 1300 17th St | Office | Central |
| Downtown Elementary School | 2021 M St | Public | Central |
| Rafer Johnson Community Day School | 1001 10th St | Public | Central |
| Sandstone Elementary | 301 E 18th St | Public | Northeast |
| Bessie E. Owens Intermediate School | 815 Eureka Ave | Public | Northeast |
| Our Lady of Guadalupe School | 609 E California Ave | Private | Northeast |
| Bessie E. Owens Elementary School | 815 Potomac Ave | Public | Northeast |
| William Elementary School | 1201 Williams St | Public | Northeast |
| Mount Vernon Elementary | 2161 Potomac Ave | Public | Northeast |
| Virginia Avenue Elementary | 3301 Virginia Ave | Public | Northeast |
| Bethel Elementary School | 2236 E California Ave | Public | Northeast |
| Horace Mann Elementary School | 2710 Niles St | Public | Northeast |

**Table B-135**
City of Bakersfield Schools

| Facility Name | Location | Additional Details | District |
|---|---|---|---|
| Ramon Garza Elementary School | 2901 Center St | Public | Northeast |
| Sierra Middle School | 3017 Center St | Public | Northeast |
| Pioneer Drive Elementary School | 4404 Pioneer Dr | Public | Northeast |
| Foothill High School | 501 Park Dr | Public | Northeast |
| Edison Middle School | 721 Edison Rd | Public | Northeast |
| Sources: National Institute of Building Sciences 2003; USGS 1992; Google 2010, map of Bakersfield. | | | |

## Religious Facilities

The city of Bakersfield is a major metropolitan area and therefore there are numerous religious facilities and a wide range of faiths represented. A majority of the religious facilities in the study area are in the Northeast district (32 of 61 facilities), with fewer in the Central (19 of 61) and Northwest (10 of 61) districts. Only facilities in the study area are listed in Table B-136.

**Table B-136**
Religious Facilities in the City of Bakersfield

| Facility Name | Location | Additional Details | District |
|---|---|---|---|
| Grace Baptist Church | 2550 Jewetta Ave | Religious | Northwest |
| Rosedale Bible Church | 10700 Rosedale Hwy* | Religious | Northwest |
| Apostolic Church | 10050 Rosedale Hwy* | Religious | Northwest |
| Church of Grace and Truth | 2203 Dean Ave | Religious | Northwest |
| Highland Congregation Church of Christ | 10130 Rosedale Hwy* | Religious | Northwest |
| Community Church of Life | 9400 Glenn St | Religious | Northwest |
| Korean Presbyterian Church | 1601 Art St | Religious | Northwest |
| Chinmaya Mission Bakersfield | 1723 Country Breeze Place | Religious | Northwest |
| River Valley Community Church | 5131 Office Park Dr | Religious | Northwest |
| Life Journey Christian Church | 4100 Easton Dr | Religious | Northwest |
| St. Francis Church | 900 H St | Religious | Central |
| Tristone Baptist Church | 1031 M St | Religious | Central |
| Ebenezer Baptist Church | 1401 California Ave | Religious | Central |
| Trinity Temple Church of God in Christ | 1028 O St | Religious | Central |
| Bakersfield Muslim Center | 1221 California Ave | Religious | Central |

**Table B-136**
Religious Facilities in the City of Bakersfield

| Facility Name | Location | Additional Details | District |
|---|---|---|---|
| California Avenue Church of Christ | 1020 California Ave | Religious | Central |
| Mt. Zion Baptist Church | 825 California Ave | Religious | Central |
| Cain Memorial African Methodist Episcopal Church | 630 California Ave | Religious | Central |
| St Paul's Anglican Church | 2216 17th St | Religious | Central |
| First Church Christ Scientist | 2201 18th St | Religious | Central |
| Christian Science Church | 2215 18th St | Religious | Central |
| West Chester Baptist Church | 2119 20th St | Religious | Central |
| Unity Church of Bakersfield | 1619 E St | Religious | Central |
| Chinese Christian Church | 1705 17th St | Religious | Central |
| Relevant Church | 1622 19th St | Religious | Central |
| First Baptist Church | 1200 Truxtun Ave* | Religious | Central |
| Garden Community Church | 2010 O St | Religious | Central |
| First Christian Church | 1660 S St | Religious | Central |
| St. George's Greek Orthodox Church | 401 Truxtun Ave | Religious | Central |
| Al Farooq Islamic Center | 615 Kentucky St | Religious | Northeast |
| Pentecostal Holiness Church of Jesus Christ | 600 Union Ave* | Religious | Northeast |
| Our Lady of Guadalupe Church | 601 E California Ave | Religious | Northeast |
| Baker Street Church of Christ | 200 Baker St | Religious | Northeast |
| Bethany United Methodist Church | 411 Baker St* | Religious | Northeast |
| La Trinidad Church | 1006 Baker St* | Religious | Northeast |
| Full Gospel Lighthouse | 800 Butte St | Religious | Northeast |
| Grace Pentecostal Tabernacle | 920E California Dr* | Religious | Northeast |
| Faith Lighthouse | 1230 Monterey St | Religious | Northeast |
| Saints Memorial Church of God in Christ | 1302 E 19th St* | Religious | Northeast |
| Chapel of Praise Church of God in Christ | 1223 Dolores St | Religious | Northeast |
| Shiloh Temple Church of God in Christ | 1101 Potomac Ave | Religious | Northeast |

**Table B-136**
Religious Facilities in the City of Bakersfield

| Facility Name | Location | Additional Details | District |
|---|---|---|---|
| The Open Door Church of God in Christ | 1100 Gorrill St* | Religious | Northeast |
| Saint Paul Christian Methodist Episcopal Church | 1216 Ralston Ave | Religious | Northeast |
| Pleasant View Baptist Church | 700 S Haley St | Religious | Northeast |
| Iglesia Presbiteriana El Redento | 805 S Williams St* | Religious | Northeast |
| New Harvest Christian Fellowship Church | 1727 Cole St* | Religious | Northeast |
| Evening Light Saints Church of God | 1804 Virginia Ave* | Religious | Northeast |
| Chapman Street Roman Catholic Church | 823 Chapman St | Religious | Northeast |
| Niles Assembly of God Church | 1701 Niles St | Religious | Northeast |
| Livingstone Church | 1631 Lake St | Religious | Northeast |
| Apostolic Assembly of God Church | 519 Mt. Vernon Ave | Religious | Northeast |
| Trinity Baptist Church | 723 Mt. Vernon Ave | Religious | Northeast |
| Iglesia Centro Cristiano | 2202 Larcus Ave* | Religious | Northeast |
| First Free Will Baptist Church | 2400 E California Ave | Religious | Northeast |
| Hope Christian Center | 726 Hazel St* | Religious | Northeast |
| Iglesia Emmanuel | 2408 Potomac Ave | Religious | Northeast |
| East Hills Nazarene Church | 2503 Niles St* | Religious | Northeast |
| First Southern Hispanic Baptist Church | 2657 Niles St | Religious | Northeast |
| East Bakersfield Pentecostal Holiness Church | 400 Normandy Dr* | Religious | Northeast |
| Calvary Gospel Tabernacle | 424 Sterling Rd | Religious | Northeast |
| Unitarian-Universalist Fellowship of Kern County | 98 Sterling Rd | Religious | Northeast |

Sources: National Institute of Building Sciences 2003; USGS 1992; Google 2010, map of Bakersfield.
* indicates that address not readily available, so address shown is an approximation.

## Parks

Bakersfield has many parks and recreation areas. There are six parks operated by the city, as well as existing bicycle facilities that are located in the study area (City of Bakersfield 2007). North of the River Recreation and Park District is a special district operating under Section 5780 of the California Public Resources Code. The district's existing parks are neighborhood parks in

proximity to schools, serving the Beardsley, Fruitvale, Norris, Rosedale, Standard School, and Rio Bravo-Greeley School districts (North of the River Recreation and Park District n.d.). Recreational facilities at Rosedale Union School District schools are available for public use upon approval of a "Use of Facility Request" filed through the district office. Recreational facilities at Fruitvale School District schools are available for public use following the approval of an application process through the district which also requires liability insurance (Schmidt 2010). Recreational facilities at Bakersfield City School District schools are available for public use upon approval from the district and school administrators (Bakersfield City School District 2001). The Kern High School District allows the public to use school recreational facilities provided that an application for facility use is submitted through a standardized process involving both the school and the district office with agreed upon rental rates, insurance, and custodial costs (Reese 2010). Fairfax Elementary School District recreational facilities are available for public use after regular school hours. Facilities must be reserved ahead of time through the district and school, and there may be charges associated with the use of facilities (Coleman 2010). A listing of park and recreation facilities that lie within the study area is provided in Table B-137. Additional detailed park information can be found in the Park and Recreation section of the EIR/EIS.

**Table B-137**
Parks in the City of Bakersfield

| Facility Name | Location | Additional Details | In Study Area? |
|---|---|---|---|
| Kern River Parkway | Begins at the mouth of Kern Canyon and extends west to I-5 | Community park | Yes |
| Beach Park | 3400 21st St | Community park | Yes |
| Jastro Park | 2900 Truxtun Ave | Neighborhood park | Yes |
| Central Park at Mill Creek | 600 19th St | Neighborhood park | Yes |
| Dr. Martin Luther King Jr. Community Center and Park | 1000 S Owens St | Neighborhood park | Yes |
| Amtrak Station Playground | 601 Truxtun Ave | Mini park | Yes |
| Greenacres Park and Community Center | 2014 Calloway Drive | Community park | Yes |
| North Rosedale Park | 3635 Jewetta Ave | Sports complex | Yes |
| Mondavi Park | 601 Mondavi Way | Sports complex | Yes |
| Rosedale North Elementary School | 11500 Meacham Rd | School park | Yes |
| Rosedale Middle School | 12463 Rosedale Hwy | School park | Yes |
| Fruitvale Junior High School | 2114 Calloway Drive | School park | Yes |
| Columbia Elementary School | 703 Mondavi Way | School park | Yes |
| Caroline Harris Elementary | 4110 Garnsey Lane | School park | Yes |
| Franklin Elementary | 2400 Truxtun Ave | School park | Yes |
| William Penn Elementary | 2201 San Emidio St | School park | Yes |

**Table B-137**
Parks in the City of Bakersfield

| Facility Name | Location | Additional Details | In Study Area? |
|---|---|---|---|
| Downtown Elementary School | 2021 M St | School park | Yes |
| Owens Primary School | 815 Potomac Ave | School park | Yes |
| Owens Intermediate School | 815 Eureka St | School park | Yes |
| Williams Elementary | 1201 Williams St | School park | Yes |
| Mt. Vernon Elementary School | 2161 Potomac Ave | School park | Yes |
| Garza Elementary | 2901 Center St | School park | Yes |
| Sierra Middle School | 3017 Center St | School park | Yes |
| Pioneer Drive Elementary | 4404 Pioneer Dr | School park | Yes |
| Bakersfield High School | 1241 G St | School park | Yes |
| Foothill High School | 501 Park Dr | School park | Yes |
| Virginia Avenue Elementary | 3301 Virginia Ave | School park | Yes |
| Edison Middle School | 721 Edison Rd | School park | Yes |
| Sources: City of Bakersfield 2007, Exhibits 2.1B, 2.1D, Table 2-1.1; Google 2010, map of Bakersfield. | | | |

## H. CIRCULATION AND ACCESS

Of primary concern to the socioeconomics, communities, and environmental justice analysis are non-motorized circulation issues associated with pedestrian and bicycle transportation.

The *City of Bakersfield General Plan* calls for improving biking and bikeways within metropolitan Bakersfield and for safe and efficient motorized, non-motorized, and pedestrian traffic movement (City of Bakersfield and County of Kern 2002). Table B-138 contains a list of existing and proposed bicycle paths in Bakersfield, all or part of which are located within the study area.

**Table B-138**
Bicycle Paths in the City of Bakersfield

| Facility Name | Location | Additional Details | In Study Area? |
|---|---|---|---|
| Kern River Parkway | Kern Canyon to I-5 | Class I Bikeway | Yes |
| 21st St | Oak St to Chester Ave | Class II Bike Lane | Yes |
| Q St | 4th St to Golden State Highway | Class II Bike Lane | Yes |
| Chester Ave/S Chester Ave | Planz Rd to 34th St | Class II Bike Lane | Yes |
| Oak St | Planz Rd to Kern River Bikeway | Class II Bike Lane | Yes |
| New Stine Rd | White Lane to Marella Way | Class II Bike Lane | Yes |
| Brimhall Rd | Allen Rd to Coffee Rd | Class II Bike Lane - Proposed | Yes |
| Hageman Rd | Allen Road to Mohawk Ave | Class II Bike Lane – Proposed | Yes |
| 21st St | Chester Ave to Haley St | Class II Bike Lane – Proposed | Yes |
| Kentucky St | Alta Vista St to Mt. Vernon Ave | Class II Bike Lane – Proposed | Yes |
| Allen Rd | Stockdale Hwy to Snow Rd | Class II Bike Lane – Proposed | Yes |
| Old River Rd/Calloway Drive | Panama Lane to Snow Rd | Class II Bike Lane – Proposed | Yes |
| King St | Brundage Lane to Panorama Drive | Class II Bike Lane – Proposed | Yes |
| Baker St | E California Ave to Bernard St | Class II Bike Lane – Proposed | Yes |
| Haley St | Kentucky St to Panorama Drive | Class II Bike Lane – Proposed | Yes |
| Mt. Vernon Ave | Brundage Lane to Panorama Drive | Class II Bike Lane – Proposed | Yes |
| Oswell St | Brundage Lane to Auburn St | Class II Bike Lane – Proposed | Yes |
| Fairfax Rd | Brundage Lane to Auburn St | Class II Bike Lane – Proposed | Yes |
| Morning Drive | Brundage Lane to Niles St | Class II Bike Lane – Proposed | Yes |
| Breckenridge Rd | Morning Drive to Comanche Rd | Bicycle Route (signs only) – Proposed | Yes |

**Table B-138**
Bicycle Paths in the City of Bakersfield

| Facility Name | Location | Additional Details | In Study Area? |
|---|---|---|---|
| Virginia Ave | S King St to Fairfax Rd | Bicycle Route (signs only) – Proposed | Yes |
| Center St | Mt. Vernon Ave to Oswell St | Bicycle Route (signs only) – Proposed | Yes |
| Easton Drive | California Ave to Real Rd | Bicycle Route (signs only) – Proposed | Yes |
| South Sterling Rd | Brundage Lane to College Ave | Bicycle Route (signs only) – Proposed | Yes |
| Source: Kern Council of Governments 2001. | | | |

# B.12 Rural Areas

Profiles for the areas that lie between the major communities in the study area are presented below, with communities described from north to south. These profiles are not as detailed as the profiles prepared for the larger communities above; rather, they are meant to provide a general description of the non-urban areas within the project alignment study areas, as well as to identify any key community facilities in rural areas that potentially could be affected by the project. Most of these portions of the study area consist of farmland and open space, but there are also some very small, unincorporated communities, as well as some named places that may once have been railroad sidings or similar railway-related facilities and do not have any community facilities of any kind.

No community or specific plans exist for these areas, so descriptions of the communities are qualitative and are based on a review of aerial photographs, the U.S. Geological Survey, information obtained from the Economic and Social Research Institute, and Google Earth, as well as site visits. Communities were identified by reviewing maps and through discussions with local officials. Any potential community identified through this process was visited to identify existing conditions. Where population figures were unavailable, population was estimated by counting the number of residences and multiplying by the average household size for the region (3.3 people per household).

## B.12.1 City of Fresno to City of Hanford

The study area between the cities of Fresno and Hanford can be characterized as rural, with several small communities interspersed between the cities. A total of seven communities were identified in this section of the study area. Five of the communities are in Fresno County and two are in Kings County. All of these communities are unincorporated, and only one (Bowles) was classified as a Census Designated Place (CDP) by the Census Bureau in 2000.

Agriculture is the major land use and industry in this area, with a large number of the people living in and near the study area being employed in agricultural-related occupations. The affected agricultural lands within the study area include a high percentage of prime farmland. The major affected crops within this area include alfalfa and corn. Also important is grazing land as well as animal agriculture.

Only the communities in Kings County have experienced growth in the past several years, with continued growth expected. The other communities have remained unchanged for years, and no changes are expected in the foreseeable future (Gorman 2010). No key community facilities were identified in sections of the study area between the communities.

**Malaga**. This community is located approximately 2 miles south of Fresno. There are about 1,500 permanent residents of Malaga. The main residential area is completely surrounded by an industrial park that includes retail sales, manufacturing, and distribution facilities. Community facilities include a school, a park, and a water district office which serves as the administrative center of the community. The residential portion of the community lies just east of the study area. At one time, a small neighborhood existed within the study area footprint; however, according to the Fresno County Planning Department, the population at the location was relocated to outside of Malaga (and the study area) because that site was contaminated (Gorman 2010).

**Oleander**. This community is located west of the alignment in Fresno County at Morton Avenue, approximately 5 miles south of Fresno. Oleander is a small community of approximately 20 homes and several agricultural-related businesses. No key community facilities were identified in this community. The estimated population of Oleander is less than 100 people.

**Bowles**. Bowles is the only community in this portion of the study area that is a CDP. It is located west of the alignment in Fresno County at Manning Avenue, approximately 7 miles south of Fresno. Census data show that Bowles had a population of 182 persons in 2000. Few businesses exist in this long-established, fully built-out community. Two key community facilities were identified: the Pacific Union School and the Manning Gardens Convalescent Home, both of which lie within the study area.

**Monmouth**. This community lies approximately 11 miles south of the city of Fresno, east of the alignment along Nebraska Avenue in Fresno County. Several large industrial businesses dominate the community, which also has approximately 35 homes. Two key community facilities were identified: Monroe Elementary School and the Monmouth Community Presbyterian Church, both of which are within the study area footprint. The population of the community is estimated at over 100 people.

**Conejo**. This community lies to the east of the alignment along Conejo Avenue in Fresno County, approximately 19 miles south of the city of Fresno. Conejo is an older, established community with approximately 20 residences. A majority of the land in the community is occupied by agriculture-related businesses, including a feed store and a large dairy. No key community facilities were identified. The population of Conejo is estimated to be less than 100 people.

**Hamblin**. This community is located approximately 1 mile east of Hanford, north of Lacey Boulevard. As the city of Hanford continues to grow, the community of Hamblin is serving more and more as an extension of Hanford. It is reported that Hanford is planning to continue to develop towards the east and will eventually incorporate the area that Hamblin occupies into the city limits (Kinney 2010). No key community facilities were identified in Hamblin although several businesses and approximately 50 residences were identified. An estimated 200 people live in the community, with more growth expected in the future.

**Ponderosa**. This community lies just to the east of the alignment along Lacey Boulevard, 2 miles east of Hanford. The community is developed exclusively with residential units; no businesses were identified. Just to the east of the community lies the Kit Carson Elementary school, which straddles the boundary of the study area. No other key community facilities were identified in the area. There are approximately 40 homes in the community, with the population is estimated at over 150 people.

## B.12.2 City of Hanford to City of Corcoran

The study area between the cities of Hanford and Corcoran is entirely within Kings County, running parallel to SR 43 through a rural, agricultural area. Only one community was identified in this segment of the study area, as described below. None of these places described below has experienced a large amount of growth in the past several years, and no growth is anticipated in the foreseeable future (Kinney 2010). Several additional key community facilities were identified outside of the community but within the study area. These include a fire station on Houston Avenue and a landfill located east of SR 43. Agriculture is the major industry in this area with a large number of the people living within and near the study area being employed in agricultural-related occupations. The affected agricultural lands within the study area include a high percentage of prime farmland with the major affected crops being alfalfa and corn. Also important is grazing land as well as animal agriculture

**El Ranchero.** This community lies south of Lacey Boulevard, 1 mile west of Hanford. The community is composed mainly of residences, with some businesses fronting on Lacey Boulevard. No key community facilities were identified in El Ranchero. There are approximately 125 homes in this community, with an estimated population of over 400 residents.

### B.12.3 City of Corcoran to City of Wasco

The study area between the cities of Corcoran and Wasco parallels SR 43 and can be characterized as rural with several small communities interspersed between the cities. All of these communities are unincorporated, and none are CDPs. This segment of the study area stretches over three counties (Kings, Tulare, and Kern) with communities being located only in Tulare and Kern counties. A total of eight communities or named places were identified, half in Tulare County and half in Kern County. Agriculture dominates this portion of the area, and it is presumed that a large number of the people living in and near the study area are employed in agricultural-related occupations. Agricultural lands include prime farmland with the major crops being nuts, pasture, and alfalfa. Animal agriculture is also important in the area.

None of the places described below have experienced a large amount of growth in the past several years, and no growth is anticipated in the foreseeable future (Kinney 2010; Smith 2010; Waters 2010). No key community facilities were identified on the lands between the communities.

**Blanco**. This community is located south of Avenue 144 in Tulare County, 5 miles south of Corcoran, west of the study area. There are fewer than five residences within the community. A majority of the area is occupied by a very large dairy farm and its related processing facilities. No key community facilities were identified in the area. The estimated population of the community is less than 25 people.

**Angiola.** Angiola is located south of Avenue 112 in Tulare County, 9 miles south of Corcoran. No residences were identified within the community. The only major buildings in the area are crop silos and warehouses with machinery used for processing crops. No residential population or community facilities were identified.

**Stoil.** Stoil is located north of Avenue 68 and west of the study area, approximately 15 miles south of Corcoran. No buildings or facilities were identified at Stoil.

**Allensworth.** This community is located in Tulare County west of SR 43, approximately 20 miles south of Corcoran. Originally Allensworth Colony, the community was founded in 1908 as an experiment to test the viability of an completely African-American community. Throughout the years the community went through many challenges, with the major factor limiting the growth and viability of the community being a consistent and reliable water source. In 1974, the original community was turned into a state park, and since then has had some state funding to preserve the historic buildings. Currently, Allensworth State Park has been closed to the public because of the state budget crisis. Adjacent to the state park is the low-income community of Allensworth. Funding has been used to try to improve the standard of living in the community. The Allensworth community is home to approximately 120 households (or about 400 people), with a majority of the households being of Hispanic descent. Most of the housing stock consists of mobile homes. Community facilities include a school, church, and a community center.

**Kernell.** The community is located south of Garces Highway in Kern County, 11 miles north of Wasco. Only one residence was identified at this location. The only major buildings in the area are some large warehouses. No key community facilities were identified in the area. The estimated population of the community is less than 5 people.

**Pond.** The community is located along Pond Road in Kern County 8 miles north of Wasco. Approximately 20 residences, as well as some small businesses, are located in this community. A large tractor parts supplier and the Pond Union School are located to the east of the community, but both are outside of the study area. No other key community facilities were identified in the area. The population of the community is estimated at less than 75 people.

**Elmo.** Elmo is located north of Sherwood Avenue in Kern County, approximately 5 miles north of Wasco. No buildings or facilities were identified in Elmo.

**Neufeld.** This community is located north of McCombs Avenue in Kern County, 1.5 miles north of Wasco. The only structures in the community lie to the west of the alignment. These structures are all part of a large industrial complex with a stilling pond on the site and no residences or community facilities. The site is surrounded by agricultural land.

## B.12.4 City of Wasco to City of Shafter

The area between the cities of Wasco and Shafter can be characterized as rural, with three small communities (Palmo, North Shafter Labor Camp, and Myricks Corner) interspersed between the cities. All of the communities are unincorporated, and none is classified as a CDP. All land in this segment of the study area is in Kern County. The University of California's Shafter Research and Extension Center is located in this portion of the study area. This center is one of the many research centers owned and operated by the University of California System to research crops and agricultural techniques. None of the places described below have experienced a large amount of growth in the past several years, and no growth is anticipated in the foreseeable future (Smith 2010). Agriculture is the major industry in this area with a large number of the people living within and near the study area being employed in agricultural-related occupations. The agricultural lands include a high percentage of prime farmland. Affected crops include almonds, alfalfa, and vegetables. Animal agriculture is also important in the area. In the agricultural lands along the bypass alignments, there is active oil well-drilling taking place south of Kimberlina Road.

**Palmo.** The community is located at the corner of SR 43 and Kimberlina Road to the west of the alignment, 1.5 miles south of Wasco. There are approximately five residences with a majority of community being occupied by a large nursery that produces roses and other flowers. No key community facilities were found to be present in the community. The population is estimated to be less than 25 people.

**North Shafter Labor Camp.** The community is located at the west corner of SR 43 and Merced Avenue approximately 2 miles north of Shafter. There are approximately 45 duplexes at the labor camp along with several other structures, including a community building. The population is estimated to be approximately 300 people. This camp houses agricultural workers.

**Myricks Corner.** The residential development is located less than 1 mile north of Shafter, at the corner of Fresno Avenue and SR 43. The area has approximately 75 residences, with an estimated population of about 250 residents. No businesses or key community facilities were identified in the area.

## B.12.5 City of Shafter to City of Bakersfield

The study area between the cities of Shafter and Bakersfield can be classified as rural, with one small community (Crome) located between the cities. This community is not an incorporated city, nor is it classified as a CDP. All land in this segment of the study area is in Kern County. None of the places described below have experienced a large amount of growth in the past several years, and no growth is anticipated in the foreseeable future (Smith 2010). Key community facilities identified to be within the study area, include the Shafter city cemetery. Agriculture is the major industry in this area with a large number of the people living within and near the study area being employed in agricultural-related occupations. The agricultural lands include a high percentage of prime farmland. Affected crops include almonds, alfalfa, and vegetables. Animal agriculture is also important in the area.

**Crome.** The community is located at the corner of Santa Fe Way and 7th Standard Road, approximately 5 miles northwest of Bakersfield. There are approximately 20 homes in the community, as well as a large auto-wrecking operation to the north of the residential area. Within the community, there is the Pentecostal Church of God, but no other businesses or key community facilities. The estimated population of the community is approximately 75 people. Just to the east of the community is the BNSF mainline, which parallels Santa Fe Way. Across the BNSF grade-crossing to the east on 7th Standard Road is the Shafter International Trade and Transportation Center (IT&TC) on the north side and another industrial complex on the south side. The Target Distribution Center is one of many companies that occupy buildings within the IT&TC. Kern County has transportation projects underway to widen 7th Standard Road to four lanes along its length to SR 99 and to build a grade separation over the BNSF mainline at the intersection with Santa Fe.

## B.13 References

Applied Development Economics. 2008. *City of Wasco Downtown Revitalization Study and the Downtown Business District Marketing Plan Overview*. 2008.

Bailey, Richard C. 1984. *Heart of the Golden Empire: An Illustrated History of Bakersfield*. Woodland Hills, CA: Windsor Publications, Inc., 1984.

Bakersfield City School District. 2001. Board Policy 800.5: Civic Center and Recreational Activities. Approved December 18, 2001. http://boardpolicies.bcsd.com/final/bp800%5F5.doc (accessed January 29, 2010).

Bentley, Martha. n.d. *Birth of Kings County*. No date. http://kingsnet.kings.k12.ca.us/kcoe/curric/history/places/kingsbirth.html (accessed January 19, 2010).

Bertaut, Carol, and Laurie Pounder. 2009. "The Financial Crisis and U.S. Cross-Border Financial Flows." *Federal Reserve Bulletin*, November 2009. http://www.federalreserve.gov/pubs/bulletin/2009/pdf/bulletin_article_november_2009a1.pdf (accessed January 26, 2010).

Brown, Danny. 2009. Economic Development Coordinator, City of Wasco. Personal communication with Mara Feeney, Mara Feeney & Associates, December 7, 2009.

Bureau of Labor Statistics. 2008. *Occupational Employment and Wages*. Economic New Release. 2008.

California Department of Corrections and Rehabilitation. 2010. Facilities, COR-Institution statistics. http://www.cdcr.ca.gov/Visitors/Facilities/COR-Institution_Stats.html and http://www.cdcr.ca.gov/Visitors/Facilities/SATF-Institution_Stats.html (accessed January 26, 2010).

California Department of Education. 2010. Ed-Data "Profiles and Reports." http://www.ed-data.k12.ca.us/Navigation/fsTwoPanel.asp?bottom=%2Fprofile.asp%3Flevel%3D06%26reportNumber%3D16 (accessed March 24, 2010).

California Department of Finance. 2007. *Population Projections for California and Its Counties 2000-2050, by Age, Gender, and Race/Ethnicity*. Sacramento: Demographic Research Unit, Reports and Research Papers P3, July 2007.

———. 2009a. *E-5 Population and Housing Estimates for Cities, Counties, and the State, 2001–2009, with 2000 Benchmark.* Sacramento: May 2009. http://www.dof.ca.gov/research/demographic/reports/estimates/e-5/2009/ (accessed March 25, 2010).

———. 2009b. *January 2009 Cities and Counties Ranked by Size, Numeric and Percent Change*. Sacramento, California. May 2009.

California Department of Finance, Demographic Research Unit. 2007. Reports and Research Papers P3, Population Projections for California and Its Counties, 2000–2050, by Age, Gender, and Race/Ethnicity. Sacramento, July 2007.

California Department of Food and Agriculture. 2009. *California Agricultural Highlights, 2008–2009.* Brochure. 2009.

California Department of Transportation (Caltrans). 1999. *Updated Route 99 Corridor Business Plan.* Volume I. Sacramento: Caltrans, Districts 6 and 10, 1999.

———. 2007. *Corridor System Management Plan, State Route 46, Kern County*. Sacramento: Caltrans, District 6 Planning South Branch, 2007.

California Employment Development Department. 2010a. Labor Market Info/County Unemployment Rates (Labor Force). 2010.

———. 2010b. Labor Market Info/Industry Employment and Labor Force, by Annual Average. 2010.

———. 2010c. Labor Market Info/Major Employers for Counties–2010. 2010. http://www.labormarketinfo.edd.ca.gov/majorer/majorer.asp (accessed March 17, 2010).

———. 2010d. Labor Market Info/2006–2016 Industry Employment Projection. 2010.

———. 2010e. *The Economy: California's Labor Market*. 2010. http://www.labormarketinfo.edd.ca.gov (accessed January 23, 2010).

California High-Speed Rail Authority and USDOT Federal Railroad Administration (Authority and FRA). 2005. *Final Program Environmental Impact Report/Environmental Impact Statement (EIR/EIS) for the Proposed California High-Speed Train System*. Vol. 1, *Report. Sacramento and Washington, DC,* 2005.

———. 2009. *Project-Level Environmental Impact Report/Environmental Impact Statement: Project-Level Environmental Analysis Methodologies.* Version 2, February 2009.

Central Area Planning Task Force. 1989. *Central Area Community Plan*. Fresno: City of Fresno Housing and Community Development Department, Redevelopment Division. July 1989.

City of Bakersfield. 2007. *Recreation and Parks Master Plan, 2007*. Bakersfield: City of Bakersfield, 2007.

———. 2009. *Metropolitan Bakersfield General Plan Update.* April 2009. http://www.bakersfieldcity.us/weblink7/ElectronicFile.aspx?docid=787355 (accessed March 24, 2010).

———. 2010a. *City of Bakersfield Fiscal Year 2009–2010 Proposed Budget*. http://www.bakersfieldcity.us/administration/documents/FY_2009-10_City_of_Bakersfield_Proposed_Budget_Document.pdf (accessed March 25, 2010).

———. 2010b. "History of Bakersfield." Bakersfield: City of Bakersfield, 2010. http://www.bakersfieldcity.us/administration/mayor_council/history.htm (accessed January 24, 2010).

City of Bakersfield and County of Kern. 2002. *Metropolitan Bakersfield General Plan*. Adopted December 11, 2002.

City of Bakersfield Planning Commission. 2009. *City of Bakersfield General Plan Final Housing Element*. Adopted February 25, 2009.

City of Bakersfield Police Department. 2008. Budget and Year End Report, 2008. In *City of Bakersfield: Bakersfield Police Department 2008 Annual Report.* http://www.bakersfieldcity.us/police/Administration/Budget_and_Year_End_Reports/pdfs/2008_Year_End_Report.pdf (accessed March 25, 2010).

City of Bakersfield Redevelopment Agency. 2005a. *Implementation Plan for the Downtown Bakersfield Redevelopment Project*. 2005.

———. 2005b. *Implementation Plan for the Old Town Kerr-Pioneer Redevelopment Project*. 2005.

———. 2005c. *Implementation Plan for the Southeast Bakersfield Redevelopment Project*. 2005.

City of Corcoran. 2009. *Annual Budget 2008–2009*. Adopted June 2, 2008. City of Corcoran, 2009.

———. n.d. About the City/History. No date. http://www.cityofcorcoran.com/about/history.asp (accessed January 26, 2010).

———. n.d. "Parks." http://www.cityofcorcoran.com/cityhall/pw/parks/default.asp (accessed December 2009).

City of Fresno. 1989. *Central Area Community Plan.* 1989.

———. 1992. *Roosevelt Community Plan.* Fresno: City of Fresno, 1992.

———. 1996. *Fulton/Lowell Specific Plan.* Fresno: City of Fresno, 1996.

———. 2002. "Appendix W, West Area Community Plan." In *2025 Fresno General Plan.* 2002.

———. 2009. *A Guide to the Adopted Budget, Fiscal Year 2009–2010.* Adopted September 30, 2009.

———. 2010. "Parks, After School, Recreation and Community Services." 2010. http://www.fresno.gov/Government/DepartmentDirectory/ParksandRecreation/default.htm (accessed March 10, 2010).

———. n.d. VIEWFresno Map Service. https://dpuweb.ci.fresno.ca.us/VIEWFresno/ (accessed January 29, 2010).

City of Fresno Planning and Development Department. 1977. *Edison Community Plan*. Adopted May 10, 1977.

———. 1992. *Roosevelt Community Plan*. Adopted April 1992.

———. 2002. *2025 Fresno General Plan*. Adopted February 1, 2002.

———. 2008. *Housing Element, 2008–2013*. Adopted February 27, 2008.

———. 2009. *Fresno Fire Department Directory*. 2009. http://www.fresno.gov/Government/DepartmentDirectory/Fire/default.htm (accessed March 25, 2010).

City of Fresno Redevelopment Agency. 2006. *Destination Downtown Action Strategy*. 2006.

City of Hanford. 2009. *Annual Budget, Fiscal Years 2010 and 2011*. Adopted May 19, 2009.

———. 2010. *Hanford Police Department*. 2010. http://www.ci.hanford.ca.us/Police%20Department.htm (accessed March 24, 2010).

City of Hanford Planning Division. 2002. *City of Hanford General Plan*. Adopted June 18, 2002.

City of Shafter. 2008. *Annual Operating and Expenditure Budget for Fiscal Year 2008/2009*. Adopted June 17, 2008.

———. 2010a. Shafter Parks. Shafter, CA: City of Shafter. Copyright 2006–2010. http://www.shafter.com/index.aspx?NID=73 (accessed January 25, 2010).

———. 2010b. "Shafter Police Department: Mission Statement." http://www.shafter.com/index.aspx?NID=157 (accessed March 24, 2010).

City of Wasco. 2008. *Adopted Annual Operation Budget, Fiscal Year 2008/2009*. Adopted May 20, 2008.

———. 2005. *Wasco Recreation and Park District Park Master Plan*. September 2005, p. 34.

———. 2009. *City of Wasco Zoning Map*. Last modified August 18, 2009. http://www.ci.wasco.ca.us/Public_Documents/WascoCA_Planning/Zoning_Map.pdf (accessed November 30, 2009).

———. n.d. "History of Wasco." http://www.ci.wasco.ca.us/Public_Documents/WascoCA_WebDocs/wasco_history (accessed February 2011).

City of Wasco Planning Division. 2002. *City of Wasco General Plan Policies Statement*. Adopted August 2002.

Coleman, Michael. 2010. Assistant Superintendent of Business Services, Fairfax School District. Email to Kristin Jacobsen, URS, February 1, 2010, regarding the question of public use of district recreational facilities.

Council of Fresno County Governments. 2007a. *Council of Fresno County Governments 2007 Regional Transportation Plan: Bicycle RTP Candidate Projects*. Fresno: Council of Fresno County Governments, 2007.

———. 2007b. *Draft Fresno County Regional Housing Needs Allocation Plan.* April 2007.

County of Kern. 2007 [2005]. *Community and Economic Development Department Economic Development Strategy*, *Final Report.* April 2005, revised October 2007.

———. 2009. *Final Budget 2009–2010*. 2009.

———. 2010. Emergency Medical Services/Ambulance Performance Information/Response Time Requirements. http://www.co.kern.ca.us/ems/ambperfrm.asp (accessed March 25, 2010).

County of Kern Planning Department. 2011. Planning Department home page. http://www.co.kern.ca.us/planning/ (accessed February 2011).

County of Kings. 2009. *2009–2010 Final Budget*. Adopted 2009.

County of Kings Department of Agriculture and Measurement Standards. 2009. *Kings County Agricultural Crop Report, 2008.* 2009.

Cowan, Tadlock. 2005. *California's San Joaquin Valley: A Region in Transition*. CRS Report for Congress. December 12, 2005.

Crumb, Michael. 2010. "California Loses Dairy Farms as Iowa, Texas, Other States Lure Farmers with Less Regulation." April 12, 2010. http://abcnews.go.com/Business/wireStory?id=10348586 (accessed February 2011).

Cytron, Naomi. 2009. *The Enduring Challenge of Concentrated Poverty in America: Case Study of Fresno, California.* Federal Reserve Bank of San Francisco, April 2009.

Eight Councils of Governments in San Joaquin Valley. 2006. San *Joaquin Valley Blueprint: April 2009 Update*. 2006.

Explore Fresno. n.d. "Attractions and Landmarks in Fresno." http://www.explorefresno.com/landmarks.html (accessed January 24, 2010).

Fresno County. 2008. *County Budget for the Fiscal Year Ended June 30, 2009*. Adopted June 20, 2008.

Fresno County Convention & Visitors Bureau. 2009. *Destination Fresno County: The Official 2009 Visitors Guide*. 2009.

Fresno County Planning Commission. 2000. *Fresno County General Plan, Policy Document.* Adopted October 3, 2000.

———. 2003. *Fresno County General Plan, Housing Element*. Adopted March 2003.

Fresno County Planning Department. 1983. *Kings River Regional Plan*. May 1983.

Fresno County Public Works and Planning Department. n.d. *Fresno County Bicycle Transportation Master Plan.* Forthcoming.

Fresno County Sheriff. 2008. "Organizational Assessment of the Fresno County Sheriffs Office." February 6, 2008. http://www.fresnosheriff.org/Index.htm (accessed March 25, 2010).

Fresno Department of Agriculture. 2008. *Agricultural Crop and Livestock Report*. 2008.

Fresno Yosemite International Airport. 1997 [1992]. *Airport and Environs Plan*. Adopted September 1992, amended June 1997.

Google. 2010. Various Google maps in the study area (accessed March 12, 2010).

Gorman, Lynn. 2010. Deputy Director of Planning, Fresno County. Telephone conversation with Sean Rudden, URS, March 18, 2010.

Great Valley Center. 2009. *The State of the Great Central Valley of California: Assessing the Region via Indicators: The Economy*. 3rd ed. October 2009.

Hanford Chamber of Commerce. 2009. "Community Economic Profile: Hanford, Kings County." Hanford, CA: Hanford Chamber of Commerce, 2009. http://www.hanfordchamber.com/demographics.html (accessed January 23, 2010).

Hanford Conference and Visitor's Agency. n.d. "Points of Interest." No date. http://www.visithanford.com/hfdvis23.html (accessed January 23, 2010).

Hayk. 2009. "Armenians in Fresno, CA." Found at Destinations/Fresno California. http://www.hayk.net/destinations/fresno-ca/ (accessed January 26, 2010).

Hodges and Shutt. 1994. *Kings County Airport Land Use Compatibility Plan*. 1994.

ICF Consulting. 2005. *County of Kern Community and Economic Development Department Economic Development Strategy*. Draft Final Report. 2005.

Integrated Asset Services. 2009. "IAS360 House Price Index." http://www.iasreo.com/ias360_update.html (accessed December 14, 2009).

Kern Council of Governments. 2001. *Kern County Bicycle Facilities Plan*. October 2001.

———. 2007a. *Final 2007 Destination 2030 Regional Transportation Plan*. 2007.

———. 2007b. *Kern Regional Housing Needs Assessment*. 2007.

———. 2008. *2009 Interim Federal Transportation Improvement Program*. Adopted November 17, 2008.

Kern County Board of Trade. n.d. Visit Kern website. No date. http://www.visitkern.com/index.php (accessed December 14, 2009).

Kern County Department of Agriculture and Measurement Standards. 2009. *2008 Kern County Agricultural Report*. June 30, 2009.

Kern County Fire Department. 2010. About KCFD/Department Profile. http://www.kerncountyfire.org/about.php (accessed March 25, 2010).

Kern County Planning Department. 1985. *Kern River Planning Element.* July 1985.

———. 2003a. *Kern River Specific Trails Plan.* September 9, 2003.

———. 2003b. *Mojave Specific Plan*. 2003.

———. 2007. *General Plan Kern County*. Adopted March 13, 2007.

———. 2008a. *Airport Land Use Compatibility Plan*. 2008.

———. 2008b. *County of Kern Housing Element*. Adopted December 9, 2008.

Kern County Sheriff's Office. n.d. "Our History." No date. http://www.kernsheriff.com/Pages/default.aspx (accessed March 24, 2010).

Kings County. 2004. *Kings County and Cities of Avenal, Corcoran, Hanford, and Lemoore 2003-2008 Housing Element.* Cotton Bridges Associates. February 6, 2004.

———. 2009. *Kings County and Cities of Avenal, Corcoran, Hanford, and Lemoore 2003–2008 Housing Element*. Revised draft. Prepared by Cotton Bridges Associates. 2009.

———. 2010. *Kings County Fire Department.* http://www.countyofkings.com/fire/index.htm (accessed March 23, 2010).

Kings County Association of Governments. 2005. *Kings County Regional Bicycle Plan*. 2005.

———. 2007. Executive Summary. In *Kings County Regional Transportation Plan.* 2007.

———. 2008. *Kings County Regional Housing Needs Allocation Plan*. 2008.

———. 2009. *Kings County Transit Development Plan*. 2009.

Kings County Board of Realtors. 2010. Market statistics obtained from Kings County Board of Realtors, January 21, 2010.

Kings County Economic Development Corporation and Job Training Office. 2009. *Comprehensive Economic Development Strategy, 2009*. August 2009.

Kings County Office of Education. 1997. "Tulare Lake." Created February 20, 1997. http://kingsnet.kings.k12.ca.us/kcoe/curric/history/places/tularelake/lake/index.html (accessed January 19, 2010).

Kings County Planning Commission, Community Development Agency. 2009. *County of Kings 2035 General Plan.* Draft. 2009.

Kings County Planning Department. 2007. Chapter 8, "Non-Motorized Vehicles." In *Regional Transportation Plan.* 2007.

Kinney, Chuck. 2010. Principal Planner, Kings County. Telephone conversation with Sean Rudden, URS, March 19, 2010.

LSA Associates, Inc. 2005. *City of Shafter General Plan.* Draft. April 2005.

Maynard, John, A. 1997. *Bakersfield: A Centennial Portrait.* Cherbo Publishing Group, 1997.

Mead & Hunt. 2010. *Hanford Municipal Airport Master Plan*. 2010.

MIG. 2007. *Bakersfield Recreation and Parks Master Plan, 2007*. 2007.

———. 2008. *Kern Regional Blueprint Program*. Prepared for the Kern Council of Governments. 2008.

Mullins, Luke. 2009. "The Home Front: 10 Counties Hit Hard in the Housing Bust." *U.S. News & World Report,* February 13, 2009.

National Institute of Building Sciences. 2003. *Earthquake Loss Estimation Methodology, HAZUS MH MR3 Technical Manual.* Prepared for the Department of Homeland Security Emergency Preparedness and Response Directorate, Federal Emergency Management Agency Mitigation Division, Washington, DC.

Nidever, Seth. 2009. "Kings County Unemployment Trends Upward." *Hanford Sentinel*, November 21, 2009.

Norris Design. 2009. *Hanford Parks, Recreation and Open Space Master Plan, Fall/Winter 2009*. http://www.ci.hanford.ca.us/civica/filebank/blobdload.asp?BlobID=4739 (accessed November 16, 2009).

North of the River Recreation and Park District. n.d. "NOR District Map." http://www.norfun.org/District_map_for_Printing-BW.pdf (accessed October 20, 2009).

Planning Center. *Mission Lakes Specific Plan*. 2005.

Quad Knopf. 2005. *Corcoran General Plan Update Background Report*. November 2005.

———. 2007. *Corcoran General Plan Policies Statement*. Adopted March 19, 2007.

Reese, David. 2010. Principal, Bakersfield High School. Email to Kristin Jacobsen, URS, January 29, 2010, regarding public use of recreational facilities at Bakersfield High School.

RMM Design Group. 2000. *Highway 99 Beautification Master Plan*. Prepared for the Council of Fresno County Governments, July 2000.

Roberts, Robin Michael. 2005. *Images of America: Hanford, California*. 2005.

Rodriquez, Christina. 2009. Union School District. Telephone conversation with Mary McClanahan, URS, November 6, 2009, regarding use of school recreational facilities by the public.

Sage Community Group, Inc., and General Plan Planning and Development Services. 2006. *Final Specific Plan Orchard Park*. July 2006.

Schmidt, Elizabeth. 2010. Secretary to the Director of MOT, Fruitvale School District. Email to Kristin Jacobsen, URS, February 2, 2010, regarding public use of district recreational facilities.

Scott, Danny. 2009. Free Will Baptist Church. Telephone conversation with Mary McClanahan, URS, November 6, 2009, regarding public access to playground at Bethany Christian School.

Shafter Historical Society. n.d. *Shafter Depot Museum* . Brochure. No date.

Smith, Peter. 2010. Senior Planner, Kern Council of Governments. Telephone conversation with Sean Rudden, URS, March 19, 2010.

Sweeny, Jake. 2010. Community Development Director, City of Shafter. Telephone conversation with Mara Feeney, URS, February 3, 2010.

Tulare County. 2009. *Recommended Budget 2009–2010*. Adopted September 15, 2009.

Tulare County Agricultural Commissioner/Sealer. 2009. *2008 Tulare County Annual Crop and Livestock Report*. April 2009.

Tulare County Association of Governments. 2007. *Tulare County Regional Bicycle Transportation Plan*. 2007.

Tulare County Planning Department. 2007. *Tulare County General Plan.* Draft. December 2007.

Tulare County Resource Management Agency. 2010a. *Tulare County Housing Element, 2009 Update*. March 2010.

———. 2010b. *Tulare County Revised Draft General Plan 2030 Update*. Adopted February 2010.

Umbach, Kenneth W. 2002. *San Joaquin Valley Selected Statistics on Population, Economy, and Environment*. California Research Bureau CRB-02-010. Sacramento, May 2002.

University of California Agriculture and Natural Resources. 2010. *ANR Shafter Research and Extension Center*. Last updated April 21, 2010. http://groups.ucanr.org/shafter/ (accessed March 2010).

Urban Futures Incorporated. 2009. *Five-Year Implementation Plan, 2010 through 2014, for the Wasco Redevelopment Project.* 2009.

URS (URS Corporation) et al. 2006. *Fresno Public Transportation Infrastructure Study, Final Executive Summary Report.* Prepared for the Council of Fresno County Governments. May 2006.

U.S. Census Bureau. 2000a. (SF-1) DP-1, Profile of General Demographic Characteristics. 2000.

———. 2000b. (SF-3) DP-2, Profile of Selected Social Characteristics. 2000.

———. 2000c. (SF-3) DP-3, Profile of Selected Economic Characteristics. 2000.

———. 2000d. (SF-3) DP-4, Profile of Selected Housing Characteristics. 2000.

———. 2000e. (SF-1) P4, Hispanic or Latino, and Not Hispanic or Latino by Race (Total Population). 2000.

———. 2000f. (SF-1) P20, Households Language by Linguistic Isolation. 2000.

———. 2000g. (SF-3) P88 Ratio of Income in 1999 to Poverty. 2000.

———. 2000h. (SF-3) H19 Household Type (Including Living Alone) By Age of Householder. 2000.

———. 2000i. H7.

———. 2001. *Emergency and Transitional Shelter Population: 2000.* Census 2000 Special Reports, CENSR/01-2. October 2001. http://www.census.gov/prod/2001pubs/censr01-2.pdf.

———. 2009. *Income, Poverty, and Health Insurance Coverage in the United States: 2008*. Issued September 2009. http://www.census.gov/prod/2009pubs/p60-236.pdf.

U.S. Census Bureau, American Community Survey. 2005–2007. Summary Table, Selected Social Characteristics. 2005-2007.

———. 2006-2008a. B03002 “Hispanic or Latino Origin by Race”. 2006-2008.

———. 2006-2008b. B11001 “Household Type (Including Living Along)”. 2006-2008.

———. 2006-2008c. B16002 “Household Language by Linguistic Isolation”. 2006-2008.

———. 2006-2008d. B17002 “Ratio of Income to Poverty Level in the Past 12 Months”. 2006-2008.

———. 2006–2008e. Summary Table, Selected Demographic and Housing Estimates. 2006-2008.

———. 2006–2008f. Summary Table, Selected Economic Characteristics. 2006-2008.

———. 2006–2008g. Summary Table, Selected Housing Characteristics. 2006-2008.

———. 2006-2008h. Summary Table, Selected Social Characteristics. 2006-2008.

———. 2007. Summary Table, Selected Social Characteristics. 2007.

———. 2008a. B03002 “Hispanic or Latino Origin by Race”. 2008.

———. 2008b. B11001 “Household Type (Including Living Along)”. 2008.

———. 2008c. B16002 “Household Language by Linguistic Isolation”. 2008.

———. 2008d. B17002 “Ratio of Income to Poverty Level in the Past 12 Months”. 2008.

———. 2008e. Summary Table, Selected Demographic and Housing Estimates. 2008.

———. 2008f. Summary Table, Selected Economic Characteristics. 2008.

———. 2008g. Summary Table, Selected Housing Characteristics. 2008.

———. 2008h. Summary Table, Selected Social Characteristics. 2008.

U.S. Geological Survey (USGS). 1992. "Geographic Names Information System (GNIS) Files." Department of the Interior, U.S. Geological Survey, National Mapping Division, Branch of Geographic Names, National Archives and Records Administration, hdl:1902.5/630217, 1992.

Wasco Union High School District. 2004. *Facilities Needs Assessment, 2004*. Prepared by SCArchitects. 2004.

Waters, Jason. 2010. Regional Planner, Tulare Council of Governments. Telephone conversation with Sean Rudden, URS, March 19, 2010.

Wilbur Smith Associates, et al. 2007. *City of Fresno Downtown Transportation and Infrastructure Study*. Prepared for the City of Fresno. October 2007.

Willdan Engineering. 2009. *Wasco Housing Element Update*. Adopted July 21, 2009.

# Appendix C
## Impacts to Agriculture Production

## Table of Contents

**Appendix C Impacts to Agricultural Production ..... C-1**
C.1 Methodology ..... C-1
C.1.1 Estimating the Value and Acreages of Crops ..... C-2
C.1.2 Estimating the Value of Dairy and Livestock Operations ..... C-7
C.1.3 Crop and Livestock Production Acreage Displaced and Not Relocated . C-8
C.1.4 Agricultural Displacement and Job Loss ..... C-23
C.1.5 Maximum vs. Minimum Values for Acreage ..... C-24
C.2 Results ..... C-24
C.3 References ..... C-39

### Tables

**Table C-1** Prices and Jobs per Acre ..... C-4
**Table C-2** Key Agricultural Farmland Loss Assumptions ..... C-22
**Table C-3** Fresno County: BNSF Alternative ..... C-27
**Table C-4** Kings County: BNSF Alternative ..... C-28
**Table C-5** Kings County: Total Change and Change Relative to BNSF Alternative for Corcoran Bypass Alternative ..... C-29
**Table C-6** Tulare County: BNSF Alternative ..... C-31
**Table C-7** Tulare County: Total Change and Change Relative to BNSF Alternative for Corcoran Bypass Alternative
**Table C-8** Tulare County: Total Change and Change Relative to BNSF Alternative for Allensworth Bypass Alternative ..... C-33
**Table C-9** Kern County: BNSF Alternative ..... C-34
**Table C-10** Kern County: Total Change and Change Relative to BNSF Alternative for Allensworth Bypass and Wasco-Shafter Bypass Alternatives ..... C-36

### Figures

**Figure C-1** Index Map and Map 1: Agriculture & Livestock within 500 feet of Alignment ..... C-10
**Figure C-2** Map 2a and 2b: Agriculture & Livestock within 500 feet of Alignment ..... C-11
**Figure C-3** Map 3a and 3b: Agriculture & Livestock within 500 feet of Alignment ..... C-12
**Figure C-4** Map 4a and 4b: Agriculture & Livestock within 500 feet of Alignment ..... C-13
**Figure C-5** Map 5a and 5b: Agriculture & Livestock within 500 feet of Alignment ..... C-14
**Figure C-6** Map 6a and 6b: Agriculture & Livestock within 500 feet of Alignment ..... C-15
**Figure C-7** Map 7a and 7b: Agriculture & Livestock within 500 feet of Alignment ..... C-16
**Figure C-8** Map 8a and 8b: Agriculture & Livestock within 500 feet of Alignment ..... C-17
**Figure C-9** Map 9a and 9b: Agriculture & Livestock within 500 feet of Alignment ..... C-18
**Figure C-10** Map 10a and 10b: Agriculture & Livestock within 500 feet of Alignment ..... C-19
**Figure C-11** Map 11a and 11b: Agriculture & Livestock within 500 feet of Alignment ..... C-20
**Figure C-12** Map 12a and 12b: Agriculture & Livestock within 500 feet of Alignment ..... C-21

*This page intentionally left blank*

## Acronyms and Abbreviations

| | |
|---|---|
| CASS | California Agricultural Statistical Service |
| CDFA | California Department of Food and Agriculture |
| EDD | Employment Development Department |
| FMMP | Farmland Mapping and Monitoring Program |

*This page intentionally left blank*

# Appendix C Impacts to Agricultural Production

The Central Valley of California is one of the most productive agricultural areas in the world. In 2007, four of the counties in the region (the four discussed in this technical report) ranked first (Fresno), second (Tulare), third (Kern), and eighth (Kings) in agricultural revenues generated in California (California Department of Food and Agriculture 2009a, 2009b). The Fresno to Bakersfield Section of the California High-Speed Train System (project) will displace farmland and the associated crop and animal agriculture on that farmland. The agricultural revenue generated on 1 acre of farmland is a function of many factors. Two key factors are the quality of the farmland and the type of crop raised or type of animal operation on the particular parcel. This analysis examines these two factors and estimates the amount of agricultural revenue and the number of agricultural jobs that will potentially be lost as a result of the displacement of agricultural production by the project.

The project will have moderate short-term impacts on the agricultural and livestock production in the four-county region. The tables in this appendix present the impacts by county and by alternative and provide totals in terms of land loss, job loss, and annual revenue loss in both dollar and percent terms.

## C.1 Methodology

This analysis examines both the croplands and the animal operations along the project alignment. The estimated loss of revenue and jobs from crops is determined by the quality of the land (prime or non-prime farmland) and the value of the type of crop produced within the potential impact area of the project. This potential impact area is defined as all land within a 500-foot radius of the centerline of the alignment of each alternative. This potential impact area was used to capture all possible impacts on agricultural operations associated with the project. Specifically, this impact area captures the land within 50 feet of the centerline that would be directly affected by the project right-of-way (i.e., displaced by the project footprint) and the land from 50 feet to 500 feet of the centerline that could be indirectly affected by the operation of the project (e.g., from disruption to agricultural activities such as pollination, pesticide application, and dust control) and directly affected by any part of the project footprint that extends beyond the track bed.

A different methodology was required to calculate the loss of revenues and jobs from livestock facilities; each livestock operation was individually examined to determine how the project environmental footprint would affect it. Loss of a large percentage of the land and/or facility would be sufficient to result in the complete loss of the operation, along with the revenue and jobs associated with it. In addition, given the number of facilities affected in Kings County, specifically dairies, an additional examination was conducted to identify off-site croplands that are used for nutrient distribution – the application of manure to surrounding crop lands. Loss of these off-site acres could lead to short-term disruption to diaries in the county and such any dollar value effect should be included in this analysis.

The description of the methodologies below is laid out as follows. First, the estimates of the values of crops and animal operations are presented. Second, the estimation of the number of agricultural acres lost as a result of the project is discussed. It is important to note that the economic losses estimated here represent the value of the agriculture displaced by the project and subsequently not relocated within the same county. Agriculture displaced but relocated within the same county is not assumed to have an economic impact, because the counties retain this production. The acreage displaced and not relocated is the measure of the economic loss. Therefore, when considering relocation, impacts to prime farmland are identified as especially important, given the difficulty of relocating prime farmland production.

## C.1.1 Estimating the Value and Acreages of Crops

### A. VALUE

Crop type is one of the most influential determinants for annual agricultural revenue generated on an acre of land. For example, an acre of alfalfa generates less than $2,000 per year, whereas an acre of ornamental roses grown for sale generates more than $30,000 annually. The average production value is also dependent on crop location, because annual values differ across counties. For example, 1 acre of alfalfa in Kern County generates $1,596 per year, but a corresponding acre in Kings County generates $1,164 (Kern County 2008; Kings County 2009).

Values for all crops were calculated by dividing the total dollar value generated for each crop in a county by the number of acres farmed in the county. The data on value and acreage were obtained from the annual county crop reports published by the counties (Fresno County 2009; Kings County 2009; Tulare County 2009; Kern County 2009). The analysis used an average for the years 2007 and 2008 to provide a higher degree of certainty and to capture any short-term fluctuations in recent prices.

In some cases, the crop reports did not provide a dollar value and acres for specific crops but instead aggregated crops together when a county determined that their values did not warrant individual mention. In these cases, rather than using the aggregated values, the analysis used average prices for specific crops available from the other counties in the study area and the California average, which is calculated from information given by the California Department of Food and Agriculture (California Department of Food and Agriculture 2009a, 2009b). As the California Department of Food and Agriculture (CDFA) report did not provide information for 2008, the analysis instead used the mean of values for the years 2006 and 2007, again to capture any annual fluctuations in recent prices. For example, Fresno County did not provide sufficient data to determine the crop value per acre for blueberries (Fresno County 2009). However, values were available from analyzing the California and Tulare County agriculture reports (California Department of Food and Agriculture 2009a, 2009b; Tulare County 2009). These two values were averaged to give an estimated value for Fresno County.

In the few cases where none of the reports had sufficient data on value for a specific crop, the mean price for the aggregated crop was used. Specifically, the project intersected land in Kern County containing several different types of vegetable seed crops. However, none of the county reports or the state report provided individual values for any of the types of vegetable seed crops; instead, these crops were all aggregated. In this case, the analysis lumped all of the vegetable seed crops together and used the value supplied by the county as an average for all of the vegetable seed crops.

Dairy production in Kings County is an important consideration in this analysis. In order to obtain a value for dairy production per acre of land, two different methodologies were used. This allowed for a check in consistency between results. The first method utilized the annual dollar value of production generated by the milk and manure sector in the Tulare County. Tulare County was used in this analysis to represent the region as it was the only county to provide complete total acreage data for dairy facilities. The total acreage for diary facilities in the county was then divided by the total value generated, which yielded an estimate of $39,544 per acre. The second method utilized the number of cows and the total quantity of milk produced in the four county region. Total milk production per cow was assumed to average 7.5 gallons per day. Using these values along with the price of milk, a dollar value of production per cow was obtained. It was assumed that the typical operation could support 10 cows per acre of land (including both the acreage of the facility and the necessary surround croplands for nutrient

distribution).[43] Multiplying the dollar value per cow times cows per acre yielded a value of $39,057. This value was similar to the value obtained using the other method above and was used in the analysis (as presented in Table C-1).

The results of this analysis were a value for agricultural production per acre by county by crop. The estimated values per acre for each county are shown in Table C-1.

[43] It is difficult to determine the number of cows supported by each acre of dairy production. The number of different scales of operations and types of manure management plans leads to a wide variation of estimates. The 10 cows per acre value was decided on as a reasonable value for the typical operation.

**Table C-1**
Prices and Jobs per Acre

| Fresno County | | | Kings County | | | Tulare County | | | Kern County | | | Crop Type | Job/ 1000 Acre |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Crop Type** | **$/acre** | | **Crop Type** | **$/acre** | | **Crop Type** | **$/acre** | | **Crop Type** | **$/acre** | | **Oilseed and Grain** | **9** |
| Alfalfa | $1,372 | | Alfalfa | $1,164 | | Deciduous nut tree | $4,111 | | Alfalfa | $1,596 | | Vegetable and melon | 44 |
| Almond | $4,650 | | Almond | $2,927 | | Dry pasture | $15 | | Almond | $3,385 | | Berry crop | 1,105 |
| Blueberry* | $21,660 | | Cherry* | $11,188 | | Field/row crop | $1,156 | | Barley grain | $397 | | Grape | 69 |
| Corn fodder | $1,110 | | Corn fodder | $1,094 | | Vineyard | $6,989 | | Bean, dry | $1,143 | | Tree nut | 20 |
| Grape, table | $3,439 | | Corn grain | $874 | | Wet pasture | $158 | | Carrot* | $6,667 | | Citrus fruit | 31 |
| Grape, raisin | $2,939 | | Cotton | $1,711 | | Unknown ag land | $1,849 | | Cherry | $7,847 | | Deciduous fruit tree | 110 |
| Grape, wine | $3,656 | | Grazing land | $13 | | Dairy | $39,047 | | Corn fodder* | $1,017 | | Ornamental nursery | 1,105 |
| Nectarine | $8,464 | | Grape | $3,496 | | Feedlot | $45,389 | | Corn grain* | $907 | | Cotton | 19 |
| Peach | $9,734 | | Nectarine | $8,174 | | Other acreage | $0 | | Cotton | $1,876 | | Other field crop | 4 |
| Plum | $7,520 | | Oat fodder | $464 | | | | | Garlic | $7,608 | | Beef cattle (e.g., feedlot) | 221 |
| Prune | $4,042 | | Oat grain* | $353 | | | | | Grape, table | $7,798 | | Dairy farm | 171 |
| Squash | $4,683 | | Peach | $8,285 | | | | | Grape, raisin | $2,348 | | Unknown ag land | 49 |
| Walnut | $2,796 | | Pistachio | $13,728 | | | | | Grape, wine | $3,265 | | | |
| Wheat fodder | $629 | | Plum | $6,812 | | | | | Grazing land | $5 | | | |
| Unknown ag land | $2,002 | | Rye grain** | $679 | | | | | Lettuce, head | $5,237 | | | |
| Dairy | $39,047 | | Tomato processing | $3,015 | | | | | Onion, dry | $3,246 | | | |
| Other acreage | $0 | | Walnut | $3,611 | | | | | Oat grain* | $353 | | | |
| | | | Wheat fodder | $589 | | | | | Ornamental–rose | $30,488 | | | |
| | | | Unknown ag land | $2,699 | | | | | Ornamental–shrub | $29,147 | | | |
| | | | Dairy | $39,047 | | | | | Pistachio | $4,814 | | | |
| | | | Other acreage | $0 | | | | | Potato | $4,712 | | | |
| | | | | | | | | | Strawberry* | $35,605 | | | |
| | | | | | | | | | Sudan grass* | $405 | | | |
| | | | | | | | | | Tomato, processing* | $2,892 | | | |

**Table C-1**
Prices and Jobs per Acre

| Fresno County | | | Kings County | | | Tulare County | | | Kern County | | | Crop Type | Job/ 1000 Acre |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Crop Type** | **$/acre** | | **Crop Type** | **$/acre** | | **Crop Type** | **$/acre** | | **Crop Type** | **$/acre** | | **Oilseed and Grain** | **9** |
| | | | | | | | | | Vegetable seed** | $3,419 | | | |
| | | | | | | | | | Watermelon | $4,513 | | | |
| | | | | | | | | | Wheat grain | $654 | | | |
| | | | | | | | | | Unknown ag land | $1,446 | | | |
| | | | | | | | | | Other acreage | $0 | | | |

Sources:
[a] URS Corp analysis of data from the following sources, unless starred indicated with an asterisk (*): Fresno County 2009; Kings County 2009; Tulare County 2009; Kern County 2009.
[b] Job data from California Employment Development Department 2008; California Department of Food and Agriculture 2009b; Dahlberg 2010.
Note: Crops with an asterisk (*) did not have a specific dollar per acre value listed in the respective county's *2008 County Agricultural Report*. Instead, the value shown is an average taken of values from any of the other three counties and California Department of Food and Agriculture 2009b. If no specific values were available in any of the counties, the average value for the miscellaneous crop type for that specific county was used. These crops were marked with **.

## B. ACREAGES

In addition to estimating the value of crops, it was necessary to obtain totals of acreages in the potential impact area of the project. Agricultural land use data providing acreages of the crops grown in the potential impact area were collected from the four counties in the study area (Fresno County 2010; Kings County 2010; Tulare County 2010; Kern County 2008). Although some counties provided these acreages for detailed crop types, other counties (specifically Tulare) provided acreages only for aggregated crop types. Therefore, the crop types examined for each county differ and some have more generalized names (e.g., acres of deciduous nut trees as opposed to distinguishing between acres of almond and acres of walnut trees). In the cases of more aggregated acreages, the dollar value used was calculated from a weighted average of acreage in the county for the specific crops that are included in the aggregated crop type (e.g., the dollar value per acre for deciduous nut trees consisted of a weighted average of the dollar values per acre for almond, pecan, pistachio, and walnut trees).

Representatives from two of the counties (Fresno and Kings) stated that their acreage data were sometimes incomplete and might not include some operating farmland. In these cases, it was impossible to differentiate agricultural land from other uses (Lee 2010; Schrumpf 2010). Also, the county data included acreage identified as currently fallow (and therefore generating no current revenues). Both of these factors would lead the analysis to miss agricultural land of value and therefore to underestimate the potential agricultural revenues generated on these lands. Therefore, to remedy this potential underestimate, these acreages were cross-referenced with data from a broader agricultural acreage data set from the Farmland Mapping and Monitoring Program (FMMP) of the California State Department of Conservation (California State Department of Conservation 2009). If acreage was identified by the FMMP as farmland but did not have a crop designation as defined by the specific county, it was included in this analysis as “unknown ag land” and given a value. The dollar value had to be estimated for these newly identified, fallow agricultural acres. To obtain this estimated value, a weighted average for all cropland in the county was used, thereby capturing a value of the potential agricultural use of this land.

Contrary to the situation where the county data were missing some agricultural lands, in some cases the county data showed a crop designation for land that the FMMP data did not designate as farmland. In these cases, the land was identified as non-prime farmland with the specified crop type to avoid underestimating revenues. Where conflicting data sources led to uncertainty as to whether a particular parcel was farmland, the analysis was conservative and assumed an agricultural use to avoid underestimating revenues.

Another agricultural use considered in this analysis was “grazing land.” Grazing land was identified by the FMMP as “land on which the existing vegetation is suited to the grazing of livestock” (California State Department of Conservation 2007). The value for this land was estimated from information found in the various 2008 Agricultural Crop Reports (Fresno County 2009; Tulare County 2009; Kern County 2009).

The acreage data sets from the counties were again compared with the FMMP data set, and any land that did not have a crop designation and that was not defined as farmland (prime, unique, and so on) was classified for the purpose of this analysis as “other land,” which is valued at $0 per acre for agricultural purposes. Land assumed to be unused for agriculture included the following land types, which were provided by FMMP (California State Department of Conservation 2007):

- Native vegetation.
- Rural residential land.
- Semi-agricultural and rural commercial land.

- Urban and built-up land.
- Vacant or disturbed land.

### C.1.2 Estimating the Value of Dairy and Livestock Operations

Estimating the average annual revenue for an acre of dairy farm, feedlot, and livestock operations required additional effort, because the county agricultural commissioners and the CDFA do not provide values per acre for these operations. As a result, it was necessary to estimate the number of animals per acre and then apply a value per animal.

Dairy operations in Kings County were a specific consideration in this analysis. Discussions with a farm advisor at the University of California Cooperative Extension found that many dairies in California purchase feed, so the limitation on the number of cows per dairy depended more on manure management and buffer zone requirements (Collar 2010). A dairy adjuster (Higginbotham 2010) suggested by the University of California Cooperative Extension stated the standard rule of thumb is five head of cattle per acre for both a dairy farm and a feedlot; however, he noted that this value is very conservative and a larger number is possible with sufficient nutrient distribution management (Edwards 2010). Cow manure can be used as a fertilizer, and dairy (and other livestock) owners generally apply as much manure as they can to their own land to capture the full value. The remaining manure is moved off-site to other farmers for their use. Dairy farmers use their cropland to produce feed for the livestock and as a buffer. The average dairy in Tulare County has 10.3 cows per acre (Tulare County 2010; California Department of Food and Agriculture 2009a and 2009b). Data obtained from Kings County suggested that there are 38.6 cows per acre (considering only facility acreage) and 3.2 cows per acre (including on and off-site nutrient distribution cropland) (Vanderburgh 2010). Given these examples and the great variability in this number from operation to operation, this analysis assumed 10.3 cows per acre as it falls in the range suggested by these examples and also results in a value per acre of production similar to that resulting from an examination of the milk and manure sector in Tulare County (as described above).

An average cow in the region produces about 22,000 pounds of milk per year, so an acre of dairy farm that contains 10.3 cows per acre generates almost 227,000 pounds of milk annually (California Department of Food and Agriculture 2009a, 2009b). Milk prices have fluctuated in recent times, with a weighted average for the four counties of $0.17 per pound for the years 2007 and 2008 (Fresno County 2009; Tulare County 2009; Kern County 2009). Using this estimate, the annual revenue for dairy farms from milk and milk products is estimated at $39,047 per acre. This amount does not include revenue incurred from calves and the sale of dairy cows, which were not considered in this analysis. This estimated value was compared with values reported by others. One local professional dairy appraiser stated that the value can vary widely and gave a low value of about $5,000 per acre, and a representative for the Iowa Area Development Group—a group examining operations of a similar size to those in California—quoted a value greater than $150,000 per acre (Crumb 2010; Edwards 2010). These estimates suggest that our estimated value of $39,047 per acre is a good intermediate estimate of value.

An analysis of feedlots found 49.4 head of cattle are slaughtered annually per acre in Tulare County (Tulare County 2010; California Department of Food and Agriculture 2009a, 2009b). The average price of beef is $919 per head, so annual revenue per acre of feedlot is assumed to be $45,389. No data were provided for livestock land, so the feedlot acreage value was used. When all production and acreage directly assigned to different types of livestock was summed for Tulare County and analyzed, the average annual production value was $46,702 (Tulare County 2009, 2010). These values are close, so this analysis used $45,389 of revenue production per acre.

### C.1.3 Crop and Livestock Production Acreage Displaced and Not Relocated

Agricultural land type is another key component in estimating total agricultural loss due to displaced farmland. Some agricultural production is harder to relocate inside the region because it is very productive land that is less available than other types of land.

The FMMP categorizes farmland based on its potential productivity. Prime farmland is defined by the FMMP as "farmland with the best combination of physical and chemical features able to sustain long term agricultural production." Non-prime farmland is not considered as desirable as prime farmland; non-prime farmland includes the FMMP categories of "unique farmland," "farmland of statewide importance," and "farmland of local importance (California State Department of Conservation 2007)." Non-prime farmland is still important, but it is not as productive and is more easily replaced than prime farmland. Grazing land is assumed to be non-prime farmland for the purpose of designating the percent lost and not relocated. Definitions for grazing land and other land have been described in the preceding sections.

Prime farmland data from the FMMP was combined with crop type data provided by each county to create tables of data that identify the agricultural land within the potential impact area (California State Department of Conservation 2007; Fresno County 2010; Kings County 2010; Tulare County 2010; Kern County 2009). As an example, the number of acres of alfalfa within 500 feet of the centerline for Fresno County was identified and further differentiated into prime and non-prime acres. The data were streamlined for presentation to include only crop types having at least 1 acre of aggregated displaced land along the entire project, as less than 1 acre in total for the entire region was considered insignificant. Although these crops with less than 1 acre are not presented, they are still included in the results (total acres displaced, total acres lost, total estimated revenue lost, and jobs lost). The different crop types and livestock operations within the potential impact area are shown in Figures C-1 through C-12 with prime and non-prime designations. There are too many specific crop types to show in the figures; instead, the generalized name is used (e.g., tree nut acres include land with almond, pistachio, walnut, or other nut production). These generalized names were originally provided by the California Employment Development Department (California Employment Development Department 2008).[44]

The project would affect agricultural production in different ways, depending on both the type of land and its location with reference to the project. Two key assumptions were made in conducting the impact analysis, as described below.

All (100%) of the agricultural production within 50 feet of the project centerline was assumed to be displaced. The project footprint, which includes the track bed, will completely remove any agricultural production within this area. Also, 24.4% of agricultural production in the 50- to 500-foot buffer zone is assumed to be displaced. This 24.4% of agricultural production is meant to approximate two factors: (1) the footprint of the project when it extends outside the track bed and requires additional land for maintenance facilities, road crossings, and other construction areas, and (2) losses in agricultural yields within this buffer zone due to project-related impacts on pollination, pesticide application, and dust (Waterhouse et al. 2010).

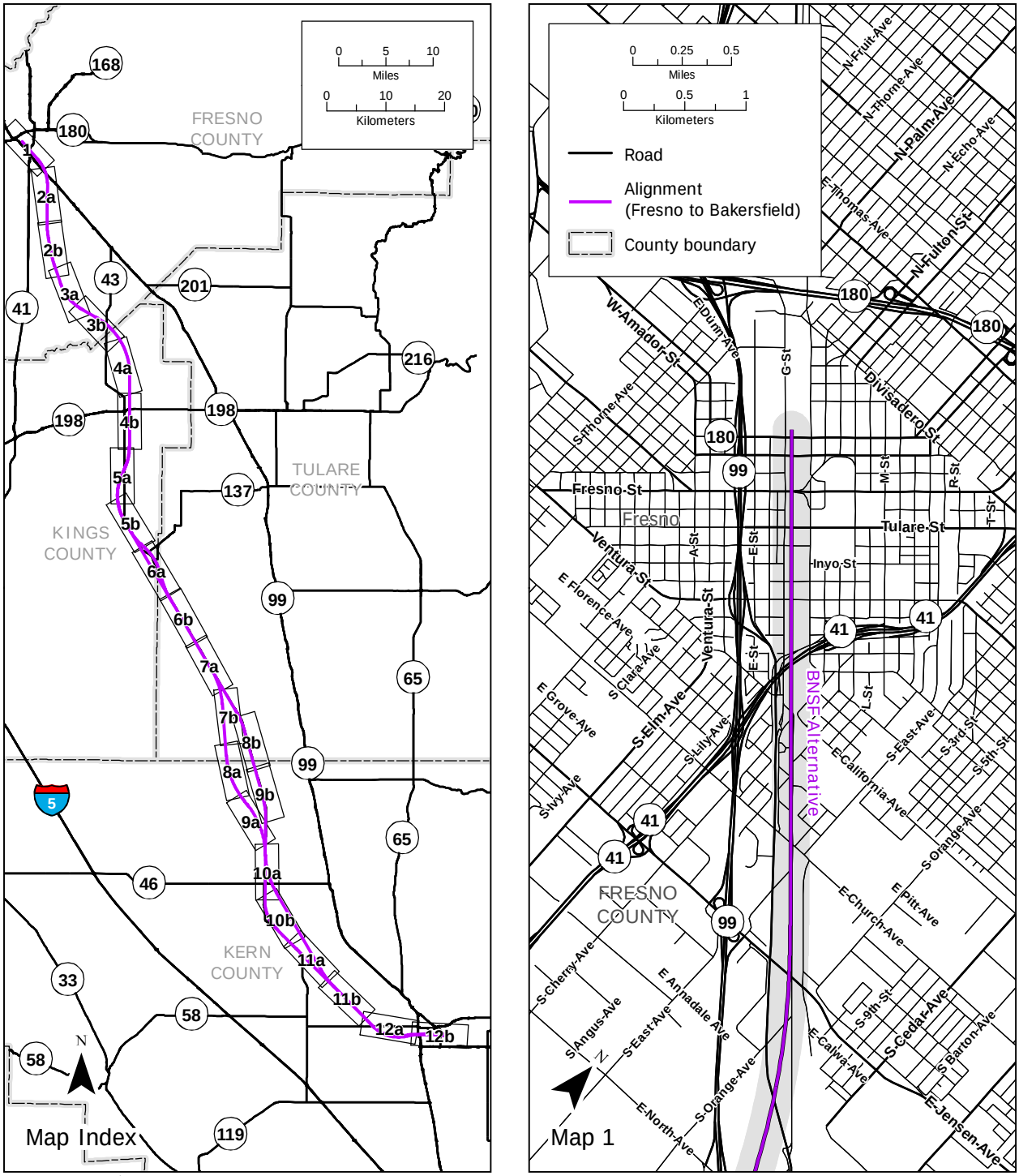
[44] Figures C-1 through C-12 provide a brief overview of the various types of agricultural production potentially affected by the project within the 500-foot analysis buffer. Livestock operations lying within this buffer are shown; two additional livestock facilities that are outside of this 500-foot buffer but are minimally impacted (total impact of less than 2 acres) are not shown. Although they are not included in the figures, these acres have been accounted for in the analysis. In addition, three livestock parcels are identified inside of the 500-foot analysis buffer; however, because these parcels do have significant facilities or land inside of the environmental footprint of the project, they have zero impact in the analysis.

The additional land acquisition required for ancillary facilities is assumed to be 10% of the total agricultural acreage between 50 feet and 500 feet, based on current analysis of the project footprint, including all alignment alternatives, station alternatives, and heavy maintenance facility site alternatives. The reduced yield in the buffer zone is assumed to be 14.4%, based on an estimated 1% reduction in yield associated with impacts to pollination from wind, vibration, and concussion impacts of the project on bee hives; an additional 10% reduction in yield due to impacts from the fact that the project would make land and aerial pesticide application more difficult; and a 5% reduction in yields associated with increased dust, which can create a more hospitable environment for mites and reduce photosynthesis, both of which can reduce crop yield.[45]

The impact of the project on pollination was determined using research (Dibble 2010), which states that bees would be affected if the mean wind speed was increased to above 15 to 20 miles an hour. However, given the buffer zone alongside the track bed that is included in the 50-foot right-of-way, wind speed should not reach this sustained speed, so there should be little or no impact (Dibble 2010). This analysis uses a 1% yield reduction to be conservative. Given the recent drop in crop values in this region, impacts from the train that could further reduce agricultural production value are important to consider (Rodriguez 2010). A cursory search of the literature found little discussion on how the increase in dust and decrease in pesticide application might affect crop yield. However, farmer concerns suggest there could be an impact, so conservative yield impact values were set at 10% and 5% for reduction in pesticide use and dust increase, respectively (Waterhouse et al. 2010).

All (100%) of the prime farmland displaced by the project will not be able to be relocated and is therefore lost to the four counties. This assumption reflects the high productivity of the land and the limited prime farmland acreage available in the four-county region. Also, 50% of all non-prime farmland that is displaced is assumed lost to the four counties. This lower loss value reflects the higher probability that the lower production of non-prime farmland can be relocated inside the counties.

[45] These reductions in yields are applied to the 90% of the acreage remaining after accounting for the project footprint. The calculation is as follows: pollination (1% × 90%) + pesticide application (10% × 90%) + dust (5% × 90%) = 14.4% of the total acreage.




PRELIMINARY DRAFT/SUBJECT TO CHANGE - HST ALIGNMENT IS NOT DETERMINED

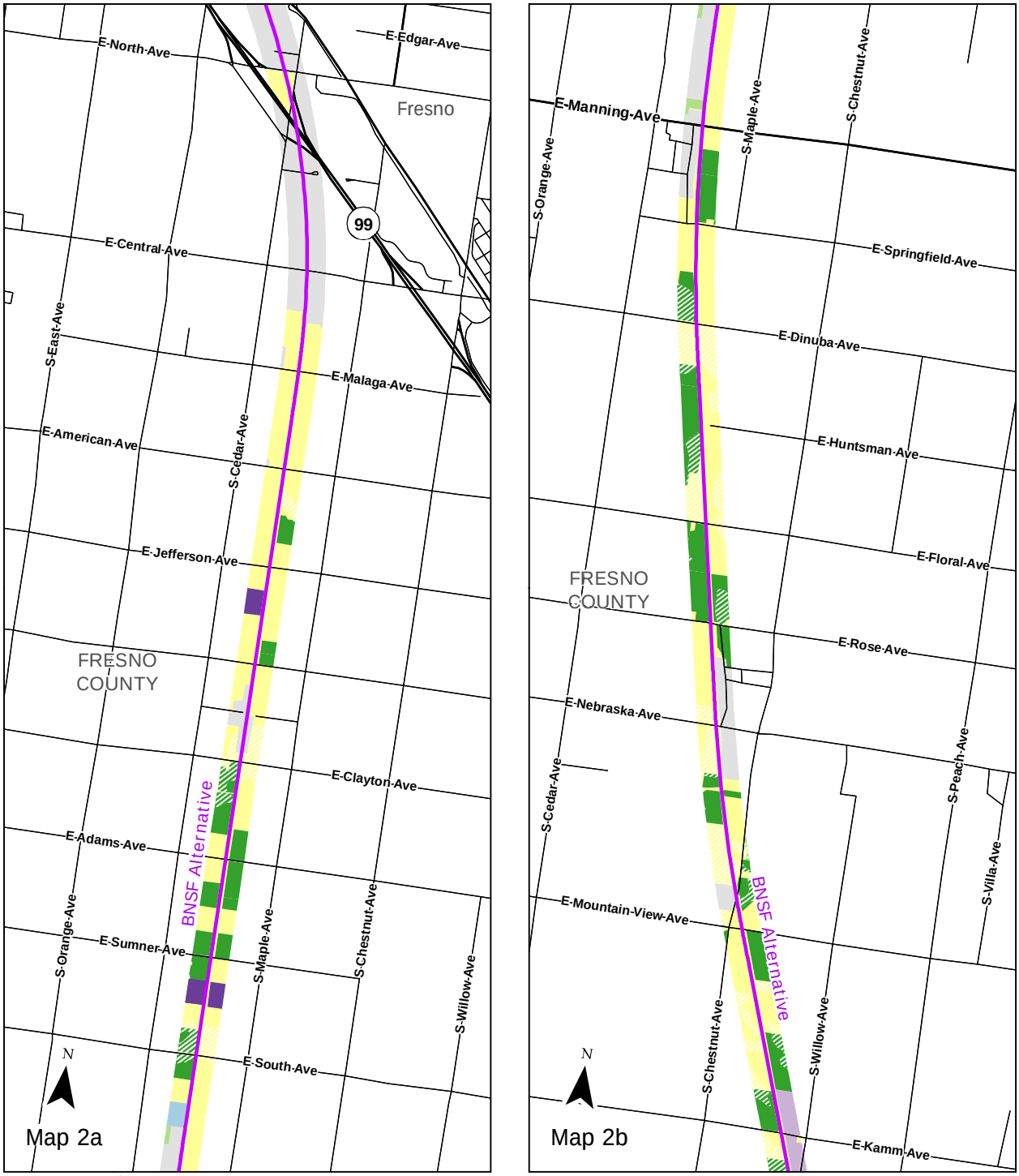
Source: URS, 2011; Grazing Land is evaluated in a similar method as the Non-Prime Farmland. Methodology used for Grazing Land and Livestock are explained further in the text.

April 18, 2011

Other Land
Berry Crop
Cotton
Deciduous Fruit Tree
Grape
Grazing Land
Livestock
Oilseed and Grain
Ornamental Nursery
Other Field Crop
Tree Nut
Unknown Ag Land
Vegetable and Melon

*Solid color indicates Prime Farmland or Livestock, Hatched color indicates Non-Prime Farmland.

Figure C-1
Index Map & Map 1
Agriculture & Livestock within 500 feet of Alignment




PRELIMINARY DRAFT/SUBJECT TO CHANGE - HST ALIGNMENT IS NOT DETERMINED

April 18, 2011

Source: URS, 2011; Grazing Land is evaluated in a similar method as the Non-Prime Farmland. Methodology used for Grazing Land and Livestock are explained further in the text.

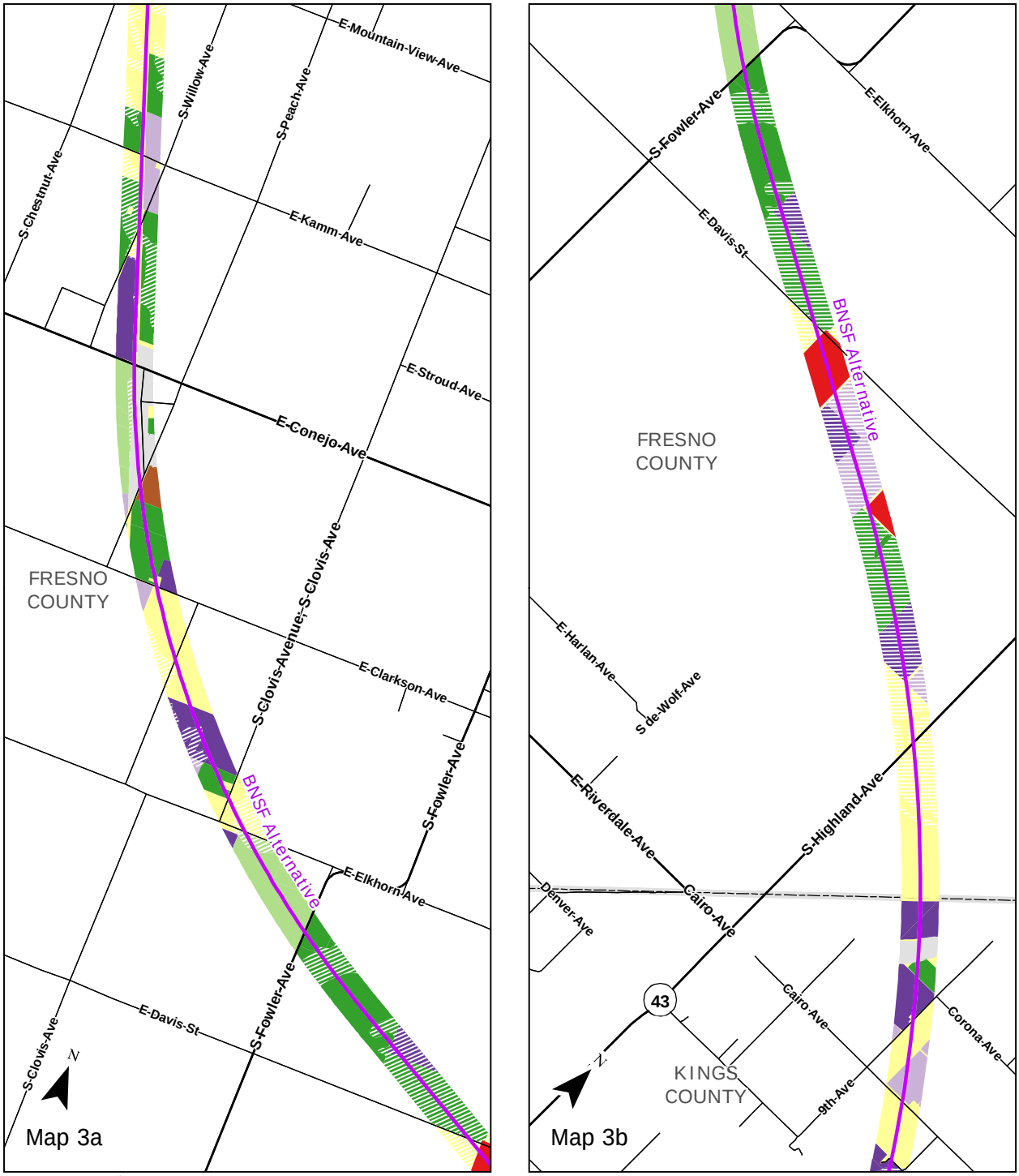
- Other Land
- Berry Crop
- Cotton
- Deciduous Fruit Tree
- Grape
- Grazing Land
- Livestock
- Oilseed and Grain
- Ornamental Nursery
- Other Field Crop
- Tree Nut
- Unknown Ag Land
- Vegetable and Melon

*Solid color indicates Prime Farmland or Livestock, Hatched color indicates Non-Prime Farmland.

0 0.25 0.5
Miles

0 0.5 1
Kilometers

Figure C-2
Map 2a & 2b
Agriculture & Livestock within 500 feet of Alignment




PRELIMINARY DRAFT/SUBJECT TO CHANGE - HST ALIGNMENT IS NOT DETERMINED

April 18, 2011

Source: URS, 2011; Grazing Land is evaluated in a similar method as the Non-Prime Farmland. Methodology used for Grazing Land and Livestock are explained further in the text.

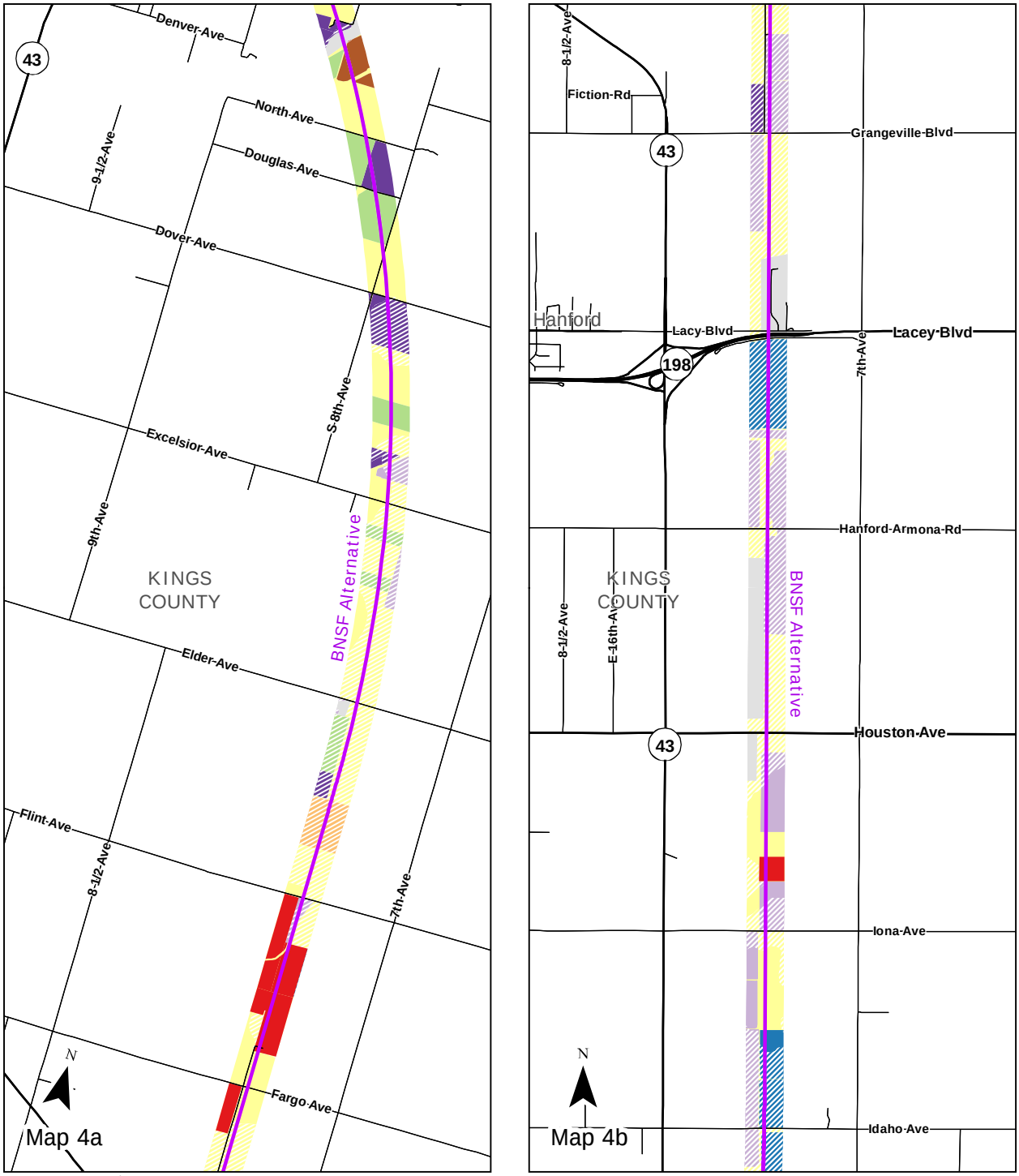
- Other Land
- Berry Crop
- Cotton
- Deciduous Fruit Tree
- Grape
- Grazing Land
- Livestock
- Oilseed and Grain
- Ornamental Nursery
- Other Field Crop
- Tree Nut
- Unknown Ag Land
- Vegetable and Melon

*Solid color indicates Prime Farmland or Livestock, Hatched color indicates Non-Prime Farmland.

0 0.25 0.5
Miles

0 0.5 1
Kilometers

Figure C-3
Map 3a & 3b
Agriculture & Livestock within 500 feet of Alignment




PRELIMINARY DRAFT/SUBJECT TO CHANGE - HST ALIGNMENT IS NOT DETERMINED

April 18, 2011

Source: URS, 2011; Grazing Land is evaluated in a similar method as the Non-Prime Farmland. Methodology used for Grazing Land and Livestock are explained further in the text.

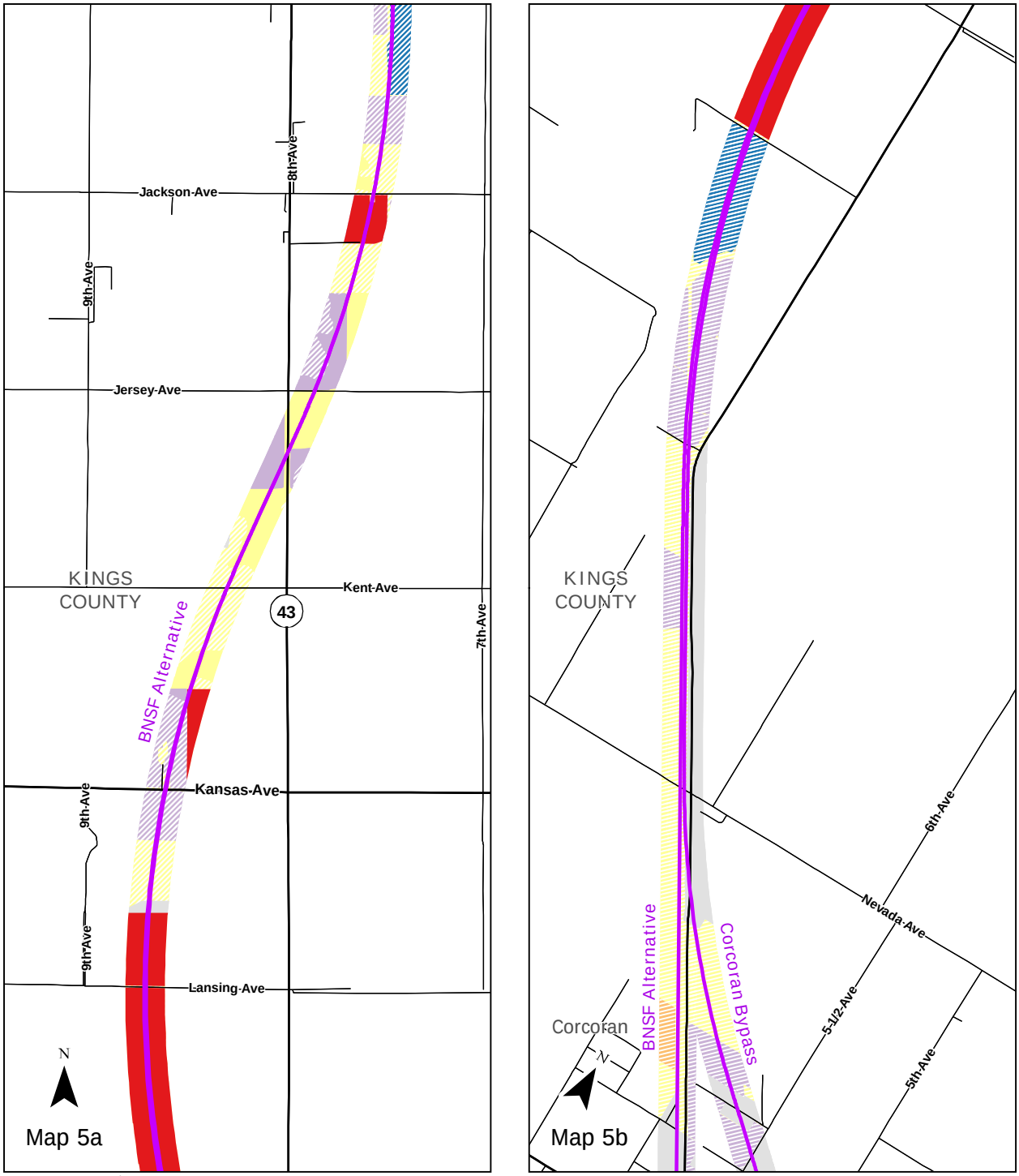
- Other Land
- Berry Crop
- Cotton
- Deciduous Fruit Tree
- Grape
- Grazing Land
- Livestock
- Oilseed and Grain
- Ornamental Nursery
- Other Field Crop
- Tree Nut
- Unknown Ag Land
- Vegetable and Melon

*Solid color indicates Prime Farmland or Livestock, Hatched color indicates Non-Prime Farmland.

0 0.25 0.5 Miles

0 0.5 1 Kilometers

Figure C-4
Map 4a & 4b
Agriculture & Livestock within 500 feet of Alignment




PRELIMINARY DRAFT/SUBJECT TO CHANGE - HST ALIGNMENT IS NOT DETERMINED

April 18, 2011

Source: URS, 2011; Grazing Land is evaluated in a similar method as the Non-Prime Farmland. Methodology used for Grazing Land and Livestock are explained further in the text.

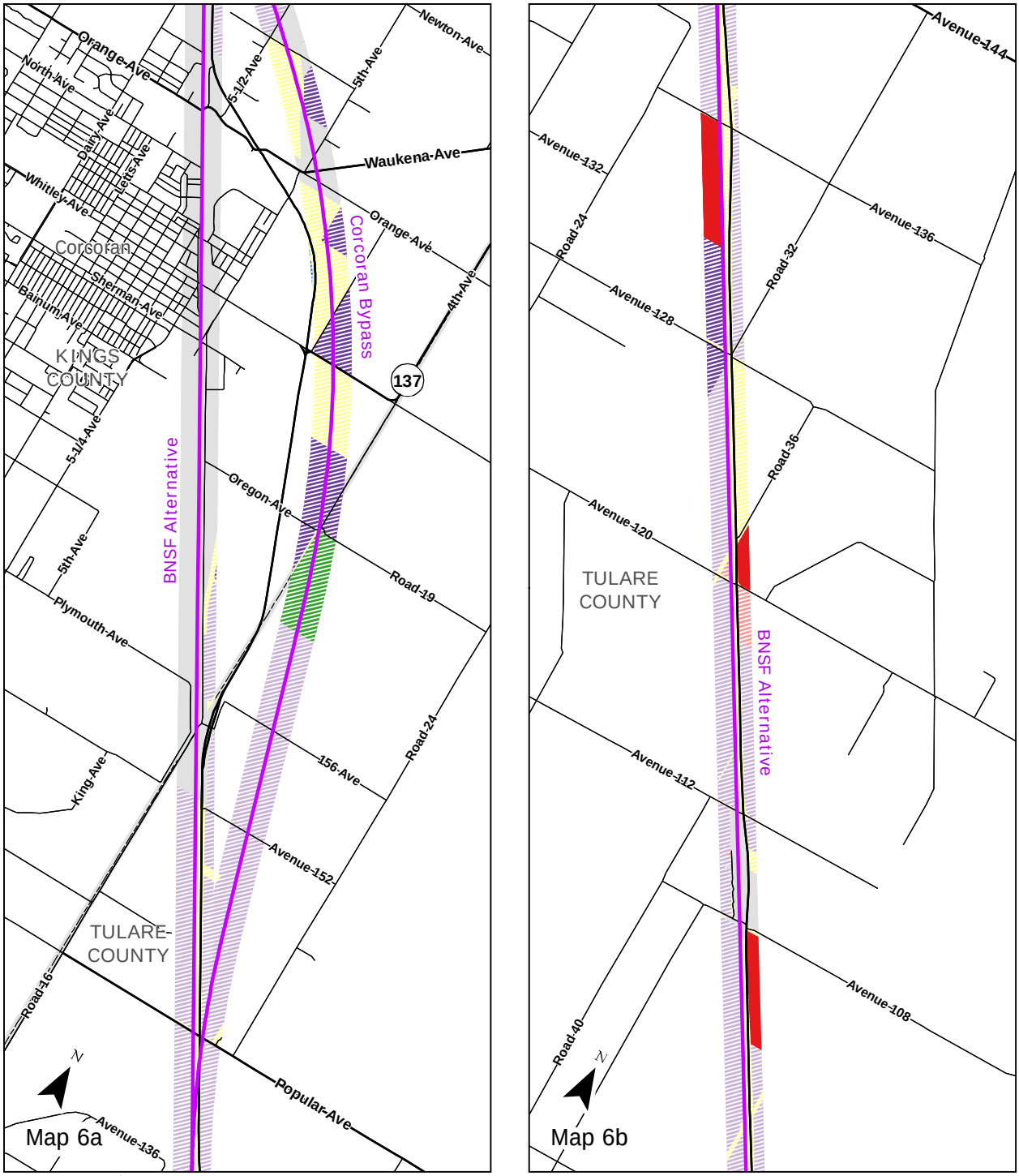
- Other Land
- Berry Crop
- Cotton
- Deciduous Fruit Tree
- Grape
- Grazing Land
- Livestock
- Oilseed and Grain
- Ornamental Nursery
- Other Field Crop
- Tree Nut
- Unknown Ag Land
- Vegetable and Melon

*Solid color indicates Prime Farmland or Livestock, Hatched color indicates Non-Prime Farmland.

0 0.25 0.5 Miles

0 0.5 1 Kilometers

Figure C-5
Map 5a & 5b
Agriculture & Livestock within 500 feet of Alignment




PRELIMINARY DRAFT/SUBJECT TO CHANGE - HST ALIGNMENT IS NOT DETERMINED

April 18, 2011

Source: URS, 2011; Grazing Land is evaluated in a similar method as the Non-Prime Farmland. Methodology used for Grazing Land and Livestock are explained further in the text.

| | | |
|---|---|---|
| Other Land | Grazing Land | Tree Nut |
| Berry Crop | Livestock | Unknown Ag Land |
| Cotton | Oilseed and Grain | Vegetable and Melon |
| Deciduous Fruit Tree | Ornamental Nursery | |
| Grape | Other Field Crop | |

*Solid color indicates Prime Farmland or Livestock, Hatched color indicates Non-Prime Farmland.

0 0.25 0.5
Miles

0 0.5 1
Kilometers

Figure C-6
Map 6a & 6b
Agriculture & Livestock within 500 feet of Alignment

PRELIMINARY DRAFT/SUBJECT TO CHANGE - HST ALIGNMENT IS NOT DETERMINED

April 18, 2011

Source: URS, 2011; Grazing Land is evaluated in a similar method as the Non-Prime Farmland. Methodology used for Grazing Land and Livestock are explained further in the text.

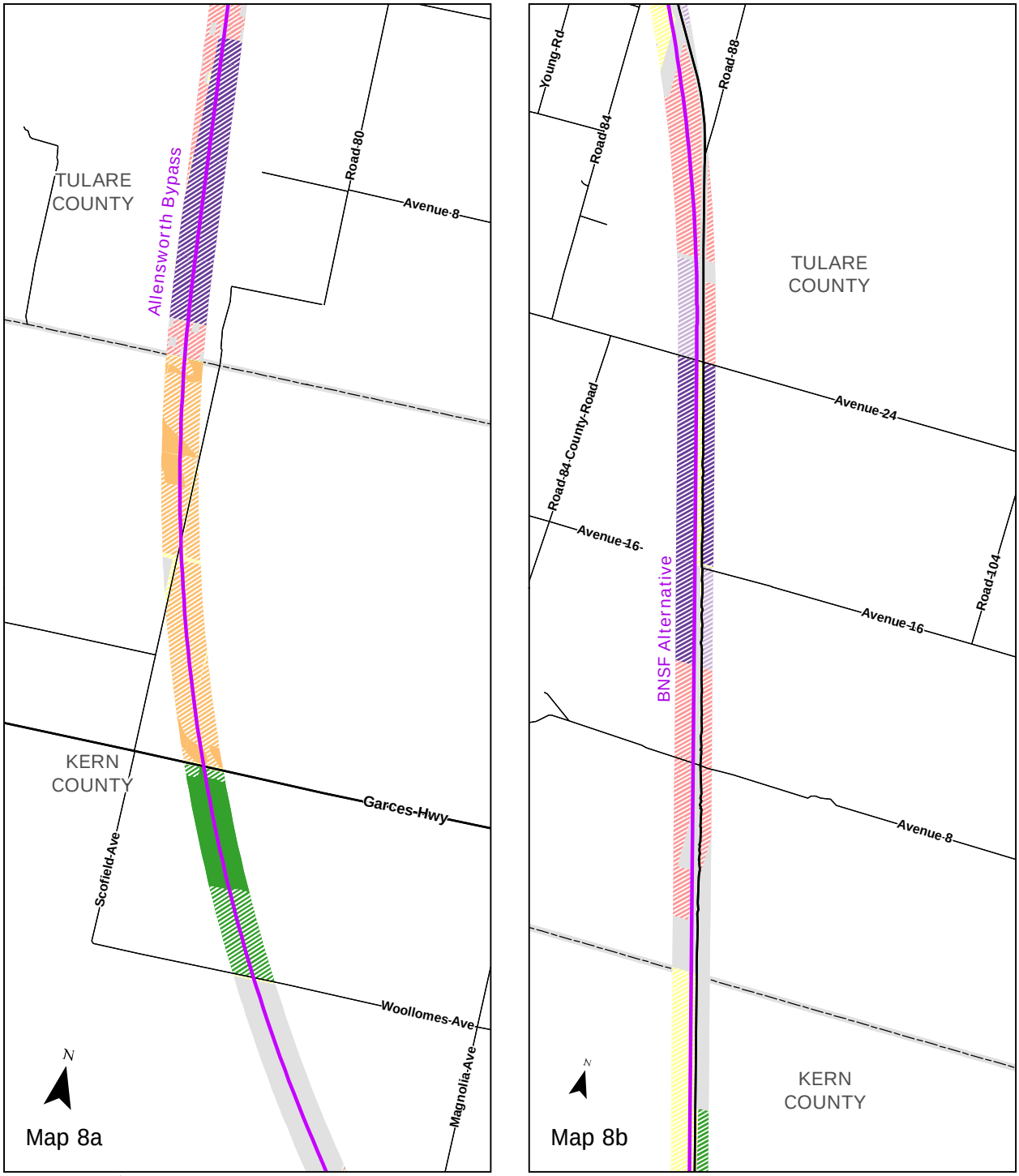
- Other Land
- Berry Crop
- Cotton
- Deciduous Fruit Tree
- Grape
- Grazing Land
- Livestock
- Oilseed and Grain
- Ornamental Nursery
- Other Field Crop
- Tree Nut
- Unknown Ag Land
- Vegetable and Melon

*Solid color indicates Prime Farmland or Livestock, Hatched color indicates Non-Prime Farmland.

0 0.25 0.5
Miles

0 0.5 1
Kilometers

Figure C-7
Map 7a & 7b
Agriculture & Livestock within 500 feet of Alignment




PRELIMINARY DRAFT/SUBJECT TO CHANGE - HST ALIGNMENT IS NOT DETERMINED

April 18, 2011

Source: URS, 2011; Grazing Land is evaluated in a similar method as the Non-Prime Farmland. Methodology used for Grazing Land and Livestock are explained further in the text.

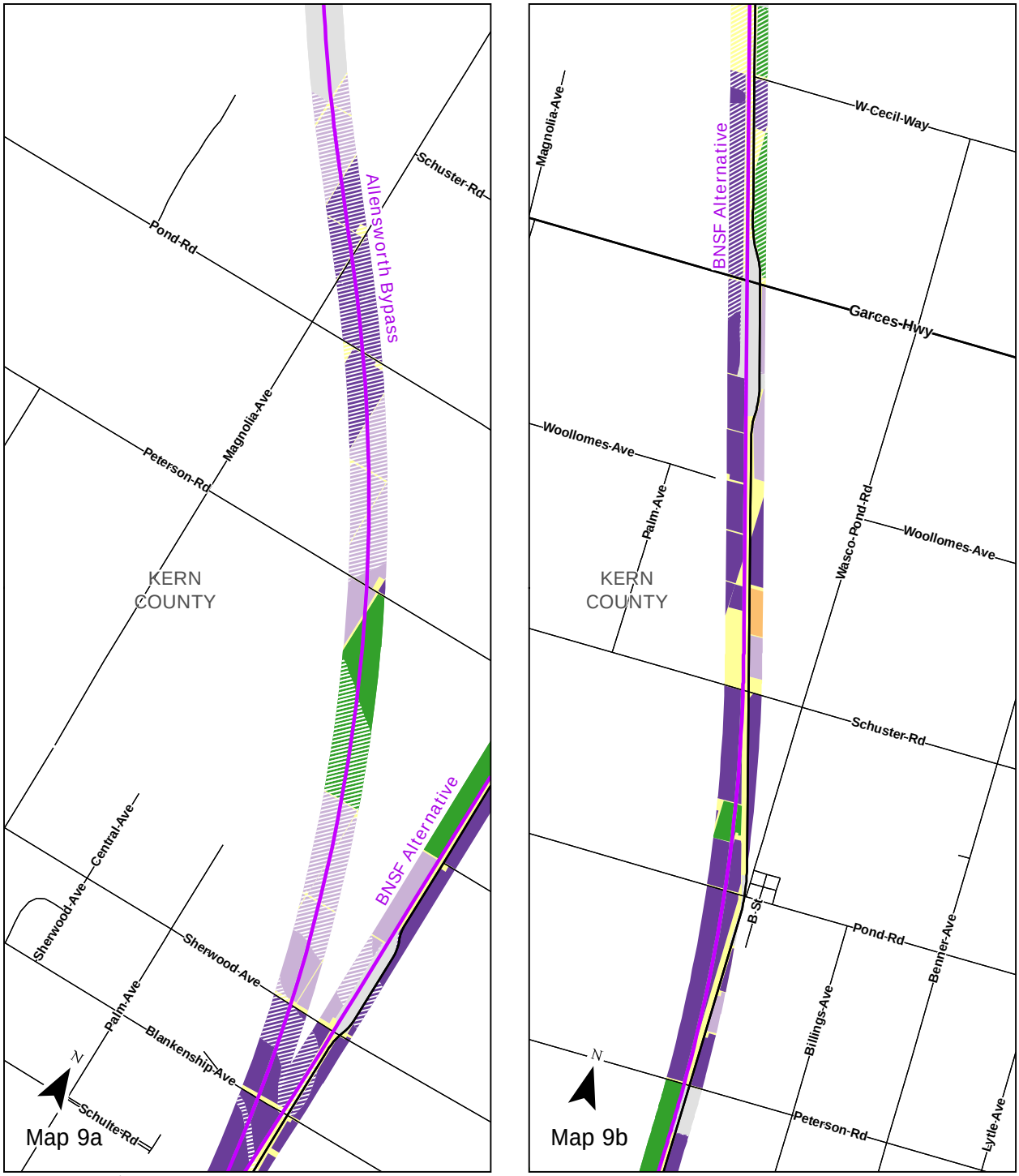
- Other Land
- Berry Crop
- Cotton
- Deciduous Fruit Tree
- Grape
- Grazing Land
- Livestock
- Oilseed and Grain
- Ornamental Nursery
- Other Field Crop
- Tree Nut
- Unknown Ag Land
- Vegetable and Melon

*Solid color indicates Prime Farmland or Livestock, Hatched color indicates Non-Prime Farmland.

0 0.25 0.5
Miles

0 0.5 1
Kilometers

Figure C-8
Map 8a & 8b
Agriculture & Livestock within 500 feet of Alignment




PRELIMINARY DRAFT/SUBJECT TO CHANGE - HST ALIGNMENT IS NOT DETERMINED

April 18, 2011

Source: URS, 2011; Grazing Land is evaluated in a similar method as the Non-Prime Farmland. Methodology used for Grazing Land and Livestock are explained further in the text.

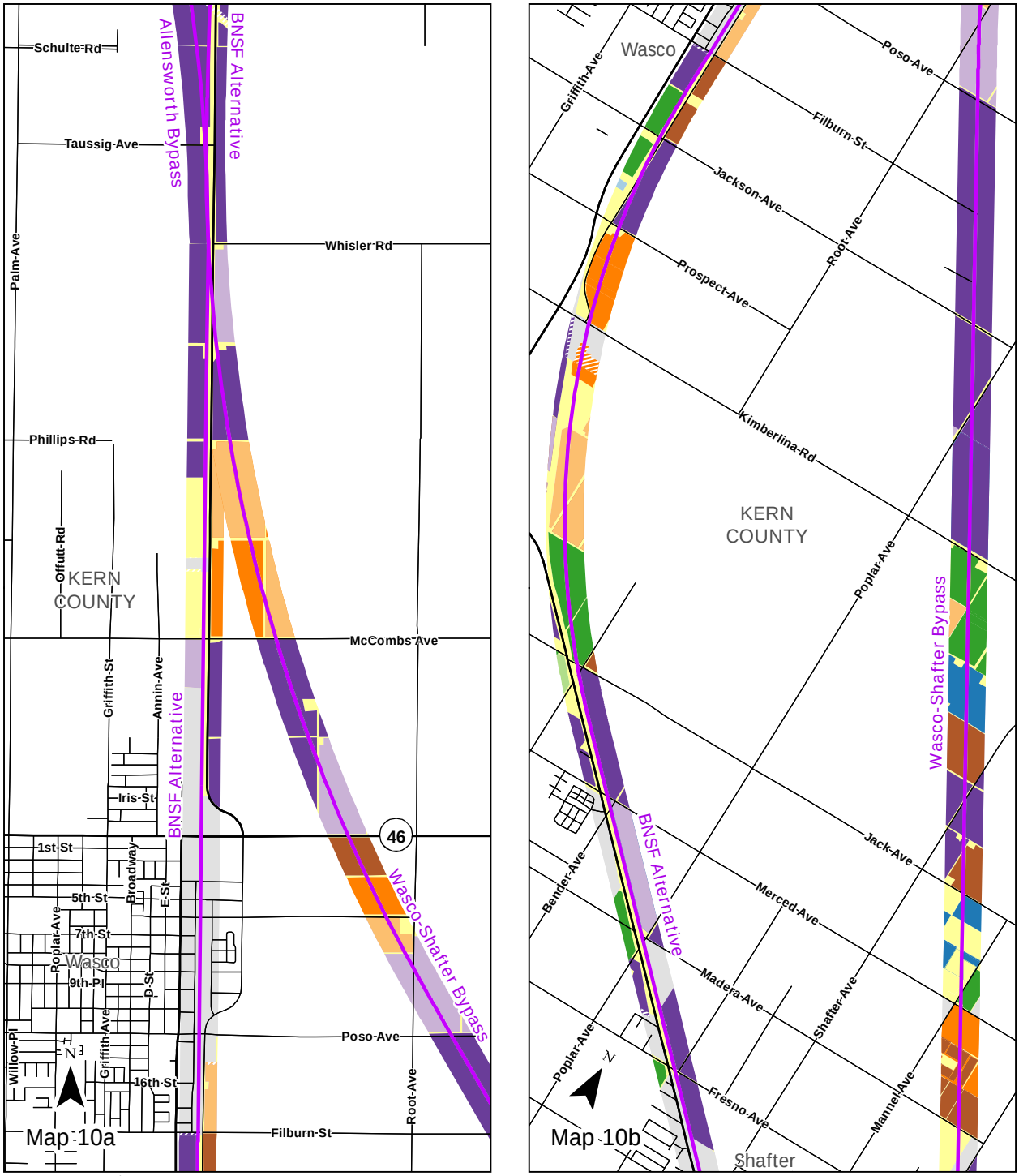
- Other Land
- Berry Crop
- Cotton
- Deciduous Fruit Tree
- Grape
- Grazing Land
- Livestock
- Oilseed and Grain
- Ornamental Nursery
- Other Field Crop
- Tree Nut
- Unknown Ag Land
- Vegetable and Melon

*Solid color indicates Prime Farmland or Livestock, Hatched color indicates Non-Prime Farmland.

0 0.25 0.5
Miles

0 0.5 1
Kilometers

Figure C-9
Map 9a & 9b
Agriculture & Livestock within 500 feet of Alignment




PRELIMINARY DRAFT/SUBJECT TO CHANGE - HST ALIGNMENT IS NOT DETERMINED

Source: URS, 2011; Grazing Land is evaluated in a similar method as the Non-Prime Farmland. Methodology used for Grazing Land and Livestock are explained further in the text.

April 18, 2011

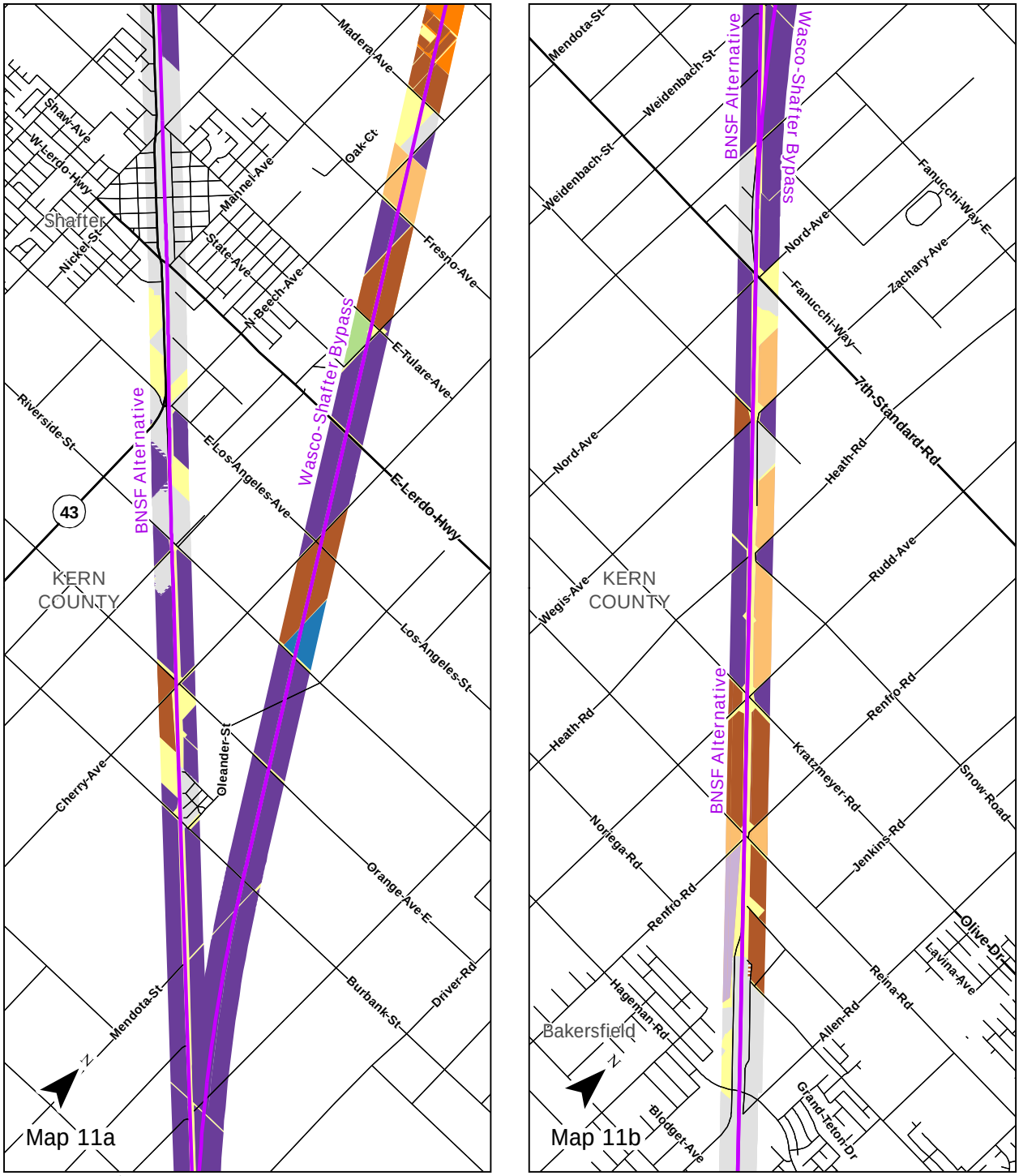
| | | |
|---|---|---|
| Other Land | Grazing Land | Tree Nut |
| Berry Crop | Livestock | Unknown Ag Land |
| Cotton | Oilseed and Grain | Vegetable and Melon |
| Deciduous Fruit Tree | Ornamental Nursery | |
| Grape | Other Field Crop | |

*Solid color indicates Prime Farmland or Livestock, Hatched color indicates Non-Prime Farmland.

0 0.25 0.5
Miles

0 0.5 1
Kilometers

Figure C-10
Map 10a & 10b
Agriculture & Livestock within 500 feet of Alignment




PRELIMINARY DRAFT/SUBJECT TO CHANGE - HST ALIGNMENT IS NOT DETERMINED

April 18, 2011

Source: URS, 2011; Grazing Land is evaluated in a similar method as the Non-Prime Farmland. Methodology used for Grazing Land and Livestock are explained further in the text.

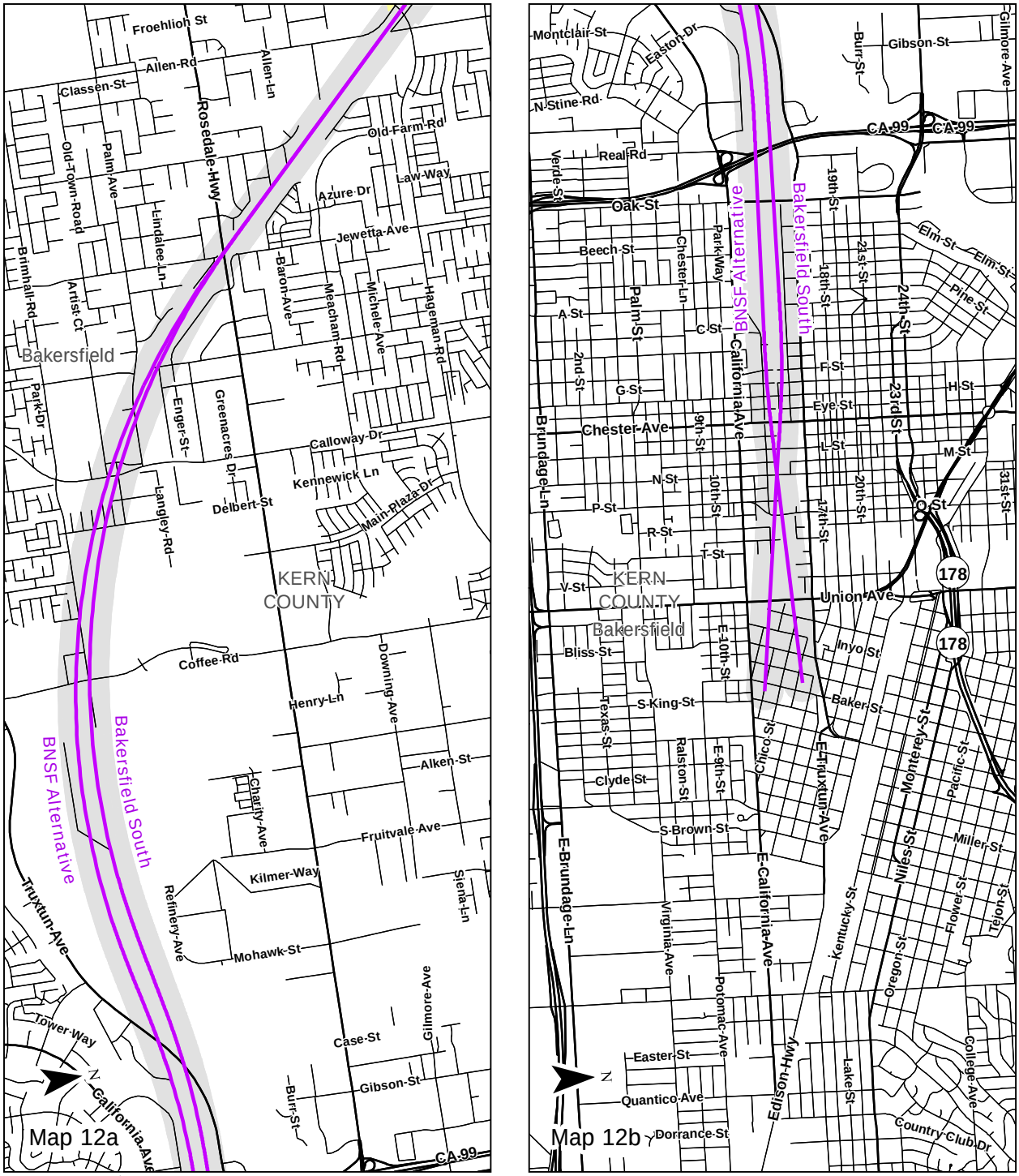
| | | |
|---|---|---|
| Other Land | Grazing Land | Tree Nut |
| Berry Crop | Livestock | Unknown Ag Land |
| Cotton | Oilseed and Grain | Vegetable and Melon |
| Deciduous Fruit Tree | Ornamental Nursery | |
| Grape | Other Field Crop | |

*Solid color indicates Prime Farmland or Livestock, Hatched color indicates Non-Prime Farmland.

0 0.25 0.5
Miles

0 0.5 1
Kilometers

Figure C-11
Map 11a & 11b
Agriculture & Livestock within 500 feet of Alignment




PRELIMINARY DRAFT/SUBJECT TO CHANGE - HST ALIGNMENT IS NOT DETERMINED

April 18, 2011

Source: URS, 2011; Grazing Land is evaluated in a similar method as the Non-Prime Farmland. Methodology used for Grazing Land and Livestock are explained further in the text.

- Other Land
- Berry Crop
- Cotton
- Deciduous Fruit Tree
- Grape
- Grazing Land
- Livestock
- Oilseed and Grain
- Ornamental Nursery
- Other Field Crop
- Tree Nut
- Unknown Ag Land
- Vegetable and Melon

*Solid color indicates Prime Farmland or Livestock, Hatched color indicates Non-Prime Farmland.

0 0.25 0.5 Miles

0 0.5 1 Kilometers

Figure C-12
Map 12a & 12b
Agriculture & Livestock within 500 feet of Alignment

The results of these assumptions are presented in Table C-2. These percentage loss assumptions are used to estimate the percentages of agricultural production assumed to be displaced and not relocated in the four-county region. As a result, the values associated with these acreages are considered to be an estimate of the agricultural production economic loss resulting from the project.

**Table C-2**
Key Agricultural Farmland Loss Assumptions

| | Prime Farmland | Non-Prime Farmland |
|---|---|---|
| Right-of-way:<br>0 feet to 50 feet | 100% | 50% |
| Buffer zone: 50 feet to 500 feet | 24.4% | 12.2% |

The determination of the displacement of livestock production acreage required a different methodology from that used for cultivated farmland. A list of potentially affected operations was generated using the country parcel land use designations. All parcels designated as livestock within the project environmental footprint[46] were identified. Each parcel was then evaluated as either (1) "full take": significant facilities relocated and/or significant land removed from productive use such that questions remain as to facility's viability and therefore relocation of the facility is a possibility (i.e., more than 30% of the land or facility is impacted); (2) "acres impacted": the facility will likely be able to remain in the same location but production may be lowered at that location given the loss of acres; or (3) "in footprint but no expected loss": the footprint touches the parcel but the impact is minor in terms of area, and no facilities are disrupted; therefore, no loss in production is expected. The results provided here are preliminary; the project design is continually evolving and such issues of relocation will need to be revisited on a farm-by-farm basis during the land acquisition stage once the final project design is complete. This section does not assume that remnants of a livestock operation will result in lost productivity; Section 3.14 (Agricultural Lands) of the EIR/EIS discusses the potential for land remnants in more detail.

Evaluations were conducted utilizing aerial imagery of the study area. In total, 18 livestock parcels were evaluated through this analysis; of these, 14 livestock facilities were found to have acres impacted (2 facilities in Fresno County, 10 facilities in Kings County, and 2 facilities in Tulare County). Nine facilities are on the BNSF Alternative, with the remaining 5 facilities along the Corcoran Bypass Alternative and the BNSF Alternative equivalent section to the Corcoran Bypass. One parcel is a feedlot in Tulare County, and one parcel is a poultry farm in Fresno County; the remaining facilities are all dairy operations. Because the BNSF Alternative would take less than 1 acre of the aforementioned poultry facility, the results table does not specially present those numbers.

Although no animal facility relocations would be expected, the project would reduce the productive area of the affected farms and surrounding croplands specifically for nutrient distribution. Therefore, these acres were summed and this acreage was used in conjunction with the value per acre (presented above) to estimate the loss of existing or potential production value.

[46] Acreage in the potential buffer zone is not included in the livestock analysis, because each facility is to be individually evaluated to see if it falls within the environmental footprint; relatively close proximity (50 to 500 feet from the right-of-way) to the alignment is assumed to not impact production.

Due to difficulties in relocating displaced production for livestock, the analysis was conservative and assumed 100% of these displaced acres would not be relocated immediately. The permitting process is difficult for these types of operations due to environmental concerns, and many of these operations operate with low margins; therefore, it is possible that displaced livestock production may be moved out of state or shut down entirely. However, this effect on lands for nutrient distribution is assumed to be a short-term effect as while it will take time to find replacement lands for nutrient distribution, this land will eventually be replaced. Although livestock operations are not on prime farmland and some of the displaced acreage is outside of the 50-foot right-of-way, the acreage values are included under the prime farmland right-of-way columns in Tables C-3 through C-9 and are marked as prime farmland in Figures C-1 through C-12 due to the assumed 100% loss of production in the short-term until replacement lands are located.

### C.1.4 Agricultural Displacement and Job Loss

Agricultural job loss was calculated using data supplied by the California Employment Development Department (EDD) and CDFA (California Employment Development Department 2008; California Department of Food and Agriculture 2009a, 2009b). The EDD data set includes agricultural jobs in California, with the information obtained through the EDD Covered Employment and Wages (ES-202) data files and compared with a monthly survey of 2,400 agricultural employers by the California Agricultural Statistical Service (CASS) of the U.S. Department of Agriculture and the Labor Market Information Division of EDD. However, an employee at the EDD noted that these data were partly skewed because (1) the sample size is small, (2) farm labor contractor employment is not broken out by crop type, (3) definitions of agricultural workers are limiting as it can be difficult to identify all agricultural jobs, and (4) the labor values for some crops, specifically ornamental plants, are improperly counted (Dahlberg 2010). These limitations suggested that the jobs per acre values for ornamental plants (originally, 5,122 jobs per 1,000 acres) needed to be further analyzed.

The jobs data supplied by EDD were aggregated for each type of crop (oil seed, deciduous nut tree, and so forth). Management job values were weighted for each crop based on the total number of people working, because it was assumed that large variations would not be present. Soil preparation was assumed to only occur in annual crops, and crop-harvesting jobs would be available for all types of crops. These jobs were assigned through a weighted average. The total number of jobs was then divided by acres of cultivation in California to calculate the average jobs per 1,000 acres.

The value for any land identified as “unknown ag land” was calculated using the sum total of jobs and land use in the state. These values ranged from a low of 4 jobs per 1,000 acres for “other field crops” to a high of 1,105 jobs per 1,000 acres for “berry crops.” As discussed, the original analysis found “ornamental nursery” land required 5,122 jobs per 1,000 acres, but this value is much higher than the values for all other crop types. When contacted, members of EDD voiced the opinion that the labor values for ornamental nursery farmland were too high and should be decreased, though they were unable to provide a specific value (Dahlberg 2010). This analysis assigned a more conservative value for ornamental nursery land equal to the value for berry crops: 1,105 jobs per 1,000 acres. Although some indirect job losses are captured, the job values do not include induced jobs or some of the indirect jobs that deal with processing once the crop and livestock products leave the farm.

The analysis used these values to determine the number of jobs lost due to the displacement of agricultural and livestock production that cannot be relocated. The analysis assumes that if the farmland acreage is removed from the region, the jobs associated with it are removed as well.

### C.1.5 Maximum vs. Minimum Values for Acreage

The primary analysis for this report was conservative and assigned a value for land whenever possible. In some cases, as discussed above, there were discrepancies between the data sets from the FMMP and the individual counties; for example, a section of a parcel might have been labeled urban land by the FMMP, whereas the county data showed almonds on the land. Several potential explanations are possible for these discrepancies.

- County data are incomplete, as suggested by Fresno and Kings County representatives (Lee 2010; Schrumpf 2010).
- County data are newer and potentially more specific.
- County data labels for the entire parcel may identify it as growing crops, but in actuality the parcel also has areas of built-up land. Close analysis of Figures C-1 through C-12 show thin lines of what is labeled "unknown ag land" that break up the crop types. In reality, most of these lines are unpaved roads; however, it was impossible to determine whether the land would be lost as farmland, so the higher, more conservative values were used.

To be conservative, land was assigned the maximum value representing the most potential acreage under agricultural use. This approach of using the maximum value therefore included land without a crop designation that the FMMP identifies as farmland (labeled as "unknown ag land") and land that the FMMP identifies with a crop type but designates as other land such as "built-up" (labeled as non-prime farmland with crop designation). The locations and acreages of agricultural production affected by the project and used in this analysis are presented in Figures C-1 through C-12 and Tables C-3 through C-9.[47]

## C.2 Results

Tables C-3 through C-9 provide estimates of how the project will impact Fresno, Kern, Tulare, and Kings counties. The tables present data for each county, with information for the BNSF Alternative and the other alternative alignments. Acreage for each crop and livestock production is differentiated into displaced prime and non-prime farmland, lost farmland, and percent of entire crop loss compared to the total crop acreage for each county. The estimated gross revenue losses and job losses are also shown. In addition, the tables highlight the difference between each alternative and the corresponding section of the BNSF Alternative.

The tables illustrate the makeup of agricultural farm displacement, including crop type and prime versus non-prime farmland, the total acres displaced, and the sum of the acres of lost production (displaced acres that could not be relocated within each county). The annual revenue associated with this lost production is calculated by multiplying the value of the lost acres by the crop value per acre for each county. This "estimated revenue loss in county" does not include displaced crops that are relocated and is only meant to represent the direct economic loss from lost production. For example, lost sales due to reductions in livestock treatment and equipment

[47] The appendix contains the lower values for completeness. These "minimum values" were calculated with the following assumptions: (1) Any land without crop designation (including land labeled as prime farmland by the FMMP) is assumed to be other land without any value and (2) Land not specifically labeled as prime or non-prime farmland (e.g., built-up land) is assumed to be other land without value.

The minimum value assumptions produced an economic loss that was between 10% to 33% less than that calculated under the more conservative assumptions for the BNSF Alternative and 3% to 28% for the other alternatives. The difference between the two values was primarily due to land being classified as either "unknown ag land" (with an average annual production value of $1,999 per acre) or else as "other land" (which is assumed to be non-agricultural and produce $0 annually).

purchase are not included. The "estimated job loss in county" was calculated using the jobs per acre values discussed in Section C.1.4. These values are not comprehensive, but provide an estimate of expected job loss from the reduction in agricultural and livestock production.

The economic loss for each crop and livestock product was then compared to the total economic production for the county (an average of values from 2007 and 2008) and is shown as a percentage in the column "% of Entire County Crop Loss." This analysis was done on a straight dollar-to-dollar basis for three counties (Fresno, Kings, and Kern counties) and by an acre-to-acre comparison for Tulare County. The analysis was required to use this acreage-based calculation for Tulare County because the crop-type data supplied by Tulare County (Tulare County 2010) were more general than the crop types identified in the *2008 Agricultural Crop Report* . To maintain accuracy, the analysis instead based all calculations on the acreage data supplied by Tulare County (Tulare County 2010).

In addition to estimating the absolute agricultural losses associated with the various alternative alignments, this analysis evaluated the difference in impacts between each alternative and the corresponding part of the BNSF Alternative. The alternative alignments considered in the analysis are the Corcoran Bypass, Allensworth Bypass, and Wasco-Shafter Bypass alternatives. The Corcoran Elevated Alternative was not considered in the analysis because it is almost entirely within the city of Corcoran, where no agriculture or livestock production occurs. Similarly, negligible, if any, amounts of crop and livestock production occur within the city of Bakersfield, so the difference in effect between the Bakersfield South Alternative and the corresponding portion of the BNSF Alternative is small and was not considered. The tables show the relative changes in acres displaced and acres lost, revenue loss, job loss, and percent of economic loss to the entire county for each crop, in addition to the absolute values. Negative values in the tables for a particular crop indicate that the alternative considered has less of an impact than the corresponding portion of the BNSF Alternative.

It should be noted that the proposed location for the Hanford HMF facility, separate from the ROW associated with the BNSF Alternative, would acquire around 300 acres that are currently used by dairies for nutrient distribution in the Hanford area. Although no dairy facilities would be directly affected, loss of this acreage is an important consideration as it will take time to find replacement lands

*This page intentionally left blank*

**Table C-3**
Fresno County: BNSF Alternative

| Non-Prime | Acres Displaced | | | Prime | Acres Displaced | | | BNSF Alternative | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Crop Type | < 50 feet from Centerline | 50 to 500 feet from Centerline | | Crop Type | < 50 feet from Centerline | 50 to 500 feet from Centerline | | Crop Type | Acres Displaced | Acres Lost | % of Entire County Crop Loss# | Estimated Revenue Loss in County | Estimated Job Loss in County |
| Alfalfa | 4 | 38 | | Alfalfa | 0 | 18 | | Alfalfa | 60 | 11 | 0.0% | $14,864 | 0.0 |
| Almond | 7 | 54 | | Almond | 10 | 90 | | Almond | 160 | 42 | 0.0% | $193,139 | 0.8 |
| Blueberry* | 0 | 0 | | Blueberry* | 1 | 7 | | Blueberry* | 8 | 2 | — | $53,860 | 2.7 |
| Corn fodder | 2 | 15 | | Corn fodder | 0 | 4 | | Corn fodder | 20 | 4 | 0.0% | $3,975 | 0.0 |
| Grape, table | 12 | 114 | | Grape, table | 4 | 65 | | Grape, table | 196 | 40 | 0.0% | $139,044 | 2.8 |
| Grape, raisin | 5 | 80 | | Grape, raisin | 24 | 252 | | Grape, raisin | 361 | 98 | 0.1% | $287,588 | 6.7 |
| Grape, wine | 2 | 23 | | Grape, wine | 5 | 28 | | Grape, wine | 59 | 16 | 0.0% | $57,396 | 1.1 |
| Nectarine | 0 | 0 | | Nectarine | 0 | 7 | | Nectarine | 7 | 2 | 0.0% | $14,488 | 0.2 |
| Peach | 1 | 6 | | Peach | 6 | 60 | | Peach | 73 | 22 | 0.1% | $210,683 | 2.4 |
| Plum | 0 | 3 | | Plum | 0 | 14 | | Plum | 17 | 4 | 0.0% | $32,011 | 0.5 |
| Prune | 0 | 1 | | Prune | 0 | 3 | | Prune | 4 | 1 | 0.0% | $3,692 | 0.1 |
| Squash | 0 | 0 | | Squash | 1 | 10 | | Squash | 11 | 3 | 0.4% | $15,385 | 0.1 |
| Walnut | 1 | 13 | | Walnut | 0 | 0 | | Walnut | 14 | 2 | 0.0% | $5,948 | 0.0 |
| Wheat fodder | 2 | 15 | | Wheat fodder | 0 | 12 | | Wheat fodder | 28 | 6 | 0.0% | $3,485 | 0.0 |
| Unknown ag land | 33 | 287 | | Unknown ag land | 91 | 697 | | Unknown ag land | 1,108 | 313 | — | $626,400 | 15.3 |
| Dairy | 0 | 0 | | Dairy | 5 | 0 | | Dairy | 5 | 5 | 0.0% | $197,720 | 0.9 |
| Other acreage## | 79 | 708 | | Other acreage## | 0 | 0 | | Other acreage## | 787 | — | — | $— | — |
| Sum non-prime | **69** | **649** | | Sum prime | **147** | **1,267** | | Sum total | 2,133 | 570 | 0.0% | **$1,865,299** | **33.8** |

Sources: URS analysis of the following: Fresno County 2009; California State Department of Conservation 2009; Fresno County 2010; California Employment Development Department 2008; California Department of Food and Agriculture 2009b.

Note: Crops with less than 1 acre lost are not included. Therefore, summing the values in the columns may lead to a slight discrepancy (less than 0.0%).
Note: No alternatives other than BNSF Alternative are being considered in Fresno County for the Fresno to Bakersfield Section.

* No specific dollar per acre value listed in Fresno County 2009. Instead, an average was taken of values from Tulare County 2009 and California Department of Food and Agriculture 2009b.
# Percent of entire county crop loss values calculated on annual revenue basis.
## The acres displaced for "other acreage" are included; however, these acres were assumed to have no value and so were not included in the "Acres Lost" or "Acres Displaced" columns.

ag = agricultural
BNSF = BNSF Railway

**Table C-4**
**Kings County: BNSF Alternative**

| Non-Prime | Acres Displaced | | | Prime | Acres Displaced | | | BNSF Alternative | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Crop Type | < 50 feet from Center-line | 50 to 500 feet from Center-line | | Crop Type | < 50 feet from Center-line | 50 to 500 feet from Center-line | | Crop Type | Acres Displaced | Acres Lost | % of Entire County Crop Loss# | Estimated Revenue Loss in County | Estimated Job Loss in County |
| Alfalfa | 34 | 320 | | Alfalfa | 0 | 1 | | Alfalfa | 355 | 56 | 0.1% | $65,670 | 0.2 |
| Almond | 4 | 28 | | Almond | 4 | 38 | | Almond | 74 | 19 | 0.1% | $55,429 | 0.4 |
| Cherry | 0 | 0 | | Cherry | 6 | 51 | | Cherry* | 57 | 18 | — | $206,378 | 2.0 |
| Corn fodder | 2 | 69 | | Corn fodder | 9 | 83 | | Corn fodder | 162 | 38 | 0.1% | $41,680 | 0.2 |
| Corn grain | 3 | 28 | | Corn grain | 0 | 0 | | Corn grain | 31 | 5 | 0.2% | $4,267 | 0.0 |
| Cotton | 26 | 189 | | Cotton | 2 | 6 | | Cotton | 223 | 39 | 0.0% | $67,286 | 0.7 |
| Grazing land | 0 | 72 | | Grazing land | 0 | 0 | | Grazing land | 72 | 9 | 0.0% | $110 | 0.0 |
| Grape | 0 | 0 | | Grape | 1 | 7 | | Grape | 9 | 3 | 0.0% | $9,599 | 0.2 |
| Nectarine | 0 | 0 | | Nectarine | 0 | 4 | | Nectarine | 4 | 1 | 0.0% | $7,139 | 0.1 |
| Oat fodder | 3 | 26 | | Oat fodder | 0 | 2 | | Oat fodder | 32 | 5 | 0.2% | $2,504 | 0.0 |
| Oat grain | 0 | 6 | | Oat grain | 0 | 0 | | Oat grain* | 6 | 1 | — | $276 | 0.0 |
| Peach | 2 | 20 | | Peach | 0 | 0 | | Peach | 21 | 3 | 0.1% | $26,677 | 0.4 |
| Pistachio | 0 | 0 | | Pistachio | 0 | 0 | | Pistachio | 0 | 0.0 | 0.0% | $470 | 0.0 |
| Plum | 0 | 6 | | Plum | 0 | 0 | | Plum | 6 | 1 | 0.0% | $5,297 | 0.1 |
| Rye grain | 0 | 1 | | Rye grain | 0 | 0 | | Rye grain | 1 | 0 | — | $64 | 0.0 |
| Tomato processing | 0 | 0 | | Tomato processing | 2 | 16 | | Tomato processing | 17 | 6 | 0.0% | $17,090 | 0.2 |
| Walnut | 0 | 17 | | Walnut | 7 | 65 | | Walnut | 90 | 25 | 0.2% | $91,663 | 0.5 |
| Wheat fodder | 4 | 63 | | Wheat fodder | 0 | 0 | | Wheat fodder | 68 | 10 | 0.0% | $5,771 | 0.0 |
| Unknown ag land | 131 | 1,023 | | Unknown ag land | 44 | 406 | | Unknown ag land | 1,604 | 334 | — | $900,360 | 16.3 |
| Dairy | 0 | 0 | | Dairy | 184 | 0 | | Dairy | 184 | 184 | 1.1% | $7,192,457 | 31.6 |
| Other acreage## | 55 | 500 | | Other acreage## | 0 | 0 | | Other acreage## | 0 | 0 | — | $— | 0.0 |
| Sum non-prime | **208** | **1,870** | | Sum prime | **260** | **678** | | Sum | **3,016** | **757** | **0.5%** | **$8,700,185** | **53.0** |

Sources: URS analysis of the following: Kings County 2009; California State Department of Conservation 2009; Kings County 2010; California Employment Development Department 2008; California Department of Food and Agriculture 2009a, 2009b.

Note: Crops with less than 1 acre lost are not included. Therefore, summing the values in the columns may lead to a slight discrepancy (less than 0.0%).

* No specific dollar per acre value listed in Kings County 2009. Instead, an average was taken of values (if they existed) from Fresno County 2009 and Tulare County 2009.
# Percent of entire county crop loss values calculated on annual revenue basis.
## The acres displaced for "other acreage" are included; however, they were assumed to have no value and so were not included in the "Acres Lost" or "Acres Displaced" columns.

ag = agricultural
BNSF = BNSF Railway

**Table C-5**
Kings County: Total Change and Change Relative to BNSF Alternative for Corcoran Bypass Alternative

| Kings County | | | Corcoran Bypass | | | | Comparison to BNSF Alternative | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Crop Type | Acres Displaced | Acres Lost | % of Entire County Crop Loss# | Estimated Revenue Loss in County | Estimated Job Loss in County | Δ Acres Displaced | Δ Acres Lost | Δ % of Entire County Crop Loss# | Δ Estimated Revenue Loss in County | Δ Estimated Job Loss in County |
| Alfalfa | 289 | 52 | 0.1% | $60,788 | 0.2 | 12 | 9 | 0.0% | $10,378 | 0.0 |
| Almond | 0 | 0 | 0.0% | $— | 0.0 | -38 | -13 | -0.1% | $(37,069) | -0.3 |
| Cherry* | 0 | 0 | — | $— | 0.0 | 0 | 0 | — | $— | 0.0 |
| Corn fodder | 95 | 25 | 0.0% | $27,798 | 0.1 | 1 | 1 | 0.0% | $717 | 0.0 |
| Corn grain | 0 | 0 | 0.0% | $— | 0.0 | 0 | 0 | 0.0% | $— | 0.0 |
| Cotton | 151 | 27 | 0.0% | $46,388 | 0.5 | -1 | 0 | 0.0% | $(291) | 0.0 |
| Grazing land | 104 | 15 | 0.0% | $185 | 0.0 | 31 | 6 | 0.0% | $75 | 0.0 |
| Grape | 0 | 0 | 0.0% | $— | 0.0 | 0 | 0 | 0.0% | $— | 0.0 |
| Nectarine | 0 | 0 | 0.0% | $— | 0.0 | 0 | 0 | 0.0% | $— | 0.0 |
| Oat fodder | 0 | 0 | 0.0% | $— | 0.0 | -16 | -2 | -0.1% | $(926) | 0.0 |
| Oat grain* | 0 | 0 | — | $— | 0.0 | -6 | -1 | — | $(276) | 0.0 |
| Peach | 0 | 0 | 0.0% | $— | 0.0 | 0 | 0 | 0.0% | $— | 0.0 |
| Pistachio | 102 | 15.8 | 0.1% | $216,792 | 0.3 | 101 | 16 | 0.1% | $216,322 | 0.3 |
| Plum | 0 | 0 | 0.0% | $— | 0.0 | 0 | 0 | 0.0% | $— | 0.0 |
| Rye grain | 3 | 0 | — | $288 | 0.0 | 3 | 0 | — | $224 | 0.0 |
| Tomato processing | 0 | 0 | 0.0% | $— | 0.0 | 0 | 0 | 0.0% | $— | 0.0 |
| Walnut | 0 | 0 | 0.0% | $— | 0.0 | 0 | 0 | 0.0% | $— | 0.0 |
| Wheat fodder | 104 | 17 | 0.0% | $9,773 | 0.1 | 37 | 7 | 0.0% | $4,003 | 0.0 |

**Table C-5**
Kings County: Total Change and Change Relative to BNSF Alternative for Corcoran Bypass Alternative

| Kings County | | | Corcoran Bypass | | | | Comparison to BNSF Alternative | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Crop Type | Acres Displaced | Acres Lost | % of Entire County Crop Loss# | Estimated Revenue Loss in County | Estimated Job Loss in County | Δ Acres Displaced | Δ Acres Lost | Δ % of Entire County Crop Loss# | Δ Estimated Revenue Loss in County | Δ Estimated Job Loss in County |
| Unknown ag land | 1,040 | 201 | — | $542,140 | 9.8 | 96 | 14 | — | $38,135 | 0.7 |
| Dairy | 181 | 181 | 1.0% | $7,071,412 | 31.1 | 9 | 9 | 0.0% | $331,900 | 1.5 |
| Other acreage## | 156 | — | — | $— | — | -332 | — | — | $— | — |
| **Sum** | **2,068** | **534** | **0.5%** | **$7,975,563** | **42** | **228** | **45** | **0.0%** | **$563,190** | **2** |

Sources: URS analysis of the following: Kings County 2009; California State Department of Conservation 2009; Kings County 2010; California Employment Development Department 2008; California Department of Food and Agriculture 2009a, 2009b.

Note: Crops with less than 1 acre lost are not included. Therefore, summing the values in the columns may lead to a slight discrepancy (less than 0.0%).
* No specific dollar per acre value listed in Kings County 2009. Instead, an average was taken of values (if they existed) from Fresno County 2009 and Tulare County 2009.
# Percent of entire county crop loss values calculated on annual revenue basis.
## The acres displaced for "other acreage" are included; however, they were assumed to have no value and so were not included in the "Acres Lost" or "Acres Displaced" column s.

ag = agricultural
BNSF = BNSF Railway

**Table C-6**
Tulare County: BNSF Alternative

| Non-Prime | Acres Displaced | | | Prime | Acres Displaced | | | BNSF Alternative | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Crop Type | < 50 feet from Centerline | 50 to 500 feet from Centerline | | Crop Type | < 50 feet from Centerline | 50 to 500 feet from Centerline | | Crop Type | Acres Displaced | Acres Lost | % of Entire County Crop Loss# | Estimated Revenue Loss in County | Estimated Job Loss in County |
| Deciduous nut tree | 17 | 160 | | Deciduous nut tree | 0 | 0 | | Deciduous nut tree | 177 | 28 | 0.0% | $115,486 | 0.6 |
| Dry pasture | 37 | 397 | | Dry pasture | 0 | 0 | | Dry pasture | 435 | 67 | 0.0% | $1,025 | 0.0 |
| Field/row crop | 55 | 904 | | Field/row crop | 0 | 0 | | Field/row crop | 959 | 138 | 0.0% | $159,236 | 0.6 |
| Vineyard | 0 | 0 | | Vineyard | 0 | 0 | | Vineyard | 0 | 0 | 0.0% | $— | 0.0 |
| Wet pasture | 0 | 0 | | Wet pasture | 0 | 0 | | Wet pasture | 0 | 0 | 0.0% | $— | 0.0 |
| Unknown ag land | 74 | 349 | | Unknown ag land | 0 | 0 | | Unknown ag land | 423 | 80 | — | $147,260 | 3.9 |
| Dairy | 0 | 0 | | Dairy | 4 | 0 | | Dairy | 4 | 4 | 0.0% | $172,588 | 0.8 |
| Feedlot | 0 | 0 | | Feedlot | 7 | 0 | | Feedlot | 7 | 7 | 0.2% | $304,106 | 1.5 |
| Other acreage## | 78 | 503 | | Other acreage## | 0 | 0 | | Other acreage## | 581 | — | — | $— | - |
| | **184** | **1,810** | | Sum prime | **11** | **0** | | Sum weighted | **2,005** | **324** | **0.0%** | **$899,701** | **7.3** |

Sources: URS Corporation analysis of the following: California State Department of Conservation 2009; Tulare County 2009; California Employment Development Department 2008; California Department of Food and Agriculture 2009a, 2009b.
Note: Crops with less than 1 acre lost are not included. Therefore, summing the values in the columns may lead to a slight discrepancy (less than 0.0%).

* No specific dollar per acre value listed in Fresno County 2009. Instead, an average was taken of values from Tulare County 2009 and California Department of Food and Agriculture 2009b.
# Percent of entire county crop loss values calculated on an acreage basis.
## The acres displaced for "other acreage" are included; however, they were assumed to have no value and so were not included in the "Lost Acres" or "Acres Displaced" columns.

ag = agricultural
BNSF = BNSF Railway

**Table C-7**
Tulare County: Total Change and Change Relative to BNSF Alternative for Corcoran Bypass Alternative

| Tulare County | | Corcoran Bypass | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Crop Type | Acres Displaced | Acres Lost | % of Entire County Crop Loss# | Estimated Revenue Loss in County | Estimated Job Loss in County | Δ Acres Displaced | Δ Acres Lost | Δ % of Entire County Crop Loss# | Δ Estimated Revenue Loss in County | Δ Estimated Job Loss in County |
| Deciduous nut tree | 15 | 2 | 0.0% | $8,684 | 0.0 | 8 | 1 | 0.0% | $3,921 | 0.0 |
| Dry pasture | 0 | 0 | 0.0% | $— | 0.0 | 0 | 0 | 0.0% | $— | 0.0 |
| Field/row crop | 358 | 55 | 0.0% | $63,153 | 0.2 | 119 | 19 | 0.0% | $21,610 | 0.1 |
| Vineyard | 55 | 9 | 0.1% | $63,954 | 0.6 | 55 | 9 | 0.1% | $63,954 | 0.6 |
| Wet pasture | 0 | 0 | 0.0% | $— | 0.0 | 0 | 0 | 0.0% | $— | 0.0 |
| Unknown ag land | 81 | 16 | — | $28,775 | 0.8 | -18 | -2 | — | $(4,031) | -0.1 |
| Dairy | 4 | 4 | 0.0% | $172,588 | 0.8 | 0 | 0 | 0.0% | $— | 0.0 |
| Feedlot | 0 | 0 | 0.0% | $— | 0.0 | 0 | 0 | 0.0% | $— | 0.0 |
| Other acreage## | 0 | 0 | — | $— | 0.0 | — | — | — | $— | 0.0 |
| Sum weighted | **514** | **86** | **0.0%** | **$337,154** | **2.4** | **165** | **27** | **0.0%** | **$85,455** | **0.6** |

Sources: URS analysis of the following: Tulare County 2009, 2010; California State Department of Conservation 2009; California Employment Development Department 2008; California Department of Food and Agriculture 2009b.

# Percent of entire county crop loss values calculated on an acreage basis.
## The acres displaced for "other acreage" are included; however, they were assumed to have no value and so were not included in the "Lost Acres" or "Acres Displaced" columns.

ag = agricultural
BNSF = BNSF Railway

**Table C-8**
Tulare County: Total Change and Change Relative to BNSF Alternative for Allensworth Bypass Alternative

| Tulare County | | Allensworth Bypass | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Crop Type | Acres Displaced | Acres Lost | % of Entire County Crop Loss# | Estimated Revenue Loss in County | Estimated Job Loss in County | Δ Acres Displaced | Δ Acres Lost | Δ % of Entire County Crop Loss# | Δ Estimated Revenue Loss in County | Δ Estimated Job Loss in County |
| Deciduous nut tree | 326 | 53 | 0.1% | $218,314 | 1.1 | 191 | 31 | 0.0% | $128,629 | 0.6 |
| Dry pasture | 433 | 69 | 0.0% | $1,057 | 0.0 | 11 | 4 | 0.0% | $56 | 0.0 |
| Field/row crop | 190 | 29 | 0.0% | $33,957 | 0.1 | -68 | -6 | 0.0% | $(7,053) | 0.0 |
| Vineyard | 0 | 0 | 0.0% | $— | 0.0 | 0 | 0 | 0.0% | $— | 0.0 |
| Wet pasture | 61 | 10 | 0.2% | $1,542 | 0.0 | 61 | 10 | 0.2% | $1,542 | 0.0 |
| Unknown ag land | 51 | 8 | — | $15,387 | 0.4 | -82 | -18 | — | $(33,562) | -0.9 |
| Dairy | 0 | 0 | 0.0% | $— | 0.0 | 0 | 0 | 0.0% | $— | 0.0 |
| Feedlot | 0 | 0 | 0.0% | $— | 0.0 | 0 | 0 | 0.0% | $— | 0.0 |
| Other acreage## | 0 | 0 | — | $— | 0.0 | — | — | — | $— | 0.0 |
| Sum weighted | **1,062** | **170** | **0.0%** | **$270,257** | **1.6** | **112** | **20** | **0.0%** | **$89,611** | **-0.3** |

Sources: URS analysis of the following: Tulare County 2009, 2010; California State Department of Conservation 2009; California Employment Development Department 2008; California Department of Food and Agriculture 2009b.

# Percent of entire county crop loss values calculated on an acreage basis.
## The acres displaced for "other acreage" are included; however, they were assumed to have no value and so were not included in the "Lost Acres" or "Acres Displaced" columns.

ag = agricultural
BNSF = BNSF Railway

**Table C-9**
Kern County: BNSF Alternative

| Non-Prime | Acres Displaced | | Prime | Acres Displaced | | BNSF Alternative | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Crop Type | < 50 feet from Center-line | 50 to 500 feet from Center-line | Crop Type | < 50 feet from Center-line | 50 to 500 feet from Center-line | Crop Type | Acres Displaced | Acres Lost | % of Entire County Crop Loss# | Estimated Revenue Loss in County | Estimated Job Loss in County |
| Alfalfa | 0 | 14 | Alfalfa | 4 | 162 | Alfalfa | 181 | 46 | 0.0% | $72,972 | 0.2 |
| Almond | 1 | 101 | Almond | 40 | 1,053 | Almond | 1,195 | 310 | 0.2% | $1,049,060 | 6.2 |
| Barley grain | 0 | 0 | Barley grain | — | 30 | Barley grain | 30 | 7 | 0.4% | $2,924 | 0.1 |
| Bean, dry | 0 | 0 | Bean, dry | — | 13 | Bean, dry | 14 | 3 | 0.1% | $3,731 | 0.0 |
| Carrot* | 0 | 1 | Carrot* | — | 131 | Carrot* | 131 | 32 | — | $213,052 | 1.4 |
| Cherry | 0 | 0 | Cherry | — | 4 | Cherry | 4 | 1 | 0.0% | $8,303 | 0.1 |
| Corn fodder* | 0 | 0 | Corn fodder* | 5 | 47 | Corn fodder* | 52 | 17 | — | $17,066 | 0.1 |
| Corn grain* | 0 | 0 | Corn grain* | — | — | Corn grain* | 40 | 14 | 0.1% | $— | 0.0 |
| Cotton | 0 | 0 | Cotton | 5 | 35 | Cotton | 18 | 6 | 0.3% | $25,992 | 0.3 |
| Garlic | 0 | 0 | Garlic | 2 | 16 | Garlic | 89 | 23 | 0.0% | $43,382 | 0.0 |
| Grape | 0 | 34 | Grape | 7 | 47 | Grape | 3 | 1 | 0.0% | $179,896 | 1.6 |
| Grape, raisin | 0 | 0 | Grape, raisin | — | 3 | Grape, raisin | 165 | 49 | 0.2% | $1,877 | 0.1 |
| Grape, wine | 0 | 0 | Grape, wine | 12 | 152 | Grape, wine | 289 | 47 | 0.0% | $161,529 | 3.4 |
| Grazing land | 32 | 258 | Grazing land | — | — | Grazing land | 2 | 0 | 0.0% | $236 | 0.0 |
| Lettuce, head | 0 | 0 | Lettuce, head | — | 2 | Lettuce, head | 3 | 1 | 0.0% | $2,360 | 0.0 |
| Onion, dry | 0 | 0 | Onion, dry | — | 3 | Onion, dry | 0 | 0 | — | $2,670 | 0.0 |
| Oat grain* | 0 | 0 | Oat grain* | — | 9 | Oat grain* | 9 | 2 | — | $813 | 0.0 |
| Ornamental–rose | 0 | 0 | Ornamental–rose | 8 | 88 | Ornamental–rose | 96 | 29 | 2.7% | $892,431 | 32.3 |
| Ornamental–shrub | 1 | 6 | Ornamental–shrub | 1 | 5 | Ornamental–shrub | 12 | 3 | 5.0% | $95,347 | 3.6 |
| Pistachio | 0 | 1 | Pistachio | 17 | 111 | Pistachio | 128 | 44 | 0.1% | $210,776 | 0.9 |
| Potato | 0 | 0 | Potato | — | 50 | Potato | 50 | 12 | 0.1% | $57,398 | 0.5 |
| Strawberry | 0 | 0 | Strawberry | — | 1 | Strawberry* | 1 | 0 | — | $11,224 | 0.3 |
| Sudan grass* | 0 | 0 | Sudan grass* | — | 26 | Sudan grass* | 26 | 6 | — | $2,593 | 0.0 |
| Tomato, processing* | 0 | 0 | Tomato, processing* | — | 2 | Tomato, processing* | 2 | 0 | — | $1,303 | 0.0 |
| Vegetable seed### | 0 | 0 | Vegetable seed### | — | — | Vegetable seed### | 0 | 0 | 0 | $— | 0.0 |
| Watermelon | 0 | 0 | Watermelon | — | — | Watermelon | 0 | 0 | 0 | $— | 0.0 |

**Table C-9**
Kern County: BNSF Alternative

| Non-Prime | Acres Displaced | | | Prime | Acres Displaced | | | BNSF Alternative | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Crop Type | < 50 feet from Center-line | 50 to 500 feet from Center-line | | Crop Type | < 50 feet from Center-line | 50 to 500 feet from Center-line | | Crop Type | Acres Displaced | Acres Lost | % of Entire County Crop Loss# | Estimated Revenue Loss in County | Estimated Job Loss in County |
| Wheat grain | 0 | 0 | | Wheat grain | 7 | 237 | | Wheat grain | 244 | 65 | 0.1% | $42,200 | 0.6 |
| Unknown ag land | 27 | 105 | | Unknown ag land | 167 | 611 | | Unknown ag land | 909 | 342 | — | $495,087 | 16.8 |
| Livestock | 0 | 0 | | Livestock | — | — | | Livestock | 0 | 0 | — | $— | 0.0 |
| Other acreage## | 171 | 1,493 | | Other acreage## | — | — | | Other acreage## | 1664 | | — | $— | — |
| Sum non-prime | **61** | **520** | | Sum prime | **276** | **2,840** | | Sum | **3,696** | **1,062** | **0.1%** | **$3,594,223** | **68.4** |

Sources: URS analysis of the following: Kern County 2008, 2009; California State Department of Conservation 2007, except where indicated by an asterisk (*).

* No specific dollar per acre value listed in Kern County 2009. Instead, an average was taken of values (if they existed) from Fresno County 2009; Kings County 2009; Tulare County 2009; California Department of Food and Agriculture 2009a, 2009b. If no specific values were available in any of the counties, the average value for the miscellaneous crop type for Fresno County was used.

# Percent of entire county crop loss values calculated on annual revenue basis.
## The acres displaced for "Other "Acreage" are included; however, they were assumed to have no value and so were not included in the "Lost Acres" column or in the "Acres Displaced" sums.
### The numbered crop vegetable seed is a sum of all vegetable seed crops in the project. The dollar per acre value used is the value given by Kern County 2009.

ag = agricultural
BNSF = BNSF Railway

**Table C-10**
Kern County: Total Change and Change Relative to BNSF Alternative for Allensworth Bypass and Wasco-Shafter Bypass Alternatives

| Kern County | Allensworth Bypass | | | | | Comparison to BNSF Alternative | | | | | Wasco Shafter Bypass | | | | | Comparison to BNSF Alternative | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Crop Type | Acres Displaced | Acres Lost | % of Entire County Crop Loss# | Estimated Revenue Loss in County | Estimated Job Loss in County | Δ Acres Displaced | Δ Acres Lost | Δ % of Entire County Crop Loss# | Δ Estimated Revenue Loss in County | Δ Estimated Job Loss in County | Acres Displaced | Acres Lost | % of Entire County Crop Loss# | Estimated Revenue Loss in County | Estimated Job Loss in County | Δ Acres Displaced | Δ Acres Lost | Δ % of Entire County Crop Loss# | Δ Estimated Revenue Loss in County | Δ Estimated Job Loss in County |
| Alfalfa | 255 | 50 | 0.0% | $79,324 | 0.2 | 164 | 27 | 0.0% | $43,343 | 0.1 | 220 | 67 | 0.0% | $106,784 | 0.3 | 131 | 44 | 0.0% | $69,793 | 0.2 |
| Almond | 319 | 73 | 0.1% | $246,809 | 1.4 | -143 | -44 | 0.0% | $(149,645) | -0.8 | 941 | 294 | 0.2% | $995,707 | 5.8 | 208 | 101 | 0.1% | $343,101 | 2.0 |
| Barley grain | 0 | 0 | 0.0% | $— | 0.0 | 0 | 0 | 0.0% | $— | 0.0 | 34 | 10 | 0.5% | $4,020 | 0.1 | 4 | 3 | 0.1% | $1,095 | 0.0 |
| Bean, dry | 0 | 0 | 0.0% | $— | 0.0 | 0 | 0 | 0.0% | $— | 0.0 | 83 | 26 | 0.8% | $29,886 | 0.1 | 69 | 23 | 0.7% | $26,155 | 0.1 |
| Carrot* | 0 | 0 | — | $— | 0.0 | 0 | 0 | -— | $— | 0.0 | 301 | 93 | - | $617,473 | 4.0 | 169 | 61 | - | $404,421 | 2.6 |
| Cherry | 0 | 0 | 0.0% | $— | 0.0 | 0 | 0 | 0.0% | $— | 0.0 | 13 | 4 | 0.1% | $29,068 | 0.4 | 8 | 3 | 0.1% | $20,765 | 0.3 |
| Corn fodder* | 29 | 5 | — | $4,741 | 0.0 | 23 | 3 | — | $3,127 | 0.0 | 4 | 1 | - | $930 | 0.0 | -42 | -14 | - | $(14,522) | -0.1 |
| Corn grain* | 0 | 0 | — | $— | 0.0 | 0 | 0 | — | $— | 0.0 | 49 | 15 | - | $14,027 | 0.1 | 49 | 15 | - | $14,027 | 0.1 |
| Cotton | 0 | 0 | 0.0% | $— | 0.0 | 0 | 0 | 0.0% | $— | 0.0 | 149 | 48 | 0.2% | $90,014 | 0.9 | 109 | 34 | 0.1% | $64,021 | 0.6 |
| Garlic | 0 | 0 | 0.0% | $— | 0.0 | 0 | 0 | 0.0% | $— | 0.0 | 0 | 0 | 0.0% | $- | 0.0 | -18 | -6 | -0.3% | $(43,382) | 0.0 |
| Grape, table | 0 | 0 | 0.0% | $— | 0.0 | -34 | -4 | 0.0% | $(32,660) | -0.3 | 0 | 0 | 0.0% | $- | 0.0 | -55 | -19 | 0.0% | $(147,236) | -1.3 |
| Grape, raisin | 0 | 0 | 0.0% | $— | 0.0 | 0 | 0 | 0.0% | $— | 0.0 | 0 | 0 | 0.0% | $- | 0.0 | -3 | -1 | 0.0% | $(1,877) | -0.1 |
| Grape, wine | 490 | 117 | 0.5% | $380,579 | 8.0 | 358 | 75 | 0.3% | $246,362 | 2.4 | 76 | 24 | 0.1% | $79,581 | 1.7 | 43 | 16 | 0.1% | $52,268 | 1.1 |
| Grazing land | 0 | 0 | 0.0% | $— | 0.0 | 0 | 0 | 0.0% | $— | 0.0 | 0 | 0 | 0.0% | $- | 0.0 | -37 | -6 | 0.0% | $(30) | 0.0 |
| Lettuce, head | 0 | 0 | 0.0% | $— | 0.0 | 0 | 0 | 0.0% | $— | 0.0 | 0 | 0 | 0.0% | $- | 0.0 | -2 | 0 | 0.0% | $(2,360) | 0.0 |
| Onion, dry | 0 | 0 | 0.0% | $— | 0.0 | 0 | 0 | 0.0% | $— | 0.0 | 0 | 0 | 0.0% | $- | 0.0 | -3 | -1 | 0.0% | $(2,670) | 0.0 |
| Oat grain* | 0 | 0 | — | $— | 0.0 | -9 | -2 | — | $(813) | 0.0 | 0 | 0 | - | $- | 0.0 | 0 | 0 | - | $- | 0.0 |
| Ornamental–rose | 0 | 0 | 0.0% | $— | 0.0 | 0 | 0 | 0.0% | $— | 0.0 | 183 | 59 | 5.5% | $1,797,499 | 65.1 | 87 | 30 | 2.8% | $905,068 | 32.8 |
| Ornamental–shrub | 0 | 0 | 0.0% | $— | 0.0 | 0 | 0 | 0.0% | $— | 0.0 | 22 | 7 | 11.0% | $208,627 | 7.9 | 9 | 4 | 6.0% | $113,280 | 4.3 |
| Pistachio | 32 | 11 | 0.0% | $53,252 | 0.2 | -83 | -30 | -0.1% | $(142,474) | -0.5 | 138 | 44 | 0.1% | $211,907 | 0.9 | 125 | 41 | 0.1% | $196,856 | 0.8 |
| Potato | 0 | 0 | 0.0% | $— | 0.0 | 0 | 0 | 0.0% | $— | 0.0 | 29 | 7 | 0.0% | $33,748 | 0.3 | -21 | -5 | 0.0% | $(23,650) | -0.2 |
| Strawberry* | 0 | 0 | — | $— | 0.0 | 0 | 0 | — | $— | 0.0 | 0 | 0 | - | $- | 0.0 | -1 | 0 | - | $(11,224) | -0.3 |
| Sudan grass* | 0 | 0 | — | $— | 0.0 | 0 | 0 | — | $— | 0.0 | 17 | 4 | - | $1,642 | 0.0 | -10 | -2 | - | $(951) | 0.0 |
| Tomato, processing* | 0 | 0 | — | $— | 0.0 | 0 | 0 | — | $— | 0.0 | 0 | 0 | - | $- | 0.0 | -2 | 0 | - | $(1,303) | 0.0 |
| Vegetable seed | 0 | 0 | 0.0% | $— | 0.0 | 0 | 0 | 0.0% | $— | 0.0 | 22 | 7 | 0.5% | $25,050 | 0.3 | 22 | 7 | 0.5% | $25,050 | 0.3 |

**Table C-10**

Kern County: Total Change and Change Relative to BNSF Alternative for Allensworth Bypass and Wasco-Shafter Bypass Alternatives

| Kern County | Allensworth Bypass | | | | | Comparison to BNSF Alternative | | | | | Wasco Shafter Bypass | | | | | Comparison to BNSF Alternative | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Crop Type | Acres Displaced | Acres Lost | % of Entire County Crop Loss# | Estimated Revenue Loss in County | Estimated Job Loss in County | Δ Acres Displaced | Δ Acres Lost | Δ % of Entire County Crop Loss# | Δ Estimated Revenue Loss in County | Δ Estimated Job Loss in County | Acres Displaced | Acres Lost | % of Entire County Crop Loss# | Estimated Revenue Loss in County | Estimated Job Loss in County | Δ Acres Displaced | Δ Acres Lost | Δ % of Entire County Crop Loss# | Δ Estimated Revenue Loss in County | Δ Estimated Job Loss in County |
| Watermelon | 0 | 0 | 0.0% | $— | 0.0 | 0 | 0 | 0.0% | $— | 0.0 | 0 | 0 | 0.0% | $34 | 0.0 | 0 | 0 | 0.0% | $34 | 0.0 |
| Wheat grain | 233 | 43 | 0.1% | $28,207 | 0.4 | 233 | 43 | 0.1% | $28,207 | 0.4 | 334 | 101 | 0.1% | $65,934 | 0.9 | 90 | 36 | 0.0% | $23,734 | 0.3 |
| Unknown ag land | 80 | 19 | — | $27,665 | 0.9 | -251 | -80 | — | $(115,088) | -4.2 | 358 | 129 | - | $186,999 | 6.3 | -220 | -114 | - | $(165,126) | -5.6 |
| Livestock | 0 | 0 | — | $— | 0.0 | 0 | 0 | — | $— | 0.0 | 0 | 0 | - | $- | 0.0 | 0 | 0 | - | $- | 0.0 |
| Other acreage## | 139 | — | — | $— | — | 11 | — | — | $— | — | 130 | - | - | $- | - | -516 | - | - | $- | - |
| Sum | **1439** | **317** | **0.0%** | **$820,576** | **11.2** | **257** | **-11** | 0.0% | **$(119,642)** | **(2.9)** | **2994** | **949** | 0.0% | **$4,523,979** | **95.3** | **732** | **256** | **0.0%** | **$1,870,386** | **38.0** |

Sources: URS analysis of the following: Kern County 2008, 2009; California State Department of Conservation 2007, except where indicated by an asterisk (*).

* No specific dollar per acre value listed in Kern County 2009. Instead, an average was taken of values (if they existed) from Fresno County 2009; Kings County 2009; Tulare County 2009; California Department of Food and Agriculture 2009b. If no specific values are available in any of the counties, the average value for the miscellaneous crop type for Fresno County was used.

# Percent of entire county crop loss values calculated on annual revenue basis.
## The acres displaced for "Other Acreage" are included; however, they were assumed to have no value and so were not included in the "Acres Lost" column or in the "Acres Displaced" sums.
### The numbered crop vegetable seed is a sum of all vegetable seed crops in the project. The dollar per acre value used is the value given by Kern County 2009.

ag = agricultural
BNSF = BNSF Railway

*This page intentionally left blank*

## C.3 References

California Department of Food and Agriculture. 2009a. *California Agricultural Highlights, 2008–2009*. California Department of Food and Agriculture, 2009.

———. 2009b. *California Agricultural Resource Directory, 2008–2009*. Sacramento: California Department of Food and Agriculture, 2009.

California Employment Development Department. 2008. *California Statewide Agricultural Employment, 2007*. Sacramento: Employment Development Department, 2008.

California State Department of Conservation. 2007. *FMMP Important Farmland Map Categories.* Sacramento: California State Department of Conservation, Farmland Mapping & Monitoring Program, Land Resource Program, 2007. http://www.conservation.ca.gov/dlrp/fmmp/mccu/Pages/map_categories.aspx (accessed June 2010).

———. 2009. *Prime Farmland GIS Data for 2006 and 2008.* Sacramento: California State Department of Conservation, Farmland Mapping & Monitoring Program, Land Resource Program, 2009.

Collar, Carol. 2010. Farm Advisor, University California Cooperative Extension. Personal communication with Guyton Durnin, URS, July 15, 2010.

Crumb, Michael. 2010. "California Loses Dairy Farms as Iowa, Texas, Other States Lure Farmers with Less Regulation." April 12, 2010. http://abcnews.go.com/Business/wireStory?id=10348586 (accessed February 2011).

Dahlberg, David. 2010. Manager of Current Economic Statistics Group, Labor Market Information Division, State of California. Personal communication with Guyton Durnin, URS, May 21, 2010.

Dairy Realty. 2010. *Turlock CA Dairy Farm, 66 Acres, 477 Cow Capacity, Free Stalls, Corral*. May 20, 2010. http://www.DairyRealty.com.

Dibble, Connor. 2010. *Effects of Wind on Pollinator Activity Memorandum*. URS/HMM/Arup Joint Venture. June 7, 2010.

Edwards, Randy. 2010. Dairy Appraiser, Edwards, Lien and Toso Inc. Personal communication with Guyton Durnin, URS, May 13 and May 25, 2010.

Fresno County. 2009. *2008 Fresno County Agricultural Crop and Livestock Report*. County of Fresno, Department of Agriculture, 2009.

———. 2010. *Fresno County Spatial Crop Data*. County of Fresno, Department of Agriculture, 2010.

Higginbotham, Gerald. 2010. Dairy Farm Advisor, University California Cooperative Extension. Personal communication with Guyton Durnin, URS, May 13, 2010.

Kern County. 2008. *Kern County Spatial Crop Data*. Kern County, Department of Agriculture and Measurement Standards, 2008.

———. 2009. *2008 Kern County Agricultural Crop Report.* County of Kern, Department of Agriculture and Measurement Standards, 2009.

Kings County. 2009. *Agricultural Crop Report, 2008*. County of Kings, Department of Agriculture and Measurement Standards, 2009.

———. 2010. *Kings County Spatial Crop Data*. County of Kings, Department of Agriculture and Measurement Standards, 2010.

Lee, Ian. 2010. Systems and Procedures Analyst III, Department of Agriculture, County of Fresno. Personal communication with Guyton Durnin, URS, May 3, 2010.

Rodriguez, Robert. 2010. "Kings County Crop Value Drops 25%." *Fresno Bee,* June 15, 2010.

Schrumpf, Linda. 2010. Network Administrator, Department of Agriculture and Measurement Standards, County of Kings. Personal communication with Guyton Durnin, URS, March 3, 2010.

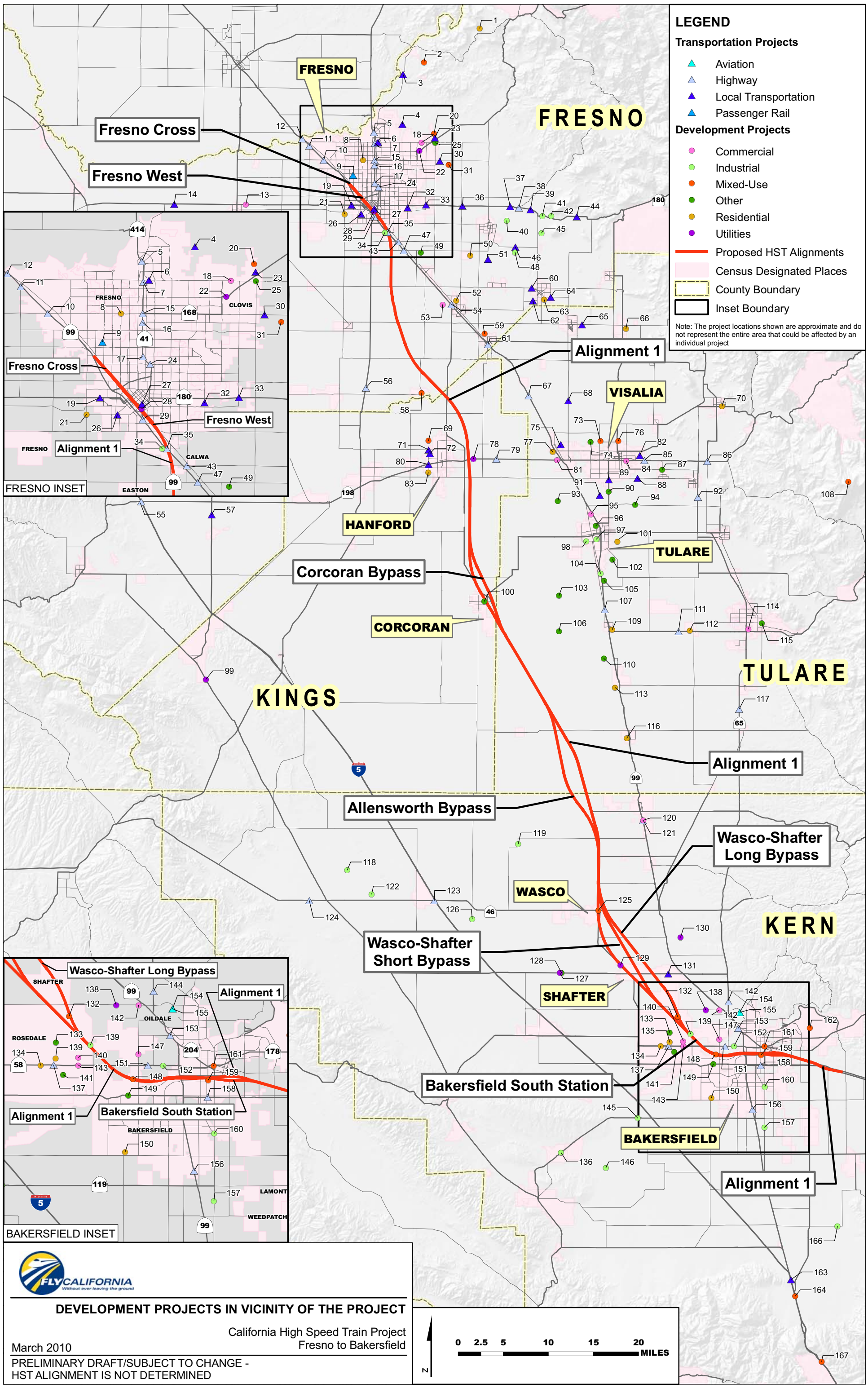
Tulare County. 2009. *2008 Tulare County Annual Crop and Livestock Report*. County of Tulare, Department of Agriculture, 2009.

———. 2010. *Tulare County Spatial Crop Data*. Tulare County, 2010.

Vanderburgh, Brent. 2010. Engineering Geologist Irrigated Lands Regulatory Program Kings County. Personal communication with Guyton Durnin, URS, July 20, 2010.

Waterhouse, et al. 2010. Letter to California High-Speed Rail Authority on potential agricultural impacts. Letter, May 28, 2010.

# Appendix D
## Cumulative Projects


LEGEND
Transportation Projects
Aviation
Highway
Local Transportation
Passenger Rail
Development Projects
Commercial
Industrial
Mixed-Use
Other
Residential
Utilities
Proposed HST Alignments
Census Designated Places
County Boundary
Inset Boundary
Note: The project locations shown are approximate and do not represent the entire area that could be affected by an individual project
FRESNO
Fresno Cross
Fresno West
Alignment 1
VISALIA
HANFORD
Corcoran Bypass
CORCORAN
TULARE
KINGS
Allensworth Bypass
Wasco-Shafter Long Bypass
WASCO
KERN
Wasco-Shafter Short Bypass
SHAFTER
Bakersfield South Station
BAKERSFIELD
FRESNO INSET
BAKERSFIELD INSET
FLYCALIFORNIA
Without ever leaving the ground
DEVELOPMENT PROJECTS IN VICINITY OF THE PROJECT
California High Speed Train Project
Fresno to Bakersfield
March 2010
PRELIMINARY DRAFT/SUBJECT TO CHANGE -
HST ALIGNMENT IS NOT DETERMINED
0 2.5 5 10 15 20
MILES
N

*This page intentionally left blank*

**Table A: Past, Present, and Future Development Projects in Vicinity of the Fresno to Bakersfield High-Speed Train Alignment**

| Map ID on Figure A | Project Name | Description | Location | Potential Cumulative Impact Areas |
|---|---|---|---|---|
| 1 | Midland Pacific Building Corporation | Development of 160 residential units on 309 acres. (Acosta-Mena, 2009) | North and west side of Auberry Road, northeast Fresno County | Possible overlap of construction activities. Areas of potential cumulative impacts are land use, aesthetics, population and housing, transportation, noise, and air quality. |
| 2 | Friant Ranch Specific Plan | Friant Ranch is proposing to develop a master planned community for the Active Adult population (55 years of age and older) adjacent to the existing community of Friant. The Friant Ranch Specific Plan would serve as an overall framework and regulatory document for the development of a mixed use community with 2,683 single-family age-restricted units, 83 multiple-family age-restricted units, 180 non-age-restricted multi-family units, and 250,000 square feet of commercial space within a Village Core that also provides for up to 50 residential units. The Friant Ranch Specific Plan incorporates two active adult recreation centers, approximately 15 miles of trails and parkways, approximately 20 acres of parks and public open space areas, approximately 92 acres of landscaped slopes, and approximately 275 acres of conservation open space areas (including 245 acres of undisturbed open space and 30 acres of revegetated open space slopes). (Acosta-Mena, 2009) | East of the San Joaquin River, approximately 9 miles north of the Fresno City limits and 21 miles east of the City of Madera. | Possible overlap of construction activities. Areas of potential cumulative impacts are land use, aesthetics, population and housing, transportation, noise, and air quality. |
| 3 | Friant Road widening | Widen Friant Road from Cooper Avenue to Millerton to four lanes. (Fresno County, 2010) | Fresno County | Possible overlap of construction activities. Areas of potential cumulative impacts are transportation, air quality, and noise. |
| 4 | Willow-Shepherd Street Improvements Project | The purpose of the project is to widen northbound Willow Avenue and eastbound Shepherd Avenue at and in the vicinity of their intersection of to improve traffic operations and relieve congestion. The project will also construct miscellaneous street improvements, such as the extension of a median island and the installation of curb and gutter. (CEQAnet, 2009) | Willow and Shepherd Avenues, Clovis | Possible overlap of construction activities. Areas of potential cumulative impacts are transportation, air quality, and noise. |
| 5 | SR-41 | Southbound auxiliary lane. (Council of Fresno County Governments, 2007) | El Paso Avenue to Friant Road, Fresno County | Possible overlap of construction activities. Areas of potential cumulative impacts are transportation, air quality, and noise. |

| Map ID on Figure A | Project Name | Description | Location | Potential Cumulative Impact Areas |
|---|---|---|---|---|
| 6 | Herndon Avenue widening | Widen Herndon Avenue from SR-99 to De Wolf Avenue to a six-lane divided road. (Fresno County, 2010) | Fresno County | Possible overlap of construction activities. Areas of potential cumulative impacts are transportation, air quality, and noise. |
| 7 | SR-41 | Northbound auxiliary lane addition. (Council of Fresno County Governments, 2007) | Bullard Avenue to Herndon Avenue, Fresno County | Possible overlap of construction activities. Areas of potential cumulative impacts are transportation, air quality, and noise. |
| 8 | Villas at Fig Garden | The project consists of incorporating the existing Fig Garden Financial Center into a mixed-use development that includes a new residential building. The new residential building is proposed on approximately 4.69 acres immediately east of the existing financial center. This property currently contains a 44-unit apartment complex andone single-family home. An approximately 0.73-acre open space/park area will be provided on the east boundary of the Site Addition. The project proposes approximately 305 residential units (i.e., apartments) in a multi-tiered building up to six stories in height with underground parking. The project site would be accessed from W. San Jose Avenue from Palm Avenue, or from within the adjacent Fig Garden Village Shopping Center and the Financial Center parking lot. (CEQAnet, 2009) | Palm Avenue and Shaw Avenue, Fresno County | Possible overlap of construction activities. Areas of potential cumulative impacts are land use, aesthetics, population and housing, transportation, noise, and air quality. |
| 9 | Fresno Freight Rail Alignment Project | The project considers several alternatives to realign the Union Pacific and Burlingame Santa Fe railroad alignments through Fresno County. Some alternatives consider shared rights-of-way and trackage rights while other consider parallel alignments. The project is sponsored by both the Council of Fresno County Governments and the California High Sped Rail Authority. (Council of Fresno County of Governments and California High Spped Rail Authority, 2010) | Fresno County | Possible overlap of construction activities. Areas of potential cumulative impacts are transportation, air quality, and noise. |
| 10 | SR-99 | Interchange improvements. (Council of Fresno County Governments, 2007) | Shaw Avenue, Fresno County | Possible overlap of construction activities. Areas of potential cumulative impacts are transportation, air quality, and noise. |
| 11 | SR-99 | Construct interchange. (Council of Fresno County Governments, 2007) | Grantland Avenue Diagonal, Fresno County | Possible overlap of construction activities. Areas of potential cumulative impacts are transportation, air quality, and noise. |

| Map ID on Figure A | Project Name | Description | Location | Potential Cumulative Impact Areas |
|---|---|---|---|---|
| 12 | SR-99 | Caltrans proposes to widen a 2.9-mile segment of SR-99 by constructing two additional lanes in the median to convert the existing four-lane freeway to a six-lane freeway from south of the Grantland Avenue undercrossing in Fresno County, to north of the Avenue 7 overcrossing in Madera County. The work also includes replacing and widening the San Joaquin River Bridge. Three detention basins are proposed to be constructed on the west side of the highway: two basins would be adjacent to the San Joaquin River and one basin would be just north of the Avenue 7 overcrossing. An existing basin east of the highway south of the Avenue 7 over-crossing would be deepened. (Council of Fresno County Governments, 2007) | SR-99 from Grantland Avenue in Fresno County to Avenue 7 in Madera County | Possible overlap of construction activities. Areas of potential cumulative impacts are transportation, air quality, and noise. |
| 13 | Kerman Walmart Project | The proposed project consists of the development of 184,446-square-foot retail center on the project site. The center would be anchored by an approximately 160,446-square-foot Walmart store that would operate 24 hours a day and retail groceries and general merchandise. Three outlots would be developed along W. Whitesbridge Avenue with a combined development potential of 24,000 square feet. (CEQAnet, 2009) | West Whitesbridge Avenue and South Goldenrod Avenue, Kernan, | Possible overlap of construction activities. Areas of potential cumulative impacts are land use, aesthetics, population and housing, transportation, noise, and air quality. |
| 14 | SR-180 West | Create passing lanes in each direction on SR-180 West from Yuba Avenue to James Avenue. (Fresno County, 2010) | Fresno County | Possible overlap of construction activities. Areas of potential cumulative impacts are transportation, air quality, and noise. |
| 15 | SR-180 | Braided ramp construction. (Council of Fresno County Governments, 2007) | SR-41 to SR-168, Fresno County | Possible overlap of construction activities. Areas of potential cumulative impacts are transportation, air quality, and noise. |
| 16 | SR-41 | Northbound auxiliary lane. (Council of Fresno County Governments, 2007) | Ashlan Avenue to Shaw Avenue, Fresno County | Possible overlap of construction activities. Areas of potential cumulative impacts are transportation, air quality, and noise. |
| 17 | SR-41 | Widen ramps to interchanges. (Council of Fresno County Governments, 2007) | McKinley Avenue to Shields Avenue, Fresno County | Possible overlap of construction activities. Areas of potential cumulative impacts are transportation, air quality, and noise. |

| Map ID on Figure A | Project Name | Description | Location | Potential Cumulative Impact Areas |
|---|---|---|---|---|
| 18 | Clovis-Herndon Shopping Center | The project includes the development of a shopping center with approximately 491,904 square feet of leasable space on approximately 44 acres of a 50-acre site on the northeastern corner of Clovis Avenue and Herndon Avenue, west of Sunnyside Avenue, and south of SR-168. The project includes an approximately 228,754-square-foot WalMart store, nine other major stores with space between 7,500 and 88,400 square feet, and six additional commercial pads ranging from 4,400 to 8,000 square feet. Parking includes approximately 2,558 vehicle stalls plus loading areas. Street improvement and traffic control improvements are planned to accommodate additional traffic generated by the project. Connection to the City's water, wastewater, and the Fresno Metropolitan Flood Control District's stormwater collection and disposal systems are proposed for the newly constructed area. The developer's applications include a Rezone, Site Plan Review, a Conditional Use Permit, and a Director Review and Approval. (CEQAnet, 2009) | Herndon, Sunnyside, Clovis Avenue, Clovis | Possible overlap of construction activities. Areas of potential cumulative impacts are land use, aesthetics, population and housing, transportation, noise, and air quality. |
| 19 | SR-180 West Segment | Construction of a freeway on SR-180 from Brawley to Hughes West. Construction of a frontage road. (Fresno County, 2010) | Fresno County | Possible overlap of construction activities. Areas of potential cumulative impacts are transportation, air quality, and noise. |
| 20 | Clovis Research & Technology Park | The project totals approximately153 acres. The project proposes to change the General Plan and Herndon-Shepherd Specific Plan land use designation to Mixed use Area 40 to allow research and technology use as well as live/work units and to amend the Circulation Element to extend Alluvial Avenue through the site from Temperance Avenue to the Nees Avenue off-ramp at SR-168. The project also proposes to reclassify a portion of Nees Avenue to a collector and a portion of Locan Avenue to an industrial standard. The project would be combined with the existing 180-acre research and technology Park for a technology park that totals 333 acres. The types of uses allowed by the proposed research and technology park include certain manufacturing, assembly and research uses, ancillary retail, business services, certain types of transportation and communication, and Live/Work units. The Floor Area Ratio is 0.4 and allows up to approximately 2.4 million square feet of development. (CEQAnet, 2009) | Temperance Avenue and Nees Avenue, SR-168, Clovis | Possible overlap of construction activities. Areas of potential cumulative impacts are land use, aesthetics, population and housing, transportation, noise, and air quality. |
| 21 | Fresno Veterans Home | The proposed project would provide an approximately 235,435-gross-square-foot residential care facility and a skilled nursing facility with a total of 300 beds, both for veterans. Each room would have approximately 380 net square feet. The garden would be easily accessed and designed to support the specific needs of each neighborhood. The proposed veterans home facility would include a main kitchen where food would be prepared to be transported to dining areas within the home. A loading dock would be close to the kitchen. (CEQAnet, 2009) | California Avenue and Marks Avenue, Fresno | Possible overlap of construction activities. Areas of potential cumulative impacts are land use, aesthetics, population and housing, transportation, noise, and air quality. |

| Map ID on Figure A | Project Name | Description | Location | Potential Cumulative Impact Areas |
|---|---|---|---|---|
| 22 | Clovis Fiber Optics Project (CIP 08-01) | The City of Clovis, in cooperation with the Clovis Unified School District (CUSD), is proposing to install conduit and communication fiber optic cable in the City of Clovis. The new conduit and fiber optic cable would be buried underground in existing public right-of-way, including various CUSD school sites. The objective of the proposed project is to provide a fiber optic communication linkage between the CUSD District Office on the southeastern corner of Herndon and Sunnyside Avenues and all CUSD elementary school campuses within the project area by constructing new conduits, installing fiber optic cable in existing and new conduits, and installing related facilities, such as pull boxes. (CEQAnet, 2009) | Citywide, City of Clovis, Fresno County | Possible overlap of construction activities. |
| 23 | Temperance Avenue widening | Widen Temperance Avenue from Bullard to Shepherd Avenue to a four-lane divided road. (Fresno County, 2010) | Fresno County | Possible overlap of construction activities. Areas of potential cumulative impacts are transportation, air quality, and noise. |
| 24 | SR-41 | Auxiliary lanes. (Council of Fresno County Governments, 2007) | "O" Street to Shaw Avenue, Fresno County | Possible overlap of construction activities. Areas of potential cumulative impacts are transportation, air quality, and noise. |
| 25 | Clovis Community Medical Center Healthcare Campus Expansion Project | The Clovis Community Medical Center Healthcare Campus Expansion Project consists of a ten-year expansion plan for additional facilities and improvements and a long-range site development master plan for 25 to 30 years in the future. (CEQAnet, 2009) | Herndon Avenue and Temperance Avenue, Fresno County | Possible overlap of construction activities. Areas of potential cumulative impacts are land use, aesthetics, population and housing, transportation, noise, and air quality. |
| 26 | California Avenue widening | Widen California Avenue from Ventura Aveneue to West Avenue to a four-lane divided road. (Fresno County, 2010) | Fresno County | Possible overlap of construction activities. Areas of potential cumulative impacts are transportation, air quality, and noise. |
| 27 | Ventura Boulevard widening | Widen Ventura Boulevard from SR-41 to SR-99 to a four-lane divided road. (Fresno County, 2010) | Fresno County | Possible overlap of construction activities. Areas of potential cumulative impacts are transportation, air quality, and noise. |

| Map ID on Figure A | Project Name | Description | Location | Potential Cumulative Impact Areas |
|---|---|---|---|---|
| 28 | City of Fresno Three Million Gallon Water Storage Tank | The proposed project consists of the construction and operation of a 3-million-gallon water storage tank, pipelines, and associated appurtenances on approximately 3.60 acres. The tank will be aboveground, with a maximum height of approximately 32 feet, with a water depth of 30 feet and an inside diameter of 132 feet, and will be surrounded by other related structures or open space. All associated pumps, controls, and utilities will be designed (programmed) and constructed. It should be noted that design of the tank is not final, and the tank may also be located partially or fully underground. (CEQAnet, 2009) | H Street and San Benito Street, Fresno County | Possible overlap of construction activities. Areas of potential cumulative impacts are aesthetics and utilities. |
| 29 | SR-99 Monterey Bridge | Replace the Monterey Street Bridge. (Council of Fresno County Governments, 2007) | SR-99 and Monterey Street, Fresno County | Possible overlap of construction activities. Areas of potential cumulative impacts are transportation, air quality, and noise. |
| 30 | Shaw Avenue upgrades | Improve Shaw Avenue from Sunnyside to McCall to a six-lane divided road. (Fresno County, 2010) | Fresno County | Possible overlap of construction activities. Areas of potential cumulative impacts are transportation, air quality, and noise. |
| 31 | Southeast Urban Center Specific Plan | Community Center South – 1,840 residential units and 1,138 square feet of nonresidential area.<br>Community Center North – 806 residential units and 675,942 square feet of nonresidential units.<br>Gettysburg/Ashland – 1,607 residential units and 247,421 square feet of commercial development.<br>Eastern Village – 182-acre business campus, 1,378 residential units, and approximately 4,291,531 square feet of nonresidential use. (City of Clovis, 2003) | Clovis | Possible overlap of construction activities. Areas of potential cumulative impacts are land use, aesthetics, population and housing, transportation, noise, and air quality. |
| 32 | Widening of Peach Avenue | The project would widen Peach Avenue from SR-180 to Jenson Avenue. (CEQAnet, 2009) | Peach and SR-180 to Peach and Jenson, Fresno | Possible overlap of construction activities. Areas of potential cumulative impacts are transportation, air quality, and noise. |
| 33 | SR-180 East Segment | Construction of a multi-lane freeway on SR-180 from Clovis to Temperance. (Fresno County, 2010) | Fresno County | Possible overlap of construction activities. Areas of potential cumulative impacts are transportation, air quality, and noise. |

| Map ID on Figure A | Project Name | Description | Location | Potential Cumulative Impact Areas |
|---|---|---|---|---|
| 34 | C.A.R.T.S. Trucking Yard | THe proposed project would consist of construction of a 4,000-square-foot office; cardlock fueling stations for gasoline, diesel (conventional and biofuel) and compressed natural gas with two aboveground 12,000-gallon diesel fuel tanks; a 14,600-gallon, 43-foot-tall aboveground liquefied natural gas tank with three subsidiary aboveground compressed natural gas storage vessels; two aboveground gasoline tanks, 1,000 and 2,000 gallons in size, which may later be replaced by 12,000-gallon aboveground tanks; a 1,584 square-foot. canopy over the diesel and gasoline fuel islands; approximately 18,500 square feet of heavy equipment truck/waste bin maintenance facilities for related activities (shop areas and parts storage; waste bin and vehicle painting and repair; truck servicing); parking for 113 employees; parking for at least 44 solid waste vehicles and pieces of heavy equipment; open areas for storage of waste bins; and an onsite ponding basin. (CEQAnet, 2009) | South Orange Avenue and East North Avenue, Fresno | Possible overlap of construction activities. Areas of potential cumulative impacts are land use, aesthetics, population and housing, transportation, noise, air quality, and utilities. |
| 35 | SR-99 | Upgrade interchange. (Council of Fresno County Governments, 2007) | SR-99 to Cedar/North Avenue, Fresno County | Possible overlap of construction activities. Areas of potential cumulative impacts are transportation, air quality, and noise. |
| 36 | SR-180 East | Widen SR-180 East from Temperance to Academy Avenue to a four-lane divided expressway. (Fresno County, 2010) | Fresno County | Possible overlap of construction activities. Areas of potential cumulative impacts are transportation, air quality, and noise. |
| 37 | SR-180 East | Widen SR-180 east from Academy Avenue to Trimmer Springs to a two-lane expressway on four-lane right-of-way. (Fresno County, 2010) | Fresno County | Possible overlap of construction activities. Areas of potential cumulative impacts are transportation, air quality, and noise. |
| 38 | SR-180 | Widen to four lanes from Temperance to Cove. | Fresno County | Possible overlap of construction activities. Areas of potential cumulative impacts are transportation, noise, and air quality. |
| 39 | SR-180 East | Widen SR-180 East from Trimmer Springs to Frankwood Avenue to a two-lane expressway on a four-lane right-of-way. (Fresno County, 2010) | Fresno County | Possible overlap of construction activities. Areas of potential cumulative impacts are transportation, air quality, and noise. |

| Map ID on Figure A | Project Name | Description | Location | Potential Cumulative Impact Areas |
|---|---|---|---|---|
| 40 | Sanger-Centerville Aggregate Operation Expansion Project | The proposed project would expand the existing 220-acre Sanger-Centerville aggregate mining operation as permitted by CUP Nos. 1466 and 1656 onto an adjacent 440 acres. The project will change the method of extraction from dry mining to wet mining phased over a period of 50 years and increase sales from about one million tons per year to 2.5 million tons per year. The project proposes modifications to the reclaimed end use to create a series of ponds, wetlands and open space vegetated with native species. (Acosta-Mena, 2009) | South of SR-180, west of the Kings River and east of Riverbend Avenue, central Fresno County. | Possible overlap of construction activities. Areas of potential cumulative impacts are transportation, noise, and air quality. |
| 41 | Jesse Morrow Mountain | Development and operation of a new hard rock quarry and associated aggregate processing facility on 440 acres of an 824-acre project site. (Acosta-Mena, 2009) | Near SR-180 and Frankwood Avenue, Fresno County | Possible overlap of construction activities. Areas of potential cumulative impacts are transportation, noise, air quality, and biology. |
| 42 | Jesse Morrow Mountain Mine & Reclamation Project | The project includes hard rock aggregate extraction, a conveyor system to move material to an aggregate processing facility, concrete batch plant, asphalt plant, recycling plant for production of excess concrete and asphalt concrete returns, truck distribution of aggregate products, and various support facilities (e.g., weighing station, office, and maintenance). (Acosta-Mena, 2009) | Assessor Parcel Numbers 158-203-15, 185-020-01, 22-450-16, 18, 19, 23, and 26, 333-240-22, 24, and 26, and 33-100-32, 44, and 46 within sections 11, 12, 13, and 14, Township 14 south, Range 23 East of the Wahtoke, California USGS 7.5-minute topographic quadrangle. | Possible overlap of construction activities. Areas of potential cumulative impacts are transportation, noise, and air quality. |
| 43 | SR-99 | Upgrade interchange. (Council of Fresno County Governments, 2007) | Central Avenue and Chestnut Avenue, Fresno County | Possible overlap of construction activities. Areas of potential cumulative impacts are transportation, air quality, and noise. |

| Map ID on Figure A | Project Name | Description | Location | Potential Cumulative Impact Areas |
|---|---|---|---|---|
| 44 | Rural Route 180 Project | The California Department of Fish and Game is executing a Lake and Streambed Alteration Agreement, pursuant to Section 1602 of the Fish and Game Code. Caltrans proposes to remove the existing Wahtoke Creek Bridge and replace it with a new simple span, cast-in-place voided Slab Bridge, with two bents located where the existing abutments are and new abutments 29 feet outside the existing abutments. The new bridge will be widened to the north to bring the bridge to current standards design requirements for a two-lane bridge. (CEQAnet, 2009) | Wahtoke Creek Bridge and SR-180, Fresno County (near Fresno at Wahtoke Creek, Caltran Bridge #42-0078) | Possible overlap of construction activities. Areas of potential cumulative impacts are transportation, air quality, and noise. |
| 45 | Garawan Farms | Development of a sand and gravel extraction operation on 900 acres. (Acosta-Mena, 2009) | South of Annadale, east of Byrd Slough, west of Reed Avenue and north of Central Avenue, Fresno County | Possible overlap of construction activities. Areas of potential cumulative impacts are land use, transportation, noise, air quality. |
| 46 | Kings River Bridge on Goodfellow | The County of Fresno has approved the replacement of the existing bridge with a 34-foot, 10-inch-wide by 520-foot-long cast-in-place concrete box girder. The approaches will be widened from 28 feet to 32 feet for up to 200 feet on either side of the bridge to meet current American Association of State Highway and Transportation Officials roadway width standards. A cofferdam is proposed to be constructed on the upstream side of the riverbed to divert water. The Kings River flows through the center of the project area. The project area consists of the Kings River, a perennial drainage, with Great Valley mixed riparian forest, nonnative annual grassland, and adjacent agricultural fields. (CEQAnet, 2009) | Goodfellow Avenue, 2.0 miles southeast of City of Sanger, Fresno County | Possible overlap of construction activities. Areas of potential cumulative impacts are transportation, air quality, and noise. |
| 47 | SR-99 | Interchange improvements. (Council of Fresno County Governments, 2007) | American Avenue, Fresno County | Possible overlap of construction activities. Areas of potential cumulative impacts are transportation, air quality, and noise. |
| 48 | Kings River Sand & Gravel Quarry Project | Calaveras Materials Incorporated is proposing a sand and gravel (aggregate) extraction and processing facility, and reclamation plan. (Acosta-Mena, 2009) | Bounded by Goodfellow Avenue to the north, Cameron Slough to the east, Kings River to the south, and the Riverbend Alignment to the west, Unincorporated Fresno County. | Possible overlap of construction activities. Areas of potential cumulative impacts are transportation, noise, and air quality. |

| Map ID on Figure A | Project Name | Description | Location | Potential Cumulative Impact Areas |
|---|---|---|---|---|
| 49 | Juvenile Justice Campus | Acquisition of an approximate 220-acre site for the construction and operation of a Juvenile Justice Campus in Fresno County which would accommodate 1,400 beds in addition to supporting related juvenile justice functions. Project complete. (CEQAnet, 2009) | West of SR-99 between East American Avenue and East Jefferson Avenue, Fresno County | Possible overlap of construction activities. Areas of potential cumulative impacts are land use, aesthetics, population and housing, transportation, noise, and air quality. |
| 50 | Del Rey Community Plan Update | Update includes an expansion of the planning area by 296 acres and the development of 455 single-family residences. (Acosta-Mena, 2009) | Fresno County | Possible overlap of construction activities. Areas of potential cumulative impacts are land use, aesthetics, population and housing, transportation, noise, and air quality. |
| 51 | Academy Avenue widening | Widen Academy Avenue from Manning Avenue to Industrial Way. (Fresno County, 2010) | Fresno County | Possible overlap of construction activities. Areas of potential cumulative impacts are transportation, air quality, and noise. |
| 52 | DAVCO Devel.LL | Development of a 39-unit Community Housing Development Organization residential development on 2.42 acres. (Acosta-Mena, 2009) | Thompson and Huntsman Boulevard, City of Selma | Possible overlap of construction activities. Areas of potential cumulative impacts are land use, aesthetics, population and housing, transportation, noise, and air quality. |
| 53 | Rockwell Pond Commercial Project | A 94-acre regional shopping center, would be developed in two phases. Phase 1 will be initiated as soon as annexation and city entitlements are approved and is anticipated to be complete by 2012. Phase 2 will be intiated about 5 years following Phase 1 and is anticipated to be completed by 2017. Together, the two phases would result in approximately 973,100 square feet of retail uses. (CEQAnet, 2009) | Floral and DeWolf Avenues, Selma | Possible overlap of construction activities. Areas of potential cumulative impacts are land use, aesthetics, population and housing, transportation, noise, and air quality. |
| 54 | SR-99 | Replace bridge structures. (Council of Fresno County Governments, 2007) | SR-43/Floral Road, Fresno County | Possible overlap of construction activities. Areas of potential cumulative impacts are transportation, air quality, and noise. |

| Map ID on Figure A | Project Name | Description | Location | Potential Cumulative Impact Areas |
|---|---|---|---|---|
| 55 | SR-198 | Widen bridge to four lanes. (Council of Fresno County Governments, 2007) | Interchange at I-5, Fresno County | Possible overlap of construction activities. Areas of potential cumulative impacts are transportation, air quality, and noise. |
| 56 | SR-41 | Widen to four lanes. (Council of Fresno County Governments, 2007) | King County line to Elkhorn Avenue, Fresno County | Possible overlap of construction activities. Areas of potential cumulative impacts are transportation, air quality, and noise. |
| 57 | Sr-269 Bridge Improvement | Build new bridge and channel on SR-269 between SR-198 and Huron. (Fresno County, 2010) | Fresno County | Possible overlap of construction activities. Areas of potential cumulative impacts are transportation, air quality, and noise. |
| 58 | Laton Community Plan Update | Update includes an expansion of the planning are by 109 acres (45 acres of Low Density and 49 acres of Medium Density residential, 1.5 acres of Reserve Service Commercial, 1.6 acres of Reserve Central Business District, and .4 acre of Reserve Public Facility). (Acosta-Mena, 2009) | Laton | Possible overlap of construction activities. Areas of potential cumulative impacts are land use, aesthetics, population and housing, transportation, noise, and air quality. |
| 59 | North Kingsburg Specific Plan | Development of 628 acres of industrial (Industrial Corridor) and development of 2,178 residential units (North Kingsburg Residential Village). (City of Kingsburg, 2009). | Kingsburg | Possible overlap of construction activities. Areas of potential cumulative impacts are land use, aesthetics, population and housing, transportation, noise, and air quality. |
| 60 | Manning Avenue Bridge Replacement | The project would replace the structurally deficient Manning Avenue Bridge over the Kings River to improve public safety. The proposed project would also install new curb, gutter, and meandering sidewalk approximately 1,250 feet along both sides of Manning Avenue from the east end of the Kings River Bridge to the I Street intersection curb return. (CEQAnet, 2009) | Kings River Road to the west, I Street/ Manning Avenue intersection to the east, Fresno County | Possible overlap of construction activities. Areas of potential cumulative impacts are transportation, air quality, and noise. |
| 61 | SR-99 | Widen to six lanes. (Council of Fresno County Governments, 2007) | Tulare County line to SR-201, Fresno County | Possible overlap of construction activities. Areas of potential cumulative impacts are transportation, air quality, and noise. |

| Map ID on Figure A | Project Name | Description | Location | Potential Cumulative Impact Areas |
|---|---|---|---|---|
| 62 | Central Valley Transportation Center Project | The site is currently in orchard production with a single residence. The new facility would consist of a state-of-the art transportation center from which Kings Canyon Unified School District (District) would maintain and operate a fleet of up to 110 buses and 35 fleet vehicles. The land used by the current District transportation center would be absorbed by the adjacent Reedley High School and be converted to additional sports fields. The proposed Central Valley Transportation Center project (proposed project) would provide the District with new transportation administration and vehicle maintenance facilities, including a 10,900-square-foot education center. These facilities would include a primary administration building with 23 bays for vehicle maintenance, repair, inspection, and wash racks, as well as office, storage, shop, and staff support uses. The proposed project would also incorporate compressed natural gas fueling facilities and solar collection and charging facilities. In addition, there would be auxiliary facilities, and fuel storage and associated dispensers (ethanol, biodiesel, ultra-low sulfur diesel and unleaded regular gasoline). (CEQAnet, 2009) | Huntsman Avenue and Olsen Avenue, Fresno County | Possible overlap of construction activities. Areas of potential cumulative impacts are transportation, air quality, and noise. |
| 63 | Reedley Family Apartments - General Plan Amendment No. 2007-1, Change of Zone No. 302, & Conditional Use Permit No. 446 | The project applicant is proposing to construct an 80-unit apartment complex consisting of five two-story walk-up buildings ranging in size from 12,640 square feet to 16,416 square feet on a 3.7-acre site. The units will range in size from 572 to 1,027 square feet (1 to 3 bedrooms) and the complex will contain 1.4 acres of open space area, parking for 176 vehicles, a clubhouse (with community room, office, laundry room, kitchen, and bathrooms), and landscaping throughout the site. Other features will include perimeter fencing and onsite lighting to illuminate the property for safety and security. The project includes a General Plan Amendment to re-designate the land use to High Density Residential, and a Zone Change to re-zone the property to RM-2 (Multi-Family Residential – one Dwelling Unit per 2,000 square feet). (CEQAnet, 2009) | South I Street and Shoemake Avenue, Fresno County | Possible overlap of construction activities. Areas of potential cumulative impacts are land use, aesthetics, population and housing, transportation, noise, and air quality. |
| 64 | Dinuba Avenue/Button Willow Avenue Roundabout | Reconstruct existing four-way stop controlled intersection with a modern single lane roundabout. Project includes placement of underground pipelines, pavement, curbs, sidewalks, lighting, and landscaping. The proposed improvements will extend north, south, east, and west approximately 500 feet in each direction. (CEQAnet, 2009) | Dinuba Avenue and Buttonwillow Avenue, City of Reedley, Fresno County | Possible overlap of construction activities. Areas of potential cumulative impacts are transportation, air quality, and noise. |
| 65 | Mountain View Avenue/Avenue 416/El Monte Way Widening | The County of Tulare along with the City of Fresno, the City of Dinuba, Caltrans, and the Federal Highway Administration, propose to widen and improve a 12-mile stretch of Mountain View Avenue/Avenue 416/El Monte Way. The work would include widening the roadway to four lanes with a median and/or median lane. (CEQAnet, 2009) | Avenue 416 from Bethel Avenue to Road 92, Kingsburg | Possible overlap of construction activities. Areas of potential cumulative impacts are transportation, air quality, and noise. |

| Map ID on Figure A | Project Name | Description | Location | Potential Cumulative Impact Areas |
|---|---|---|---|---|
| 66 | Pomp | Construction of 33 single-family lots. (Schenke, 2009b) | Orosi | Possible overlap of construction activities. Areas of potential cumulative impacts are land use, aesthetics, population and housing, transportation, noise, and air quality. |
| 67 | Goshen to Kingsburg Six-Lane Project | This project would widen SR-99 from a four-lane freeway to a six-lane freeway. The additional lanes would be constructed in the median. Weaving lanes would be constructed. Various structures within the project limits would be widened to accommodate the additional lanes. Three soundwalls, four infiltration basins, and side ditches would be constructed. A frontage road would be constructed. At Kings River, both the northbound and southbound bridges will be replaced. Temporary gravel fill will be placed to allow access to erect the false-work and drive new bridge piles. At Northern Tributary of the Cross Creek, the northbound bridge will be replaced and the southbound bridge will be widened to accommodate the additional lanes in the median. At Cross Creek, both the northbound and southbound bridges will be widened to accommodate the additional lanes in the median. (CEQAnet, 2009) | SR-99 between Kingsburg and Goshen | Possible overlap of construction activities. Areas of potential cumulative impacts are transportation, air quality, and noise. |
| 68 | Road 80 | Widen to four lanes. (Schenke, 2009a). | Road 80 between Visalia and Dinuba, Tulare County | Possible overlap of construction activities. Areas of potential cumulative impacts are transportation, air quality, and noise. |
| 69 | Villagio Project | Construction of 1,428 residential units, 135,000 square feet of neighborhood commercial uses, an elementary school, a church, one or two detention basin(s) adjacent to the railroad tracts, and open space and recreational areas. (City of Hanford, 2008) | 12th Avenue and Fargo Avenue, adjacent to the City of Hanford in unincorporated Kings County | Possible overlap of construction activities. Areas of potential cumulative impacts are land use, aesthetics, population and housing, transportation, noise, and air quality. |
| 70 | Redfield | Construction of 46 single-family lots. (Schenke, 2009b) | Woodlake | Possible overlap of construction activities. Areas of potential cumulative impacts are land use, aesthetics, population and housing, transportation, noise, and air quality. |
| 71 | 12th Avenue Widening | Widen an existing two-lane County road to a four-lane arterial street, including the installation of a traffic signal and the acquisition of portions of 8 parcels totaling 0.11 acre required for a sidewalk. (CEQAnet, 2009) | 12th Avenue between Liberty and Grangeville, Hanford | Possible overlap of construction activities. Areas of potential cumulative impacts are transportation, air quality, and noise. |

| Map ID on Figure A | Project Name | Description | Location | Potential Cumulative Impact Areas |
|---|---|---|---|---|
| 72 | Greenfield Avenue Extension Project | Construct a street that would extend Greenfield Avenue from west of Della Street to connect to the existing Greenfield Avenue in the County and improve the existing street from Pleasant Way west to 12th Avenue. (CEQAnet, 2009) | Greenfield Avenue from Della Street to 12th Avenue, Kings County | Possible overlap of construction activities. Areas of potential cumulative impacts are transportation, air quality, and noise. |
| 73 | The Village at Willow Creek Specific Plan | Development of 85,800 square feet of multi-family residential, 9,500 square feet of office, 229,910 square feet of commercial, and 907 parking spaces. (Visalia, 2006) | Visalia | Possible overlap of construction activities. Areas of potential cumulative impacts are land use, aesthetics, population and housing, transportation, noise, and air quality. |
| 74 | Northwest School Complex | The project is the purchase of a 160-acre site and the construction and operation of a new high school, middle school, elementary school, sports stadium, performing arts center and a library/ learning center. Also a part of this project is the annexation of the 160-acre site into the Visalia city limit and an amendment to the Visalia General Plan changing the land use designation from Urban Reserve to Public Institutional (152 acres) and Neighborhood Commercial (8 acres). (CEQAnet, 2009) | Riggin Avenue and Akers Street, Visalia, | Possible overlap of construction activities. Areas of potential cumulative impacts are land use, transportation, noise, and air quality. |
| 75 | Betty Drive | Widen to four lanes and construct overpass. (Schenke, 2009a) | Betty Drive between SR-99 and Road 80, Tulare County | Possible overlap of construction activities. Areas of potential cumulative impacts are transportation, air quality, and noise. |
| 76 | Orchard Walk Specific Plan | Development of 224 residential units and 462,765 square feet of commercial. (Visalia, 2007) | Visalia | Possible overlap of construction activities. Areas of potential cumulative impacts are land use, aesthetics, population and housing, transportation, noise, and air quality. |
| 77 | Self Help Enterprises | Construction of 77 single-family lots and 15 multi-family lots. (Schenke, 2009b) | Goshen | Possible overlap of construction activities. Areas of potential cumulative impacts are land use, aesthetics, population and housing, transportation, noise, and air quality. |

| Map ID on Figure A | Project Name | Description | Location | Potential Cumulative Impact Areas |
|---|---|---|---|---|
| 78 | Garner Basin | The project includes the construction of a single cell 36.6-acre recharge basin. The basin would be excavated to a maximum depth of 8 feet. Excavated material would be used to create the project's levees, for onsite grading, and fill the existing recharge basin area. The remaining excavated material is planned to be sold to other agencies or the public, if necessary. The basin would receive water via the Settlers Ditch from the north and Lakeside Irrigation District's Main Canal from the south. It is anticipated that the basin would be filled when surface water is not available, the basin would be dry. Water depth is anticipated to range from 0 to 6 feet, although typical depth is expected to range from 3 to 5 feet. Groundwater monitoring around the facility would occur semi-annually. (CEQAnet, 2009) | SR-198 and 7th Avenue, Kings County | Possible overlap of construction activities. Areas of potential cumulative impacts are land use and aesthetics. |
| 79 | SR-198 | Widen to four lanes. (Kings County Association of Governments, 2008) | SR-43 to SR-99, Kings County | Possible overlap of construction activities. Areas of potential cumulative impacts are transportation, air quality, and noise. |
| 80 | 12th Avenue Interchange | Caltrans proposes to modify the SR-198/12th Avenue Interchange (Post Mile 16.9) in the City of Hanford, Kings County, CA. The proposes project would widen the existing 12th Avenue overcrossing bridge and roadway, widen and/or realign the existing ramps, and construct a new loop on-ramp for eastbound the SR-198 in the southwestern quadrant of the interchange. (CEQAnet, 2009) | SR-198 and 12th Avenue, Hanford | Possible overlap of construction activities. Areas of potential cumulative impacts are transportation, air quality, and noise. |
| 81 | Commercial Development | Construction of 26 commercial lots for light manufacturing and warehouses. (Schenke, 2009b) | Near SR-198 and SR-99, Tulare County | Possible overlap of construction activities. Areas of potential cumulative impacts are land use, aesthetics, population and housing, transportation, noise, and air quality. |
| 82 | McAuliff Street Construction South of Houston Avenue | The City of Visalia has approved the construction of McAuliff Street between Mineral King Avenue and Houston Avenue, which will require the crossing of Mill Creek and Evans Ditch and subsequent changes in flow control of these two waterways. Mill Creek will require a new headgate structure, a new culvert with headwalls at McAuliff Street, the relocation of the Parshall flume, and the relocation of a flow control measure station. Evans Ditch will require a new headgate structure and a new culvert structure with headwalls at McAuliff Street. The project area covered by the Agreement consists of the Mill Creek and Evans Ditch with Great Valley mixed riparian forest and nonnative annual grassland adjacent to existing agricultural fields and tract housing. (CEQAnet, 2009) | Houston Avenue and Mineral King Avenue, Visalia | Possible overlap of construction activities. Areas of potential cumulative impacts are transportation, air quality, and noise. |

| Map ID on Figure A | Project Name | Description | Location | Potential Cumulative Impact Areas |
|---|---|---|---|---|
| 83 | Live Oak Master Plan / Live Oak Residential Project | Development of a residential project of approximately 390 acres for 1,560 dwelling units, with parks and open space. Construction of supporting infrastructure, including streets, water, sewer, drainage facilities, and other public utilities in a six-phase project that may take 5 to 10 years to construct. (CEQAnet, 2009) | 12th Avenue and Hume Avenue, Hanford | Possible overlap of construction activities. Areas of potential cumulative impacts are land use, aesthetics, population and housing, transportation, noise, and air quality. |
| 84 | Visalia WalMart Expansion | The proposed project consists of the expansion of the existing 126,783-square-foot WalMart store on East Noble Avenue by 89,755 square feet, increasing the total floor area to 216,538 square feet. The primary departments within the expanded store will be general merchandise sales, grocery sales, indoor garden center; Tire and Lube Express, and ancillary retail and tenant areas (i.e., ATM, fast food restaurant, medical clinic, vision care, hair salon, photo lab, portrait studio, and pharmacy). The proposed project would expand the existing store by approximately 89,755 square feet and would add a 9,748-square-foot outdoor garden center and bagged goods area. WalMart nonetheless has requested that its Conditional Use Permit allow expansion of up to 91,469 square feet of total store area plus the 9,748-square-foot outdoor garden and bagged goods area (which amounts to a post-expansion total area of 228,000 square feet, including the outdoor garden and bagged goods area) so that there is some ability to accommodate any minor refinements that become necessary. The additional 1,714 square feet of floor area included to reach this total of 228,000 square feet will be treated as general merchandise area for purposes of analysis of the EIR. (CEQAnet, 2009) | East Noble Avenue and Ben Maddox Way, Tulare County | Possible overlap of construction activities. Areas of potential cumulative impacts are land use, aesthetics, population and housing, transportation, noise, and air quality. |
| 85 | SR-198 | Interchange improvements. (Tulare County Association of Governments, 2007) | Road 148, Tulare County | Possible overlap of construction activities. Areas of potential cumulative impacts are transportation, air quality, and noise. |
| 86 | Tulare Expressway Project | The project proposes to realign SR-65 from Hermosa Avenue near the City of Lindsay, to SR-198 northeast of the City of Exeter. The realignment would build a two-lane expressway on a four-lane right-of-way approximately 9.2 miles in length. All build alternatives include a 0.51-mile portion of SR-245. The purpose of the project is to provide route continuity by providing a more direct route for interregional traffic on SR-65; provide congestion relief by increasing traffic capacity and improving traffic flow to an interregional transportation system; and improve safety and operation of SR-65. There are two build alternatives and a no-build alternative under consideration. (CEQAnet, 2009) | SR-198 and County Road 204, Tulare County | Possible overlap of construction activities. Areas of potential cumulative impacts are transportation, air quality, and noise. |

| Map ID on Figure A | Project Name | Description | Location | Potential Cumulative Impact Areas |
|---|---|---|---|---|
| 87 | Farmersville Middle School Project | The project consists of the development and operation of a middle school on an approximately 20-acre-site. The proposed middle school will be a full-service facilty designed to accommodate up to 800 grade 7 and 8 students. The middle school will have classrooms, faculty work areas, administrative offices, multi-purpose facilities, athletic/recreation areas, and parking lots. Portions of the school grounds will be lighted for security and recreational purposes and may be available for community use during non-school hours. (CEQAnet, 2009) | Farmersville Boulevard (Road 164) and Walnut Avenue (Avenue 288), Tulare County | Possible overlap of construction activities. Areas of potential cumulative impacts are land use, aesthetics, population and housing, transportation, noise, and air quality. |
| 88 | Avenue 280 | Widen to four lanes and construct interchange. (Schenke, 2009a) | Avenue 280 between SR-99 and Exeter, Tulare County | Possible overlap of construction activities. Areas of potential cumulative impacts are transportation, air quality, and noise. |
| 89 | Packwood Creek Bridge | A proposal Commercial Developers, Inc., to construct a clear span bridge over the Packwood Creek channel to provide two-way vehicular travel and a sidewalk for bicycle and pedestrian use from the Sequoia Plaza shopping center on the north side of the creek to Cameron Avenue, including connectivity to a future trail along the south side of Packwood Creek. Construction of the project commenced in 2009. The project is a request by the property owner of the shopping center site located adjacent and north of Packwood Creek at the point of crossover. (CEQAnet, 2009) | Cameron Avenue and South Mooney Boulevard, Visalia | Possible overlap of construction activities. Areas of potential cumulative impacts are transportation, air quality, and noise. |
| 90 | History of Farm Labor and Agriculture Museum | Construct a 17,000-square-foot addition to the Tulare County Museum. (Schenke, 2009b) | 27000 S. Mooney Boulevard, Visalia | Possible overlap of construction activities. Areas of potential cumulative impacts are transportation, noise, and air quality. |
| 91 | Road 108 | Widen to four lanes. (Schenke, 2009a) | Road 108 between Visalia and Tulare, Tulare County | Possible overlap of construction activities. Areas of potential cumulative impacts are transportation, air quality, and noise. |
| 92 | SR-65 | Widen to four lanes. (Tulare County Association of Governments, 2007) | Spruce, Tulare County | Possible overlap of construction activities. Areas of potential cumulative impacts are transportation, air quality, and noise. |

| Map ID on Figure A | Project Name | Description | Location | Potential Cumulative Impact Areas |
|---|---|---|---|---|
| 93 | Hynes Dairy Establishment | The proposed Hynes Dairy Project will establish a new dairy on a site in the AE-40 Zone. As proposed, the dairy facility will accommodate a maximum of 1,600 Holstein milk cows and support stock for a total of 2,741 animal units. The proposed dairy facility will have freestall housing with a flush system for the milking herd, and the support stock will be housed in corrals with flushed alleys. The site has been leveled and developed for irrigated field crop production and is double cropped with alfalfa and corn silage/wheat silage. Not all the crop acres are contiguous to the dairy facilities. (CEQAnet, 2009) | Road 76 and Road 64, Avenue 248 and Avenue 268, Tulare County | Possible overlap of construction activities. Areas of potential cumulative impacts are land use, air quality, and agriculture. |
| 94 | Fire Station 1 and Headquaters Relocation | The project proposes the relocation and construction of Fire Station 1 and the Fire Headquarters building. The project would be comprised of a 7,000-square-foot Fire Station, a 16,500-square-foot building for the Administration, Communication Center, and the County Emergency Operations Center and a 7,480-square-foot engine company maintenance shop and supply/service center. (CEQAnet, 2009) | Avenue 256 and Road 140, Visalia | Possible overlap of construction activities. Areas of potential cumulative impacts are transportation, noise, and air quality. |
| 95 | Design Review No. 1024 | A 62.5-acre shopping center potentially providing 707,759 square feet of retail, office, and motel uses. The site plan is designed to account for the public works projects providing for a railroad grades separation and a new interchange. (CEQAnet, 2009) | Cartmill Avenue and M Street, Tulare County | Possible overlap of construction activities. Areas of potential cumulative impacts are land use, aesthetics, population and housing, transportation, noise, and air quality. |
| 96 | Tulare District Hospital Expansion - Phase 1 | Construction of a new five-floor hospital tower (four stories above grade and one below grade basement floor) south of and connected to the existing three-story hospital tower with a helipad on the roof. The new tower will bring the hospital into conformance with state seismic safety regulations, increasing licensed beds from 116 to 143. Also proposed are several onsite building demolitions, closure of a one-block street segment, and realignment of another street to allow parking area reconfigurations for additional stalls. (CEQAnet, 2009) | Cherry Street, Merritt Avenue, Gem Street, Terrace Avenue, Auburn Street, Tulare | Possible overlap of construction activities. Areas of potential cumulative impacts are transportation, noise, and air quality. |
| 97 | Tulare Protein Harvesting and Processing Plant | Construction of a 70-acre beef harvesting and processing plant. (Schenke, 2009b) | Tulare | Possible overlap of construction activities. Areas of potential cumulative impacts are transportation, noise, and air quality. |
| 98 | South I Street Industrial Park Specific Plan | Annexation of 458 acres from the County into the Tulare City limits to develop an industrial park. (Schenke, 2009b) | Bardsley Avenue and Pratt Street, Tulare | Possible overlap of construction activities. Areas of potential cumulative impacts are land use, transportation, noise, and air quality. |

| Map ID on Figure A | Project Name | Description | Location | Potential Cumulative Impact Areas |
|---|---|---|---|---|
| 99 | Sun City Project LLC, Sand Drag LLC | Development of 300 acres (approximately 39 MW) of fixed-tilt photovoltaic solar panels. (Kinney, 2009) | 36th Avenue and SR-33, Kings County | Possible overlap of construction activities. Areas of potential cumulative impacts are transportation, noise, air quality, and biology. |
| 100 | City of Corcoran Police Station | The proposed project is the construction and operation of a proposed new police station, which is to be constructed to serve as the headquarters for the City of Corcoran Police Department. The project will consist of an approximately 12,000-square-foot building to house all police operations, including offices, evidence storage, and short-term detention facilities. The project design incorporates photovoltaic panels to generate solar power, exposed wood framing, and natural lighting through the use of skylights. (CEQAnet, 2009) | West of Otis Avenue, north of Ross Court, South of Hanna Road, Corcoran | Possible overlap of construction activities. Areas of potential cumulative impacts are transportation, noise, and air quality. |
| 101 | COS Tulare Campus | Development of 500 acres near the school (mostly residential). (Schenke, 2009b) | Southeast corner of Bardsley Avenue and Oakmore Road, Tulare | Possible overlap of construction activities. Areas of potential cumulative impacts are land use, aesthetics, population and housing, transportation, noise, and air quality. |
| 102 | Tulare Motorsports Complex | Development of a 711-acre site with uses including a 1-mile D-shaped oval super speedway racetrack and drag strip. The potential seating capacity is 52,800 spectators for the super speedway track and 39,800 spectators for the drag strip including grandstands and sky boxes. (Schenke, 2009b) | Tulare | Possible overlap of construction activities. Areas of potential cumulative impacts are aesthetics, transportation, noise, and air quality. |
| 103 | Dykstra Dairy | Expansion of an existing dairy from 3,772 animal units (3,200 Holstein milk cows) on 615 acres to 6,474 animal units (3,900 Holstein milk cows) on 1,320 acres. Crop land will increase from 483 farmable acres to 1,157 farmable acres. (CEQAnet, 2009) | Avenue 176, Road 64, Road 80, Tulare | Possible overlap of construction activities. Areas of potential cumulative impacts are land use, aesthetics, air quality, and agriculture. |
| 104 | Tulare Industrial Complex | Light industrial development on 272.44 acres. (Schenke, 2009b) | Hosfield Road and SR-99, Tulare | Possible overlap of construction activities. Areas of potential cumulative impacts are land use, transportation, noise, and air quality. |

| Map ID on Figure A | Project Name | Description | Location | Potential Cumulative Impact Areas |
|---|---|---|---|---|
| 105 | UC Davis South Valley Animal Health Laboratory | UC Davis proposes to construct the South Valley Animal Health Laboratory, a new laboratory and office building of approximately 53,000 gross square feet. The building would provide space for a new veterinary diagnostic testing laboratory adjacent to the existing veterinary medicine research laboratory approximately 1/4 mile east of SR-99 in Tulare County south of Tulare. In addition to laboratory and office space, the project would include a crematorium for animal parts and other waste, a backup generator, an onsite water supply well and storage tank, a stormwater retention pond, relocation of existing residential modular buildings, and a new septic system for the disposal of wastewater. (CEQAnet, 2009) | East of Road 112 and SR-99, Tulare | Possible overlap of construction activities. Areas of potential cumulative impacts are transportation, noise, and air quality. |
| 106 | Bosman Dairy (PSP 07-022) | The proposed project is an expansion of an existing dairy from 7,200 milk cows plus support stock (10,426 animal units) to 8,800 milk cows plus support stock (15,229 animal units) in the AE-40 Zone (Exclusive Agricultural – 40-acre minimum). The dairy facilities currently encompass 318 acres of the 2,581-acre subject site (no change proposed), land currently devoted to crops and nutrient management is 2,173 acres (no change proposed), the balance of the site is encumbered by irrigation systems, wells, field roads, etc. (CEQAnet, 2009) | Avenue 144 and Road 72, Tulare County | Possible overlap of construction activities. Areas of potential cumulative impacts are land use, air quality, and agriculture. |
| 107 | SR-99 | Improvements. (Tulare County Association of Governments, 2007) | Avenue 200 to Tipton, Tulare County | Possible overlap of construction activities. Areas of potential cumulative impacts are transportation, air quality, and noise. |
| 108 | Yokohl Ranch | The Yokohl Ranch Master Development Plan is focused on a town center which includes mixed-use commercial and high-density residential uses which will function as the social and civic activity hub of the community. A public park and private recreation facility complete the town center site that straddles Yokohl Creek in the central portion of valley area. Medium- and low-density neighborhoods extend out from the town center with reduced density as the topography increases. Farther to the east and north, the residential density gradually decreases to very low density (less than one unit per acre). The range of residential densities will allow for a wide range of product types and life styles choices for residents. (Schenke, 2009b) | East of Exeter, north of Lindsay, south of Three Rivers, and approximately 30 miles west of the entrance to Sequoia National Park, Tulare County | Possible overlap of construction activities. Areas of potential cumulative impacts are land use, aesthetics, population and housing, transportation, noise, and air quality. |
| 109 | Naffa | Construction of 164 single-family lots. (Schenke, 2009b) | Tipton | Possible overlap of construction activities. Areas of potential cumulative impacts are land use, aesthetics, population and housing, transportation, noise, and air quality. |

| Map ID on Figure A | Project Name | Description | Location | Potential Cumulative Impact Areas |
|---|---|---|---|---|
| 110 | Pinheiro Dairy Environmental Report | An expansion of an existing legal non-conforming heifer feedlot operation to a new dairy facility. The project proposes a maximum of 3,937 total animal units (2,350 Holstein milk cows plus support stock) on 87 acres of 810.5-acre site in the AE-40 Zone (Exclusive Agricultural – 40-acre minimum). The proposed dairy facility will have freestall housing with a flush system for the milking herd and the support stock will be housed in shaded corrals with flushed alleys. The balance of the site would remain in current agricultural production as farmable acres of corn/wheat silage (double cropped). The current feedlot operation has 529 total animal units on a 555-acre site. (CEQAnet, 2009) | Avenue 120 and Road 112, Tulare County | Possible overlap of construction activities. Areas of potential cumulative impacts are land use, air quality, and agriculture. |
| 111 | SR-190 | Adding passing lanes. (Tulare County Association of Governments, 2007) | SR-99 through SR-65, Tulare County | Possible overlap of construction activities. Areas of potential cumulative impacts are transportation, air quality, and noise. |
| 112 | Western Ag | Construction of 21 single-family lots. (Schenke, 2009b) | Poplar | Possible overlap of construction activities. Areas of potential cumulative impacts are land use, aesthetics, population and housing, transportation, noise, and air quality. |
| 113 | Eagle Meadows | Construction of 450 single-family lots. (Schenke, 2009b) | Pixley | Possible overlap of construction activities. Areas of potential cumulative impacts are land use, aesthetics, population and housing, transportation, noise, and air quality. |
| 114 | Riverwalk | The project involves construction and operation of a retail commercial center containing a total of up to 256,471 square feet of retail distributed amongst five building pads. The proposed project includes a total of up to 215,000 square feet associated with the Wal-Mart Supercenter. (CEQAnet , 2010) | Indiana Street and Springville Drive, Porterville | Possible overlap of construction activities. Areas of potential cumulative impacts are land use, aesthetics, population and housing, transportation, noise, and air quality. |
| 115 | New Porterville Courthouse | The Administrative Office of the Courts proposes acquisition of parcels, construction of a new 9-courtroom courthouse, and operation of the proposed courthouse for the Superior Court of California, County of Tulare. The new courthouse will replace the court's current Porterville and Tulare facilities. The new courthouse will have approximately 10 secured parking spaces for the Superior Court and approximately 320 spaces for other staff and the public. The City of Porterville owns the site, and the Porterville Fairgrounds-Municipal Ballpark currently occupies the site. (CEQAnet, 2009) | East Olive Avenue and North Plano Street, Tulare County | Possible overlap of construction activities. Areas of potential cumulative impacts are land use, aesthetics, population and housing, transportation, noise, and air quality. |

| Map ID on Figure A | Project Name | Description | Location | Potential Cumulative Impact Areas |
|---|---|---|---|---|
| 116 | Afinar | Construction of 174 single-family lots. (Schenke, 2009b) | Earlimart | Possible overlap of construction activities. Areas of potential cumulative impacts are land use, aesthetics, population and housing, transportation, noise, and air quality. |
| 117 | SR-65 | Widen to four lanes. (Tulare County Association of Governments, 2007) | Porterville, Tulare County | Possible overlap of construction activities. Areas of potential cumulative impacts are transportation, air quality, and noise. |
| 118 | Wagon Wheel Solar | Development of 480 acres (20 MW) of solar. (Casdorph, 2010) | East of SR-33 and north of SR-46, Kern County | Possible overlap of construction activities. Areas of potential cumulative impacts are transportation, noise, air quality, and biology. |
| 119 | Smyrna Solar | Development of 125 acres (20 MW) of solar. (Casdorph, 2010) | Intersection of Pond Road and Peterson Road, Kern County | Possible overlap of construction activities. Areas of potential cumulative impacts are transportation, noise, air quality, and biology. |
| 120 | SR-99 | Interchange upgrade. (Kern Council of Governments, 2007) | Woollomes Avenue, Kern County | Possible overlap of construction activities. Areas of potential cumulative impacts are transportation, air quality, and noise. |
| 121 | Delano Marketplace | The Delano Marketplace project would include two large anchor stores, retail shops, and restaurants (sit down and fast food) for a total of approximately 456,022 square feet. The large anchor stores would include a 228,751-square-foot WalMart Supercenter and a 172,463-square-foot home improvement store. The WalMart Supercenter store will include general merchandise sales; a garden center; tire and lube express; grocery sales and support space; stockroom/receiving area; ancillary areas; tenant areas (e.g., a fast food restaurant and a vision center); a 14 position gas station on a separate pad; drive-through pharmacy; and a bagged goods pickup area. The WalMart Supercenter will operate 24 hours per day. The proposed home improvement store will include general merchandise sales and a garden center. The proposed project includes nine other parcels for food and retail uses with proposed building sizes ranging from 2,500 to 14,410 square feet, for a total project size of 456,022 square feet. (CEQAnet, 2009) | SR-99 and Woollomes Avenue, Kern County | Possible overlap of construction activities. Areas of potential cumulative impacts are land use, aesthetics, population and housing, transportation, noise, and air quality. |

| Map ID on Figure A | Project Name | Description | Location | Potential Cumulative Impact Areas |
|---|---|---|---|---|
| 122 | Lost Hills Solar | Development of 307 acres (32.5 MW) of solar. (Casdorph, 2010) | East of SR-46 and SR-33, Kern County | Possible overlap of construction activities. Areas of potential cumulative impacts are transportation, noise, air quality, and biology. |
| 123 | SR-46 | Interchange upgrade. (Kern Council of Governments, 2007) | Halloway Road to I-5, Kern County | Possible overlap of construction activities. Areas of potential cumulative impacts are transportation, air quality, and noise. |
| 124 | SR-46 | Construction of two new lanes and a median to widen State Route (SR) 46 into a four-lane expressway. The project also includes the installation of four new traffic signals and the upgrade of existing intersections to conform to current design standards. The project will result in impacts to 543 acres of San Joaquin kit fox habitat, as well as 124 acres of potential habitat for San Joaquin antelope squirrel and giant kangaroo rat. The San Joaquin kit fox and San Joaquin antelope squirrel are designated Threatened species and the giant kangaroo rat is a designated Endangered species under the California Endangered Species Act (CESA). (Kern Council of Governments, 2007) | San Luis Obispo County line to Halloway Road, Kern County | Possible overlap of construction activities. Areas of potential cumulative impacts are transportation, air quality, and noise. |
| 125 | Wasco Rose City Enterprise Zone | The City of Wasco is proposing a State of California Enterprise Zone Application for the 2009 calendar year. Proposed uses of the Enterprise Zone include the development of a 328-acre Industrial Park and development of a 1,053-acre commercial shopping center for a total of 1,381 acres. (CEQAnet, 2009) | SR-43 and SR-46, Kern County | Possible overlap of construction activities. Areas of potential cumulative impacts are land use, aesthetics, population and housing, transportation, noise, and air quality. |
| 126 | Goose Lake Solar | Development of 94 acres (15 MW) of solar. (Casdorph, 2010) | Corcoran Road and Carmel Road, Kern County | Possible overlap of construction activities. Areas of potential cumulative impacts are transportation, noise, air quality, and biology. |

| Map ID on Figure A | Project Name | Description | Location | Potential Cumulative Impact Areas |
|---|---|---|---|---|
| 127 | Wastewater Treatment Plant (WWTP); Centrifuge Project (Project); Clean Water State Revolving Fund (CWSRF) No. C-06-5063-110 | The Project consists of installation of a sludge centrifuge facility that includes a centrifuge feed pump station, a polymer unit, power supply from an existing electrical building, and associated yard structures at the existing WWTP. (CEQAnet, 2009) | Wasco, CA | Possible overlap of construction activities. Areas of potential cumulative impacts are transportation, noise, air quality, and utilities. |
| 128 | Shafter-Wasco Sanitary Landfill Permit Revision (GPA 8, CUP 1, Map 78, Ag Preserve No. 8 Exclusion) | (A) Revise Solid Waste Facility Permit to change boundary from 160.61 acres to 357.48 acres; increase permitted elevation of the landfill; increase permitted capacity of the landfill; (B) General Plan and Appendix E Map Amendment from 8.1 to 3.4.1 for up to 196.87 acres for landfill buffer; (C) amend the legal description of the CUP #1, Map #78 to include additional buffer lands within the permitted facility boundary; (D) petition for exclusion from Agricultural Preserve #8 for 407.69 acres; (E) file Non-Renewal of Williamson Act Contract for landfill buffer areas (247.08 acres) and file a cancellation for a portion of those buffer areas (89.81 acres), and; (F) record a Redundant Deed or Lot Line adjustment to merge the multi-parcel site into one. (CEQAnet, 2009) | Scofield Avenue and Lerdo Highway, Wasco | Possible overlap of construction activities. Areas of potential cumulative impacts are land use, transportation, noise, air quality, and agriculture. |
| 129 | North Shafter Sewer Project | This project would expand the City's wastewater collection system into an area of the City that is not currently served by the sewer systems and will replace the old septic tank systems, and eliminate the frequent raw sewage back-ups and exposure of residents to potential pollution problems. The project involves construction of approximately 12,450 linear feet of a new 8-inch sewer line, approximately two hundred 4-inch sewer laterals extending to the property lines at all existing developed parcels in the project area, and approximately twelve sewer wyes with plugs for future connection to the remaining undeveloped lots within the project area. (CEQAnet, 2009) | Bounded by SR-43 (east), Park Lane and Mettler Avenue (west), Tulare Avenue (south), Mayer Avenue (north), Kern County | Possible overlap of construction activities. An area of potential cumulative impacts is utilities. |
| 130 | Cawelo S5 Lateral to Conduit F Interconnection Pipeline | A 3-mile-interconnection pipeline will be constructed to allow Chevron production water to be conveyed from the Cawelo Reservoir "B" to the Cawelo Water District Famoso Groundwater Recharge Facility. The pipeline will consist of one 30-inch-diameter C905 Class 200 PVC pipe. The pipeline will be below the ground surface with approximately 4 feet of earth cover and air release valves, gate valves, and blow-off assemblies will be provided along the pipeline. The anticipated trench width is approximately 7 feet. (CEQAnet, 2009) | Wallace Road and Kimberlina Road, Bakersfield | Possible overlap of construction activities. Areas of potential cumulative impacts are utilities and mineral and energy. |

| Map ID on Figure A | Project Name | Description | Location | Potential Cumulative Impact Areas |
|---|---|---|---|---|
| 131 | Reconstructing and Resurfacing of Lerdo Highway between Carver Street and approximately 850 feet east of Driver Road - Federal Project ID# ESPL 5281-012 | Reconstructing and resurfacing of Lerdo Highway between Carver Street and approximately 850 feet east of the east boundary of Driver Road. The resurfacing and reconstructing of existing lanes located wholly within the City street right-of-way. No work will occur within the state right-of-way. (CEQAnet, 2009) | Lerdo Highway between Carver Street and Driver Road, Shafter | Possible overlap of construction activities. Areas of potential cumulative impacts are transportation, air quality, and noise. |
| 132 | Rosedale Ranch Project | Annexation of 1,655 acres of unicoprated Kern County into the City of Bakersfiled for the development of residential units, commercial office, retail, institutional, light industrial, and support facilities and uses such as schools, parks, trails, lakes, and other recreational amenities. (CEQAnet, 2010) | Bakersfield | Possible overlap of construction activities. Areas of potential cumulative impacts are land use, aesthetics, population and housing, transportation, noise, and air quality. |
| 133 | Rosedale Union School District-Proposed Elementary and Middle School | The project is the construction of an elementary and middle school on approximately 34.5 acres of land. The elementary school will consist of kindergarten, primary, intermediate, and special education classrooms, along with an administrative building, library, and multi-purpose food service building. The middle school will include classrooms, administrative offices, a library, a gym, and multi-purpose building. This project will also include play areas and paved parking areas, with landscaping throughout the campus. The elementary school will serve approximately 650 to 850 students and house 30 to 50 employees, and the middle school will serve 650 to 800 students with 24 to 40 employees. (CEQAnet, 2009) | Southwest corner of Wegis Road and Noriega Road, Kern County | Possible overlap of construction activities. Areas of potential cumulative impacts are land use, aesthetics, population and housing, transportation, noise, and air quality. |
| 134 | Neighborhood Development LLC Project | Developement of up to 309 dwelling units, multi-family dwelling units on approximately 10 acres, single-family homes on approximately 50 acres, and 85,000 square feet of commercial space on approximately 12 acres, and open space/park on approximately 6 acres for a total of 78 acres. (CEQAnet, 2009) | Driver Road and Rosedale Highway, Kern County | Possible overlap of construction activities. Areas of potential cumulative impacts are land use, aesthetics, population and housing, transportation, noise, and air quality. |
| 135 | Bakersfield Land Investment by McIntosh and Associates | Specific Plan Amendment of the Western Rosedale Specific Plan in the Metropolitan Bakersfield General Plan, related zone change, exclusion from an Agricultural Preserve and Vesting Tentative Tracts on three sites to change the permitted uses from agriculture to 1,040 single-family homes on 6,000-square-foot lots and 70 single-family homes on 10,860-square-foot lots. (CEQAnet, 2009) | Brimhall, Reina, Wegis, Driver, Bakersfield | Possible overlap of construction activities. Areas of potential cumulative impacts are land use, aesthetics, population and housing, transportation, noise, and air quality. |

| Map ID on Figure A | Project Name | Description | Location | Potential Cumulative Impact Areas |
|---|---|---|---|---|
| 136 | Elk Hills Solar | Development of 47 acres (7 MW) of solar. (Casdorph, 2010) | SR-119 east of Valley West Road, Kern County | Possible overlap of construction activities. Areas of potential cumulative impacts are transportation, noise, air quality, and biology. |
| 137 | SR-58 | Widen to four lanes. (Kern Council of Governments, 2007) | SR-43 to Allen Road, Kern County | Possible overlap of construction activities. Areas of potential cumulative impacts are transportation, air quality, and noise. |
| 138 | Seventh Standard Substation Project | Construction of a new 115/21 kV low-profile substation, including 115 kV bus structures, six 115 kV circuit breakers, three 115/21 kV power transformers, three 45 MVA transformers, and up to nine distribution circuits at full build out. The proposed project would also include approximately1,000 feet of 115 kV power line on tubular steel poles. (CEQAnet, 2009) | Seventh Standard Road, and Verdugo Lane, Kern County | Possible overlap of construction activities. Areas of potential cumulative impacts are utilities and mineral and energy. |
| 139 | CUP 27, Map 101; M&B Land Development | A request for a Conditional Use Permit to allow a concrete and asphalt recycling facility and batch plant currently used by an equipment rental/trucking facility. The existing equipment/ rental facilities would be moved on site to allow space for the new recycling facilities. The operation would take in 250 tons of materials daily, 1,250 tons weekly, and 62,500 tons annually. It would process 200 tons daily, 1,000 tons weekly, and 50,000 tons annually. Prior to processing, materials would be stored on the site. The operation would run from 7:00 a.m. to 5:00 p.m., Monday through Friday and would require 6 employees to operate the onsite equipment. End dump/belly dump trucks would be used to transport the materials at a rate of 10 to 13 trucks daily, 50 to 65 trucks weekly, and 250 to 266 trucks monthly. (CEQAnet, 2009) | Hageman Road, Bakersfield (Parcel No: 529-020-09, Township: 29S, Range 26E, Section: 14, Base: MDB&M) | Possible overlap of construction activities. Areas of potential cumulative impacts are transportation, air quality, and noise. |
| 140 | PD 54, Map 81 | Precise Development Plan to build two four-story hotels, totaling approximately 108,000 square feet. The project will consist of a Holiday Inn Express (105 rooms) and a Mariott Towne Place (102 rooms). The Holiday Inn will measure 47 feet, 7 inches in height and the Mariott will measure 43 feet, 3 inches in height. Floor plans show that each hotel will contain the following: a lobby, a pantry, a swimming pool, meeting rooms, offices, gymnasiums, elevators/stairwells, etc. It does not appear that either hotel will contain a formal restaurant. (CEQAnet, 2009) | Renfro and Meacham, Bakersfield | Possible overlap of construction activities. Areas of potential cumulative impacts are land use, aesthetics, population and housing, transportation, noise, and air quality. |
| 141 | Silver Oak Park Development | Neighborhood park development (9.79 acres) including children's play area, water cooling station, two lighted tennis courts, a lighted basketball facility, turf volleyball courts, open turf play area with minimal backstops, restrooms, a picnic shelter, picnic pads, parking, walks, landscaping, and associated improvements. The site was previously graded with the surrounding residential tract. Street and utility improvements were also installed. (CEQAnet, 2009) | Heath Rd and Opus One Drive, Bakersfield | Possible overlap of construction activities. Areas of potential cumulative impacts are transportation, noise, and air quality. |

| Map ID on Figure A | Project Name | Description | Location | Potential Cumulative Impact Areas |
|---|---|---|---|---|
| 142 | Saco Ranch Commercial Center (GPA/ZC 06-2247, Annexation No. 608) | The proposed project consists of the annexation of approximately 300.98 acres within unincorporated Kern County into the City's corporate limits, an amendment to the Metropolitan Bakersfield General Plan Land Use Element, and a concurrent zone change. The annexation, general plan amendment, and zone change would permit development of a commercial center containing approximately 300.98 acres of retail, commercial office, and industrial uses in the City of Bakersfield. The proposed net building area is approximately 3,167,996 square feet. Approximately 144 acres of land will be used for retail stores, restaurants, and a movie theater, totaling approximately 1,459,500 square feet of building space. Commercial office uses are proposed on approximately 30.5 acres containing approximately 332,000 square feet of building space. Industrial uses are proposed on approximately 126.4 acres containing approximately 1,376,496 square feet of building space. Access to the proposed project will be provided along Coffee Road (an arterial), Seventh Standard Road (an expressway), Quail Creek Road (a collector on the western boundary), Etchart Road (a collector), Snow Road (an arterial), and Fruitvale Avenue (an arterial). (CEQAnet, 2009) | Coffee Road and Seventh Standard Road Bakersfield | Possible overlap of construction activities. Areas of potential cumulative impacts are land use, aesthetics, population and housing, transportation, noise, and air quality. |
| 143 | PD #6, Map 101-23 Rosedale & Renfro, LP | Precise Development Plan on the 26-acre site to allow for the construction of a multi-store shopping center. The proposed shopping center includes the development of up to 11 commercial pads, including one major anchor tenant in a 145,436-square-foot building, consisting of a proposed Target with an outdoor garden center. The other known tenants at this time include a 14,820-square-foot Walgreens and a 2,275-square-foot Jack-In-The-Box. The remaining 8 pad spaces totaling 66,435 square feet would consist of other retail and restaurant uses. No leases have been signed for these remaining spaces, and future tenants are unknown at this time. Sewage disposal is proposed through connection to the City of Bakersfield. Water is proposed to be supplied through Vaughn Water Company. (CEQAnet, 2009) | Rosedale Highway and Renfro Road, Bakersfield | Possible overlap of construction activities. Areas of potential cumulative impacts are land use, aesthetics, population and housing, transportation, noise, and air quality. |
| 144 | SR-65 | Widen to four lanes. (Kern Council of Governments, 2007) | James Road to Merle Haggard Boulevard, Kern County | Possible overlap of construction activities. Areas of potential cumulative impacts are transportation, air quality, and noise. |
| 145 | 5426 CBM; GPA #7, Map 140; ZCC 13, Map 140, PD 8, Map 140, Ag Pres 10 - Excl | Construction of five 4,300-square-foot warehouse buildings with attached 500-square-foot offices. Processing or fabrication will be limited to activities conducted within a building that does not emit fumes, odor, dust, smoke, or gas beyond the confines of the building within which activities occur or produce significant levels of noise or vibration. As proposed, water supply and sewage disposal for the development would be provided via private well and septic system, respectively. Access would be provided via Enos Lane, which is designated as an Arterial Alignment by the Circulation Element of the Kern County General Plan. (CEQAnet, 2009) | Taft Highway and Enos Lane, Kern County | Possible overlap of construction activities. Areas of potential cumulative impacts are land use, aesthetics, population and housing, transportation, noise, air quality, and agriculture. |

| Map ID on Figure A | Project Name | Description | Location | Potential Cumulative Impact Areas |
|---|---|---|---|---|
| 146 | Maricopa Sun Solar Project | Development of 6,046 acres (700 MW) of solar. (Casdorph, 2010) | West of I-5 and east of Taft, Kern County | Possible overlap of construction activities. Areas of potential cumulative impacts are transportation, noise, air quality, and biology. |
| 147 | CUP #08-1795 | A request for a Conditional Use Permit to allow the development of a 14.1-acre water park, including paid public parking facilities and a 25,000-square-foot community center with associated parking on approximately 28 total acres. (CEQAnet, 2009) | Riverlakes Drive and Coffee Road, Bakersfield, | Possible overlap of construction activities. Areas of potential cumulative impacts are land use, aesthetics, population and housing, transportation, noise, and air quality. |
| 148 | Bakersfield Commons | The proposed Project involves a 255-acre mixed-use development consisting of mixed-use commercial (proposed lifestyle center), general commercial (proposed office development) and low and high density residential uses. The Project proposes the development of up to 1,400,000 square feet of retail and theater uses, and 600,000 square feet of office uses, comprising a total of 2,000,000 square feet of commercial uses. In addition, the Project would include the development of a total of 425 residential units consisting of 80 single-family detached units and 345 multi-family units. (City of Bakersfield, 2010) | North of Brimhall Road. Generally south of the BNSF railroad and east and west of Coffee Road, Bakersfield | Possible overlap of construction activities. Areas of potential cumulative impacts are transportation, noise, air quality, biology, visual and population and housing. |
| 149 | California State University Bakersfield Baseball Facility Improvements | This project includes the construction and operation of several improvements to the recently constructed baseball practice field. These improvements include a 1,400-square-foot combination concession/ticket sales and restroom building, bleachers accommodating 1,500 people, a 10,000-square-foot pitching/batlling tunnel, and completion of an additional 58-space parking lot. The project also includes the installation of lighting for night games/practice. (CEQAnet, 2009) | Stockdale Highway and Don Hart Drive West, Bakersfield | Possible overlap of construction activities. Areas of potential cumulative impacts are transportation and aesthetics. |
| 150 | Northwest Communities | Development of 802 single-family residences and approximately 36,000 square feet of commercial development. (Kern County, 2007) | Southwestern part of Bakersfield, CA | Possible overlap of construction activities. Areas of potential cumulative impacts are land use, aesthetics, population and housing, transportation, noise, and air quality. |
| 151 | SR-58 | Widen to six lanes, grade separation to Landco. (Kern Council of Governments, 2007) | Calloway Drive to SR-99, Kern County | Possible overlap of construction activities. Areas of potential cumulative impacts are transportation, air quality, and noise. |

| Map ID on Figure A | Project Name | Description | Location | Potential Cumulative Impact Areas |
|---|---|---|---|---|
| 152 | Clean Fuels Project by Big West California, LLC | Construct new refining processing units and associated structures and to modify existing structures within the existing refinery. (Kern County, 2008) | 6451 Rosedale Highway Bakersfield, CA | Possible overlap of construction activities. Areas of potential cumulative impacts are transportation, noise, air quality, and biology. |
| 153 | SR-99 | Interchange upgrade. (Kern Council of Governments, 2007) | Olive Drive, Kern County | Possible overlap of construction activities. Areas of potential cumulative impacts are transportation, air quality, and noise. |
| 154 | Meadows Field | Construct major new airport terminal with supporting commercial and industrial uses. (City of Bakersfield, 2001) | 3701 Wings Way, Bakersfield | Possible overlap of construction activities. Areas of potential cumulative impacts are air quality and noise. |
| 155 | Meadows Field | Runway expansion and improvements. (City of Bakersfield, 2001) | 3701 Wings Way, Bakersfield | Possible overlap of construction activities. Areas of potential cumulative impacts are air quality and noise. |
| 156 | SR-99 | Caltrans District 6 in conjunction with the City of Bakersfield, is proposing a new public road connection via an interchange on SR-99 at Hosking Avenue (Post Mile 18.5). The proposed interchange would replace the existing Hosking Avenue overcrossing (one lane in each direction) with a new structure that has three lanes in each direction and sidewalks and shoulders on both sides. The connection to SR-99 would be accomplished with a partial cloverleaf interchange. Loop on-ramps would provide access to SR-99 for eastbound-to-northbound and westbound-to-southbound traffic, while spread diamond off-ramps and direct on-ramps would serve traffic in the northbound and southbound directions. (Kern Council of Governments, 2007) | SR-99 and Hosking Avenue, Bakersfield, Kern County | Possible overlap of construction activities. Areas of potential cumulative impacts are transportation, air quality, and noise. |
| 157 | 99 Houghton, LLC by McIntosh and Associates | Proposed General Plan Amendment, Zone Change, and Exclusion from Agricultural Preserve to industrial use to allow for the development of an industrial park with a maximum of 5,134,253 square feet of net building area. (CEQAnet, 2009) | South Union and DiGiorgio, Bakersfield | Possible overlap of construction activities. Areas of potential cumulative impacts are transportation, air quality, noise, and agriculture. |
| 158 | SR-58 | Widen to eight lanes. (Kern Council of Governments, 2007) | SR-99 to Cottonwood Road, Kern County | Possible overlap of construction activities. Areas of potential cumulative impacts are transportation, air quality, and noise. |

| Map ID on Figure A | Project Name | Description | Location | Potential Cumulative Impact Areas |
|---|---|---|---|---|
| 159 | Mill Creek Linear Park Plan | Planned components of the mixed-use project include; 65,000 square feet of commercial development including retail, restaurants, entertainment, recreation and neighborhood services, 80 units of affordable town-home style high rise two- and three-bedroom rental units and 35 upscale market-rate urban style condominiums. (Kunz, no date) | Encompasses the area surrounded by California Street in the south, Q Street in the west, a property line close to BNSF Right-of-Way in the north and the S Street in the east, Bakersfield | Possible overlap of construction activities. Areas of potential cumulative impacts are land use, aesthetics, population and housing, transportation, noise, and air quality. |
| 160 | CUP #09-0315 | A request for a Conditional Use Permit to allow for a concrete and asphalt recycling facility on an 11.24-acre site. The operation would allow delivery to the site of a maximum of 1,200 tons of materials daily and 300,000 tons of materials annually. The equipment proposed for the facility includes the operation of off-road diesel trucks, wheeled/truck loaders, and one grader. The operation would run from 6 a.m. to 5 p.m., Monday through Saturday, and would require 3 to 6 employees to operate the onsite equipment. End dump/belly dump trucks would be used to transport the materials at a rate of 88 trucks daily and 500 trucks weekly. (CEQAnet, 2009) | East White Lane and South Union Avenue, Bakersfield | Possible overlap of construction activities. Areas of potential cumulative impacts are transportation, air quality, and noise. |
| 161 | Old Town Kern-Pioneer Redevelopment Project | Construction of 74 single-family residential units, 30,000 square feet of commercial/retail, 115 units of affordable housing, a swimming pool, a hospital expansion, and a 40,000-square-foot commercial development. (Bakersfield Redevelopment Agency, 2005) | Bakersfield | Possible overlap of construction activities. Areas of potential cumulative impacts are land use, aesthetics, population and housing, transportation, noise, and air quality. |
| 162 | The Canyons: Bakersfield, CA | Residential, commercial, and recreational development on approximately 889 acres. The proposed project consists of amendment to the Land Use and Circulation Elements of the City of Bakersfield General Plan, amendment of the Northeast Bakersfield Specific Parks and Trails Plan, rezoning, and subdivisions for mixed-use including approximately 1,214 single and 120 multiple family residential units, and 8.15 acres of commercial, recreational areas, trails, parks, and open space. (CEQAnet, 2009) | Morning Drive and Paladino Drive and Alfred Harrell Highway, Bakersfield | Possible overlap of construction activities. Areas of potential cumulative impacts are land use, aesthetics, population and housing, transportation, noise, and air quality. |
| 163 | I-5 Interchange Improvement | Interchange improvements at SR-99 and I-5. (Fresno County, 2010) | Fresno County, South of Bakersfield near Wheeler Ridge. South of Legray Road. Intersection of I-5 and SR-99. | Possible overlap of construction activities. Areas of potential cumulative impacts are transportation, air quality, and noise. |

| Map ID on Figure A | Project Name | Description | Location | Potential Cumulative Impact Areas |
|---|---|---|---|---|
| 164 | Tejon Industrial Complex – East Specific Plan | Development of 15,153,200 square feet of industrial uses and 275,000 square feet of commercial uses. (Kern County, 2005) | Wheeler Ridge and Laval Road interchange, unincorporated Kern County | Possible overlap of construction activities. Areas of potential cumulative impacts are land use, aesthetics, population and housing, transportation, noise, and air quality. |
| 165 | Weldon Solar Project | Development of 500 acres (60 MW) of solar. (Casdorph, 2010) | Kern County | Possible overlap of construction activities. Areas of potential cumulative impacts are transportation, noise, air quality, and biology. |
| 166 | San Bernard Solar | Development of 43 acres (6 MW) of solar. (Casdorph, 2010) | San Bernard, David Road, east of Edison Road, Kern County | Possible overlap of construction activities. Areas of potential cumulative impacts are transportation, noise, air quality, and biology. |
| 167 | Tejon Mountain Village by TMV, LLC | The project includes adoption of the Tejon Mountain Village Specific and Community Plan and the Tejon Mountain Village Special Plan to implement the proposed zoning. Implementation of the project would allow for the development of up to 3,450 residential units ranging in lots sizes from 2,400 square feet to over 20 acres, up to 160,000 square feet of commercial development, up to 750 hotel/resort lodging units, two 18-hole golf courses, and additional support facilities. (CEQAnet, 2009) | East of the Interstate 5 and the Lebec Interchange, Kern County | Possible overlap of construction activities. Areas of potential cumulative impacts are land use, aesthetics, population and housing, transportation, noise, and air quality. |

## REFERENCES

Acosta-Mena, Theresa, 2009. Email communication, December 30. Senior Planner, Department of Public Works and Planning, Fresno County.

Bakersfield Redevelopment Agency, 2005. Implementation Plan for the Old Town Kern-Pioneer Redevelopment Project. Prepared by the City of Bakersfield, California. March 2005.

Casdorph, Cheryl, 2010. Email communication. Supervising Planner, Kern County. January 25.

CEQAnet, 2009. Official website, http://www.ceqanet.ca.gov/QueryForm.asp, accessed November.

CEQAnet, 2010. Official website, http://www.ceqanet.ca.gov/QueryForm.asp, accessed March.

City of Bakersfield, 2001. Metropolitan Bakersfield 2010 General Plan.

City of Bakersfield, 2010. Draft Environmental Impact Report, Bakersfield Commons Project. February 16.

City of Clovis, 2003. Southeast Urban Center Specific Plan.

City of Hanford, 2008. Final Environmental Impact Report for Villagio Project, SCH 2007111084. December.

City of Kingsburg, 2009. North Kingsburg Specific Plan. July.

City of Visalia, 2007. Orchard Walk Specific Plan Vicinity Map and Land Use Summary.

City of Visalia, 2006. The Village at Willow Creek Specific Plan. November 20.

Council of Fresno County Governments, 2007. 2007 Regional Transportation Plan, May 31, 2007.

Council of Fresno County Governments and California High Speed Rail Authority, 2010. Draft Freight Rail Realignment Study. January.

Fresno County, 2010. Measure C - Regional Transportation Program Extension Projects. Access at: http://www.measurec.com/extension.php. February 22.

Kern County, 2008. Draft Environmental Impact Report for the Clean Fuels Project by Big West of California, LLC. SCH# 2005121041. June.

Kern County, 2007. Draft Environmental Impact Report for the Northwest Communities Project. SCH# 2006011136.

Kern Council of Governments, 2007. 2007 Regional Transportation Plan, May 17, 2007.

Kern County, 2005. Tejon Industrial Complex East Specific Plan. November.

Kings County Association of Governments, 2008. 2008 Regional Transportation Improvement Program, Jaunary 23, 2008.

Kinney, Chuck, 2009. Telephone communication with Chuck Kinney, Principal Planner, Kings County, November 16.

Kunz, Donna, Economic Development Director, City of Bakersfield, no date. Mill Creek: A Downtown Master Plan. PowerPoint Presentation provided by Donna Kunz. 26 pp.

Tulare County Association of Governments, 2007. 2007 Regional Transportation Plan, May 21, 2007.

Schenke, Reed, 2009a. Email communication. Engineer, Tulare County RMA. November 16.

Schenke, Reed, 2009b. Email communication. Engineer, Tulare County RMA. November 19.