CALIFORNIA HIGH-SPEED TRAIN

Technical Report

DRAFT

Fresno to Bakersfield

Community Impact Assessment Technical Report Appendices

July 2012

CALIFORNIA High-Speed Rail Authority

U.S. Department of Transportation
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California High-Speed Train Project

Community Impact Assessment Technical Report Appendices

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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

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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 of this technical report contains substantial analysis to determine the 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 2000 Census at the block level, and therefore block groups provide the finest level of analysis possible for examining poverty data. However, since block groups 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. At the time of this analysis in 2010, this information was a decade old, and new detailed 2010 Census data would not be available until after this analysis is conducted. However, 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 • Total Population (SF-1: P1) • Race (SF-1: P4) • 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 • Total Population (B01003) • Race (B03002) • 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. As a result of these experts' comments, changes were made to the findings based on the 2000 Census.

ACS = U.S. Census Bureau, American Community Survey
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 (115,230) 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:

- 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 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

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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. Although “community” typically refers to a concentration of homes, often with associated businesses and services, the existence of a more dispersed “agricultural community” in portions of the San Joaquin Valley is also acknowledged and an attempt is made to identify project impacts on this community.

- 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 • U.S. Census Bureau 2000 Racial and Ethnicity Characteristics (P4), age profile (DP-1), household type profile (H7), and linguistic isolation (P20). • 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) • 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 • U.S. Census Bureau 2000 median annual household income (selected economic characteristics) and income level to poverty (P88) • 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 • U.S. Census Bureau 2000 home ownership and length of residence (selected housing characteristics) • U.S. Census Bureau 2006–2008 and 2008 American Community Survey home ownership and length of residence (selected housing characteristics) • 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 • 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 • 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 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) • 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) • Review aerial photographs and GoogleEarth resources • Interview local planners and administrators • Conduct field visits	Analysis will identify key community facilities within the study area.
Circulation and Access • 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 • 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.

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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 the BNSF Alternative vs. the bypass alternatives as well as the 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, in most cases the 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 the potential for 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 • ID number (APN) • Location (property address) • Land use • Area • Assessed value • Number and age of structures • 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 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. 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.. 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 4: 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 5: Determining Changes in School District Funding

The potential impact of high concentrations of residential unit displacements on school districts was considered based on the potential indirect construction impacts on school funding that could result from reductions in student populations in communities with high numbers of 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.

Elementary, secondary, and unified school district boundaries within each of the counties were examined to determine the number of residential relocations in each school district (Cal-Atlas 2009). The boundaries of these districts overlap, because secondary school districts are often an aggregation of many elementary school districts. The number of affected students in each school district was estimated by first multiplying the percentage of school age children (5 to 19 years old) in each city or county population by the average household size in the corresponding location (U.S. Census Bureau 2000a, 2000b). The average number of school age children per household was then multiplied by the number of residential relocations in each area. The numbers of affected students per school district were presented if the school district had enough students relocated to potentially affect its funding. The numbers include students of all ages, resulting in a double-count of students in elementary school districts and the associated secondary school district.

The total number of students relocated in a school district was compared with the number of vacant housing units in the vicinity of the district to determine whether a large number of displaced residents may be forced to relocate outside of their current school district. The number of residential vacancies within each school district was determined by housing data based on the zip code or zip codes that most accurately captured the school district boundaries (Zillow 2010). If a large number of displaced residents could potentially relocate to homes in a new school district, changes in school district funding may occur.

Step 6: 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 residential and commercial structural 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.

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Appendix B
Community Baseline Data

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Tables

Figures

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

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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.

B.1.1.1 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).

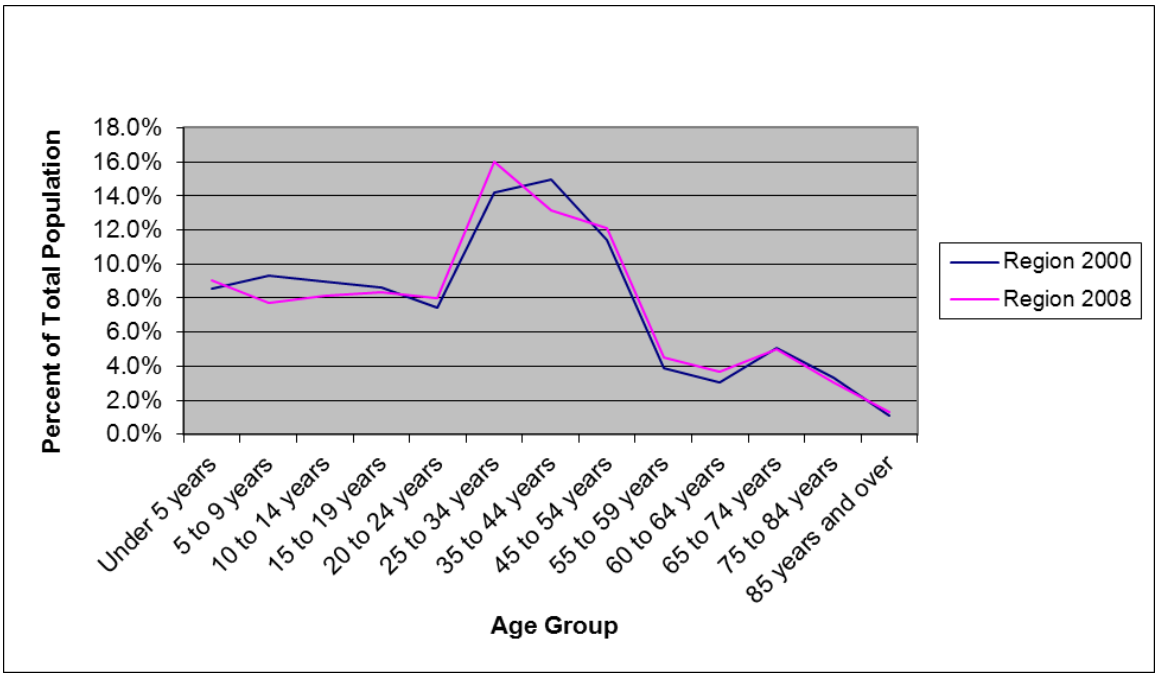

Figure B-1
Region Age Profile, 2000 and 2008

[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.1.1.2 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).

B.1.1.3 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 115,230, or 5.9% 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 (70.9% of the residents in the study area are in Kern County), followed by Fresno (16.2%), Kings (12.4%), and Tulare (0.01%). 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 68.7% of the study area population and low-income individuals make up 28.2% 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).

B.1.1.4 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.

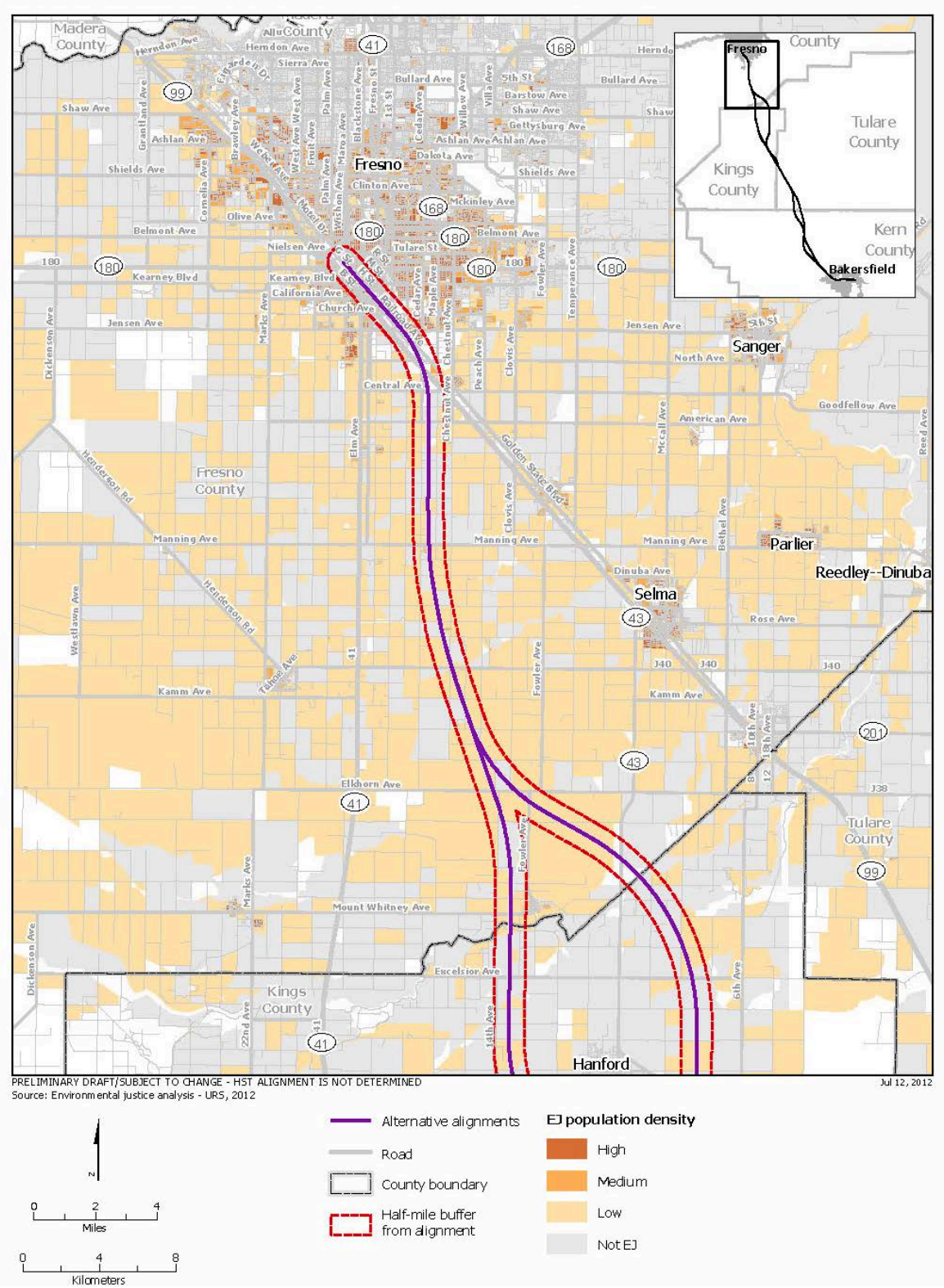

Figure B-2
Fresno County EJ Block Populations

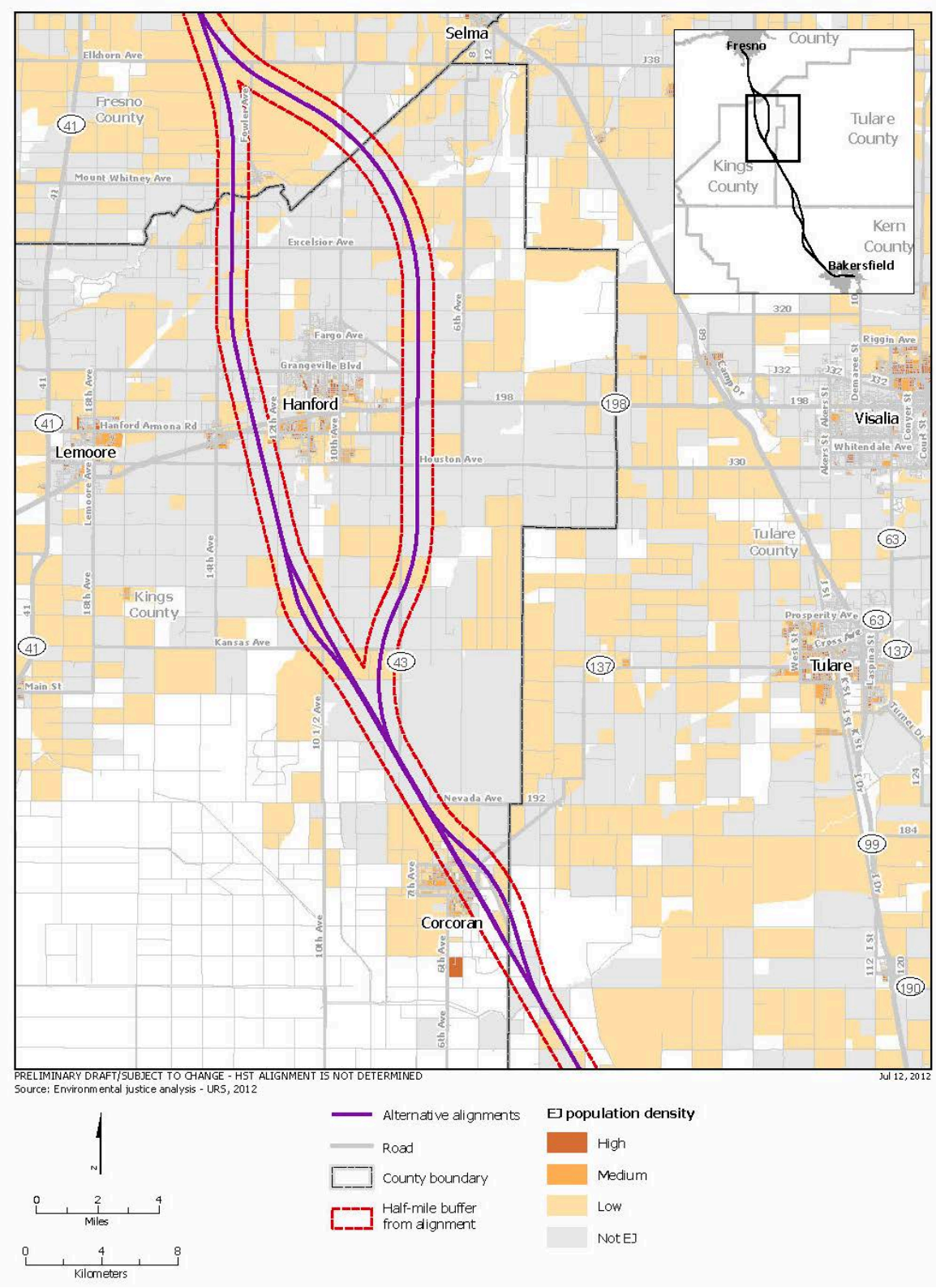

Figure B-3
Kings County EJ Block Populations

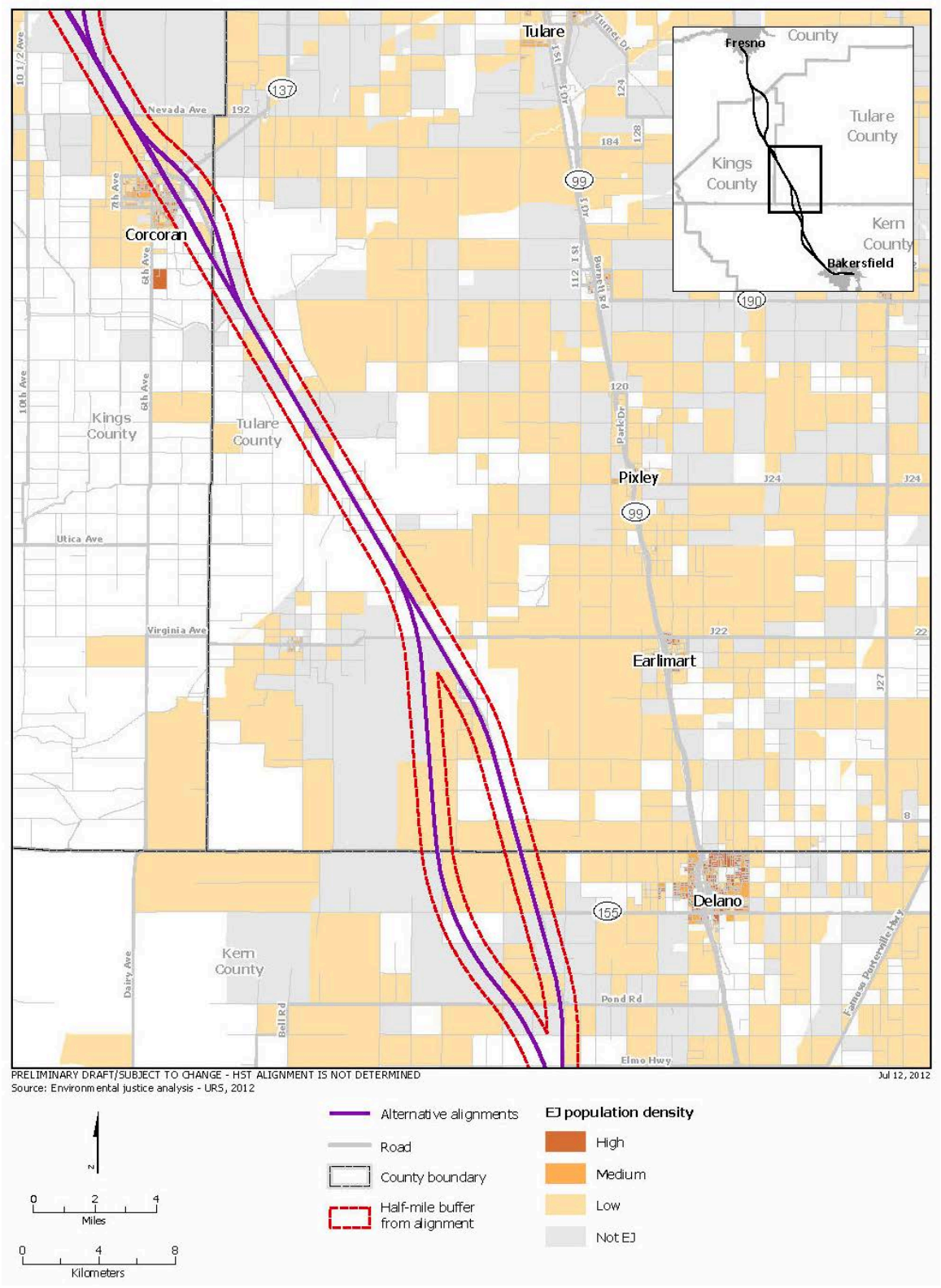

Figure B-4
Tulare County EJ Block Populations

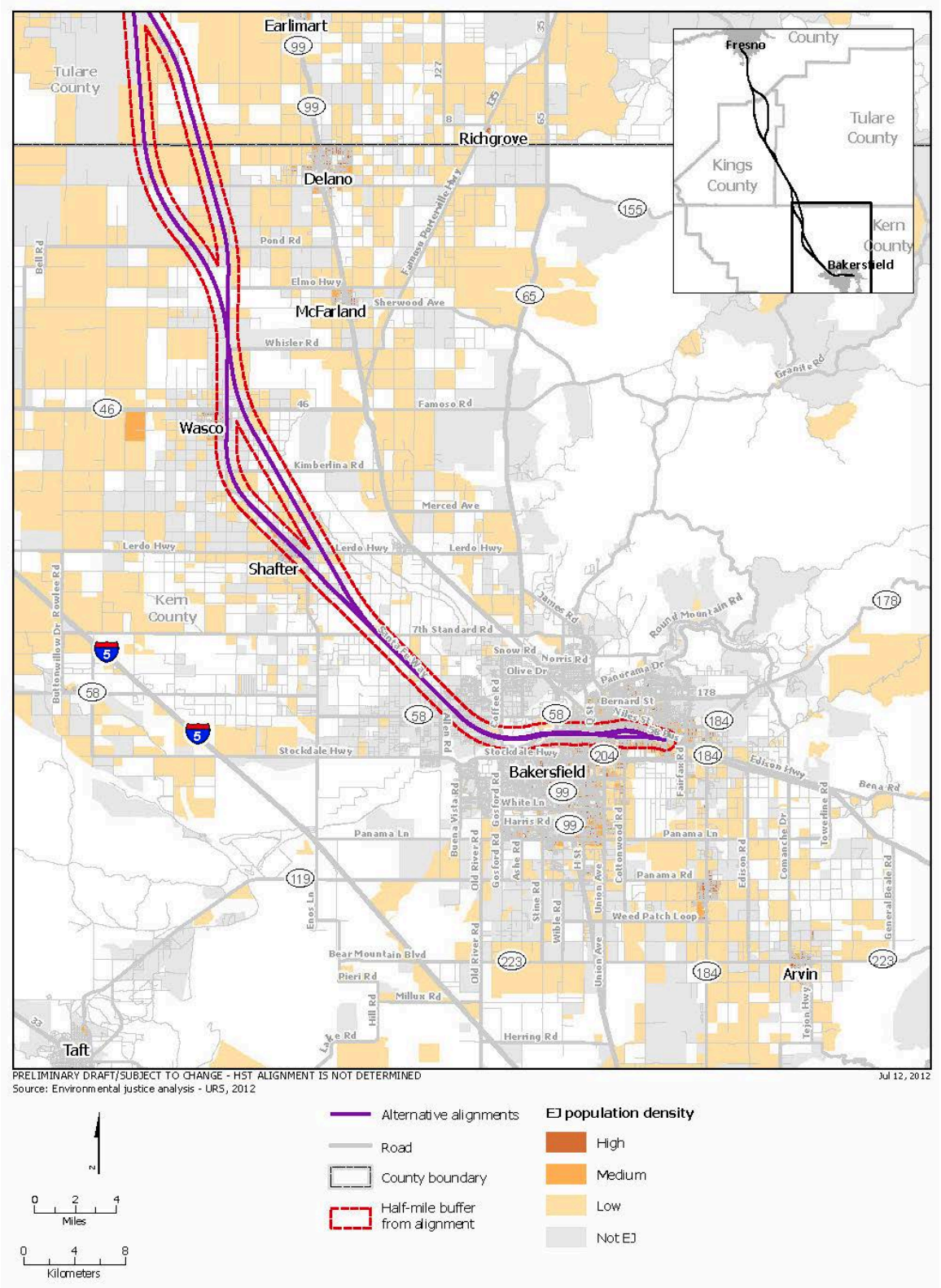

Figure B-5
Kern County EJ Block Populations

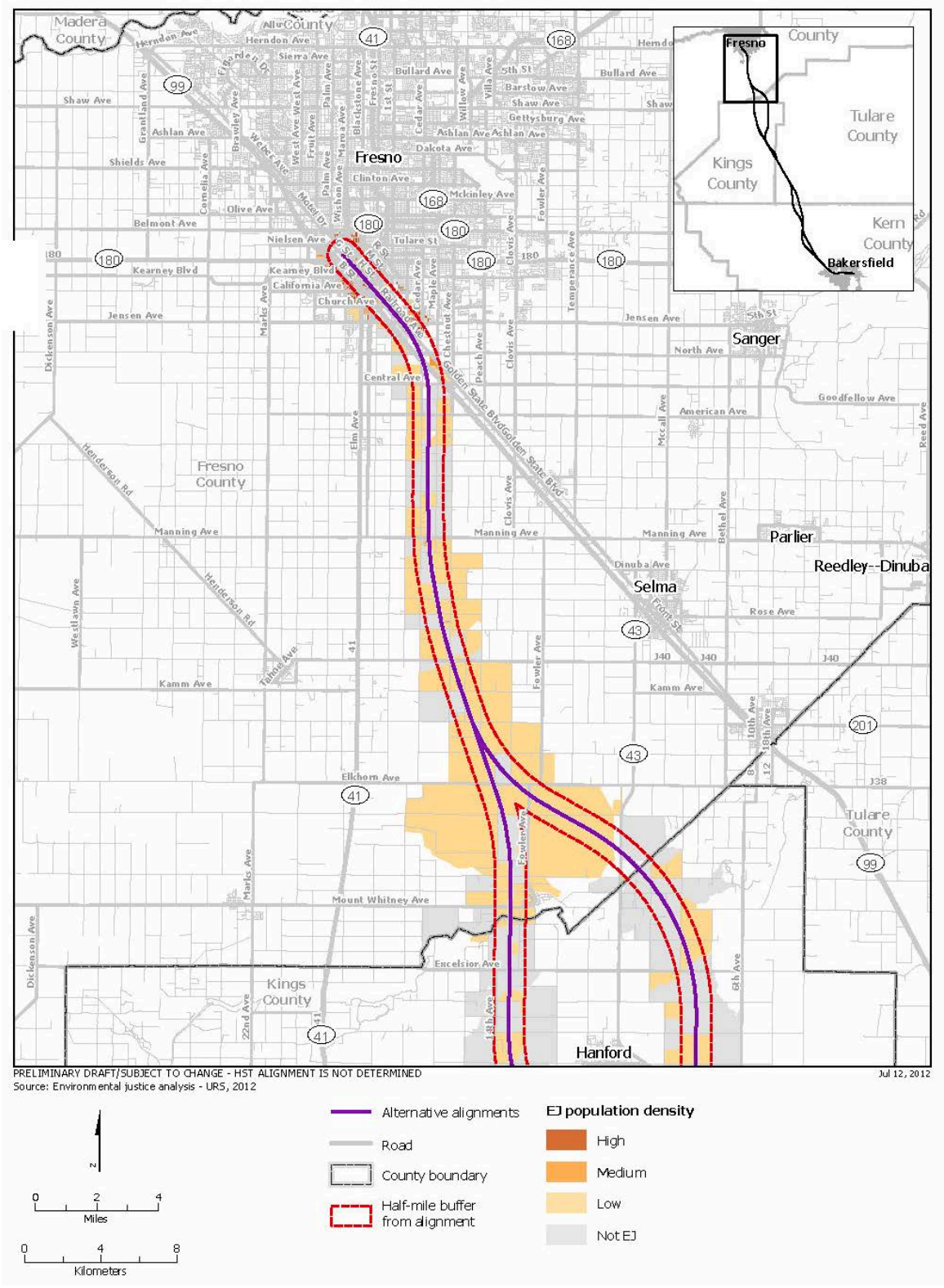

Figure B-6
Fresno County EJ Block Populations

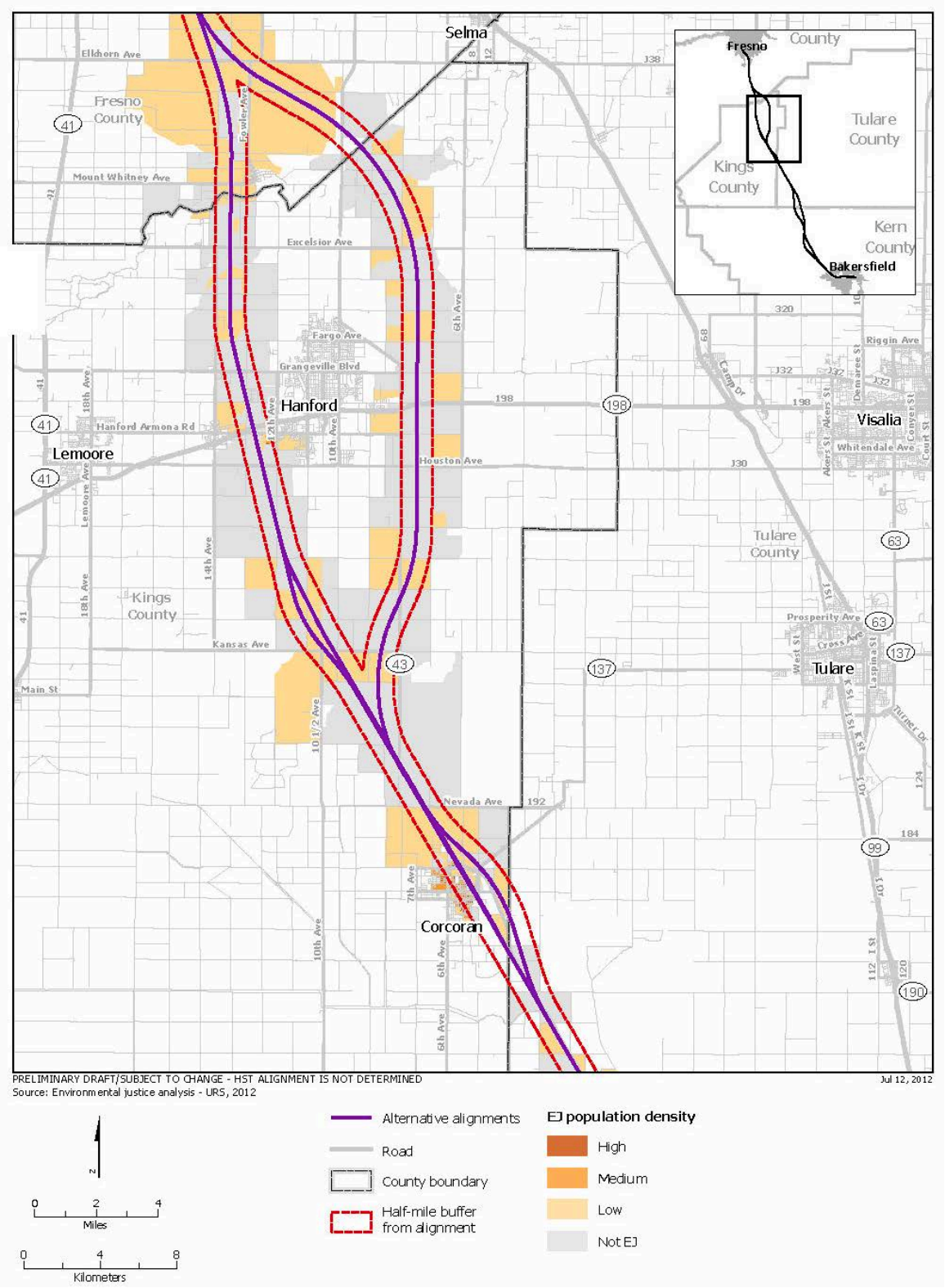

Figure B-7
Kings County EJ Block Populations

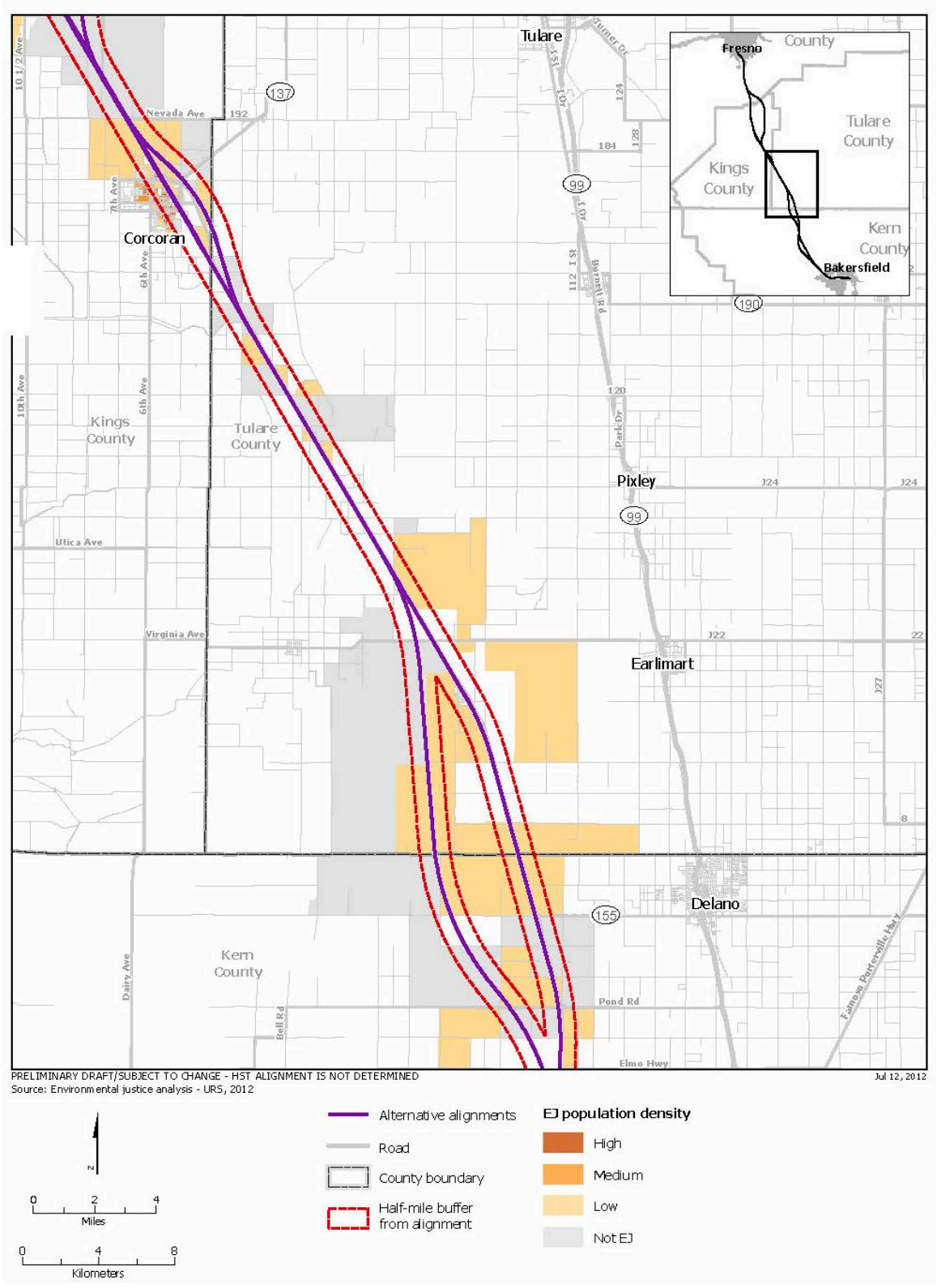

Figure B-8
Tulare County EJ Block Populations

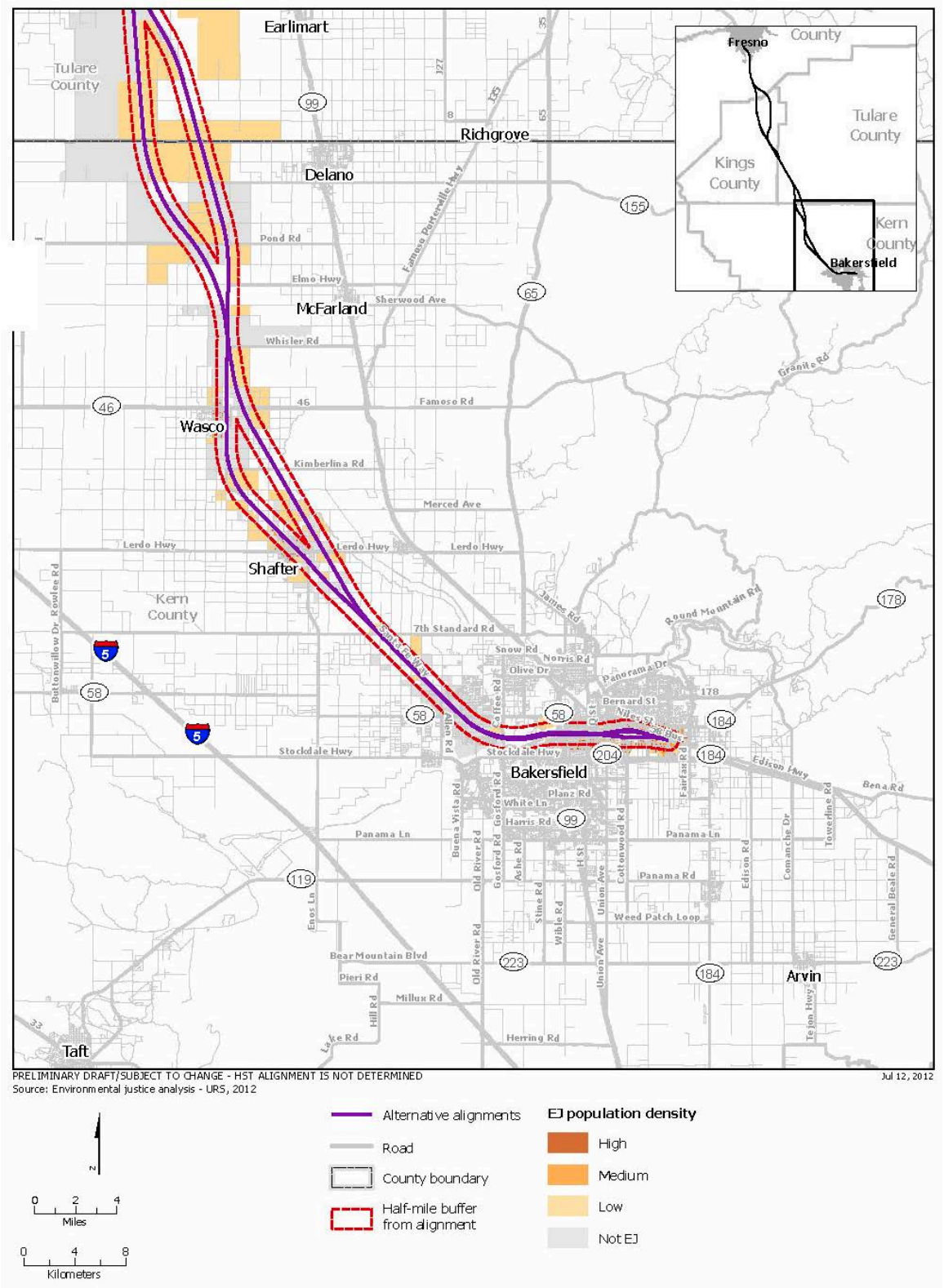

Figure B-9
Kern County EJ Block Populations

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.

B.1.1.5 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

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
Professional, scientific, management, administrative, and waste management services	57,500	7.8	67,200	8.1	79,700	8.6
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.

B.1.1.6 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.

B.1.1.7 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.

B.1.1.8 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.

B.2.1.1 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).

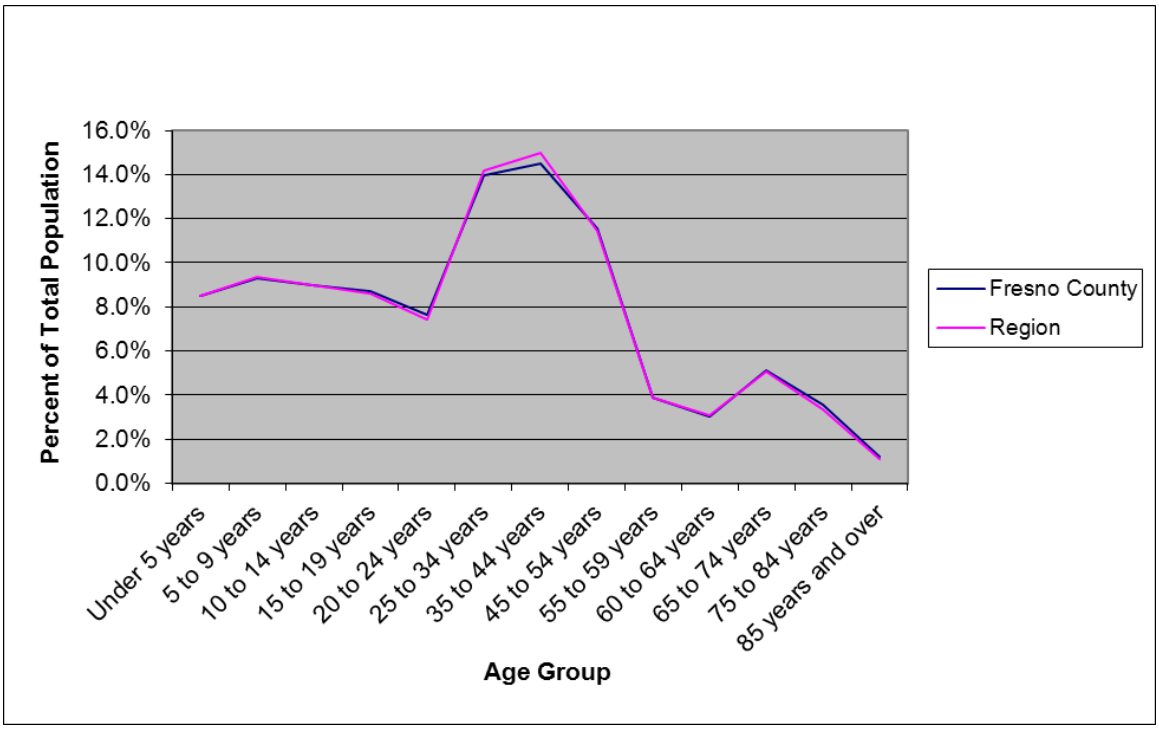

Figure B-10
Fresno County Age Profile, 2000

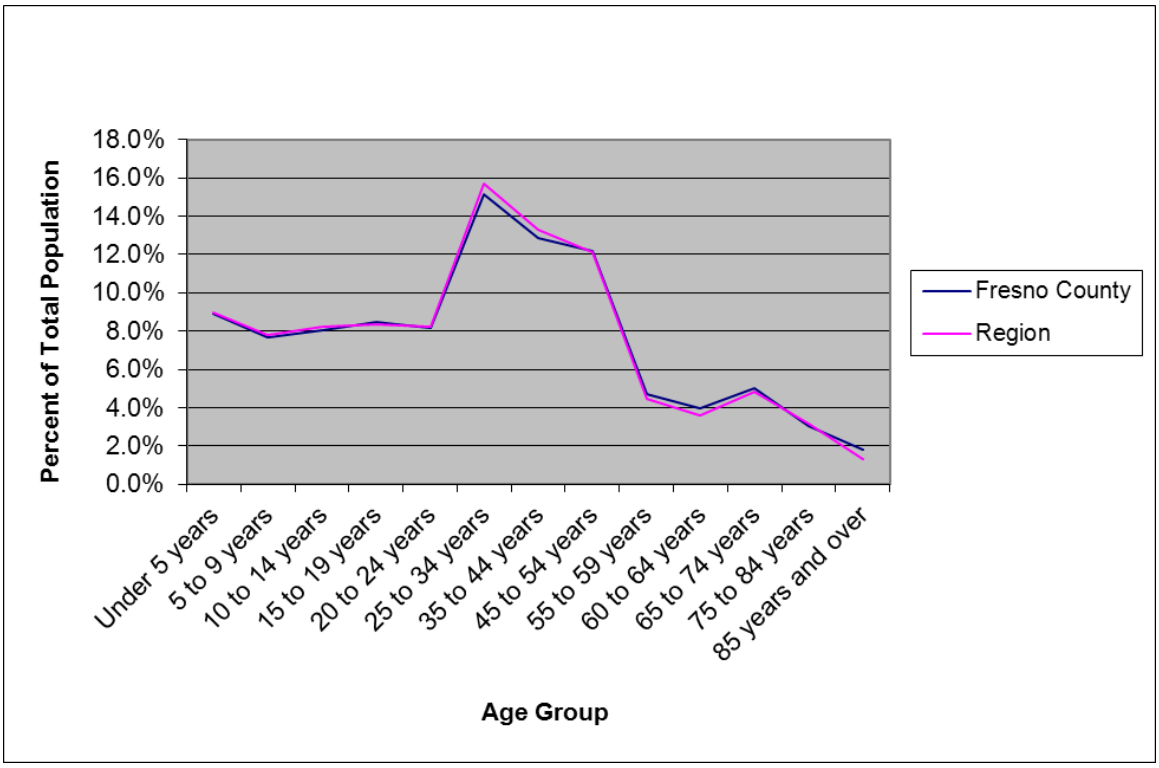

Figure B-11
Fresno County Age Profile, 2008

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.2.1.2 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).

B.2.1.3 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.

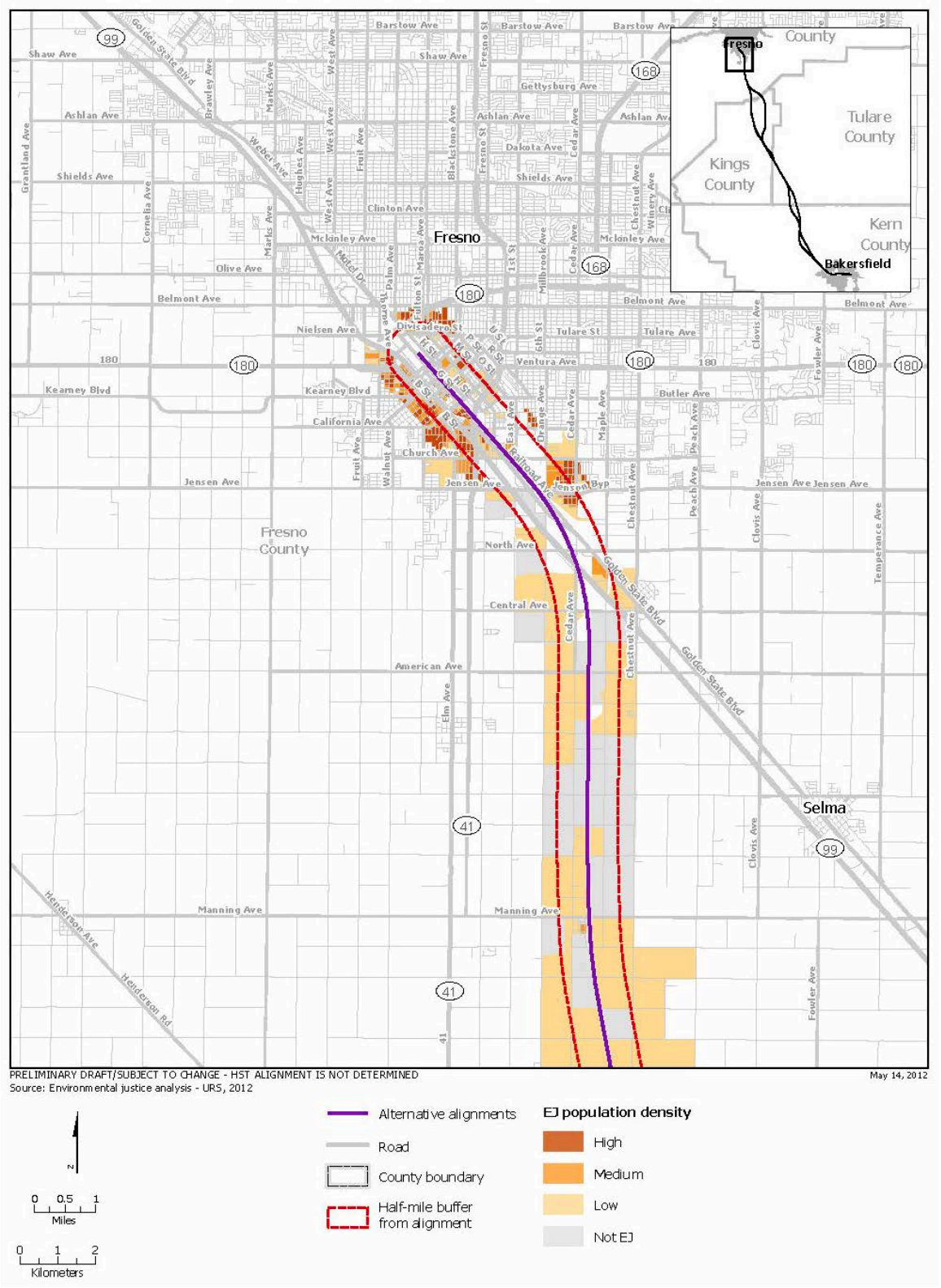

Figure B-12
Fresno County North EJ Block Populations

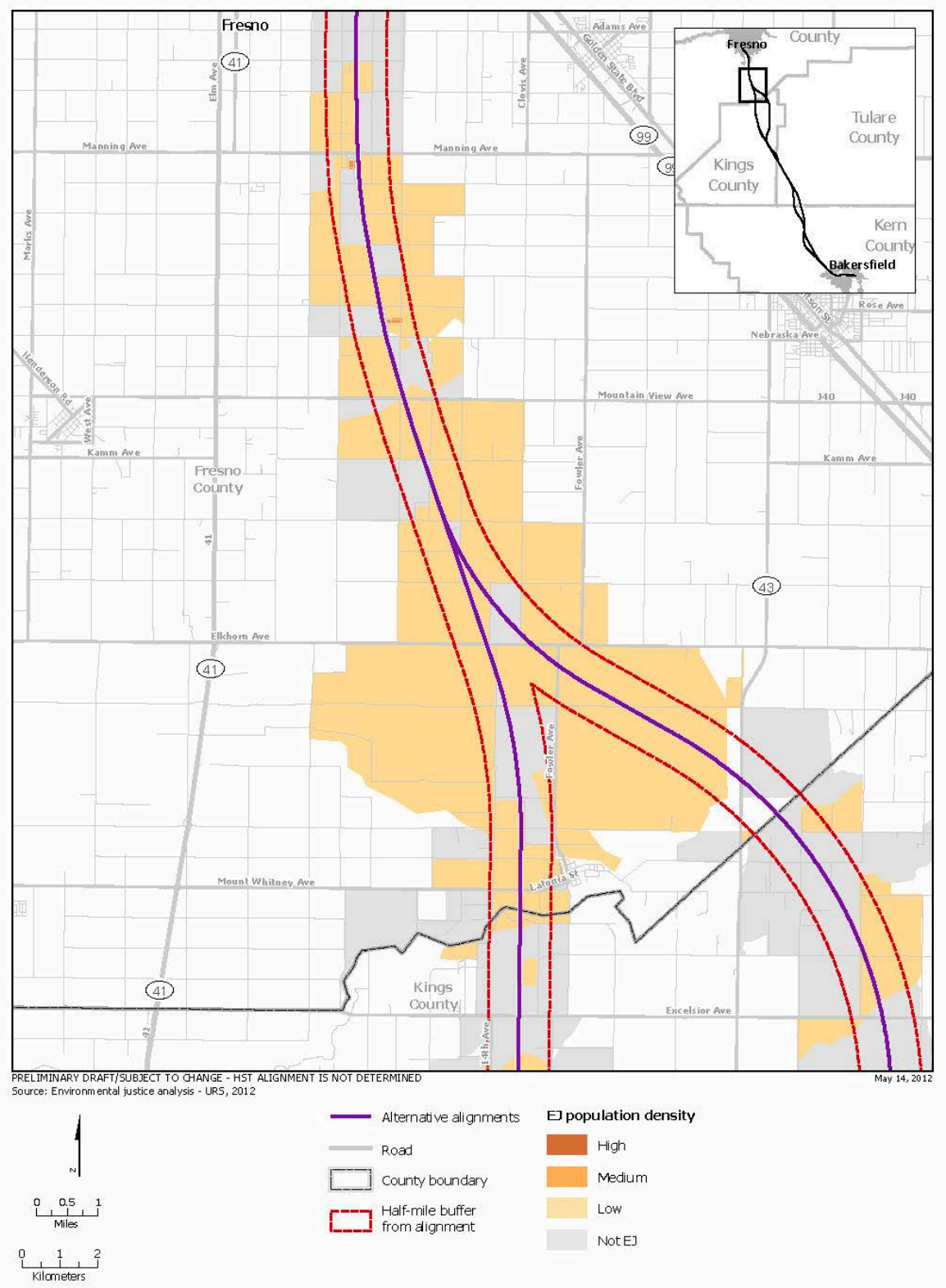

Figure B-13
Fresno County South EJ Block Populations

According to the 2000 Census, the approximate total population within the study area in Fresno County was 18,610, or 16% of the total population contained within the study area for the region and 2.3% 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 81.4% of the study area population and low-income individuals make up 40.5%. 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).

B.2.1.4 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.

B.2.1.5 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
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

Table B-14
Largest Employers in Fresno County, 2010

Businesses	City	Address	Industry Type	Employment Size	Potentially Within Study Area
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
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

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
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
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.

B.2.1.6 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).

B.2.1.7 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.

B.2.1.8 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).

B.3.1.1 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).

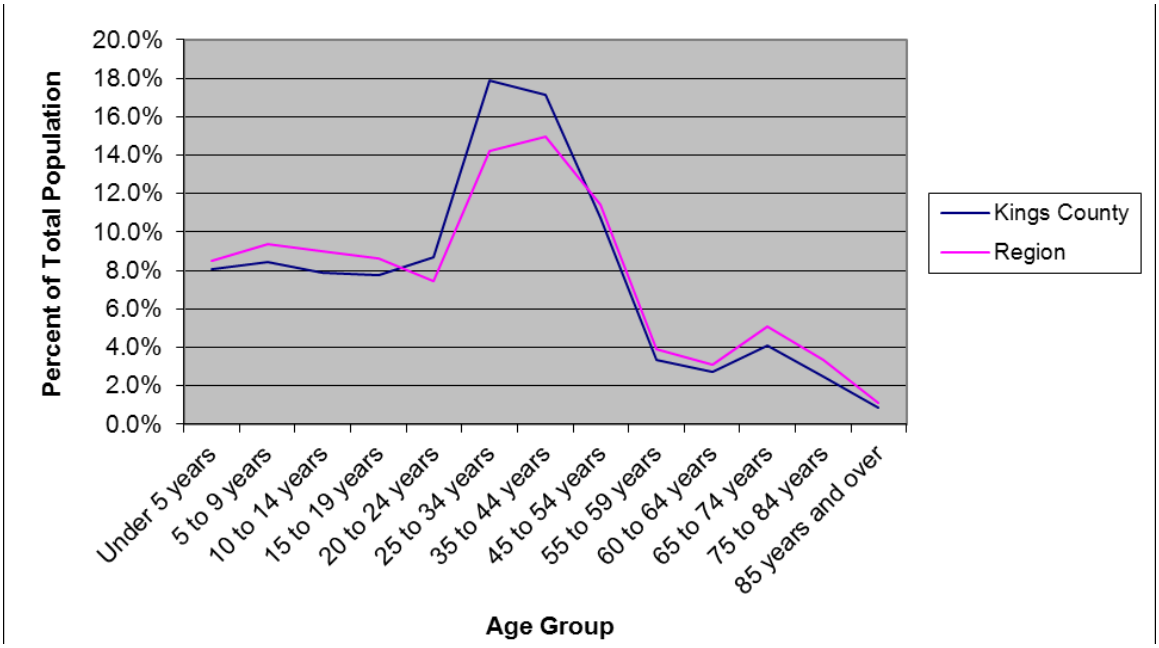

Figure B-14
Kings County Age Profile, 2000

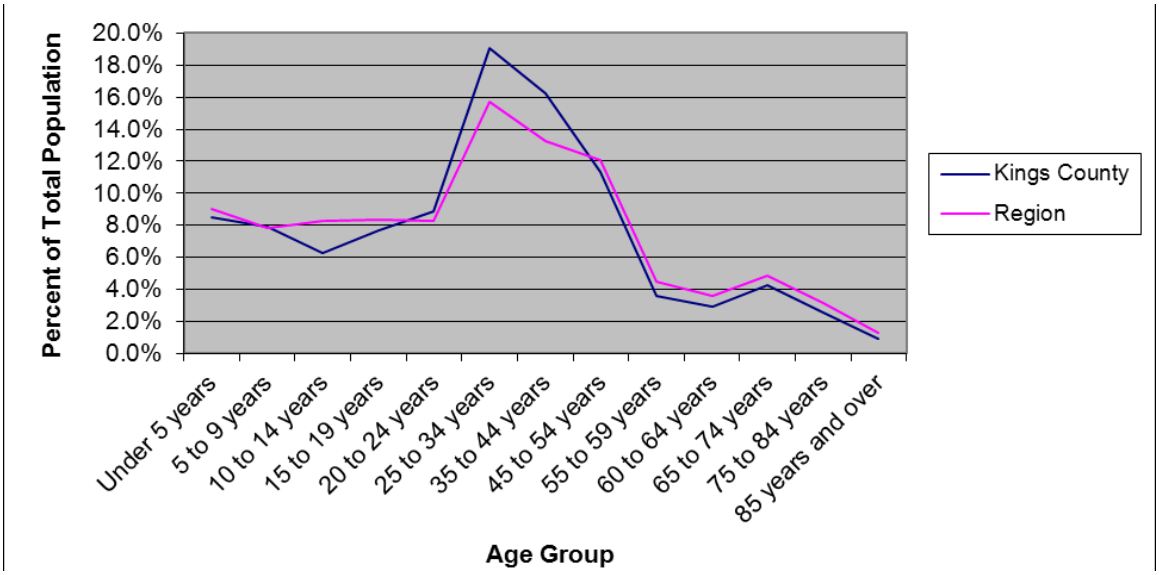

Figure B-15
Kings County Age Profile, 2008

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
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

[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.

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.3.1.2 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.

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).

B.3.1.3 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.

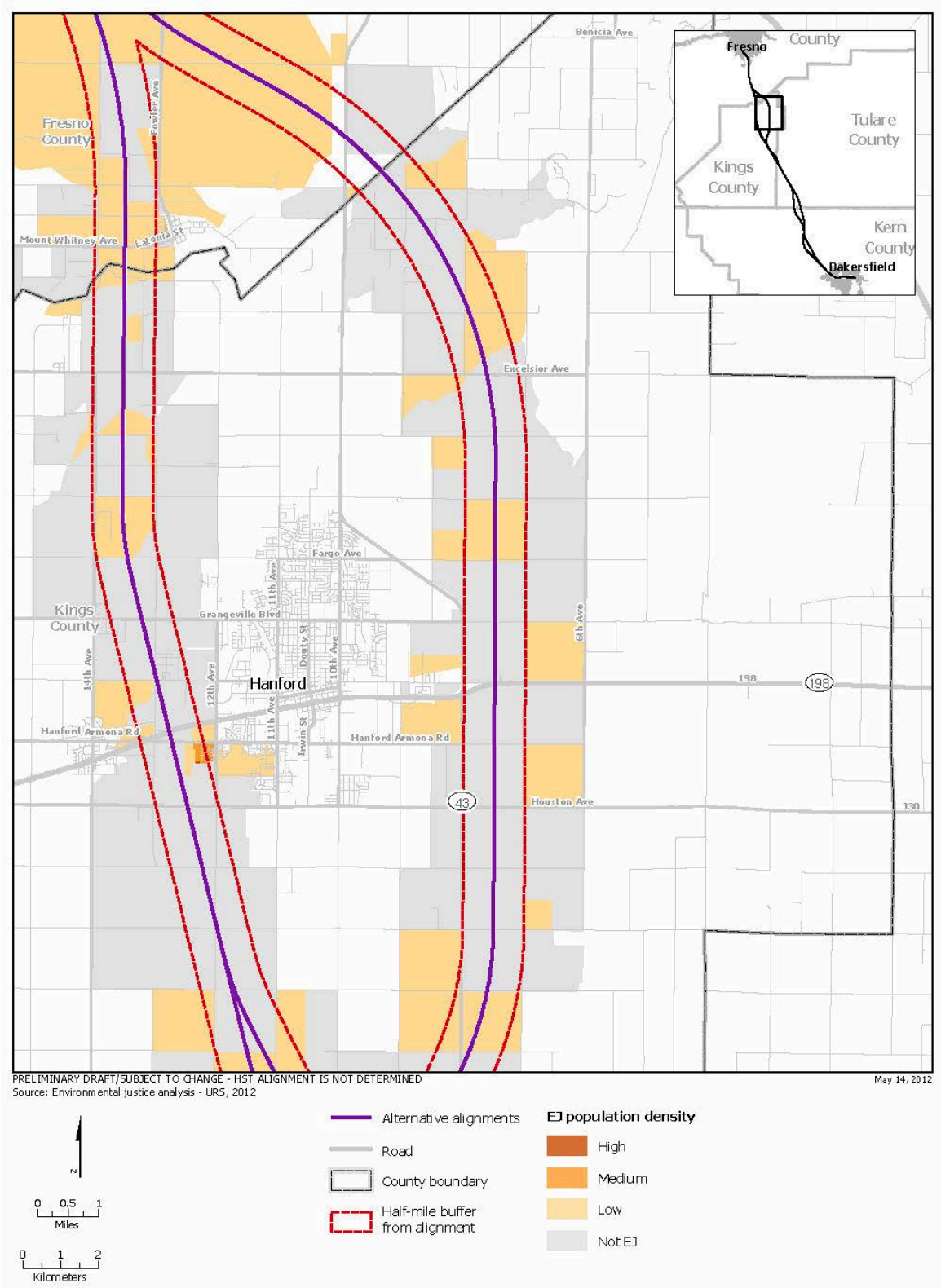

Figure B-16
Kings County North EJ Block Populations

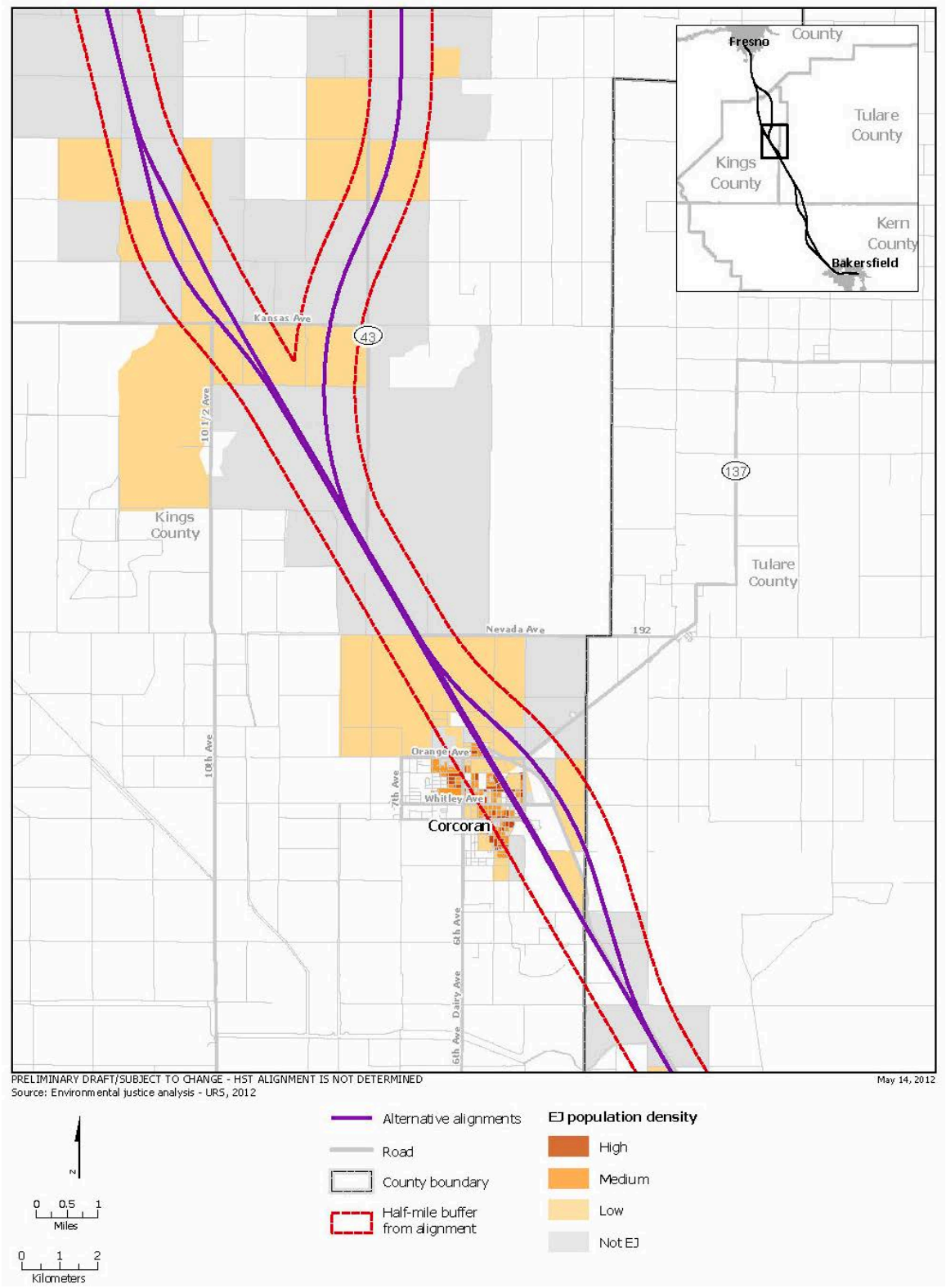

Figure B-17
Kings County South EJ Block Populations

According to the 2000 Census, the approximate total population in the study area in Kings County is 14,302, or 12.4% of the total population contained in the study area for the region, and 11% 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 64.8% of the total study area population. Low-income individuals comprise a similar percentage of the population in the study area at 18.3%. 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 and along the Hanford West Bypass alternatives. The city of Corcoran contains the only concentrated urban EJ population within the study area in the county. However, the Corcoran Bypass Alternative, 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, the Hanford West Bypass Alternative, and the Corcoran Bypass Alternative are provided in the city and community profiles.

B.3.1.4 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
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]

[10] Kings County, *Housing Element, rev. draft*.

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.

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 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 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.

B.3.1.5 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

Table B-23
Largest Employers in Kings County, 2010

Businesses	City	Address	Industry Type	Employment Size	Near Alignment
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
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.

Genl = 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.

B.3.1.6 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 2009a).

B.3.1.7 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.

B.3.1.8 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).

B.4.1.1 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).

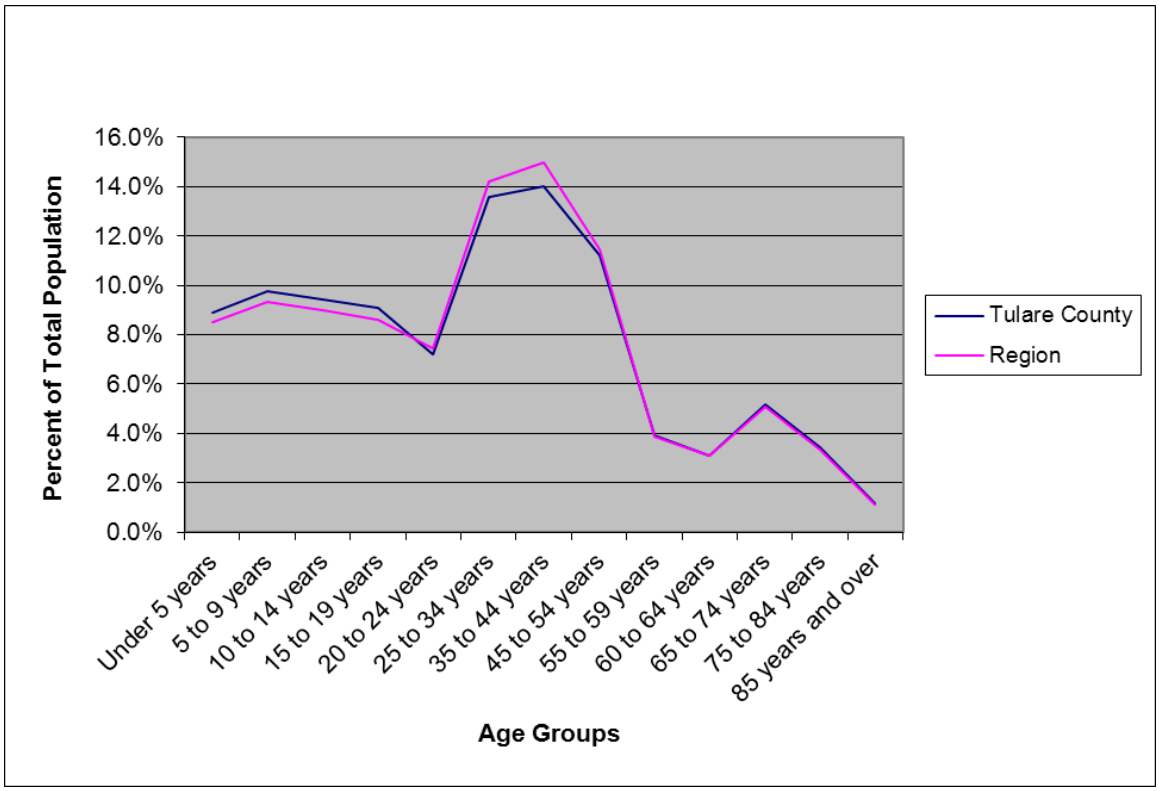

Figure B-18
Tulare County Age Profile, 2000

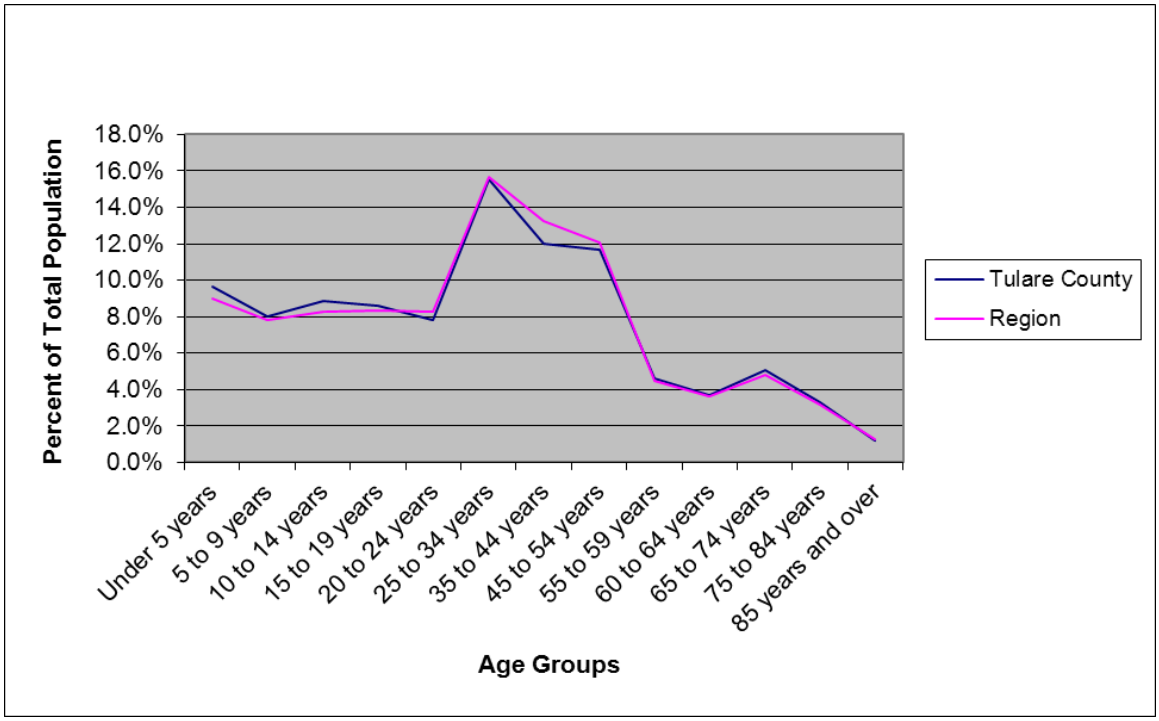

Figure B-19
Tulare County Age Profile, 2008

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.4.1.2 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).

B.4.1.3 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 the BNSF Alternative 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.

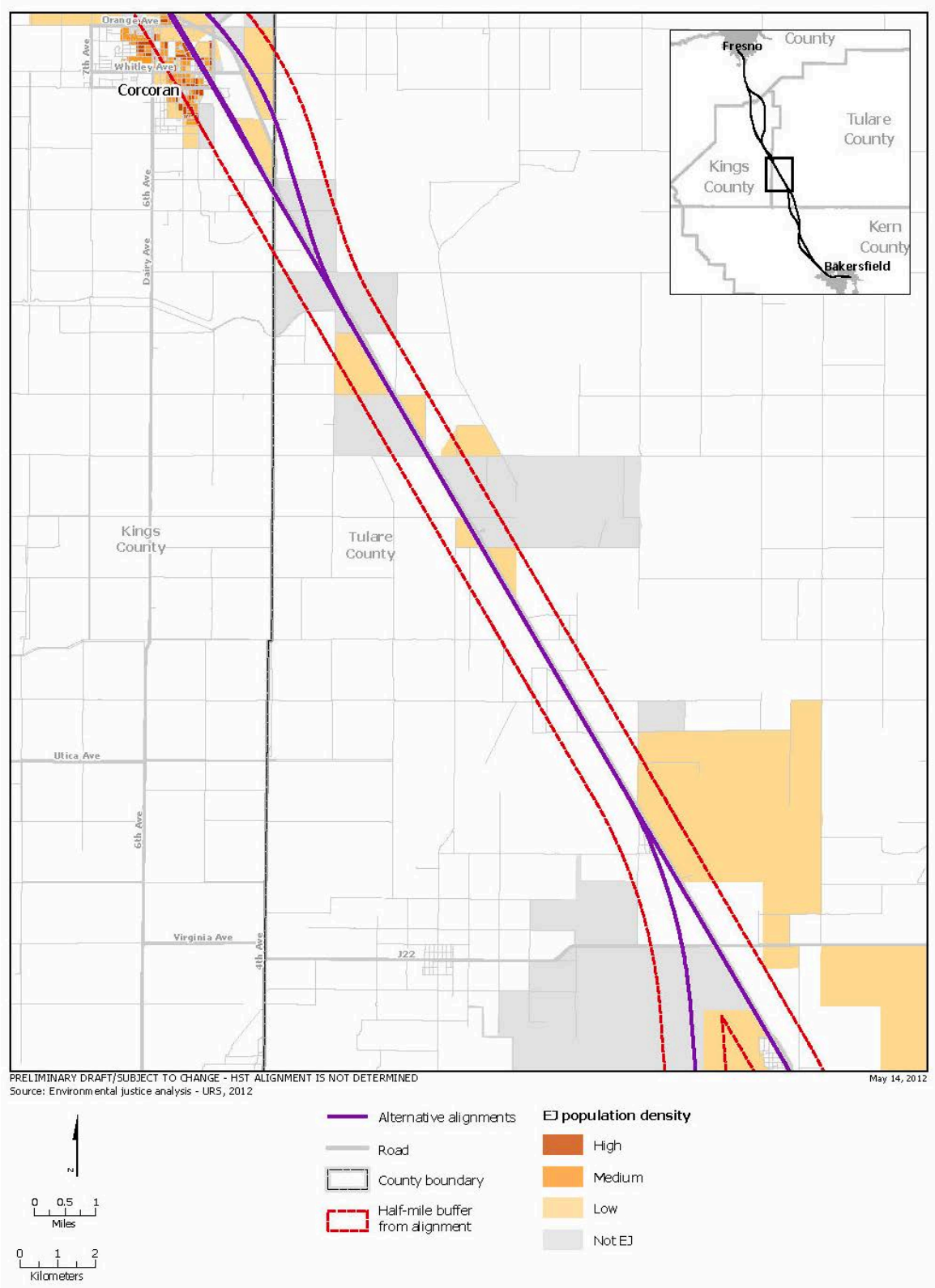

Figure B-20
Tulare County North EJ Block Populations

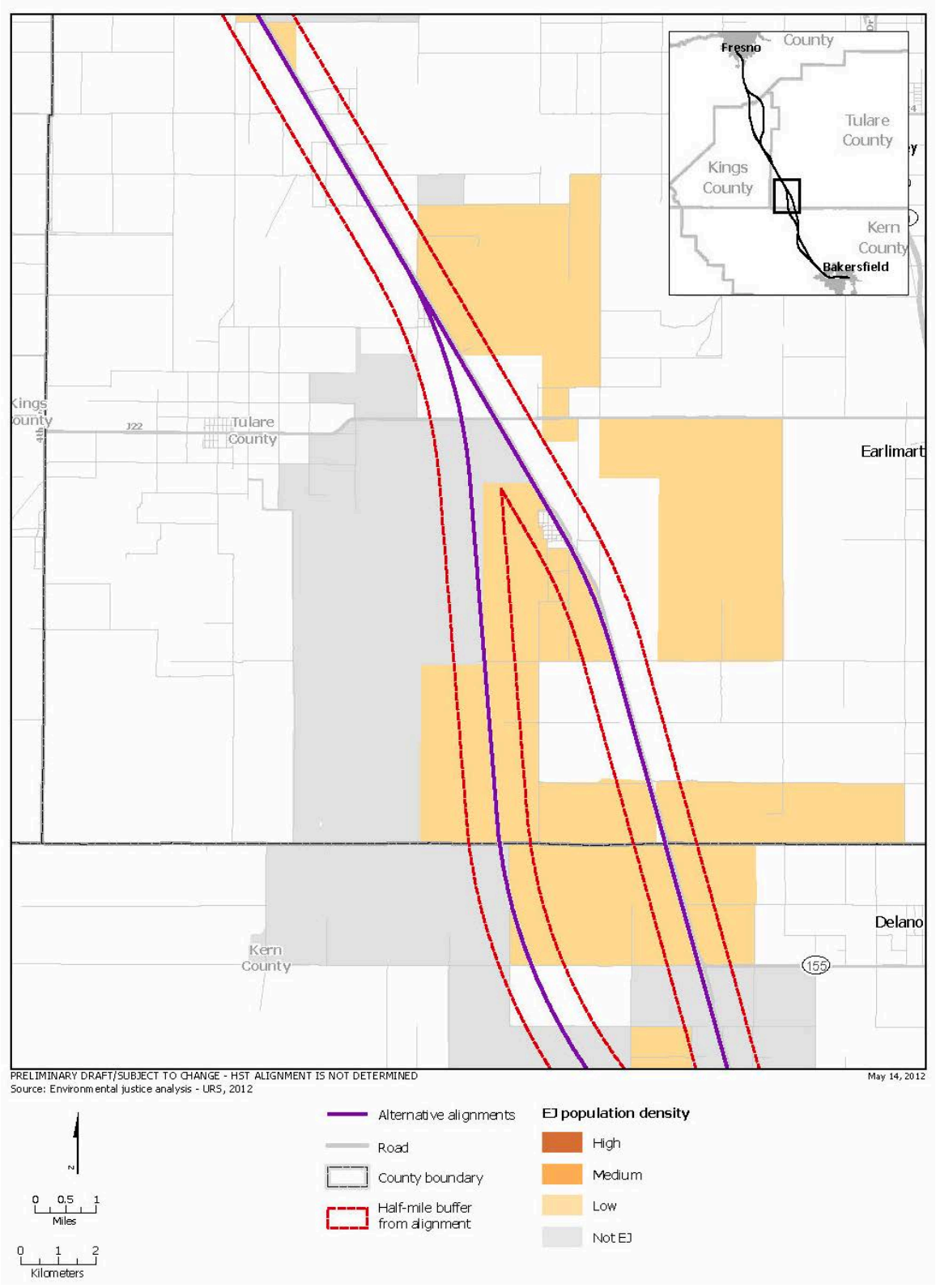

Figure B-21
Tulare County South EJ Block Populations

According to the 2000 Census, the approximate total population within the study area in Tulare County was 619, or 0.01% of the total population contained in the study area for the region and 0.002% 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 in the community of Allensworth, adjacent to the Colonel Allensworth State Historic Park, whereas the Allensworth Bypass Alternative 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.

B.4.1.4 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 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 study area encompasses a portion of the community of Allensworth's residential neighborhood.

B.4.1.5 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

[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.

B.4.1.6 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).

B.4.1.7 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.

B.4.1.8 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]).

B.5.1.1 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).

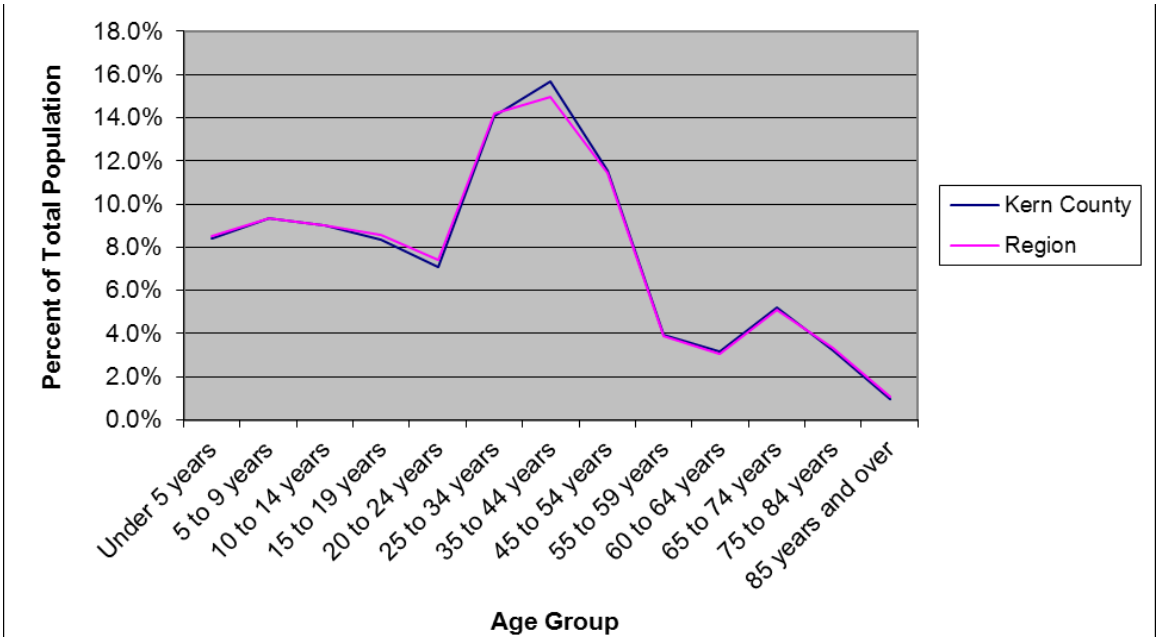

Figure B-22
Kern County Age Profile, 2000

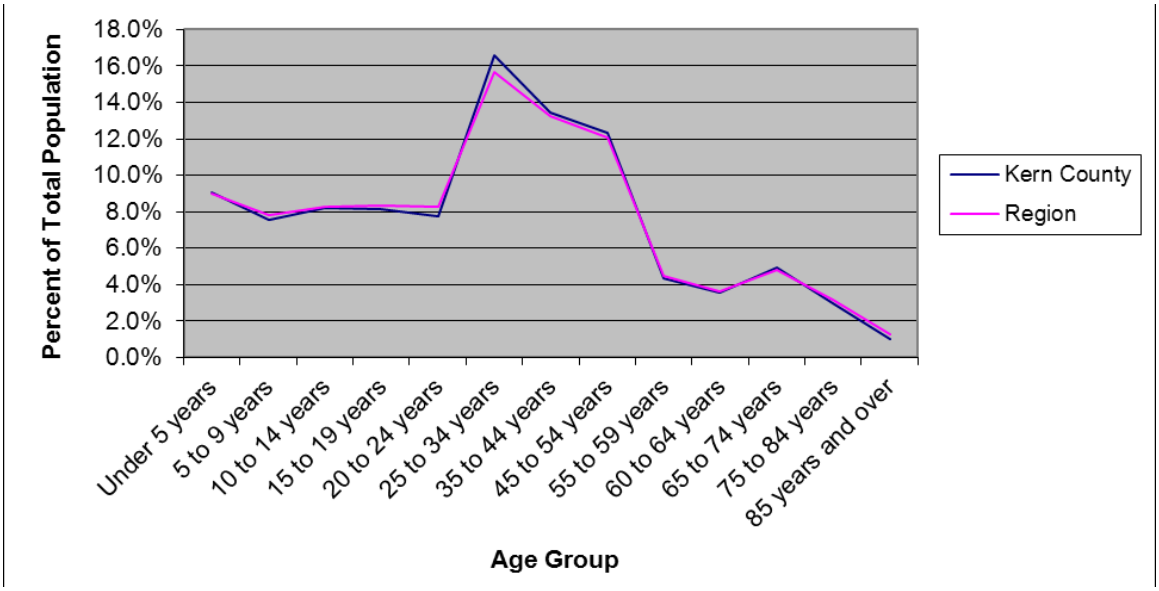

Figure B-23
Kern County Age Profile, 2008

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
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

[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.

younger, were disabled. All of these values are similar to those of the region (U.S. Census Bureau, American Community Survey 2007).

B.5.1.2 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.

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).

B.5.1.3 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

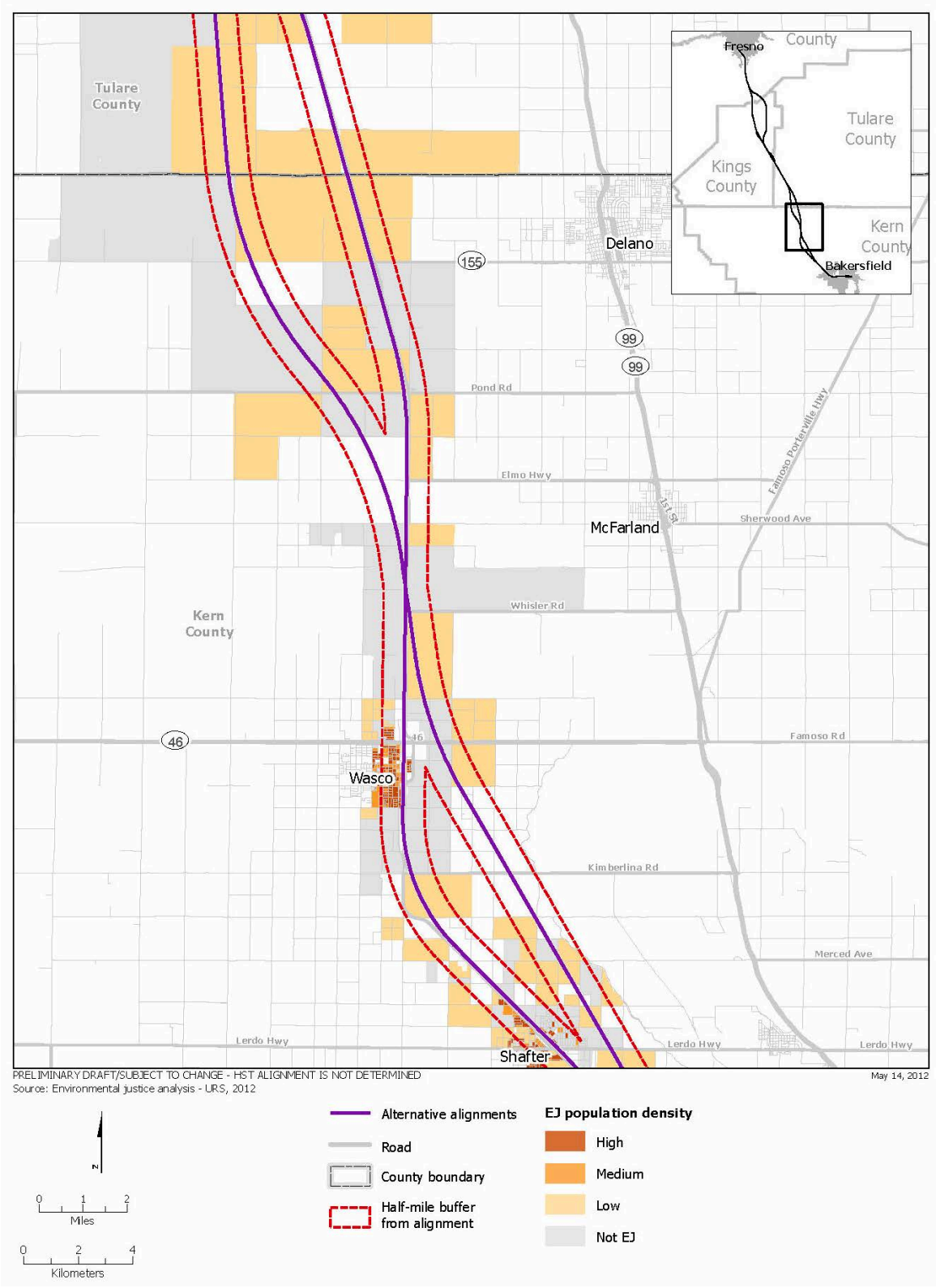

Figure B-24
Kern County North EJ Block Populations

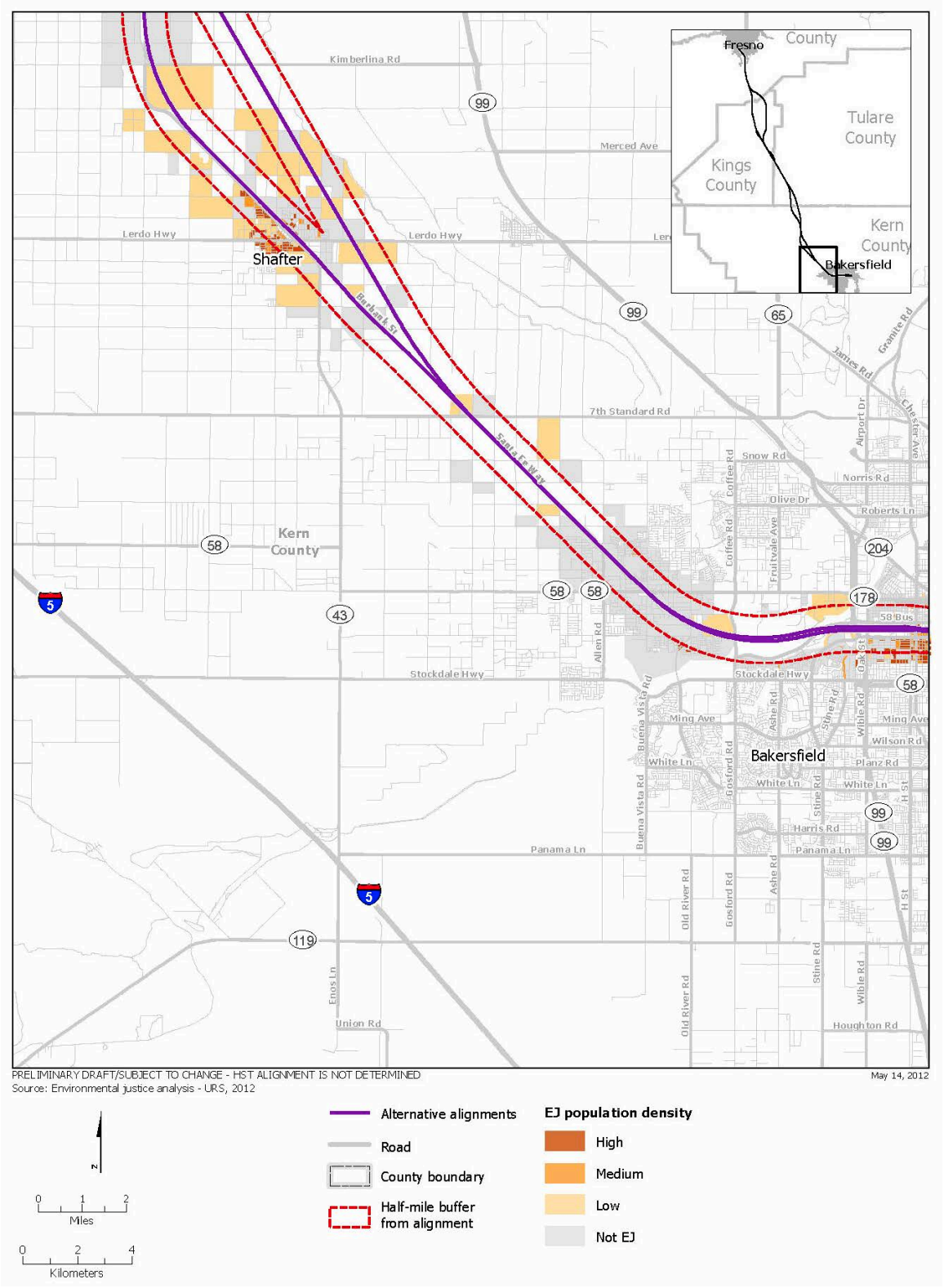

Figure B-25
Kern County Central EJ Block Populations

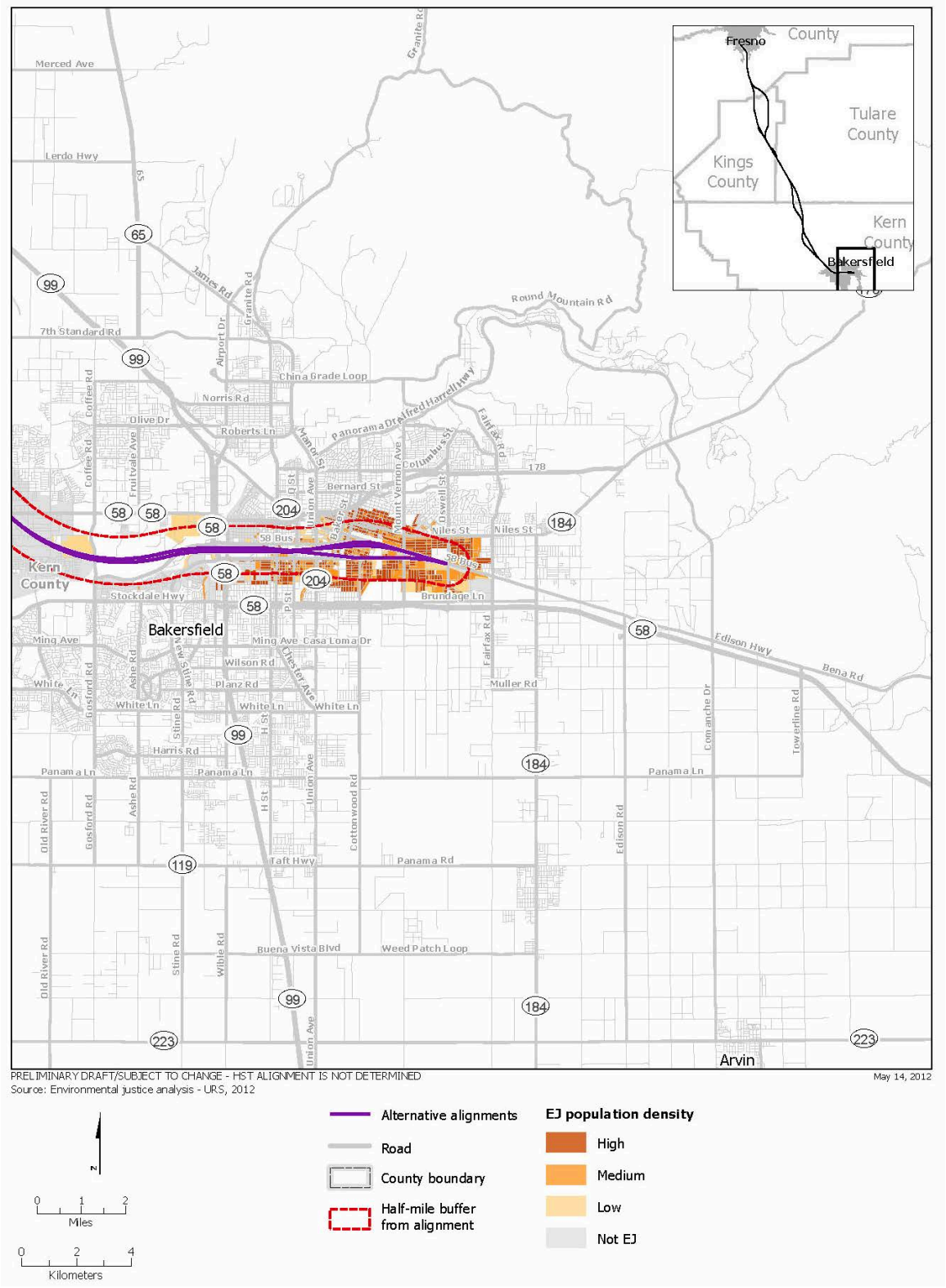

Figure B-26
Kern County South EJ Block Populations

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 81,699 in 2000, or 70.9% of the total population contained in the study area for the region and 12.3% 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 20.7% is living below the Census poverty threshold. Within the study area in Kern County, these percentages are much higher, with minorities making up 66.4% and low-income individuals making up 26.7% 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 and the bypass alternatives are provided in the profiles of the cities of Wasco and Shafter.

B.5.1.4 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, while very few homes lie within the study area for the more easterly Wasco-Shafter Bypass Alternative. 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.

B.5.1.5 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

Table B-41
Largest Employers in Kern County 2010

Businesses	City	Address	Industry Type	Employment Size	Near Alignment
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
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

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
Finance, insurance, real estate, and rental and leasing	7,600	3.2	8,900	3.1	9,800	3.0
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.

B.5.1.6 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).

B.5.1.7 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.

B.5.1.8 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.

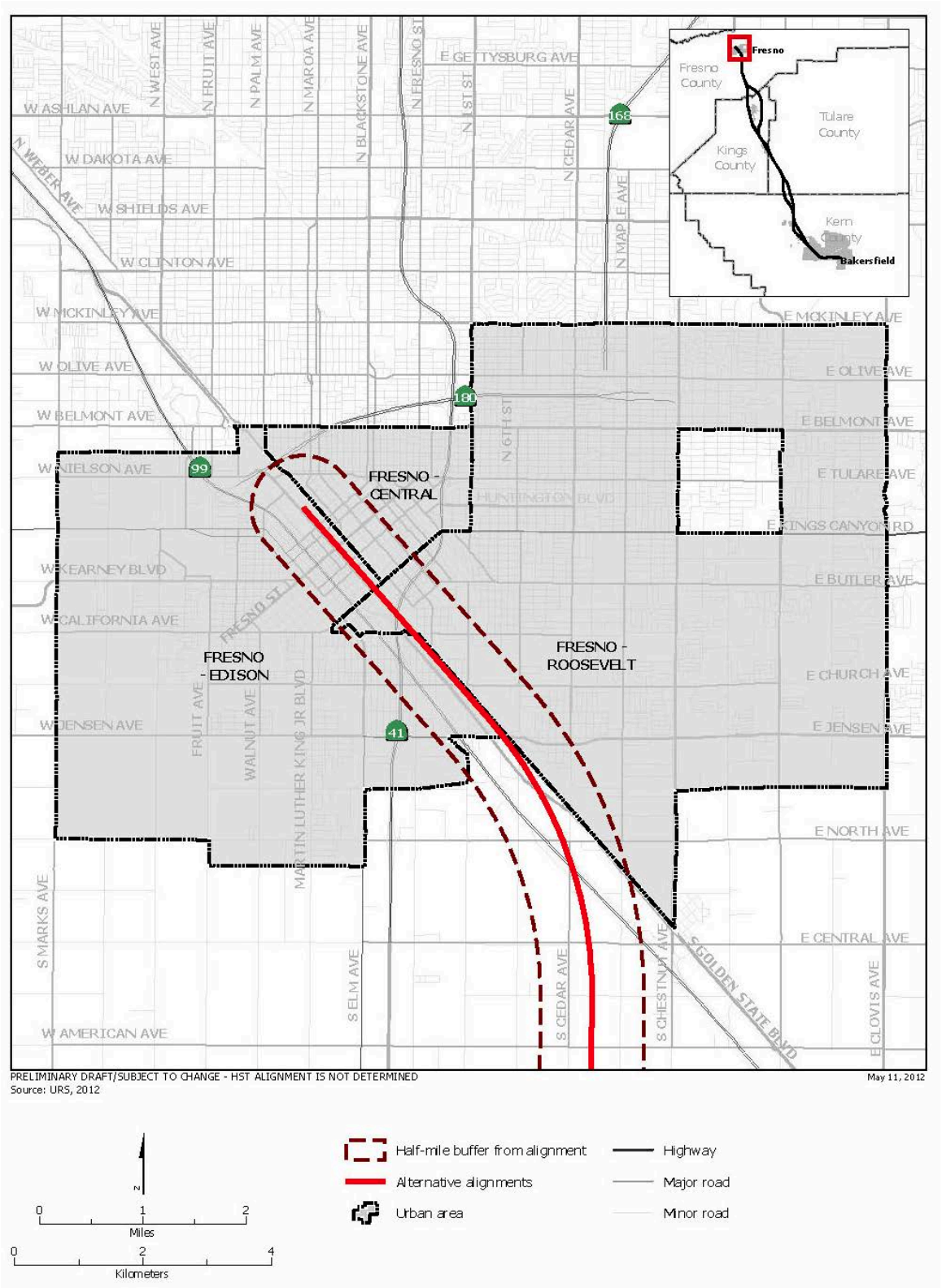

Figure B-27
Districts within the City of Fresno

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 designated 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 91% 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.

B.6.1.1 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
Non-Hispanic, two or more races	11,752	2.7	10,984	2.3
Total	427,652	100.0	474,670	100.0

[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

[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
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).

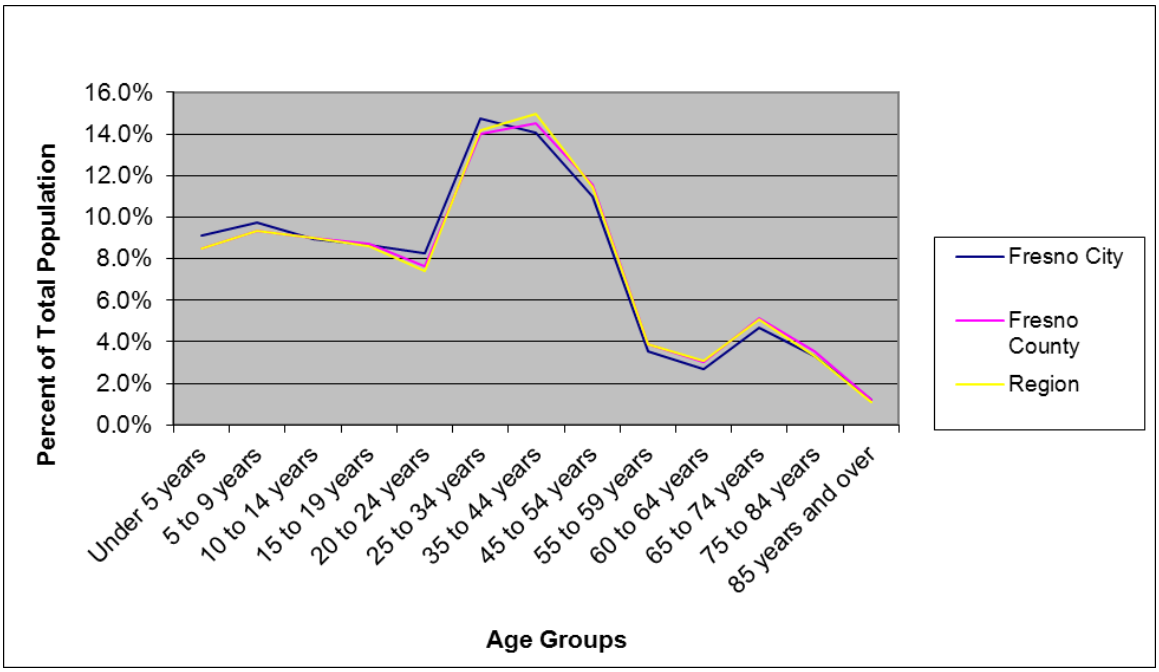

Figure B-28
City of Fresno Age Profile, 2000

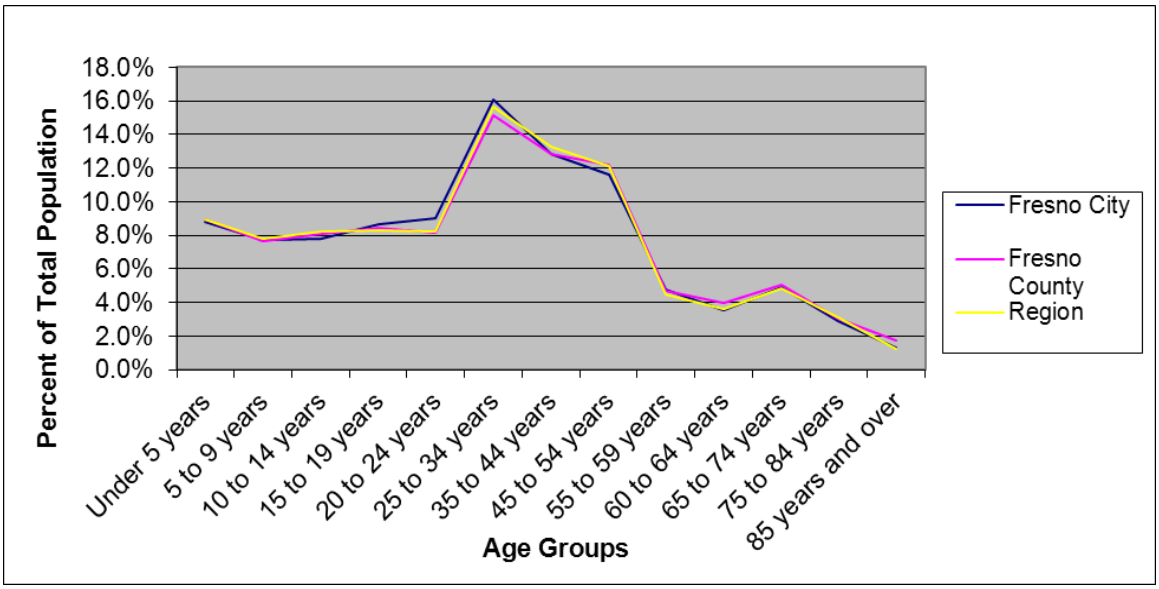

Figure B-29
City of Fresno Age Profile, 2008

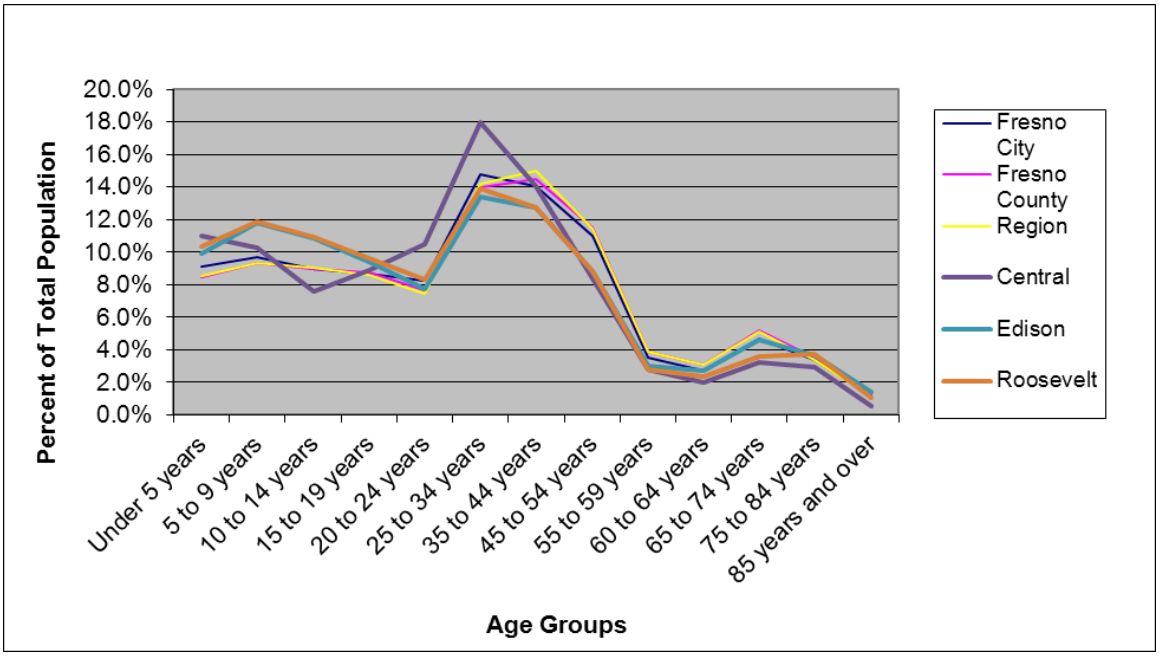

Figure B-30
City of Fresno District Age Profile, 2000

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.6.1.2 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.

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.

[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
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

[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.

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).

B.6.1.3 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. 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 12,680. This represents 68.1% of the total population contained in the study area in all of Fresno County, or about 2.9% 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 86.2% of the study area population, and low-income individuals make up 48.4% 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

[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.

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.

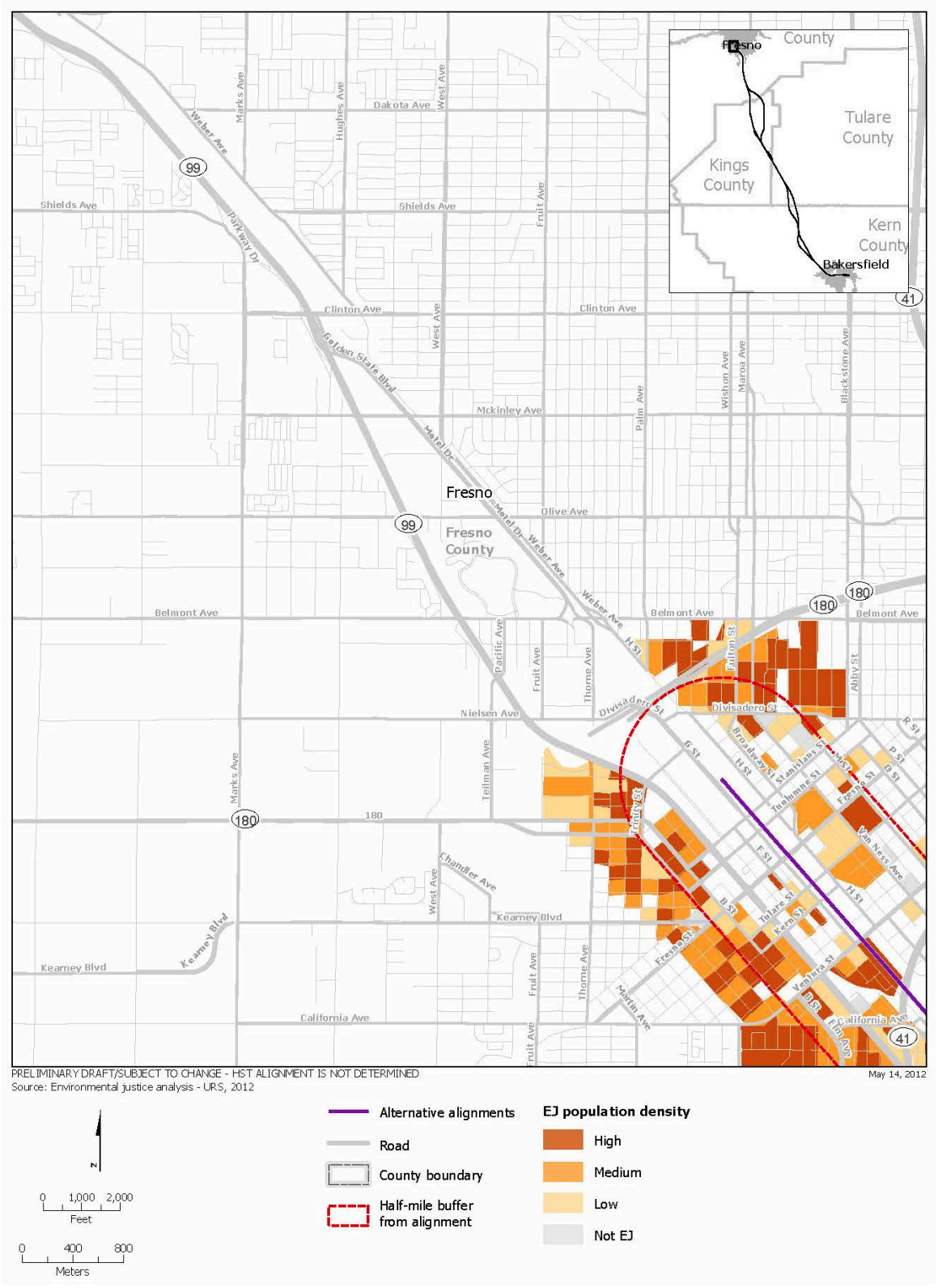

Figure B-31
City of Fresno North EJ Block Populations

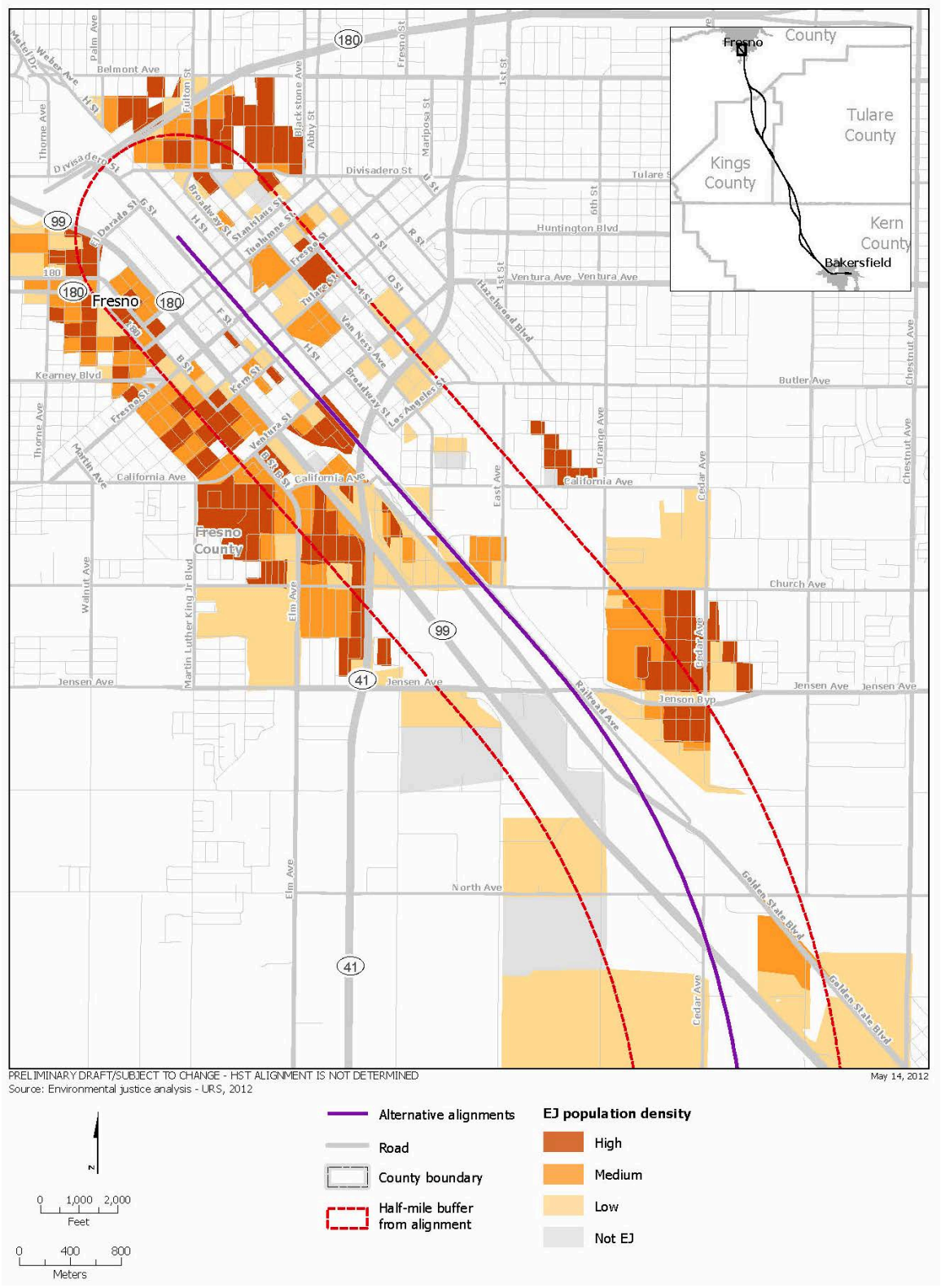

Figure B-32
City of Fresno South EJ Block Populations

B.6.1.4 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.

B.6.1.5 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.

B.6.1.6 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).

B.6.1.7 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.

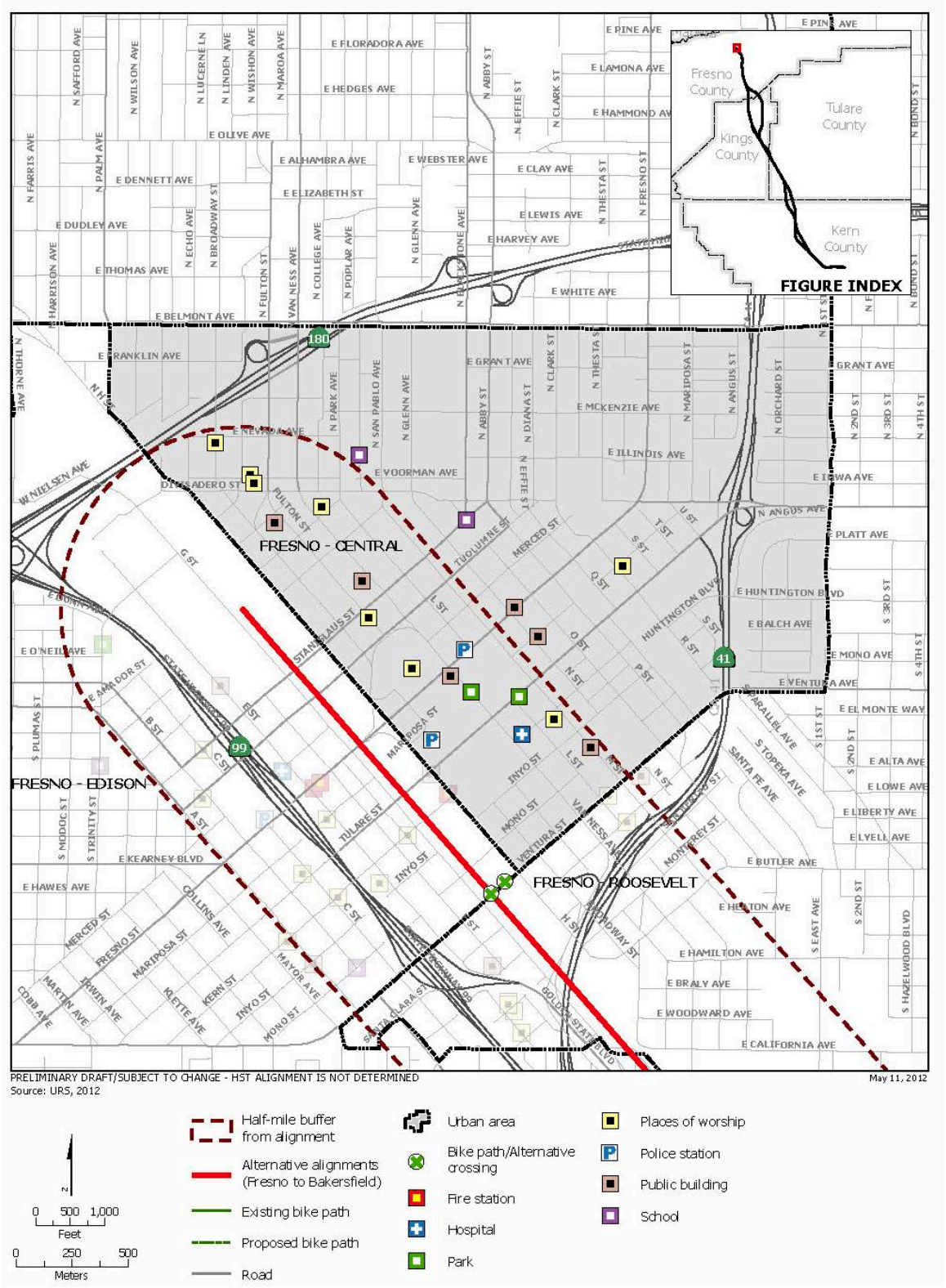

Figure B-33
City of Fresno Central District Facility Locations

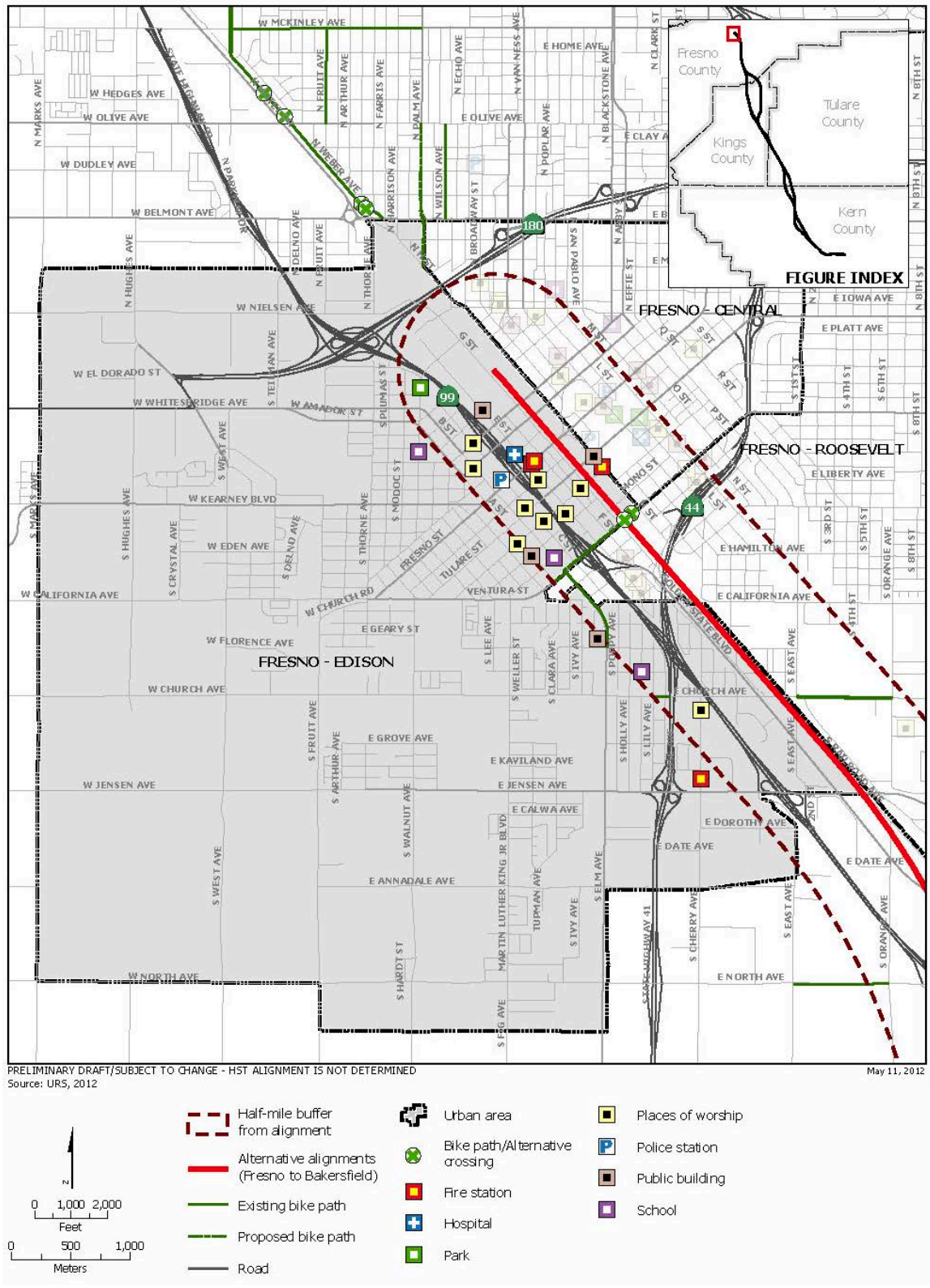

Figure B-34
City of Fresno Edison District Facility Locations

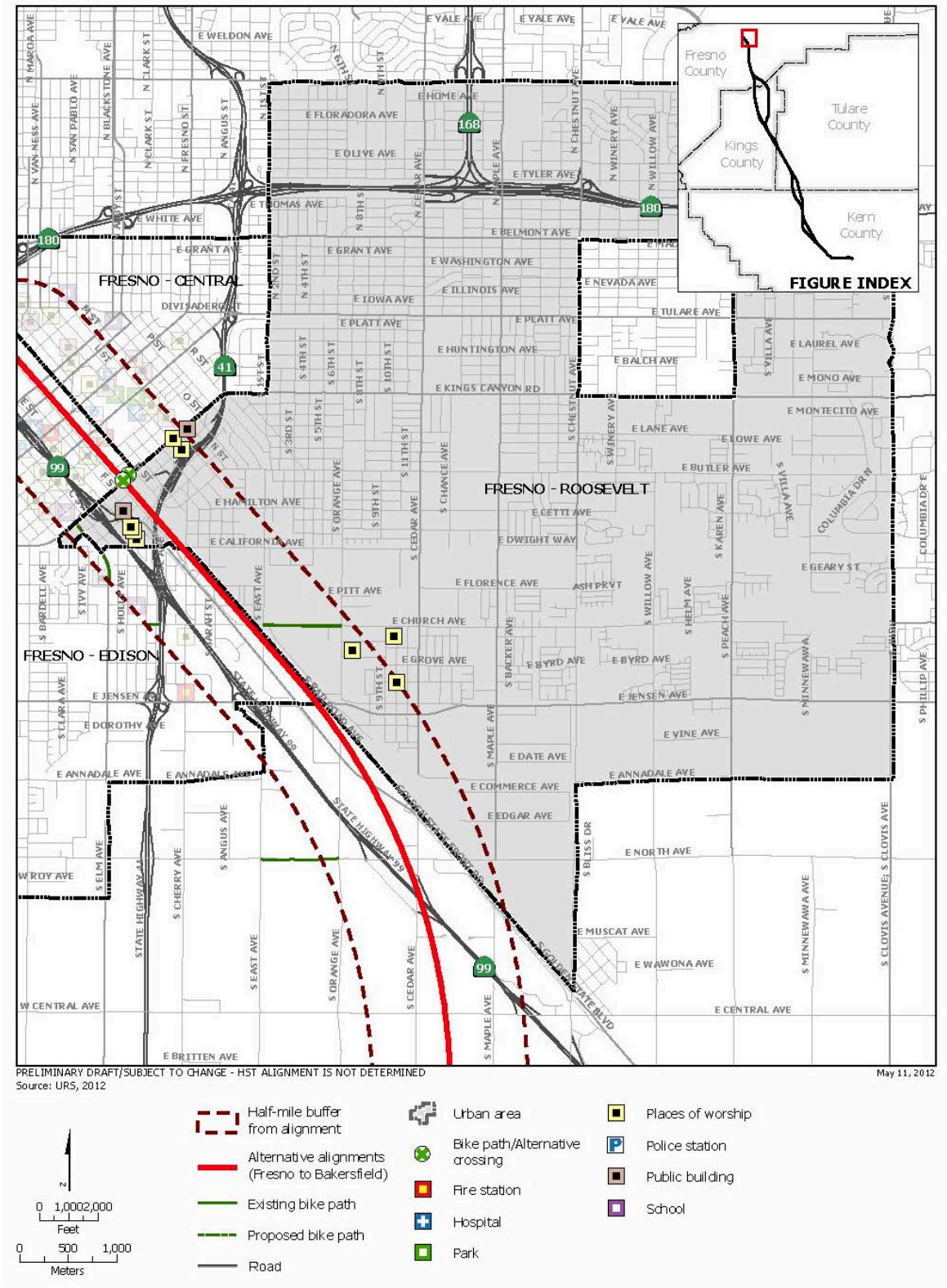

Figure B-35
City of Fresno Roosevelt District Facility Locations

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.

B.6.1.8 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 Community of Laton

Laton is a small rural town in the south-central portion of Fresno County, just north of the Kings River, which separates Fresno and Kings counties. The local economy is based on agriculture, and the community is surrounded by dairy farms, cornfields, and fruit and nut orchards. The population has held steady, growing about 1% per year over the past decade. The community had a major growth spurt in 1986, when 96 new homes were built. Future growth potential is limited by Murphy Slough to the north and east and the Kings River to the south and east.

Laton has no formal government structure and no local elected officials, except for five directors, who are elected to serve on the board of the Laton Community Services District, which supplies local street lighting, fire protection, water, wastewater, and solid waste services (Fresno Local Agency Formation Commission 2007). The community has a range of services typical of a small town in the San Joaquin Valley: a barber shop, beauty parlor, auto repair shops, a hardware store, several small markets, and several churches. However, the community has no gas station or bank, so it is necessary for residents to travel to other nearby communities such as Hanford to obtain these services. The local Lions Club sponsors an annual rodeo (Laton Lions Club n.d.).

B.7.1.1 Population and Demographics

In 2000, Laton had a population of 1,236 residents; by 2008, the population was estimated to be 1,401, for an annual growth rate of 1.7% (Fresno County Public Works and Planning Department 2011). The growth rate for Laton was lower than the growth rate for the region (2.3%) and the county (2.0%) during the same period.

Table B-65 provides information on the race and ethnicity characteristics of the population of Laton in 2000. No Census data are available after 2000 for Laton due to the small size of the community as compared with other communities in the study area.[23] As this table indicates, Laton'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 (60.3%) or the region (56.5%).

Table B-65
Community of Laton Racial and Ethnicity Characteristics

Race	Number of People in 2000	Percent of Total Population
White	347	28.1
Minority	889	71.9
Hispanic	851	68.9
Black or African American	5	0.4
American Indian and Alaska Native	7	0.6

[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 2006–2008 average estimates are available for these cities. The community of Laton, with a population of less than 20,000, currently has no recent estimates available from the ACS. Also, Laton is not an incorporated city, so the California Department of Finance does not provide population or housing data for Laton.

Table B-65
Community of Laton Racial and Ethnicity Characteristics

Race	Number of People in 2000	Percent of Total Population
Asian	8	0.6
Native Hawaiian and Other Pacific Islander	0	0.0
Some other race	0	0.0
Two or more races	18	1.5
Total	1,236	100.0

Source: Analysis of U.S. Census Bureau 2000e.
Note: California Department of Finance does not provide population projections below the county level.
Note: Percentages may total slightly less or more than 100% due to rounding.

Figure B-36 shows that the age distribution of Laton's population in 2000. Laton's population is generally slightly younger than, but on the whole similar to, that of both the county and the region.

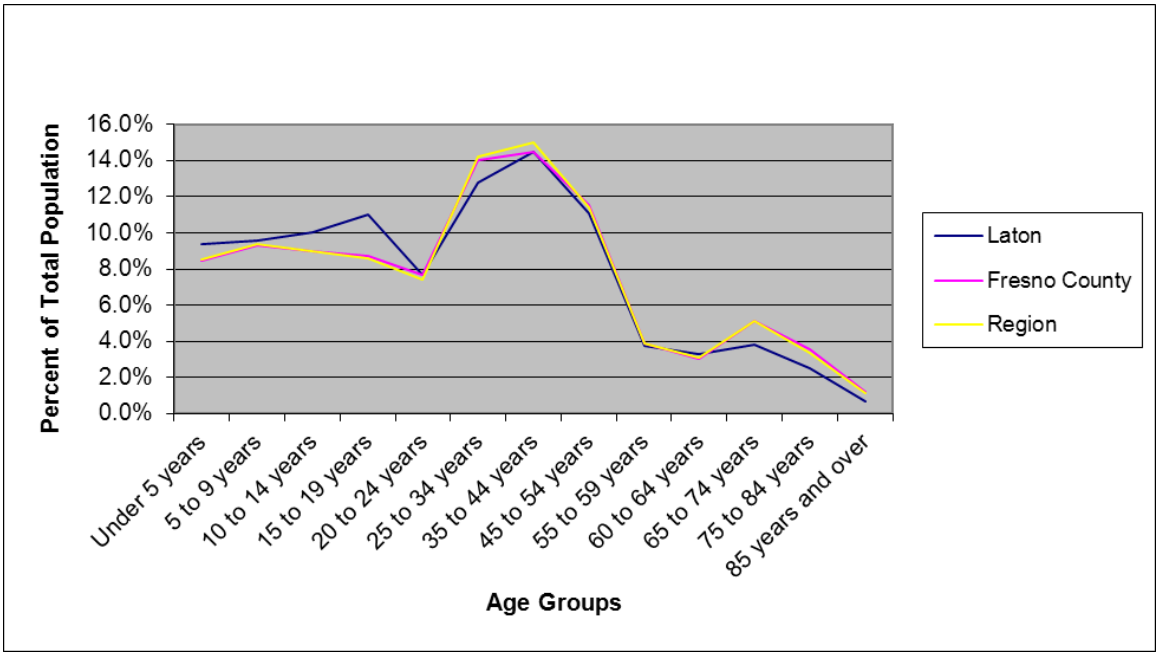

Figure B-36
Community of Laton Age Profile, 2000

In 2000, Laton had 333 households, with an average household size of 3.72 people. The average household size for Laton is higher than that of either the county (3.09) or the region (3.11).

The make-up of households in Laton is much more family oriented than either the county or the region, with Table B-66 showing that family households in Laton constituted 91.7% of all households in 2000, compared with 74.3% in Fresno County and 75.8% in the region.

Table B-66
Community of Laton Number and Type of Households

Household	Number of Households in 2000	Percent of Total Households
Family households (families)	333	91.7
Married-couple family	284	78.2
Female householder, no husband present	30	8.3
Male householder, no wife present:	19	5.2
Non-family households	30	8.3
Householder living alone	24	6.6
Total	363	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, 28 of the 333 households in the city were linguistically isolated, meaning that 8.4% of families did not have someone in the household over the age of 14 with the ability to speak English very well, a rate similar to that of the county (13.2%) and region (9.4%).[24]

In 2000, 16.9% of non-institutionalized persons in Laton had some sort of disability, self-care limitation, or low-mobility issue. For persons between the ages of 5 and 65, 14.4% were classified as disabled; persons 65 and over had a higher rate of disability (65.6%).

B.7.1.2 Income and Poverty

The median annual household income in 2000 in Laton was $35,408, compared with $34,725 in Fresno County and $34,976 in the region (U.S. Census Bureau 2000g).

As shown in Table B-67, 244 persons, or 17.4% of Laton's population, lived below the poverty line in 2000, which was slightly lower than the poverty rate for either the county (22.9%) or the region (22.2%).

[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."

Table B-67
Community of Laton Income Level as Percentage of Poverty Line

Income Level as a Percentage of Poverty Line	Number of People in Income Group in 2000	Percent of Total Population Evaluated
Under 0.50	134	9.6
0.50 to 0.74	16	1.1
0.75 to 0.99	94	6.7
1.00 to 1.24	145	10.3
1.25 to 1.49	103	7.4
1.50 to 1.74	97	6.9
1.75 to 1.84	97	6.9
1.85 to 1.99	72	5.1
2.00 and over	643	45.9
Total	1,401	100.0

Source: Analysis of U.S. Census Bureau 2000g.

Note: The Census does not evaluate all individuals for income level as a percentage of poverty line. This practice explains why the population totals in this table may not match the population totals presented in the "population and demographics" section, above. Also, the 2000 Census data on income are representative of conditions in 1999.

Note: Percentages may total slightly less or more than 100% due to rounding.

Because 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).

B.7.1.3 Environmental Justice population

This section presents the locations of EJ populations in the study area in Laton. 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 discussion in Appendix A-1.

Figure B-37 identifies the locations of EJ populations in the study area in Laton. Orange is used to indicate Census blocks containing EJ populations, and darker orange is representative of EJ blocks with higher population densities. The red dashed lines represent the study area, and purple is the project alignment. The total area within the community of Laton along the study area for the Hanford West Bypass alternatives is 1.2 square miles, with 1.1 square miles (or 91.7%) identified as EJ blocks.[25] The vast majority of the EJ area has a low population density (99.5%), with the remaining area having a high density (0.5% percent).

[25] 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 a ½-mile radius of the alignment. Therefore, 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.

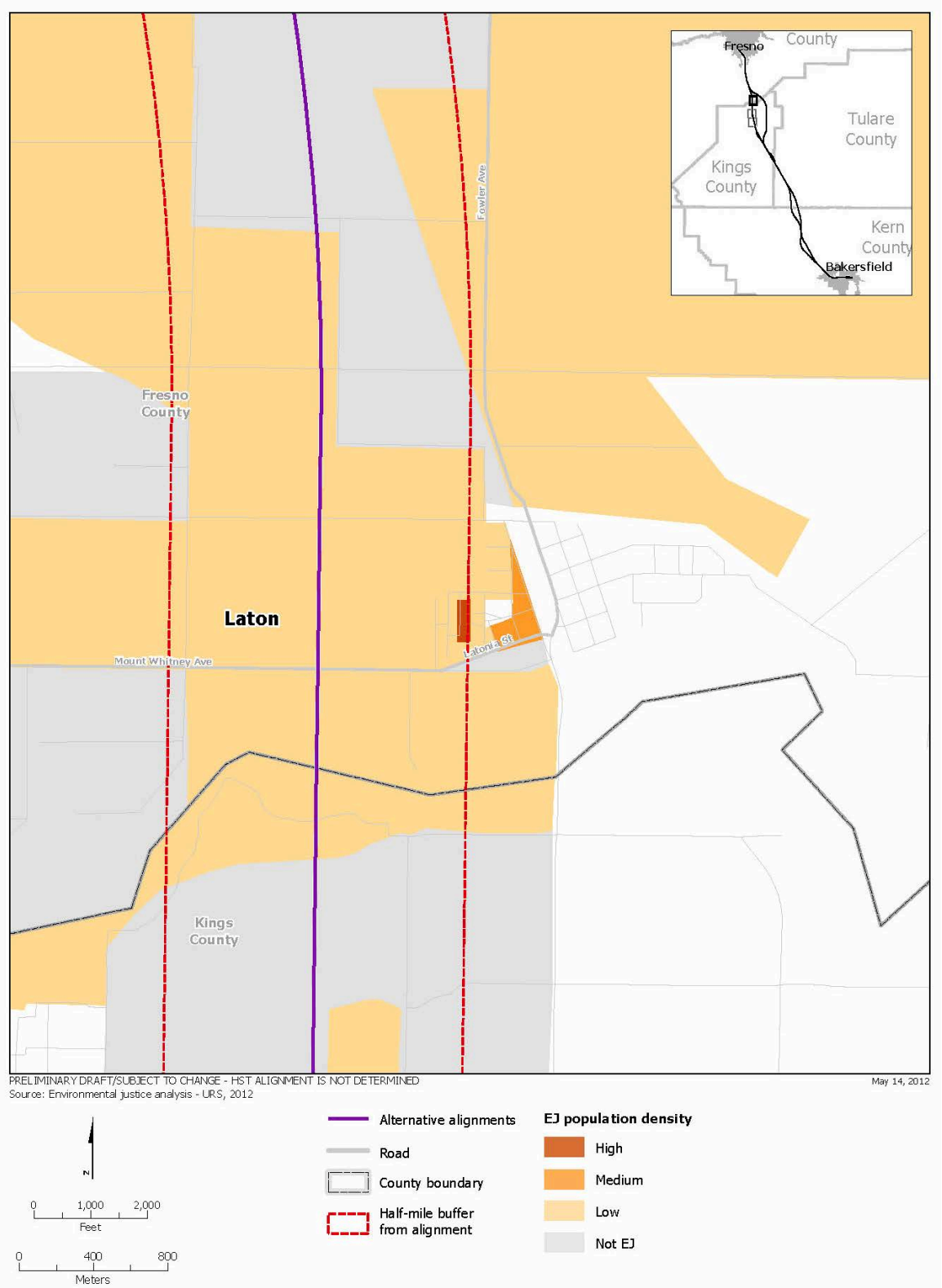

Figure B-37
Community of Laton EJ Block Populations

According to 2000 Census data, the approximate total population living in the study area in Laton was 685, which represents 3.7% of the total population in the study area in Fresno County. The community of Laton has a high percentage of minority and low-income individuals. According to the 2000 Census, 71.9% of the total population is minority and 17.4% is living below the Census poverty threshold. In the EJ study area in Laton, both the percentage of minorities (81.9%) and low-income residents (18.7%) are higher than in the community as a whole, with Hispanics the predominate minority, accounting for 93% of the minority population.

B.7.1.4 Housing

In 2000, the community of Laton had an estimated total of 373 housing units. As Table B-68 shows, the Laton housing stock contains a much higher percentage of single-family (detached and attached) homes (95.7%) than either the county (68.5%) or the region (70.8%). The housing vacancy rate in the community was 2.6% in 2000. This rate is much lower than those observed in the county (6.4%) and the region (7.4%).

Table B-68
Community of Laton Housing Stock

Housing Type	Number of Units in 2000	Percent of Total Units
Single-family detached	350	93.8
Single-family attached	7	1.9
Multifamily 2 to 4 units	4	1.1
Multifamily 5 or more units	0	0.0
Mobile homes	12	3.2
Total	373	100.0

Source: U.S. Census Bureau 2000d.
Note: Percentages may total slightly less or more than 100% due to rounding.

Table B-69 shows that the rate of home ownership in 2000 in Laton was 68.0%, which was much higher than that of both the county and the region.

Table B-69
Community of Laton Home Ownership of Occupied Units

Home Ownership	Number of Occupied Units in 2000	Percent of Total Occupied Units
Own	225	68.0
Rent	106	32.0
Total occupied housing units	331	100.0

Source: Analysis of U.S. Census Bureau 2000d.
Note: Percentages may total slightly less or more than 100% due to rounding.

As shown in Table B-70, residents of 67.8% of the occupied housing units in Laton moved into their homes between 1990 and 2000, and 14.3% of households were more established, having lived in the same residence since before 1980.[26] These values are similar to those of the county (70.4% and 16.0%, respectively).

Table B-70
Community of Laton Length of Residence

Length of Residence	Number of Housing Units in 2000	Percent of Total Occupied Housing Units
Moved in 2005 or later	NA	NA
Moved in 2000 to 2004	NA	NA
Moved in 1990 to 1999	246	67.8
Moved in 1980 to 1989	65	17.9
Moved in 1970 to 1979	8	2.2
Moved in 1969 or earlier	44	12.1
Total Housing Units	**363**	**100.0**

Source: Analysis of U.S. Census Bureau 2000d.
Note: Percentages may total slightly less or more than 100% due to rounding.

B.7.1.5 Economy

Laton has traditionally been a farming community, with most of its industries serving agricultural needs. Between 2000 and 2008, the number of workers in Laton's labor force grew by 100, and unemployment increased from 21.2% to 21.8%, as shown in Table B-71. In 2009, the community, county, and region all experienced increased unemployment, with the 2009 annual average unemployment rate of 29.8% in Laton being higher than that of either the county (15.1%) or the region (14.95).

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

Table B-71
Community of Laton Employment and Unemployment

Labor Status	Number in 2000	Percent of Labor Force	Number in 2008	Percent of Labor Force	Number in 2009	Percent of Labor Force
Employed	500	88.8	600	88.2	600	71.2
Unemployed	100	21.2	200	21.8	200	29.8
Total labor force	**700**	**100.0**	**800**	**100.0**	**800**	**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, agriculture and related occupations constitute the largest occupational sector in Laton. Between 2001 and 2008, the agriculture industry saw a rapid decrease in employment, with the loss of approximately 175 employees; however, agriculture still employed over 70% of the workforce in Laton. The occupational profile of Laton is even more dominated by the agriculture sector than that of either the county or the region. When comparing the community of Laton employment rates to the occupational profile of the Laton zip code, one notices that even though more people who live in Laton entered the labor force since 2000, the number of people working in the Laton zip code has decreased since that time. This trend could indicate that since 2000 more jobs have become available in the area, but fewer jobs have become available in Laton, and people are traveling outside of the area for employment.

Table B-72
Community of Laton Occupation by Type

Occupation	Number Employed in 2001	Percent of Total Employed	Number Employed in 2008	Percent of Total Employed
Agriculture, forestry, fishing and hunting, and mining	686	79.7	512	72.8
Construction	9	1.0	27	3.8
Manufacturing	8	0.9	19	2.7
Wholesale trade	10	1.1	*	NA
Retail trade	6	0.7	*	NA
Transportation and warehousing, and utilities	*	NA	*	NA
Information	*	NA	*	NA
Finance, insurance, real estate, and rental and leasing	*	NA	*	NA
Professional, scientific, management, administrative, and waste management services	2	0.3	*	NA

Table B-72
Community of Laton Occupation by Type

Occupation	Number Employed in 2001	Percent of Total Employed	Number Employed in 2008	Percent of Total Employed
Educational, health and social services	*	NA	*	NA
Arts, entertainment, recreation, accommodation and food services	2	0.3	*	NA
Other services (except public administration)	1	0.1	20	2.8
Public administration	138	15	125	17.8
Total people employed	**861**	**100.0**	**703**	**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

B.7.1.6 Fiscal

Laton is an unincorporated community in Fresno County. As a result, the community does not collect its own taxes and receives all services from Fresno County. For a discussion of the Fresno County budget, see the community baseline data for Fresno County.

B.7.1.7 Community Facilities and Amenities

Facilities of primary concern for the socioeconomics, communities, and environmental justice analysis are the locations of public buildings, public safety buildings (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 that shows the locations of these facilities.

Public Buildings

The community of Laton has two public buildings that serve the needs of the community. In the context of this analysis, public buildings are meant to represent community centers and other facilities open to the public. One of the public buildings in Laton is a Fresno County Public Library, and the other building is the Laton Lions Club, which is a community-based volunteer organization. Both of the buildings lie within the study area; the addresses of these two buildings are shown in Table B-73.

Table B-73
Community of Laton Public Buildings

Facility Name	Location	In Study Area?
Fresno County Public Library	6313 DeWoody St.; Laton, CA	Yes
Laton Lions Club	6345 Nares Ave. ; Laton, CA	Yes
Sources: National Institute of Building Sciences 2003; USGS 1992; Google 2010, map of Fresno.		

Public Safety Buildings

Police

The Fresno County Sheriff's office provides police protection to the community of Laton. Laton does not have a police station is; the nearest station is the Fresno County Sheriff's station in the city of Selma, approximately 13 miles to the northeast. The Fresno County Sheriff's Department has 907 sworn officers (Fresno County Sheriff 2008). Other nearby police resources include the Kings County Sheriff's Department and the cities of Hanford and Kingsburg.

Table B-74 provides the address of the nearest police station, in the city of Selma.

Fire

Laton has one volunteer fire station. The station has approximately 12 on-call volunteer firefighters. Other nearby fire resources include the fire departments of the cities of Hanford and Kingsburg.

Table B-74 provides the address of the volunteer fire station in Laton.

Medical Services

The community of Laton has no medical services; residents need to go to other nearby cities to receive care. The nearest hospital is the Central Valley General Hospital, which is 9 miles south of Laton in the city of Hanford.

Table B-74 provides the address of these public safety facilities.

Table B-74
Community of Laton Police, Fire, and Medical Facilities

Facility Name	Location	Additional Details	In Study Area?
Police			
Fresno County Sheriff Substation	1055 Golden State Blvd.; Selma, CA	Substation	No
Fire			
Laton Volunteer Fire Department	20799 South Fowler Ave.; Laton, CA	Volunteer fire station	Yes
Medical Services			
Central Valley General Hospital	1025 North Douty St.; Hanford, CA	Hospital with 49 beds	No
Sources: National Institute of Building Sciences 2003; USGS 1992; Google 2010, map of Fresno.			

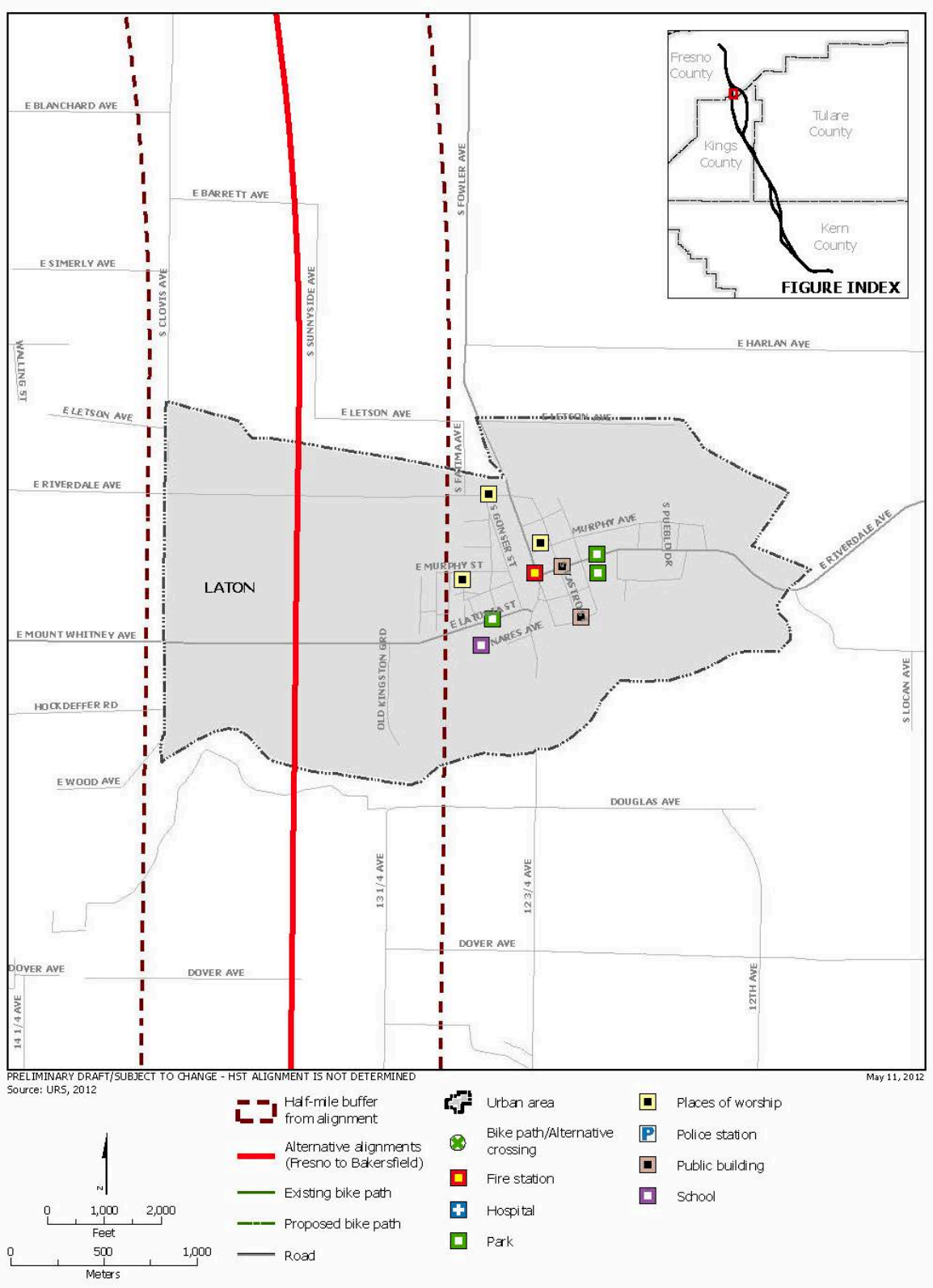

Figure B-38
Community of Laton Facility Locations

Schools

The community of Laton has three public schools, with a total enrollment of approximately 589 students. The Laton Unified School District manages all of the schools. Table B-75 lists the addresses of these facilities (California Department of Education 2010).

Table B-75
Community of Laton Schools

Facility Name	Location	Additional Details	In Study Area?
Laton High School	6449 East De Woody Ave.; Laton, CA	Public	Yes
Laton Elementary School	6065 East Latonia Ave.; Laton, CA	Public	Yes
Laton Preschool	6045 East Mount Whitney Ave.; Laton, CA	Public	Yes
Sources: National Institute of Building Sciences 2003; USGS 1992; Google 2010, map of Fresno.			

Religious Facilities

Laton has three places of worship in the community. Table B-76 identifies the three churches in Laton, all of which belong to Christian denominations.

Table B-76
Community of Laton Religious Facilities within Study Area

Facility Name	Location	Additional Details	In Study Area?
First Church of God	6258 Murphy Ave.; Laton, CA	Religious	Yes
Our Lady of Fatima Church	20855 South Fatima Ave.; Laton, CA	Religious	Yes
Laton Pentecostal Church	6066 East Riverdale Ave.; Laton, CA	Religious	Yes
Sources: National Institute of Building Sciences 2003; USGS 1992; Google 2010, map of Fresno.			

Parks

Laton has one existing community park that is about 22 acres in size and two schools with sports complexes. The parks identified in the study area and their locations are provided in Table B-77. Additional information about parks can be found in Section 3.15, Parks, Recreation, and Open Space, in this EIR/EIS.

Table B-77
Community of Laton Parks

Facility Name	Location	Additional Details	In Study Area?
Laton Kingston Park	0.2 miles south of the intersection of South Fowler Ave. and Nares Ave. along South Fowler Ave.; Laton, CA	Community park	Yes
Laton High School	6449 East De Woody Ave.; Laton, CA	Sports complex	Yes
Laton Elementary School	6065 East Latonia Ave.; Laton, CA	Sports complex	Yes
Source: Google 2010, map of Laton (accessed March 12, 2010).			

B.7.1.8 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 Section 3.2,Transportation, of the EIR/EIS.

The Fresno County General Plan sets out policies to support alternatives to automotive transport, including pedestrian and bicycle travel between residential and commercial areas (Fresno County Planning Commission 2000). Laton has one bike path that passes through the community from east to west. Table B-78 provides details about this facility.

Table B-78
Community of Laton Bikeway

Facility Name	Location	Additional Details	In Study Area?
East Mount Whitney Ave. – De Woody St.	Runs through the community following East Mount Whitney Avenue, then moving to De Woody Street	None	Yes
Source: Fresno County Planning Commission 2000.			

B.8 Community of Grangeville

Grangeville is a small rural town in Kings County, 1.9 miles north of the community of Armona and approximately 4.5 miles east of Downtown Hanford. The local economy is based solely on agriculture, and the community is surrounded by fruit and nut orchards. Established as early as 1850 as the town of Eureka, the town's name was changed to Grangeville when a U.S. Post Office was established on August 27, 1867 (Hoover et al. 2002, 141). The post office was active until the 1920s; currently, Grangeville falls under Kings County public services and the city of Hanford zip code. Future growth potential is limited by the Mussel Slough irrigation ditches, which surround the community and agricultural fields. The Mussel Slough area is connected to a widely known historical event, the Mussel Slough Tragedy, which occurred in May 1880 when settlers in the area confronted Southern Pacific Railroad workers over property rights. The confrontation resulted in a Wild West–style shootout between the two groups, leaving six dead (Rice et al. 1996, 233–254, 289). The site of the tragedy, north of the community of Grangeville near Elder Avenue and 14th Avenue, is marked by a California State Parks landmark plaque.

Grangeville has no formal government structure and no local elected officials. Services in town are limited as well; the Grangeville Market serves as a grocery store and gas station for local residents, travelers, and other nearby communities. Other services are available in the city of Hanford. Grangeville has an elementary school that services approximately 30 students.

B.8.1.1 Population and Demographics

In 2000, Grangeville had a population of 638 residents; the community is a bedroom community to Hanford. Table B-79 provides information from the 2000 U.S. Census on the race and ethnicity characteristics of the population of Grangeville. No Census data are available after 2000 for Grangeville due to the small size of the community as compared with other communities in the study area.[27,28] As Table B-79 indicates, Grangeville's minority population represented approximately 26.8% of all residents in 2000. This percentage is a lower percentage of the population than the corresponding percentages in Hanford, the county, and the region.

Table B-79
Community of Grangeville Racial and Ethnicity Characteristics

Race	Number of People in 2000	Percent of Total Population
White	467	73.2
Minority	171	26.8
Hispanic	119	18.7
Black or African American	1	0.2
American Indian and Alaska	2	0.3

[27] 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 for these cities. The community of Grangeville is not an incorporated city, so the California Department of Finance does not provide population or housing data for Grangeville.

[28] Grangeville was not a CDP in the 2000 U.S. Census; for this reason, Kings County Tract 5 Block Group 1 was used to approximate the community profile.

Table B-79
Community of Grangeville Racial and Ethnicity Characteristics

Race	Number of People in 2000	Percent of Total Population
Native		
Asian	18	2.8
Native Hawaiian and Other Pacific Islander	0	0.0
Some other race	0	0.0
Two or more races	31	4.9
Total	638	100.0

Source: Analysis of U.S. Census Bureau 2000e.
Note: California Department of Finance does not provide population projections at the city level.
Note: Percentages may total slightly less or more than 100% due to rounding.

Figure B-39 shows that the age distribution of Grangeville's population in 2000. The age of Grangeville's population is similar to that of both the county and the region.

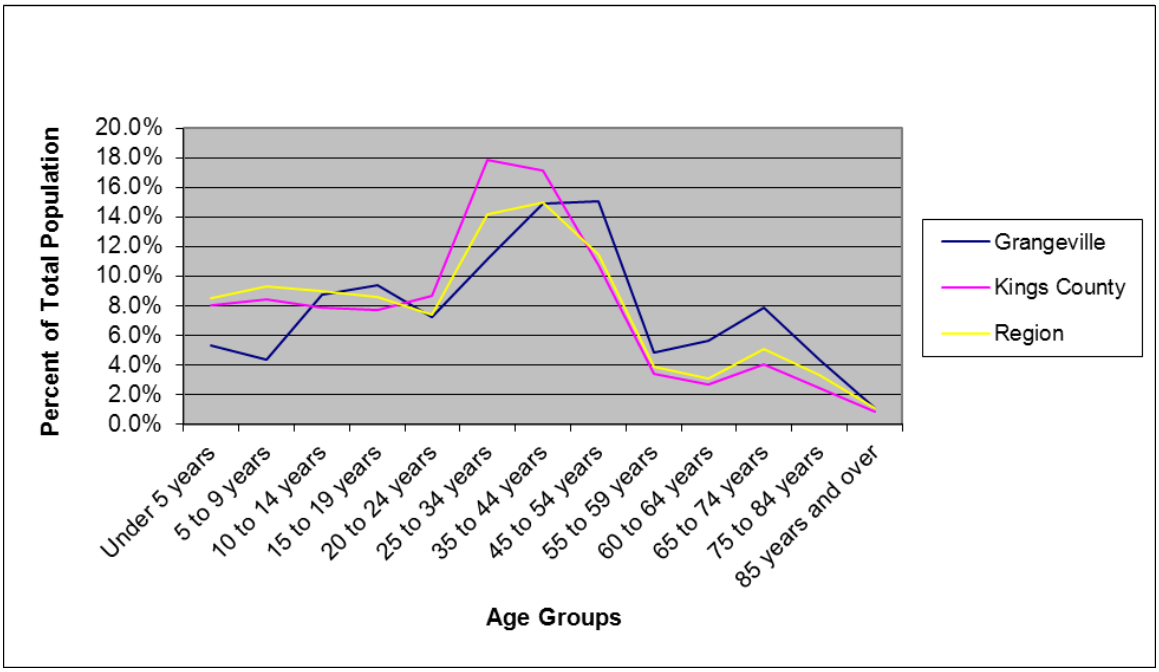

Figure B-39
Community of Grangeville Age Profile, 2000

In 2000, Grangeville had 227 households (Table B-80), with an average household size of 2.81 people. The community of Grangeville had a higher percentage of family households (87.7%) than either the county (78.6%) or the region (75.8%).

Table B-80
Community of Grangeville Number and Type of Household

Household	Number of Households in 2000	Percent of Total Households
Family households (families)	119	87.7
Married-couple family	158	69.6
Female householder, no husband present	20	8.3
Male householder, no wife present:	21	9.3
Non-family households	28	12.3
Householder living alone	28	12.3
Total	227	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% of households in the community were linguistically isolated, meaning that the families did not have someone in the household over the age of 14 with the ability to speak English very well, a rate higher than that of the county (8.7%) or the region (9.4%).[29]

In 2000, 33.6% of non-institutionalized persons in Grangeville had some sort of disability, self-care limitation, or low-mobility issue. For persons between the ages of 5 and 65, 31.7% were classified as disabled; persons 65 and over had a higher rate of disability (44.8%).

B.8.1.2 Income and Poverty

The median annual household income in 2000 in Grangeville was $50,917, which is significantly higher than that of Kings County ($35,749) and that of the region ($34,976) (U.S. Census Bureau 2000g).

As shown in Table B-81, 89 persons, or 14% of Grangeville's population, lived below the poverty line in 2000, which was lower than the poverty rate for either the county (19.5%) or the region (22.2%).

[29] 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-81
Community of Grangeville Income Level as Percentage of Poverty Line

Income Level as a Percentage of Poverty Line	Number of People in Income Group in 2000	Percent of Total Population Evaluated
Under 0.50	77	12.1
0.50 to 0.74	0	0
0.75 to 0.99	12	1.9
1.00 to 1.24	23	3.6
1.25 to 1.49	20	3.1
1.50 to 1.74	0	0
1.75 to 1.84	0	0
1.85 to 1.99	33	5.2
2.00 and over	471	74.1
Total	636	100.0

Source: Analysis of U.S. Census Bureau 2000g.

Note: The Census does not evaluate all individuals for income level as a percentage of poverty line. This practice explains why the population totals in this table may not match the population totals presented in the "population and demographics" section, above. Also, the 2000 Census data on income are representative of conditions in 1999.

Note: Percentages may total slightly less or more than 100% due to rounding.

Because 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).

B.8.1.3 Environmental Justice Population

This section presents the locations of EJ populations in the study area in Grangeville. 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 discussion in Appendix A-1.

Figure B-40 identifies the locations of EJ populations in the study area in Grangeville. Orange is used to indicate Census blocks containing EJ populations, and darker orange is representative of EJ blocks with higher population densities. The red dashed lines represent the study area, and purple is the project alignment. The total area in the community of Grangeville along the study area Hanford West Bypass alternative is 2.0 square miles, with no EJ blocks identified.[30] The EJ area in Grangeville is entirely low-density population.

[30] 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, 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.

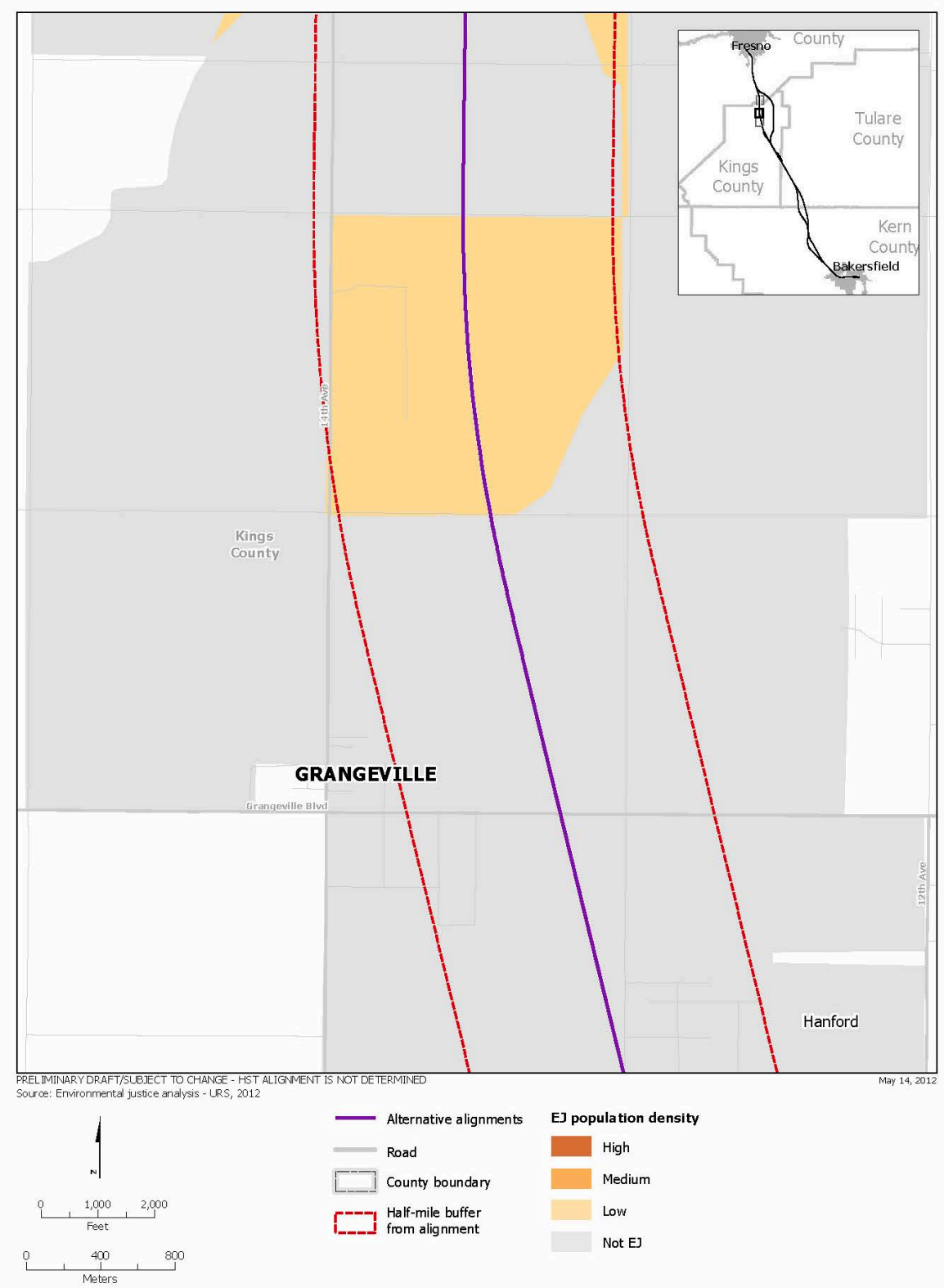

Figure B-40
Community of Grangeville EJ Block Populations

According to 2000 Census data, the approximate total population living in the study area in Grangeville was 330, which represents 2.3% of the total population in the study area in Kings County. The community of Grangeville does not have a high percentage of minority and low-income individuals. According to the 2000 Census, 26.8% of the total population is minority and 14% is living below the Census poverty threshold. In the Grangeville EJ study area, minorities make up 23.3% of the population and low-income individuals 14.1% of the population. Both of these percentages are lower than the EJ populations of the entire study area.

B.8.1.4 Housing

In 2000, the community of Grangeville had an estimated total of 242 housing units in. As Table B-82 shows, the Grangeville housing stock contains a similar percentage of single-family (detached and attached) homes (76.5%) than either the county (75.3%) or the region (71.4%); however, Grangeville has higher percentages of mobile homes. The housing vacancy rate in the community was 2.6% in 2000. This rate is much lower than those observed in the county (5.9%) and the region (7.9%).

Table B-82
Community of Grangeville Housing Stock

Housing Type	Number of Units in 2000	Percent of Total Units
Single-family detached	172	71.1%
Single-family attached	13	5.4%
Multifamily 2 to 4	18	7.4%
Multifamily 5 or greater	12	5.0%
Mobile homes	27	11.2%
Total	242	100.0%

Source: U.S. Census Bureau 2000d
Note: Percentages may total slightly less or more than 100% due to rounding.

Table B-83 shows that the rate of home ownership in 2000 in Grangeville was 73.6%, which was much higher than that of both the county and the region.

Table B-83
Community of Grangeville Home Ownership of Occupied Units

Home Ownership	Number of Occupied Units in 2000	Percent of Total Occupied Units
Own	167	73.6%
Rent	60	26.4%
Total occupied housing units	227	100.0%

Source: Analysis of U.S. Census Bureau 2000d
Note: Percentages may total slightly less or more than 100% due to rounding.

As shown in Table B-84, residents of 54.9% of the occupied housing units in Grangeville moved into their homes between 1990 and 2000, and 32.1% of households were more established, having lived in the same residence since at least 1980.[31] These values are much lower and higher, respectively, than those of the county (70.3% and 16%, respectively), indicating that the community may be more established.

Table B-84
Community of Grangeville Length of Residence

Length of Residence	Number of Housing Units in 2000	Percent of Total Occupied Housing Units
Moved in 2005 or later	NA	NA
Moved in 2000 to 2004	NA	NA
Moved in 1990 to 1999	130	54.9%
Moved in 1980 to 1989	31	13.1%
Moved in 1970 to 1979	49	20.7%
Moved in 1969 or earlier	27	11.4%
Total housing units	237	100.0%

Source: Analysis of U.S. Census Bureau 2000d.
Note: Percentages may total slightly less or more than 100% due to rounding.

B.8.1.5 Economy

Grangeville has traditionally been a farming community, with most of its industries serving the agricultural needs. In the 2000 census, 224 individuals were employed in the community, with an additional 20 looking for work, for an unemployment rate of 13.6%. Because no California EDD data were available for Grangeville, data were collected from the 2000 census, as shown in Table B-85. In 2009, both the county and the region experienced an increase in unemployment, so it can be expected that Grangeville has experienced a similar increase in unemployment.

Table B-85
Community of Grangeville Employment and Unemployment

Labor Status	Number in 2000	Percent of Labor Force	Number in 2008	Percent of Labor Force	Number in 2009	Percent of Labor Force
Employed	224	86.4	NA	NA	NA	NA
Unemployed	20	13.6	NA	NA	NA	NA
Total labor force	487	100.0	NA	NA	NA	NA

Source: U.S. Census Bureau 2000c.
Note: Percentages may total slightly less or more than 100% due to rounding.

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

As shown in Table B-86, retail industry (18.2%) and education, health, and social services (17.8%) are the most prevalent occupational types in Grangeville. Because of the close proximity of Grangeville to Hanford and the fact that it is a bedroom community to other larger towns, the occupational data for Grangeville are similar to the data for Hanford on an occupational level.

Table B-86
Community of Grangeville Occupation by Type

Occupation	Number Employed in 2000	Percent of Total Employed	Number Employed in 2008	Percent of Total Employed
Agriculture, forestry, fishing and hunting, and mining	30	12.4	NA	NA
Construction	7	2.9	NA	NA
Manufacturing	40	16.5	NA	NA
Wholesale trade	0	0	NA	NA
Retail trade	44	18.2	NA	NA
Transportation and warehousing, and utilities	0	0	NA	NA
Information	0	0	NA	NA
Finance, insurance, real estate, and rental and leasing	14	5.8	NA	NA
Professional, scientific, management, administrative, and waste management services	22	9.1	NA	NA
Educational, health and social services	43	17.8	NA	NA
Arts, entertainment, recreation, accommodation and food services	0	0	NA	NA
Other services (except public administration)	15	6.2	NA	NA
Public administration	27	11.2	NA	NA
Total people employed	242	100.0	NA	NA

Source: U.S. Census Bureau 2000c.
Note: Percentages may total slightly less or more than 100% due to rounding.

B.8.1.7 Fiscal

Grangeville is an unincorporated community in Kings County. As a result, the community does not collect its own taxes and receives all services from Kings County. For a discussion of the Kings County budget, see the community baseline data for Kings County.

B.8.1.8 Community Facilities and Amenities

Facilities of primary concern for the socioeconomics, communities, and environmental justice analysis are the locations of public buildings, public safety buildings (fire and police stations), medical services, schools, places of worship, and parks. Each of these types of facilities is listed below, and Figure B-41 provides a map of the community that shows the locations of these facilities.

Public Buildings

The community of Grangeville has no public buildings that serve the needs of the community. In the context of this analysis, public buildings are meant to represent community centers and other facilities open to the public. A U.S. post office existed in Grangeville from 1867 to 1920, but the office was eliminated, and the county is delivering the community's mail.

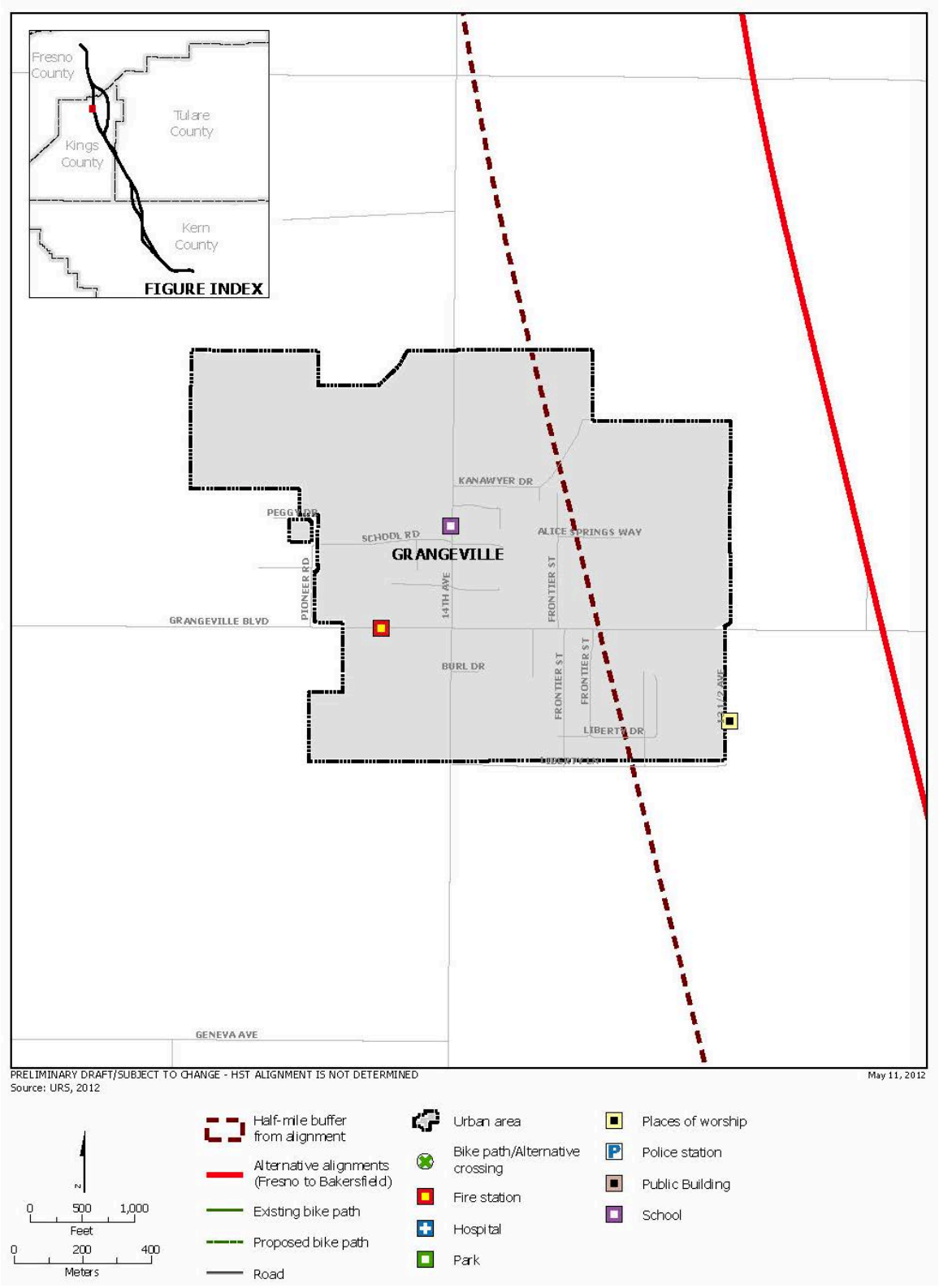

Figure B-41
Community of Grangeville Facility Locations

Public Safety Buildings

Police

The Kings County Sheriff's office provides police protection to the community of Grangeville. Grangeville does not have a police station; the nearest station is the Kings County Sheriff's station in the city of Hanford, approximately 2 miles to the southeast.

Table B-87 provides the address of the nearest police station, in the city of Hanford.

Fire

Grangeville does not have a fire station. The nearest fire stations to Grangeville are in the community of Armona and the city of Hanford.

Table B-87 provides the addresses of the nearest fire stations, in the community of Armona and the city of Hanford.

Medical Services

The community of Grangeville has no medical services; residents need to go to other nearby cities to receive care. The nearest hospital is the Central Valley General Hospital, which is 4 miles southeast of Grangeville in the city of Hanford.

Table B-87
Community of Grangeville Police, Fire, and Medical Facilities

Facility Name	Location	Additional Details	In Study Area?
Police			
Fresno County Sheriff Substation	1055 Golden State Blvd Selma CA	Substation	No
Fire			
Laton Volunteer Fire Department	20799 South Fowler Ave	Volunteer Fire Station	Yes
Medical Services			
Central Valley General Hospital	1025 North Douty St.; Hanford, CA	Hospital – 49 Beds	No
Sources: National Institute of Building Sciences 2003; USGS 1992; Google 2010, map of Fresno.			

Schools

The community of Grangeville has one public school, the Pioneer Elementary Union School, with a total enrollment of approximately 30 students. The school has a Hanford address. Table B-88 lists the address of this facility (California Department of Education 2010). The nearest higher education institution is an extension of the College of the Sequoias, approximately 1 mile away, and a University of California Cooperative Extension for Kings County in Hanford.

Table B-88
Community of Grangeville Schools

Facility Name	Location	Additional Details	In Study Area?
Pioneer Elementary Union School	8810 14th Avenue, Hanford, CA	Public	Yes
Sources: National Institute of Building Sciences 2003; USGS 1992; Google 2010, map of Fresno.			

Religious Facilities

Grangeville has one place of worship in the community. Table B-89 identifies the one church in Grangeville, which belongs to a Christian denomination.

Table B-89
Community of Grangeville Religious Facilities within Study Area

Facility Name	Location	Additional Details	In Study Area
Religious Facilities			
First Baptist Church	9125 13½ Avenue; Hanford, CA	Religious	Yes
Sources: National Institute of Building Sciences 2003; USGS 1992; Google 2010, map of Fresno.			

Parks

Grangeville has no existing community parks; however, the Pioneer Elementary Union School has a sports complex. Additional information about parks can be found in Section 3.15, Parks, Recreation, and Open Space, in this EIR/EIS.

B.8.1.9 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 Section 3.2, Transportation, of the EIR/EIS.

The Kings County General Plan sets out policies to support alternatives to automotive transport, including pedestrian and bicycle travel between residential and commercial areas (Kings County Planning Commission, Community Development Agency 2009). Grangeville is a rural community with no sidewalks; shoulders on the roads have been developed for bicycle travel. Grangeville has one bike path that passes through the community from east to west along Grangeville Road. Table B-90 provides a description of this facility.

Table B-90
Community of Grangeville Bikeways

Facility Name	Location	Additional Details	In Study Area?
Bikeway East-West	Grangeville	Paved	Yes
Source: Kings County Planning Commission, Community Development Agency 2009.			

B.9 Community of Armona

Armona is a small rural community in Kings County, just west of the city of Hanford along SR 198. With a community motto, "Small but proud," the local economy is based on agriculture, and the community is surrounded by fruit and nut orchards. Established as early as 1875 and built as a Southern Pacific railroad town in the late 1890s, warehouses of the fruit packing industry are still visible along the rail corridor to and from Armona. Today, Armona is a bedroom community to the cities of Hanford, Lemoore, Visalia, and Fresno. The future growth potential of Armona is limited by Mussel Slough and the irrigation ditches that meander within the community. The community's identity and historical landmarks are slowly being lost, and no effort is currently in process to recapture the community's past (County of Kings 2009b, 3). The Mussel Slough area is connected to a widely known historical event, the Mussel Slough Tragedy, which occurred in May 1880 when settlers in the area confronted Southern Pacific Railroad workers over property rights. The confrontation resulted in a Wild West–style shootout between the two groups, leaving six dead (Rice et al. 1996, 233–254, 289). The site of the tragedy, to the north in the community of Grangeville near Elder Avenue and 14th Avenue is marked by a California State Parks landmark plaque.

Armona is one of four unincorporated communities in Kings County that receives municipal services from the Armona Community Services District, which was established in 1920 and supplies sewer, garbage, and street lighting to residents and businesses in Armona. Other infrastructure and services, such as curbs, gutters, and storm drainage, are limited to non-existent in Armona (County of Kings 2009c, 2, 39). The community has a range of services typical of a small town in the San Joaquin Valley: an auto repair shop, a hardware store, several small markets, and several churches. Armona currently has a community park for all ages; however, according to the Armona Community Plan, more recreational services are needed. Armona is surrounded by prime agricultural land, and many parcels are under Williamson Act contracts.

B.9.1.1 Population and Demographics

In 2000, Armona had a population of 3,239 residents. Table B-91 provides information from the 2000 U.S. Census on the race and ethnicity characteristics of the population of Armona. No Census data are available for Armona after 2000 due to the small size of the community as compared with other communities in the study area. As shown in Table B-91, the minority population of Armona accounted for 58.3%of the population in 2000, with Hispanics accounting for 48.6% of the total population; which is similar to the percentage of Hispanics in both the county and the region.

Table B-91
Community of Armona Racial and Ethnicity Characteristics

Race	Number of People in 2000	Percent of Total Population
White	1,350	41.7%
Minority	1,889	58.3%
Hispanic	1,574	48.6%
Black or African American	128	4%
American Indian and Alaska Native	38	1.2%
Asian	41	1.3%
Native Hawaiian and Other Pacific Islander	8	0.2%
Some other race	8	0.2%
Two or more races	92	2.8%
Total	3,239	100.0

Source: Analysis of U.S. Census Bureau 2000e.

Note: California Department of Finance does not provide population projections at the city level.

Note: Percentages may total slightly less or more than 100% due to rounding.

Figure B-42 shows that the age distribution of Armona's population in 2000. Armona's population has a slightly larger grouping of middle-aged persons, but overall is similar to the age distribution of both Kings County and the region.

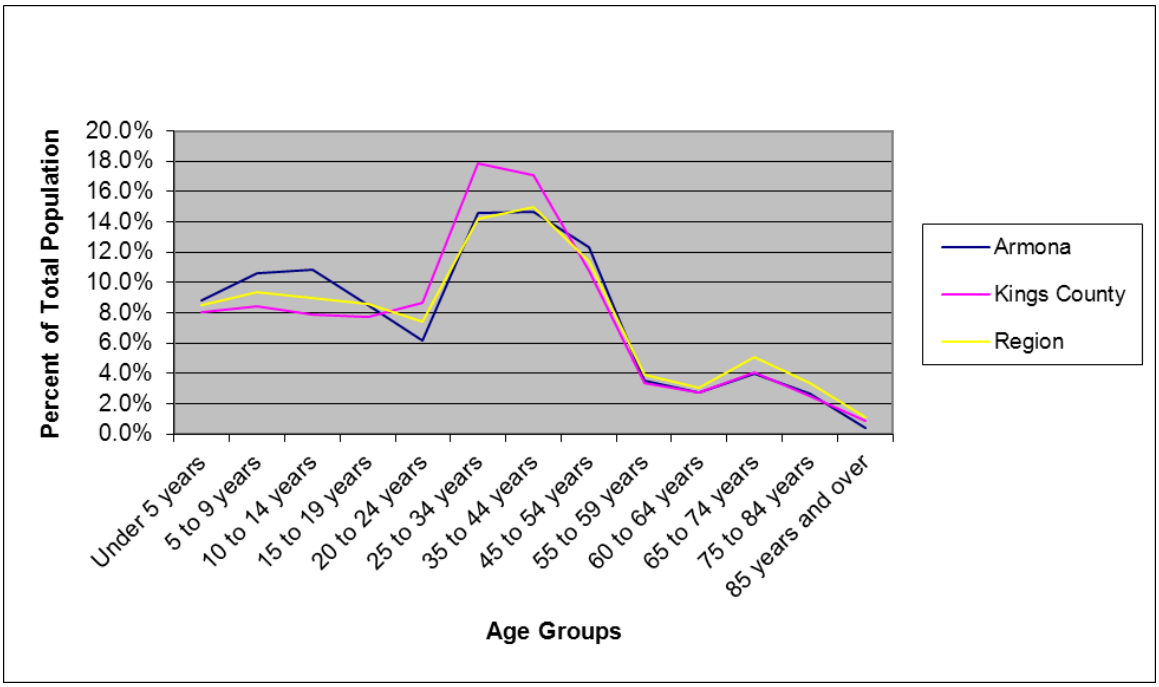

Figure B-42
Community of Armona Age Profile, 2000

In 2000, Armona had 991 households, with an average household size of 3.37 people. The average household size for Armona is higher than that of either the county (3.18) or the region (3.11). The make-up of households in Armona consists of a higher percentage of family households than in the county and the region, with family households constituting 81.7% of all households in Armona in 2000, as shown in Table B-92.

Table B-92
Community of Armona Number and Type of Household

Household	Number of Households in 2000	Percent of Total Households
Family households (families)	810	81.7%
Married-couple family	578	58.3%
Female householder, no husband present	138	13.9%
Non-family households	181	18.3%
Householder living alone	138	13.9%
Total	991	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, 9% of households in Armona were linguistically isolated, meaning that the families did not have someone in the household over the age of 14 with the ability to speak English very well, a similar rate to that of Kings County (8.7%) and the region (9.4%).[32]

In 2000, 22.2% of the non-institutionalized persons in Armona had some sort of disability, self-care limitation, or low-mobility issue. Of the 2,846 individuals in Armona between the ages of 5 and 64, 632 individuals were classified as disabled. The 2000 Census recorded 202 individuals in Armona over 65 years of age; of these individuals, 93 (46%) were classified as disabled.

B.9.1.2 Income and Poverty

The median annual household income for Armona in 2000 was $32,790, compared with $35,749 in Kings County and $34,976 in the region. As shown in Table B-93, 888 persons, or 26.6%, of Armona's population lived below the poverty line in 2000, which was well above the percentage of people living in poverty in 2000 in Kings County (19.5%) and the region (22.2%).

Table B-93
Community of Armona Income Level as a Percentage of Poverty Line

Income Level as a Percentage of Poverty Line	Number of People in Income Group in 2000	Percent of Total Population Evaluated
Under 0.50	280	8.4%
0.50 to 0.74	281	8.4%
0.75 to 0.99	327	9.8%
1.00 to 1.24	273	8.2%
1.25 to 1.49	238	7.1%
1.50 to 1.74	230	6.9%
1.75 to 1.84	130	3.9%
1.85 to 1.99	75	2.2%
2.00 and over	1,503	45.0%
Total	3,337	100.0%

Source: Analysis of U.S. Census Bureau 2000g.

Note: The Census does not evaluate all individuals for income level as a percentage of the poverty line. This practice explains why the population totals in this table may not match the 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.

Because 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).

[32] 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."

B.9.1.3 Environmental Justice Population

This section presents the locations of the EJ populations in the study area in Armona. 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 discussion in Appendix A-1.

Figure B-43 identifies the locations of the EJ populations in the study area in Armona. Orange is used to indicate Census blocks containing EJ populations, and darker orange is representative of EJ blocks with higher population densities. The red dashed lines represent the study area, and purple is the project alignment. The total area in the community of Armona along the study area for the Hanford West Bypass alternatives is 0.9 square miles, with 0.7 square miles (or 79.2%) identified as EJ blocks.[33] The EJ area in Armona is entirely low-density population.

According to 2000 Census data, the approximate total population living in the study in Armona was 185, which represents 1.3% of the total population in the study area in Kings County. The community of Armona has a high percentage of minority and low-income individuals. According to the 2000 Census, 58.3% of the total population is minority and 26.6% of the population is living below the Census poverty threshold. In the EJ study area, minorities make up 42.7% and low-income individuals make up 30.1% of the population.

B.9.1.4 Housing

In 2000, the community of Armona had an estimated 1,042 housing units. As Table B-94 shows, the Armona housing stock contains a higher percentage of single-family (detached and attached) homes (88.2%) than either the county (75.3%) or the region (71.4%). The housing vacancy rate in the community was 4.9% in 2000. This rate is lower than that observed in the county (5.9%) and the region (7.9%).

Table B-94
Community of Armona Housing Stock

Housing Type	Number of Units in 2000	Percent of Total Units
Single-family detached	878	84.3%
Single-family attached	41	3.9%
Multifamily 2 to 4	59	5.7%
Multifamily 5 or greater	36	3.5%
Mobile homes	28	2.7%
Total	1,042	100.0%

Source: U.S. Census Bureau 2000d.
Note: Percentages may total slightly less or more than 100% due to rounding.

[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 ½-mile radius of the alignment. Therefore, 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.

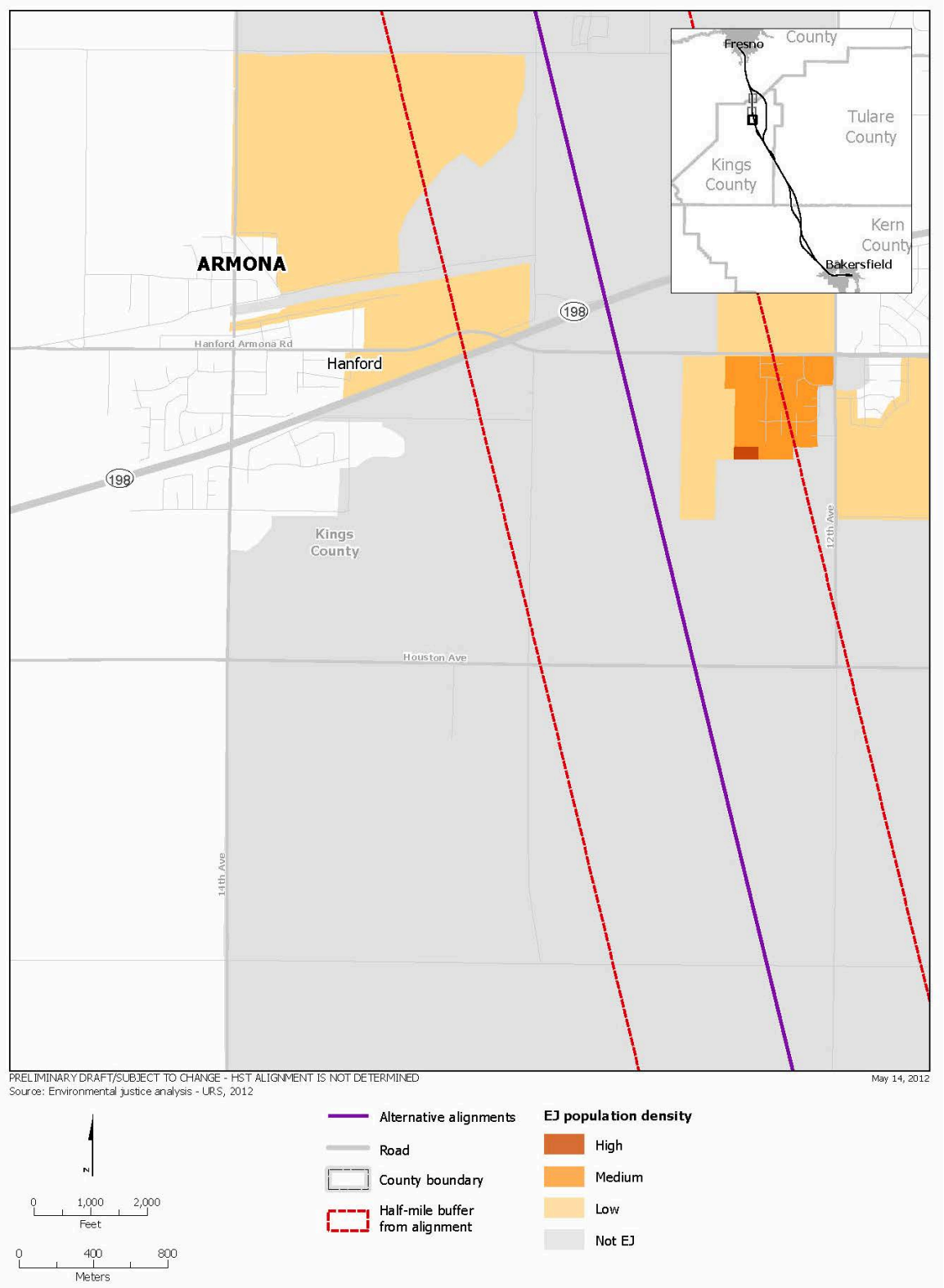

Figure B-43
Community of Armona EJ Block Populations

Table B-95 shows that the rate of home ownership in 2000 in Armona was 61.3%, which was higher than that of both the county (55.9%) and the region (59.3%).

Table B-95
Community of Armona Home Ownership of Occupied Units

Home Ownership	Number of Occupied Units in 2000	Percent of Total Occupied Units
Own	607	61.3%
Rent	384	38.7%
Total occupied housing units	991	100.0%

Source: Analysis of U.S. Census Bureau 2000d
Note: Percentages may total slightly less or more than 100% due to rounding.

As shown in Table B-96, residents of 62.2% of the occupied housing units in Armona moved into their homes between 1990 and 2000, and 20.1% of households were more established, having lived in the same residence since at least 1980.[34] These values are slightly lower and higher, respectively, than those of the county (70.3% and 16%, respectively), indicating that Armona may be more established.

Table B-96
Community of Armona Length of Residence

Length of Residence	Number of Housing Units in 2000	Percent of Total Occupied Housing Units
Moved in 2005 or later	NA	NA
Moved in 2000 to 2004	NA	NA
Moved in 1990 to 1999	616	62.2%
Moved in 1980 to 1989	175	17.7%
Moved in 1970 to 1979	147	14.8%
Moved in 1969 or earlier	53	5.3%
Total housing units	991	100.0%

Source: Analysis of U.S. Census Bureau 2000d.
Note: Percentages may total slightly less or more than 100% due to rounding.

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

B.9.1.5 Economy

Armona has traditionally been a farming community, with most of its industries serving agricultural needs. As shown in Table B-97, 1,300 individuals were employed in the community in 2000, with an additional 200 individuals looking for work, for an unemployment rate of 13.6%. In 2009, the unemployment rate increased to 19.1%, a higher unemployment rate than that of either Kings County (14.6%) or the region (14.9%).

Table B-97
Community of Armona Employment and Unemployment

Labor Status	Number in 2000	Percent of Labor Force	Number in 2008	Percent of Labor Force	Number in 2009	Percent of Labor Force
Employed	1,300	86.4	1,500	86.0	1,600	80.9
Unemployed	200	13.6	300	14.0	400	19.1
Total labor force	**1,500**	**100.0**	**1,800**	**100.0**	**1,900**	**100.0**

Source: California Employment Development Department 2010a.
Note: Percentages may total slightly less or more than 100% due to rounding.

Because Armona is nearby the city of Hanford, the economy of Armona is highly linked to the economy of Hanford. As a result, the occupational profiles of Armona and Hanford are similar. Unlike many rural communities, which tend to have very high levels of agricultural employment, Armona has a high percentage of people that work in the education/health/social services industry (19.8%) and manufacturing (13.1%), as seen in Table B-98.

Table B-98
Community of Armona Occupation by Type

Occupation	Number Employed in 2000	Percent of Total Employed	Number Employed in 2008	Percent of Total Employed
Agriculture, forestry, fishing and hunting, and mining	117	9.9	NA	NA
Construction	75	6.3	NA	NA
Manufacturing	155	13.1	NA	NA
Wholesale trade	20	1.7	NA	NA
Retail trade	125	10.5	NA	NA
Transportation and warehousing, and utilities	67	5.6	NA	NA
Information	18	1.5	NA	NA
Finance, insurance, real estate, and rental and leasing	6	0.5	NA	NA

Table B-98
Community of Armona Occupation by Type

Occupation	Number Employed in 2000	Percent of Total Employed	Number Employed in 2008	Percent of Total Employed
Professional, scientific, management, administrative, and waste management services	107	9.0	NA	NA
Educational, health and social services	235	19.8	NA	NA
Arts, entertainment, recreation, accommodation and food services	104	8.8	NA	NA
Other services (except public administration)	108	9.1	NA	NA
Public administration	50	4.2	NA	NA
Total people employed	1,187	100.0	NA	NA

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.

B.9.1.7 Fiscal

Armona is an unincorporated community in Kings County. As a result, the community does not collect its own taxes and receives all services from Kings County. For a discussion of the Kings County budget, see the community baseline data for Kings County.

B.9.1.8 Community Facilities and Amenities

Facilities of primary concern for the socioeconomics, communities, and environmental justice analysis are the locations of public buildings, public safety buildings (fire and police stations), medical services, schools, places of worship, and parks. Each of these types of facilities is listed below, and Figure B-44 provides a map of the community that shows the locations of these facilities.

Public Buildings

The community of Armona has two public buildings that serve the needs of the community. In the context of this analysis, public buildings are meant to represent community centers and other facilities open to the public. One of the public buildings is the Armona Community Library, which serves the community and other rural communities in the area as an extension library to the greater Kings County Library system. The other public building in Armona is the U.S. post office; the community has its own zip code. Table B-99 list these community facilities.

Table B-99
Community of Armona Public Buildings

Facility Name	Location	In Study Area?
Armona Community Library	11115 "C" Street	Yes
U.S. Post Office	10769 14th Avenue	Yes

Sources: National Institute of Building Sciences 2003; USGS 1992; Google 2010, map of Hanford.

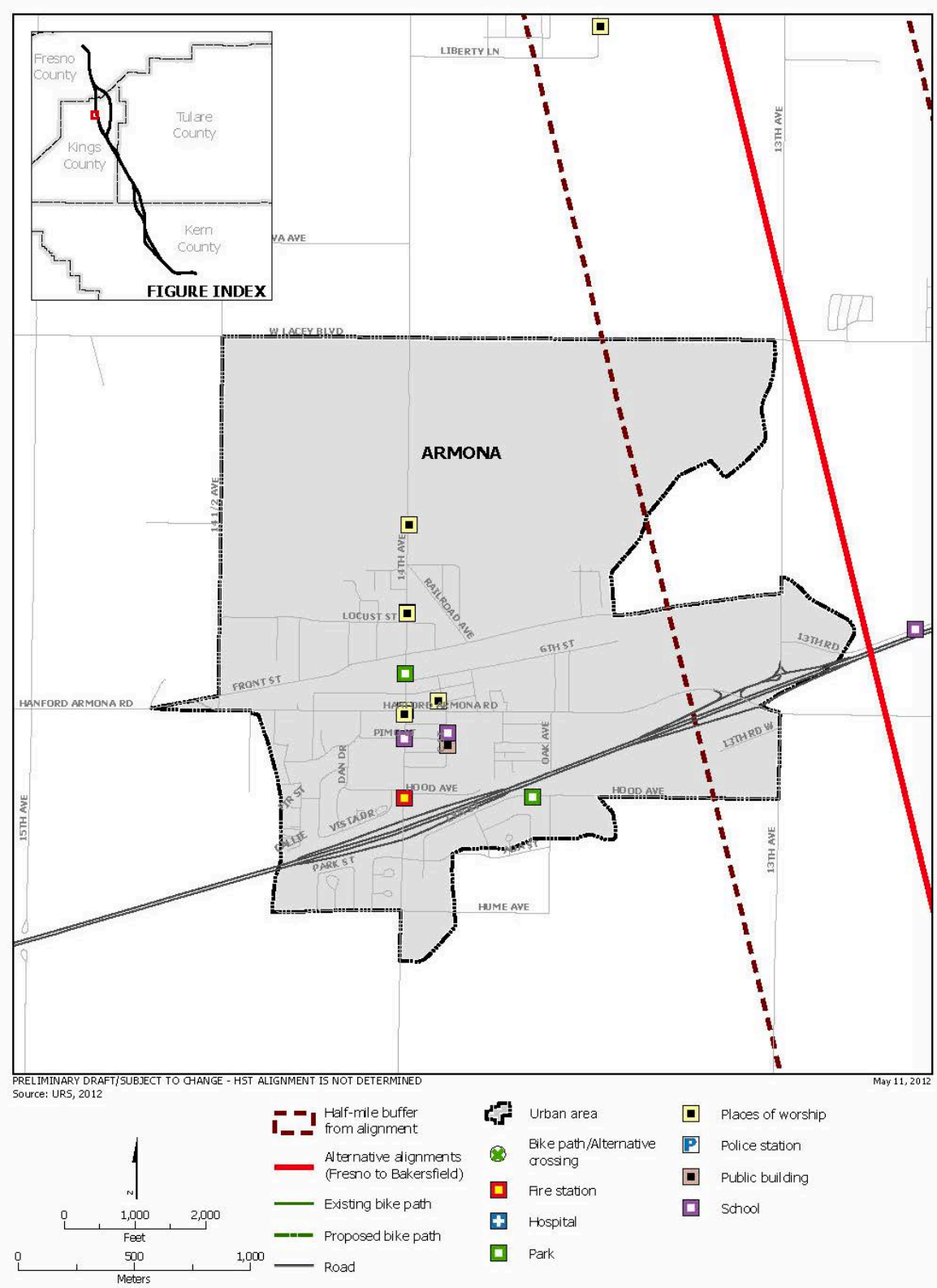

Figure B-44
Community of Armona Facility Locations

Public Safety Buildings

Police

The Kings County Sheriff's Department in Hanford provides police protection to the community of Armona. Other nearby police resources include the City of Hanford Police Department.

Table B-100 provides the address of the Kings County Sheriff's Department.

Fire

Armona has one volunteer fire station. The station has approximately 14 on-call volunteer firefighters. Other nearby fire resources include the fire departments of Hanford, Corcoran, Stratford, Hardwick, and Lemoore.

Table B-100 provides the address of the Armona volunteer fire station.

Medical Services

The community of Armona has no medical services; residents need to go to other nearby cities to receive care. The nearest hospital is Hanford Community Hospital, which is 3 miles east of Armona in the city of Hanford.

Table B-100 provides the address of the Hanford Community Hospital.

Table B-100
Community of Armona Police, Fire, and Medical Facilities

Facility Name	Location	Additional Details	In Study Area?
Police			
Kings County Sheriff Department	1444 W. Lacey Blvd.; Hanford, CA	Main Office	No
Fire			
Armona Fire Department	11235 14th Ave.; Armona, CA	Volunteer fire station	Yes
Medical			
Hanford Community Hospital	115 Mall Drive,; Hanford, CA	NA	No
Sources: National Institute of Building Sciences 2003; USGS 1992; Google 2010, map of Hanford.			

Schools

Armona has three schools, with a total enrollment of approximately 700 students. The Armona Union Elementary School District manages two of these schools; the third school is a private school. Table B-101 provides the addresses and other information for these facilities. The nearest higher education institution is an extension of the College of the Sequoias in Hanford and a University of California Cooperative Extension for Kings County in Hanford.

Table B-101
Community of Armona Schools

Facility Name	Location	Additional Details	In Study Area?
Schools			
Parkview Middle School	11075 C Street	Public	Yes
Armona Union Academy K-12	14435 Locust Street	Private	Yes
Armona Elementary School	14045 Pimo Avenue	Public	Yes
Sources: National Institute of Building Sciences 2003; USGS 1992; Google 2010, map of Hanford.			

Religious Facilities

Armona has eight places of worship in the community. Table B-102 identifies the churches that lie in the study area, all of which belong to Christian denominations.

Table B-102
Community of Armona Religious Facilities within Study Area

Facility Name	Location	Additional Details	In Study Area
Armona Central Assembly of God	14341 Hanford Armona Road	Religious	Yes
Armona United Methodist Church	14041 Hanford Armona Road	Religious	Yes
Church of Christ of Armona	13914 7th Avenue	Religious	Yes
Kings Evangelical Free Church	12634 13th Road	Religious	Yes
Missionary Baptist Church	10649 Railroad Avenue	Religious	Yes
New Testament Baptist Church	10491 14th Avenue	Religious	Yes
Pentecostal Church of God	10936 Cedar Street	Religious	Yes
Seventh-Day Adventist Church	10771 14th Avenue	Religious	Yes
Sources: National Institute of Building Sciences 2003; USGS 1992; Google 2010, map of Hanford.			

Parks

Armona has one existing community park of about 5 acres in size that is equipped with two baseball diamonds. The park is in the study area; its location is provided in Table B-103. Additional information about parks can be found in Section 3.15, Parks, Recreation, and Open Space, in this EIR/EIS.

Table B-103
Community of Armona Parks

Facility Name	Location	Additional Details	In Study Area?
Armona Recreation Park	Downtown Armona	Community park	Yes
Grangeville-Armona Cemetery	14th Avenue	Cemetery	Yes
Sources: National Institute of Building Sciences 2003; USGS 1992; Google 2010, map of Hanford.			

B.9.1.9 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 Section 3.2, Transportation, in this EIR/EIS.

The Kings County General Plan sets out policies to support alternatives to automotive transport, including pedestrian and bicycle travel between residential and commercial areas (Kings County Planning Commission, Community Development Agency 2009). Non-motorized transportation facilities are limited in Armona; sidewalks have been built in newer developments, but are not present along major corridors, such as the main thoroughfare of 14th Avenue. The enhancement of both pedestrian and bicycle access on streets is needed to develop Armona as a pedestrian-friendly town. Armona has two bike paths that pass through the community, one from east to west along Hanford-Armona Road and another from north to south along 14th Avenue. These two paths are listed and described in Table B-104.

Table B-104
Community of Armona Bikeways

Facility Name	Location	Additional Details	In Study Area?
Bikeway, East-West	Armona	Paved	Yes
Bikeway, North-South	Armona	Paved	Yes
Source: Source: Kings County Planning Commission, Community Development Agency 2009.			

B.10 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.).

B.10.1.1 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-105 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%).[35]

Table B-105
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-45 and Figure B-46 (U.S. Census Bureau 2000a; U.S. Census Bureau, American Community Survey 2006–2008e).

[35] 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.

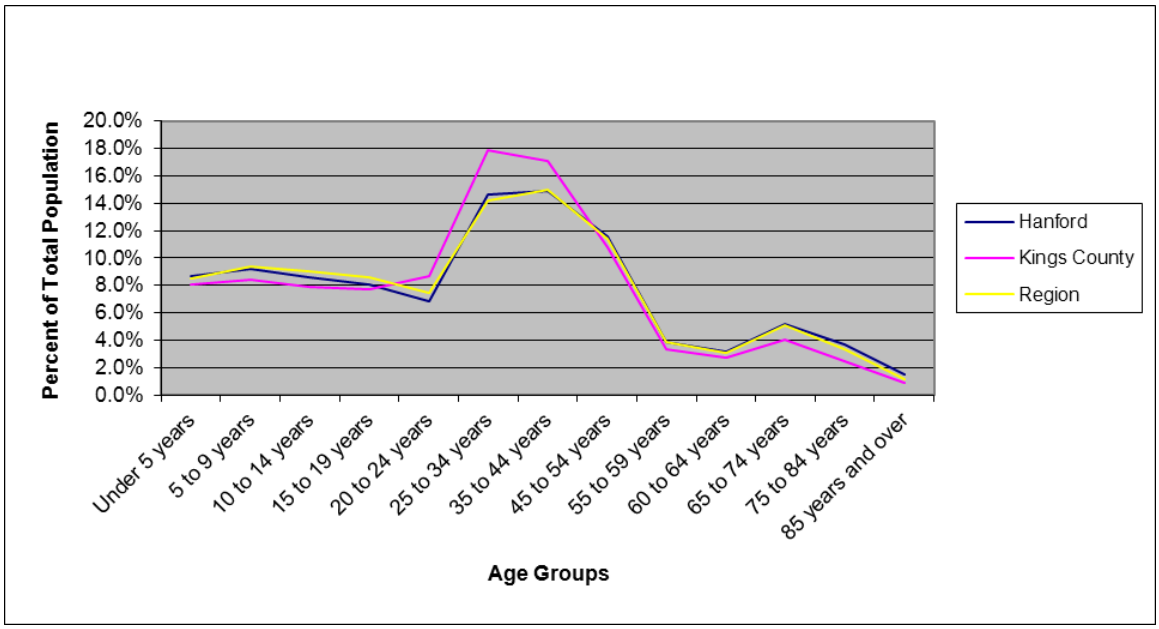

Figure B-45
City of Hanford Age Profile, 2000

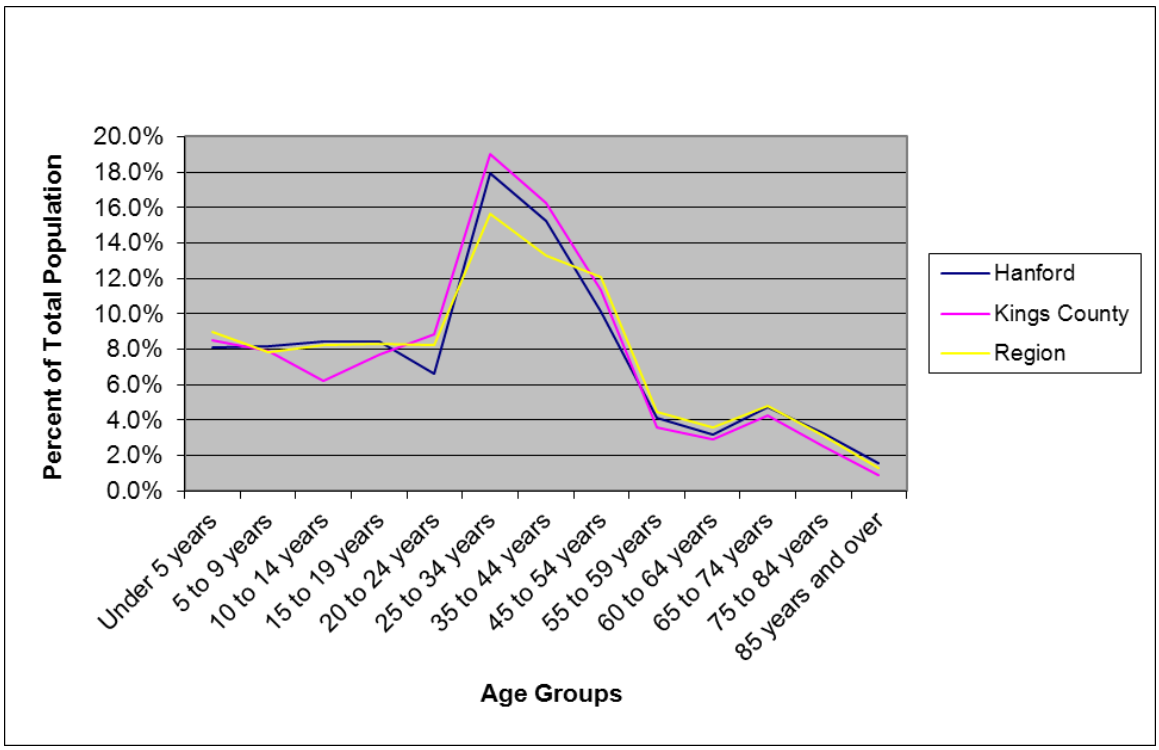

Figure B-46
City of Hanford Age Profile, 2006–2008

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-106 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-106
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%).[36] 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).

[36] 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,[37] 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.10.1.2 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-107).

Table B-107
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.

[37] 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).

B.10.1.3 Environmental Justice Population

Only a small portion (0.9 square miles) of the western part of Hanford falls within the study area of the Hanford West Bypass 1 and 2 alternatives. No EJ study area intersection is present along the BNSF Alternative in eastern Hanford. The examination of EJ populations in the study area for Armona and Grangeville captures the population living west of the city of Hanford.

B.10.1.4 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-108 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-108
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 or more units	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-109. 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-109
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-110). These percentages are both similar to the county (67% and 14.5%) and the region (66% and 15.2%) as a whole.

Table B-110
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

B.10.1.5 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-111). 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-111
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-112, 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-112
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-112
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.

B.10.1.6 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).

B.10.1.7 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-47 provides a map of the community showing these facility locations.

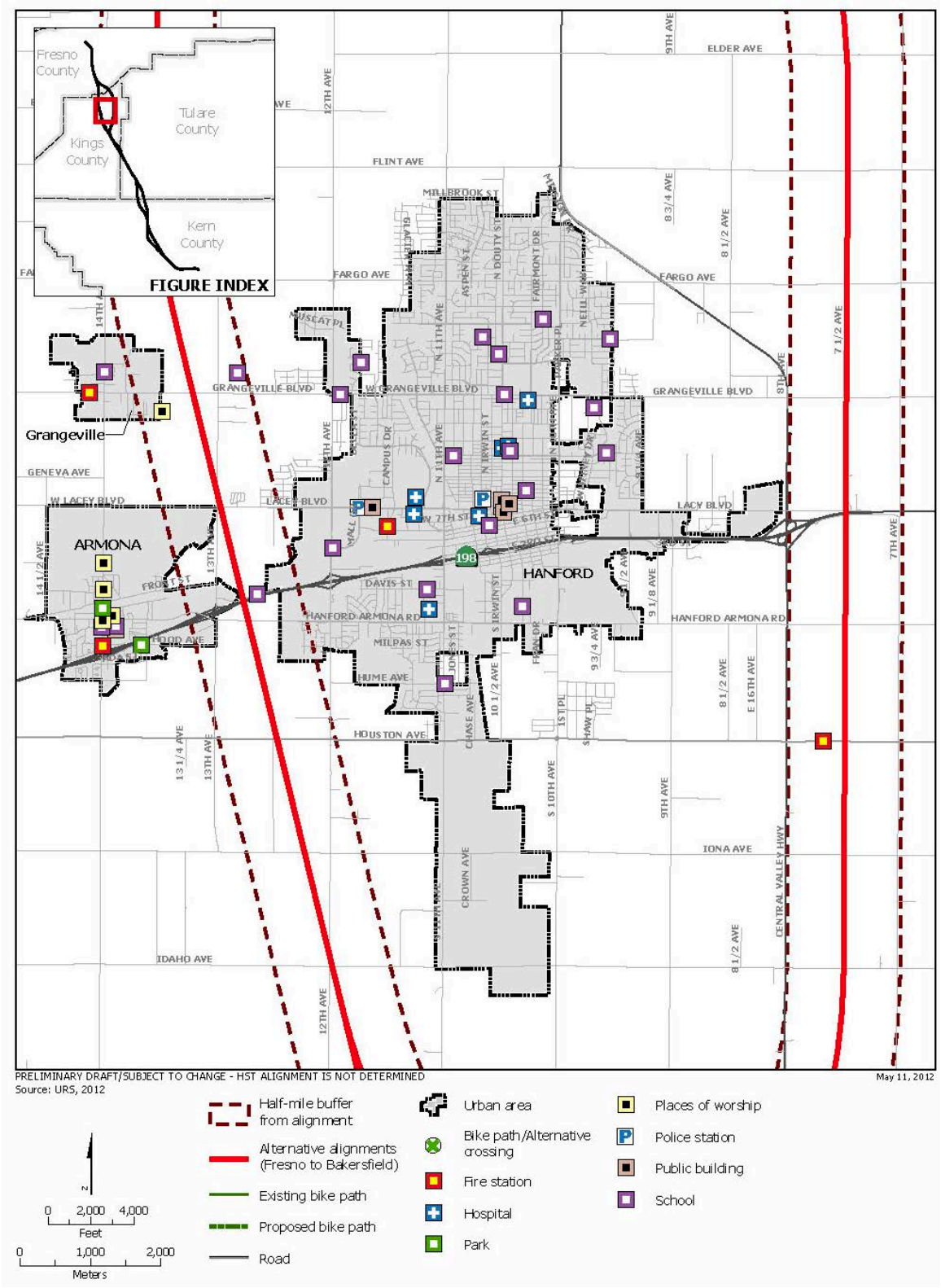

Figure B-47
City of Hanford Facility Locations

Public Buildings

The city of Hanford has numerous public buildings that serve the needs of the community (see list in Table B-113). 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-113
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-114 lists the public-safety facilities with addresses.

Table B-114
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-115 lists the school facilities with addresses.

Table B-115
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.

B.10.1.8 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.11 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).

B.11.1.1 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-116 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%).[38] 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-116
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-48 and Figure B-49 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

[38] 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.

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).

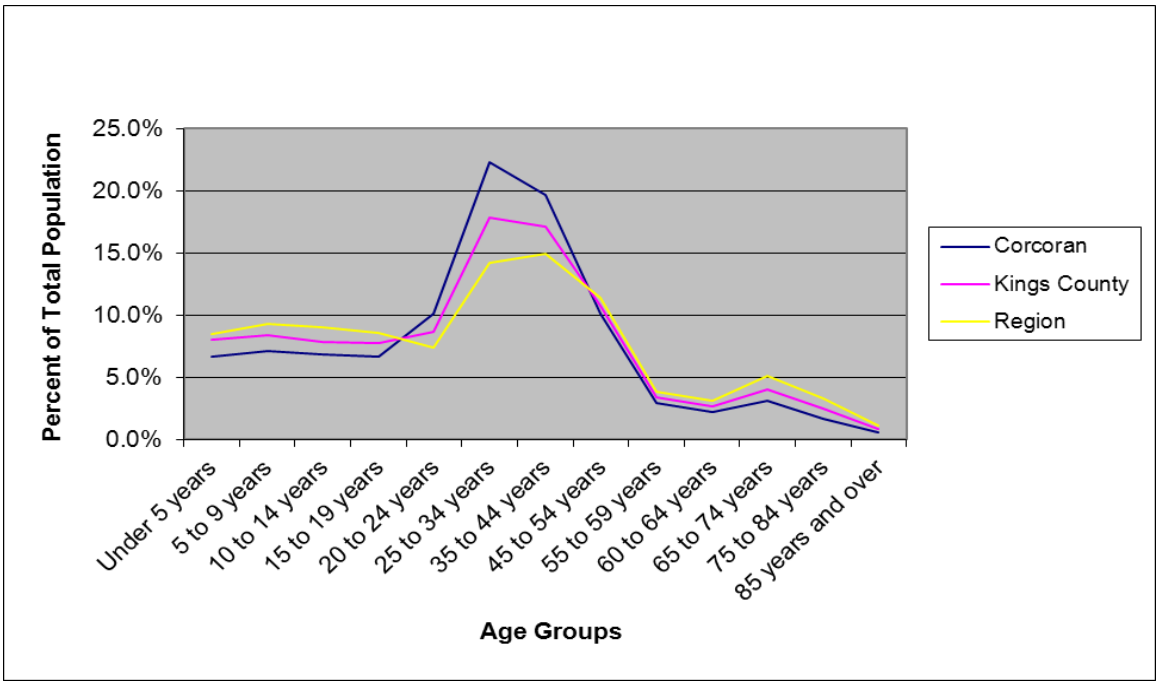

Figure B-48
City of Corcoran Age Profile, 2000

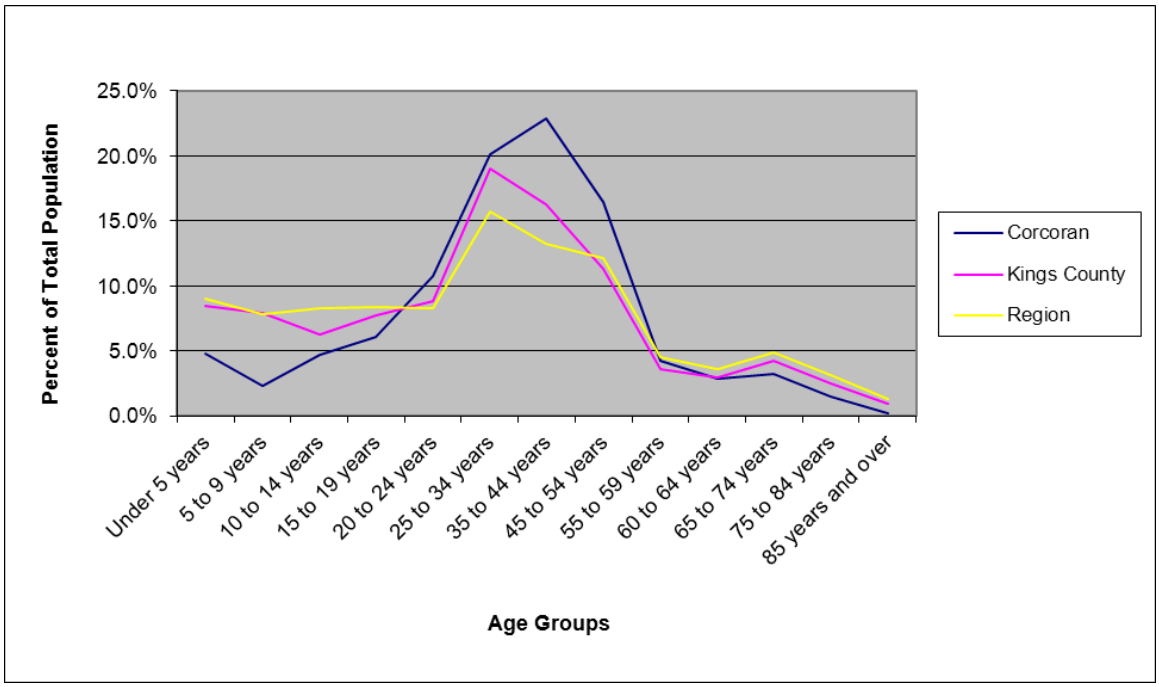

Figure B-49
City of Corcoran Age Profile, 2006–2008

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-117. 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-117
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).[39] 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 decreased and more than likely has increased since 2000 and still remains above county and region levels.

In 2007,[40] 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.11.1.2 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-118), 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-118
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
1.85 to 1.99	421	4.5	573	4.5

[39] 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.

[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.

Table B-118
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
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).

B.11.1.3 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-50 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 that falls within the study area is 36.2 square miles, with 7.9 square miles or 21.8% identified as EJ blocks. [41] 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 that intersects 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).

[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.

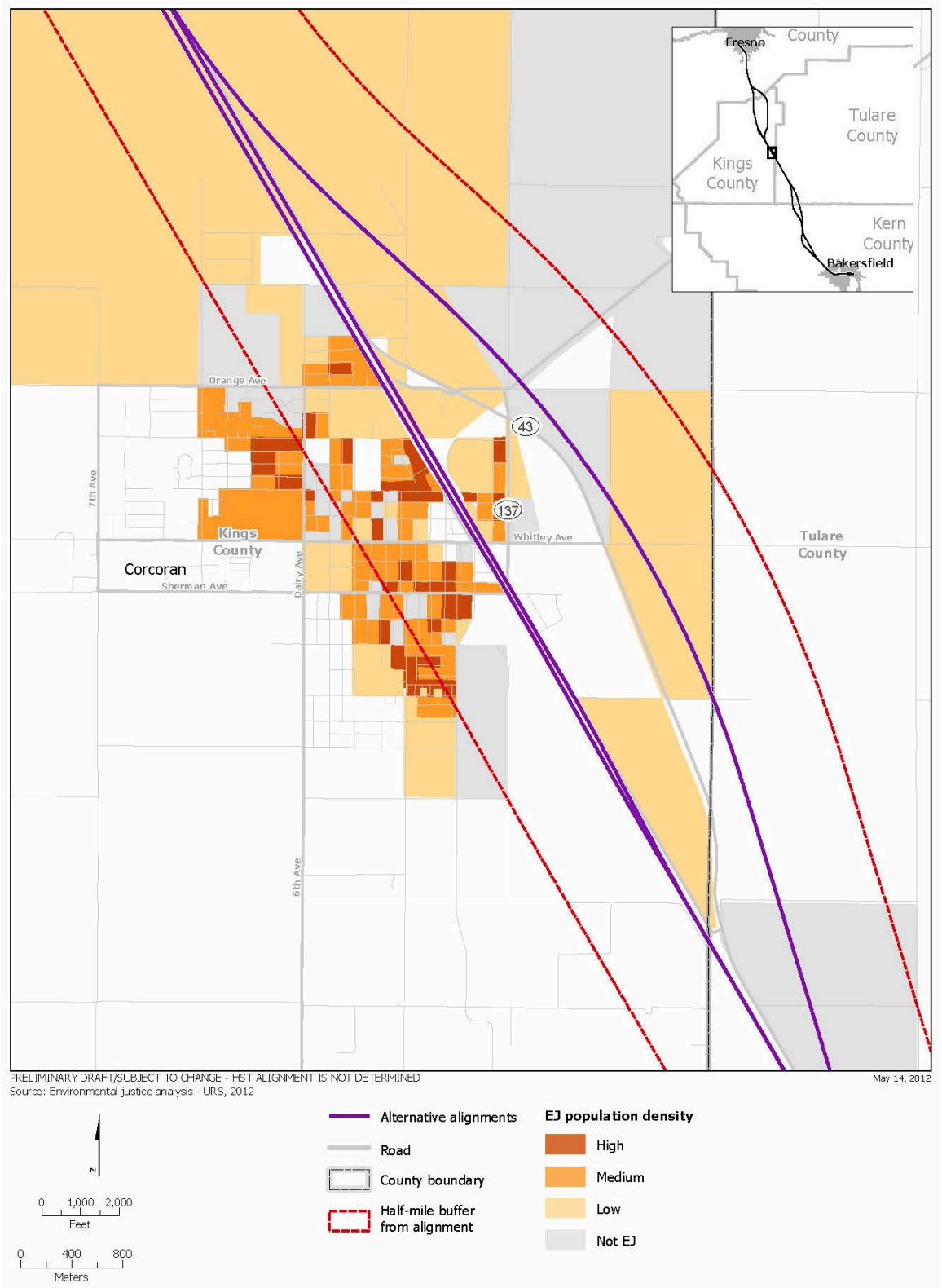

Figure B-50
City of Corcoran EJ Block Populations

According to the 2000 Census, the approximate total population within the study area for the BNSF Alternative 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 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 (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 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 (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).

B.11.1.4 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-119 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-119
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-120. 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-120
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-121). 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-121
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

B.11.1.5 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-122. 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-122
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-123, 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-123
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

Table B-123
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
Transportation and warehousing, and utilities	89	1.8	87	1.8
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

B.11.1.6 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).

B.11.1.7 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-51 provides a map of the community showing these facility locations.

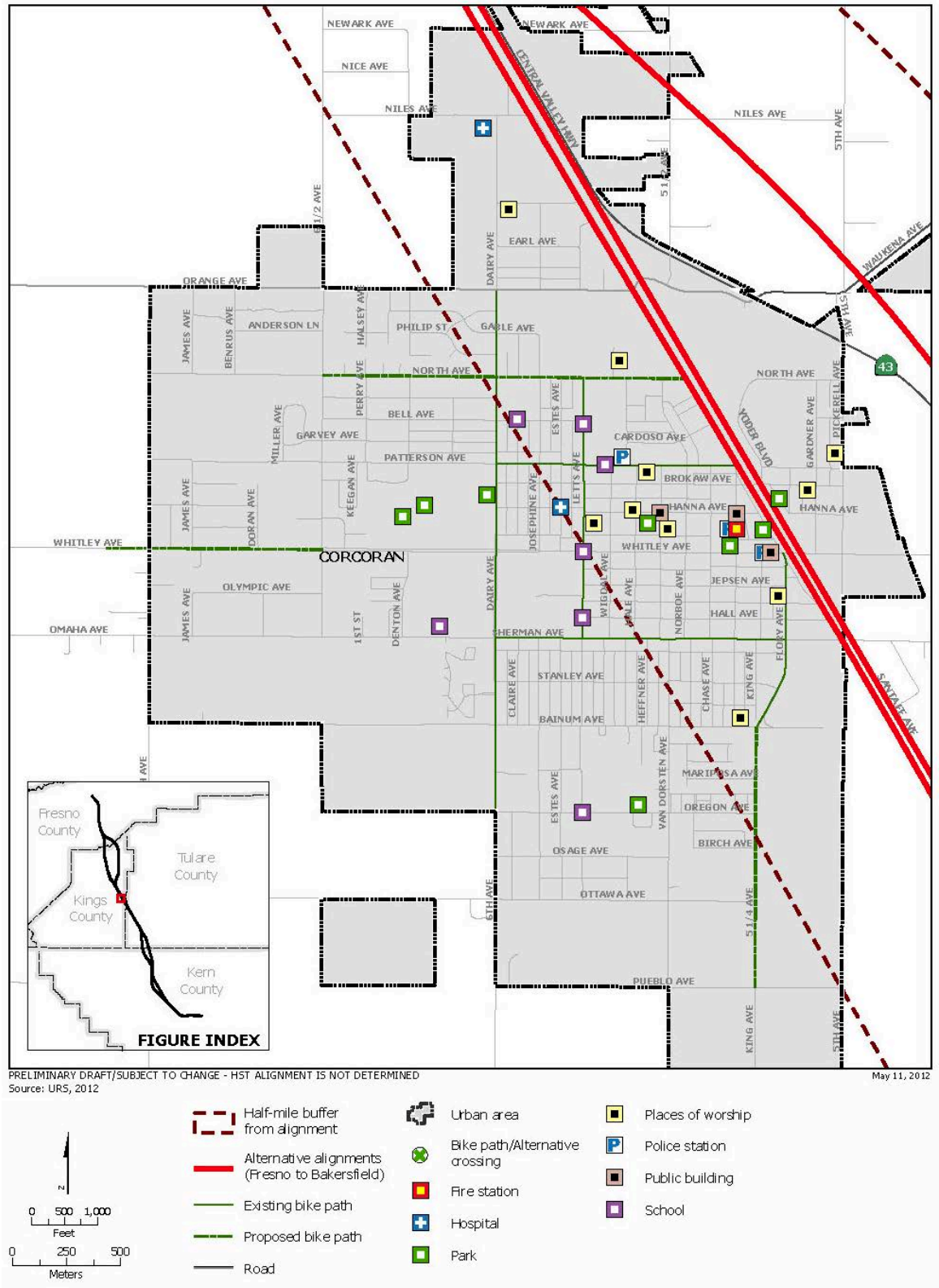

Figure B-51
City of Corcoran Facility Locations

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-124.

Table B-124
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-125 lists the city's police, fire, and medical facilities.

Table B-125
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-126.

Table B-126
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-127.

Table B-127
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-128 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-128
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.			

B.11.1.8 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-129 lists the existing and proposed bike paths in Corcoran.

Table B-129
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.12 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).

B.12.1.1 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-130 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%).[42]

[42] 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-130
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-52 and Figure B-53 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.

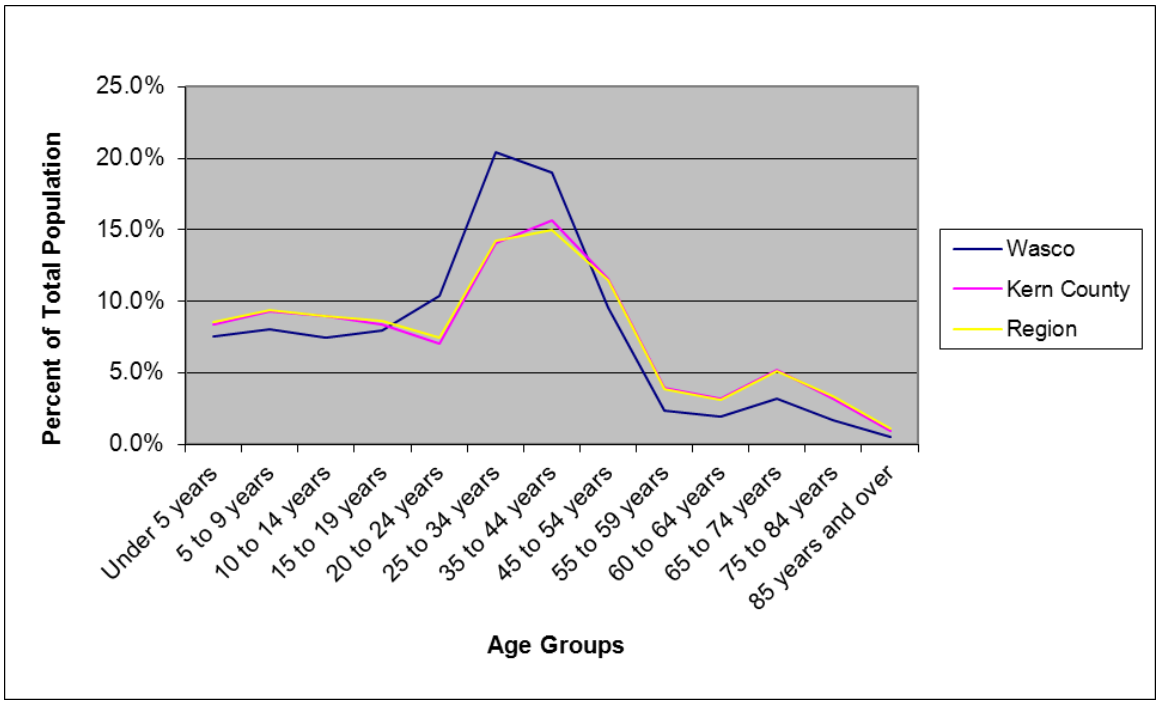

Figure B-52
City of Wasco Age Profile, 2000

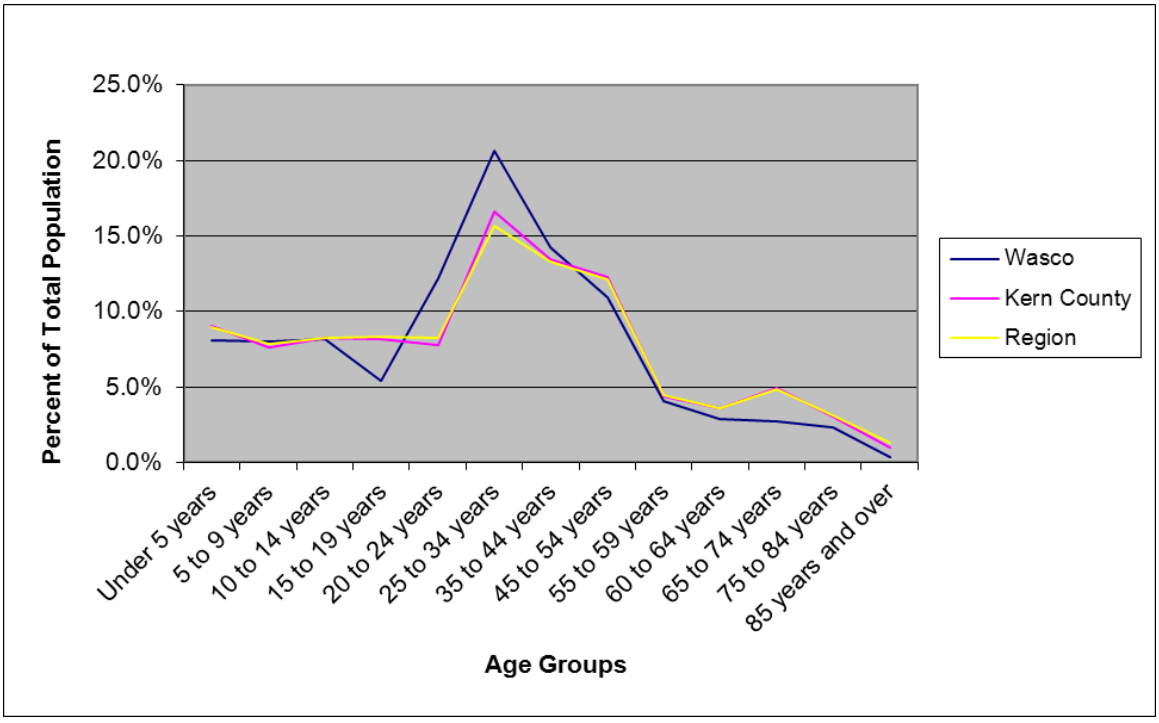

Figure B-53
City of Wasco Age Profile, 2006–2008

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-131 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-131
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).[43] 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

[43] 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,[44] 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.12.1.2 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-132, 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-132
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

[44] 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-132
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.

B.12.1.3 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-54 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 are calculated for Wasco and Shafter together given that the bypass is compared to the BNSF Alternative section that runs through both towns. The total area of the Census blocks in Wasco and Shafter along BNSF Alternative intersecting the study area is 55.3 square miles, with 11.7 square miles or 21.2% identified as EJ blocks.[45] 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).

[45] 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.

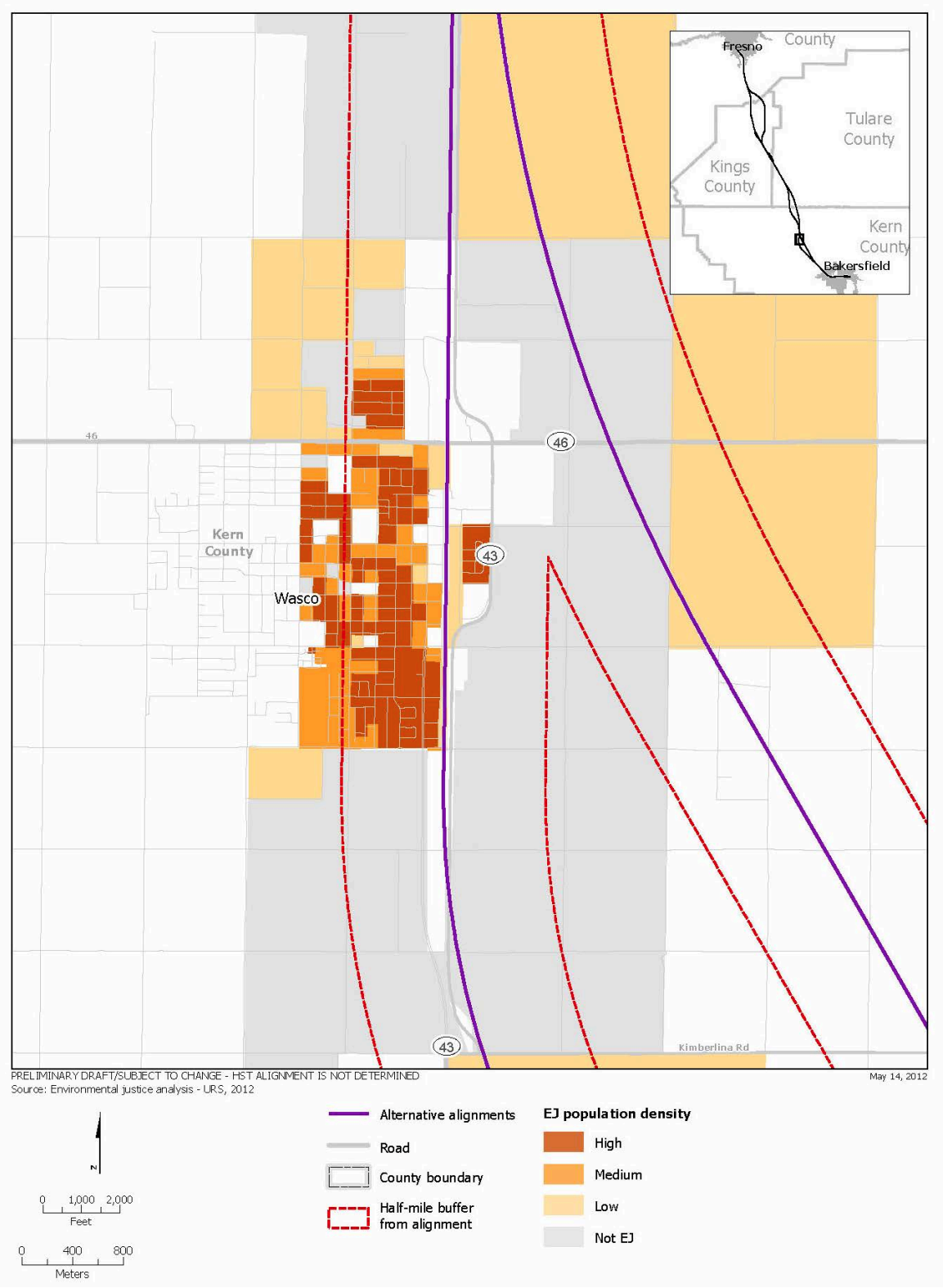

Figure B-54
City of Wasco EJ Block Populations

Total populations for this segment of BNSF Alternative are calculated for Wasco and Shafter together. According to 2000 Census data, the approximate total population within the BNSF Alternative 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 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 the BNSF Alternative, 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).

B.12.1.4 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-133 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-133
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-134 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-134
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-135, 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-135
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.

B.12.1.5 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-136). 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-136
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-137, 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-137
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

B.12.1.6 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).

B.12.1.7 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-55 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-138) 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-138
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.		

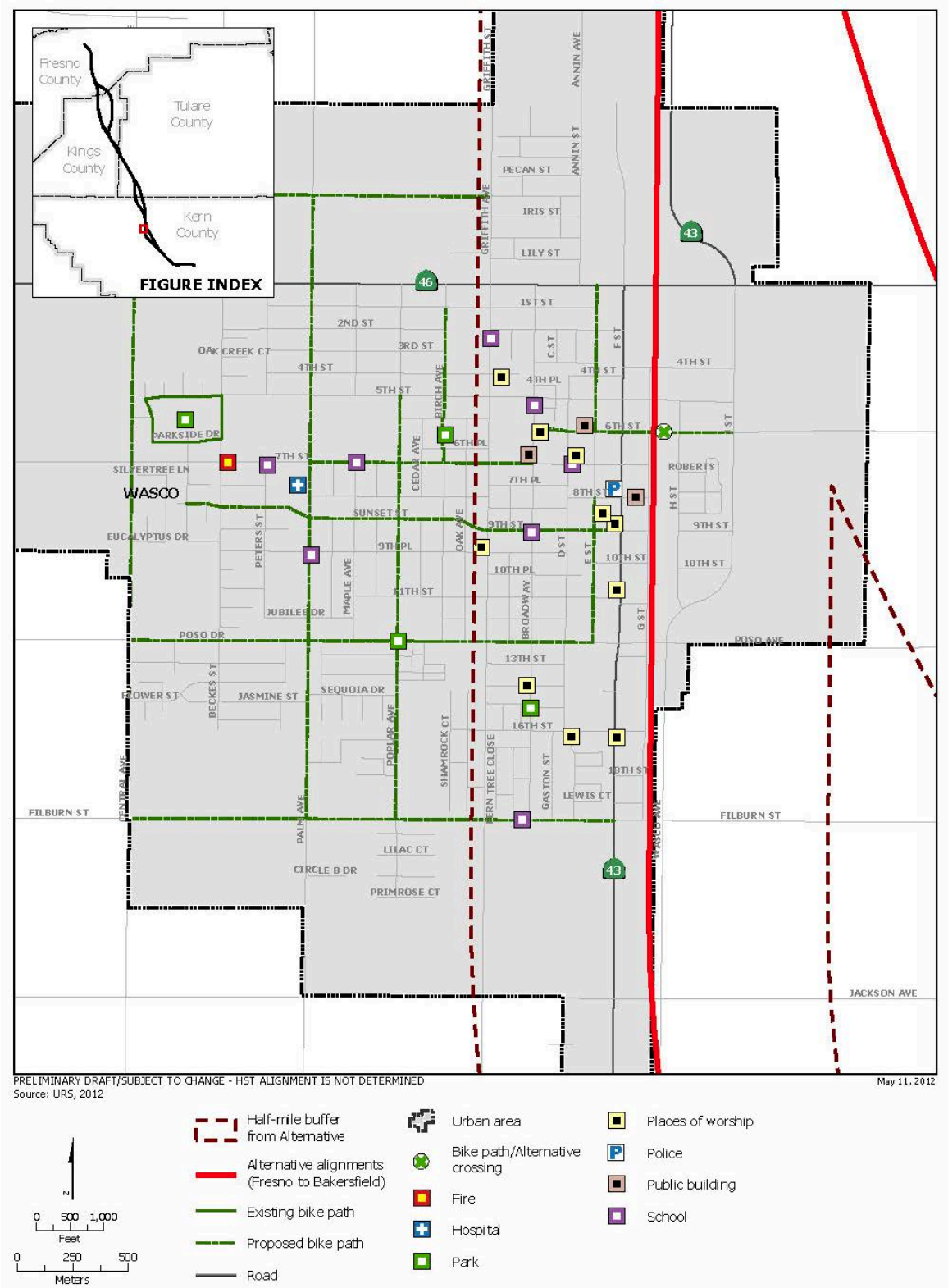

Figure B-55
City of Wasco Facility Locations

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-139 for location information on these public-safety facilities.

Table B-139
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-140). 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-140
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-141 for a listing of the 10 places of worship).

Table B-141
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. 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-142 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-142
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.			

B.12.1.8 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-143 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-143
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.13 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).

B.13.1.1 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-144 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.[46] 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-144
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-56 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).

[46] 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.

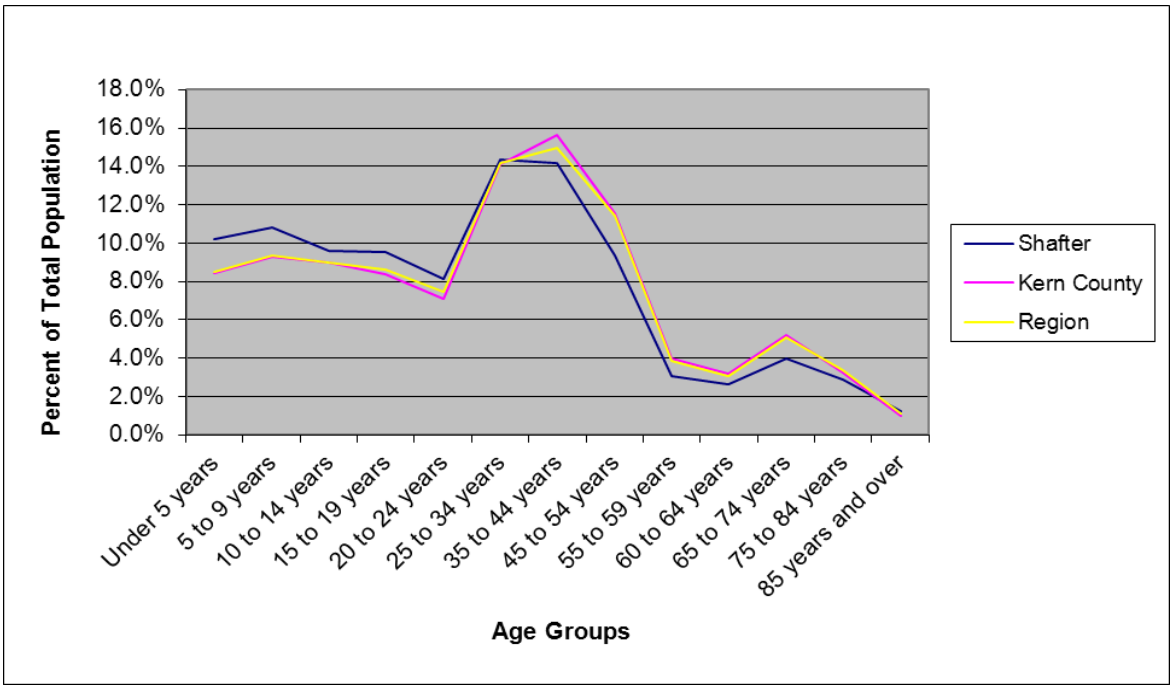

Figure B-56
City of Shafter Age Profile, 2000

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-145.

Table B-145
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).[47] 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).[48]

B.13.1.2 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-146, 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-146
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.

[47] 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.

[48] 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).

B.13.1.3 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-57 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 are calculated for Wasco and Shafter together given that the bypass is compared to the BNSF Alternative section that runs through both towns. The total area of Census blocks within the cities of Wasco and Shafter along BNSF Alternative that falls within the study area is 55.3 square miles, with 11.7 square miles (or 21.2%) identified as EJ blocks.[49] 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 the BNSF Alternative are calculated for Wasco and Shafter together because the bypass is compared to the BNSF Alternative section that runs through both towns. According to the 2000 Census, the approximate total population within the BNSF Alternative 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 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.

[49] 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.

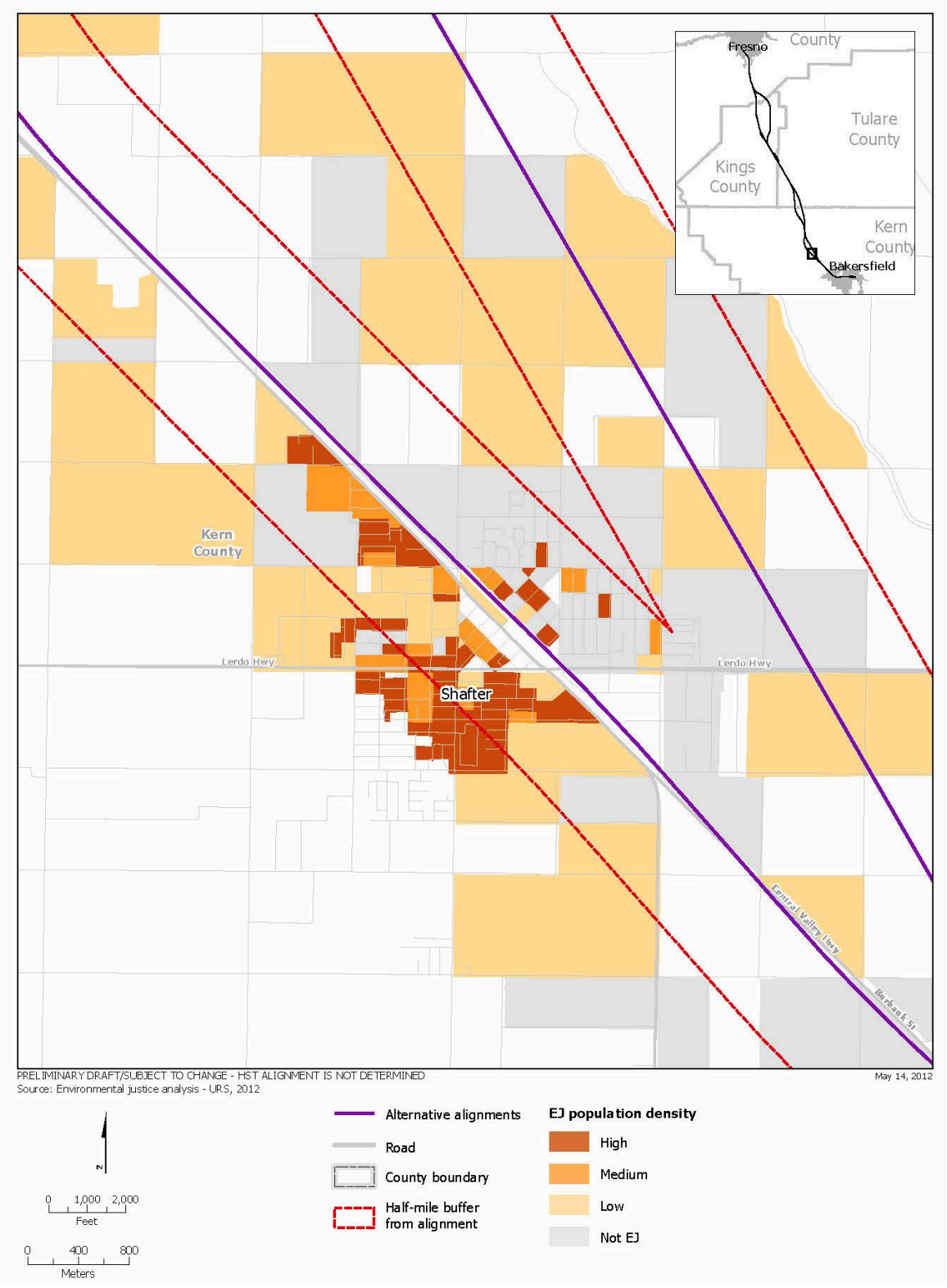

Figure B-57
City of Shafter EJ Block Populations

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 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).

B.13.1.4 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-147 shows, the composition of the local housing stock is similar to 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-147
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-148 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-148
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-149, 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.[50] 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-149
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.

B.13.1.5 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-150. In 2009, the city, county, and region all experienced increased unemployment with the 2009 annual

[50] 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.

average unemployment rate of 25.1% experienced in Shafter being higher than either the county (14.4%) or region (14.9%).

Table B-150
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-151, 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-151
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

Table B-151
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
Educational, health and social services	*	*	220	4.1
Arts, entertainment, recreation, accommodation and food services	155	5.2	271	5.0
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

B.13.1.6 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).

B.13.1.7 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-58 provides a map of the community showing these facility locations.

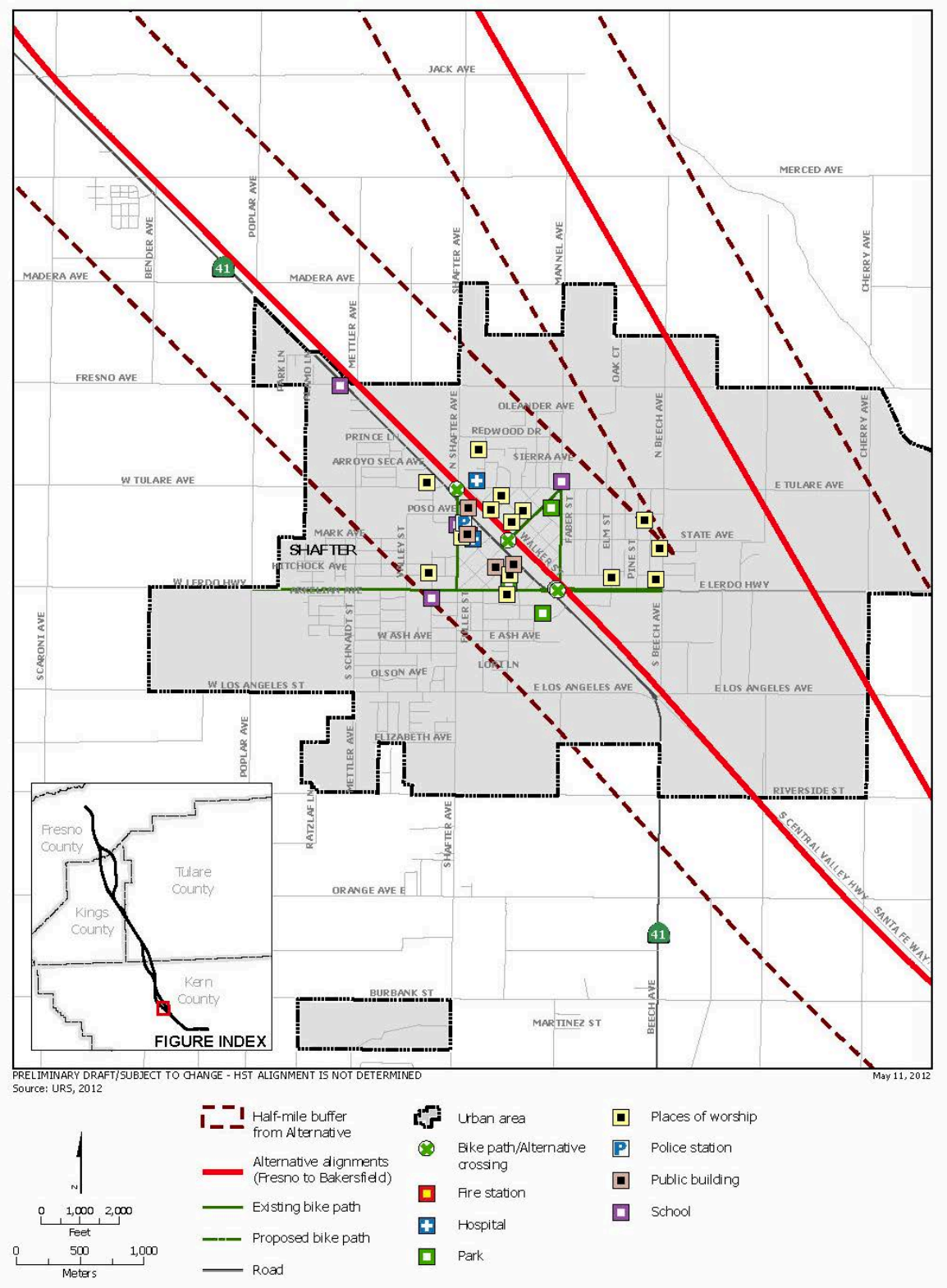

Figure B-58
City of Shafter Facility Locations

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-152.

Table B-152
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-153 provides the addresses of these public-safety facilities.

Table B-153
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-154 provides the addresses for these facilities (California Department of Education 2010).

Table B-154
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-155 identifies churches that lie within the study area, all of which belong to Christian denominations.

Table B-155
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-156. Additional detailed park information can be found in the Parks and Recreation section of the EIR/EIS.

Table B-156
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.			

B.13.1.8 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-157 provides a list of these facilities.

Table B-157
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.14 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-59.

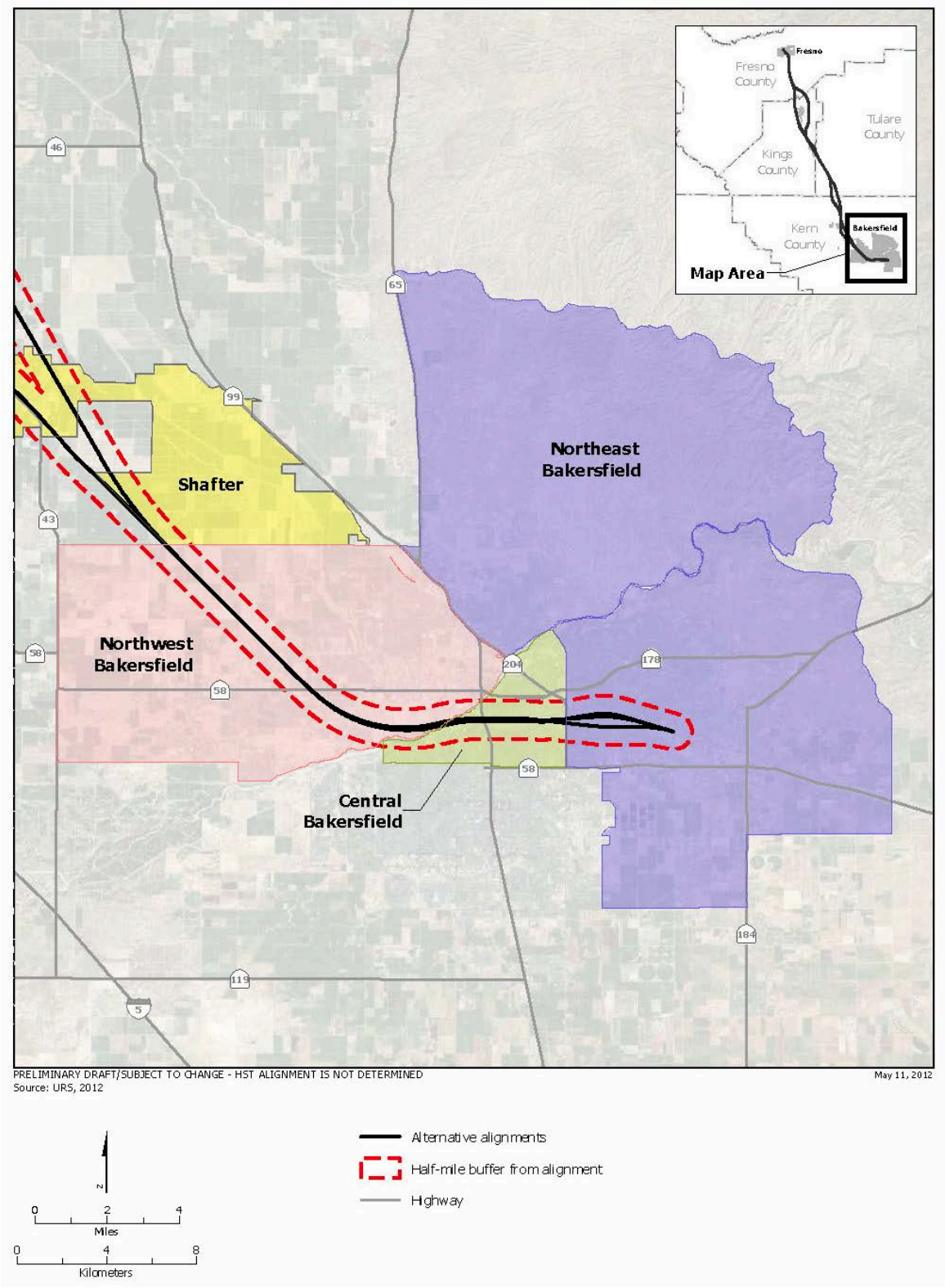

Figure B-59
Districts within the City of Bakersfield

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 about 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).

B.14.1.1 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-158 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%).[51]

[51] 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-158
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-159. 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-159
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-60 and Figure B-61 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).

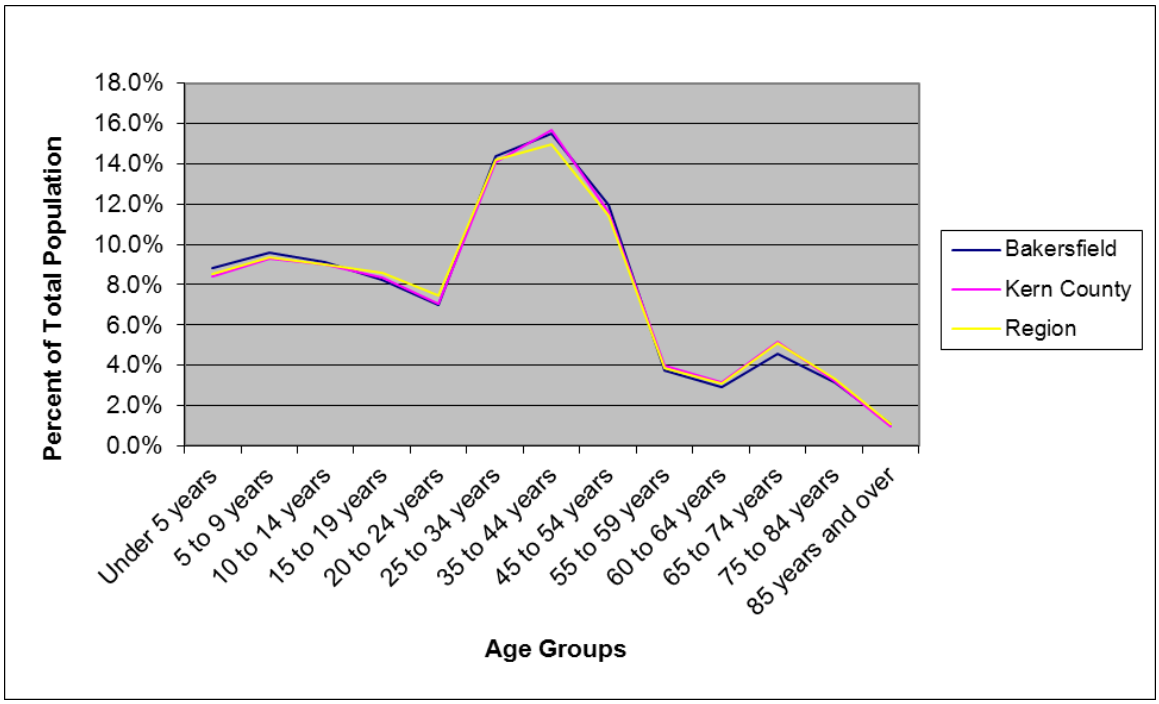

Figure B-60
City of Bakersfield Age Profile, 2000

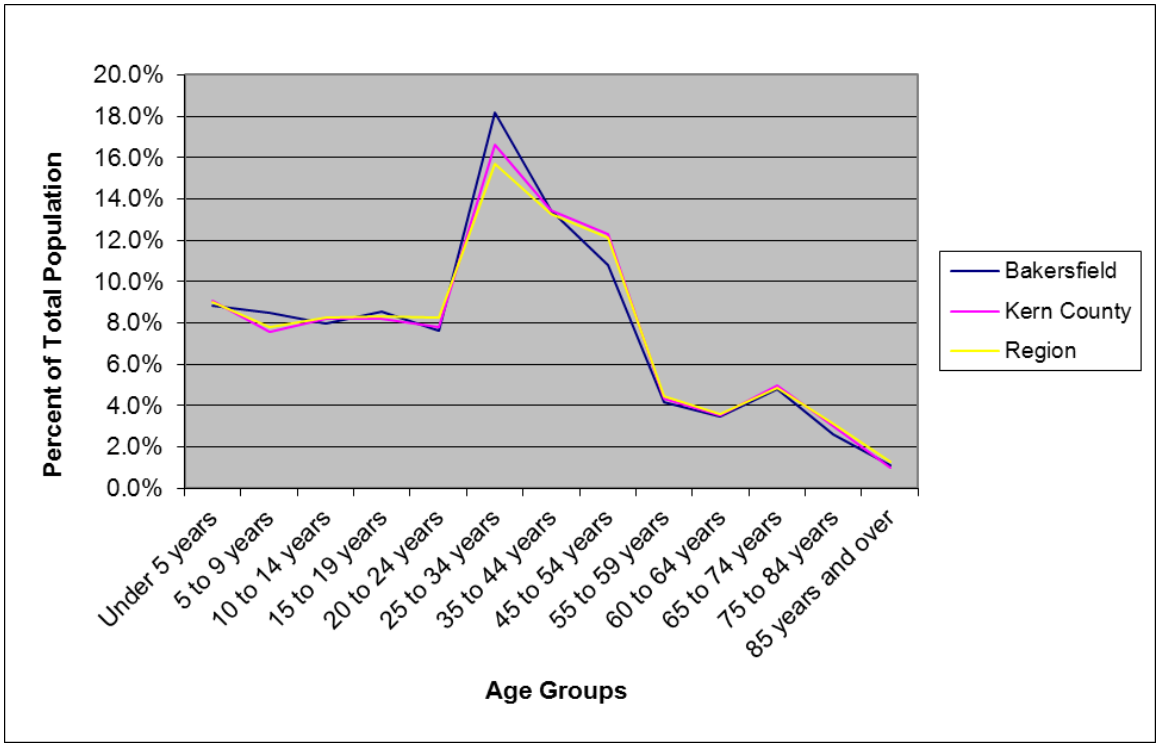

Figure B-61
City of Bakersfield Age Profile, 2008

The age profile for the districts (illustrated in Figure B-62) 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).

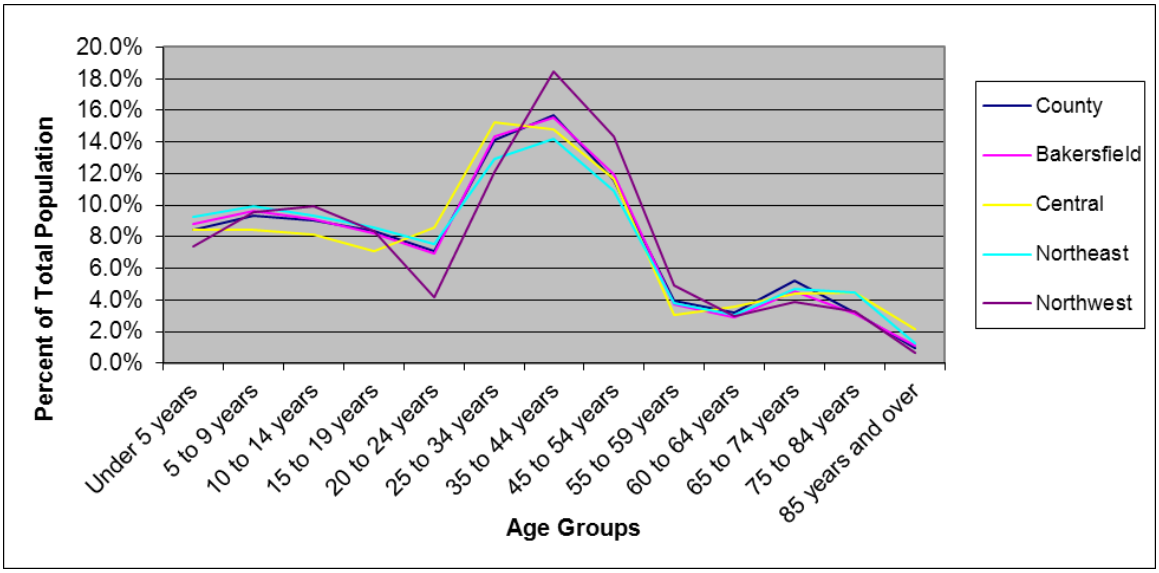

Figure B-62
City of Bakersfield District Age Profile, 2000

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-160 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-160
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-161 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-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%).

Table B-161
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,[52] 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).

[52] 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.14.1.2 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-162). 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-162
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-163.

Table B-163
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).

B.14.1.3 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-1.

Figure B-63 and Figure B-64 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 the BNSF Alternative to the Bakersfield South Alternative,

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. [53] 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 31,719 in 2000, or 38.8% of the total population contained in the study area in all of Kern County, or about 12.8% 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 61.8% of the population and low-income individuals making up 25.7% 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).

[53] 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.

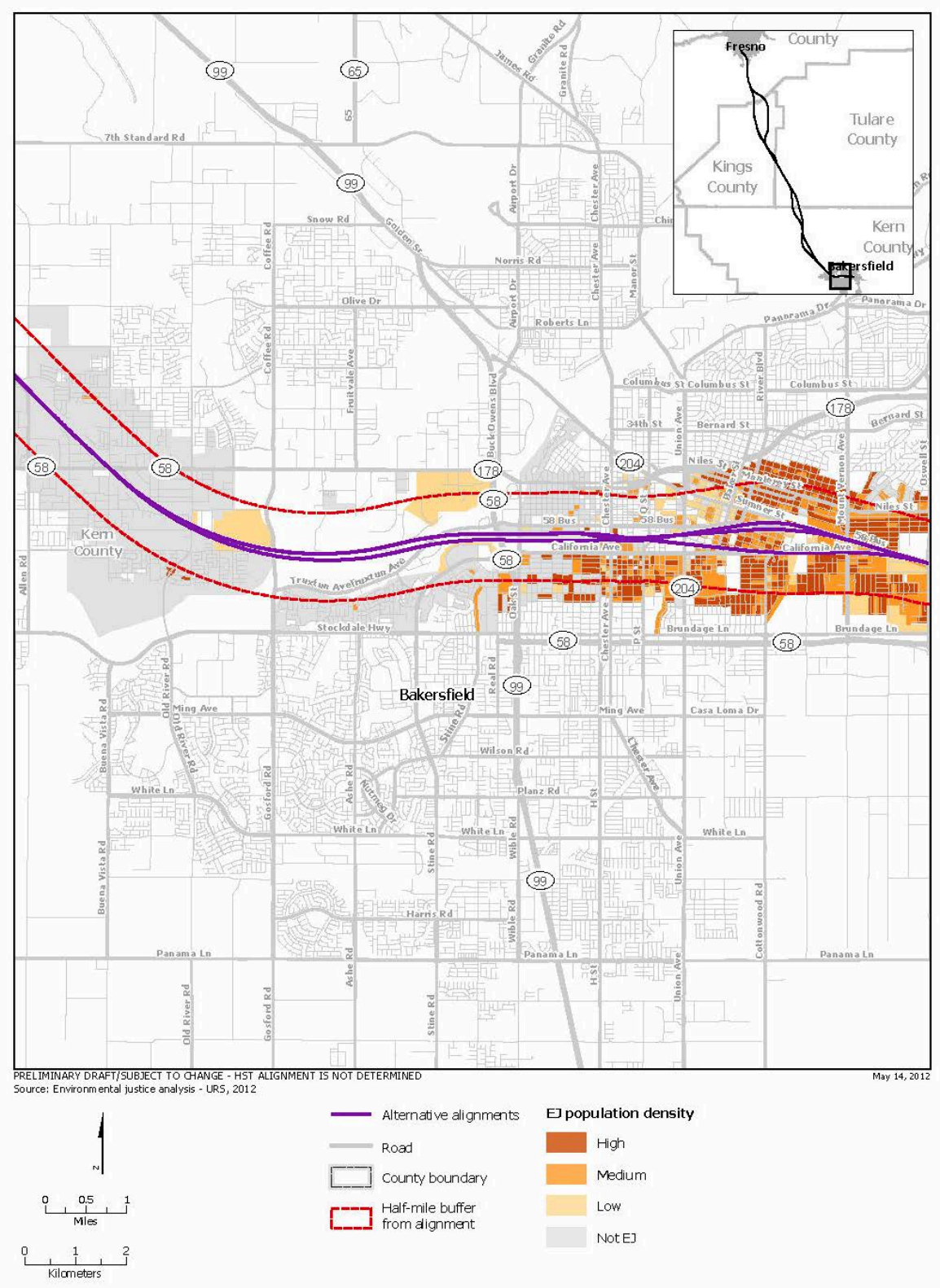

Figure B-63
City of Bakersfield West EJ Block Populations

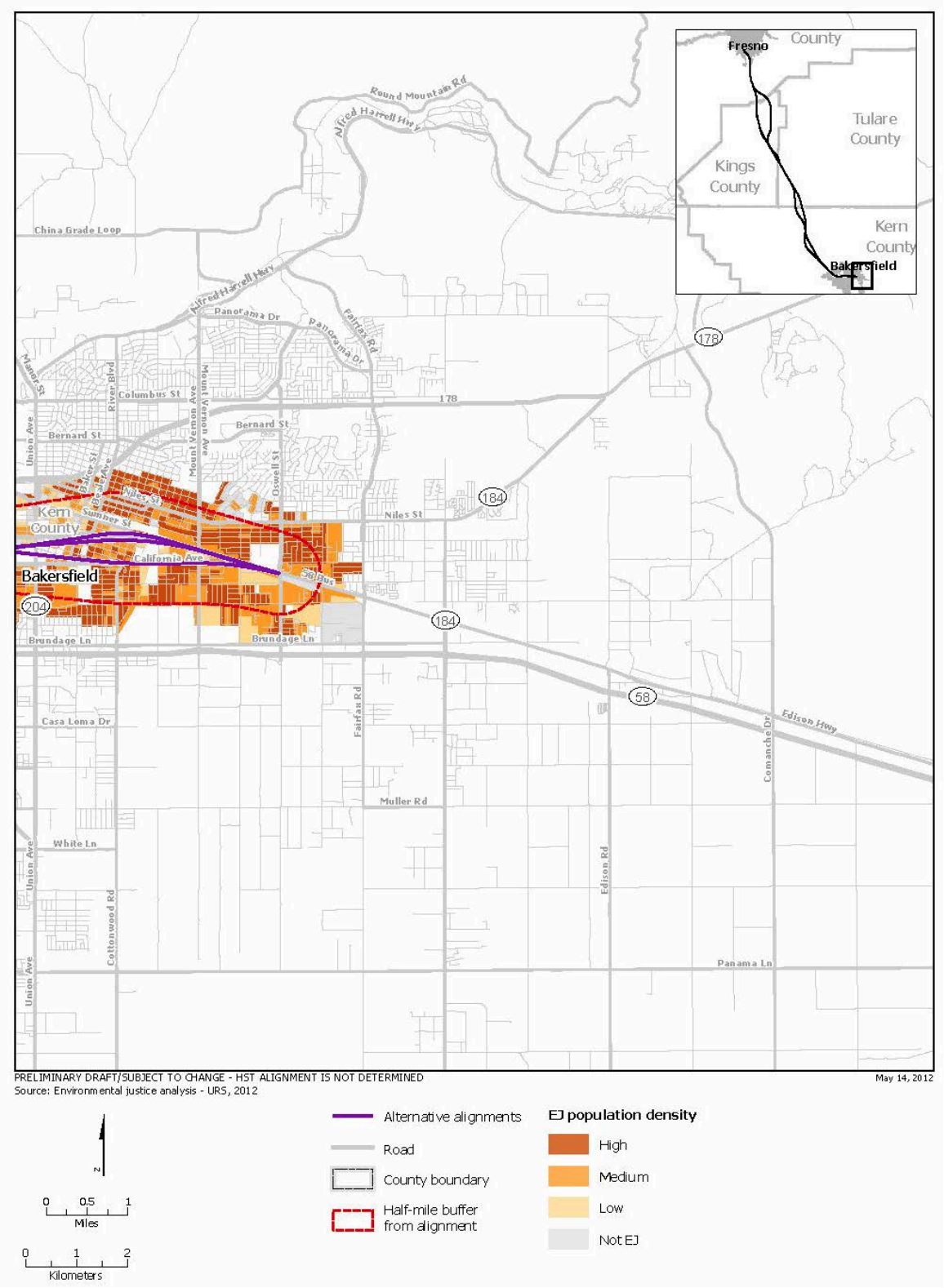

Figure B-64
City of Bakersfield East EJ Block Populations

B.14.1.4 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-164 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-164
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-165.

Table B-165
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-166 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-166
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-167 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-167
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-168, 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-168
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-169 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-169
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.

B.14.1.5 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-170. 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-170
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-171.[54]

[54] 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-171
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-172, 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-172
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
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

Table B-172
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
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.

B.14.1.6 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).

B.14.1.7 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-65, Figure B-66, and Figure B-67 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-173.

Table B-173
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.		

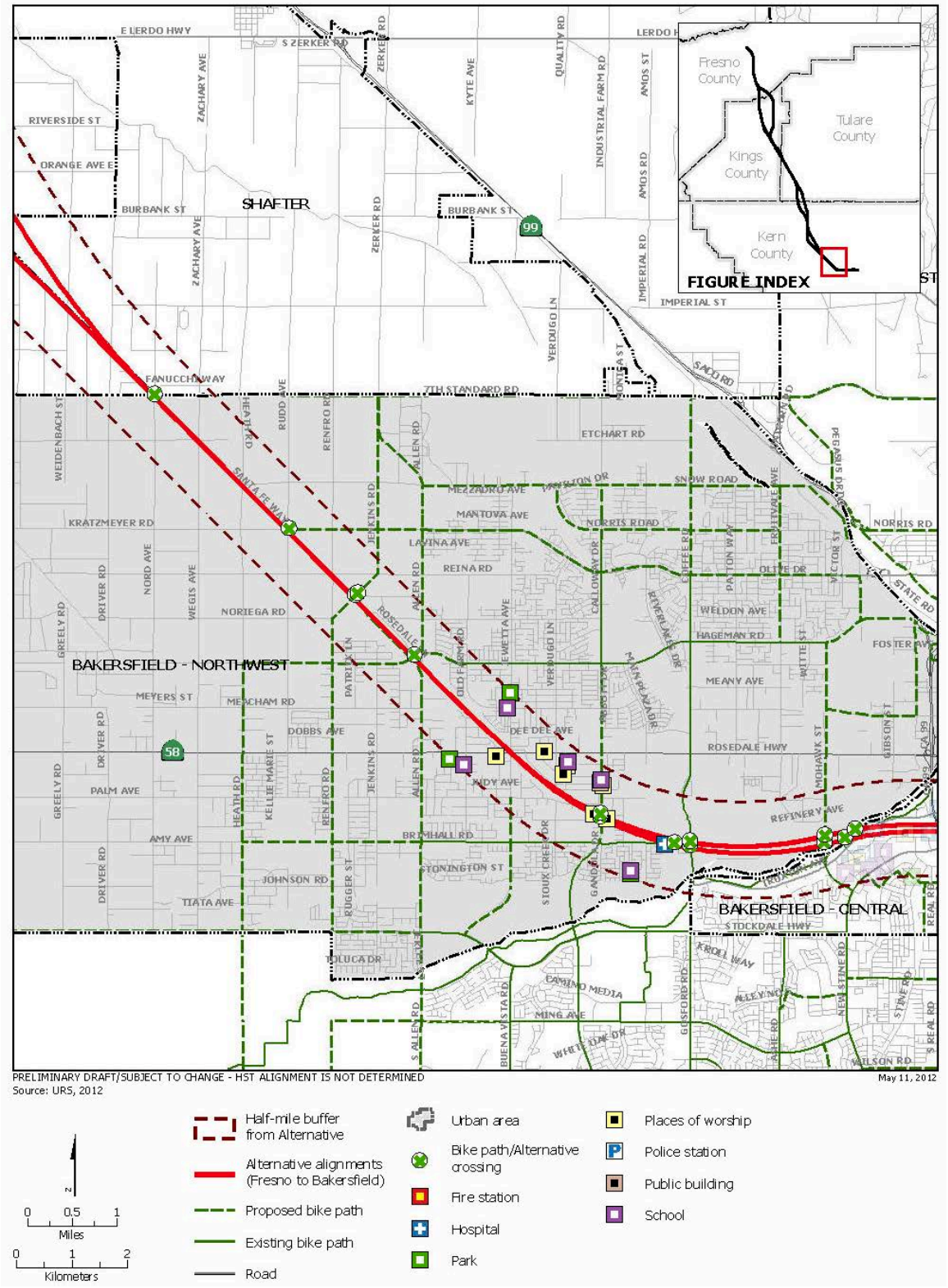

Figure B-65
City of Bakersfield Northwest District Facility Locations

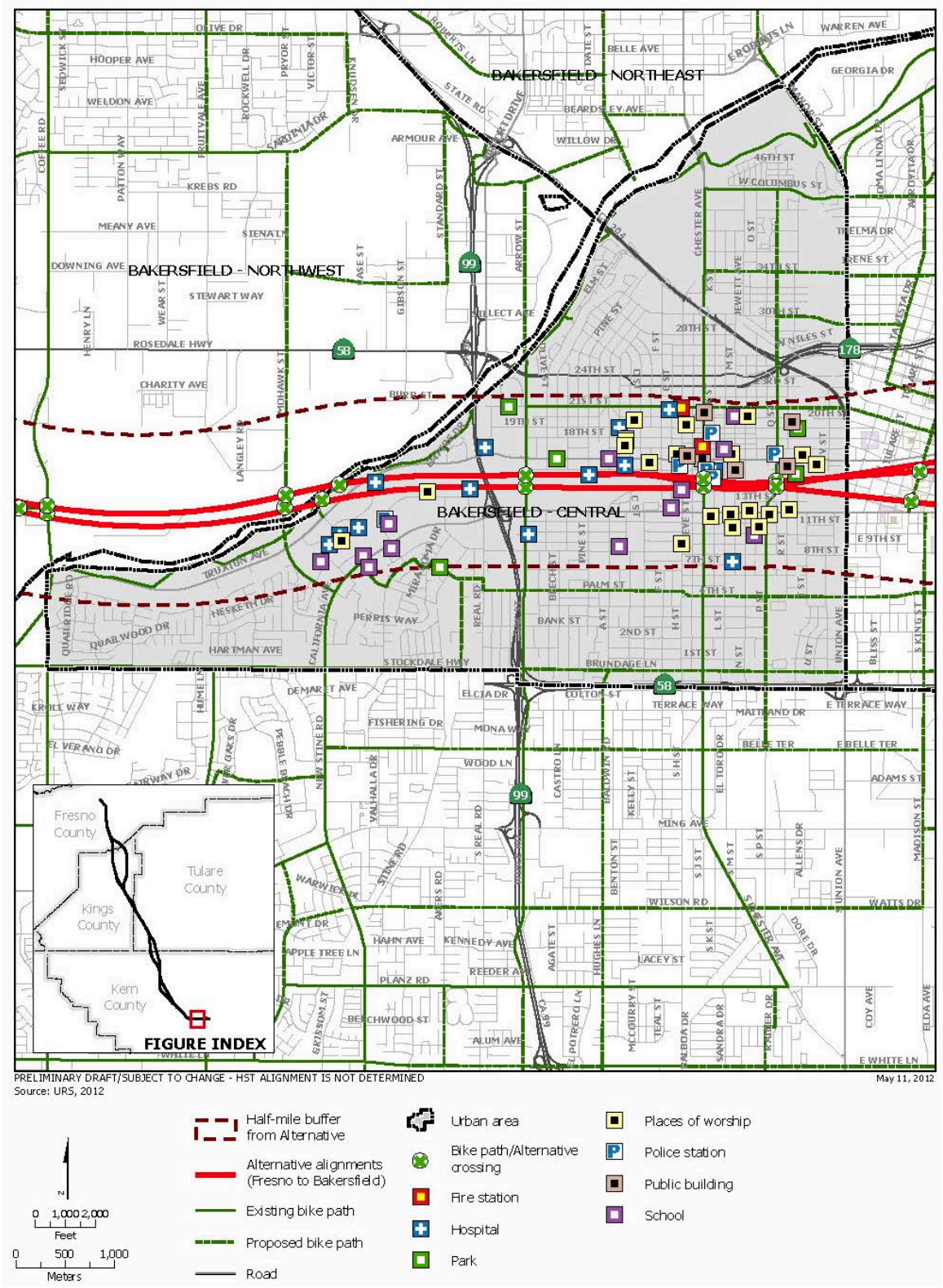

Figure B-66
City of Bakersfield Central District Facility Locations

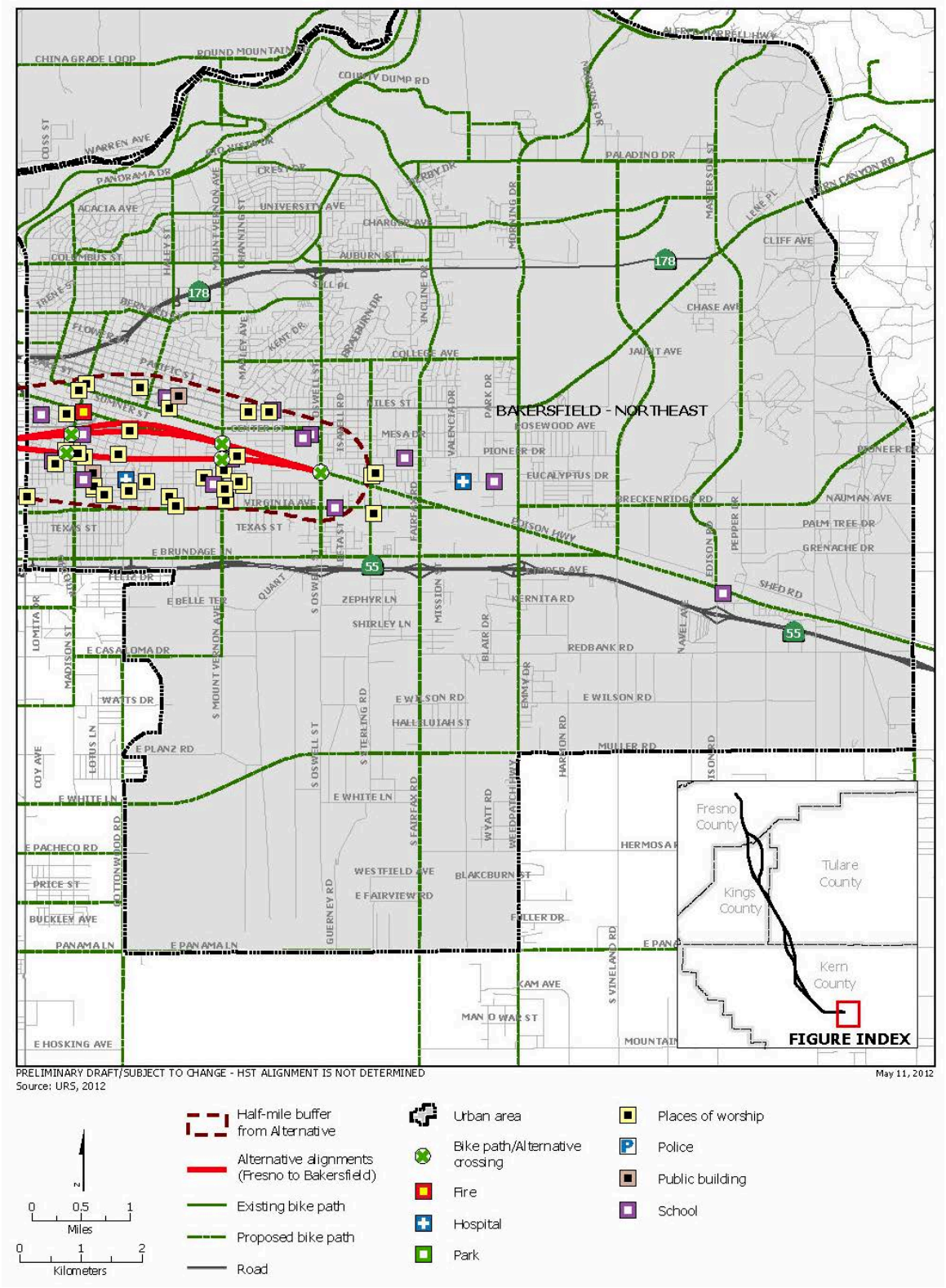

Figure B-67
City of Bakersfield Northeast District Facility Locations

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-174 provides a listing of these facilities within the study area.

Table B-174
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-174
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-175 provides a listing of these schools.

Table B-175
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

Table B-175
City of Bakersfield Schools

Facility Name	Location	Additional Details	District
Bethel Christian School	2236 E California Ave	Private	Northeast
Horace Mann Elementary School	2710 Niles St	Public	Northeast
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-176.

Table B-176
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

Table B-176
Religious Facilities in the City of Bakersfield

Facility Name	Location	Additional Details	District
Trinity Temple Church of God in Christ	1028 O St	Religious	Central
Bakersfield Muslim Center	1221 California Ave	Religious	Central
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

Table B-176
Religious Facilities in the City of Bakersfield

Facility Name	Location	Additional Details	District
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
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-177. Additional detailed park information can be found in the Park and Recreation section of the EIR/EIS.

Table B-177
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

Table B-177
Parks in the City of Bakersfield

Facility Name	Location	Additional Details	In Study Area?
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
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.			

B.14.1.8 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-178 contains a list of existing and proposed bicycle paths in Bakersfield, all or part of which are located within the study area.

Table B-178
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-178
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.15 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.15.1 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.15.2 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.15.3 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.15.4 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.15.5 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 in the northwest quadrant of the intersection of the Central Valley Highway and 7th Standard Road, just outside the Shafter city limits and approximately 5 miles northwest of Bakersfield. There are approximately 20 to 30 homes in the community and a large auto-wrecking operation to the north of the residential area. Within the community, one church facility houses the Pentecostal Church of God and the India Pentecostal Church, but the community has 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.

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Appendix C
Impacts to Agriculture Production

Table of Contents

Tables

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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

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Appendix C Impacts to Agricultural Production

The Central Valley of California is one of the most productive agricultural areas in the world. In 2007, the four counties in the project study area ranked first (Fresno), second (Tulare), third (Kern), and eighth (Kings) in agricultural revenues generated in California (California Department of Food and Agriculture 2010). The Fresno to Bakersfield Section of the California High-Speed Train System (project) will displace farmland and the associated crop and animal agriculture on farmland in this region. 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 affected. This analysis examines these two factors and estimates the amount of agricultural revenue and the number of agricultural jobs that would potentially be lost as a result of the displacement of agricultural production by the project alternatives.

The project will have negligible to moderate effects on the agricultural and livestock production in the four-county region. The analysis in this appendix provides these results by county and by project alternative in terms of acres of agricultural production lost and the resulting annual revenue loss—in both dollar and percent terms for each type of agricultural production—and employment loss.

C.1 Methodology

This analysis examines both the croplands and the animal operations that are affected along the project alignment alternatives. The estimated loss of revenue and jobs from crop production 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 *directly* affected within the project footprint and the additional land outside the footprint that is expected to be *indirectly* affected by the project. Specifically, direct effects occur within the footprint of the project (all land within 50 feet of the centerline of the HST track and all land used for ancillary facilities and road crossings) that would be directly affected by the project right-of-way (i.e., displaced by the project footprint). In some locations, the project footprint results in the creation of a landlocked portion of agricultural land between the project and the existing BNSF railroad corridor. At these locations, the project footprint is widened to include the landlocked area between the project and the BNSF railroad corridor as a direct effect. Indirect effects refer to the additional land lost to agricultural production from land required to create new access roads on the edge of reshaped agricultural parcels along the project right-of-way; this land is also included in the agricultural loss calculations.

Each animal operation affected by the project was examined to determine overall effects. The details on each operation are provided in Appendix 3.14-B of Section 3.14, Agricultural Lands, of this EIR/EIS. Relocation of facilities (e.g., animal housing, wastewater treatment lagoons) on an operation would have the potential to result in reduced production and a reduction in associated revenue and jobs. The project intends to relocate these facilities before removing existing facilities, so no loss in production is expected for the operations associated with this relocation. Also, croplands used for nutrient distribution (i.e., the application of manure to surrounding crop lands) for operations in Kings County were identified. Loss of these acres could lead to short-term disruption to animal operations in the county, and the resulting revenue and job effects associated with reductions in production are included in this analysis. In addition, all wastewater application parcels affected in Kings County were examined on a case-by-case basis; the details of the potential effects can be found in Appendix 3.14-B of Section 3.14, Agricultural Lands, of this EIR/EIS.

The methodologies are discussed below 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 represent the value of the agriculture displaced by the project and subsequently not relocated within the region. Therefore, when considering these losses, effects on prime farmland are identified as especially important, given the difficulty of relocating any prime farmland production.

C.1.1 Estimating the Value and Acreages of Crops

C.1.1.1 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. This production value is also dependent on crop location, because annual values differ across counties. For example, in 2007 and 2008 1 acre of alfalfa in Kern County generated an average of $1,596 per year, but a corresponding acre in Kings County generated an average of $1,164 per year (Kern County 2009; 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; Kern County 2009; Kings County 2009; Tulare 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. This method results in an average price between prime and non-prime land. In general, this method should not affect results, because most of the higher-value crop types are produced on prime farmland.

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 region and the California average, which is calculated from information given by the California Department of Food and Agriculture (California Department of Food and Agriculture 2010). 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 2010; 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 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 (Tulare County 2009). 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 gallons per day.[55] 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 (the necessary croplands for nutrient distribution and manure management).[56] Multiplying the dollar value of revenue generated per cow times the number of estimated cows supported by an acre yielded a value of $39,057. This value was similar to the value obtained using the other method described above and was used in the analysis.

The results of this analysis were a value for agricultural production per acre by county by crop. These estimated values per acre for each county are provided in Table C-1.

[55] Value determined from data provided in California Department of Food and Agriculture 2010.

[56] It is difficult to determine the exact number of cows supported by each acre of dairy production because the different scales of operations and types of manure management plans lead to a wide variation in estimates. The 10 cows per acre value was determined through interviews with experts and data obtained from Kings County showing estimated cows per acre for both facilities (38.6 cows per acre) and all manure acres (3.2 cows per acre) (Collar 2010; Edwards 2010; Higgenbotham 2010; Vanderburgh 2010). The intention of the project is to relocate all on-site facilities before removing existing facilities, so loss of facility acreage would not result in decreased production. Therefore, the 3.9 cows per acre value is more representative of the effects of this project on relocation of manure lands. Relocating these lands will take time, given the permitting process; therefore, these lands may not be replaced before project land acquisition. The 10 cows per acre value was used as a conservative estimate to avoid underestimating the value of production losses associated with relocated manure lands given differences in manure management plans across operations. Determination of this value is discussed again below in the acreages section.

Table C-1

Prices and Jobs per Acre by County for Agricultural Production Affected by the Project

Fresno County		Kings County		Tulare County		Kern County		All Counties	
Crop Type	**$/acre**	**Crop Type**	**$/acre**	**Crop Type**	**$/acre**	**Crop Type**	**$/acre**	**Crop Type**	**Job/ 1000 Acre**
Alfalfa	$1,372	Alfalfa	$1,164	Deciduous Nut Tree	$4,111	Alfalfa	$1,596	Oilseed and Grain	9
Almond	$4,650	Almond	$2,927	Vineyard	$6,989	Almond	$3,385	Vegetable and Melon	44
Apple	$12,156	Cherry*	$12,771	Unknown Ag Land	$1,849	Bean, Dry	$1,143	Berry Crop	1,105
Apricot	$7,381	Corn Fodder	$1,094	Dairy	$39,057	Carrot*	$7,396	Grape	69
Bean Suc Seed**	$9,815	Corn Grain	$874	Feedlot	$45,389	Cherry	$7,847	Tree Nut	20
Blueberry*	$21,660	Cotton	$1,711	Other Acreage	$0	Corn Fodder*	$1,020	Citrus fruit	31
Boysenberry*	$8,093	Grape	$3,496			Cotton	$1,876	Deciduous Fruit Tree	110
Cherry	$14,771	Nectarine	$8,174			Cucumber*	$4,042	Ornamental Nursery	1,105
Corn for Fodder	$1,110	Oat Fodder	$464			Garlic	$7,608	Cotton	19
Eggplant	$9,484	Oat Grain*	$405			Grape	$7,798	Other Field Crop	4
Fig*	$2,596	Pastureland	$13			Grape, Raisin	$2,348	Dairy Farm (& Feedlot)	171
Grape	$3,439	Peach	$8,285			Grape, Wine	$3,265	Unknown Ag Land	49
Grape, Raisin	$2,939	Pistachio	$13,728			Oat Fodder*	$491		
Grape, Wine	$3,656	Plum	$6,812			Oat Grain *	$491		
Nectarine	$8,464	Pomegranate*	$5,408			Onion, Dry	$3,246		
Onion, Processed	$4,151	Rye**	$679			Ornamental- Rose	$30,488		
Orange	$5,350	Ryegrass**	$679			Ornamental-Shrub	$29,147		

Table C-1

Prices and Jobs per Acre by County for Agricultural Production Affected by the Project

Fresno County		Kings County		Tulare County		Kern County		All Counties	
Crop Type	**$/acre**	**Crop Type**	**$/acre**	**Crop Type**	**$/acre**	**Crop Type**	**$/acre**	**Crop Type**	**Job/ 1000 Acre**
Pastureland	$8	Tomato, Processed	$3,015			Pastureland	$5		
Peach	$9,734	Walnut	$3,611			Pistachio	$4,814		
Peanut**	$5,788	Wheat Fodder	$589			Potato	$4,712		
Pear, Asian	$12,099	Wheat Grain	$568			Rape**	$715		
Plum	$7,520	Unknown Ag Land	$1,287			Sudan grass*	$405		
Prune	$4,042	Dairy	$39,057			Tomato, Processed*	$3,054		
Squash, Winter	$4,683	Feedlot	$45,389			Vegetable Seed, Misc	$3,419		
Walnut	$2,796	Other Acreage	$0			Walnut	$3,443		
Wheat for Fodder	$629					Wheat Fodder*	$591		
Unknown Ag Land	$2,002					Wheat Grain	$654		
Dairy	$39,057					Unknown Ag Land	$1,446		
Other Acreage	$0					Other Acreage	$0		

Sources:

[a] URS Corp analysis of data from the following sources, unless starred indicated with an asterisk (*): Fresno County 2009; Kern County 2009; Kings County 2009; Tulare County 2009.

[b] Job data from California Department of Food and Agriculture 2010; California Employment Development Department 2008; Dahlberg 2010.

Note: Crops with an asterisk (*) did not have a specific dollar per acre value listed in the respective county's *2009 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 2010. 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 **.

Note that the "Other Acreage" crop type is nonagricultural land and therefore generates a price of $0 per acre in all counties.

C.1.1.2 Acreages

In addition to estimating the price per acre 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 (California Department of Water Resources 2000; Kern County 2008; Kings County 2010; Tulare County 2010). 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), but the acreage is still useful productive farmland that needs to be accounted for if it is permanently taken out of production. 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," which means that it is potentially productive agricultural land but the crop type is unknown. The dollar value for this unknown crop type had to be estimated for these newly identified 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. Again, this was done to avoid underestimating revenues generated on agricultural lands. Overall, the use of these two databases allowed for the analysis to be as complete as possible. When conflicts in these two 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.

In some cases, certain parcels were identified as having more than one crop type. When multiple crops were identified, this analysis assumed the acreage was evenly split between the various crop types.

Another agricultural use considered in this analysis was "pastureland," or 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 grazing value information found in the various 2008 County Agricultural Crop Reports (Fresno County 2009; Kern County 2009; Tulare 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 acreage," 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 California Department of Food and Agriculture (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 the number of cows per dairy depended mostly 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, other experts 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 croplands for application. 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 (California Department of Food and Agriculture 2010; Tulare County 2010). 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). The intention of the project is to relocate all onsite facilities before removing existing facilities so that the loss of facility acreage would not result in decreased production. Therefore, the 3.2 cows per acre value is more representative of the effects of this project on relocation of manure lands. The 10.3 cows per acre value from Tulare County was used as a conservative estimate (i.e., larger than the 3.2 cows per acre estimate from the Kings County data) to avoid underestimating the value of production losses associated with relocated manure lands given differences in manure management plans across operations.

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 2010). Milk prices have fluctuated in recent years. Data from 2007 and 2008 were used to generate a weighted average for the four counties of $0.172 per pound (Fresno County 2009; Kern County 2009; Tulare County 2009). Using this estimate, the annual revenue for dairy farms from milk and milk products is estimated at $39,057 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 for the largest and most intensive operations

(Crumb 2010; Edwards 2010). These estimates suggest that our estimated value of $39,057 per acre is a good intermediate estimate of value for the range of different size operations affected by this project.

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 2010). 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

Agricultural land type is a key component in estimating total agricultural loss due to displaced farmland. Specifically, any agricultural production on prime farmland is difficult to relocate inside the region because this land type is limited.

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 important, but it is not as productive as prime over the longer term and production is potentially more easily relocated than is production on 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 identify the types of agricultural land within the potential impact area (California Department of Water Resources 2000; California State Department of Conservation 2007; Kern County 2009; Kings County 2010; Tulare County 2010). As an example, the number of acres of alfalfa within the project footprint in Fresno County was identified and further differentiated into prime and non-prime acres. The different crop types and livestock operations within the potential impact area are shown on Figures C-1 and C-2 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).[57]

The project would affect agricultural production in different ways, depending on the type of land acquired. All of the agricultural production directly affected within the project footprint, which includes the track bed, all associated facilities, and any landlocked agricultural land between the project and the existing railroad right-of-way, will be displaced. It is assumed that all (100%) of the prime farmland directly displaced by the project will not be able to be relocated and is therefore lost to the region. This assumption reflects the high long-term productivity of prime farmland and the limited prime farmland acreage available in the region. Also, half (50%) of all

[57] Figures C-1 and C-2 provide a brief overview of the various types of agricultural production potentially affected by the project within the footprint and 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.

non-prime farmland that is directly displaced by the footprint is assumed to be lost to the region. This lower percentage of the lost land reflects the higher probability that some of the lower-production non-prime farmland can be relocated inside the region through increased production on existing acres.

Other land would be indirectly affected by the project and lost to agricultural production. Indirectly affected land would include land that is required to create new access roads on the edges of reshaped agricultural parcels. It is not possible to know exactly where these access roads would be located, because no footprint exists for their design. Such determinations would be made during the land acquisition portion of the project. However, it can be assumed that these roads would be constructed within 500 feet of the project. Also, it is assumed that along the approximately 90 miles of the project that crosses agricultural lands, such 25-foot-wide access roads on either side of the project would require approximately an additional 16% of all the land within this 500-foot buffer that is outside of the land directly affected by the project footprint. Again, it is assumed that 100% of the prime farmland and 50% of the non-prime farmland indirectly affected by the project is lost to the region. Tables C2 through C14 provide the total number of acres in the footprint (direct) and within the 500-foot buffer and outside the footprint (indirect) that would be displaced by the project as well as the corresponding production lost on both the prime and the non-prime acreages. The data in these tables were streamlined for presentation to include only the crop types having at least 1 acre of aggregated displaced land along the entire project, because less than 1 acre in total for the entire region was considered to be a negligible effect. Although crops that total less than 1 acre are not presented, they are still included in the results that quantify the total acres displaced, the total acres lost, the total estimated revenue lost, and the number of jobs lost.

The determination of the displacement of livestock production acreage required a different methodology from that used to determine the displacement of cultivated cropland. 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 were identified.[58] Each parcel was then evaluated individually. See Appendix 3.14-B for a listing of all affected animal operations.

Although no relocation of animal operations would be expected along the BNSF Alternative, the project would affect facilities on some operations and reduce the productive area of the affected farms and surrounding croplands specifically required for nutrient distribution. Effects on animal operations facilities (e.g., animal housing, wastewater treatment lagoons) were not considered in this analysis because it is the intention of the project to relocate such facilities on animal operations before removing existing facilities, and therefore no reductions in production are expected. However, acres relocated for manure management were considered to result in reductions.

Due to difficulties in relocating displaced production for livestock, the analysis conservatively assumed 100% of these displaced acres would not be relocated immediately. The permitting process for these lands is difficult for these types of operations due to environmental concerns. However, this effect on lands for nutrient distribution is assumed to be a short-term effect because even though it would take time to find replacement lands for nutrient distribution, it is assumed this land would eventually be replaced. Acreage displaced for nutrient distribution is

[58] 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 of an operation to the project is assumed not to affect production on that operation. Potential noise effects to animal operations are recognized; these effects are discussed in Section 3.14, Agricultural Lands, of the EIR/EIS.

treated similar to prime farmland, and it is therefore assumed that 100% of production is lost 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 2010). 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. See details below on this further analysis for this sector.

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 other 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 agricultural crop 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 greatest 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-2 through C-14; these locations and acreages provide the maximum value results.[59]

C.2 Results

Tables C-2 through C-14 provide estimates of how the project will impact Fresno, Kings, Tulare, and Kern 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 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 displacements, including crop types 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 the region). 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 the county" does not include indirect lost sales due to reductions in associated sectors such as livestock treatment and equipment purchase. The "estimated job loss in the county" was calculated using the jobs per acre values discussed in Section C.1.4. These values provide an estimate of expected job loss from the associated reduction in agricultural 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).

[59] The "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).

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 Hanford West Bypass 1 and 2 alternatives (both alternatives have at-grade and below-grade options), the Corcoran Elevated and Corcoran Bypass alternatives, the Allensworth Bypass Alternative, and the Wasco-Shafter Bypass Alternative. Negligible, if any, amounts of crop and livestock production occur within the city of Bakersfield, so the total effect and any difference in effect between the Bakersfield South and Bakersfield Hybrid alternatives 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.

The proposed location for the Kings County–Hanford HMF facility, separate from the right-of-way associated with the BNSF Alternative, would acquire around 300 acres that are currently used by local animal operations for nutrient distribution in the Hanford area. Although no dairy facilities would be directly affected, loss of this acreage and the resulting decreases in production are an important consideration because it would take time to find replacement lands.

Table C-2
Fresno County: BNSF Alternative

Non-Prime	Acres Displaced			Prime	Acres Displaced			BNSF Alternative					
Crop Type	Footprint	500′ from Footprint		Crop Type	Footprint	500′ from Footprint		Crop Type	Acres Displaced	Acres Lost	% of Entire County Crop Lost[#]	Estimated Revenue Loss in County	Estimated Job Loss in County
Alfalfa	9	57		Alfalfa	4	75		Alfalfa	147	30	0.0%	$41,676	0.1
Almond	12	79		Almond	53	125		Almond	269	92	0.1%	$427,751	1.8
Apple	0	0		Apple	0	0		Apple	0	0	0.0%	$-	0.0
Apricot	0	5		Apricot	0	7		Apricot	12	2	0.1%	$15,456	0.2
Bean Suc Seed**	0	0		Bean Suc Seed**	0	0		Bean Suc Seed**	0	0		$-	0.0
Blueberry*	0	0		Blueberry*	1	8		Blueberry*	8	2		$43,384	2.2
Boysenberry*	0	0		Boysenberry*	0	3		Boysenberry*	3	0		$3,959	0.5
Cherry	0	2		Cherry	0	3		Cherry	5	1	0.0%	$14,780	0.1
Corn for Fodder	40	24		Corn for Fodder	36	42		Corn for Fodder	142	67	0.2%	$74,104	0.3
Eggplant	0	1		Eggplant	0	0		Eggplant	1	0	0.0%	$764	0.0
Fig*	0	0		Fig*	0	0		Fig*	0	0		$-	0.0
Grape	44	139		Grape	19	144		Grape	345	86	0.0%	$295,446	5.9
Grape, Raisin	40	136		Grape, Raisin	135	530		Grape, Raisin	840	262	0.2%	$768,989	18.0
Grape, Wine	4	26		Grape, Wine	8	48		Grape, Wine	85	22	0.1%	$79,135	1.5
Nectarine	0	3		Nectarine	2	49		Nectarine	53	10	0.1%	$83,360	1.1
Onion, Processed	0	0		Onion, Processed	0	0		Onion, Processed	0	0	0.0%	$-	0.0
Orange	0	0		Orange	0	9		Orange	10	2	0.0%	$8,484	0.0
Pastureland	0	0		Pastureland	0	0		Pastureland	0	0	0.0%	$-	0.0
Peach	6	4		Peach	12	80		Peach	102	28	0.1%	$270,620	3.1
Peanut**	0	0		Peanut**	0	0		Peanut**	0	0		$-	0.0
Pear, Asian	0	0		Pear, Asian	0	0		Pear, Asian	0	0	0.0%	$-	0.0
Plum	1	13		Plum	2	26		Plum	43	9	0.1%	$66,812	1.0
Prune	0	0		Prune	1	6		Prune	6	2	0.1%	$6,238	0.2
Squash, Winter	0	0		Squash, Winter	1	13		Squash, Winter	14	3	0.4%	$16,224	0.2

Table C-2
Fresno County: BNSF Alternative

Non-Prime	Acres Displaced			Prime	Acres Displaced			BNSF Alternative					
Crop Type	Footprint	500′ from Footprint		Crop Type	Footprint	500′ from Footprint		Crop Type	Acres Displaced	Acres Lost	% of Entire County Crop Lost[#]	Estimated Revenue Loss in County	Estimated Job Loss in County
Walnut	1	15		Walnut	0	0		Walnut	16	3	0.1%	$8,588	0.1
Wheat for Fodder	40	22		Wheat for Fodder	36	30		Wheat for Fodder	127	64	0.1%	$40,390	0.3
Unknown Ag Land	203	532		Unknown Ag Land	707	876		Unknown Ag Land	2318	1033		$2,068,994	50.5
Dairy				Dairy	14			Dairy	14	14	0	$552,045	2.4
Other Acreage**	425	1171		Other Acreage**	0	1		Other Acreage**	1597	0		$0	0
Sum Non Prime	**399**	**1059**		**Sum Prime**	**973**	**1851**		**Total**	**4562**	**1732**	**0**	**$4,888,636**	**90**

Sources: URS analysis of the following: California Department of Food and Agriculture 2010; California Department of Water Resources 2000; California Employment Development Department 2008; California State Department of Conservation 2009; Fresno County 2009.

* 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 2010.

** 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, 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-3
Fresno County: Total Change and Change Relative to BNSF Alternative for Hanford West Bypass 1 At-Grade and Below-Grade Alternatives

Fresno County	Hanford West Bypass 1 At-Grade					Comparison to BNSF Alternative					Hanford West Bypass 1 Below-Grade					Comparison to BNSF Alternative				
Crop Type	Acres Displaced	Acres Lost	% of Entire County Crop Lost#	Estimated Revenue Loss in County	Estimated Job Loss in County	Δ Acres Displaced	Δ Acres Lost	Δ % of Entire County Crop Lost#	Δ Estimated Revenue Loss in County	Δ Estimated Job Loss in County	Acres Displaced	Acres Lost	% of Entire County Crop Lost#	Estimated Revenue Loss in County	Estimated Job Loss in County	Δ Acres Displaced	Δ Acres Lost	Δ % of Entire County Crop Lost#	Δ Estimated Revenue Loss in County	Δ Estimated Job Loss in County
Alfalfa	103	25	0.0%	$33,858	0.1	-7	1	0.0%	$773	0.0	103	25	0.0%	$33,858	0.1	-7	1	0.0%	$773	0.0
Almond	124	41	0.0%	$191,210	0.8	-78	-18	0.0%	$(85,391)	-0.4	124	41	0.0%	$191,210	0.8	-78	-18	0.0%	$(85,391)	-0.4
Apple	6	3	0.3%	$31,497	0.3	6	3	0.3%	$31,497	0.3	6	3	0.3%	$31,497	0.3	6	3	0.3%	$31,497	0.3
Apricot	2	0	0.0%	$3,602	0.1	2	0	0.0%	$3,602	0.1	2	0	0.0%	$3,602	0.1	2	0	0.0%	$3,602	0.1
Bean Suc Seed**	11	2		$20,057	0.1	11	2		$20,057	0.1	11	2		$20,057	0.1	11	2		$20,057	0.1
Blueberry*	0	0		$-	0.0	0	0		$-	0.0	0	0		$-	0.0	0	0		$-	0.0
Boysenberry*	0	0		$-	0.0	0	0		$-	0.0	0	0		$-	0.0	0	0		$-	0.0
Cherry	1	0	0.0%	$3,353	0.0	1	0	0.0%	$3,353	0.0	1	0	0.0%	$3,353	0.0	1	0	0.0%	$3,353	0.0
Corn for Fodder	44	14	0.0%	$15,298	0.1	-98	-53	-0.1%	$(58,805)	-0.2	44	14	0.0%	$15,298	0.1	-98	-53	-0.1%	$(58,805)	-0.2
Eggplant	1	0	0.0%	$3,121	0.0	1	0	0.0%	$3,121	0.0	1	0	0.0%	$3,121	0.0	1	0	0.0%	$3,121	0.0
Fig*	1	0		$707	0.0	1	0		$707	0.0	1	0		$707	0.0	1	0		$707	0.0
Grape	0	0	0.0%	$-	0.0	-261	-66	0.0%	$(226,562)	-4.5	0	0	0.0%	$-	0.0	-261	-66	0.0%	$(226,562)	-4.5
Grape, Raisin	109	24	0.0%	$69,788	1.6	-87	-20	0.0%	$(58,075)	-1.4	109	24	0.0%	$69,788	1.6	-87	-20	0.0%	$(58,075)	-1.4
Grape, Wine	7	1	0.0%	$3,941	0.1	-37	-9	0.0%	$(33,523)	-0.6	7	1	0.0%	$3,941	0.1	-37	-9	0.0%	$(33,523)	-0.6
Nectarine	66	16	0.1%	$131,962	1.7	15	6	0.0%	$50,940	0.7	66	16	0.1%	$131,962	1.7	15	6	0.0%	$50,940	0.7
Onion, Processed	1	0	0.0%	$895	0.0	1	0	0.0%	$895	0.0	1	0	0.0%	$895	0.0	1	0	0.0%	$895	0.0
Orange	0	0	0.0%	$-	0.0	0	0	0.0%	$-	0.0	0	0	0.0%	$-	0.0	0	0	0.0%	$-	0.0
Pastureland	17	4	0.0%	$29	0.0	17	4	0.0%	$29	0.0	17	4	0.0%	$29	0.0	17	4	0.0%	$29	0.0
Peach	40	14	0.1%	$132,879	1.5	-54	-13	-0.1%	$(124,223)	-1.4	40	14	0.1%	$132,879	1.5	-54	-13	-0.1%	$(124,223)	-1.4
Peanut**	1	0		$1,182	0.0	1	0		$1,182	0.0	1	0		$1,182	0.0	1	0		$1,182	0.0
Pear, Asian	2	0	0.0%	$5,767	0.1	2	0	0.0%	$5,767	0.1	2	0	0.0%	$5,767	0.1	2	0	0.0%	$5,767	0.1
Plum	74	19	0.1%	$140,220	2.1	48	13	0.1%	$96,756	1.4	74	19	0.1%	$140,220	2.1	48	13	0.1%	$96,756	1.4

Table C-3
Fresno County: Total Change and Change Relative to BNSF Alternative for Hanford West Bypass 1 At-Grade and Below-Grade Alternatives

Fresno County	Hanford West Bypass 1 At-Grade					Comparison to BNSF Alternative					Hanford West Bypass 1 Below-Grade					Comparison to BNSF Alternative				
Crop Type	Acres Displaced	Acres Lost	% of Entire County Crop Lost[#]	Estimated Revenue Loss in County	Estimated Job Loss in County	Δ Acres Displaced	Δ Acres Lost	Δ % of Entire County Crop Lost[#]	Δ Estimated Revenue Loss in County	Δ Estimated Job Loss in County	Acres Displaced	Acres Lost	% of Entire County Crop Lost[#]	Estimated Revenue Loss in County	Estimated Job Loss in County	Δ Acres Displaced	Δ Acres Lost	Δ % of Entire County Crop Lost[#]	Δ Estimated Revenue Loss in County	Δ Estimated Job Loss in County
Prune	36	8	0.3%	$33,147	0.9	29	7	0.2%	$26,910	0.7	36	8	0.3%	$33,148	0.9	29	7	0.2%	$26,910	0.7
Squash, Winter	12	2	0.2%	$9,986	0.1	-2	-1	-0.1%	$(6,238)	-0.1	12	2	0.2%	$9,986	0.1	-2	-1	-0.1%	$(6,238)	-0.1
Walnut	25	8	0.1%	$23,348	0.2	9	5	0.1%	$14,760	0.1	25	8	0.1%	$23,348	0.2	9	5	0.1%	$14,760	0.1
Wheat for Fodder	21	9	0.0%	$5,556	0.0	-102	-55	-0.1%	$(34,503)	-0.2	21	9	0.0%	$5,556	0.0	-102	-55	-0.1%	$(34,503)	-0.2
Unknown Ag Land	561	132		$264,783	6.5	-115	-96		$(192,511)	-4.7	569	134		$267,573	6.5	-106	-95		$(189,722)	-4.6
Dairy	0	0	0.0%	$-	0.0	-14	-14	-0.1%	$(552,045)	-2.4	0	0	0.0%	$-	0.0	-14	-14	-0.1%	$(552,045)	-2.4
Other Acreage[##]	90	0		$-	0.0	-15	0		$-	0.0	81	0		$-	0.0	-24	0		$-	0.0
Total	1263	322	0.0%	**$1,126,187**	**16**	-713	-304	0.0%	**$(1,112,965)**	**-12**	1272	324	0.0%	**$1,128,978**	**16**	-705	-302	0.0%	**$(1,110,175)**	**-12**

Sources: URS analysis of the following: Fresno County 2009; California State Department of Conservation 2009; California Department of Water Resources 2000; California Employment Development Department 2008; California Department of Food and Agriculture 2010.

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 2010.

* 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, 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

Fresno County: Total Change and Change Relative to BNSF Alternative for Hanford West Bypass 2 At-Grade and Below-Grade Alternatives

Fresno County	Hanford West Bypass 2 At-Grade					Comparison to BNSF Alternative					Hanford West Bypass 2 Below-Grade					Comparison to BNSF Alternative				
Crop Type	Acres Displaced	Acres Lost	% of Entire County Crop Lost#	Estimated Revenue Loss in County	Estimated Job Loss in County	Δ Acres Displaced	Δ Acres Lost	Δ % of Entire County Crop Lost#	Δ Estimated Revenue Loss in County	Δ Estimated Job Loss in County	Acres Displaced	Acres Lost	% of Entire County Crop Lost#	Estimated Revenue Loss in County	Estimated Job Loss in County	Δ Acres Displaced	Δ Acres Lost	Δ % of Entire County Crop Lost#	Δ Estimated Revenue Loss in County	Δ Estimated Job Loss in County
Alfalfa	103	25	0.0%	$33,858	0.1	-7	1	0.0%	$773	0.0	103	25	0.0%	$33,858	0.1	-7	1	0.0%	$773	0.0
Almond	124	41	0.0%	$191,208	0.8	-78	-18	0.0%	$(85,393)	-0.4	124	41	0.0%	$191,210	0.8	-78	-18	0.0%	$(85,391)	-0.4
Apple	6	3	0.3%	$31,497	0.3	6	3	0.3%	$31,497	0.3	6	3	0.3%	$31,497	0.3	6	3	0.3%	$31,497	0.3
Apricot	2	0	0.0%	$3,602	0.1	2	0	0.0%	$3,602	0.1	2	0	0.0%	$3,602	0.1	2	0	0.0%	$3,602	0.1
Bean Suc Seed**	11	2		$20,057	0.1	11	2		$20,057	0.1	11	2		$20,057	0.1	11	2		$20,057	0.1
Blueberry*	0	0		$-	0.0	0	0		$-	0.0	0	0		$-	0.0	0	0		$-	0.0
Boysenberry*	0	0		$-	0.0	0	0		$-	0.0	0	0		$-	0.0	0	0		$-	0.0
Cherry	1	0	0.0%	$3,353	0.0	1	0	0.0%	$3,353	0.0	1	0	0.0%	$3,353	0.0	1	0	0.0%	$3,353	0.0
Corn for Fodder	44	14	0.0%	$15,298	0.1	-98	-53	-0.1%	$(58,805)	-0.2	44	14	0.0%	$15,298	0.1	-98	-53	-0.1%	$(58,805)	-0.2
Eggplant	1	0	0.0%	$3,121	0.0	1	0	0.0%	$3,121	0.0	1	0	0.0%	$3,121	0.0	1	0	0.0%	$3,121	0.0
Fig*	1	0		$707	0.0	1	0		$707	0.0	1	0		$707	0.0	1	0		$707	0.0
Grape	0	0	0.0%	$-	0.0	-261	-66	0.0%	$(226,562)	-4.5	0	0	0.0%	$-	0.0	-261	-66	0.0%	$(226,562)	-4.5
Grape, Raisin	109	24	0.0%	$69,788	1.6	-87	-20	0.0%	$(58,075)	-1.4	109	24	0.0%	$69,788	1.6	-87	-20	0.0%	$(58,075)	-1.4
Grape, Wine	7	1	0.0%	$3,933	0.1	-37	-9	0.0%	$(33,531)	-0.6	7	1	0.0%	$3,941	0.1	-37	-9	0.0%	$(33,523)	-0.6
Nectarine	66	16	0.1%	$131,962	1.7	15	6	0.0%	$50,940	0.7	66	16	0.1%	$131,959	1.7	15	6	0.0%	$50,937	0.7
Onion, Processed	1	0	0.0%	$895	0.0	1	0	0.0%	$895	0.0	1	0	0.0%	$895	0.0	1	0	0.0%	$895	0.0
Orange	0	0	0.0%	$-	0.0	0	0	0.0%	$-	0.0	0	0	0.0%	$-	0.0	0	0	0.0%	$-	0.0
Pastureland	17	4	0.0%	$29	0.0	17	4	0.0%	$29	0.0	17	4	0.0%	$29	0.0	17	4	0.0%	$29	0.0
Peach	40	14	0.1%	$132,879	1.5	-54	-13	-0.1%	$(124,223)	-1.4	40	14	0.1%	$132,880	1.5	-54	-13	-0.1%	$(124,222)	-1.4
Peanut**	1	0		$1,182	0.0	1	0		$1,182	0.0	1	0		$1,182	0.0	1	0		$1,182	0.0
Pear, Asian	2	0	0.0%	$5,767	0.1	2	0	0.0%	$5,767	0.1	2	0	0.0%	$5,767	0.1	2	0	0.0%	$5,767	0.1
Plum	74	19	0.1%	$140,220	2.1	48	13	0.1%	$96,756	1.4	74	19	0.1%	$140,220	2.1	48	13	0.1%	$96,756	1.4

Table C-4

Fresno County: Total Change and Change Relative to BNSF Alternative for Hanford West Bypass 2 At-Grade and Below-Grade Alternatives

Fresno County	Hanford West Bypass 2 At-Grade					Comparison to BNSF Alternative					Hanford West Bypass 2 Below-Grade					Comparison to BNSF Alternative				
Crop Type	Acres Displaced	Acres Lost	% of Entire County Crop Lost[#]	Estimated Revenue Loss in County	Estimated Job Loss in County	Δ Acres Displaced	Δ Acres Lost	Δ % of Entire County Crop Lost[#]	Δ Estimated Revenue Loss in County	Δ Estimated Job Loss in County	Acres Displaced	Acres Lost	% of Entire County Crop Lost[#]	Estimated Revenue Loss in County	Estimated Job Loss in County	Δ Acres Displaced	Δ Acres Lost	Δ % of Entire County Crop Lost[#]	Δ Estimated Revenue Loss in County	Δ Estimated Job Loss in County
Prune	36	8	0.3%	$33,148	0.9	29	7	0.2%	$26,910	0.7	36	8	0.3%	$33,148	0.9	29	7	0.2%	$26,911	0.7
Squash, Winter	12	2	0.2%	$9,986	0.1	-2	-1	-0.1%	$(6,238)	-0.1	12	2	0.2%	$9,986	0.1	-2	-1	-0.1%	$(6,238)	-0.1
Walnut	25	8	0.1%	$23,348	0.2	9	5	0.1%	$14,760	0.1	25	8	0.1%	$23,348	0.2	9	5	0.1%	$14,760	0.1
Wheat for Fodder	21	9	0.0%	$5,556	0.0	-102	-55	-0.1%	$(34,503)	-0.2	21	9	0.0%	$5,556	0.0	-102	-55	-0.1%	$(34,503)	-0.2
Unknown Ag Land	569	134		$267,574	6.5	-106	-95		$(189,721)	-4.6	569	134		$267,574	6.5	-106	-95		$(189,721)	-4.6
Dairy	0	0	0.0%	$-	0.0	-14	-14	-0.1%	$(552,045)	-2.4	0	0	0.0%	$-	0.0	-14	-14	-0.1%	$(552,045)	-2.4
Other Acreage[##]	81	0		$-	0.0	-24	0		$-	0.0	81	0		$-	0.0	-24	0		$-	0.0
Total	1272	324	0.0%	**$1,128,970**	**16**	-705	-302	0.0%	**$(1,110,184)**	**-12**	1272	324	0.0%	**$1,128,978**	**16**	-705	-302	0.0%	**$(1,110,175)**	**-12**

Sources: URS analysis of the following: Fresno County 2009; California State Department of Conservation 2009; California Department of Water Resources 2000; California Employment Development Department 2008; California Department of Food and Agriculture 2010.
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 2010.
** 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, 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-5
Kings County: BNSF Alternative

Non-Prime	Acres Displaced		Prime	Acres Displaced		BNSF Alternative					
Crop Type	Footprint	500′ from Footprint	Crop Type	Footprint	500′ from Footprint	Crop Type	Acres Displaced	Acres Lost	% of Entire County Crop Lost[#]	Estimated Revenue Loss in County	Estimated Job Loss in County
Alfalfa	281	477	Alfalfa	20	54	Alfalfa	832	245	0.3%	$285,343	1.0
Almond	7	46	Almond	4	25	Almond	82	19	0.1%	$56,373	0.4
Cherry*	0	0	Cherry*	8	59	Cherry*	67	17		$217,845	1.9
Corn Fodder	65	181	Corn Fodder	35	102	Corn Fodder	383	112	0.2%	$123,084	0.5
Corn Grain	4	31	Corn Grain	0	0	Corn Grain	34	7	0.2%	$5,877	0.1
Cotton	42	238	Cotton	3	6	Cotton	289	63	0.1%	$107,430	1.2
Grape	0	0	Grape	1	8	Grape	10	3	0.0%	$9,465	0.2
Nectarine	0	0	Nectarine	8	9	Nectarine	17	9	0.3%	$74,310	1.0
Oat Fodder	4	18	Oat Fodder	1	2	Oat Fodder	25	6	0.2%	$2,880	0.0
Oat Grain*	3	19	Oat Grain*	0	0	Oat Grain*	22	4		$1,801	0.0
Pastureland	54	112	Pastureland	0	0	Pastureland	165	45	0.0%	$559	0.0
Peach	2	22	Peach	0	2	Peach	26	5	0.1%	$39,359	0.5
Pistachio	0	27	Pistachio	0	6	Pistachio	33	5	0.0%	$73,408	0.1
Plum	0	7	Plum	0	0	Plum	7	1	0.0%	$8,080	0.1
Pomegranate*	0	0	Pomegranate*	0	1	Pomegranate*	1	0		$530	0.0
Rye**	0	2	Rye**	0	0	Rye**	2	0		$206	0.0
Ryegrass**	0	14	Ryegrass**	0	0	Ryegrass**	14	2		$1,535	0.0
Tomato, Processed	0	0	Tomato, Processed	6	14	Tomato, Processed	20	8	0.0%	$24,647	0.4
Walnut	0	19	Walnut	22	93	Walnut	135	40	0.3%	$144,172	0.8
Wheat Fodder	17	51	Wheat Fodder	0	0	Wheat Fodder	68	17	0.0%	$9,888	0.1
Wheat Grain	0	15	Wheat Grain	0	5	Wheat Grain	20	3	0.0%	$1,934	0.0
Unknown Ag Land	680	1296	Unknown Ag Land	225	632	Unknown Ag Land	2833	874		$1,124,507	42.7
Dairy	0	0	Dairy	185	0	Dairy	185	185	1.1%	$7,216,143	31.7

Table C-5
Kings County: BNSF Alternative

Non-Prime	Acres Displaced			Prime	Acres Displaced			BNSF Alternative					
Crop Type	Footprint	500′ from Footprint		Crop Type	Footprint	500′ from Footprint		Crop Type	Acres Displaced	Acres Lost	% of Entire County Crop Lost[#]	Estimated Revenue Loss in County	Estimated Job Loss in County
Feedlot	0	0		Feedlot	3	0		Feedlot	3	3	0.1%	$152,199	0.6
Other Acreage[##]	297	1027		Other	0	0		Other	1325	0		$-	0.0
Sum Non-Prime	**1160**	**2575**		**Sum Prime**	**520**	**1018**		**Total**	**5273**	**1675**	**0.5%**	**$9,681,575**	**83**

Sources: URS analysis of the following: California Department of Food and Agriculture 2010; California Employment Development Department 2008; California State Department of Conservation 2009; Kings County 2009, 2010.
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.
** No specific values were available in any of the counties; the average value for the miscellaneous crop type for Kings 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” or “Acres Displaced” columns.
ag = agricultural
BNSF = BNSF Railway

Table C-6
Kings County: Total Change and Change Relative to BNSF Alternative for Hanford West Bypass 1 At-Grade and Below-Grade Alternatives

Kings County	Hanford West Bypass 1 At-Grade					Comparison to BNSF Alternative					Hanford West Bypass 1 Below-Grade					Comparison to BNSF Alternative				
Crop Type	Acres Displaced	Acres Lost	% of Entire County Crop Lost#	Estimated Revenue Loss in County	Estimated Job Loss in County	Δ Acres Displaced	Δ Acres Lost	Δ % of Entire County Crop Lost#	Δ Estimated Revenue Loss in County	Δ Estimated Job Loss in County	Acres Displaced	Acres Lost	% of Entire County Crop Lost#	Estimated Revenue Loss in County	Estimated Job Loss in County	Δ Acres Displaced	Δ Acres Lost	Δ % of Entire County Crop Lost#	Δ Estimated Revenue Loss in County	Δ Estimated Job Loss in County
Alfalfa	425	98	0.1%	$114,409	0.4	-334	-133	-0.2%	$(154,597)	-0.6	425	98	0.1%	$114,409	0.4	-334	-133	-0.2%	$(154,597)	-0.6
Almond	39	16	0.1%	$46,670	0.3	-43	-3	0.0%	$(9,704)	-0.1	39	16	0.1%	$46,670	0.3	-43	-3	0.0%	$(9,704)	-0.1
Cherry*	0	0		$-	0.0	-67	-17		$(217,845)	-1.9	0	0		$-	0.0	-67	-17		$(217,845)	-1.9
Corn Fodder	363	118	0.2%	$128,690	0.5	-20	5	0.0%	$5,606	0.0	355	119	0.2%	$130,468	0.5	-28	7	0.0%	$7,384	0.0
Corn Grain	0	0	0.0%	$-	0.0	-34	-7	-0.2%	$(5,877)	-0.1	0	0	0.0%	$-	0.0	-34	-7	-0.2%	$(5,877)	-0.1
Cotton	20	3	0.0%	$5,346	0.1	-269	-60	-0.1%	$(102,085)	-1.1	20	3	0.0%	$5,346	0.1	-269	-60	-0.1%	$(102,085)	-1.1
Grape	0	0	0.0%	$-	0.0	-10	-3	0.0%	$(9,465)	-0.2	0	0	0.0%	$-	0.0	-10	-3	0.0%	$(9,465)	-0.2
Nectarine	0	0	0.0%	$-	0.0	-17	-9	-0.3%	$(74,310)	-1.0	0	0	0.0%	$-	0.0	-17	-9	-0.3%	$(74,310)	-1.0
Oat Fodder	86	20	0.7%	$9,364	0.1	68	15	0.5%	$7,001	0.1	81	19	0.7%	$8,690	0.1	63	14	0.5%	$6,327	0.1
Oat Grain*	0	0		$-	0.0	0	0		$-	0.0	0	0		$-	0.0	0	0		$-	0.0
Pastureland	140	38	0.0%	$473	0.0	133	36	0.0%	$455	0.0%	141	38	0.0%	$475	0.0	134	36	0.0%	$456	0.0
Peach	0	0	0.0%	$-	0.0	-26	-5	-0.1%	$(39,359)	-0.5	0	0	0.0%	$-	0.0	-26	-5	-0.1%	$(39,359)	-0.5
Pistachio	32	15	0.1%	$200,812	0.3	26	14	0.1%	$187,473	0.3	32	15	0.1%	$200,812	0.3	26	14	0.1%	$187,473	0.3
Plum	0	0	0.0%	$-	0.0	-7	-1	0.0%	$(8,080)	-0.1	0	0	0.0%	$-	0.0	-7	-1	0.0%	$(8,080)	-0.1
Pomegranate*	0	0		$-	0.0	-1	0		$(530)	0.0	0	0		$-	0.0	-1	0		$(530)	0.0
Rye**	0	0		$-	0.0	-2	0		$(206)	0.0	0	0		$-	0.0	-2	0		$(206)	0.0
Ryegrass**	0	0		$-	0.0	-14	-2		$(1,535)	0.0	0	0		$-	0.0	-14	-2		$(1,535)	0.0
Tomato, Processed	17	5	0.0%	$16,262	0.2	-3	-3	0.0%	$(8,384)	-0.1	17	5	0.0%	$16,262	0.2	-3	-3	0.0%	$(8,384)	-0.1
Walnut	249	78	0.7%	$283,068	1.6	114	38	0.3%	$138,895	0.8	245	75	0.6%	$271,515	1.5	111	35	0.3%	$127,342	0.7
Wheat Fodder	124	25	0.1%	$14,988	0.1	67	10	0.0%	$6,122	0.0	124	25	0.1%	$14,988	0.1	67	10	0.0%	$6,122	0.0
Wheat Grain	33	6	0.0%	$3,684	0.1	21	4	0.0%	$2,499	0.0	33	6	0.0%	$3,684	0.1	21	4	0.0%	$2,499	0.0

Table C-6
Kings County: Total Change and Change Relative to BNSF Alternative for Hanford West Bypass 1 At-Grade and Below-Grade Alternatives

Kings County	Hanford West Bypass 1 At-Grade					Comparison to BNSF Alternative					Hanford West Bypass 1 Below-Grade					Comparison to BNSF Alternative				
Crop Type	Acres Displaced	Acres Lost	% of Entire County Crop Lost[#]	Estimated Revenue Loss in County	Estimated Job Loss in County	Δ Acres Displaced	Δ Acres Lost	Δ % of Entire County Crop Lost[#]	Δ Estimated Revenue Loss in County	Δ Estimated Job Loss in County	Acres Displaced	Acres Lost	% of Entire County Crop Lost[#]	Estimated Revenue Loss in County	Estimated Job Loss in County	Δ Acres Displaced	Δ Acres Lost	Δ % of Entire County Crop Lost[#]	Δ Estimated Revenue Loss in County	Δ Estimated Job Loss in County
Unknown Ag Land	2281	637		$820,406	31.2	-346	-174		$(224,012)	-8.5	2077	585		$752,681	28.6	-549	-227		$(291,737)	-11.1
Dairy	111	111	0.4%	$4,322,503	19.0	-74	-74	-0.3%	$(2,889,478)	-12.7	111	111	0.4%	$4,322,503	19.0	-74	-74	-0.3%	$(2,899,478)	-13.4
Feedlot	0	0	0.0%	$-	0.0	0	0	0.0%	$-	0.0	0	0	0.0%	$-	0.0	0	0	0.0%	$-	0.0
Other Acreage[##]	513	0	0.0%	$-	0.0	-17	0	0.0%	$-	0.0	420	0	0.0%	$-	0.0	-111	0	0.0%	$-	0.0
Sum Total	**3918**	**1171**	**0.3%**	**$5,966,674**	**54**	**-838**	**-367**	**-0.2%**	**$(3,397,417)**	**-26**	**3699**	**1116**	**0.3%**	**$5,888,504**	**51**	**-1057**	**-423**	**-0.2%**	**$(3,475,589)**	**-28**

Sources: URS analysis of the following: California Department of Food and Agriculture 2010; California Employment Development Department 2008; California State Department of Conservation 2009; Kings County 2009, 2010.
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.
** No specific values were available in any of the counties; the average value for the miscellaneous crop type for Kings 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" or "Acres Displaced" columns.

ag = agricultural
BNSF = BNSF Railway

Table C-7
Kings County: Total Change and Change Relative to BNSF Alternative for Hanford West Bypass 2 At-Grade and Below-Grade Alternatives

Kings County	Hanford West Bypass 2 At-Grade					Comparison to BNSF Alternative					Hanford West Bypass 2 Below-Grade					Comparison to BNSF Alternative				
Crop Type	Acres Displaced	Acres Lost	% of Entire County Crop Lost#	Estimated Revenue Loss in County	Estimated Job Loss in County	Δ Acres Displaced	Δ Acres Lost	Δ % of Entire County Crop Lost#	Δ Estimated Revenue Loss in County	Δ Estimated Job Loss in County	Acres Displaced	Acres Lost	% of Entire County Crop Lost#	Estimated Revenue Loss in County	Estimated Job Loss in County	Δ Acres Displaced	Δ Acres Lost	Δ % of Entire County Crop Lost#	Δ Estimated Revenue Loss in County	Δ Estimated Job Loss in County
Alfalfa	479	117	0.1%	$136,651	0.5	-280	-114	-0.1%	$(132,355)	-0.5	479	117	0.1%	$136,654	0.5	-280	-114	-0.1%	$(132,352)	-0.5
Almond	39	16	0.1%	$46,670	0.3	-43	-3	0.0%	$(9,704)	-0.1	39	16	0.1%	$46,670	0.3	-43	-3	0.0%	$(9,704)	-0.1
Cherry*	0	0		$-	0.0	-67	-17		$(217,845)	-1.9	0	0		$-	0.0	-67	-17		$(217,845)	-1.9
Corn Fodder	338	113	0.2%	$123,825	0.5	-46	1	0.0%	$741	0.0	329	115	0.2%	$125,421	0.5	-55	2	0.0%	$2,337	0.0
Corn Grain	0	0	0.0%	$-	0.0	-34	-7	-0.2%	$(5,877)	-0.1	0	0	0.0%	$-	0.0	-34	-7	-0.2%	$(5,877)	-0.1
Cotton	60	15	0.0%	$25,231	0.3	-228	-48	0.0%	$(82,200)	-0.9	60	15	0.0%	$25,231	0.3	-228	-48	0.0%	$(82,200)	-0.9
Grape	0	0	0.0%	$-	0.0	-10	-3	0.0%	$(9,465)	-0.2	0	0	0.0%	$-	0.0	-10	-3	0.0%	$(9,465)	-0.2
Nectarine	0	0	0.0%	$-	0.0	-17	-9	-0.3%	$(74,310)	-1.0	0	0	0.0%	$-	0.0	-17	-9	-0.3%	$(74,310)	-1.0
Oat Fodder	57	11	0.4%	$5,260	0.0	38	6	0.2%	$2,896	0.0	52	10	0.3%	$4,586	0.0	34	5	0.2%	$2,223	0.0
Oat Grain*	0	0		$-	0.0	0	0		$-	0.0	0	0		$-	0.0	0	0		$-	0.0
Pastureland	94	27	0.0%	$337	0.0	86	25	0.0%	$318	0.0	95	27	0.0%	$339	0.0	87	26	0.0%	$320	0.0
Peach	0	0	0.0%	$-	0.0	-26	-5	-0.1%	$(39,359)	-0.5	0	0	0.0%	$-	0.0	-26	-5	-0.1%	$(39,359)	-0.5
Pistachio	32	15	0.1%	$200,812	0.3	26	14	0.1%	$187,473	0.3	32	15	0.1%	$200,812	0.3	26	14	0.1%	$187,473	0.3
Plum	0	0	0.0%	$-	0.0	-7	-1	0.0%	$(8,080)	-0.1	0	0	0.0%	$-	0.0	-7	-1	0.0%	$(8,080)	-0.1
Pomegranate*	0	0		$-	0.0	-1	0		$(530)	0.0	0	0		$-	0.0	-1	0		$(530)	0.0
Rye**	0	0		$-	0.0	-2	0		$(206)	0.0	0	0		$-	0.0	-2	0		$(206)	0.0
Ryegrass**	0	0		$-	0.0	-14	-2		$(1,535)	0.0	0	0		$-	0.0	-14	-2		$(1,535)	0.0
Tomato, Processed	17	5	0.0%	$16,262	0.2	-3	-3	0.0%	$(8,384)	-0.1	17	5	0.0%	$16,262	0.2	-3	-3	0.0%	$(8,384)	-0.1
Walnut	248	78	0.7%	$283,045	1.6	114	38	0.3%	$138,872	0.8	245	75	0.6%	$271,526	1.5	111	35	0.3%	$127,353	0.7
Wheat Fodder	89	21	0.0%	$12,222	0.1	32	6	0.0%	$3,355	0.0	89	21	0.0%	$12,222	0.1	32	6	0.0%	$3,355	0.0
Wheat Grain	59	12	0.0%	$6,703	0.1	47	10	0.0%	$5,519	0.1	59	12	0.0%	$6,703	0.1	47	10	0.0%	$5,519	0.1
Unknown Ag Land	2291	655		$843,356	32.0	-335	-156		$(201,062)	-7.6	2087	602		$775,523	29.5	-539	-209		$(268,895)	-10.2

Table C-7

Kings County: Total Change and Change Relative to BNSF Alternative for Hanford West Bypass 2 At-Grade and Below-Grade Alternatives

Kings County	Hanford West Bypass 2 At-Grade					Comparison to BNSF Alternative					Hanford West Bypass 2 Below-Grade					Comparison to BNSF Alternative				
Crop Type	Acres Displaced	Acres Lost	% of Entire County Crop Lost[#]	Estimated Revenue Loss in County	Estimated Job Loss in County	Δ Acres Displaced	Δ Acres Lost	Δ % of Entire County Crop Lost[#]	Δ Estimated Revenue Loss in County	Δ Estimated Job Loss in County	Acres Displaced	Acres Lost	% of Entire County Crop Lost[#]	Estimated Revenue Loss in County	Estimated Job Loss in County	Δ Acres Displaced	Δ Acres Lost	Δ % of Entire County Crop Lost[#]	Δ Estimated Revenue Loss in County	Δ Estimated Job Loss in County
Dairy	86	86	0.3%	$3,350,158	14.7	-99	-99	-0.4%	$(3,865,985)	-17.0	86	86	0.3%	$3,350,158	14.7	-99	-99	-0.4%	$(3,865,985)	-17.0
Feedlot	0	0	0.0%	$-	0.0	0	0	0.0%	$-	0.0	0	0	0.0%	$-	0.0	0	0	0.0%	$-	0.0
Other Acreage[##]	633	0	0.0%	$-	0.0	103	0	0.0%	$-	0.0	540	0	0.0%	$-	0.0	9	0	0.0%	$-	0.0
Sum Total	**3889**	**1171**	0.3%	**$5,050,530**	**51**	**-868**	**-367**	-0.2%	**$(4,317,724)**	**-29**	**3669**	**1116**	0.3%	**$4,972,107**	**48**	**-1087**	**-423**	-0.2%	**$(4,396,148)**	**-31**

Sources: URS analysis of the following: California Department of Food and Agriculture 2010; California Employment Development Department 2008; California State Department of Conservation 2009; Kings County 2009, 2010.
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.
** No specific values were available in any of the counties; the average value for the miscellaneous crop type for Kings 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" or "Acres Displaced" columns.
ag = agricultural
BNSF = BNSF Railway

Table C-8

Kings County: Total Change and Change Relative to BNSF Alternative for Corcoran Bypass and Corcoran Elevated Alternatives

Kings County	Corcoran Bypass					Comparison to BNSF Alternative					Corcoran Elevated					Comparison to BNSF Alternative				
Crop Type	Acres Displaced	Acres Lost	% of Entire County Crop Lost[#]	Estimated Revenue Loss in County	Estimated Job Loss in County	Δ Acres Displaced	Δ Acres Lost	Δ % of Entire County Crop Lost[#]	Δ Estimated Revenue Loss in County	Δ Estimated Job Loss in County	Acres Displaced	Acres Lost	% of Entire County Crop Lost[#]	Estimated Revenue Loss in County	Estimated Job Loss in County	Δ Acres Displaced	Δ Acres Lost	Δ % of Entire County Crop Lost[#]	Δ Estimated Revenue Loss in County	Δ Estimated Job Loss in County
Alfalfa	12	2	0.0%	$2,288	0.0	-61	-12	0.0%	$(14,049)	-0.1	35	6	0.0%	$6,528	0.0	-38	-8	0.0%	$(9,809)	0.0
Almond	0	0	0.0%	$-	0.0	0	0	0.0%	$-	0.0	0	0	0.0%	$-	0.0	0	0	0.0%	$-	0.0
Cherry*	0	0		$-	0.0	0	0		$-	0.0	0	0		$-	0.0	0	0		$-	0.0
Corn Fodder	0	0	0.0%	$-	0.0	0	0	0.0%	$-	0.0	0	0	0.0%	$-	0.0	0	0	0.0%	$-	0.0
Corn Grain	0	0	0.0%	$-	0.0	0	0	0.0%	$-	0.0	0	0	0.0%	$-	0.0	0	0	0.0%	$-	0.0
Cotton	4	1	0.0%	$1,182	0.0	4	1	0.0%	$1,182	0.0	0	0	0.0%	$-	0.0	0	0	0.0%	$-	0.0
Grape	0	0	0.0%	$-	0.0	0	0	0.0%	$-	0.0	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	0	0	0.0%	$-	0.0	0	0	0.0%	$-	0.0
Oat Fodder	3	1	0.0%	$276	0.0	-4	-1	0.0%	$(241)	0.0	10	2	0.1%	$726	0.0	3	0	0.0%	$209	0.0
Oat Grain*	5	1		$333	0.0	-17	-4		$(1,467)	0.0	9	1		$594	0.0	-13	-3		$(1,207)	0.0
Pastureland	221	57	0.0%	$708	0.0	63	13	0.0%	$169	0.0	196	52	0.0%	$648	0.0	38	9	0.0%	$108	0.0
Peach	0	0	0.0%	$-	0.0	0	0	0.0%	$-	0.0	0	0	0.0%	$-	0.0	0	0	0.0%	$-	0.0
Pistachio	158	32	0.2%	$437,754	0.6	131	28	0.2%	$377,685	0.5	21	3	0.0%	$46,410	0.1	-6	-1	0.0%	$(13,658)	0.0
Plum	0	0	0.0%	$-	0.0	0	0	0.0%	$-	0.0	0	0	0.0%	$-	0.0	0	0	0.0%	$-	0.0
Pomegranate*	16	4		$20,365	0.4	16	4		$20,365	0.4	0	0		$-	0.0	0	0		$-	0.0
Rye**	0	0		$-	0.0	0	0		$-	0.0	0	0		$-	0.0	0	0		$-	0.0
Ryegrass**	0	0		$-	0.0	0	0		$-	0.0	0	0		$-	0.0	0	0		$-	0.0
Tomato, Processed	0	0	0.0%	$-	0.0	0	0	0.0%	$-	0.0	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	0	0	0.0%	$-	0.0	0	0	0.0%	$-	0.0
Wheat Fodder	116	24	0.1%	$13,970	0.1	105	22	0.0%	$12,948	0.1	22	3	0.0%	$2,042	0.0	11	2	0.0%	$1,021	0.0
Wheat Grain	12	2	0.0%	$1,255	0.0	4	1	0.0%	$507	0.0	12	2	0.0%	$1,255	0.0	4	1	0.0%	$507	0.0
Unknown Ag Land	414	112		$144,649	5.5	207	50		$64,560	2.5	185	62		$79,913	3.0	-22	0		$(176)	0.0

Table C-8

Kings County: Total Change and Change Relative to BNSF Alternative for Corcoran Bypass and Corcoran Elevated Alternatives

Kings County	Corcoran Bypass					Comparison to BNSF Alternative					Corcoran Elevated					Comparison to BNSF Alternative				
Crop Type	Acres Displaced	Acres Lost	% of Entire County Crop Lost[#]	Estimated Revenue Loss in County	Estimated Job Loss in County	Δ Acres Displaced	Δ Acres Lost	Δ % of Entire County Crop Lost[#]	Δ Estimated Revenue Loss in County	Δ Estimated Job Loss in County	Acres Displaced	Acres Lost	% of Entire County Crop Lost[#]	Estimated Revenue Loss in County	Estimated Job Loss in County	Δ Acres Displaced	Δ Acres Lost	Δ % of Entire County Crop Lost[#]	Δ Estimated Revenue Loss in County	Δ Estimated Job Loss in County
Dairy	0	0	0.0%	$-	0.0	0	0	0.0%	$-	0.0	0	0	0.0%	$-	0.0	0	0	0.0%	$-	0.0
Feedlot	3	3	0.0%	$152,199	0.6	0	0	0.0%	$-	0.0	3	3	0.0%	$154,323	0.6	0	0	0.0%	$-	0.0
Other Acreage[##]	251	0	0.0%	$-	0.0	-544	0	0.0%	$-	0.0	565	0	0.0%	$-	0.0	-229	0	0.0%	$-	0.0
Sum Total	**966**	**238**	0.0%	**$774,979**	**7**	**450**	**102**	0.0%	**$461,659**	**3**	**493**	**135**	0.0%	**$292,438**	**4**	**-23**	**-1**	0.0%	**$(23,005)**	**0**

Sources: URS analysis of the following: California Department of Food and Agriculture 2010; California Employment Development Department 2008; California State Department of Conservation 2009; Kings County 2009, 2010.
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.
** No specific values were available in any of the counties; the average value for the miscellaneous crop type for Kings 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" or "Acres Displaced" columns.
ag = agricultural
BNSF = BNSF Railway

Table C-9
Kings County: Total Change and Change Relative to BNSF Alternative for Heavy Maintenance Facility (HMF)

Kings County			HMF				Comparison to BNSF Alternative			
Crop Type	**Acres Displaced**	**Acres Lost**	**% of Entire County Crop Lost[#]**	**Estimated Revenue Loss in County**	**Estimated Job Loss in County**	**Δ Acres Displaced**	**Δ Acres Lost**	**Δ % of Entire County Crop Lost[#]**	**Δ Estimated Revenue Loss in County**	**Δ Estimated Job Loss in County**
Dairy	298	298	1.1%	$11,653,810	51.2	298	298	1.1%	$11,653,810	51.2
Sum Total	**298**	**298**	**0.7%**	**$11,653,810**	**51.2**	**298**	**298**	**0.7%**	**$11,653,810**	**51.2**

Sources: URS analysis of the following: California Department of Food and Agriculture 2010; California Employment Development Department 2008; California State Department of Conservation 2009; Kings County 2009, 2010.

[#] Percent of entire county crop loss values calculated on annual revenue basis.
BNSF = BNSF Railway

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Table C-10
Tulare County: BNSF Alternative

Non-Prime	Acres Displaced			Prime	Acres Displaced			BNSF Alternative					
Crop Type	Footprint	500′ from Footprint		Crop Type	Footprint	500′ from Footprint		Crop Type	Acres Displaced	Acres Lost	% of Entire County Crop Lost[#]	Estimated Revenue Loss in County	Estimated Job Loss in County
Deciduous Nut Tree	258	308		Deciduous Nut Tree	0	0		Deciduous Nut Tree	566	178	0.2%	$733,559	3.5
Vineyard	0	5		Vineyard	0	0		Vineyard	5	1	0.0%	$6,072	0.1
Unknown Ag Land	684	2246		Unknown Ag Land	0	0		Unknown Ag Land	2930	701		$1,296,561	34.3
Dairy				Dairy	5	0		Dairy	5	5	0	$206,949	0.9
Feedlot				Feedlot	11	0		Feedlot	11	11	0	$504,294	1.9
Other Acreage[##]	247	971		Other Acreage[##]	0	0		Other Acreage[##]	1218	0		$-	0.0
Sum Non-Prime	**942**	**2559**		**Sum Prime**	**16**	**0**		**Total**	**3517**	**897**	**0**	**$2,747,435**	**41**

Sources: URS Corporation analysis of the following: California Department of Food and Agriculture 2010; California Employment Development Department 2008; California State Department of Conservation 2009; Tulare County 2009.
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%).

[#] 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-11

Tulare County: Total Change and Change Relative to BNSF Alternative for Corcoran Bypass and Corcoran Elevated Alternatives

Tulare County	Corcoran Bypass					Comparison to BNSF Alternative					Corcoran Elevated					Comparison to BNSF Alternative				
Crop Type	Acres Displaced	Acres Lost	% of Entire County Crop Lost[#]	Estimated Revenue Loss in County	Estimated Job Loss in County	Δ Acres Displaced	Δ Acres Lost	Δ % of Entire County Crop Lost[#]	Δ Estimated Revenue Loss in County	Δ Estimated Job Loss in County	Acres Displaced	Acres Lost	% of Entire County Crop Lost[#]	Estimated Revenue Loss in County	Estimated Job Loss in County	Δ Acres Displaced	Δ Acres Lost	Δ % of Entire County Crop Lost[#]	Δ Estimated Revenue Loss in County	Δ Estimated Job Loss in County
Deciduous Nut Tree	18	4	0.0%	$14,392	0.1	-255	-96	-0.1%	$(395,544)	-1.9	221	90	0.1%	$369,315	1.8	-52	-10	0.0%	$(40,622)	-0.2
Vineyard	61	13	0.1%	$91,264	0.9	55	12	0.1%	$85,192	0.8	0	0	0.0%	$-	0.0	-5	-1	0.0%	$(6,072)	-0.1
Unknown Ag Land	448	124		$229,719	6.1	-561	-157		$(290,806)	-7.7	614	191		$352,562	9.3	-395	-91		$(167,963)	-4.4
Dairy	5	5	0.0%	$206,949	0.9	0	0	0.0%	$-	0.0	5	5	0.0%	$206,949	0.9	0	0	0.0%	$-	0.0
Feedlot	0	0	0.0%	$-	0.0	0	0	0.0%	$-	0.0	0	0	0.0%	$-	0.0	0	0	0.0%	$-	0.0
Other Acreage[##]	121	0		$-	0.0	-73	0		$-	0.0	193	0		$-	0.0	-2	0		$-	0.0
Sum Total	**531**	**146**	**0.0%**	**$542,324**	**8**	**-761**	**-241**	**0.0%**	**$(601,157)**	**-9**	**840**	**286**	**0.0%**	**$928,825**	**12**	**-453**	**-102**	**0.0%**	**$(214,656)**	**-5**

Sources: URS Corporation analysis of the following: California Department of Food and Agriculture 2010; California Employment Development Department 2008; California State Department of Conservation 2009; Tulare County 2009.

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%).

[#] 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-12
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 Lost[#]	Estimated Revenue Loss in County	Estimated Job Loss in County	Δ Acres Displaced	Δ Acres Lost	Δ % of Entire County Crop Lost[#]	Δ Estimated Revenue Loss in County	Δ Estimated Job Loss in County
Deciduous Nut Tree	361	73	0.1%	$299,227	1.4	130	16	0.0%	$65,013	0.3
Vineyard	0	0	0.0%	$-	0.0	0	0	0.0%	$-	0.0
Unknown Ag Land	539	108		$200,077	5.3	-200	-46		$(84,826)	-2.2
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[##]	689	0		$-	0.0	-179	0		$-	0.0
Total	**900**	**181**	**0.0%**	**$499,304**	**7**	**-70**	**-30**	**0.0%**	**$(19,813)**	**-2**

Sources: URS analysis of the following: California Department of Food and Agriculture 2010; California Employment Development Department 2008; California State Department of Conservation 2009; Tulare County 2009, 2010.

[#] 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-13
Kern County: BNSF Alternative

Non-Prime	Acres Displaced			Prime	Acres Displaced			BNSF Alternative					
Crop Type	Footprint	500′ from Footprint		Crop Type	Footprint	500′ from Footprint		Crop Type	Acres Displaced	Acres Lost	% of Entire County Crop Lost[#]	Estimated Revenue Loss in County	Estimated Job Loss in County
Alfalfa	11	46		Alfalfa	44	276		Alfalfa	377	101	0.1%	$161,213	0.4
Almond	23	121		Almond	1310	1599		Almond	3053	1597	1.3%	$5,404,474	31.7
Bean, Dry	0	0		Bean, Dry	0	36		Bean, Dry	36	6	0.2%	$6,614	0.0
Carrot*	0	0		Carrot*	39	155		Carrot*	194	64		$472,209	2.8
Cherry	0	0		Cherry	0	6		Cherry	6	1	0.0%	$7,085	0.1
Corn Fodder*	0	0		Corn Fodder*	4	21		Corn Fodder*	24	7		$6,978	0.0
Cotton	0	0		Cotton	3	21		Cotton	24	7	0.0%	$12,241	0.1
Cucumber*	0	0		Cucumber*	0	3		Cucumber*	3	1		$2,262	0.0
Garlic	0	0		Garlic	4	25		Garlic	29	8	0.5%	$63,917	0.0
Grape	4	42		Grape	12	52		Grape	110	29	0.0%	$227,299	2.0
Grape, Raisin	0	0		Grape, Raisin	5	38		Grape, Raisin	44	12	0.1%	$27,187	0.8
Grape, Wine	0	0		Grape, Wine	112	183		Grape, Wine	295	141	0.6%	$460,171	9.7
Oat Fodder*	0	0		Oat Fodder*	0	0		Oat Fodder*	0	0		$-	0.0
Oat Grain *	0	0		Oat Grain *	0	10		Oat Grain *	10	2		$756	0.0
Onion, Dry	0	0		Onion, Dry	0	28		Onion, Dry	28	5	0.2%	$14,766	0.0
Ornamental- Rose	0	0		Ornamental- Rose	22	67		Ornamental- Rose	89	33	3.1%	$1,009,787	36.6
Ornamental-Shrub	5	8		Ornamental-Shrub	0	0		Ornamental-Shrub	13	4	6.1%	$115,760	4.4
Pastureland	267	275		Pastureland	0	0		Pastureland	542	177	0.0%	$887	0.0
Pistachio	2	3		Pistachio	72	196		Pistachio	274	105	0.2%	$507,385	2.1
Potato	0	0		Potato	11	50		Potato	61	19	0.1%	$89,762	0.1
Rape**	0	0		Rape**	0	0		Rape**	0	0		$-	0.0
Sudan grass*	0	0		Sudan grass*	0	18		Sudan grass*	18	3		$1,175	0.0

Table C-13
Kern County: BNSF Alternative

Non-Prime	Acres Displaced			Prime	Acres Displaced			BNSF Alternative					
Crop Type	Footprint	500′ from Footprint		Crop Type	Footprint	500′ from Footprint		Crop Type	Acres Displaced	Acres Lost	% of Entire County Crop Lost[#]	Estimated Revenue Loss in County	Estimated Job Loss in County
Tomato, Processed*	0	0		Tomato, Processed*	0	3		Tomato, Processed*	3	1		$1,709	0.0
Vegetable Seed, Misc**	0	0		Vegetable Seed, Misc**	0	0		Vegetable Seed, Misc**	0	0	0.0%	$-	
Walnut	0	0		Walnut	0	6		Walnut	6	1	0.1%	$3,515	0.0
Wheat Fodder*	0	0		Wheat Fodder*	0	0		Wheat Fodder*	0	0		$-	0.0
Wheat Grain	0	0		Wheat Grain	89	61		Wheat Grain	150	99	0.1%	$64,493	0.8
Unknown Ag Land	59	133		Unknown Ag Land	917	746		Unknown Ag Land	1855	1087		$1,572,462	53.2
Other Acreage[##]	756	2324		Other Acreage	0	0		Other Acreage	3081	0		$-	0.0
Sum Non-Prime	**372**	**629**		**Sum Prime**	**2645**	**3599**		**Total**	**7246**	**3508**	**0.3%**	**$10,234,108**	**145**

Sources: URS Corporation analysis of the following: California Department of Food and Agriculture 2010; California Employment Development Department 2008; California State Department of Conservation 2009; Tulare County 2009.

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 Kern County 2009. Instead, an average was taken of values (if they existed) from California Department of Food and Agriculture 2010; Fresno County 2009; Kings County 2009; Tulare County 2009. If no specific values are available in any of the counties, the average value for the miscellaneous crop type for Fresno County was used.

** 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.

[#] 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-14
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 Lost#	Estimated Revenue Loss in County	Estimated Job Loss in County	Δ Acres Displaced	Δ Acres Lost	Δ % of Entire County Crop Lost#	Δ Estimated Revenue Loss in County	Δ Estimated Job Loss in County	Acres Displaced	Acres Lost	% of Entire County Crop Lost#	Estimated Revenue Loss in County	Estimated Job Loss in County	Δ Acres Displaced	Δ Acres Lost	Δ % of Entire County Crop Lost#	Δ Estimated Revenue Loss in County	Δ Estimated Job Loss in County
Alfalfa	480	106	0.1%	$169,720	0.5	300	63	0.0%	$100,896	0.3	425	129	0.1%	$206,667	0.6	228	72	0.0%	$114,279	0.3
Almond	393	94	0.1%	$319,424	1.9	-206	-94	-0.1%	$(318,191)	-1.9	2250	1252	1.0%	$4,238,390	24.9	-204	-156	-0.1%	$(528,468)	-3.1
Bean, Dry	0	0	0.0%	$-	0.0	0	0	0.0%	$-	0.0	75	60	1.8%	$69,080	0.3	39	55	1.6%	$62,466	0.2
Carrot*	0	0		$-	0.0	-7	-1		$(10,872)	-0.1	283	93		$687,698	4.0	96	31		$226,361	1.3
Cherry	0	0	0.0%	$-	0.0	0	0	0.0%	$-	0.0	16	4	0.1%	$27,638	0.4	11	3	0.1%	$20,553	0.3
Corn Fodder*	0	0		$-	0.0	-7	-1		$(1,081)	0.0	110	36		$37,224	0.2	92	31		$31,327	0.1
Cotton	0	0	0.0%	$-	0.0	0	0	0.0%	$-	0.0	108	32	0.1%	$59,528	0.6	83	25	0.1%	$47,287	0.5
Cucumber*	0	0		$-	0.0	0	0		$-	0.0	0	0		$-	0.0	-3	-1		$(2,262)	0.0
Garlic	0	0	0.0%	$-	0.0	-7	-1	-0.1%	$(11,185)	0.0	0	0	0.0%	$-	0.0	-22	-7	-0.4%	$(52,732)	0.0
Grape	0	0	0.0%	$-	0.0	-47	-9	0.0%	$(70,219)	-0.6	4	1	0.0%	$5,130	0.0	-59	-19	0.0%	$(151,951)	-1.3
Grape, Raisin	0	0	0.0%	$-	0.0	0	0	0.0%	$-	0.0	0	0	0.0%	$-	0.0	-44	-12	-0.1%	$(27,187)	-0.8
Grape, Wine	321	74	0.3%	$240,394	5.1	95	-42	-0.2%	$(138,160)	-2.9	107	41	0.2%	$133,254	2.8	38	16	0.1%	$51,637	1.1
Oat Fodder*	0	0		$-	0.0	0	0		$-	0.0	39	22		$10,965	0.1	39	22		$10,965	0.1
Oat Grain *	90	47		$22,977	0.4	80	45		$22,221	0.4	0	0		$-	0.0	0	0		$-	0.0
Onion, Dry	0	0	0.0%	$-	0.0	0	0	0.0%	$-	0.0	58	58	2.1%	$187,189	0.2	30	53	1.9%	$172,423	0.2
Ornamental- Rose	0	0	0.0%	$-	0.0	0	0	0.0%	$-	0.0	189	127	11.9%	$3,872,578	140.4	100	94	8.8%	$2,862,791	103.8
Ornamental-Shrub	0	0	0.0%	$-	0.0	0	0	0.0%	$-	0.0	0	0	0.0%	$-	0.0	-13	-4	-6.1%	$(115,760)	-4.4
Pastureland	0	0	0.0%	$-	0.0	-10	-3	0.0%	$(16)	0.0	50	10	0.0%	$51	0.0	-46	-15	0.0%	$(73)	0.0
Pistachio	17	5	0.0%	$21,986	0.1	-113	-46	-0.1%	$(223,362)	-0.9	195	46	0.1%	$223,209	0.9	51	-8	0.0%	$(38,828)	-0.2
Potato	0	0	0.0%	$-	0.0	0	0	0.0%	$-	0.0	150	44	0.3%	$208,832	0.2	89	25	0.2%	$119,070	0.1
Rape**	0	0		$-	0.0	0	0		$-	0.0	7	1		$847	0.0	7	1		$847	0.0

Table C-14
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 Lost[#]	Estimated Revenue Loss in County	Estimated Job Loss in County	Δ Acres Displaced	Δ Acres Lost	Δ % of Entire County Crop Lost[#]	Δ Estimated Revenue Loss in County	Δ Estimated Job Loss in County	Acres Displaced	Acres Lost	% of Entire County Crop Lost[#]	Estimated Revenue Loss in County	Estimated Job Loss in County	Δ Acres Displaced	Δ Acres Lost	Δ % of Entire County Crop Lost[#]	Δ Estimated Revenue Loss in County	Δ Estimated Job Loss in County
Sudan grass*	0	0		$-	0.0	0	0		$-	0.0	66	20		$8,169	0.1	48	17		$6,994	0.1
Tomato, Processed*	3	0		$1,496	0.0	3	0		$1,496	0.0	0	0		$-	0.0	-3	-1		$(1,709)	0.0
Vegetable Seed, Misc**	0	0	0.0%	$-		0	0	0.0%	$-		25	8	0.5%	$28,653		25	8	0.5%	$28,653	
Walnut	0	0	0.0%	$-	0.0	0	0	0.0%	$-	0.0	0	0	0.0%	$-	0.0	-6	-1	-0.1%	$(3,515)	0.0
Wheat Fodder*	50	9		$5,467	0.0	50	9		$5,467	0.0	0	0		$-	0.0	0	0		$-	0.0
Wheat Grain	195	75	0.1%	$48,887	0.6	195	75	0.1%	$48,887	0.6	350	162	0.2%	$105,767	1.4	200	63	0.1%	$41,274	0.5
Unknown Ag Land	360	194		$279,957	9.5	-293	-144		$(208,287)	-7.0	1376	1066		$1,541,143	52.1	173	316		$456,925	15.5
Other Acreage[##]	196	0		$-	0.0	27	0		$-	0.0	381	0		$-	0.0	-633	0		$-	0.0
Sum	**1909**	**604**	**0.0%**	**$1,110,308**	**18**	**34**	**-150**	**0.0%**	**$(802,407)**	**-12**	**5882**	**3213**	**0.3%**	**$11,652,012**	**229**	**947**	**609**	**0.1%**	**$3,331,366**	**114**

Sources: URS analysis of the following: California State Department of Conservation 2007; Kern County 2008, 2009, 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.

** 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 in Kern 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" column or in the "Acres Displaced" sums.
ag = agricultural
BNSF = BNSF Railway

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Appendix D
Cumulative Projects