

CALIFORNIA HIGH-SPEED TRAIN

Program Environmental Impact Report/Environmental Impact Statement

Sacramento to Bakersfield

LAND USE AND PLANNING, COMMUNITIES AND NEIGHBORHOODS, PROPERTY, AND ENVIRONMENTAL JUSTICE TECHNICAL EVALUATION

January 2004

Prepared for:

California High-Speed Rail Authority

U.S. Department of Transportation
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U.S. Department
of Transportation
**Federal
Railroad
Administration**

**Sacramento to Bakersfield
Land Use and Planning, Communities and
Neighborhoods, Property, &
Environmental Justice
Technical Evaluation**

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TABLE OF CONTENTS

- 1.0 INTRODUCTION 1**
- 1.1 ALTERNATIVES 2
 - 1.1.1 NO-PROJECT ALTERNATIVE 2
 - 1.1.2 MODAL ALTERNATIVE 4
 - 1.1.3 HIGH-SPEED TRAIN ALTERNATIVE 4
- 2.0 BASELINE/AFFECTED ENVIRONMENT 8**
- 2.1 STUDY AREA 8
- 2.2 REGULATORY SETTING 8
 - 2.2.1 CITY OF SACRAMENTO GENERAL PLAN UPDATE (SACRAMENTO DOWNTOWN AND POWER INN ROAD STATIONS) 8
 - 2.2.2 CITY OF STOCKTON GENERAL PLAN (ACE DOWNTOWN STATION) 9
 - 2.2.3 CITY OF MODESTO GENERAL PLAN (MODESTO DOWNTOWN AND AMTRAK BRIGGSMORE STATIONS) 9
 - 2.2.4 MERCED COUNTY GENERAL PLAN (CASTLE AIR FORCE BASE STATION) 10
 - 2.2.5 CITY OF MERCED GENERAL PLAN (MERCED DOWNTOWN STATION AND MERCED AIRPORT) 10
 - 2.2.6 CITY OF FRESNO GENERAL PLAN (FRESNO STATION) 11
 - 2.2.7 CITY OF HANFORD GENERAL PLAN UPDATE (HANFORD STATION) 11
 - 2.2.8 CITY OF VISALIA GENERAL PLAN (VISALIA AIRPORT STATION) 11
 - 2.2.9 CITY OF BAKERSFIELD GENERAL PLAN UPDATE (GOLDEN STATE AND TRUXTUN STATIONS) 11
- 2.3 LAND USE 12
 - 2.3.1 EXISTING BASELINE LAND USE 12
 - 2.3.2 FUTURE BASELINE 2020 PLANNED LAND USE 19
- 2.4 POPULATION CHARACTERISTICS 24
 - 2.4.1 TRENDS AND GROWTH 24
 - 2.4.2 HOUSEHOLD SIZE 25
 - 2.4.3 ETHNICITY 25
 - 2.4.4 INCOME 25
- 2.5 NEIGHBORHOOD AND COMMUNITY CHARACTERISTICS 27
- 2.6 HOUSING 27
- 3.0 EVALUATION METHODOLOGY 28**
- 4.0 IMPACTS 311**
- 4.1 NO-PROJECT ALTERNATIVE 311
- 4.2 MODAL ALTERNATIVE 32
 - 4.2.1 COMPATIBILITY WITH EXISTING LAND USES 322
 - 4.2.2 CONSISTENCY WITH GENERAL PLANS 37
 - 4.2.3 ENVIRONMENTAL JUSTICE 38
 - 4.2.4 COMMUNITY/NEIGHBORHOOD IMPACTS 43
 - 4.2.5 Property 43
- 4.3 HIGH-SPEED TRAIN ALTERNATIVE 47
 - 4.3.1 COMPATIBILITY WITH EXISTING LAND USES 47
 - 4.3.2 CONSISTENCY WITH GENERAL PLANS 50
 - 4.3.3 ENVIRONMENTAL JUSTICE 53
 - 4.3.4 COMMUNITY/NEIGHBORHOOD IMPACTS 55
 - 4.3.5 Property 55
- 5.0 REFERENCES 70**
- GIS REFERENCES 71
 - LAND USE 71
 - GENERAL PLAN LAND USE 71
- 6.0 PREPARERS 72**

APPENDICES

- A. CORRIDOR AND DESIGN OPTIONS FOR HIGH SPEED TRAIN ALTERNATIVE**
- B. LAND USE AND POPULATION DATA TABLES AND IMPACT RATINGS**

LIST OF FIGURES

FIGURE 1 NO-PROJECT ALTERNATIVE - CALIFORNIA TRANSPORTATION SYSTEM 3

FIGURE 2 MODAL ALTERNATIVE - HIGHWAY COMPONENT 5

FIGURE 3 MODAL ALTERNATIVE - AVIATION COMPONENT 6

FIGURE 4 HIGH-SPEED TRAIN ALTERNATIVE – CORRIDORS AND STATIONS FOR CONTINUED INVESTIGATION 7

FIGURE 5 SACRAMENTO TO MODESTO (CORRIDORS A & B) FUTURE LAND USE 39

FIGURE 6 MODESTO TO FRESNO (CORRIDORS C & D) FUTURE LAND USE..... 40

FIGURE 7 FRESNO TO HANFORD/TULARE (CORRIDOR E) FUTURE LAND USE..... 41

FIGURE 8 TULARE TO BAKERSFIELD (CORRIDOR F) FUTURE LAND USE..... 42

LIST OF TABLES

TABLE 1 HISTORICAL AND PROJECTED POPULATIONS OF COUNTIES IN THE SACRAMENTO TO BAKERSFIELD REGION 24

TABLE 2 HOUSEHOLD SIZE OF COUNTIES IN THE SACRAMENTO TO BAKERSFIELD REGION..... 26

TABLE 3 RACE AND ETHNICITY OF COUNTIES IN THE SACRAMENTO TO BAKERSFIELD REGION..... 26

TABLE 4 EMPLOYMENT CHARACTERISTICS AND PER CAPITA INCOME OF COUNTIES IN THE SACRAMENTO TO BAKERSFIELD REGION 27

TABLE 5 GENERAL LAND USE COMPATIBILITY WITH TRANSPORTATION CORRIDORS..... 29

TABLE 6 METHODOLOGY FOR DETERMINATION OF LAND USE COMPATIBILITY WITH TRANSPORTATION CORRIDORS..... 29

TABLE 7 SACRAMENTO TO BAKERSFIELD REGION HOUSING AND EXISTING LAND USE IN STUDY AREA 33

TABLE 8 SACRAMENTO TO BAKERSFIELD REGION IDENTIFICATION OF ENVIRONMENTAL JUSTICE COMMUNITIES..... 44

TABLE 9 ANALYSIS/COMPARISON TABLE – IMPACTS TO LAND USE, PLANNED LAND USE, LAND USE POLICY, DEVELOPMENT PATTERNS, DEMOGRAPHICS, COMMUNITIES, NEIGHBORHOODS, AND HOUSING 57

ACRONYMS

ACE	ALTAMONT COMMUTER EXPRESS
AFB	AIR FORCE BASE
ALUC	AIRPORT LAND USE COMMISSION
AUTHORITY	CALIFORNIA HIGH-SPEED RAIL
BNSF	BURLINGTON NORTHERN & SANTA FE RAILWAY COMPANY
CCT	CENTRAL CALIFORNIA TRACTION
CEQA	CALIFORNIA ENVIRONMENTAL QUALITY ACT
COG	COUNCIL OF GOVERNMENTS
CP	COMMUNITY PLAN
CPD	COMPREHENSIVE PLANNING DISTRICT
CSU	CALIFORNIA STATE UNIVERSITY
EIR	ENVIRONMENTAL IMPACT REPORT
EIS	ENVIRONMENTAL IMPACT STATEMENT
EJ	ENVIRONMENTAL JUSTICE
EPA	ENVIRONMENTAL PROTECTION AGENCY
FAA	FEDERAL AVIATION ADMINISTRATION
FHWA	FEDERAL HIGHWAY ADMINISTRATION
FRA	FEDERAL RAILROAD ADMINISTRATION
FTA	FEDERAL TRANSIT ADMINISTRATION
GIS	GEOGRAPHIC INFORMATION SYSTEM
GP	GENERAL PLAN
ICP	INDUSTRIAL/COMMERCIAL/PUBLIC
LOSSAN	LOS ANGELES – SAN DIEGO
MTA	METROPOLITAN TRANSPORTATION AUTHORITY
NEPA	NATIONAL ENVIRONMENTAL POLICY ACT
ROW	RIGHT OF WAY
RPD	REDEVELOPMENT PLANNING DISTRICT
RTP	REGIONAL TRANSPORTATION PLAN
SGPU	SACRAMENTO GENERAL PLAN UPDATE
SR	STATE ROUTE
STIP	STATE TRANSPORTATION IMPROVEMENT PROGRAM
TCM	TRANSPORTATION CONTROL MEASURE
UDB	URBAN DEVELOPMENT BOUNDARY
UP, UPRR	UNION PACIFIC RAILROAD
USACE	UNITED STATES ARMY CORPS OF ENGINEERS
USFWS	UNITED STATES FISH AND WILDLIFE SERVICE

1.0 INTRODUCTION

The California High-Speed Rail Authority (Authority) was created by the Legislature in 1996 to develop a plan for the construction, operation, and financing of a statewide, intercity high-speed passenger train system.¹ After completing a number of initial studies over the past six years to assess the feasibility of a high-speed train system in California and to evaluate the potential ridership for a variety of alternative corridors and station areas, the Authority recommended the evaluation of a proposed high-speed train system as the logical next step in the development of California's transportation infrastructure. The Authority does not have responsibility for other intercity transportation systems or facilities, such as expanded highways, or improvements to airports or passenger rail or transit used for intercity trips.

The Authority adopted a *Final Business Plan* in June 2000, which reviewed the economic feasibility of a 1,127-kilometer-long (700-mile-long) high-speed train system. This system would be capable of speeds in excess of 321.8 kilometers per hour (200 miles per hour [mph]) on a dedicated, fully grade-separated track with state-of-the-art safety, signaling, and automated train control systems. The system described would connect and serve the major metropolitan areas of California, extending from Sacramento and the San Francisco Bay Area, through the Central Valley, to Los Angeles and San Diego. The high-speed train system is projected to carry a minimum of 42 million passengers annually (32 million intercity trips and 10 million commuter trips) by the year 2020.

Following the adoption of the Business Plan, the appropriate next step for the Authority to take in the pursuit of a high-speed train system is to satisfy the environmental review process required by federal and state laws which will in turn enable public agencies to select and approve a high speed rail system, define mitigation strategies, obtain necessary approvals, and obtain financial assistance necessary to implement a high speed rail system. For example, the Federal Railroad Administration (FRA) may be requested by the Authority to issue a *Rule of Particular Applicability*, which establishes safety standards for the high-speed train system for speeds over 200 mph, and for the potential shared use of rail corridors.

The Authority is both the project sponsor and the lead agency for purposes of the California Environmental Quality Act (CEQA) requirements. The Authority has determined that a Program Environmental Impact Report (EIR) is the appropriate CEQA document for the project at this conceptual stage of planning and decision-making, which would include selecting a preferred corridor and station locations for future right-of-way preservation and identifying potential phasing options. No permits are being sought for this phase of environmental review. Later stages of project development would include project-specific detailed environmental documents to assess the impacts of the alternative alignments and stations in those segments of the system that are ready for implementation.

The decisions of federal agencies, particularly the Federal Railroad Administration (FRA) related to high-speed train systems, would constitute major federal actions regarding environmental review under the National Environmental Policy Act (NEPA). NEPA requires federal agencies to prepare an Environmental Impact Statement (EIS) if the proposed action has the potential to cause significant environmental impacts. The proposed action in California warrants the preparation of a Tier 1 Program-level EIS under NEPA, due to the nature and scope of the comprehensive high-speed train system proposed by the Authority, the need to narrow the range of alternatives, and the need to protect/preserve right-of-way in the future. FRA is the federal lead agency for the preparation of the Program EIS, and the Federal Highway Administration (FHWA), the U.S. Environmental Protection Agency (EPA), the U.S. Corps of Engineers (USACE), the Federal Aviation Administration (FAA), the U.S. Fish and Wildlife Service (USFWS), and the Federal Transit Administration (FTA) are cooperating federal agencies for the EIS.

¹ Chapter 796 of the Statutes of 1996; SB 1420, Kopp and Costa

A combined Program EIR/EIS is to be prepared under the supervision and direction of the FRA and the Authority in conjunction with the federal cooperating agencies. It is intended that other federal, state, regional, and local agencies will use the Program EIR/EIS in reviewing the proposed program and developing feasible and practicable programmatic mitigation strategies and analysis expectations for the Tier 2 detailed environmental review process which would be expected to follow any approval of a high speed train system.

The statewide high-speed train system has been divided into five regions for study: Bay Area-Merced, Sacramento-Bakersfield, Bakersfield-Los Angeles, Los Angeles-San Diego via the Inland Empire, and Los Angeles-Orange County-San Diego. This Local Area Growth, Development, Planning, Land Use, Socioeconomics, & Environmental Justice Technical Evaluation for the Sacramento to Bakersfield region is one of five such reports being prepared for each of the regions on the topic, and it is one of fifteen technical reports for this region. This report will be summarized in the Program EIR/EIS and it will be part of the administrative record supporting the environmental review of alternatives.

1.1 ALTERNATIVES

1.1.1 No-Project Alternative

The No-Project Alternative serves as the baseline for the comparison of Modal and High-Speed Train alternatives (Figure 1). The No-Project Alternative represents the state's transportation system (highway, air, and conventional rail) as it existed in 1999-2000 and as it would be after implementation of programs or projects currently programmed for implementation and projects that are expected to be funded by 2020. The No-Project Alternative addresses the geographic area serving the same intercity travel market as the proposed high-speed train (generally from Sacramento and the San Francisco Bay Area, through the Central Valley, to Los Angeles and San Diego). The No-Project Alternative satisfies the statutory requirements under CEQA and NEPA for an alternative that does not include any new action or project beyond what is already committed.

The No-Project Alternative defines the existing and future statewide intercity transportation system based on programmed and funded (already in funded programs/financially constrained plans) improvements to the intercity transportation system through 2020, according to the following sources of information:

- State Transportation Improvement Program (STIP)
- Regional Transportation Plans (RTPs) for all modes of travel
- Airport plans
- Intercity passenger rail plans (California Rail Plan 2001-2010, Amtrak Five- and Twenty-year Plans)

As with all of the alternatives, the No-Project Alternative will be assessed against the purpose and need topics/objectives for congestion, safety, air pollution, reliability, and travel times.

1.1.2 Modal Alternative

There are currently only three main options for intercity travel between the major urban areas of San Diego, Los Angeles, the Central Valley, San Jose, Oakland/San Francisco, and Sacramento: vehicles on the interstate highway system and state highways, commercial airlines serving airports between San Diego and Sacramento and the Bay Area, and conventional passenger trains (Amtrak) on freight and/or commuter rail tracks. The Modal/System Alternative consists of expansion of highways, airports, and intercity and commuter rail systems serving the markets identified for the High-Speed Train Alternative (Figures 2 and 3). The Modal Alternative uses the same inter-city travel demand (not capacity) assumed under the high-end sensitivity analysis completed for the high-speed train ridership in 2020. This same travel demand is assigned to the highways and airports and passenger rail described under the No-Project Alternative, and the additional improvements or expansion of facilities is assumed to meet the demand, regardless of funding potential and without high-speed train service as part of the system.

1.1.3 High-Speed Train Alternative

The Authority has defined a statewide high-speed train system capable of speeds in excess of 200 miles per hour (mph) (320 kilometers per hour [km/h]) on dedicated, fully grade-separated tracks, with state-of-the-art safety, signaling, and automated train control systems. State of the art high-speed steel-wheel-on-steel-rail technology is being considered for the system that would serve the major metropolitan centers of California, extending from Sacramento and the San Francisco Bay Area, through the Central Valley, to Los Angeles and San Diego (Figure 4).

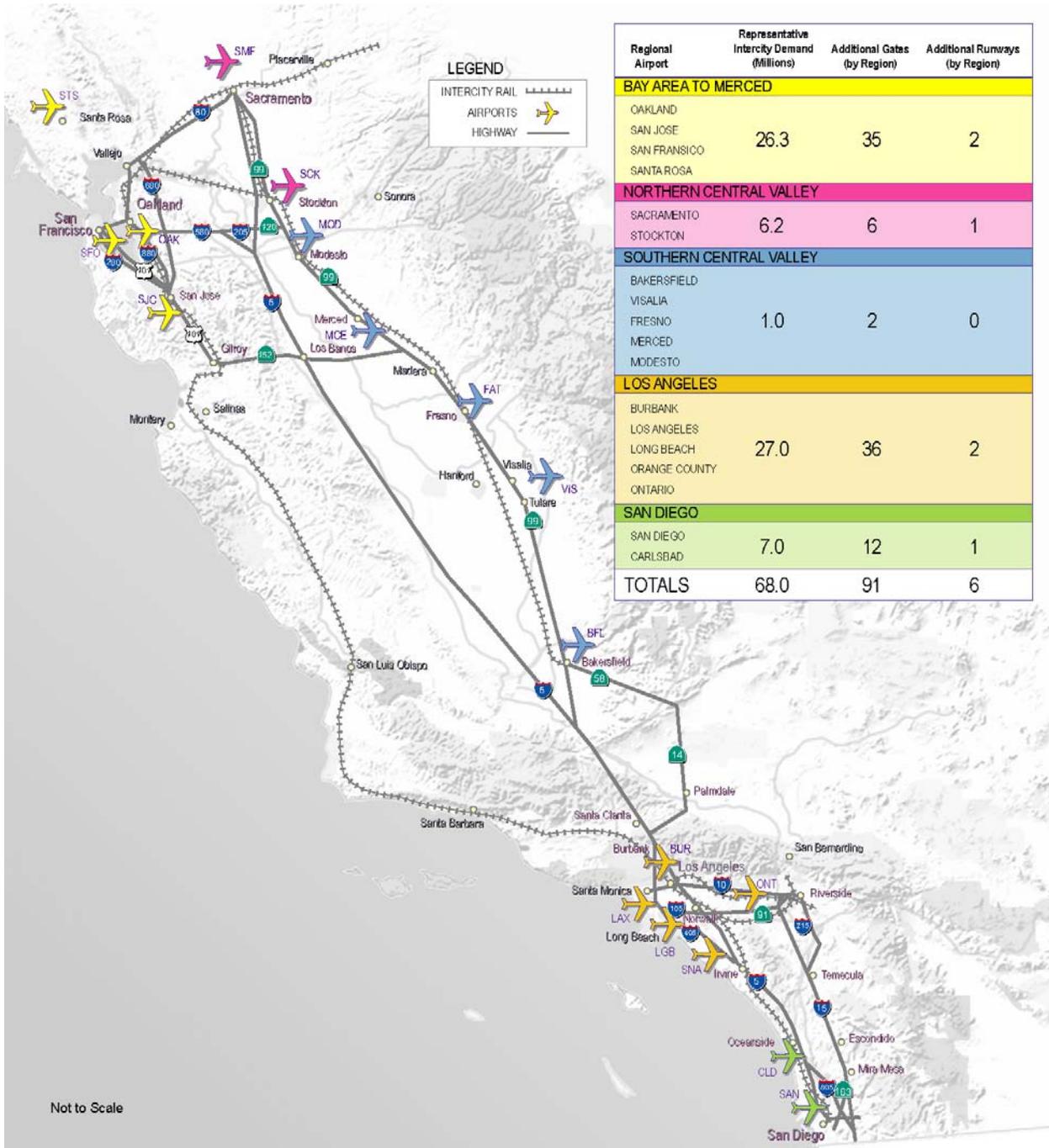
The High-Speed Train (HST) Alternative includes several corridor and station options. A steel-wheel on steel-rail, electrified train, primarily on exclusive right-of-way with small portions of the route on shared track with other rail is planned. Conventional "non-electric" improvements are also being considered along the existing LOSSAN rail corridor from Los Angeles to San Diego. The train track would be either at-grade, in an open trench or tunnel, or on an elevated guideway, depending on terrain and physical constraints.

For purposes of comparative analysis, the HST corridors are described from station-to-station within each region, except where a by-pass option is considered when the point of departure from the corridor defines the end of the corridor segment. The Sacramento to Bakersfield region has been divided into six corridors: Corridor A runs generally from Sacramento to Stockton; Corridor B, from Stockton to Modesto; Corridor C, from Modesto to Merced; Corridor D, from Merced to Fresno; Corridor E, from Fresno to Tulare; and Corridor F, from Tulare to Bakersfield. Within any given corridor, various alignment options have been developed. Each alignment option is named with an alpha-numeric designation: the letter corresponds to the corridor, and the number refers to a specific route within that corridor. The corridors and alignment routes for HST for this region are defined and presented in Appendix A.

Figure 2
Modal Alternative-Highway Component



Figure 3
Modal Alternative-Aviation Component



2.0 BASELINE/AFFECTED ENVIRONMENT

2.1 STUDY AREA

The study area for land use compatibility, communities and neighborhoods, property, and environmental justice, is 0.25 mi (0.40 km) on either side of the centerline of the rail and highway corridors, and the same distance around stations, airports, and other HST-related facilities. This is the extent of area where either the Modal or HST Alternative might result in a change to land use, the level and patterns of development, and socioeconomic conditions. For the property impacts analysis the study area is narrower, 100 ft (30 m) on either side of the alignment centerlines, to better represent the properties most likely to be impacted by the improvements defined (e.g., highway widenings or new HST lines).

2.2 REGULATORY SETTING

The regulatory setting affecting transportation improvements for intercity travel is defined by the general plans of the local jurisdictions, cities and counties in the Sacramento to Bakersfield region. The plans contain goals, objectives, policies, and implementation actions to chart the development and conservation of land in the Sacramento to Bakersfield region. Below are various policy statements from these planning documents that relate to or help shape the future transportation improvements.

2.2.1 City of Sacramento General Plan Update (Sacramento Downtown and Power Inn Road Stations)

The Sacramento General Plan Update (SGPU) was adopted on January 19, 1988. The General Plan is a 20-year policy guide for physical, economic, and environmental growth and renewal of the City. The General Plan goals and policies include the following:

Overall Goals for Transportation

- Create a safe, efficient surface transportation network for the movement of people and goods.
- Provide all citizens in all communities of the City with access to a transportation network which serves both the City and region, either by personal vehicle or transit. Make a special effort to maximize alternatives to single occupant vehicle use, such as public transit.

Goals and Policies for Transportation Planning

- *Goal A:* Work toward a comprehensive transportation plan that identifies needs, integrates the existing transportation network with planned growth, and proposed new facilities.
- Policy 1: Participate in state, regional, and local transportation planning efforts.
- Policy 3: Incorporate approved City-wide street improvements as well as non-auto-related projects and programs into CPs (community plans) and special land use studies.

Goals and Policies for Transportation Systems Management

- *Goal C:* Develop a balanced transportation system which will encourage the use of public transit, the private automobile, and other forms of transportation.
- *Goal D:* Provide an adequate amount of parking to support continued downtown development prosperity, alternative modes of transportation, and the Central City Urban Design Plan.
- *Policy 2:* Provide adequate short-term parking in such a manner as to support downtown development and mass transit.
- *Goal E:* Create a multi-modal transportation center in the Central City.

Goals and Policies for Railroads

- Goal A: Maintain railroads as movers of goods and people to and from the City.
- Policy 1: Facilitate railroad movement of goods and people through the City where it is not a matter of public health and safety.
- Policy 2: Encourage and promote transcontinental passenger service to and through the Sacramento area.

2.2.2 City of Stockton General Plan (ACE Downtown Station)

The City of Stockton General Plan includes the following policies:

- Urban Growth and Overall Development Goal 5 – Policy 3: Maximize development opportunities within the City's locally designated Enterprise Zone. The Enterprise Zone is located in central Stockton and includes the proposed Downtown Stockton station location.
- Residential Land Use Goal 2 – Policy 6: Residential neighborhoods shall be protected from the excessive encroachment of incompatible activities and land uses (i.e., traffic, noise) and environmental hazards (i.e., flood, soil instability) which may have negative impacts on the living environment.
- Commercial Land Use Goal 3 – Policy 10: Improve the transportation facilities in the Downtown emphasizing the Downtown's role as the center of the City's intermodal transportation network.

2.2.3 City of Modesto General Plan (Modesto Downtown and Amtrak Briggsmore Stations)

5. Circulation and Transportation Policies – Overall

- b. Transportation Control Measures (TCMs) should be implemented where feasible or mandated by other agencies, to reduce vehicle miles traveled, vehicle idling, or traffic congestion. Alternatives to the drive-alone auto mode, such as mass transit, ride sharing, and telecommuting should be encouraged. In addition, the City should encourage innovative means to reduce traffic congestion and enhance air quality, such as teleconferencing centers, fiber optic communication networks, and trip reduction programs.
- j. The City should encourage the effort to make a safe, efficient and effective rail service possible by increasing the frequency, speed, and comfort of its passengers. The City recognizes and encourages a safe and convenient interface among rail, bus, automobile and non-motorized traffic. The following forms of rail service are particularly encouraged:
 - Amtrak. The City supports the relocation of the Riverbank Station to Modesto on the north side of Parker Road.
 - Inter-regional Rail Service. The City supports the rerouting of the San Joaquin's rail service to serve the downtown area and the intermodal facilities and creation of passenger commute rail service from Modesto to San Joaquin County, then to Sacramento and over the Altamont Pass to the Bay Area.
 - Light Rail Transit. The City should support a light rail transit system when the urban form warrants it and where it is feasible. Mass transit, including light rail, should be considered for the Virginia Avenue corridor of the Union Pacific rail lines, to connect downtown with future commercial and industrial development in the northern portion of the Modesto Urban Area.
 - Freight Rail. The City encourages the extended and increased use of rail as an alternative transportation mode for the movement of goods. In addition, the City supports the intermodal linkage of "truck on rail" as a technique for reducing through-truck traffic on highway corridors.

- Any necessary crossings of the Santa Fe Railroad corridor shall be closely coordinated with the Atchison, Topeka and Santa Fe Railway Company. In 1995, the AT&SF Company indicated that it would oppose at-grade crossings, but would cooperate fully with the construction of any grade separations over or under Santa Fe's rail line.

2. Transit Policies - Baseline Developed Area and Planned Urbanizing Area

- d. The City should participate in regional public transit proposals to the extent economically feasible and that such systems benefit Modestans.
- g. The City shall strive to safeguard options for future transit and mass transportation development, such as the Union Pacific railroad right-of-way.

2.2.4 Merced County General Plan (Castle Air Force Base Station)

The Merced County Year 2000 General Plan includes the following policies:

- Land Use Goal 7 – Objective 7.A – Policy 1: Conversion of agricultural and other rural land into urban uses shall only be allowed where a clear and immediate need can be demonstrated based on anticipated growth and availability of public services and facilities. For proposals to expand an existing community into rural lands the available vacant land inventory within the urban boundary shall also be considered.
- Land Use Goal 7 – Objective 7.A – Policy 2: Direct urban uses to less valuable farmland when conversion is justified.
- Land Use Goal 9 – Objective 9.A – Policy 3: Public institutions and facilities should be efficiently located to provide the greatest level of service delivery while minimizing both public costs and impacts on adjacent properties.
- Land Use Goal 9 – Objective 9.A – Policy 9: Recognize the importance of public airports and the Castle Airport – Aviation and Development Center by encouraging only compatible land uses in areas subject to safety or noise impacts from these facilities.

2.2.5 City of Merced General Plan (Merced Downtown Station and Merced Airport)

The City of Merced, Merced Vision 2015 General Plan includes the following policies:

- Land Use Policy L-3.1 - Implementing Action 3.1.c: Plan areas for higher density development within ¼ mile of locations identified as transit hubs and commercial centers.
- Land Use Policy L-3.3 - Implementing Action 3.3.d: Encourage all development projects proposed within 2,000 feet of an existing or planned light rail transit, commuter rail, express bus or transit corridor stop, to incorporate site design measures that improve accessibility to the transit system.
- Land Use Policy L-2.8 – Implementing Action 2.8g: Strengthen transportation systems to support downtown's economic base.

2.2.6 City of Fresno General Plan (Fresno Station)

The 2025 Fresno General Plan includes the following policies:

- C-2-c. Policy: Promote the Central Area Community Plan (first adopted 1989) consistent with the 2025 General Plan objectives and policies to enhance its role as the focal point of regional government, entertainment, civic and business activities with supporting commercial uses and substantially increased residential opportunities to achieve a pleasing, vibrant and active cosmopolitan environment.
- C-5-c. Policy: Maintain the pre-eminence of Fresno's Central Area as the San Joaquin Valley's "Regional Capital" by locating major governmental facilities and business headquarters downtown.
- C-6-a. Policy: Continue the current redevelopment and renewal activities in the Central Area (removal of substandard buildings, reduced area devoted to streets and alleys, and assembly of smaller parcels) to continue the regeneration of the area.
- C-12-e. Policy: Plan for the strategic location, size, and distribution of regional commercial centers to promote the city's economic growth and allow access from the entire region via major transportation facilities.

The Central Area Community Plan (July 1989) includes the following land use policy:

- Commercial Policy 4: Promote the Central Area as the focal point for regional, national, and international trade and business activities.

2.2.7 City of Hanford General Plan Update (Hanford Station)

The City of Hanford 2002 General Plan Update includes the following policy:

- Policy LU 15.1: The City shall work with the Main Street Hanford Association, Chamber of Commerce, and other interested groups to develop a Specific Plan for the precise planning and implementation of programs to support the continued evolution of the Downtown Business District.

2.2.8 City of Visalia General Plan (Visalia Airport Station)

The Visalia General Plan Land Use Element (Revised June 1996) includes the following policies:

- 5.6.1: Develop a long-range transportation master plan for the City which...integrates various modes of transportation including auto (access, circulation, and parking), bicycle, pedestrian, mass transit, regional rail, and air.
- 5.6.5: Where appropriate, encourage multi-level parking structures adjacent to major traffic generators.
- 5.6.8: Promote efficient and conveniently located transportation facilities such as the airport's intermodal terminal and a CBD mass transit transfer center.
- 5.6.10: Support regional high-speed inter-city rail development and service.

2.2.9 City of Bakersfield General Plan Update (Bakersfield Airport, Golden State and Truxtun Stations)

The Metropolitan Bakersfield General Plan Update (December 2002) includes the following policies:

- 39. Enhance existing and establish new centers as the principal focus of development and activity in the planning area, around which other land uses are grouped. Centers should be linked by adequate transportation facilities and may be linked to the Kern River, canals, or other resource amenities. Centers may be differentiated by functional activity, density/intensity, and physical character.
- 40. Provide for the enhancement and intensification of existing “centers” such as: ... Downtown and Bakersfield Airpark/Casa Loma.
- 41. Provide for the intensification of downtown Bakersfield for governmental, financial, professional office, retail, residential, cultural, specialty, and supporting uses.

2.3 LAND USE

2.3.1 Existing Baseline Land Use

Sacramento to Stockton Corridor

This segment begins at the Sacramento Downtown Station. From this site, the alignment moves through dense urban area, including single and multi-family uses, as well as disturbed open spaces and Industrial uses. The segment crosses Business Freeway 80 as it traverses the midtown Sacramento area. Beyond the midtown residential areas, commercial land uses are found along the alignment. The segment crosses U.S. Highway 50 and a light rail station before entering a warehouse/business and Industrial area, where the Power Inn Road Station is located. Beyond the city limits, land uses are predominantly agricultural, with scattered rural residences, small towns, and warehouse-style industrial development also present. This continues until the Stockton area, where land uses become more dense and urban. The UP alignment generally follows SR 99, traversing the Cosumnes River, Dry Creek, Bear Creek, and the Mokelumne River. From Sacramento south, the alignment passes through Elk Grove, Twin Cities, and Galt, before entering the east side of Lodi in San Joaquin County. The CCT alignment leaves the UP corridor around Power Inn Road and veers southeast through unincorporated Sacramento County, passing the communities of Sheldon and Wilton, before it merges with the UP corridor on the east side of Lodi. The CCT alignment traverses more rural lands than the UP and crosses Laguna Creek, Dry Creek, and the Mokelumne River.

Sacramento Downtown Station: The Sacramento Downtown Station is located on a site designated Central Business District Special Planning District in the City of Sacramento General Plan. Access to the site is from Interstate 5, I Street, and 5th Street. The station site is currently occupied by an existing Amtrak train station. Adjacent land uses include a vacant rail yard area that is planned for redevelopment, a federal courthouse, an electric substation, an apartment complex, a church/cultural center, and other municipal buildings and offices. In the vicinity of the site, land uses are characteristic of an urban business district, including municipal buildings, a County jail, offices, multi-family residential, and commercial uses. Land uses along the rail alignment in the vicinity of the station include business, industrial, and some residential.

Power Inn Road Station/Storage Maintenance Facility: The Power Inn Road Station is located on a site designated Industrial in the City of Sacramento General Plan. The Storage and Maintenance facility site is located nearby, on a site designated Industrial by the plan. Access to the sites is from Highway 50, Power Inn Road, and 21st Avenue. The station site is currently vacant, and is located on an existing rail line. The site is surrounded by heavy industrial uses, with a large disturbed open space area adjacent to the site containing several large electric transmission towers. The maintenance facility site is located adjacent to this open space area, along Power Inn Road. A small business park exists to the east of the open space area. In the vicinity of the site, land uses are a mix of commercial and industrial, with single- and multi-family residential to the south. Land uses along the rail alignment in the vicinity of the station primarily business, industrial, and some residential.

Stockton Station: A portion of the station area is currently used as a stop for the Altamont Commuter Express and Amtrak and is developed with a parking lot and shelters. A visual survey performed in December 2002 found that the existing development surrounding the proposed station site is best characterized as mixed use. The majority of the parcels adjacent to the site on the east are developed with residential uses, with some commercial, as are the parcels adjacent to the north. The parcels adjacent to the west are developed with a mix of industrial, commercial, and residential uses. To the south, on the proposed site, is an unused railroad station that would be adjacent to the proposed HST station. Parcels within the larger ¼ mile station area reflect the mix of adjacent uses and also include schools, a large Salvation Army residential facility and a Children's Home within this corridor.

According to city staff, although there are numerous older buildings within close proximity of the station area, some of which are eligible for listing, there are no historic districts or designated historic structures. The residences east of the station area are examples of Queen Anne architecture, and again, although eligible for historic listing, have not been listed to date.² The City of Stockton has a 20 mph speed limit for rail traffic through the City.

City staff indicated that noise from elevated tracks could be an environmental justice issue with the residential areas in the vicinity of the proposed High Speed Rail station.³ Due to the high number of at-grade crossings in the City, there would also be significant California Public Utilities Commission regulations to consider.⁴ In addition, there are several fiber optic and fuel lines within the existing railroad right of way.

The City of Stockton is a highly urbanized area. Notable features adjacent to the proposed UP route in Stockton include:

- Oak Park, near Alpine Avenue
- Stockton Rural Cemetery, which lies adjacent to Oak Park to the south.
- St Joseph's Behavioral Health Center and the San Joaquin Cemetery.
- The University Park site, which houses a mix of educational (CSU – Stanislaus Stockton Center) and social service agencies.

Stockton to Modesto Corridor

UP Alignment: Between the City of Stockton and Modesto, the alignment passes a number of developed communities. South of Stockton, the alignment passes the unincorporated community of French Camp and the incorporated communities of Lathrop, Manteca, and Ripon, before entering Stanislaus County. While much of this segment is agricultural in nature, there are large residential tracts and smaller commercial areas along the alignment in Manteca and Ripon. South of the county line at the Stanislaus River, the UP alignment passes the community of Salida before immediately entering Modesto. The main alignment would go through the central portion of Modesto, passing Modesto Junior College West, Modesto Junior College East, the Modesto Convention Center, Tuolumne Regional River Park, and the community of Ceres immediately south of the Tuolumne River.

A bypass loop is an option that would avoid Modesto. The alignment would depart from the main UP alignment and proceed south and then east to rejoin the main alignment south of Ceres. This route would traverse rural lands west and south of Modesto and would encounter scattered farmsteads.

BNSF Alignment: Between the City of Stockton and Modesto, the BNSF corridor passes fewer communities than the UP alignment, as the alignment is bordered predominantly agricultural lands with scattered residences. Leaving Stockton in a southeasterly direction, the alignment passes farmlands until

² Dianne Keil Smith, Senior Planner, City of Stockton, personal communication, January 3, 2003.

³ David Stagnaro, Senior Planner, City of Stockton, personal communication, January 3, 2003.

⁴ Gregg Meissner, Development Services Manager, City of Stockton, personal communication, January 3, 2003.

it enters the City of Escalon. The BNSF alignment runs along Main Street through the heart of this city, traversing residential and commercial areas along the way. This alignment continues southeast along the existing rail line past large lot agricultural parcels with scattered residences until it crosses the San Joaquin County/Stanslaus County line at the Stanislaus River. Within Stanislaus County, the alignment continues to be defined by rural land uses and agricultural production. The only concentration of residential population before the Modesto Briggsmore Station is the community of Riverbank at the Stanislaus River.

Modesto Downtown Station: The Modesto Downtown Station is located on a site designated RPD (Redevelopment Planning District) in the City of Modesto General Plan Land Use Diagram and ICP (Industrial/Commercial/Public) within the Redevelopment Area. The purpose and intent of the Redevelopment Planning District is to implement the mission of the City's Redevelopment Department, which states:

Redevelopment is an economic development and community development program of prime importance to the Modesto community, one that capitalizes upon all of the area's assets and natural resources.

The Modesto Redevelopment Area will be the focal point of community life and the social, cultural, business, governmental and entertainment center of the northern San Joaquin Valley.

Housing will be an integral part of the Project Area, complemented by and stimulated by creation of a safe and attractive, tree-lined environment. Modern transportation systems shall provide convenient transportation to and within the Project Area.

This vision will be achieved through partnerships between private enterprise and government agencies. The Redevelopment Agency shall take the lead through strategic investments in public infrastructure and by recruiting and assisting with new private investment.⁵

Access to the site is from SR 99, 8th Street, and 9th Street. The station site is currently occupied by an existing train station that is an historic structure and used for non-rail purposes. Adjacent land uses include commercial and industrial uses. In the vicinity of the site, land uses are characteristic of an urban business district, including municipal buildings, offices, commercial uses, and single- and multi-family residences. Land uses along the rail alignment in the vicinity of the station include commercial and industrial uses. Northwest of the station site, a bridge is under construction that will directly connect SR 99 to the downtown area.

Modesto Amtrak Briggsmore Station: The Modesto Amtrak Briggsmore Station is located on a site designated Business Park in the City of Modesto General Plan.⁶ The purpose and intent of the Business Park designation is:

to provide for areas of light industrial and employment intensive uses, and to produce an environment conducive to industries and employers seeking an aesthetically attractive "campus-like" setting. Regional Commercial uses are also permitted in Business Parks.⁷

This site is located within the Village One Comprehensive Planning District.⁸ Access to the site is from Claus Road and Parker Road. The station site is adjacent to an existing Amtrak train station. Other adjacent land uses include agricultural uses, a driving range, and a single-family residential subdivision. In the vicinity of the site, land uses include agriculture, rural residential, mobile home, single-family

⁵ City of Modesto, Urban Area General Plan, August 15, 1995, page III-3.

⁶ City of Modesto, Urban Area General Plan, August 15, 1995, Figure III-1 and III-2, pages III-14 and III-15.

⁷ City of Modesto, Urban Area General Plan, August 15, 1995, page III-5.

⁸ City of Modesto, Urban Area General Plan, August 15, 1995, Figure III-1, page III-14.

residential, and an electrical substation. Land uses along the rail alignment in the vicinity of the station include agricultural and residential.

Castle Air Force Base Station: The proposed station area is currently used for agricultural purposes. A visual survey performed in December 2002 found that the area surrounding the proposed station site, with the exception of the Castle Air Force Base site, is in agricultural production with attendant rural residences.

Modesto to Merced Corridor

UP Alignment: South of the Modesto Downtown Station site, the alignment surrounding land uses consist of a mix of residential, commercial, and industrial development. Development becomes increasingly sparse as the alignment continues, giving way to rural residential and agricultural development as the alignment moves south, passing through a few small towns and some pockets of industrial uses. Within Stanislaus County, the alignment passes through Ceres, west of the unincorporated community of Keyes, and then through the center of Turlock. While SR 99 was diverted to the west of Turlock, the UP alignment bisects the city, passing the Stanislaus County Fairgrounds and the downtown area including Central Park and the Chamber of Commerce.

Within Merced County, the UP corridor traverses a number of communities: Delhi, about 5 miles south of the county line; Livingston, within blocks of the civic center; and Atwater, cutting across the industrial southwest part of the city. After Atwater, land use density increases as it nears the City of Merced, a highly urbanized area.

Notable features adjacent to the UP alignment in this area include:

- South of Atwater, just past the grade-separated crossing of the UP alignment with SR 99, the alignment passes to the north of the Merced Medical Center, the County Juvenile Hall, and a cemetery.
- North of Merced, at the intersection of SR 99 and Franklin Road, the alignment would pass through a pet cemetery. According to City staff, this could be a potential issue as some local citizens have a strong attachment to the site.⁹
- Within the City of Merced, the UP alignment would pass through a state-designated Enterprise Zone, intended to stimulate business revitalization. Specific land uses near the alignment include the City's transportation center, the Veteran's Memorial Hall, Civic Center and the Federal Building, a medical center, and the County Health Department.
- A new interchange is proposed at the SR 99/Mission Road intersection, in Merced County, south of the City of Merced.¹⁰

The alignment options in this corridor include a route to the Merced Airport. This alignment would avoid traversing the central portion of Merced and would pass farmlands to the southwest of the city before rejoining the main UP line near the unincorporated community of Lingard.

BNSF Alignment: Compared to the UP alignment, the HST route following the BNSF would be predominantly agricultural. Within Stanislaus County, long stretches of farmlands are occasionally broken by the small rural communities of Empire, Hughson, and Denair. Between Empire and Hughson, the alignment passes the Whitehurst-Lakewood Memorial Park Cemetery just south of the Tuolumne River.

⁹ James G. Marshall, City Manager, City of Merced, personal communication, December 20, 2002.

¹⁰ James G. Marshall, City Manager, City of Merced, personal communication, December 20, 2002.

Between Denair in Stanislaus County and Castle Air Force Base on the outskirts of Atwater in Merced County, the landscape is dominated by farmlands. The only exception to this land use pattern is where the BNSF alignment passes through the community of Winton, about a mile north of Atwater. Cutting through the northeast corner of Atwater, the alignment passes the Castle Air Museum, Bloss Hospital, and Castle Park. A possible loop to serve an HST station at Castle Air Force Base would bypass the community of Winton and Atwater and enter the Castle Airport Aviation and Development Center through the farmlands east of Winton. This loop would pass through the developed area between Castle Air Force Base and Atwater. Land uses in this area include the California Army National Guard, former military buildings, and the Atwater Sports Club. South of Castle Air Force Base, the HST alignment diverges from the BNSF corridor, cutting through agricultural lands to join the UP alignment northwest of the City of Merced.

Merced Downtown Station: The station area is currently occupied by a Southern Pacific Depot, used for non-rail purposes, and a regional bus transportation center. Across 16th Street is the Merced Multicultural Arts Center. A visual survey performed in December 2002 found that the development surrounding the proposed station site is best characterized as mixed use. The parcels adjacent to the site on the north are developed with commercial uses, as are the parcels adjacent to the east and west. The parcels adjacent to the south are developed with commercial uses, senior housing and a Boys and Girls Club. Within the larger ¼-mile station area to the north of the proposed station site are mixed uses, with commercial, residential, office, and governmental development. There are industrial uses southeast of the proposed site and residential to the southwest. SR 99 lies a block to the south. Because the highway is elevated on a berm through this area, it effectively divides the community, and, therefore, it is not anticipated that the proposed HST station would affect land uses south of the highway.

The Southern Pacific Company Passenger Station, located at the site of the proposed Downtown Merced station, is a building of local historic importance. It was constructed in 1926 and is an example of neo-classic architecture.

In a meeting with City staff, the lack of parking in the area of proposed Downtown Merced station was raised as an issue. They also indicated that there is a high-pressure gas line in the vicinity of the proposed alignment through the City.¹¹

Merced Airport Station: The Merced Municipal Airport station area is developed with an airport, an industrial park, animal shelter, City of Merced Corporation Yard, Animal Shelter, and Fire Department. A visual survey performed in December 2002 found that the area surrounding the proposed station site, with the exception of the airport property, is either developed with ranchettes or is in agricultural production with attendant rural residences. Development within the larger ¼-mile station area southwest of the proposed station site reflects the same uses. The FAA would approve any development that takes place within the boundaries of the airport.

Merced to Fresno Corridor

UP Alignment: South of the City of Merced, the land uses once again mirror the predominant land use in this area of the valley – fragmented agricultural lands with scattered residences. From the Chowchilla River (also the Madera County line) to Fresno, the predominant land use along the UP line is agriculture. The alignment would run alongside SR 99 for the length of the corridor between the Chowchilla River and the San Joaquin River (also the Fresno County line). Within this stretch, the alignment would pass the small town of Chowchilla, located mostly to the west, and continue south through a mix of agriculture, agriculture-related industrial uses, and scattered rural residences. Urban land uses are not encountered until the City of Madera, where land uses on the outskirts consist of residential subdivisions to the east and agriculture-related industrial operations to the west. The alignment proceeds into the increasingly dense urban environment of Madera where it is surrounded by a mix of residential and

¹¹ James G. Marshall, City Manager, City of Merced, personal communication, December 20, 2002.

commercial/industrial uses as it continues to parallel SR 99. As the alignment moves through the southern outskirts of Madera, development becomes increasingly sparse and land uses become rural. Once again, agricultural uses dominate until the stretch reaches the San Joaquin River.

BNSF Alignment: The BNSF alignment leaves Merced and traverses agricultural lands along its entire route through the southern portion of Merced County and through all of Madera County towards Fresno. Even as it passes the City of Madera on its west, the alignment on both sides is dominated by scattered rural residences among agricultural parcels. The alignment continues south through more agricultural land until it rejoins the UP line after the San Joaquin River.

Consolidated Alignment into Fresno: Once the alignment crosses the San Joaquin River, it deviates from SR 99 to the east where land uses intensify to include scattered single-family residential subdivisions and industrial uses. The alignment continues south into the increasingly dense urban environment of Fresno, remaining to the east of SR 99. As the alignment approaches the Fresno central core, residential uses dominate the landscape to the east and a mix of light industrial, heavy commercial, and open space line the stretch on the western side.

Fresno Station: The station site is currently developed with a Union Pacific Depot, Greyhound Bus Depot, and rail-related light industrial uses on the eastern side and light industrial and heavy commercial uses on the western side. A visual survey performed in December 2002 found that the existing development surrounding the proposed station area is best characterized as mixed-use. Generally, parcels adjacent to the site on the east encompass the central business district, including the Fulton Pedestrian Mall and other commercial uses, office uses, the Fresno Grizzlies baseball stadium, and parking structures and lots. On the west side of the station area, prevalent uses include abandoned warehouses, heavy commercial businesses, such as paint shops and printers, light industrial uses, vacant lots, and scattered retail. The parcels within the ¼ mile study area reflect the mix of adjacent uses. The western portion of the study area is bisected by SR 99, which lies approximately four blocks west of the station site.

Fresno to Tulare Corridor

UP Alignment: Beyond the Fresno Station, the alignment continues south through a heavy industrial area. En route to Tulare in Tulare County, the alignment passes through the towns of Fowler, Selma, and Kingsburg, and their associated rural residences and agricultural uses, all the while remaining east of SR 99. At the town of Kingsburg, the alignment rejoins SR 99 and crosses the Kings River just south of the industrial developments, commercial, and residential uses associated with Kingsburg. After the Kings River, agricultural land returns as the dominant land use. The alignment passes through the railroad town of Goshen before it reaches the SR 99/SR 198 interchange, at which point it approaches the proposed Visalia HST Station. Other than the Visalia Airport on the east side of SR 99, the predominant land use is agriculture.

BNSF Alignment: The alignment diverges from the UP line at the south end of Fresno in a heavy industrial area. Past these industrial uses, development becomes sparser, giving way to scattered rural residences and agricultural uses. Agriculture dominates until the Kings River (also the Tulare County line), where the small town of Laton lies. Laton precedes another stretch of agricultural land before the alignment skirts the City of Hanford to the west. The main alignment of the BNSF passes agriculture-related industrial uses and agricultural lands west of the central core of Hanford. A possible connection into Hanford would pass through the commercial core of the City. The Downtown Business District lies to the east and the Hanford Town Center shopping complex and other community commercial uses lie to the west. The alignment would continue south through developed residential and industrial areas, before turning westward to rejoin the main line. En route to the main line, the route would traverse Planning Area D, designated for industrial uses and occupied by the Kings Industrial Park and the City's wastewater treatment plant.

Hanford Station: The station area is currently developed with the Hanford Amtrak Station, a temporary bus staging area, office uses, and commercial uses. A visual survey performed in December 2002 found

that the development surrounding the proposed station area is characterized as mixed use. The Hanford Historic District lies approximately three blocks to the east of the station area and it encompasses a mix of community-serving retail uses, institutional uses, including City offices, and private office uses. The area to the west of the station area includes more regional commercial uses, such as gas stations, large retail chains, and car dealerships. Within the greater ¼ mile study area, a single- and multi-family residential area and a recreation/community center lie to the northeast of the station area, and light industrial uses lie to the northwest. The area to the south of the station area within the ¼ mile study area consists of predominantly light industrial/warehouse and heavy commercial uses interspersed with vacant lots and pockets of single-family residential uses. Highway 198 runs perpendicular immediately south of the station area and is elevated over these uses.

Visalia Airport Station: The station area is currently undeveloped and is directly adjacent to SR 99. Land uses to the east include the Visalia Municipal Airport, airport-related commercial uses, a City regional park with baseball fields and a golf course, and agriculture. The primary land use to the west is agriculture, with the exception of a composting center and one single-family residential use to the immediate northwest of the station area. The SR 99/Highway 198 interchange is located to the north of the station area partially within the ¼ mile study area.

Tulare to Bakersfield Corridor

UP Alignment: Beyond the Visalia Airport Station and after a small stretch of agricultural land, the alignment approaches the City of Tulare, where highway commercial and agriculture-related industrial uses line much of the corridor. After Tulare, the alignment briefly diverges to the west of SR 99, and continues through agricultural land and scattered rural residences. It passes through the small towns of Tipton, Pixley, and Earlimart and the agricultural uses surrounding them before it reaches the Kern County line, where it enters the City of Delano. Residential and highway commercial uses surround the alignment, until development becomes less dense and industrial uses emerge at the south end of the city. From Delano, development once again becomes more rural, with primarily agricultural development and scattered industrial and rural residential uses. At the northern limits of Bakersfield, the alignment approaches the proposed Bakersfield Airport Station and continues south into the dense urban environment of Bakersfield.

BNSF Alignment: Once outside of Hanford, the alignment traverses open agricultural land and then passes immediately east of the town of Corcoran near the Kings County/Tulare County line. Continuing southeast into Tulare County, the BNSF alignment passes through farmlands, the Pixley National Wildlife Refuge on the east, and the Colonel Allensworth State Historic Park on the west. South of these uses, all the way into Bakersfield, agriculture is the predominant land use, with the small towns of Wasco and Shafter in Kern County the only interruptions. As the alignment approaches the northern limits of Bakersfield, residential subdivisions appear and surround this stretch of the corridor. Land uses transition to the dense urban core of Bakersfield as the alignment approaches the Truxtun Station.

Bakersfield Truxtun Station: The station area is currently developed with the Bakersfield Amtrak Station, a public library, light industrial uses, and office uses. A visual survey performed in December 2002 found that the development surrounding the proposed station area is characterized as mixed use. Single- and multi-family residential uses with several churches lie adjacent to the station site to the north and east. The area to the west of the station area within the ¼ mile study area consists of the Bakersfield Centennial Garden and Convention Center, hotel uses, and mixed office/commercial uses. A light industrial area lies south of the station and includes parcels with churches and a community health center. The portion of the station that would line Union Avenue consists of mixed commercial and office uses.

Bakersfield Golden State Station: The station area is developed with transportation/auto uses, such as a trucking center, bus headquarters, and an RV service center. A low-income housing development is located immediately southeast of the station area and regional commercial uses, including a mall, are

located south of the area across SR 204. Beyond the mall to the southwest, a single-family residential area dominates the majority of land uses within the ¼ mile study area. The Metropolitan Recreation Center lies to the northeast of the station area and the Kern County Historical Museum lies adjacent to the station area to the east. The Kern River runs east-west just north of the station area partially within the ¼ mile study area.

Bakersfield Airport Station: The station area is currently an undeveloped vacant lot adjacent to SR 99. The Bakersfield Airport lies to the east of the station area partially within the ¼ mile study area. Light industrial and heavy commercial uses line the opposite side of SR 99 from the station area. Beyond these uses to the west, the land is currently used for agricultural purposes.

Bakersfield Maintenance Facility Options: Both maintenance facility areas along the UP and the BNSF are defined by agricultural uses.

2.3.2 Future Baseline 2020 Planned Land Use

City of Sacramento

The expected year of build-out for the City of Sacramento General Plan is 2016. The City of Sacramento General Plan calls for full urbanization within City limits, identifying several areas for new growth. These areas include North Natomas, South Natomas, Airport-Meadowview, and East Broadway. The Power Inn Road Station and the Storage and Maintenance Facility are located in North Sacramento.

The North Sacramento growth area is largely designated for residential infill development. This area encompasses nearly two thirds of the City's 8,500 potential infill units. Potential build-out capacity for the North Sacramento Area is estimated at 19,530 housing units, or 22 percent of the City's total potential additional housing units. Additional residential development in this area is anticipated to be triggered by industrial development in North Natomas.

North Sacramento is also anticipated to serve as a major employment area, providing an additional 36,400 jobs (16 percent of new jobs) at General Plan build-out.¹²

In addition to new development, the City of Sacramento has identified existing areas for redevelopment and reuse. The Sacramento Downtown Station is located in such an area.¹³

Downtown Sacramento Station: The Downtown Sacramento Station site is located in downtown Sacramento, in an area that is currently developed with urban uses. This area is identified in the SGPU as a Redevelopment Target Area and a Code Enforcement Concentration Area.¹⁴ This designation indicates that the City has programs in place to improve the area, in order to increase its economic viability and remove areas of blight or deterioration.

Power Inn Road Station/Storage and Maintenance Facility: As discussed above, the Power Inn road Station and Storage and Maintenance Facility are located in the North Sacramento area, which, according to the SGPU, is anticipated to undergo a significant amount of growth by General Plan build-out year 2016. Land uses envisioned for this area include approximately 19,530 residential units, as well as employment-generating uses resulting in an additional 36,400 jobs for the City of Sacramento.

Stockton Station: The proposed site for the Stockton Station is designated Industrial by the City's General Plan. The Industrial General Plan designation allows a wide variety of industrial uses and includes public and quasi-public uses, and other similar and compatible uses.¹⁵

¹² City of Sacramento, City of Sacramento General Plan, January 18, 1988, page 1-17.

¹³ City of Sacramento, City of Sacramento General Plan, January 18, 1988, page 1-20.

¹⁴ City of Sacramento, City of Sacramento General Plan, January 18, 1988, page 1-20.

¹⁵ City of Stockton, *General Plan Policy Document*, last amended November 3, 1998, Page II-3.

The parcels adjacent to the north and east of the site are designated Commercial. There is a narrow area of land designated Industrial adjacent to the west, with parcels designated Commercial to the west of that area. Parcels to the southeast are designated Low to Medium Density Residential and the parcels to the southwest are designated High Density Residential.¹⁶

The station area is within the area designated as "Downtown Stockton". The portion of the proposed station site south of Weber Avenue would be within the East End District and the area north of Weber would be in an area designated the Multi-Modal Area.¹⁷ The East End District is planned to house a variety of essential support services for the downtown business community.¹⁸

The station area is within the Stockton/San Joaquin Enterprise Zone, which was established to provide state income tax advantages and local benefits to businesses located with the Zone.

City of Modesto

Build-out of the City of Modesto General Plan is anticipated to occur in the year 2025. The City of Modesto has developed a Community Growth Strategy that identifies areas as either Redevelopment Areas, Baseline Developed Area, or Planned Urbanizing Area. Stations and alignments of the proposed High Speed Rail project fall into areas designated as both Redevelopment Area and Planned Urbanizing Area.

The designated Redevelopment Area under the City of Modesto's Growth Strategy is a 2,000-acre area that contains lands identified as a Redevelopment Plan Area by the Modesto Redevelopment Agency (as adopted in 1991).

The Planned Urbanizing Area contains 17,600 acres of land that is anticipated to undergo substantial urbanization as the City grows. This area is divided into Comprehensive Planning Districts for the purpose of planning and managing growth. This is viewed as the geographic area where most objectives of the General Plan will come to fruition.¹⁹

Downtown Modesto Station: The Downtown Modesto Station site is located in a Redevelopment Area, as designated by the City of Modesto General Plan Growth Strategy Diagram. The alignment approaching this station runs through a stretch of Planned Urbanizing Area northwest of the station site, as well as the Redevelopment Area.²⁰

Amtrak Briggsmore Station: The Amtrak Briggsmore Station site is located in a Planned Urbanizing Area, as designated by the City of Modesto General Plan Growth Strategy Diagram. The alignment approaching this station runs along the edge of the Planned Urbanizing Area.²¹ As discussed above, this station is located in an area designated Business Park in the City of Modesto General Plan, and is part of the Village One Comprehensive Planning District (CPD). This comprehensive Planning District contains 1,620 acres designated Village Residential and 220 acres designated Business Park. The CPD is planned for a maximum of 8,000 residential units.²²

City of Merced

The City of Merced prepared its *Merced Vision 2015 General Plan* in 1997.²³ As part of the plan, the City proposed a Sphere of Influence and a Specific Urban Development Plan (SUDP). The SUDP area encompasses about 20,540 acres and is expected to contain sufficient land to meet the City's growth needs through 2015. In 2015, the City's population is projected at 133,250, from the 2000 population of

¹⁶ City of Stockton Website accessed on January 24, 2003, <http://www.ci.stockton.ca.us/CD/pages/genplan-map.pdf>.

¹⁷ City of Stockton, "Downtown Stockton Projects", a map dated 2001.

¹⁸ City of Stockton, *Central Stockton Plan – Final Plan*, September 1989, Page 14.

¹⁹ City of Modesto, Urban Area General Plan, August 15, 1995, page II-1, II-2.

²⁰ City of Modesto, Urban Area General Plan, August 15, 1995, Figure II-1.

²¹ City of Modesto, Urban Area General Plan, August 15, 1995, Figure II-1.

²² City of Modesto, Urban Area General Plan, August 15, 1995, page III-111 and III-112.

²³ City of Merced, Merced Vision 2015 General Plan, April 1997.

nearly 85,000. The larger Sphere of Influence includes approximately 35,000 acres. Notably, the Sphere of Influence extends to the northeast to include about 10,000 acres proposed for the future University of California Merced campus. Areas north of the existing city, between Highway 59 on the west and Yosemite Lake on the east, are envisioned for significant business and industrial park development. The area closer to Yosemite Lake, referred to as the North Merced Villages, is envisioned as a series of commercial centers surrounded by higher density residential development.

Castle Air Force Base Station: The proposed site for the Castle Air Force Base Station is currently designed Agricultural by the County's General Plan, as are the parcels to the east, south and west. To the north of the proposed station site is the site of the former Castle Air Force Base, which was closed in 1995 and is now designated by the County as a Specific Urban Development Plan (SUDP) area. A portion of the former base is used as a California National Guard Facility. There is currently a Request for Proposals for a Master Developer(s) to redevelop a significant portion of the former base. The County views the site as an opportunity to develop a major airport facility, commercial and industrial parks, and high-tech facilities.²⁴

The Agricultural General Plan designation is used for areas suitable for cultivated agricultural practices that rely on good soil quality, minimal slopes and water availability. Other appropriate uses within this land use designation include areas with high open space value for recreation or wildlife, livestock facilities, and agricultural commercial facilities. Housing is considered an accessory use to the primary activity of a parcel.²⁵

Merced Downtown Station: The proposed site for the Merced Downtown Station is currently designated Regional/Community Commercial by the City's General Plan, as are the parcels adjacent to the north, east, and south of the site. Parcels to the west are designated General Commercial. Adjacent to the southeast of the proposed site are parcels designated Park/Open Space/Recreation.²⁶

The proposed station site is within the City's Central Business District/Downtown and Redevelopment Project No. 2, adopted in 1974. In 1991 the following "Vision for Downtown Merced" was adopted by the City:

Downtown is Merced's most diverse social and economic center. Downtown will continue to play a dominant role in cultural and civic activity, finance and government. Downtown will become a stronger center for business, education, housing, and local and regional retail.²⁷

The station area is within the Enterprise Zone adopted by the City, City of Atwater, and parts of Merced County. This zone designation provides tax benefits and other financial incentives for businesses to create new jobs and make business investments within the communities.²⁸

The purpose of the Regional/Community Commercial designation is to provide community and regional commercial centers that have a full variety of retail goods and have one or more major department stores as key tenants.²⁹

Merced Airport Station: The proposed site for the Merced Airport Station is currently designated Industrial by the City's General Plan, as are the parcels adjacent to the north, east, south and west of the site.³⁰ The station would be located within, and along the southern boundary of, the Merced Municipal

²⁴ Merced County Website accessed on January 24, 2003, <http://www.co.merced.ca.us/castleairportrfq/index.html>.

²⁵ Merced County website accessed January 24, 2003, <http://www.co.merced.ca.us/planning/genplan.html>.

²⁶ City of Merced, "Merced Vision 2015 – General Plan Map", June 02, 1998.

²⁷ City of Merced, *Merced Vision 2015 General Plan*, April 1997, Page 3-29.

²⁸ City of Merced, *Merced Vision 2015 General Plan*, April 1997, Page 3-32.

²⁹ City of Merced, *Merced Vision 2015 General Plan*, April 1997, Page 3-7.

³⁰ City of Merced, "Merced Vision 2015 – General Plan Map", June 02, 1998.

Airport. The Industrial General Plan designation allows a wide variety of industrial uses and includes public and quasi-public uses, and other similar and compatible uses.³¹

The proposed site is within a commercial and industrial corridor designated as “South Merced” by the Merced City General Plan. This area is to serve as an employment area with a heavy concentration of commercial and industrial development.³² The South Merced West Specific Plan, also a designated commercial and industrial corridor, is adjacent to the airport to the east.³³

The Merced County Airport Land Use Commission (ALUC) prepared a Policy Plan in accordance with the State Public Utilities Code for operation of airports within the County. The Plan provides policy for compatible land uses near airports in addition to clear zones and safety zones. The ALUC also identifies “Interim Airport Areas of Influence” to indicate additional areas important for monitoring land use activities for compatibility.³⁴ This policy would apply to the proposed project.

City of Fresno

The proposed site for the Fresno Station is designated Commercial (Central Area) and Commercial/Industrial (Central Area) by the City’s General Plan. The parcels adjacent to the area on all sides are designated Commercial (Central Area) and Commercial/Industrial (Central Area) as well.³⁵ The General Plan states that the revitalization and enhancement of the established urban core will continue to be the major focal point of the plan’s vision. The proposed station site is located in an area designated as the “Centre City” which is defined as the area bounded by Ashlan, Chestnut, Jensen and West/Freeway 99. The Centre City is identified as an important revitalization area, and the General Plan indicates that the City is committed to maintaining a healthy, safe environment, and avoiding stagnation and decay that can occur in older cities.

The project area is within the “core area” of the Central Area as identified in the Central Area Community Plan and is designated Commercial Mixed Use Level 2 (C/MX-2). The purpose of this designation is to allow a mixed-use concept to enhance the development potentials of the existing environment within the Central Area and permit the most flexible range of development options to attract new developments.³⁶

City of Hanford

The proposed site for the Hanford Station is currently designated as Downtown Commercial and Service Commercial in the City’s General Plan. Parcels to the west are designated Community Commercial and parcels to the east are designated Downtown Commercial and Service Commercial. The project area is within the Downtown Business District, which the City hopes will evolve into a unique and focused commercial and entertainment center of the community while retaining a mix of commercial and residential uses.³⁷ The General Plan indicates that a Master Plan or Specific Plan may be prepared to guide development in the Downtown District. The project area is also located in Planning Area G, Commercial Core, within the Downtown Business District sub-area.

City of Visalia

The proposed site for the Visalia Airport Station is designated Agriculture by the City’s General Plan, as are parcels to the north, south, and west. The station would be located along SR 99 and west of the

³¹ City of Stockton, *General Plan Policy Document*, last amended November 3, 1998, Page II-3.

³² City of Merced, *Merced Vision 2015 General Plan*, April 1997, Page 3-34.

³³ City of Merced, *Merced Vision 2015 General Plan*, April 1997, Page 3-60.

³⁴ Merced County website accessed January 24, 2003, <http://www.co.merced.ca.us/planning/genplan.html>, Page I-35.

³⁵ City of Fresno, *2025 Fresno General Plan*, Land Use and Circulation Map, February 2002.

³⁶ City of Fresno, *Central Area Community Plan*, July 1989, p. 14.

³⁷ City of Hanford, *2002 General Plan Update*, June 18, 2002, p. LU-9.

Visalia Municipal Airport, which is designated Public Institutional by the General Plan. All land outside the Urban Development Boundary (UDB) is designated Agriculture irrespective of size or actual use, and the station area is in such an area immediately outside the UDB.³⁸

City of Bakersfield

Bakersfield Truxtun Station: The proposed site for the Bakersfield Truxtun Station would be located in an area encompassing five land use designations in the City's General Plan. The primary designation is Public Transportation Corridor, and the rest are Mixed Use Major/Office Commercial, Light Industrial, General Commercial, and Public Facilities. Adjacent parcels include a similar mix of land use designations, with the exception of the area to the immediate south of the Public Transportation Corridor designation, which is designated Low Density Residential. The Public Transportation Corridor designation includes existing railroads whose future use is restricted to transportation-related uses.³⁹

Bakersfield Golden State Station: The proposed site for the Bakersfield Golden State Station is designated Light Industrial by the City's General Plan. The large parcel to the northeast is designated Public Facilities, parcels to the south are designated General Commercial and Office Commercial, and parcels to the southwest are designated Open Space and Low Density Residential.

Bakersfield Airport Station: The proposed site for the Bakersfield Airport Station is designated Service Industrial by the City's General Plan, and is surrounded by similarly designated areas. The station site is located to the west of the Bakersfield Airpark, which is designated Public Transportation Corridor, and to the east of an area designated Suburban Residential.

Bakersfield Maintenance Facility Alternative 1: The Bakersfield Maintenance Facility Alternative 1 site along the UP alignment is designated for non-urban uses in the Kern County General Plan.

Bakersfield Maintenance Facility Alternative 2: The Bakersfield Maintenance Facility Alternative 2 site along the BNSF alignment is designated Service Industrial by the City's General Plan. The areas to the immediate west are designated High Medium Density Residential and Low Medium Density Residential.

³⁸ City of Visalia, *Visalia General Plan Land Use Element*, Revised June 1996, p. 1-15.

³⁹ City of Bakersfield, *Metropolitan Bakersfield General Plan Update*, December 2002, p. II-17.

2.4 POPULATION CHARACTERISTICS

2.4.1 Trends and Growth

Great Central Valley: Recent growth and development of the Sacramento to Bakersfield region as we know it today came about as it did in much of the western United States, with the arrival of the railroads during the latter half of the 19th Century (1870s and 1890s). Following World War II, growth in the Central Valley associated with the “baby boom” generation emerged in and around the City of Sacramento, while other Central Valley cities experienced little change. Major urban development of the Sacramento to Bakersfield region, primarily in the areas of Stockton, Tracy, and Modesto occurred during the 1970s, 80s, and early 90s. By the early 1990s, 24 percent of the State’s farmland had been converted to urban uses, in part to meet the housing needs of the rapidly expanding Silicon Valley.

Sacramento County and City of Sacramento: The City of Sacramento and the County of Sacramento are located at the northern terminus of the HST alignment, in the heart of California’s rich Central Valley farmlands. The City of Sacramento, Sacramento County’s largest city, is also the State capital of California. The current population of Sacramento County is 1,218,900, with 407,000 of those living within the City of Sacramento (see Table 1). The population of Sacramento County is projected to reach 1,695,500 by the year 2025.

San Joaquin County and City of Stockton: San Joaquin County, located south of Sacramento County, contains the cities of Stockton, Lodi, Tracy, Manteca, Escalon, Lathrop, and Ripon. San Joaquin County has a population of 566,600, with 247,400 in the City of Stockton. Population forecasts for San Joaquin County and City of Stockton in 2025 total 900,300 and 406,500, respectively.

Table 1
Historical and Projected Populations of Counties in the Sacramento to Bakersfield Region

County	1980	1990	2000 ¹	Projected 2025	
				Population ²	% Growth ^{3,4}
Sacramento	783,381	1,041,219	1,218,860	1,695,498	39%
San Joaquin	347,342	480,628	566,600	900,338	59%
Stanislaus	265,900	370,522	431,255	826,123	92%
Merced	134,560	178,403	215,256	373,170	73%
Madera	63,116	88,090	126,394	252,021	99%
Fresno	514,621	667,490	830,100	1,290,300	55%
Tulare	273,800	311,921	379,944	629,252	66%
Kings	73,738	101,469	129,461	204,791	58%
Kern	403,089	544,981	677,372	1,195,998	77%

Source: Population numbers are from Census 2000, U.S. Census Bureau, PL 94-171 (2000); Excel File available at: www.dof.ca.gov/HTML/DEMOGRAP/2000Cover.htm; I 80-89 July Intercensal Estimates of Total Population for California Counties, 1980-1989, with 1980 and 1990 Census counts.

Notes:

1. Population estimates for the cities in these counties are presented in Appendix B, Table B-1.
2. Population estimates are from Central Valley Regional transportation Plans, except as noted.
3. Difference between 2025 and 2000 populations, expressed as a percentage of 2000 population.
4. Based on the data in Table 2, the population in the Sacramento-Bakersfield region would increase by 46% to 6.7 million in year 2020.

Stanislaus County and City of Modesto: Stanislaus County, south of San Joaquin County, includes the cities of Modesto, Turlock, Ceres, and Oakdale. The current population of Stanislaus County is 431,300, with 188,900 in the City of Modesto. By the year 2025, Stanislaus County is projected to reach 826,100.

Merced County and City of Merced: Merced County is centrally located within the Great Central Valley, directly south of Stanislaus County. The City of Merced, the county seat, is located on the SR 99 corridor. The existing population of Merced County is 215,300, with 70,500 in the City of Merced. By the year 2025, the population of Merced County is expected to increase to 373,200, while the City of Merced is projected to reach 115,300.

Madera County: Madera County is also known as the “southern gateway” into Yosemite National Park. Madera County’s current population of 126,400 is projected to reach 252,000 by the year 2025.

Fresno County and City of Fresno: In the late 1940s, Fresno County became the nation’s top agricultural county, a title that has never been relinquished. The largest city within Fresno County is the City of Fresno, with a population of 420,600. Fresno County is expected to grow from 830,100 in 2000 to 1,290,300 by 2025.

Tulare County and City of Visalia: Tulare County is located south of Fresno County and east of Kings County. The county seat is the City of Visalia with a population of 93,200. By the year 2025, Tulare County is expected to grow from 379,900 to 629,300.

Kings County and City of Hanford: The City of Hanford is the county seat of Kings County, as well as its most populous city with 41,000 of the 129,500 persons in the county. Kings County is located to the west of Tulare County and south of Fresno County. By the year 2025, Kings County is projected to reach a population of 204,800.

Kern County and the City of Bakersfield: Kern County is the southernmost county in the Sacramento to Bakersfield alignment. The county seat of Kern County is the City of Bakersfield, which has a population of 237,200 persons. Kern County is one of the fastest growing regions of the country; the population is projected to grow from 677,400 in 2000 to 1,195,200 in 2025.

2.4.2 Household Size

With the exception of Sacramento County, household size is fairly uniform throughout the Great Central Valley (see Table 2). Household size for most of the valley ranges from 3.046 (San Joaquin County) to 3.302 in Tulare County. Sacramento County, by contrast, has a mean household size of 2.677 persons.

2.4.3 Ethnicity

The Department of Finance demographic data in Table 3 summarizes the ethnicity of the Sacramento to Bakersfield region population. Throughout most of the Sacramento to Bakersfield region, Whites and Hispanics are fairly close in their percentage of the overall population (i.e., in Merced, Madera, Fresno, Tulare, and Kings Counties). However, counties that either possess non-agricultural industries or are within commute range of the San Francisco Bay Area tend to have larger percentages of Whites (i.e., Sacramento, San Joaquin, Stanislaus, and Kern Counties).

2.4.4 Income

Based on the Department of Finance data in Table 5, per capita income tends to be lower in the communities that rely chiefly on an agricultural employment base. For example, Kings County with a total population of 129,500 has a workforce of 45,880 persons, of which 14.0 percent are unemployed and the average per capita income is \$15,492. However, counties that have a more diversified economy (including, for example, oil, healthcare, and technology), such as Kern and Sacramento Counties, tend to support larger workforces at higher average incomes. Sacramento County has a workforce of 605,500 persons, of which only 4.2 percent are unemployed and the average per capita income is \$26,257.

Table 2
Household Size of Counties in the Sacramento to Bakersfield Region

County	Number of Households (Housing Units)	Average Household Size (Persons)
Sacramento	490,601	2.677
San Joaquin	197,279	3.046
Stanislaus	156,515	3.068
Merced	70,672	3.273
Madera	41,596	3.291
Fresno	276,440	3.129
Tulare	122,440	3.302
Kings	37,218	3.219
Kern	237,648	3.061

Source: State of California, Department of Finance, City/County Population and Housing Estimates, 2000 and 2001. Sacramento, California, July 2001.

Table 3
Race and Ethnicity of Counties in the Sacramento to Bakersfield Region¹

County	Race							
	White	Hispanic	Black	American Indian	Asian	Pacific Islander	Other	Two or More Races
Sacramento	706,655	195,890	118,073	9,070	132,601	6,788	3,406	51,016
San Joaquin	267,002	172,073	36,139	3,531	62,126	1,624	1,225	19,878
Stanislaus	256,001	141,871	10,621	3,483	18,234	1,354	971	14,462
Merced	85,585	95,466	7,594	1,115	14,041	281	410	6,062
Madera	57,391	54,515	4,710	1,694	1,480	160	287	2,872
Fresno	317,522	351,636	40,291	6,223	63,029	682	1,451	18,573
Tulare	153,916	186,846	5,122	3,011	11,457	257	444	6,968
Kings	53,817	56,461	10,418	1,304	3,884	192	229	3,156
Kern	327,190	254,036	37,845	5,885	21,177	728	989	13,795

Source: U.S. Census Bureau, PL 94-171 (2000); Excel File available at: www.dof.ca.gov/HTML/DEMOGRAP/2000Cover.htm

Notes:

1. Ethnicity characteristics for the cities in these counties are presented in Appendix B, Table B-1.

Table 4
Employment Characteristics and Per Capita Income of
Counties in the Sacramento to Bakersfield Region

County	Labor Force	Percent Unemployed	Per Capita Income
Sacramento	605,500	4.2	\$26,257
San Joaquin	260,800	8.8	\$20,813
Stanislaus	207,200	10.4	\$21,136
Merced	85,200	14.4	\$17,732
Madera	55,400	11.7	\$17,403
Fresno	398,600	14.1	\$20,333
Tulare	170,000	15.4	\$18,893
Kings	45,880	14.0	\$15,492
Kern	280,400	11.3	\$19,643

Source: California Department of Finance, California County Profiles Updated March 2001

2.5 NEIGHBORHOOD AND COMMUNITY CHARACTERISTICS

A description of the neighborhoods and communities in the Sacramento to Bakersfield region is presented earlier in Section 2.2, Regulatory Setting, which describes the general plan proposals for the HST station areas, and in Section 2.3, Land Use, which describes the existing development pattern. Given the length of the region, traversing nine counties, there are a number of identifiable neighborhoods within the cities along the highways and roadways proposed for modification under the Modal Alternative and along the UP and BNSF rail corridors of the HST Alternative. In addition, there are a number of older, agricultural communities within the unincorporated portions of the counties. The *Sacramento to Bakersfield Cultural Resources Technical Evaluation* by Applied Earthworks (March 2003) indicates that many of these communities originated in mid to late 19th century.

2.6 HOUSING

Housing types in the Sacramento to Bakersfield region range from isolated rural ranchettes surrounded by agricultural land to high-density multi-family units within the urban framework of cities and towns. As described in Section 2.4.2, household size in the Sacramento to Bakersfield region averages approximately 3.0 persons per household. The majority of these households are single-family units, which make up the predominant housing type in the Sacramento to Bakersfield region. New single-family subdivisions are found in all of the cities of the Sacramento to Bakersfield region, especially on the edges of older urban development. Higher density multi-family housing is prevalent within the urban cores of larger cities such as Sacramento, Stockton, Modesto, Fresno, and Bakersfield, but is not as common outside of these areas.

3.0 EVALUATION METHODOLOGY

The analysis was conducted using existing U.S. Census 2000 tract information/data compiled in a geographic information system (GIS) format, local community general plans or regional plans, as well as land use information provided by the planning agencies in each of the regions. Existing and future baseline conditions were established for the No Project Alternative by documenting existing information for existing and planned future land use policy in station and airport areas, development patterns for employment and population growth, demographics, communities and neighborhoods, housing, and economics. The No Project Alternative was compared to the future baseline plans to see if there would be potential effects on future development. Chapter 2 lists and discusses the general and regional plans.

Ranking systems were established to evaluate potential impacts for all three alternatives for land use compatibility, communities and neighborhoods, property, and environmental justice. Because this is a programmatic environmental review, the analysis of these potential impacts was performed on a broad scale to permit a comparison of relative differences of proposed alternatives. A more detailed analysis would be required at the project-level environmental review, should a decision be made to proceed with the proposed HST system.

Land Use Compatibility

The compatibility of the alternatives with existing land use is evaluated for highways, airports, and proposed HST alignments, stations, and maintenance facility areas. Compatibility is based on the potential sensitivity of various land uses to the changes included with the Modal and HST Alternatives, and the impact of these changes on the land use. For example, homes and schools are more sensitive to changes that may result in increased noise and vibration (see Section 3.4, *Noise and Vibration*) or increased levels of traffic congestion (see Section 3.1, *Traffic and Circulation*). Industrial uses, however, are typically less sensitive to these types of changes because they interfere less with normal industrial activities. Given that an area's sensitivity or compatibility is based on the presence of residential properties, low, medium, and high levels of compatibility are identified based on the percentage of residential area affected, the proximity of the residential area to proposed modal or HST system facilities, and the presence of local or regional uses (such as parks, schools, and employment centers.). For highway corridors (under the No Project and Modal Alternatives) and for proposed HST alignments, land use compatibility was assessed using GIS layers (or aerial photographs where available) to identify proximity to housing and population and to determine whether the alignments would be within an existing right-of-way or a new transportation corridor in the area. Compatibility impacts are considered low if existing land uses within proposed alignment, station, airport, and maintenance facility areas are found to be compatible with proposed changes associated with either the Modal or HST Alternative. The type of improvement that would be associated with either the Modal or HST Alternative would also affect the level of potential impact, particularly for agricultural land. Improvements such as widening of the existing right-of-way or the need for new right-of-way were considered to have a low compatibility with agricultural land. Conversely, if the improvement would be contained within the existing right-of-way or within a tunnel, the alternative was considered to be highly compatible with agricultural land.

Future land use compatibility is based on information from general plans and other regional and local transportation planning documents. Each document was examined to determine whether a project alternative would be highly compatible with the goals and objectives defined therein. The Modal Alternative is considered compatible if the highway or airport improvement is in the regional transportation plan (RTP) or regional airport master plan. The HST Alternative is considered highly compatible if it would be located in areas planned for transportation multi-modal centers or corridor development, redevelopment, economic revitalization, transit-oriented development, or high-intensity employment. Impacts are considered low if a project alternative is determined incompatible with local or regional planning documents. Table 5 summarizes the level of compatibility of existing land use types with proposed alignment options, station areas, maintenance facilities, and airports.

**Table 5
Compatibility of Land Use Types**

Low Compatibility	Medium Compatibility	High Compatibility
Single-family residential, neighborhood park, habitat conservation area, elementary/middle school, agricultural (widened or new right-of-way needed)	Multifamily residential, high schools, community parks, low-intensity industrial, hospitals	Business park/ regional commercial, multifamily residential, existing or planned transit center, high intensity industrial park, service commercial, commercial recreation, college, transportation/utilities, high-intensity government facilities, airport or train station, agricultural (tunnel or no new right-of-way needed)

Communities and Neighborhoods

A potential impact on a community or neighborhood was identified if any of the proposed alignment options or facilities associated with each of the project alternatives would create a new physical barrier, isolating one part of an established community from another and resulting in a physical disruption to community cohesion. Improvements to existing transportation corridors, including grade separations, would not generally result in a new barrier.

Property

Assessment of potential property impacts is based on the types of land uses adjacent to the particular proposed alignment, the amount of right-of-way potentially affected by the construction type, and the land use sensitivity to potential impacts. Impacts include potential acquisition, relocation, or demolition of properties. Potential property impacts were ranked high, medium, or low as summarized below in Table 6.

**Table 6
Rankings of Potential Property Impacts**

Facility Requirements	Type of Development						
	<u>Residential</u>			<u>Non-residential</u>			
	Rural/ Suburban	Suburban/ Urban	Urban	Rural Developed	Suburban Industrial/ Commercial	Urban Business Parks/ Regional Commercial	Rural Non- developed
No additional right-of-way needed (also applies to tunnel segments for HST Alternative)	Low	Low	Low	Low	Low	Low	Low
Widening of existing right-of-way required	Medium	Medium	High	Low	Medium	High	Low
New corridor (new right-of-way required; includes aerial and at-grade)	High	High	High	Medium	Medium	High	Low to medium

arrangements)							
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To determine potential property impacts, the 0.25-mi (.40-km) study area was characterized by its density of development. Densities of structures, buildings, and other elements of the built environment are generally higher in urbanized areas. *Rural/suburban residential* refers to low-density, single-family homes. *Suburban/urban* is medium density, multifamily housing such as townhouses, duplexes, and mobile homes. *Urban residential* refers to high-density multifamily housing such as apartment buildings. *Rural developed* non-residential uses typically occur in non-urbanized areas and often include developed agricultural land such as vineyards and orchards. *Suburban industrial/commercial* refers to medium density non-residential uses and includes some industrial uses, as well as transportation, utilities, and communication facilities. *Urban business parks/regional commercial* refers to non-residential uses that occur in urbanized areas and includes such uses as business parks, regional commercial facilities, and other mixed use/built-up uses. *Non-rural undeveloped land* includes cropland, pasture, rangeland, and barren land. The classification of development types was based on land use information provided by the planning agencies in each of the regions.

The complete property impact analysis was prepared separately from this technical report ("California High-Speed Train Program EIR/EIS Potential Property Impacts Technical Evaluation Memo," P&D Environmental, August 15, 2003. Revised January 2004.)

Environmental Justice

This analysis is based on two basic criteria: 1) Is an environmental justice population (i.e., minority or low-income population) present in the study area (0.25 mi [0.40 km] from the alignment), and 2) What is the potential for an adverse impact? This assessment was done using U.S. Census 2000 information and alignment information to determine if the populations exist within the study areas and if they do, whether the alignments would be within or adjacent to the right-of-way or new alignments.

The presence of environmental justice populations was determined by following the guidelines mentioned in the regulatory section.

- At least 50% of the population in the project study is minority or low-income.
- The percentage of minority or low-income population in the project study area is at least 10% greater than the average in the county or community.

The potential for impacts to minority and low-income populations was assessed based on the size and type of right of way required for the project. For example, if an alignment was within an existing right-of-way, the potential for impact was considered low. If the alignment was on a new alignment which crossed by or through an area of minority or low-income populations, then the potential for impacts was considered higher. Further study would be required to determine the type and extent of any possible impacts, and any potential benefits from the location of an HST station within the community. Such study would take place during project-level analysis.

4.0 IMPACTS

4.1 NO-PROJECT ALTERNATIVE

The No-Project Alternative involves only those transportation improvements that have been programmed and funded. They include localized changes to the transportation system – a new or improved interchange, installation of carpool or high occupancy lanes, selective highway widenings, expansions of airport passenger terminals and parking, and track and station upgrades on the conventional passenger rail system. Given the nature of these improvements, the impacts to local development and socioeconomics, if any, would be geographically and physically limited. Compared to the more extensive Modal and HST Alternatives, the No-Project Alternative would trigger less environmental impact. Nonetheless, this statement is not intended to suggest that the No-Project would not have adverse effects. In fact, it is anticipated that collectively the various improvements programmed and funded in the State Transportation Improvement Program, Regional Transportation Plans, Airport Master Plans, and intercity passenger rail plans would have impacts, many of which will require mitigation measures to reduce the effects.

Impacts of the No-Project Alternative would be expected both during the construction period and during the long-term operational period. The effects would occur throughout the Sacramento to Bakersfield region, primarily along the highways where the majority of the funded and programmed improvements are proposed, and at two of the region's airports, Sacramento Metropolitan and Fresno Yosemite International. With respect to the roadway improvements, land use and socioeconomic impacts would be greatest in those segments proposed for widening:

- SR 99 from I-5 to Elkhorn Boulevard in Sacramento (Sacramento County)
- I-5 from I-80 to North Market Boulevard (for auxiliary lanes in Sacramento County)
- I-5 from Del Paso Road to SR 99 (for auxiliary lanes in Sacramento County)
- I-5 from Monte Diablo to Country Club (for auxiliary lane in Stockton, San Joaquin County)
- I-5 from Monte Diablo undercrossing to Hammer Lane (Stockton, San Joaquin County)
- I-5 from I-205 to SR 120 northbound (San Joaquin County)
- I-5 from Hammer Lane to Eight Mile Road (Stockton, San Joaquin County)
- SR 99 from Hammer Lane to north of Crosstown Freeway (Stockton, San Joaquin County)
- I-580 from Patterson Pass to Alameda/San Joaquin county line (San Joaquin County)
- SR 99 from south of Jensen Avenue to Ventura Street (for auxiliary lane in Fresno County)
- SR 99 from south of South Pacific and Biola Junction Bridge to Fresno/Madera county line (Fresno County)
- SR 99 from Goshen to SR 201 (Fresno/Tulare County)
- SR 99 from SR 201 to Floral (Fresno County)

Impacts that would be expected include:

- in areas with nearby sensitive receptors, land use compatibility concerns, largely because of increased traffic and noise;

- conversion of agricultural lands, or increased pressure to convert lands in agricultural production to urban uses;
- land acquisition and possible displacement of people and jobs; and
- further division/physical separation of communities where additional right of way is needed.

The above impacts are expected to occur whether or not the project build alternatives are constructed and implemented. Each of the proposed intercity travel demand improvements of the No-Project Alternative has been or will be subject to its own environmental clearance process and potential mitigation measures will be identified as part of those individual CEQA and/or NEPA reviews to address substantial impacts.

4.2 MODAL ALTERNATIVE

4.2.1 Compatibility with Existing Land Uses

The Modal Alternative involves a wide range of highway improvements throughout the Sacramento to Bakersfield region and expansions at the Sacramento Metropolitan Airport and the Fresno Airport. The proposed changes to the transportation facilities would primarily occur at grade and involve widening of the major intercity travel routes. The widening of I-5, SR 99, SR 152, SR 33, SR 152, and segments of I-80 and I-580 could detract from sensitive residential communities near the roadway rights-of-way or encroach into areas proposed for continued agricultural operations.

The existing land uses along the Modal Alternative highway component are predominantly agricultural, reflecting the Greater Central Valley's heritage as one of the richest, most productive agricultural regions in the world (see Table 7). Overall, about 44 percent of the land within the study area along the Sacramento to Bakersfield region highways proposed for improvements under this alternative is cropland and orchards. Residential development comprises about 7 percent of the land area, while commercial and service uses account for 4 percent and industrial uses account for 5 percent (see Table B-2 in Appendix B for the detailed land use breakdown and impact rating by Modal Alternative component).

A description of the potential effects by corridor is presented below and summarized in Table 9.

Sacramento to Stockton Corridor

The Sacramento to Stockton Corridor is the only segment in the Sacramento to Bakersfield region that has a residential component exceeding 10 percent of the land area. At 18 percent of the land along the highways, this corridor would have a *medium* land use incompatibility rating.

Stockton to Modesto Corridor

The Stockton to Modesto Corridor has one of the lowest percentages of residential development along the highway rights-of-way. Agricultural land uses represent about 31 percent of the land area. Given the low percentage of residential and agricultural uses compared to the Sacramento to Bakersfield region, the Modal Alternative in this corridor is rated as having a *low* incompatibility with existing land uses.

Modesto to Merced Corridor

The Modesto to Merced Corridor has a land use pattern that is fairly typical of the entire Sacramento to Bakersfield region, with 9 percent residential development and 37 percent agricultural production along the highways proposed for widenings. As with the previous corridor, the Modal Alternative would have *low* incompatibility with the existing uses in the Modesto to Merced Corridor.

**Table 7
Existing Land Use
Sacramento to Bakersfield**

	Resi- dential (Dwelling Units)	Resi- dential (acres)	Commer- cial and Services (acres)	Indus- trial (acres)	Commer- cial and Industrial Complexes (acres)	Mixed / Other Urban - Built Up Land (acres)	Agricul- tural – Crop- land (acres)	Agricul- tural – Orchard (acres)
Modal								
Sacramento to Stockton	137,700	7,950	3,390	2,740	0	6,510	10,160	4,610
Stockton to Modesto	32,100	730	590	450	80	2,380	3,480	3,550
Modesto to Merced	42,400	2,180	1,360	1,040	100	1,660	6,180	2,670
Merced to Fresno	62,300	1,950	1,730	2,620	30	2,880	25,830	4,450
Fresno to Tulare	12,000	810	790	1,450	140	510	6,470	2,040
Tulare to Bakersfield	71,600	4,230	2,680	4,190	10	4,790	44,490	1,590
HST Corridor & Station Options (1)								
Sacramento to Stockton								
Alignments								
A1	91,900	4,340	1,100	4,400	30	2,500	5,790	9,070
A2	79,600	4,220	1,070	5,110	50	2,360	7,970	12,190
A3	79,600	3,790	900	3,680	0	2,290	6,510	9,160
A4	60,400	3,570	790	4,260	0	2,100	6,770	9,420
A5	73,000	3,520	700	3,520	30	1,810	5,770	9,070
A6	50,800	3,270	530	3,000	30	1,280	6,030	9,330
A7	60,700	2,970	500	2,800	0	1,610	6,490	9,160
A8	38,500	2,730	330	2,270	0	1,070	6,750	9,420
Stations								
Sacramento Downtown Depot	2,470	9	43	0	0	29	0	0
Power Inn Road Station (BNSF Option)	30	3	7	45	0	4	0	0
Power Inn Road Station (UPRR Option)	1,540	0	18	146	0	36	0	0
Stockton ACE Downtown Station	2,070	51	4	36	0	150	0	0
Maintenance Facilities								
Sacramento Maintenance Fac- BNSF Alt	2,850	44	21	133	0	37	0	0

	Resi- dential (Dwelling Units)	Resi- dential (acres)	Commer- cial and Services (acres)	Indus- trial (acres)	Commer- cial and Industrial Complexes (acres)	Mixed / Other Urban - Built Up Land (acres)	Agricul- tural - Crop- land (acres)	Agricul- tural - Orchard (acres)
Sacramento Maintenance Fac- UPRR Alt	2,850	37	29	297	0	77	0	0
Stockton to Modesto								
Alignments								
B1	47,200	1,060	740	700	50	1,450	1,410	3,640
B2	11,900	250	330	260	30	260	2,790	1,080
Stations								
Modesto Downtown Station	1,920	32	141	22	0	22	0	0
Modesto Briggsmore Station	1,700	76	0	0	0	9	120	0
Modesto to Merced								
Alignments								
C1	35,500	1,950	1,090	1,320	70	1,260	9,070	4,220
C2	40,500	2,100	1,160	1,380	70	1,330	12,350	4,220
C3	35,800	2,060	1,140	1,210	80	1,190	9,030	1,270
C4	40,800	2,210	1,210	1,270	80	1,260	12,420	1,270
C5	28,700	1,460	880	430	20	760	7,050	1,520
C6	32,400	1,550	920	490	20	800	10,280	1,520
C7	28,700	1,470	890	410	20	760	7,070	1,520
C8	32,400	1,560	930	470	20	810	10,410	1,520
C9	28,000	1,950	1,040	460	50	860	6,720	400
C10	28,000	1,950	1,040	460	50	860	6,830	400
C11	19,400	1,950	330	240	10	470	8,590	1,520
C12	19,400	1,950	330	240	10	480	8,690	1,520
C13	23,500	1,950	340	300	10	480	10,710	1,520
C14	32,800	1,950	890	500	20	770	9,180	1,520
C15	23,500	1,950	340	300	10	490	10,820	1,520
C16	32,800	1,950	900	480	20	770	9,200	1,520
Stations								
Merced Downtown Station	1,660	19	60	18	0	5	0	0
Merced Municipal Airport Station	0	0	0	73	0	0	47	0
Castle Air Force Base Station	0	0	0	0	0	0	141	0

	Residential (Dwelling Units)	Residential (acres)	Commercial and Services (acres)	Industrial (acres)	Commercial and Industrial Complexes (acres)	Mixed / Other Urban - Built Up Land (acres)	Agricultural – Crop- land (acres)	Agricultural – Orchard (acres)
Merced to Fresno								
Alignments								
D1	34,000	1,480	420	2,610	0	960	7,160	4,460
D2	39,300	2,130	420	2,690	0	1,270	8,870	7,250
D3	34,400	1,340	430	2,770	10	950	6,520	3,790
D4	40,600	1,880	470	3,470	30	1,280	8,490	5,570
D5	41,800	1,280	890	3,030	10	1,910	5,670	2,540
D6	47,600	1,790	930	3,650	30	2,090	7,830	3,940
D7	41,300	1,420	880	2,870	0	1,910	6,310	3,200
D8	46,300	2,040	890	2,880	0	2,070	8,200	5,620
Stations								
Fresno Downtown Station	1,370	1	38	92	0	62	0	0
Fresno to Tulare								
Alignments								
E1	15,500	890	580	2,200	110	530	4,200	630
E2	11,700	740	320	150	0	360	3,560	2,420
Stations								
Visalia Airport Station	0	0	0	2	0	65	66	0
Hanford Station	2,290	28	125	35	0	5	0	0
Tulare to Bakersfield								
Alignments								
F1	56,300	2,460	1,610	3,250	0	2,600	9,580	4,670
F2	48,500	2,090	1,540	2,710	0	2,090	9,350	3,810
F3	53,700	2,220	1,360	2,840	0	2,530	10,660	4,670
F4	45,900	1,850	1,290	2,300	0	2,020	10,420	3,810
F5	45,000	1,090	1,090	1,910	0	2,030	13,710	6,580
F6	37,200	730	1,020	1,370	0	1,530	13,480	5,730
F7	56,300	2,460	1,610	3,250	0	2,600	9,580	4,670
F8	48,500	2,090	1,540	2,710	0	2,090	9,350	3,810
F9	53,700	2,220	1,360	2,840	0	2,530	10,660	4,670
F10	45,900	1,850	1,290	2,300	0	2,020	10,420	3,810
F11	45,000	1,090	1,090	1,910	0	2,030	13,710	6,580
F12	37,200	730	1,020	1,370	0	1,530	13,480	5,730
F13	48,400	2,230	1,840	2,620	0	2,160	9,350	3,810
F14	45,800	1,990	1,590	2,220	0	2,090	10,420	3,810
F15	57,700	3,020	1,460	3,650	20	2,850	11,220	7,540
F16	49,900	2,650	1,390	3,110	20	2,340	10,980	6,680
F17	55,200	2,770	1,200	3,240	20	2,780	12,290	7,540

	Residential (Dwelling Units)	Residential (acres)	Commercial and Services (acres)	Industrial (acres)	Commercial and Industrial Complexes (acres)	Mixed / Other Urban - Built Up Land (acres)	Agricultural – Crop-land (acres)	Agricultural – Orchard (acres)
F18	47,400	2,410	1,130	2,700	20	2,270	12,060	6,680
F19	67,500	2,790	2,110	4,280	0	2,770	9,600	4,940
F20	59,700	2,420	2,040	3,740	0	2,270	9,370	4,080
F21	65,000	2,540	1,860	3,880	0	2,700	10,680	4,940
F22	57,200	2,180	1,790	3,340	0	2,200	10,440	4,080
F23	42,900	1,650	950	2,220	20	2,340	13,630	6,120
F24	35,100	1,280	880	1,690	20	1,840	13,390	5,270
Stations								
Bakersfield Airport Station	0	0	34	47	0	0	0	0
Golden State Station	1,170	45	26	56	0	52	0	0
Truxtun (Union Avenue) Station	1,090	51	72	62	0	1	0	0
Truxtun (Amtrak) Station	290	17	46	68	0	134	0	0
Maintenance Facilities								
Main Maintenance Facility BNSF Alt	920	45	131	5	0	0	534	0
Main Maintenance Facility UPRR Alt	0	0	0	0	0	0	758	0

(1) The HST alignment options for each of the six corridors making up the Sacramento to Bakersfield region are described in Appendix A.

Merced to Fresno Corridor

Less than 3 percent of the land area along the highway component of the Modal Alternative in this corridor is residential development. As such, the Merced to Fresno Corridor has the least housing of all Sacramento to Bakersfield corridors. At 45 percent, the percentage of agricultural production is virtually identical to the Sacramento to Bakersfield as a whole. In light of the existing land use pattern, the Modal Alternative in this corridor is considered to have *low* land use incompatibility.

Fresno to Tulare Corridor

In the Fresno to Tulare Corridor, the Modal Alternative would be characterized by 4 percent residential and 42 percent agricultural. This land use pattern would be very compatible (*low* incompatibility) with the proposed highway improvements.

Tulare to Bakersfield Corridor

In the Tulare to Bakersfield Corridor, the residential land uses adjoining the highway improvements of the Modal Alternative account for 5 percent of the total land area. At this relatively low percentage, the

Modal Alternative would normally be rated as having low land use incompatibility. However, because this corridor also has more than 50 percent of the land area in agricultural uses, the rating is increased to *medium* incompatibility.

4.2.2 Consistency with General Plans

The Modal Alternative involves a wide range of highway improvements throughout the Sacramento to Bakersfield and expansions at the Sacramento Metropolitan Airport and the Fresno Airport. The proposed changes to the transportation facilities would primarily occur at grade and involve widening of the major intercity travel routes. The widening of I-5, SR 99, SR 152, SR 33, SR 152, and segments of I-80 and I-580 could detract from sensitive residential communities near the roadway rights-of-way or encroach into areas proposed for continued agricultural operations.

The General Plan land use designations for communities along the Modal Alternative highway component show a decidedly agricultural emphasis. More than half of the area along the roadways is designated for croplands and pasture. About 9 percent of the land is designated for residential uses, and a like amount of commercial/services and industrial uses (about 7 percent) is proposed along the roadways. Notably, given the variety of data sources used to compile the GIS file used for this analysis, there was a relatively large percentage (17 percent) that could not be defined.

Future land uses, as expressed in the local and regional General Plans, is illustrated in Figures 5-9. A description of the potential effects by corridor is presented below and summarized in Table 9. More detailed land use information and the basis for the impact rating is found in Table B-3 in Appendix B.

Sacramento to Stockton Corridor

The Sacramento to Stockton Corridor has the highest percentage of future land designated for residential development (27 percent) and the lowest percentage of future land designated for agricultural uses (34 percent). Given this combination, the roadway improvements proposed by the Modal Alternative would be rated as having *high* incompatibility with future land uses. The proposed widening of SR 99 would have the greatest potential for General Plan consistency conflicts, as about 37 percent of the land uses in this corridor are designated for residential uses. Similarly, 50 percent of the land uses along I-5 are proposed for cropland, pasture, and natural open space uses, which would also be considered less compatible with roadway improvements than commercial or industrial development.

The proposed expansion of the Sacramento Metropolitan Airport under the Modal Alternative is considered to have a *low* inconsistency rating with future land uses. The additional runway would not be consistent with agricultural uses planned for about 30 percent of the area around the airport; however, the expansion could be compatible with the transitional uses that are planned for 70 percent of the area.

Stockton to Modesto Corridor

In the Stockton to Modesto Corridor, approximately 6 percent of the land along the Modal Alternative highway improvements is designated for residential uses and about 49 percent is designated for agricultural activities. As a result, this corridor would generally have *low* potential conflicts with future uses.

Two potential impacts are noted when examining the future land uses by highway corridor (i.e., considering SR 99, I-5, and I-580 individually rather than collectively). First, the widening of SR 99 could encounter land use conflict issues, since over 20 percent of the future land uses along this roadway is proposed for residential development. Second, the widening of I-5 between Stockton and Modesto could conflict with agricultural activities, which represent 87 percent of the proposed land uses along I-5.

Modesto to Merced Corridor

In the Modesto to Merced Corridor, there is a *medium* rating of roadway improvements with future land use designations. Although the amount of proposed residential development along the I-5 and SR 99 is

relatively low (less than 10 percent), the study areas are primarily designated for agricultural uses (60 percent).

As noted above for the Stockton to Modesto Corridor, the stretch along I-5 in the Modesto to Merced Corridor is predominantly agricultural (98 percent) and widening of I-5 in this area could conflict with local General Plan policies to protect agricultural production.

Merced to Fresno Corridor

There is a *low* level of inconsistency with future General Plan land use designations in the Merced to Fresno Corridor. Future residential uses along the proposed improvements to I-5, SR 99, SR 33, and SR 152 amount to about 5 percent of all lands. Agricultural uses collectively also comprise less than 50 percent of the total lands designated along the roadways.

The above notwithstanding, it is important to note that along I-5, SR 33, and SR 99 within the Merced to Fresno Corridor, proposed agricultural uses represent more than 70 percent of the land. As a result, widening of these roadways could conflict with General Plan policies to protect and maintain agricultural uses along these stretches.

Fresno to Tulare Corridor

In the Fresno to Tulare Corridor, the Modal Alternative proposes widening I-5 and SR 99. While there is virtually no residential development proposed along these roadways (the 3 percent of total land within the study areas is the lowest percentage of residential uses in the Sacramento to Bakersfield region), the area is designated predominantly for agricultural uses. As a result, the overall rating for this corridor is for *medium* inconsistency with General Plan land use designations.

The proposed land uses along I-5 are exclusively agricultural, so that any widening of I-5 could conflict with maintaining agricultural production in this stretch of the Sacramento to Bakersfield region.

Tulare to Bakersfield Corridor

In the Tulare to Bakersfield Corridor, the highway component of the Modal Alternative proposes improvements to I-5, SR 99, and SR 58. These improvements would have a low potential to conflict with residential uses, which represent about 5 percent of the land area within the roadway study areas; however, the extensive amount of planned agricultural uses could be affected by the widenings. Accordingly, the overall rating for this corridor is *medium* inconsistency with future General Plan land use designations.

Notably, the future land uses along I-5 and SR 99 maintain and promote the agricultural heritage of these counties (88 percent of the land along I-5 is proposed for agricultural uses, and 54 percent of the land along SR 99 is similarly designated).

4.2.3 Environmental Justice

The total population in the Sacramento to Bakersfield region around the transportation improvements proposed by the Modal Alternative is about 1,081,800. Of this population, about 211,800 are low income (20 percent) and 491,000 are ethnic minorities (45 percent). None of the corridors is considered to be low income, as the percentage of low-income population was within a few percentage points of the proportion of low income in the baseline communities through which the corridors passed.

On the other hand, one of the corridors from *Modesto to Merced* does qualify as having Environmental Justice communities (see Table 9). In this stretch, the percentage of ethnic minorities is about 46 percent, compared to the percentage of the baseline communities (35 percent). Communities occurring in this corridor include Ceres, Keyes, Turlock, Delhi, Livingston, Atwater, and Merced. All other corridors in the Sacramento to Bakersfield region have ethnic minorities that are less than 50 percent of the baseline populations and within ten percentage points of the baseline percentage of ethnic minorities.

Figure 5

Figure 6

Figure 7

Figure 8

4.2.4 Community/Neighborhood Impacts

For much of the Sacramento to Bakersfield region, the highway component of the Modal Alternative would involve 2-lane widening of I-5 and SR 99. Communities in the urbanized portion of Sacramento could be affected by widening I-5, but for much of its length from Sacramento to Bakersfield, it is bordered by agricultural uses or highway commercial uses setback from the road's right-of-way. In contrast, a number of communities grew up along SR 99. In some communities, SR 99 was diverted outside of the more intensely developed areas or around business areas. Widening of SR 99 if it occurs within the existing right-of-way is not expected to result in a detrimental physical division of existing communities, because the existing roadway already creates a physical separation between land uses on either side of the highway. On the other hand, there are instances where the widening would require additional right-of-way and involve displacement of adjoining land uses. The displacement of these uses can pose adverse impacts for the community and reinforce the physical separation that already exists.

4.2.5 Property

The highest potential for property impacts due to Modal Alternative highway improvements would occur in the urbanized areas along I-5 and SR-99 in the vicinity of Sacramento, Stockton, Modesto, Merced, Fresno, and Bakersfield. More specifically, there would potentially be high and medium property impacts on I-5 and SR-99 in the Sacramento area and on I-5 between Sacramento and Stockton. The majority of the high impact areas include the portion of SR-99 between Sacramento and Merced. Other areas of potentially high property impacts include areas further south on SR-99 from SR-152 to Bakersfield. The area along I-5 between Stockton and SR-99 has the potential to result in medium impacts on property. Overall, approximately 52 mi (84 km) of highway alignment (8% of total Modal Alternative highway alignment in the region) would have a high potential for property impacts, and 92 mi (153 km) of alignment (15% of total Modal Alternative highway alignment in the region) would have a medium potential for property impacts. The lowest potential for property impacts would occur in less-developed and rural areas along I-5 and SR-99.

Table 8
Identification of Environmental Justice Communities
Sacramento to Bakersfield Region

	Minority Population within Study Area	Low Income Population within Study Area	Total Population within Study Area	Study Area % Minority	County % Minority	Study Area % Low Income	County % Low Income	EJ Com- munity?
Modal Alternative								
Sacramento to Stockton	180,500	70,700	382,800	47	38	18	15	No
Stockton to Modesto	30,200	10,200	98,300	31	31	10	16	No
Modesto to Merced	60,900	32,200	132,600	46	35	24	18	Yes
Merced to Fresno	98,900	41,900	204,300	48	45	21	22	No
Fresno to Tulare	15,500	6,900	38,200	41	45	18	23	No
Tulare to Bakersfield	105,100	49,800	225,600	47	41	22	21	No
HST Alternative Corridor & Station Options (1)								
Sacramento to Stockton								
Alignments								
A1	107,800	38,400	255,400	42	38	15	15	No
A2	88,000	35,200	221,300	40	38	16	15	No
A3	101,500	35,600	221,300	46	38	16	15	No
A4	76,200	30,700	167,800	45	38	18	15	No
A5	84,500	29,100	202,900	42	38	14	15	No
A6	56,800	24,400	141,200	40	38	17	15	No
A7	78,200	26,200	168,700	46	38	16	15	No
A8	50,500	20,500	107,000	47	38	19	15	No
Stations								
Sacramento Downtown Depot	3,200	1,700	6,600	48	36	25	14	Yes
Power Inn Road Station (BNSF)	< 100	< 100	100	74	36	30	14	Yes
Power Inn Road Station (UPRR)	3,100	1,300	4,100	74	36	30	14	Yes

	Minority Population within Study Area	Low Income Population within Study Area	Total Population within Study Area	Study Area % Minority	County % Minority	Study Area % Low Income	County % Low Income	EJ Com- munity?
Stockton ACE Downtown Station	4,700	3,100	6,300	74	36	50	14	Yes
Maintenance Facilities								
Sacramento Maintenance Facility BNSF Alt	4,800	1,800	7,600	63	36	24	14	Yes
Sacramento Maintenance Facility UPRR Alt	4,800	1,800	7,600	63	36	24	14	Yes
Stockton to Modesto								
Alignments								
B1	44,400	20,900	131,200	16	31	16	16	No
B2	8,800	3,900	33,000	12	31	12	16	No
Stations								
Modesto Downtown Station	3,200	2,000	5,900	54	31	34	16	Yes
Modesto Briggsmore Station	1,500	600	5,200	38	31	12	16	No
Modesto to Merced								
Alignments								
C1	47,600	22,400	111,000	43	35	20	18	No
C2	54,400	25,700	126,700	43	35	20	18	No
C3	49,000	24,000	111,900	44	35	21	18	No
C4	55,800	27,300	127,600	44	35	21	18	No
C5	39,100	20,900	89,700	44	35	23	18	No
C6	44,700	23,800	101,400	44	35	24	18	No
C7	39,100	20,900	89,700	44	35	23	18	No
C8	44,700	23,800	101,400	44	35	24	18	No
C9	36,300	17,800	87,700	41	35	20	18	No
C10	36,300	17,800	87,700	41	35	20	18	No
C11	23,800	12,000	60,600	39	35	20	18	No
C12	23,800	12,000	60,600	39	35	20	18	No
C13	29,700	14,900	73,400	40	35	20	18	No
C14	45,000	23,800	102,600	44	35	23	18	No
C15	29,700	14,900	73,400	40	35	20	18	No
C16	45,000	23,800	102,600	44	35	23	18	No
Stations								
Merced Downtown Station	3,300	2,700	5,400	61	44	49	21	Yes

	Minority Population within Study Area	Low Income Population within Study Area	Total Population within Study Area	Study Area % Minority	County % Minority	Study Area % Low Income	County % Low Income	EJ Com- munity?
Merced Municipal Airport Station	1,200	400	2,200	55	44	19	21	Yes
Castle Air Force Base Station	200	200	500	38	44	36	21	Yes
Merced to Fresno								
Alignments								
D1	58,100	23,900	111,400	52	45	21	22	Yes
D2	65,100	27,100	128,700	51	45	21	22	Yes
D3	60,000	24,700	112,900	53	45	22	22	Yes
D4	70,800	30,000	133,000	53	45	23	22	Yes
D5	72,300	35,100	137,000	53	45	26	22	Yes
D6	82,800	40,300	156,200	53	45	26	22	Yes
D7	70,400	34,200	135,500	52	45	25	22	Yes
D8	77,100	37,300	151,900	51	45	25	22	Yes
Stations								
Fresno Downtown Station	3,100	900	4,300	73	46	21	22	Yes
Fresno to Tulare								
Alignments								
E1	21,500	9,100	49,500	43	45	18	23	No
E2	16,000	7,200	37,400	43	46	19	22	No
Stations								
Visalia Airport Station	900	100	5,100	17	42	2	24	No
Hanford Station	5,000	3,200	9,900	51	46	32	16	Yes
Tulare to Bakersfield								
Alignments								
F1	89,800	46,800	177,200	51	40	26	21	Yes
F2	77,900	40,100	152,600	51	40	26	21	Yes
F3	86,300	43,900	169,200	51	40	26	21	Yes
F4	74,500	37,200	144,700	51	40	26	21	Yes
F5	69,900	32,500	141,800	49	41	23	21	No
F6	58,100	25,800	117,300	50	41	22	21	Yes
F7	89,800	46,800	177,200	51	41	26	21	Yes
F8	77,900	40,100	152,600	51	41	26	21	Yes
F9	86,300	43,900	169,200	51	41	26	21	Yes
F10	74,500	37,200	144,700	51	41	26	21	Yes
F11	69,900	32,500	141,800	49	41	23	21	No

	Minority Population within Study Area	Low Income Population within Study Area	Total Population within Study Area	Study Area % Minority	County % Minority	Study Area % Low Income	County % Low Income	EJ Com- munity?
F12	58,100	25,800	117,300	50	41	22	21	Yes
F13	77,800	39,100	152,300	51	41	26	21	Yes
F14	74,400	36,100	144,400	52	41	25	21	Yes
F15	92,400	45,600	181,900	51	41	25	21	Yes
F16	80,500	38,800	157,300	51	41	25	21	Yes
F17	88,900	42,700	173,900	51	41	25	21	Yes
F18	77,100	35,900	149,400	52	41	24	21	Yes
F19	102,900	56,100	212,600	48	41	26	21	No
F20	91,100	49,400	188,000	48	41	26	21	No
F21	99,500	53,200	204,600	49	41	26	21	No
F22	87,700	46,500	180,100	49	41	26	21	No
F23	67,500	29,200	135,200	50	41	22	21	Yes
F24	55,700	22,500	110,700	50	41	20	21	Yes
Stations								
Bakersfield Airport Station	1,900	400	9,200	21	39	5	20	No
Golden State Station	3,000	2,000	7,000	43	39	29	20	No
Truxtun (Union Avenue) Station	3,900	2,000	5,500	72	39	37	20	Yes
Truxtun (Amtrak) Station	1,100	500	1,800	60	39	31	20	Yes
Maintenance Facilities								
Main Maintenance Facility BNSF Alt	1,600	200	5,600	29	39	4	20	No
Main Maintenance Facility UPRR Alt	1,400	100	3,100	46	39	2	20	No

(1) The HST alignment options for each of the six corridors making up the Sacramento to Bakersfield region are described in Appendix A.

4.3 HIGH-SPEED TRAIN ALTERNATIVE

4.3.1 Compatibility with Existing Land Uses

The HST Alternative alignments are similar to the Modal Alternative in that the vast majority of the land uses along the proposed right-of-way is predominantly agricultural. A summary of the existing land uses along each alignment option, by corridor, is presented in Table 7, above.

A more comprehensive characterization of land use compatibility is presented below by corridor and summarized in Table 9. The method for determination of impact ratings is shown in Appendix B Tables B-4 and B-5.

Sacramento to Stockton Corridor

Alignments: The highest proportion of residential development is found in the Sacramento to Stockton Corridor, where housing exceeds 10 percent of the land area along the HST routes for every alignment option. In general, higher percentages of residential development occur along the UP alignment and lower percentages along the CCT alignment. A1, which has the highest percentage of residential development (14 percent), also exhibits the lowest percentage of agricultural uses along the alignment (49 percent). All other alignment options also show a relatively high amount of industrial development, which is generally considered compatible with HST operations. In general, higher percentages of industrial development are observed for those alignments originating at the Sacramento Downtown Depot Station, as opposed to the Power Inn Road Station.

Given the above land use pattern, notably the higher percentages of residential development, all alignment options in the Sacramento to Stockton Corridor are rated as having *medium* land use incompatibility.

Stations: The Sacramento Downtown Depot Station option (S1) is rated as having *low* incompatibility with existing land uses, which consist of an existing Amtrak Station, municipal buildings, and higher intensity residential and commercial development. The site is generally within walking distance of "Old Sacramento" and the State Railroad Museum, both high visitor destination sites.

Both Power Inn Road Station options on the UP and BNSF alignments (S2 and S3, respectively) are considered to have *low* incompatibility with the existing land uses in the vicinity. The large electric transmission towers and heavy industrial uses that define the station area would not be adversely affected by an HST station in the vicinity. On the other hand, these uses would not necessarily benefit from a station as much as one located in a regional-serving commercial, public, or recreational area.

The Stockton ACE Downtown Station (S4) area is a highly mixed use area, combining residential, commercial, and industrial uses. The moderate percentage of residential development in the station area (over 10 percent) results in the *medium* incompatibility rating with existing uses.

Maintenance Facilities: Both maintenance facilities (M1 along the UP and M2 along the BNSF) are proposed in areas that are predominantly industrial in nature. This fact, combined with the relatively low percentage of residential development in the vicinity, result in a *low to medium* rating for incompatibility with existing land uses.

Stockton to Modesto Corridor

Alignments: B1 following the UP alignment contains about 10 percent residential development along the HST route. The predominant land use adjoining the route consists of orchards, groves, vineyards, nurseries, and ornamentals. This land use pattern is considered to be *moderately* incompatible with an HST system.

The BNSF alignment (B2) contains much less residential development (5 percent of the land area) and given the relatively low potential to impact residents, the incompatibility rating would normally be low. However, because of the high percentage of agricultural production (70 percent), the impact rating for this alignment option is increased to *medium*.

Stations: The percentage of residential land development in the Modesto Downtown Station (S5) area is 7 percent. This level of residential development, combined with the community-serving commercial and industrial uses, results in a *low* incompatibility rating with the HST station.

By comparison, the Modesto Amtrak Briggsmore Station (S6) has more than twice the percentage of residential development (14 percent) as the Downtown Station. Given this magnitude of residential development, which is lower density rural residential, mobile homes, and single family subdivisions, the HST station is considered to have *moderate* incompatibility with existing land uses.

Modesto to Merced Corridor

Alignments: All alignment options in the Modesto to Merced Corridor exhibit a relatively high percentage of agricultural uses (55 to 77 percent). This magnitude of agricultural activity, along with the narrow range of residential land area (7 to 11 percent), suggests that the HST facilities would have *medium* incompatibility with the existing land uses in this corridor.

Stations: There are three station options in the Merced area: Castle Air Force Base (S7), Downtown (S8), and Merced Airport (S9). The Castle Air Force Base Station option is surrounded by agricultural uses and rural residential uses and is rated as having *medium* compatibility with these types of land uses. The Downtown Station location is characterized by a moderate amount of residential development (12 percent of the station area acreage), and supportive community commercial and governmental functions. Because of the extent of residential uses and the community-serving nature of the commercial activities (as opposed to more regional-serving uses), this station is assigned a *medium* incompatibility rating. Finally, the Merced Airport Station would be highly compatible (*low* incompatibility) with the adjoining airport operations. The uses would be supportive of one another, and they are both land intensive transportation uses.

Merced to Fresno Corridor

Alignments: This corridor has eight alignment options, and compared to other corridors comprising the Sacramento to Bakersfield region, they collectively exhibit among the lowest percentages of residential development (ranging from 7 to 8 percent of the land area alongside the HST routes). This factor means that these options have relatively low land use incompatibility, since the potential disruption to the existing land uses would be limited. However, based on the evaluation methodology, the amount of agricultural uses in the vicinity is considered in adjusting these ratings. Once this additional factor is taken into account, D5, D6, and D7 continue to be rated as having *low* incompatibility with existing land uses. On the other hand, all other options, regardless of whether they are proposed along the UP or the BNSF, are increased to a *medium* incompatibility rating.

Stations: The Fresno Downtown HST Station (S10) is located in an intermodal transportation hub, including a UP Depot and a Greyhound Bus Depot, surrounded by rail-related industrial, light industrial, and heavy commercial uses. These uses, along with the nearby Central Business District and the Grizzlies baseball stadium, are very appropriate to an HST station, and therefore, exhibit *low* incompatibility.

Fresno to Tulare Corridor

Alignments: The two alignment options in the Fresno to Tulare Corridor have comparable percentages of residential development (E1 with 9 percent along the UP and E2 with 8 percent along the BNSF). However, whereas E1 also passes considerable industrial land, E2 passes extensive stretches of agricultural uses. As a result, E1 is rated as having *low* incompatibility with existing land uses, but E2 is rated as having *medium* compatibility.

Stations: The station area land uses at the Visalia Airport HST Station (S11) along the UP route would include the Visalia Municipal Airport, regional recreation, and agriculture. Overall, this land use pattern is considered to have *low* incompatibility with an HST station.

The other station option in this corridor is along the BNSF route and is proposed in Hanford. The land use mix at this station location is very different than at the Visalia Airport in that development in the Hanford Station area is much more urbanized and representative of a central business district. In addition, about 14 percent of the station land area is residential development. The Hanford Station is

assigned a *medium* incompatibility rating with existing community-serving commercial and institutional uses.

Tulare to Bakersfield Corridor

Alignments: There are 24 alignment options in the Tulare to Bakersfield Corridor. F6 and F12, which both follow the BNSF with a southerly connection to Wheeler Ridge, are noteworthy in that they exhibit the lowest percentage of adjoining residential development and the highest percentage of agricultural activities (3 percent residential and 75 percent agricultural). At the other end of the spectrum are F1, F7, F13, and F19, all of which follow the UP and then continue south on a route other than SR 58. Within the study area for these alignment options, residential development accounts for 10 percent of the land area, and agricultural uses, while still substantial, range from 51 to 55 percent of the land area. Recognizing these differences, all of the alignment options are rated as having *medium* incompatibility with the existing uses.

Stations: Four station options are proposed in Bakersfield, the Airport (S14), Golden State (S16), and two station configurations at Truxtun along the BNSF (Amtrak) (S17) and along the UP (Union Avenue) (S18). The Airport HST Station area is largely urbanized. Because there is no residential development within the existing uses and the HST station would be compatible with the adjacent airport, this station is rated as having *low* incompatibility with existing uses. The Golden State Station area consists of a moderate amount of residential development (19 percent of the land area), low-intensity transportation uses (such as the trucking center and RV service center), and the Metropolitan Recreation Center. This land use pattern of residential and community-serving uses results in a *medium* incompatibility rating. In contrast, the two Truxtun Station options are located in a higher intensity area, including the Centennial Garden and Convention Center, hotels, and mixed commercial, office, and light industrial uses. The Truxtun (Amtrak) Station option along the BNSF (S17) also has a relatively low percentage of residential development in the station area (2 percent). Thus, this station is accorded a *low* incompatibility rating with existing uses. On the other hand, the Truxtun (Union Avenue) Station option along the UP (S18) contains a relatively high percentage of residential development and, thus, is rated as having *high* incompatibility with existing uses.

Maintenance Facilities: There are two maintenance facilities proposed in the Bakersfield area. Unlike the Sacramento maintenance facility options, which were in more industrial areas, the Bakersfield options are in predominantly agricultural areas. While maintenance activities would not be incompatible with agricultural operations, the nature of activities and uses are dissimilar and suggest a *medium* incompatibility rating.

4.3.2 Consistency with General Plans

Similar to the Modal Alternative which passes through large expanses of agricultural lands, the HST Alternative also passes extensive areas designated for continued agricultural uses. Future land uses, as expressed in local and regional General Plans, is illustrated in Figure 5. Table 9 summarizes the impacts and ratings for each alignment and station option. More detailed information on future land use and consistency ratings can be found in Appendix B, Tables B-6 and B-7.

Sacramento to Stockton Corridor

Alignments: In the Sacramento to Stockton Corridor, there are eight alignment options. The percentage of residential land uses along each of these options is a relatively narrow band, ranging from 18 percent to 23 percent. Agricultural land use designations represent more than 50 percent of the land uses in all but one (A1) of the options. The relatively high percentage of agricultural land use designations results in a *medium* to *high* rating for General Plan inconsistency in this corridor.

While all alignment options rate low, in general, the CCT route tends to have a slightly higher percentage of residential and agricultural land use designations than the UP route, which would make them potentially less compatible with future land uses.

Stations: All three station options in Sacramento (Downtown, Power Inn Road along the UP, and Power Inn Road along the BNSF) rate as *low* inconsistency with future land use designations. Each station location has a low percentage of residential land uses and high percentages of commercial, industrial, or transitional land uses. It is noteworthy that the Sacramento Depot Downtown HST Station option is located in a multi-modal transportation hub, including Amtrak, the Capitol Corridor, and the regional light rail system currently under construction, and would be supportive of the major mixed use, high intensity development proposed by the City for this area.

Compared to other station facilities in the Sacramento to Bakersfield region, the Stockton ACE Downtown HST Station would be rated as having medium inconsistency with General Plan land use designations, because of the planned residential areas in the vicinity. However, the residential development is not adjacent to the HST station. The station area is within an area designated "Downtown Stockton," portions of which are proposed to be a Multi-Modal Area. Furthermore, the station area is within the Stockton/San Joaquin Enterprise Zone. Given the focus of higher intensity uses and business development, an HST station in Downtown Stockton would be rated as highly consistent (*low* incompatibility) with the City's General Plan land use designations and policies.

Maintenance Facility: There are two maintenance facility options proposed in the Sacramento to Stockton Corridor. The option proposed along the UP route (M1) is considered to be highly consistent (*low* incompatibility) with future land uses because of the low percentage of planned residential and high percentage of planned industrial uses. The option proposed along the BNSF route (M2) is rated as having *medium* inconsistency because of the greater percentage of future residential land uses within the study area (12 percent).

Stockton to Modesto Corridor

Alignments: B1 would pass a fairly high percentage of residential development (20 percent), resulting in a *high* incompatibility rating. B2 would be *moderately* incompatible with the proposed amount of residential development (13 percent).

Stations: The Downtown option (S5) has a relatively low percentage of residential land use designations, but is predominantly surrounded by community commercial uses intended to support the Central Business District and Redevelopment Planning District. As a result, this station option is considered to have *medium* inconsistency with the General Plan land use designations. The Amtrak Briggsmore option (S6) would be across the HST tracks from the City's Village One Comprehensive Planning District and a Business Park area. While the HST station at this location would be supportive of this future development, the station area's high percentage of agricultural use to the east results in a *medium* inconsistency rating with future land uses.

Modesto to Merced Corridor

Alignments: In the Modesto to Merced Corridor, there are 16 alignment options. All options are rated as having *medium* inconsistency with future land use designations. Most of the alignments have low to medium amounts of future residential land use designations along the HST routes, which would translate into a medium to low inconsistency rating; however, the relatively high percentage of agricultural uses resulted in an increasing of the overall impact rating to *medium* inconsistency.

While all alignment options are rated similarly, those alignment options connecting to the Merced Downtown HST Station (C1 through C8) tend to encounter a slightly higher percentage of residential uses, compared to those alignments that connect to either the Merced Municipal Airport or the Castle Air Force Base Stations. In addition, while all alignments pass relatively high percentages of agricultural uses, those following the BNSF route (C5 through C8 and C11 through C16) encounter a slightly higher percentage of agricultural lands. These adjoining land use designations would suggest that these alignment options could be less consistent with General Plan designations than the other alignment options.

Stations: There are three HST station options in the vicinity of Merced. Based on future land uses prescribed by the local General Plans, the Castle Air Force Base HST Station would have no conflicting residential development in the station area, and the County views the former Castle Air Force Base to the north and east of the station site as an opportunity site for a major airport facility, commercial and industrial parks, and high-tech facilities. These future land uses suggest that an HST station would be considered highly consistent (low incompatibility) with future uses; however, over 50 percent of the station area is designated for agricultural uses, which raises the overall impact rating to *medium*.

The Merced Downtown HST Station has a moderate amount of planned residential and a supportive amount of planned and light industrial development (nearly 80 percent of the station area). The amount of General Plan residential land use designations (12 percent of the station area) would suggest that this option should be assigned a medium rating, but the lower density residential development is located away from the proposed station facilities, and the immediate vicinity is designated for Regional/Community Commercial in the Merced General Plan. The station area is also within an Enterprise Zone, which signals the community's desire to attract businesses to the area. As a result, the Merced Downtown Station is assigned a *low* rating for General Plan inconsistency and support of local development policies.

Finally, the Merced Airport HST Station location is rated as potentially *low* because of the proposed industrial development in the vicinity of the station and its location at the Merced Airport. The HST station at this location would be supportive of the South Merced commercial and industrial corridor identified in the City's General Plan as an area of future employment growth.

Merced to Fresno Corridor

Alignments: In the Merced to Fresno Corridor, there are eight alignment options. Like the Modesto to Merced alignment options, all options in this corridor are rated as having *medium* inconsistency with General Plan land use designations. Five of the ten alignments would be rated as having medium inconsistency with proposed land uses, based on the amount of residential development along the HST route (D1, D3, D4, D5, and D7 have between 11 and 13 percent of the nearby land uses designated for residential uses). The other three alignment options (D2, D6, and D8) each have ten percent or less residential uses along them, which would suggest a low inconsistency rating; however, each of these alignment options also has more than 50 percent designated for agricultural uses, resulting in the overall rating of *medium*.

In general, the UP routes (D5 through D8) pass slightly lower percentages of planned residential areas and agricultural uses. Thus, although all of the options rate medium, the UP alignments could have fewer conflicts with future land uses.

Stations: This corridor contains a single HST station in downtown Fresno. The relatively little proportion of the station area that is planned for residential uses and the high percentage of commercial mixed use (Central Area), Commercial/Industrial (Central Area), and Civic Center uses results in a *low* rating for inconsistency with planned land uses.

Fresno to Tulare Corridor

Alignments: E1 (along the UP route) is rated as having *low* inconsistency with future land use designations, because there is relatively little planned residential or agricultural uses along the route. In contrast, E2 (along the BNSF route) is rated *highly* inconsistent with General Plan land uses because of the relatively high percentages of planned residential and agricultural uses along the route.

Stations: In this corridor, there are two station options: one at the Visalia Airport (S11) and one in Hanford (S12). The Visalia Airport Station would be consistent with the adjacent airport/public institutional uses adjacent as well as proposed mixed urban built-up and other urban uses planned for this area, resulting in a *low* General Plan inconsistency rating.

The Hanford HST Station area is marked by a moderate amount of residential development (14 percent) but a high percentage of land uses that would generally be considered supportive of and compatible with an HST station (i.e., downtown and community commercial and light industrial uses will ultimately make up about 80 percent of the station area). Given the predominance of community commercial, the Hanford HST Station is rated as having *medium* inconsistency with General Plan land use designations.

Tulare to Bakersfield Corridor

Alignments: In the Tulare to Bakersfield Corridor, there are 24 alignment options. Three of the candidate routes (F19 through F21) rate a *low* potential for inconsistency with General Plan land use designations, because of the relatively low percentages of planned residential and agricultural uses along their routes. All other routes in this corridor are rated as having *medium* inconsistency with future land uses.

In general, all alignment options in this corridor, except F15 through F18, have less than 10 percent of the land area along the routes designated for residential uses. While this proportion of residential land would normally signal a low impact rating, each of these alignments also traverses high percentages of agricultural uses, which increased the rating to *medium*. This pattern is particularly true for the alignment options that follow the BNSF route (F11, F12, F23, and F24), where the agricultural land use designations represented more than 67 percent of the land area around these options.

Stations: There are four HST station options in the Bakersfield area. The Bakersfield Airport option (S14) is considered to have *low* potential for incompatibility with future land uses, because the area is almost entirely planned for supportive service industrial land uses and because of the proximity to the airport.

The Golden Station option (S16) is generally consistent with the light industrial and public facilities land use designations. Although this station area has a higher proportion of residentially designated land uses (15 percent), higher density residential designations (i.e., greater than 7.26 dwelling units per net acre) adjoin the station area, and the lower density residential uses are further away. Overall, the HST station option at this location is considered to have a *medium* rating for General Plan land use inconsistency.

The Truxtun BNSF Station option (S17) has the lowest percentage of residential development planned in the station area. This combined with the high percentage of commercial, industrial, and "Mixed Urban or Built-Up Land Uses," results in a *low* incompatibility rating with future land uses. Finally, the Truxtun UP Station option (S18) is rated as having a *high* inconsistency with General Plan land use designations, because of the relatively high percentage of future residential development in the area (23 percent).

Maintenance Facilities: Two maintenance facility locations are proposed in the Tulare to Bakersfield Corridor. Compared to the other maintenance facility options in the Sacramento to Stockton Corridor, the Main Maintenance Facility BNSF option (S15) would be considered less desirable from a land use perspective (*highly* inconsistent), because about 50 percent of the area around the site is designated for residential development. The maintenance facility option on the UP (S13) lies outside the Bakersfield city limits and would be *moderately* incompatible with the surrounding non-urban land use designations.

4.3.3 Environmental Justice

As noted earlier, an Environmental Justice community is defined when there is a relatively large portion of the population that is either ethnic minority or low income (based on the definitions presented earlier). In the Sacramento to Bakersfield region, none of the corridors is considered to be low income (see Table 8, earlier). Consequently, the following discussion focuses exclusively on ethnic minorities.

Sacramento to Stockton Corridor

Alignments: All of the alignment options have ethnic minority populations that exceed 40 percent of the total population for the alignment option. However, none of the alignment options have non-white populations that are either 10 percentage points greater than the baseline (or 38 percent, based on the

average of Sacramento and San Joaquin Counties) or greater than 50 percent of the total population for the alignment option. As a result, this corridor does not have an Environmental Justice community.

Stations: On the ethnic minority and low income criteria, the Sacramento Downtown Station option (S1) would be an Environmental Justice community, because the percentage of non-white in the station area (48 percent) exceeds the County percentage (36 percent) by more than 10 percentage points and because the number of low income (25 percent) exceeds the County number (14 percent) by more than 10 percentage points. In addition, both the Power Inn Road UP Station option (S2) and BNSF option (S3) would be Environmental Justice communities, since 74 percent of the population is non-white and percentage of low income (30 percent) exceeds the County percentage by more than 10 percentage points.

Like the Power Inn Road UP Station option, the Stockton ACE Downtown Station has a high percentage of ethnic minorities within the station area (74 percent) and qualifies as an Environmental Justice community. This station area also qualifies on the basis of its percentage of low income (50 percent) which far exceeds the County's 14 percent low income.

Maintenance Facilities: In Sacramento, two locations have been proposed for possible maintenance facilities. Both M1 along the UP and M2 along the BNSF qualify as Environmental Justice communities based on their percentage of ethnic minority population (both are at 63 percent) around the sites.

Stockton to Modesto Corridor

Alignments: None of the alignment options have non-white populations that are either 10 percentage points greater than the baseline (or 31 percent, based on Stanislaus County) or greater than 50 percent of the total population for the alignment option. As a result, this corridor does not have an Environmental Justice community.

Stations: There are two station options in the Modesto area. The Downtown Station option (S5) qualifies as an Environmental Justice community based on its 54 percent ethnic minority population and its 34 percent low income (compared to 16 percent in the County). The Amtrak Briggsmore Station has a relatively small proportion of ethnic minorities (38 percent) and low income (12 percent) and would not be considered an Environmental Justice community.

Modesto to Merced Corridor

Alignments: Nearly all of the alignment options have ethnic minority populations. However, none of the alignment options has non-white populations that are either 10 percentage points greater than the baseline (or 35 percent, based on the average of Stanislaus and Merced Counties) or greater than 50 percent of the total population for the alignment option. As a result, this corridor does not have Environmental Justice community impacts.

Stations: Of the three station options in the Merced area, the Downtown Station (S8) and the Airport Station (S9) are Environmental Justice communities based on their percentage of ethnic minority (both are greater than 50 percent). The Downtown Station also qualifies on the low income criterion with about 49 percent considered low income compared to 21 percent in the County. The HST station option at Castle Air Force Base (S7) is below the minority thresholds for designation as an Environmental Justice community, but it does meet the low income criterion as 36 percent of the population is low income, compared to 21 percent in the County.

Merced to Fresno Corridor

Alignments: All of the alignment options have ethnic minority populations that exceed 50 percent of the total population for the alignment option. Accordingly, this corridor is characterized as having Environmental Justice communities. In general, the alignment options that follow the UP route (D4 through D8) tend impact the greater numbers of ethnic minorities, except D2 which follows the BNSF route but also includes a high-speed loop.

Stations: The Fresno Downtown HST Station (S10) is among the stations with the highest percentages of ethnic minorities. With 73 percent of the population being minority, this station area is an Environmental Justice community. The percentage of low income in the Fresno Downtown Station area (21 percent) is nearly identical to the percentage in the County (22 percent).

Fresno to Tulare Corridor

Alignments: Both of the alignment options have ethnic minority populations that exceed 40 percent of the total population for the alignment option. However, none of the alignment options have non-white populations that are either 10 percentage points greater than the baseline (based on the average of Fresno and Tulare Counties for E1 along the UP route and the average of Fresno and Kings Counties for E2 along the BNSF route) or greater than 50 percent of the total population for the alignment option. As a result, this corridor does not have an Environmental Justice community.

Stations: The Visalia Airport Station along the UP route has among the lowest percentages of ethnic minorities and low income persons in its station area; it is therefore not an Environmental Justice community. On the other hand, the station option in Hanford along the BNSF route has about 51 percent ethnic minority population and its percentage of low income (32 percent) is more than 10 percentage points greater than the County's percentage of low income; this station is thus an Environmental Justice community.

Tulare to Bakersfield Corridor

Alignments: Nearly all of the alignment options have ethnic minority populations that exceed 50 percent of the total population for the alignment option. Accordingly, this corridor is characterized as having Environmental Justice communities along F1 through F4, F6 through F10, F12 through F18, and F23 through F24. In general, the alignment options that follow the UP route tend to have greater numbers of ethnic minorities (see Table 8, earlier).

There are five alignment options where the percentage of ethnic minorities exceeds 40 percent but is not 10 percentage points greater than the baseline. Thus, alignment options F5, F11, and F19 through 22 are not Environmental Justice communities.

Stations: Of the four station options in Bakersfield, the Airport (S14) and Golden State (S16) options would not meet the Environmental Justice criteria. By contrast, both station options at Truxtun (S17 along the BNSF and S18 along the UP) have relatively high percentages of ethnic minority populations (60 percent and 72 percent, respectively), and the percentage of low income in the station areas (31 percent and 37 percent, respectively) is more than 10 percentage points greater than the percentage of low income in the County. As such, both of these latter station areas are Environmental Justice communities.

Maintenance Facilities: In Bakersfield, neither the maintenance option along the UP (S13) or along the BNSF (S15) is Environmental Justice community since neither satisfies the ethnic minority or income criteria.

4.3.4 Community/Neighborhood Impacts

For much of the Sacramento to Bakersfield region, the HST routes follow existing rail lines, either the UP, the BNSF, or the CCT. In many cases, the smaller rural communities grew up along the railroad tracks. In larger communities, the rail lines already divide the community. A parallel, at-grade set of tracks for the HST is, therefore, not generally expected to result in a detrimental physical division of existing communities, because the existing tracks already create a physical separation between land uses on either side of the tracks. This notwithstanding, there are several instances where the new HST alignment can physically separate and divide a community: 1) in areas where new tracks are being installed through existing communities – this instance may occur with the connector loops; 2) in areas where the HST tracks may parallel existing rail lines, but the HST would be elevated on an embankment – this instance results in both a physical and visual separation for land uses on either side of the tracks; and 3)

in existing developed areas where an aerial station is proposed – this instance generally occurs in combination with (2), above, but the physical dimensions and scale of the HST station reinforces the division. In this latter case, the aerial stations are supported on structures, so that the station and tracks run about 24 feet above the grade, and there is visual and physical connectivity underneath. As the track profile is rising or lowering, the tracks may be supported on retained fill. Depending on the length of the fill and the adjoining land uses, this configuration could also contribute to community/neighborhood impacts.

Summarized below are locations, where community/neighborhood impacts related to physical separation or division could occur.

- the Tulare Express Loop – along the UP alignment in the Tulare to Bakersfield Corridor, the tracks are on an embankment between W. Kern Avenue and Hooper Ditch;
- the Hanford Station Loop – along the BNSF alignment in the Fresno to Tulare Corridor, the tracks would be elevated on retained fill above and next to the BNSF tracks in Hanford; and
- the Truxtun BNSF Station in Bakersfield – to the extent that the aerial station approaches are on retained fill.

4.3.5 Property

Under the HST Alternative, areas of potentially high property impacts would occur in the vicinity of urbanized areas where the alignments would be located adjacent to an existing transportation corridor. Between Sacramento and Stockton, the proposed easterly CCT alignment traverses primarily rural lands resulting in a low property impact potential. However, there is a small section of this corridor segment approximately 10 mi (16 km) south of the Power Inn Road Station site that would potentially result in high property impacts. The Power Inn Road Station site is located adjacent to an existing corridor and would result in a medium potential for property impacts. Other areas of potentially high and medium impacts are located between Stockton and Merced along both the UPRR and BNSF alignments. These potential impacts are due to new alignments impacting existing development and alignments located adjacent to existing corridors but outside the existing right-of-way, thereby impacting existing development.

The area from Merced to Fresno is largely agricultural land and therefore the potential to impact property is low. However, potential impacts on property along the UPRR and BNSF alignments directly north of the Fresno Downtown Station and continuing south to Bakersfield would be considered high to medium due to new alignments, and because the property is adjacent to an existing corridor. Between 20 mi (32 km) and 25 mi (40 km) of rail alignment and station locations (between 6% and 8% of total HST alignment in the region) would potentially result in high property impacts, and between 23 mi (37 km) and 67 mi (108 km) of alignment and station locations (between 7% and 20% of total HST alignment in the region) would potentially result in medium property impacts.

**Table 9
Analysis/Comparison Table
Impacts to Land Use and Planning, Communities and Neighborhoods, Property, and
Environmental Justice**

Sacramento to Bakersfield Region

	Incompati- bility with Existing Land Uses (H,M,L) (1)	Incompati- bility with Local Plans (H,M,L) (1)	Environ- mental Justice Impacts (Y/N) (4)	Divides an Established Community (Y/N)	Potential Property Impacts (H,M,L)
No-Project	L	L	N	N	
Modal Alternative					
Sacramento to Stockton Highway Improvements	M 18% Res, 32% Ag	H High residential uses	N	Y SR99 widening reinforces physical separation	L Low – 58% Medium- 29% High – 13%
Sacramento Airport	L 0% Res, 30% Ag	L Low residential and agricultural uses	N	N	n/a
Stockton to Modesto Highway Improvements	L 3% Res, 31% Ag	H High agricultural uses	N	Y SR99 widening reinforces physical separation	L Low – 82% Medium- 11% High – 7%
Modesto to Merced Highway Improvements	L 9% Res, 37% Ag	M High agricultural uses	Y 46% Minority vs. 35% in County	Y SR99 widening reinforces physical separation	L Low – 46% Medium- 12% High – 42%
Merced to Fresno Highway Improvements	L 3% Res, 45% Ag	L Low residential and agricultural uses	N	Y SR99 widening reinforces physical separation	L Low – 82% Medium- 11% High – 7%
Fresno Airport	L	L Low residential and agricultural uses	N	N	n/a

	Incompatibility with Existing Land Uses (H,M,L) (1)	Incompatibility with Local Plans (H,M,L) (1)	Environmental Justice Impacts (Y/N) (4)	Divides an Established Community (Y/N)	Potential Property Impacts (H,M,L)	
Fresno to Tulare Highway Improvements	L 4% Res, 42% Ag	M High agricultural uses	N	Y SR99 widening reinforces physical separation	L Low – 61% Medium- 26% High – 13%	
Tulare to Bakersfield Highway Improvements	M 5% Res, 60% Ag	M High agricultural uses	N	Y SR99 widening reinforces physical separation	L Low – 75% Medium- 19% High – 6%	
HST Alternative Corridor & Station Options (2)						
Sacramento to Stockton						
Alignments						
A1	M 14% Res, 49% Ag	H High residential uses	N	N	L Low – 81% Medium- 12% High – 7%	
A2	M 11% Res, 53% Ag	H High residential uses	N	N	L Low – 85% Medium – 6 High – 9%	
A3	M 13% Res, 53% Ag	M Residential and agricultural	N	N	L Low – 87% Medium- 13% High – 1%	
A4	M 11% Res, 51% Ag	M Residential and agricultural	N	N	L Low – 91% Medium- 6% High – 3%	
A5	M 13% Res, 54% Ag	H High residential and agricultural uses planned	N	N	L Low – 77% Medium- 15%	

	Incompati- bility with Existing Land Uses (H,M,L) (1)	Incompati- bility with Local Plans (H,M,L) (1)	Environ- mental Justice Impacts (Y/N) (4)	Divides an Established Community (Y/N)	Potential Property Impacts (H,M,L)	
					High – 9%	
A6	M 12% Res, 54% Ag	H High residential and agricultural uses	N	N	L Low – 86% Medium- 4% High – 10%	
A7	M 11% Res, 60% Ag	M Residential and agricultural	N	N	L Low – 83% Medium- 16% High – 1%	
A8	M 10% Res, 60% Ag	M Residential and agricultural	N	N	L Low – 92% Medium- 4% High – 3%	
Stations						
Sacramento Downtown Depot	L Amtrak Station, high- intensity commercial and residential	L Multi-modal transportation hub; mixed- use development	Y 48% Minority in Study Area vs. 36% in County	N	n/a	
Power Inn Road Station (BNSF Option)	L Heavy industrial	L Industrial uses and mixed-use transitional development	Y 74% Minority in Study Area	N	n/a	
Power Inn Road Station (UPRR Option)	L Heavy industrial	L Industrial uses and mixed-use transitional development	Y 74% Minority in Study Area	N	n/a	
Stockton ACE Downtown Station	M Mixed use residential, commercial, industrial	L Multi-modal; Enterprise Zone; High- density residential and commercial	Y 74% Minority & 50% Low Income in Study Area	N	n/a	
Maintenance Facilities						
Sacramento	M	M	Y	N		

	Incompati- bility with Existing Land Uses (H,M,L) (1)	Incompati- bility with Local Plans (H,M,L) (1)	Environ- mental Justice Impacts (Y/N) (4)	Divides an Established Community (Y/N)	Potential Property Impacts (H,M,L)	
Maintenance Facility BNSF Alt	Heavy industrial with some residential	Moderate residential uses planned	63% Minority in Study Area		n/a	
Sacramento Maintenance Facility UPRR Alt	L Heavy industrial	L Industrial uses planned	Y 63% Minority in Study Area	N	n/a	
Stockton to Modesto						
Alignments						
B1	M 10% Res, 47% Ag	H High residential uses planned	N	N	H Low – 34% Medium- 21% High – 44%	
B2	M 5% Res, 70% Ag	M Moderate residential uses planned	N	N	L Low – 69% Medium- 13% High – 18%	
Stations						
Modesto Downtown Station	L Community-serving commercial and industrial	M CBD uses; Redevelopment Planning District	Y 54% Minority in Study Area & 34% Low Income in Study Area vs. 16% in County	N	n/a	
Modesto Briggsmore Station	M Amtrak station, residential, agricultural	M Cropland, industrial, transportation, and residential uses planned	N	N	n/a	
Modesto to Merced						
Alignments						
C1	M 9% Res, 60% Ag	M Residential and agricultural uses	N	N	L Low – 69% Medium- 16% High – 14%	

	Incompati- bility with Existing Land Uses (H,M,L) (1)	Incompati- bility with Local Plans (H,M,L) (1)	Environ- mental Justice Impacts (Y/N) (4)	Divides an Established Community (Y/N)	Potential Property Impacts (H,M,L)	
C2	M 8% Res, 63% Ag	M High agricultural uses planned	N	N	L Low – 80% Medium- 12% High – 8%	
C3	M 11% Res, 55% Ag	M Residential and agricultural uses	N	N	L Low – 71% Medium- 15% High – 15%	
C4	M 10% Res, 60% Ag	M High agricultural uses planned	N	N	L Low – 80% Medium- 11% High – 8%	
C5	M 11% Res, 66% Ag	M Residential and agricultural uses	N	N	L Low – 65% Medium- 19% High – 17%	
C6	M 9% Res, 70% Ag	M Residential and agricultural uses	N	N	L Low – 78% Medium- 14% High – 8%	
C7	M 11% Res, 67% Ag	M Residential and agricultural uses	N	N	L Low – 66% Medium- 18% High – 17%	
C8	M 9% Res, 71% Ag	M Residential and agricultural uses	N	N	L Low – 78% Medium- 14% High – 8%	
C9	M	M	N	N	L	

	Incompati- bility with Existing Land Uses (H,M,L) (1)	Incompati- bility with Local Plans (H,M,L) (1)	Environ- mental Justice Impacts (Y/N) (4)	Divides an Established Community (Y/N)	Potential Property Impacts (H,M,L)	
	11% Res, 60% Ag	High agricultural uses planned			Low – 80% Medium- 12% High – 8%	
C10	M 11% Res, 60% Ag	M High agricultural uses planned	N	N	L Low – 80% Medium- 11% High – 8%	
C11	M 8% Res, 77% Ag	M Residential and agricultural uses	N	N	L Low – 78% Medium- 14% High – 8%	
C12	M 8% Res, 77% Ag	M Residential and agricultural uses	N	N	L Low – 78% Medium- 14% High – 8%	
C13	M 7% Res, 77% Ag	M High agricultural uses planned	N	N	L Low – 84% Medium- 10% High – 6%	
C14	M 10% Res, 68% Ag	M Residential and agricultural uses	N	N	L Low – 34% Medium- 21% High – 44%	
C15	M 7% Res, 77% Ag	M High agricultural uses planned	N	N	L Low – 84% Medium- 10% High – 6%	
C16	M	M	N	N	L	

	Incompati- bility with Existing Land Uses (H,M,L) (1)	Incompati- bility with Local Plans (H,M,L) (1)	Environ- mental Justice Impacts (Y/N) (4)	Divides an Established Community (Y/N)	Potential Property Impacts (H,M,L)	
	10% Res, 68% Ag	Residential and agricultural uses			Low – 72% Medium- 14% High – 15%	
Stations						
Merced Downtown Station	M Moderate residential, supportive community commercial & govt functions	L High-density residential, commercial, and light industrial uses	Y 61% minority; 49% vs. 21% Low Income	N	n/a	
Merced Municipal Airport Station	L Adjacent airport operations	L Industrial and other urban uses planned	Y 55% Minority in Study Area	N	n/a	
Castle Air Force Base Station	M Vacant air base, agricultural	M Industrial and agricultural	Y 36% Low Income in Study Area vs. 21% in County	N	n/a	
Merced to Fresno						
Alignments						
D1	M 7% Res, 58% Ag	M Residential and agricultural	Y 52% Minority in Study Area	N	L Low – 83% Medium- 15% High – 2%	
D2	M 8% Res, 57% Ag	M Residential and agricultural	Y 51% Minority in Study Area	N	L Low – 83% Medium- 15% High – 2%	
D3	M 7% Res, 56% Ag	M Residential and agricultural	Y 53% Minority in Study Area	N	L Low – 85% Medium- 13% High – 2%	
D4	M 7% Res, 54% Ag	M Residential and agricultural	Y 53% Minority in	N	L Low – 88%	

	Incompati- bility with Existing Land Uses (H,M,L) (1)	Incompati- bility with Local Plans (H,M,L) (1)	Environ- mental Justice Impacts (Y/N) (4)	Divides an Established Community (Y/N)	Potential Property Impacts (H,M,L)	
			Study Area		Medium- 6% High – 6%	
D5	L 7% Res, 47% Ag	M Residential and agricultural	Y 53% Minority in Study Area	N	L Low – 88% Medium- 10% High – 2%	
D6	L 7% Res, 48% Ag	M Residential and agricultural	Y 53% Minority in Study Area	N	L Low – 89% Medium- 5% High – 5%	
D7	L 7% Res, 49% Ag	M Residential and agricultural	Y 52% Minority in Study Area	N	L Low – 85% Medium- 13% High – 2%	
D8	M 8% Res, 51% Ag	M High agricultural uses planned	Y 51% Minority in Study Area	N	L Low – 94% Medium- 0% High – 6%	
Stations						
Fresno Downtown Station	L Intermodal transportation hub, CBD, baseball stadium	L Commercial, industrial, and mixed urban uses planned	Y 73% Minority in Study Area	N	n/a	
Fresno to Tulare						
Alignments						
E1	L 9% Res, 49% Ag	L Low residential and agricultural uses planned	N	N	L Low – 63% Medium- 27% High – 10%	
E2	M	H	N	Y	L	

	Incompati- bility with Existing Land Uses (H,M,L) (1)	Incompati- bility with Local Plans (H,M,L) (1)	Environ- mental Justice Impacts (Y/N) (4)	Divides an Established Community (Y/N)	Potential Property Impacts (H,M,L)	
	8% Res, 63% Ag	High residential uses planned		Hanford station loop visually divides community	Low – 95% Medium- 3% High – 2%	
Stations						
Visalia Airport Station	L Airport, regional recreation, agriculture	L Mixed urban and other built-up land planned	N	N	n/a	
Hanford Station	M Community- serving commercial, Amtrak station, residential	M Community- serving commercial, residential	Y 51% Minority in Study Area	Y Hanford station loop visually divides community	n/a	
Tulare to Bakersfield						
Alignments						
F1	M 10% Res, 55% Ag	M High agricultural uses planned	Y 51% Minority in Study Area	N	L Low – 76% Medium- 22% High – 2%	
F2	M 9% Res, 57% Ag	M High agricultural uses planned	Y 51% Minority in Study Area	N	L Low – 79% Medium- 20% High – 1%	
F3	M 9% Res, 59% Ag	M High agricultural uses planned	Y 51% Minority in Study Area	Y Tulare loop divides community	L Low – 78% Medium- 20% High – 2%	
F4	M 8% Res, 61% Ag	M High agricultural uses planned	Y 51% Minority in Study Area	Y Tulare loop divides community	L Low – 80% Medium- 18% High – 1%	
F5	M	M	N	N	L	

	Incompati- bility with Existing Land Uses (H,M,L) (1)	Incompati- bility with Local Plans (H,M,L) (1)	Environ- mental Justice Impacts (Y/N) (4)	Divides an Established Community (Y/N)	Potential Property Impacts (H,M,L)	
	4% Res, 71% Ag	High agricultural uses planned			Low – 88% Medium- 11% High – 1%	
F6	M 3% Res, 75% Ag	M High agricultural uses planned	Y 50% Minority in Study Area	N	L Low – 91% Medium- 9% High – 0%	
F7	M 10% Res, 55% Ag	M High agricultural uses planned	Y 51% Minority in Study Area	N	L Low – 76% Medium- 22% High – 2%	
F8	M 9% Res, 57% Ag	M High agricultural uses planned	Y 51% Minority in Study Area	N	L Low – 79% Medium- 20% High – 1%	
F9	M 9% Res, 59% Ag	M High agricultural uses planned	Y 51% Minority in Study Area	Y Tulare loop divides community	L Low – 78% Medium- 20% High – 2%	
F10	M 8% Res, 61% Ag	M High agricultural uses planned	Y 51% Minority in Study Area	Y Tulare loop divides community	L Low – 80% Medium- 18% High – 1%	
F11	M 4% Res, 71% Ag	M High agricultural uses planned	N	N	L Low – 88% Medium- 11% High – 1%	
F12	M	M	Y	N	L	

	Incompati- bility with Existing Land Uses (H,M,L) (1)	Incompati- bility with Local Plans (H,M,L) (1)	Environ- mental Justice Impacts (Y/N) (4)	Divides an Established Community (Y/N)	Potential Property Impacts (H,M,L)	
	3% Res, 75% Ag	High agricultural uses planned	50% Minority in Study Area		Low – 91% Medium- 9% High – 0%	
F13	M 10% Res, 56% Ag	M High agricultural uses planned	Y 51% Minority in Study Area	N	L Low – 80% Medium- 18% High – 3%	
F14	M 8% Res, 60% Ag	M High agricultural uses planned	Y 52% Minority in Study Area	Y Tulare loop divides community	L Low – 81% Medium- 16% High – 3%	
F15	M 10% Res, 60% Ag	M Moderate residential uses planned	Y 51% Minority in Study Area	N	L Low – 83% Medium- 13% High – 4%	
F16	M 9% Res, 62% Ag	M Moderate residential uses planned	Y 51% Minority in Study Area	N	L Low – 86% Medium- 11% High – 3%	
F17	M 9% Res, 63% Ag	M Moderate residential uses planned	Y 51% Minority in Study Area	Y Tulare loop divides community	L Low – 84% Medium- 12% High – 4%	
F18	M 8% Res, 65% Ag	M Moderate residential uses planned	Y 52% Minority in Study Area	Y Tulare loop divides community	L Low – 87% Medium- 10% High – 3%	
F19	M	L	N	N	L	

	Incompati- bility with Existing Land Uses (H,M,L) (1)	Incompati- bility with Local Plans (H,M,L) (1)	Environ- mental Justice Impacts (Y/N) (4)	Divides an Established Community (Y/N)	Potential Property Impacts (H,M,L)	
	10% Res, 51% Ag	Low residential and agricultural uses planned			Low – 74% Medium- 24% High – 2%	
F20	M 9% Res, 52% Ag	L Low residential and agricultural uses planned	N	N	L Low – 76% Medium- 23% High – 1%	
F21	M 9% Res, 54% Ag	L Low residential and agricultural uses planned	N	Y Tulare loop divides community	L Low – 75% Medium- 22% High – 2%	
F22	M 8% Res, 56% Ag	M High agricultural uses planned	N	Y Tulare loop divides community	L Low – 77% Medium- 21% High – 1%	
F23	M 6% Res, 69% Ag	M Moderate residential uses planned	Y 50% Minority in Study Area	N	Low – 91% Medium- 6% High – 3%	
F24	M 5% Res, 72% Ag	M High agricultural uses planned	Y 50% Minority in Study Area	N	Low – 95% Medium- 3% High – 2%	
Stations						
Bakersfield Airport Station	L Undeveloped	L Industrial, airport services	N	N	n/a	
Golden State	M	M	N	N		

	Incompatibility with Existing Land Uses (H,M,L) (1)	Incompatibility with Local Plans (H,M,L) (1)	Environmental Justice Impacts (Y/N) (4)	Divides an Established Community (Y/N)	Potential Property Impacts (H,M,L)	
Station	Moderate residential, trucking center, recreation center	Commercial, light industrial, urban, transportation, and residential			n/a	
Truxtun (Union Avenue) Station	H Residential and commercial	H Residential and commercial	Y 72% Minority in Study Area	N	n/a	
Truxtun (Amtrak) Station	L Convention center, hotels, mixed commercial, residential further from site	L Mixed urban, commercial, industrial, transportation, and high-density residential	Y 60% Minority in Study Area	Y Retained fill structures at approach to aerial station further divide community	n/a	
Maintenance Facilities						
Main Maintenance Facility BNSF Alt	M 6% Res, 75% Ag	H Residential and commercial/ services	N	N	n/a	
Main Maintenance Facility UPRR Alt	M 0% Res, 100% Ag	M Cropland and pasture planned	N	N	n/a	

(1) Ratings of HIGH, MEDIUM, and LOW are explained in Section 3.0.

(2) The HST alignment options for each of the six corridors making up the Sacramento to Bakersfield region are described in Appendix A.

(3) For the property analysis, station sites were analyzed as part of each alignment and were not analyzed separately.

(4) "Y" in the Environmental Justice column means that minority or low-income populations have been identified within the study area at some location along the potential alignment.

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- Merced and Vicinity
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APPENDICES

APPENDIX – A

Corridor and Design Options for High-Speed Train Alternative

CORRIDOR AND DESIGN OPTIONS FOR HIGH-SPEED TRAIN ALTERNATIVE

SACRAMENTO TO BAKERSFIELD

Corridor Definition

The Central Valley region has been divided into six discrete corridors:

Corridor A, Sacramento to Stockton

Corridor B, Stockton to Modesto

Corridor C, Modesto to Merced

Corridor D, Merced to Fresno

Corridor E, Fresno to Tulare

Corridor F, Tulare to Bakersfield

Design Options

There are two or more HST alignment alternatives within each Corridor, distinguished by parallel route (UPRR or BNSF), station site served, route connection (UPRR or BNSF) to the south, and station configuration (off-line "loop" or standard). HST alternatives are shown on the alignment exhibits in this Appendix.

Within the Sacramento to Bakersfield region, the HST project would be built primarily at-grade. With the exception of specific and localized grade separations, which may include structures to carry the HST alignment over existing roadway or railroad facilities, proposed aerial structures within the Central Valley would include those listed below. The specific location, number, and length of structures will be determined during the next phase of design.

Aerial Structure Locations			
HST Alignment Option(s)	Aerial Structure Location	Approximate Limits	Length (ft)
Corridor A			
Sacramento Depot alignments: A1 thru A4	Sacramento	Sacramento Downtown Depot to the Elvas Wye	17,000
Sacramento Depot alignments parallel to UPRR north of Stockton: A1, A3	Sacramento	Folsom Blvd to 14 th Avenue	6,000
All alignments: A1 thru A8	Stockton	Harding Way to Mormon Slough	7,000
Corridor B			
Modesto Downtown Station alignment: B1	Modesto	Kansas Avenue to Tuolumne River	9,000
Modesto Briggsmore Station alignment: B2	Escalon	Yosemite Avenue to St. John Road	5,000
Modesto Briggsmore Station alignment: B2	Riverbank	South of Patterson Road to Claribel Road	7,000
Corridor C			
All alignments parallel to UPRR north of Merced: C1, C2, C3, C4, C9, C10	Turlock	Broadway to Berkeley Avenue	12,000

Aerial Structure Locations			
HST Alignment Option(s)	Aerial Structure Location	Approximate Limits	Length (ft)
All alignments parallel to UPRR north of Merced: C1, C2, C3, C4, C9, C10	South of Delhi	High Fine Canal to Merced River	8,000
All alignments parallel to UPRR north of Merced: C1, C2, C3, C4, C9, C10	Atwater	Atwater Canal/Jordan Canal to SR99 Overpass	13,000
Corridor D			
All alignments parallel to UPRR north of Fresno: D5, D6, D7, D8	Madera	Fresno River to Olive Avenue	8,000
All alignments: D1 thru D8	Fresno	Ashlan Avenue to Clinton Avenue	12,000
All alignments: D1 thru D8	Fresno	Belmont Avenue to SR180 Overpass	4,000
Corridor E			
Visalia Airport Station alignment: E1	Selma	Floral Avenue to Nebraska Avenue	8,000
Hanford Station alignment: E2	Hanford	11 th Avenue to south of 3 rd Street	6,000
Corridor F			
All alignments thru Tulare: F1, F2, F7, F8, F13, F15, F16, F19, F20	Tulare	Prosperity Avenue/Avenue 240 to Bardsley Avenue	11,000
All alignments parallel to UPRR north of Bakersfield: F1 thru F4, F7 thru F10, F13 thru F22	Delano	Cecil Avenue to High Street	8,000
All alignments parallel to BNSF north of Bakersfield: F5, F6, F11, F12, F23, F24	Corcoran	Orange Avenue to Pickerell Avenue	6,000
All alignments parallel to BNSF north of Bakersfield: F5, F6, F11, F12, F23, F24	Shafter	Tulare Avenue to Lerdo Highway	4,000
Truxtun (Amtrak) Station (without loop) alignments parallel to UPRR north of Bakersfield: F15 thru F18	Famoso	North of Poso Creek to south of SR99	16,000
Bakersfield Airport Station, Golden State Station, Truxtun (Union Avenue) Station, and Truxtun (Amtrak) Station (with high-speed loop) alignments: F1 thru F6, F7 thru F12 F13, F14, F19 thru F22	Bakersfield	North of Norris Road to Olive Drive	6,000
Bakersfield Airport Station, Golden State Station, Truxtun (Union Avenue) Station, and Truxtun (Amtrak) Station (with high-speed loop) alignments: F1 thru F6, F7 thru F12 F13, F14, F19 thru F22	Bakersfield	Beale Avenue to Mount Vernon Avenue	7,000
Truxtun (Amtrak) Station alignments: F15 thru F24	Bakersfield	North of Mohawk Street to Carrier Canal	8,000
Truxtun (Amtrak) Station alignments: F15 thru F24	Bakersfield	F Street to Truxtun Avenue	14,000

Insert alignment exhibits here (22 pages)

APPENDIX B

Land Use and Population Data Tables and Impact Ratings