## Comment Letter O067 Continued



### APPENDIX 13

#### ACRONYMS

**ACE:** Altamont Commuter Express
**APE:** area of potential effect
**Authority:** California High Speed Rail Authority
**BLM**: Bureau of Land Management
**CEQA:** California Environmental Quality ACT
**CHRIS:** California Historical Resource Information System
**CNPS:** California Native Plant Society
**CRHR:** California Registry of Historic Resources
**DEIR/S:** Draft Environmental Impact Report/Statement
**DTM:** Digital Terrain Model
**GEA**: Grassland Ecological Area
**GWD**: Grassland Wetland District
**HSR:** High Speed Rail
**LOS**: Level of Service
**NEPA:** National Environmental Policy Act
**NRHP**: National Register of Historic Places
**SCVWD:** Santa Clara Valley Water District
**TBM:** Tunnel Boring Machines
**TMDL:** Total Maximum Daily Load
**USFWS:** US Fish and Wildlife Service
**V/C**: Volume-to-Capacity ration

*ATTACHMENT ONE*
*ENCLOSED AS PART OF SIERRA CLUB CALIFORNIA*
*COMMENTS ON THE CAHSR DRAFT EIR/EIS*
Sierra Club/Loma Prieta Chapter 8/28/2004 *Response Letter: CAHSR- DRAFT EIR/EIS*

Santa Clara County. Memorandum of Understanding. September 9, 2003. http://www.sccgov.org/scc/assets/docs/563278TMPKeyboard200595100.pdf

Santa Clara Valley Water District. May 14, 2004. Letter: *Proposed California High Speed Train System*. File: 30077.
Smith D. W., Peterson R. O., and Houston D.B. 2003. *Yellowstone after Wolves*. Journal of Bioscience 53/4: 330-340.

US Fish and Wildlife Service. 1996. *California Condor Recovery Plan.* Third Revision. Portland, Oregon. 62 pp.

Wilcox, B.A. and D.D. Murphy. 1985. *Conservation strategy: the effects of fragmentation on extinction*. American Naturalist 125:879-887.

[i] "Tunneling Issues Report", California High-Speed Rail Authority and U.S. Department of Transportation Federal Railroad Administration, January 2004, Page 32 (http://www.cahighspeedrail.ca.gov/eir/pdf/rgn_stdies/state/Tunnel/Tunneling_Report.pdf).

[ii] California High Speed Rail Authority. 2000. Final business plan. Sacramento, CA.

REFERENCES

## Comment Letter O067 Continued



*ATTACHMENT TWO*
*ENCLOSED AS PART OF SIERRA CLUB CALIFORNIA*
*COMMENTS ON THE CAHSR DRAFT DEIR/DEIS*
*Comments on the CA HSR DEIR by John Holtzclaw, Sierra Club* john.holtzclaw@sierraclub.org

Listed below are the various sections of track, or chapters, and the stations that are environmentally problematic. Sprawl impacts many of the CEQA categories, including:

* Land Use and Planning, by occupying 3 to 100 times as much land as Smart Growth.
* Habitat and Species Loss, by converting 3 to 100 times as much land to housing use compared to Smart Growth.
* Conversion of Resource Land to Housing Use, by converting 3 to 100 times as much land as Smart Growth.
* Resources, by increasing consumption of construction materials and fuel by 3 to 10 times compared to Smart Growth.
* Air Quality, by increasing emissions of ozone precursors, particulates and global warming gases from mining, construction and driving by 2 ½ to 10 times compared to Smart Growth.
* Water Quality, by increasing pollution runoff from impervious surfaces and lawn supplements by 3 to 30 times compared to Smart Growth.
* Water and Streams, by increasing the water use by 3 to 30 times compared to Smart Growth.
* Energy Consumption, by increasing mining, construction, driving and heating/cooling energy use by 2 to 10 times compared to Smart Growth.

0067-40

Altamont Alignment

* Tracy Station - located along I-580, it will attract commuters from within the surrounding 50 miles, inducing massive sprawl development. This station should be relocated in or near downtown Tracy. Does downtown Tracy have Smart Growth zoning (higher density, mixed use, pedestrian oriented, transit served, very limited and market rate parking) within 1/4 mile of the station? Should be mandatory for station to be located there. Sprawl development requires huge areas of land, much higher auto ownership and driving, and building materials, water and heating and cooling energy, with huge impacts on land occupation, water use, species, materials, mining, energy, and land, air and water pollution. See Appendix A for details.

Pacheco Alignment

* Morgan Hill – is this stop necessary? Is it located in a town center? Does it have Smart Growth zoning (higher density, mixed use, pedestrian oriented, transit served, very limited and market rate parking) within 1/4 mile of the station? Should be mandatory for station to be located there. Sprawl development requires huge areas of land, much higher auto ownership and driving, and building materials, water and heating and cooling energy, with huge impacts on land occupation, water use, species, materials, mining, energy, and land, air and water pollution. See Appendix A for details.

* Gilroy – is this stop necessary? Is it located in a town center? Does it have Smart Growth zoning (higher density, mixed use, pedestrian oriented, transit served, very limited and market rate parking) within 1/4 mile of the station? Should be mandatory for station to be located there. Sprawl development requires huge areas of land, much higher auto ownership and driving, and building materials, water and heating and cooling energy, with huge impacts on land occupation, water use, species, materials, mining, energy, and land, air and water pollution. See Appendix A for details.





*ATTACHMENT TWO*
*ENCLOSED AS PART OF SIERRA CLUB CALIFORNIA*
*COMMENTS ON THE CAHSR DRAFT DEIR/DEIS*
*Comments on the CA HSR DEIR by John Holtzclaw, Sierra Club* john.holtzclaw@sierraclub.org

* Los Banos - located along I-5 this station will attract commuters from within the surrounding 50 miles, inducing massive sprawl development. It should be eliminated. If relocated to the town center, does it have Smart Growth zoning (higher density, mixed use, pedestrian oriented, transit served, very limited and market rate parking) within 1/4 mile of the station? Should be mandatory for station to be located there. Sprawl development requires huge areas of land, much higher auto ownership and driving, and building materials, water and heating and cooling energy, with huge impacts on land occupation, water use, species, materials, mining, energy, and land, air and water pollution. See Appendix A for details.

0067-40 cont

Oakland to San Jose

* Auto Mall Parkway - the name says it all. It would attract commuters from within the surrounding 50 miles, inducing massive sprawl development. Close to wetland, it should be eliminated. Sprawl development requires huge areas of land, much higher auto ownership and driving, and building materials, water and heating and cooling energy, with huge impacts on land occupation, water use, species, materials, mining, energy, and land, air and water pollution. See Appendix A for details.

Sacramento to LA

* Power Inn Road - located away from the town center, it will attract commuters from within the surrounding 50 miles, inducing massive sprawl development. This station should be eliminated. Sprawl development requires huge areas of land, much higher auto ownership and driving, and building materials, water and heating and cooling energy, with huge impacts on land occupation, water use, species, materials, mining, energy, and land, air and water pollution. See Appendix A for details.

* Amtrak Briggsmore (Modesto) - located away from the town center, it will attract commuters from within the surrounding 50 miles, inducing massive sprawl development, and should be eliminated. Sprawl development requires huge areas of land, much higher auto ownership and driving, and building materials, water and heating and cooling energy, with huge impacts on land occupation, water use, species, materials, mining, energy, and land, air and water pollution. See Appendix A for details.

* Castle AFB (Merced) - located away from the town center, it will attract commuters from within the surrounding 50 miles, inducing massive sprawl development, and should be eliminated. Sprawl development requires huge areas of land, much higher auto ownership and driving, and building materials, water and heating and cooling energy, with huge impacts on land occupation, water use, species, materials, mining, energy, and land, air and water pollution. See Appendix A for details.

* Merced Municipal Airport - since the airport is not international or a hub, this station will attract commuters from within the surrounding 50 miles, inducing massive sprawl development and should be eliminated. Sprawl development requires huge areas of land, much higher auto ownership and driving, and building materials, water and heating and cooling energy, with huge impacts on land occupation, water use, species, materials, mining, energy, and land, air and water pollution. See Appendix A for details.

* Hanford - located away from a town center, this station will attract commuters from within the surrounding 50 miles, inducing massive sprawl development and should be eliminated. Sprawl development requires huge areas of land, much higher auto ownership and driving, and building materials, water and heating and cooling energy, with huge impacts on land occupation, water use, species, materials, mining, energy, and land, air and water pollution. See Appendix A for details.

## Comment Letter O067 Continued



*ATTACHMENT TWO*
*ENCLOSED AS PART OF SIERRA CLUB CALIFORNIA*
*COMMENTS ON THE CAHSR DRAFT DEIR/DEIS*
*Comments on the CA HSR DEIR by John Holtzclaw, Sierra Club* john.holtzclaw@sierraclub.org

* Visalia - located away from a town center, this station will attract commuters from within the surrounding 50 miles, inducing massive sprawl development and should be eliminated. Sprawl development requires huge areas of land, much higher auto ownership and driving, and building materials, water and heating and cooling energy, with huge impacts on land occupation, water use, species, materials, mining, energy, and land, air and water pollution. See Appendix A for details.

* Bakersfield Airport - since the airport is not international or a hub, this station will attract commuters from within the surrounding 50 miles, inducing massive sprawl development and should be eliminated. Sprawl development requires huge areas of land, much higher auto ownership and driving, and building materials, water and heating and cooling energy, with huge impacts on land occupation, water use, species, materials, mining, energy, and land, air and water pollution. See Appendix A for details.

0067-40 cont

* Truxton - located away from a town center, this station will attract commuters from within the surrounding 50 miles, inducing massive sprawl development and should be eliminated. Unless Truxton is more centrally located than Golden State. Sprawl development requires huge areas of land, much higher auto ownership and driving, and building materials, water and heating and cooling energy, with huge impacts on land occupation, water use, species, materials, mining, energy, and land, air and water pollution. See Appendix A for details.

* Palmdale Transportation Center - located away from the town center (since there isn't one), this station will attract commuters from within the surrounding 50 miles, inducing massive sprawl development and should be eliminated. Sprawl development requires huge areas of land, much higher auto ownership and driving, and building materials, water and heating and cooling energy, with huge impacts on land occupation, water use, species, materials, mining, energy, and land, air and water pollution. See Appendix A for details.

* LA River East - located away from the town center, this station will attract commuters from within the surrounding 50 miles, inducing massive sprawl development and should be eliminated unless it has Smart Growth zoning (higher density, mixed use, pedestrian oriented, transit served, very limited and market rate parking) within 1/4 mile of the station. Sprawl development requires huge areas of land, much higher auto ownership and driving, and building materials, water and heating and cooling energy, with huge impacts on land occupation, water use, species, materials, mining, energy, and land, air and water pollution. See Appendix A for details.

LA to SD (Inland Corridor)

* El Monte - located on freeway away from the town center, this station will attract commuters from within the surrounding 50 miles, inducing massive sprawl development and should be eliminated unless it has Smart Growth zoning (higher density, mixed use, pedestrian oriented, transit served, very limited and market rate parking) within 1/4 mile of the station. Sprawl development requires huge areas of land, much higher auto ownership and driving, and building materials, water and heating and cooling energy, with huge impacts on land occupation, water use, species, materials, mining, energy, and land, air and water pollution. See Appendix A for details.

* South El Monte - located on freeway away from the town center, this station will attract commuters from within the surrounding 50 miles, inducing massive sprawl development and should be eliminated unless it has Smart Growth zoning (higher density, mixed use, pedestrian oriented, transit served, very limited and market rate parking) within 1/4 mile of the station. Sprawl development requires huge areas of land, much higher auto ownership and driving, and building materials, water and heating and cooling energy, with huge impacts on land occupation, water use, species, materials, mining, energy, and land, air and water pollution. See Appendix A for details.





*ATTACHMENT TWO*
*ENCLOSED AS PART OF SIERRA CLUB CALIFORNIA*
*COMMENTS ON THE CAHSR DRAFT DEIR/DEIS*
*Comments on the CA HSR DEIR by John Holtzclaw, Sierra Club* john.holtzclaw@sierraclub.org

* City of Industry - located on freeway away from the town center, this station will attract commuters from within the surrounding 50 miles, inducing massive sprawl development and should be eliminated unless it has Smart Growth zoning (higher density, mixed use, pedestrian oriented, transit served, very limited and market rate parking) within 1/4 mile of the station. Sprawl development requires huge areas of land, much higher auto ownership and driving, and building materials, water and heating and cooling energy, with huge impacts on land occupation, water use, species, materials, mining, energy, and land, air and water pollution. See Appendix A for details.

0067-40 cont

* Pomona - located on freeway away from the town center, this station will attract commuters from within the surrounding 50 miles, inducing massive sprawl development and should be eliminated unless it has Smart Growth zoning (higher density, mixed use, pedestrian oriented, transit served, very limited and market rate parking) within 1/4 mile of the station. Sprawl development requires huge areas of land, much higher auto ownership and driving, and building materials, water and heating and cooling energy, with huge impacts on land occupation, water use, species, materials, mining, energy, and land, air and water pollution. See Appendix A for details.

* UP Colton - located on freeway away from the town center, this station will attract commuters from within the surrounding 50 miles, inducing massive sprawl development and should be eliminated unless it has Smart Growth zoning (higher density, mixed use, pedestrian oriented, transit served, very limited and market rate parking) within 1/4 mile of the station. Sprawl development requires huge areas of land, much higher auto ownership and driving, and building materials, water and heating and cooling energy, with huge impacts on land occupation, water use, species, materials, mining, energy, and land, air and water pollution. See Appendix A for details.

* March AFB - located on freeway away from the town center, this station will attract commuters from within the surrounding 50 miles, inducing massive sprawl development and should be eliminated unless it has Smart Growth zoning (higher density, mixed use, pedestrian oriented, transit served, very limited and market rate parking) within 1/4 mile of the station. Should be mandatory for station to be located there. Sprawl development requires huge areas of land, much higher auto ownership and driving, and building materials, water and heating and cooling energy, with huge impacts on land occupation, water use, species, materials, mining, energy, and land, air and water pollution. See Appendix A for details.

* Murrieta - located on freeway away from the town center, this station will attract commuters from within the surrounding 50 miles, inducing massive sprawl development and should be eliminated unless it has Smart Growth zoning (higher density, mixed use, pedestrian oriented, transit served, very limited and market rate parking) within 1/4 mile of the station. Should be mandatory for station to be located there. Sprawl development requires huge areas of land, much higher auto ownership and driving, and building materials, water and heating and cooling energy, with huge impacts on land occupation, water use, species, materials, mining, energy, and land, air and water pollution. See Appendix A for details.

* Escondido - located on freeway away from the town center, this station will attract commuters from within the surrounding 50 miles, inducing massive sprawl development and should be eliminated unless it has Smart Growth zoning (higher density, mixed use, pedestrian oriented, transit served, very limited and market rate parking) within 1/4 mile of the station. Sprawl development requires huge areas of land, much higher auto ownership and driving, and building materials, water and heating and cooling energy, with huge impacts on land occupation, water use, species, materials, mining, energy, and land, air and water pollution. See Appendix A for details.

## Comment Letter O067 Continued



*ATTACHMENT TWO*
*ENCLOSED AS PART OF SIERRA CLUB CALIFORNIA*
*COMMENTS ON THE CAHSR DRAFT DEIR/DEIS*
*Comments on the CA HSR DEIR by John Holtzclaw, Sierra Club* john.holtzclaw@sierraclub.org

* Mira Mesa - located on freeway away from the town center, this station will attract commuters from within the surrounding 50 miles, inducing massive sprawl development and should be eliminated unless it has Smart Growth zoning (higher density, mixed use, pedestrian oriented, transit served, very limited and market rate parking) within 1/4 mile of the station. Should be mandatory for station to be located there. Sprawl development requires huge areas of land, much higher auto ownership and driving, and building materials, water and heating and cooling energy, with huge impacts on land occupation, water use, species, materials, mining, energy, and land, air and water pollution. See Appendix A for details.

* University City - is this station near the city center? Is it joint with the Coaster? Does the city have Smart Growth zoning (higher density, mixed use, pedestrian oriented, transit served, very limited and market rate parking) within 1/4 mile of the station? Should be mandatory for station to be located there. Sprawl development requires huge areas of land, much higher auto ownership and driving, and building materials, water and heating and cooling energy, with huge impacts on land occupation, water use, species, materials, mining, energy, and land, air and water pollution. See Appendix A for details.

0067-40 cont





*ATTACHMENT TWO*
*ENCLOSED AS PART OF SIERRA CLUB CALIFORNIA*
*COMMENTS ON THE CAHSR DRAFT DEIR/DEIS*
*Comments on the CA HSR DEIR by John Holtzclaw, Sierra Club* john.holtzclaw@sierraclub.org

Appendix A.

**High Speed Rail and Sprawl Impacts**

HSR can be a strong tool for building more efficient and healthier communities and environment. Or, if done wrong, it can add to sprawl, waste and pollution. Sprawl is connected to, or impacts, nearly every aspect of the environment, including habitat, water, air and water pollution, global warming and resource use. But we seldom have venues to evaluate those impacts comprehensively.

0067-41

Expanding highways and roads has an even greater impact on the environment, usually adding to the deterioration of natural areas. But HSR offers opportunities to compensate for the damage we've already caused, and to limit further damage.

This appendix shows how land use, transit service, nearby shopping, pedestrian amenities, autos and annual auto mileage vary widely across existing communities. The variation in land coverage by concrete/asphalt and the water consumption across neighborhoods is shown to introduce a web-based calculator for all the above variables. The Location Efficient Mortgage research and its results are also described. This research is used to evaluate the impacts of sprawl-inducing developments.

Neighborhood form impacts many aspects of energy and materials consumption, including auto ownership, driving, asphalt and concrete paving, building materials and heating and cooling energy, and water consumption. Smart Growth development can cut land, materials, water and energy consumption compared to sprawl development. Community efficiency begins with the design of the neighborhood itself, its density, provision of public transit, sidewalk and street design, proximity of job locations, and even simply allowing and promoting restaurants, groceries, pharmacies, hardware stores and child care in residential areas. Most communities in America have zoning which prohibits efficient communities.

**Neighborhood Form Impacts Driving**

Suburban sprawl development typically ranges from 1 to 5 households/residential acre (hh/res ac). Many neighborhoods prohibit sidewalks. Streets are generally wide, and their patterns often include cul-de-sacs, with collector streets connecting to through arterials. The resulting round-about route lengthens walking distances. Sprawl zoning prohibits neighborhood commercial development, so even a trip to the grocery for a bottle of milk often requires driving a freeway to a shopping center. San Ramon, in Contra Costa County, CA, is an example.

By contrast, in the Rockridge area of north Oakland, streets follow a rectilinear grid and are narrow; many blocks have sidewalks, and those along the main street, College Avenue, are broad. Most buildings along College meet the sidewalk, but most of the homes elsewhere are set back. Buildings along College are multistory. Street trees are plentiful. College Ave. has shopping located on the ground floor of residential buildings. BART has an urban rail station.

The North Beach area of San Francisco (including Russian, Nob and Telegraph Hills, and Chinatown and Fisherman's Wharf), streets follow a rectilinear grid and are narrow; sidewalks are broad. Most buildings meet the sidewalk, and have small backyards. Buildings are multistory, mostly 3 or 4-story with a few to 30 stories. Street trees and nearby shopping are plentiful. Much neighborhood shopping is located on the ground floor of residential buildings. The southern part of North Beach is within walking distance of BART, Muni Metro light rail and historical street cars, and the North Beach area has many cable car, trolley bus and bus routes. It has limited parking.

## Comment Letter O067 Continued



*ATTACHMENT TWO*
*ENCLOSED AS PART OF SIERRA CLUB CALIFORNIA*
*COMMENTS ON THE CAHSR DRAFT DEIR/DEIS*
*Comments on the CA HSR DEIR by John Holtzclaw, Sierra Club* john.holtzclaw@sierraclub.org

Manhattan is at least twice as dense as North Beach, but otherwise with many of the same characteristics. Some of its neighborhoods are lined with 20 to 30 story apartment houses and coops. It's subway and bus system provides many times more service than in North Beach. It has very limited and expensive parking.

0067-41 cont

Let's compare these four typical neighborhoods, which vary widely in compactness, convenience and driving. Density is the most important single measure of community efficiency. Table 1 shows the average density of these neighborhoods.

At 3.2 units per residential acre, San Ramon consumes three times as much land per household as Rockridge, 30 times as much land as North Beach, and 60 times as much as Manhattan. Consequently, Rockridge saves 68% of the land that would be required to house the same number of families in sprawl. North Beach saves 97% of that land, and Manhattan saves 98.5% -- land is habitat for animal, plant, fungal, bacterial and archeal species, and in natural form removes pollutants and global warming gases from the environment.

Table 1. Attributes of Four Typical Neighborhoods

| | Sprawl San Ramon CA | Transit Village Rockridge Oakland CA | Urban Center North Beach San Francisco | Metro Center Manhattan |
|---|---|---|---|---|
| Res. Density (hh/res ac) | 3.2 | 10 | 100 | 200 |
| Transit (veh/hr nearby) | 1 | 27 | 90 | very high |
| Shopping (5 w/in 1/4 mi) | no homes | 25% of homes | all homes | all homes |
| Pedestrian amenities | low | medium | high | high |
| Autos/capita | .79 | .66 | .28 | .12 |
| Auto miles/capita | 10,591 | 6,455 | 2,759 | 1,145 |
| Ann. household auto costs | $8,200 | $5,030 | $1,900 | $800 |

Holtzclaw, *Using Residential Patterns and Transit to Decrease Auto Dependence and Costs*, 1994; Newman and Kenworthy, *Cities and Automobile Dependence*, 1989
*San Francisco Chronicle* housing sales summaries, 2002 & 2003.

It's very expensive to provide good public transit to sprawling areas, where riders are few and routes necessarily long and time-consuming. Consequently, San Ramon has only 1 bus per hour within a ¼ mile of the average home. That compares to 27, mostly BART trains, in Rockridge, 90 in San Francisco, and even higher service in Manhattan. Good public transit service is necessary to attract high ridership.

Since markets, drugstores, restaurants and the like are prohibited by the zoning laws from sprawling residential neighborhoods, no homes in San Ramon have 5 such establishments within a quarter mile, while 25% in Rockridge do, and all homes in North Beach and Manhattan do. The North Beach neighborhood of San Francisco has more than 700 restaurants within a 1 mile walk of centrally located homes, and even more markets. That's convenience and results in walking for many trips.

Pedestrian amenities include the street grid, sidewalks, buildings built to the sidewalk and safe traffic. A rectilinear street pattern gives the pedestrian more route options and shorter routes, as well as more frequent intersections to slow traffic and allow safer street crossings. Narrower streets slow traffic and reduce crossing distances. Buildings built to the sidewalk can provide weather protection and interesting store windows, and don't require crossing a parking lot to enter. San Ramon had low pedestrian conditions with few sidewalks. Rockridge





*ATTACHMENT TWO*
*ENCLOSED AS PART OF SIERRA CLUB CALIFORNIA*
*COMMENTS ON THE CAHSR DRAFT DEIR/DEIS*
*Comments on the CA HSR DEIR by John Holtzclaw, Sierra Club* john.holtzclaw@sierraclub.org

provides medium conditions. Both North Beach and Manhattan have high pedestrian amenities. Density, local shopping, public transit and pedestrian amenities are crucial to reducing auto ownership and driving. Notice that they typically vary together.

0067-41 cont

Consequently, San Ramon residents require 0.79 cars per capita, according to the U.S. census. Rockridge has only 0.66, while North Beach has 0.28, 1/3 as many as San Ramon, and Manhattan has 0.12, 1/7 as much. The average San Ramon resident annually drives 10,590 miles, compared to 6,455 in Rockridge, 2,760 in North Beach, ¼ as much driving, fuel consumption and pollution, and 1,145 in Manhattan, 1/9 as much. Annual household auto expenses are $8,200 in San Ramon, $5,030 in Rockridge, $1,900 in North Beach and $800 in Manhattan.

**The Location Efficient Mortgage® Study of Auto Ownership and Driving**

To explore these relationships in more detail, the Institute for Location Efficiency (an enterprise of the Center for Neighborhood Technology, Natural Resources Defense Council and Surface Transportation Policy Project) studied all the neighborhoods in the Chicago, Los Angeles and San Francisco metropolitan areas. This Location Efficient Mortgage® study of nearly 3000 neighborhoods showed that more compact urban neighborhoods are more convenient, and trips are much shorter so that residents walk, bike and take transit more. High density areas also have more shopping and better public transit service. We found the same pattern of more driving at lower densities in all three regions (John Holtzclaw, Robert Clear, Hank Dittmar, David Goldstein and Peter Haas, Location Efficiency: Neighborhood and Socio-Economic Characteristics Determine Auto Ownership and Use---Studies in Chicago, Los Angeles and San Francisco. *Transportation Planning and Technology*, Vol. 25(1),pp 1-27, March 2002).

These three metro areas differ widely in topography, one flat and two mountainous. One rustbelt, one sunbelt and the other a West Coast area that fancies itself European. Yet, the plot of annual driving against density looks almost identical, see Figure 1. In low density sprawling areas, below 5 hh/res ac, families in each area drive 20,000 to 30,000 miles annually. At 100 hh/res ac, families drive less than 5,000 miles.

We know single adults and families with children drive more than seniors. Yet, as Figure 2 shows, retired families in sprawl (1 – 5 hh/res ac) drive 30 to 40 miles daily, compared to only 10 to 15 for single adults or families with children living at 100 hh/res ac. This analysis used the Metropolitan Transportation Commission's Household Travel Survey. Density predicts our driving better than our stage of life.

## Comment Letter O067 Continued



*ATTACHMENT TWO*
*ENCLOSED AS PART OF SIERRA CLUB CALIFORNIA*
*COMMENTS ON THE CAHSR DRAFT DEIR/DEIS*
*Comments on the CA HSR DEIR by John Holtzclaw, Sierra Club* john.holtzclaw@sierraclub.org

Figure 1. Driving in Three Metropolitan Areas

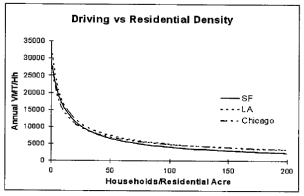
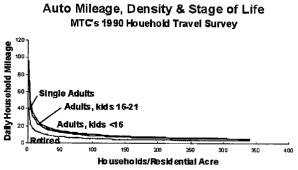



Figure 2. Driving by Stage of Life




0067-41 cont

Similarly, larger households need to drive more. Aggregating the data for the three metro areas gives Figure 3. Indeed, larger households drive more, but even smaller households living in sprawl drive 20,000 – 30,000 miles annually compared to the 8,000 miles driven by a large family living at 100 hh/res ac.

Figure 3. Driving by Household Size

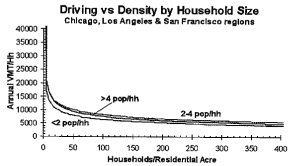
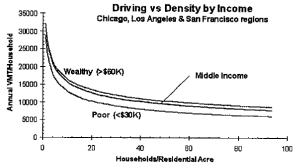



Figure 4. Driving by Household Income




The poor drive less than the middle class or wealthy, as shown in Figure 4. But poor families living in sprawl still have to drive 20,000 – 30,000 miles annually. That's much more than the 10,000 miles driven by wealthier households living at 100 hh/res ac.

The Location Efficient Mortgage study developed a set of equations to predict auto ownership, driving per car and driving per household for each of the three metro areas. The nearly 3000 neighborhoods gave us very many degrees of freedom. Yet, these equations predict 79 to 96% of the variation in household auto ownership and driving between neighborhoods--using their density, household income and size, transit service and pedestrian/bicycle friendliness.



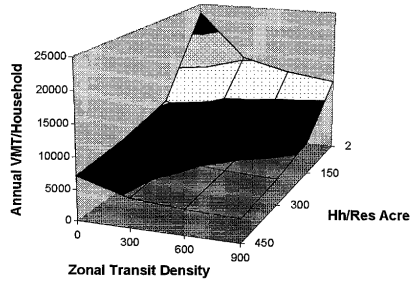


*ATTACHMENT TWO*
*ENCLOSED AS PART OF SIERRA CLUB CALIFORNIA*
*COMMENTS ON THE CAHSR DRAFT DEIR/DEIS*
*Comments on the CA HSR DEIR by John Holtzclaw, Sierra Club* john.holtzclaw@sierraclub.org

Using the equations for the San Francisco Bay Area, Figure 5 shows the annual driving of households with the regional average income and size. This family living at 2 hh/res ac with no public transit will drive about 25,000 miles (the high point on the graph). As transit service increases, with no change in density (follow the curve to the right), driving decreases. Similarly, as density increases even with no transit service (follow the curve to the left), driving falls off even faster. The near point in the curve shows that this family living in a dense area (450 hh/res ac) with high transit service will drive only 3,000 or 4,000 miles. But the curve also shows that a given modest increase in density or transit service will reduce driving more for those living in the lowest density and transit neighborhoods.

0067-41 cont

Figure 5. Impact of Density and Transit on Driving in the San Francisco Bay Area




**Collateral Efficiencies of Compact Development**

Not only is transportation more efficient in the dense areas, but other types of consumption are reduced too. Twenty years ago Phillips and Gnaizda compared a run-of-the-mill apartment house on Nob Hill in the North Beach area with a state-of-the-art energy conserving houses in Davis, California. They found that residents of the sprawling area consumed much more land, construction materials, water and energy than urban residents, see Table 2. Comparisons of more variables are available at www.sflcv.org/density.

Thirtyfive times as much natural habitat and farmland is lost to housing development in sprawl as on Nob Hill. Five times as much copper pipe (and wiring) are needed in the sprawl development. Four times as much lumber, but perhaps only twice the total building materials since the Nob Hill apartments had substantial masonry, are needed for the sprawl houses. But 15 times as much asphalt or concrete are required for the streets and driveways. Higher use of construction materials requires more logging, mines and pollution.

Seventy times as much water is required in sprawl, much of it for watering lawns. Davis has hotter summers, and accounting for that reduces the difference to perhaps 35 times as much. More water use requires more dams and lowers stream flows. More driving requires more drilling, tankers and refining, emitting more pollution.

## Comment Letter O067 Continued



*ATTACHMENT TWO*
*ENCLOSED AS PART OF SIERRA CLUB CALIFORNIA*
*COMMENTS ON THE CAHSR DRAFT DEIR/DEIS*
*Comments on the CA HSR DEIR by John Holtzclaw, Sierra Club* john.holtzclaw@sierraclub.org

Despite their award-winning energy efficient design, the sprawl houses used 5 times as much heating and cooling energy. Thanks to exposing much more roof, walls and windows to the sun, rain and winds. And multi-family units share walls to conserve energy. Accounting for Davis' harsher climate could reduce that difference by half.

0067-41 cont

Table 2. Urban vs. Suburban Materials and Energy Use

| | | |
|---|---|---|
| Suburban homes use (Davis, CA) | * 5x the copper pipe<br>* 35x the land<br>* 15x the roadway<br>* 4x the lumber<br>* mailcarrier travels 300x as far<br>* 70x as much water<br>* 5x as much heating<br>* 4x as much driving | as a typical Nob Hill apartment (San Francisco) |

Ref: Phillips & Gnaizda, *CoEvolution Quarterly*, Summer 1980

**Achieving Smart Growth**

While no set of rules is absolute, Smart Growth usually has the following characteristics:

1. Zoned for compact neighborhoods with sidewalks, local shopping and restaurants, but with no front and side yard setbacks nor required off-street parking.
2. Incorporates attractive architecture, green building standards and quality construction.
3. Streetscapes designed to provide pedestrian and bicycle amenities and calm traffic.
4. Provides a wealth of parks, creeks, wildlife corridors and recreation areas.
5. Seeks diversity in family incomes, ethnicity and building heights.
6. Neighborhoods located near downtown or other centers.
7. Excellent public transit provided.
8. Subsidies to auto use are eliminated, or at least reduced, by providing very limited parking and charging market rates for it.

A much higher level of smart growth or smart neighborhood can be achieved by infilling into central areas of present cities than developing greenfields. These central areas of cities already have a nearby mass of customers and potential pedestrians and transit riders nearby, have the potential for higher densities, and if developed smartly can achieve the outlined benefits.





*ATTACHMENT TWO*
*ENCLOSED AS PART OF SIERRA CLUB CALIFORNIA*
*COMMENTS ON THE CAHSR DRAFT DEIR/DEIS*
*Comments on the CA HSR DEIR by John Holtzclaw, Sierra Club* john.holtzclaw@sierraclub.org

0067-41 cont

**Conclusions**

Smart Growth developments can cut:

1. 70 – 99% of land occupied by residential development, saving habitat and species.
2. 30 – 95% of cement and asphalt for roads, sidewalks and driveways, saving species, mining, energy, global warming and pollution.
3. 25 – 50% of building construction materials, saving materials, mining, energy, global warming and pollution.
4. 50 – 95% of utility pipe and wiring, saving materials, mining, energy, global warming and pollution.
5. 25 – 85% of auto ownership, saving materials, mining, energy, global warming and pollution.
6. 40 – 90% of driving, saving mining, energy, global warming and pollution.
7. 60 – 95% of water use, primarily for lawns and car washing, saving rivers, species, energy, global warming and pollution.
8. 30 – 80% of heating and cooling energy, saving mining, energy, global warming and pollution.

The lower ranges of these savings can be achieved by building at lower densities, with lower impacts on already sprawling cities. The upper ends of these savings can be achieved by infilling within central areas of cities already developed smartly. The potential savings of land occupation, water use, species, materials, mining, energy and pollution are substantial, nay huge.

## Response to Comments of Kenneth Ryan, Transportation Issue Chair, Sierra Club, August 31, 2004 (Letter O067)

### O067-01

Please see standard response 2.18.1.

### O067-02

Please see standard response 5.2.4 for issues related to impacts of specific alignments and stations. The Draft Program EIR/EIS assessed the urban growth potential around each station site at a program-level of analysis, and came to largely different conclusions from the assertions raised in Attachment 2 of the commenter's letter. The commenter is referred to Appendices G and H of the technical report on economic growth effects for further details on the methodologies used to arrive at the conclusions presented in the Program EIR/EIS. The commenter's preference for "smart growth zoning" as mentioned in Attachment 2 is noted. See also standard responses 5.2.1 and 5.2.5.

Please also see standard response 5.2.1 for issues related mitigation of growth inducing effects. The commenter's preference for local financing of high speed train stations is noted. Please also see standard response 2.1.12 and Chapter 6B of the Final Program EIR/EIS.

### O067-03

The analysis of aesthetic and visual resources for this Program EIR/EIS focuses on a broad comparison of potential impacts on visual resources (particularly scenic resorrces, areas of historic interest, and natural open space areas and significant ecological areas [SEAs]) along proposed Modal and HST Alternative corridors and around HST stations. The potential impacts for each of these alternatives are evaluated against the existing conditions, as described in Section 3.9.2, *Affected Environment* of the Program EIR/EIS.

Potential changes to the dominant landscape features, or potential visual impacts, are described and ranked as high, medium, or low according to the potential extent of change to existing visual resources. Visual contrast rankings, or impact rankings, are defined as follows.

- *High visual impacts* would be sustained if features of the alternative were obvious and began to dominate the landscape and detract from the existing landscape characteristics or scenic qualities.
- *Medium visual impacts* would be sustained if features of the alternative were readily discernable but did not dominate the landscape or detract from existing dominant features.
- *Low visual impacts* would be sustained if features of the alternative were consistent with the existing line, form, texture, and color of other elements in the landscape and did not stand out.
- *Shadow impact ranking* would be high if the new (not existing) elevated structure were within 75 feet (ft) (23 meters [m]) of residential or open space, natural areas, or parkland.
- *Beneficial visual impact* would result if the alternative eliminated a dominant feature in the landscape that currently detracts from scenic qualities or blocks vistas.

The methodology used for visual impacts is a appropriate for this Program EIR/EIS; more detailed examination of potential visual impacts will be provided in project-level environmental reviews, should the HST proposal move forward.

The Authority will not pursue HST alignments crossing Henry Coe State Park and the Orestimba Wilderness. See standard response 6.3.1.

**O067-04**

The program EIR/EIS considered the potential for HST noise impacts using FRA guidance that is based upon detailed measurements of existing HST's traveling at various speeds. The impact rating metric (high, medium, and low) was developed for use in comparing HST corridor options of varying lengths at the program level stage, based on FRA noise impact assessment methodology. The impact rating method represents the relative potential for noise impact and was applied to each section of each alignment option to produce an overall rating for the purposes of comparing HST alignment options at the Program Level.

See Standard Response AF008-13 regarding the use and analysis of express "loops" around cities in the Central Valley.

Speed reductions in specific areas may be considered at the subsequent project specific level of analysis, as more specificity is provided on the proposed HST design and alignment and the ramifications related to system performance can be fully assessed and disclosed. Please also see additional discussion of "design practices" and mitigation strategies in Chapter 3 of the Final Program EIR/EIS (for each environmental resource area). More detailed consideration of site-specific noise mitigation options will be provided in project-level environmental review where more detailed data concerning alignments, station sites, and system design will be available.

**O067-05**

The vast majority of the material excavated for tunneling purposes is anticipated to be suitable for reuse in the construction of the proposed HST facilities. Potential uses include: aggregate for concrete and fill material for other portions of the line. Balancing the earthwork operations will be a key objective in the subsequent project level engineering analysis. Please also see Section 3.18 of the Final Program EIR/EIS regarding construction methods.

**O067-06**

The Final Program EIR/EIS describes specific "design practices" for the features of tunnels for the proposed HST system including full impermeable water membranes with full concrete lining to avoid drainage of groundwater into the tunnels (see Section 3.15.4 and Section 3.15.5 of the Final Program EIR/EIS, and the Summary in Section S.4.5). Each section of Chapter 3 also outlines specific design features that will be applied to the implementation of the HST system to avoid, minimize, and mitigate potential impacts.

Specific impacts and mitigations will be addressed during subsequent project level environmental review, based on more precise information regarding location and design of the facilities proposed, thorough identification of threatened species and their range, and the specific geologic conditions. The detail of engineering associated with the project level environmental analysis will allow the Authority to further investigate ways to avoid, minimize and mitigate potential groundwater related affects.

**O067-07**

The potential for naturally existing potentially toxic minerals, salts, and acids will be identified during subsequent project level environmental review, based on more precise information regarding location and design of the facilities proposed, and the specific geologic and soil conditions. The detail of engineering associated with the project level environmental analysis will allow the Authority to further investigate ways to avoid, minimize and mitigate potential affects to biological resources.

**O067-08**

Please see standard responses 3.15.2, 3.15.3, 3.15.4, 3.15.9, 3.15.11 and response to Comments AS004 – 46, 47, 48, 49, & 51, AS012 – 7, 8, 9, 12, & 17, and O034 – 3 & 4 regarding impacts to wildlife and wildlife corridors and habitat fragmentation.

**O067-09**

Effects on wildlife movement corridors were considered in the Draft PEIR/S, and additional analysis will be conducted at a project level. As noted on page 3.15.31 of the Draft PEIR/S, the Program document has identified major wildlife movement/migration corridors within the study area, but further study needs to be done on movement/migration corridors: "Field studies could identify additional locally significant corridors and provide data to assist in the design of bridges and wildlife crossings at crucial travel route points." Measures to mitigate effects of the HST Project on animal movements and corridors have been added to the Final PEIR/S and are provided in Section 3.15.6. A discussion of the systemwide potential impacts to identified wildlife movement corridors for the Modal and HST Alternatives (including illustrative figures) is included in Section 3.15.3.B.

**O067-10**

Current studies at the program level have assumed industry standard track spacing to adjacent rail lines. Subsequent project specific studies will continue to examine the appropriate separation distance and/or barrier (berm, wall) and controls for safety to be included in the specific design of HST lines adjacent to operating freight lines.

An alignment option shifted to the west of the existing rail or highway corridor would create additional impacts to the adjacent farmlands and communities. The proposed HST system uses existing corridors to avoid or minimize impacts to farmland properties (including severance) that are adjacent to the HST alignment alternatives. See also standard response 2.25.1 and response to Comment PH-F030-1. Further review in project-level environmental documents will consider some variations of the preferred alignments identified to attempt to achieve additional reduction of impacts and operational efficiencies.

**O067-11**

Acknowledged.

**O067-12**

Please see standard response 2.18.1.

**O067-13**

Please see standard response 3.15.2 and standard response 3.15.13 regarding the general level of detail in this Program EIR/EIS and the anticipated more detailed project-level, Tier 2 studies. Please see response to Comment O042-1 for more information on the purpose of the Program EIR/EIS and the subsequent studies. The co-lead agencies believe that the Program EIR/EIS sufficient detail for the decisions to be made as related to this document. Please see response to Comment O064-08 in regards to suitable mitigation measures. In addition, further clarification and description of the design features of the proposed project have been added to the Final Program EIR/EIS in Chapter 3.

**O067-14**

Please see standard responses 3.15.1, 3.15.2, 3.15.3, and 3.15.4 and response to Comment O024-36 in regards to "Biological Resources" and habitat fragmentation. Please also see response to Comment O067-8 in regards to habitat fragmentation. Please see responses to Comment Letter AL072 (Grassland Water District and Grassland Resource Conservation District) in regards to the "Grass Wetlands area". Please also see standard response 6.3.1. The potential for loss of biodiversity from the proposed HST system or alternatives is noted as a concern and an issue to be addressed in future project-level studies, when more detail is available on alignments and system design.

**O067-15**

Please see response to Comment O067-3 and response to Comment O064-04 in regards to potential visual impacts. Please also see standard response 6.3.1.

**O067-16**

Please see response to Comment O067-2. Please also see standard response 6.3.1 and response to Comment O051-1.

**O067-17**

Acknowledged. The preferred HST system identified by the Authority has greatly minimized potential agricultural impacts through maximizing the use of existing transportation corridors.

**O067-18**

The co-lead agencies believe that the traffic and circulation evaluation prepared for the Draft EIR/EIS is appropriate for this program level document. Should the HST proposal move forward, more detailed project specific analysis will be required. Please see response to Comment O067-37.

**O067-19**

Please see standard response 2.18.1. Please also see response to Comment O067-13 in regards to the level of detail of the program EIR/EIS and potential mitigation measures, including mitigation for impacts to cultural, historical, and archaeological resources. Please also see response to Comment O067-39 in regards to "indirect costs of bond measures" and in regards to ridership and revenue forecasts.

**O067-20**

Please see standard response 6.3.1 regarding the Authority's decision not to pursue HST alignment options through Henry Coe State Park.

**O067-21**

Please see standard response 2.18.1. The comment notes that "a second ridership study was conducted without analyzing the Altamont Alternative route", this is not accurate. The ridership and revenue forecasts prepared in conjunction with the Authority's June 2000 Business Plan included forecasts for the Altamont Pass alignment option (ridership and revenue forecasts for "Northern California Corridor Alternatives" were presented to the Authority on May 19, 1999 and summarized in the Authority's December 1999 "Corridor Evaluation" Final Report). The ridership work done for the Business Plan produced different results for the comparison between the Altamont Pass and Pacheco Pass for several reasons: 1) total demand models for air and auto were re-estimated using more recent data (level of service characteristics, socioeconomic characteristics, and travel volumes by mode); 2) the Pacheco Pass option used in the Business Plan was considerably different from the one investigated by the Commission. The Commission assumed that the Pacheco Pass would serve a Merced Station as part of the routing between the Bay Area and Southern California (see Figure 3.2 of the Commission's 1996 "High-Speed Rail Summary Report and Action Plan"), whereas the Authority identified a more direct route (which did not include a Merced Station on the route between the Bay Area and Southern California) which reduced travel times between the major markets by over 10 minutes; 3) the Commission's analysis assumed that HST trains would "split" at the junction at Union City in order to serve San Francisco and San Jose, whereas the Authority's Business Plan did not have any trains splitting as part of the operational plan.

**O067-22**

Please see standard response 2.18.1. Cost estimates for a "new" Dumbarton Bridge are not included as part of the Final Program EIR/EIS. Various concepts and the associated costs for a potential San Francisco Bay HST crossing will be investigated as part of future studies. Future studies for proposed HST service between the Bay Area and Central Valley will consider the information provided and include comparisons of HST infrastructure costs for the various alignments investigated. Please see response to Comment AF008-25 in regards to the construction of tunnels. Please see response to Comment O064-08 in regards to suitable mitigation measures.

**O067-23**

Please see response to Comment O064-08 in regards to suitable mitigation measures. The Hayward/Niles/Mulford alignment option was carried forward since it is an existing, and very active rail alignment. However, the Authority has identified the Hayward Line to I-880, which was determined to have less potential environmental impacts than the Hayward/Niles/Mulford option, as the preferred HST alignment between Oakland and San Jose (please see standard response 6.2.2). Please also see standard response 6.3.1 in regards to the elimination of HST alignment options through Henry Coe State Park.

**O067-24**

Please see standard response 6.3.1. Please see standard response 2.1.1 and standard response 2.1.2 in regards to the ridership and revenue forecasts. Please also see standard response 1.1.5 and standard response 1.1.33 in regards to the primary purpose and objectives of the HST Alternative. The Authority's ridership and revenue forecasts are appropriate for use in this Program EIR/EIS and do include the ridership and revenue potential for long distance commuters using the HST infrastructure. Please refer to Chapter 5 of the Charles River Associates January 2000 report, "Independent Ridership and Passenger Revenue Projections for High Speed Rail Alternatives in California" referenced in the Program EIR/EIS. As stated on page 73 of that report, "This chapter presents preliminary year 2020 ridership and revenue forecasts on express commuter services that could be provided on the high speed rail/maglev alignments to San Diego, Los Angeles, and Bay Area (San Francisco, San Jose, and Oakland) urban centers. Urban and interregional commuters are additional travel markets that could benefit from the long-distance intercity HSR/maglev system." The Authority's long-distance commute forecasts assumed fare structures and frequency levels that are appropriate for commuters.

**O067-25**

Acknowledged. The splitting of HST trainsets will be considered as part of future studies. However, the co-lead agencies believe that the splitting of HST trains would not alter the analysis and conclusions of this Program EIR/EIS process and therefore no changes to the HST operational plan were made for this Program EIR/EIS. It should be noted that the capacity of the HST Alternative is a function of both "trains per hour" and number of passenger seats. Arguments "against the Altamont" are not included in the Final Program EIR/EIS.

**O067-26**

Please see standard response 6.3.1. Please see standard response 3.15.2 and standard response 3.15.13 regarding the general level of detail in this Program EIR/EIS and the anticipated more detailed project-level, Tier 2 studies. Please see response to Comment O042-1 for more information on the purpose of the Program EIR/EIS and the subsequent studies. The co-lead agencies believe that the Program EIR/EIS sufficient detail for the decisions made as part of this document. Appropriate edits have been made to the tables in Chapter 6 of the Final Program EIR/EIS.

**O067-27**

Please see response to Comment O067-13. Please also see standard response 6.3.1.

**O067-28**

Please see response to Comment O067-13.

**O067-29**

Please see standard response 2.18.1. Please also see response to Comment O067-24. The co-lead agencies agree that Sacramento to the Bay Area is an intercity travel market and this market is included as part of the HST Alternative. Please also see standard response 2.16.3.

**O067-30**

Please see response to Comment O067-14. Please see response to Comment O064-08 in regards to suitable mitigation measures. In

addition, further clarification and description of the design features of the proposed project (including tunneling methods) have been added to the Final Program EIR/EIS in Chapter 3 (for each environmental resource area). Please also see standard response 6.3.1.

**O067-31**

Please see response to Comment O067-8 and response to Comment O067-9.

**O067-32**

Please see standard response 6.3.1. Please see responses to Comment Letter AL072 (Grassland Water District and Grassland Resource Conservation District) in regards to the "Grass Wetlands area". The co-lead agencies appreciate the information provided by the Sierra Club, which will be considered in detail in future studies between the Bay Area and Central Valley. Please also refer to response to Comment O067-30.

**O067-33**

Please see response to Comment O067-8, response to Comment O067-9 and response to Comment O067-14.

**O067-34**

A list of 4(f) and 6(f) resources potentially impacted by the HST and Modal alternatives have been added to the Final Program EIR/EIS please refer to Appendix 3.16-A. Please refer to standard response 6.3.1, options through Henry Coe State Park have been eliminated by the Authority from further investigation.

**O067-35**

Please see response to Comment O067-3 in regards to visual impacts. Please see standard response 3.4.1 in regards to noise impacts in open space areas. Please see response to Comment O064-08 in regards to suitable mitigation measures. The Program EIR/EIS addresses potential mitigation at a program-level for noise and visual impacts. The extent of mitigation available to substantially reduce noise and visual impacts will be addressed in detail in project-level environmental analyses.

**O067-36**

Please see response to Comment O064-07. Please see standard response 6.3.1.

The co-lead agencies appreciate the information provided by the Sierra Club. Please see response to Comment O064-08 in regards to suitable mitigation measures.

**O067-37**

Please see response to Comment O067-2. A potential station site at Los Banos has been eliminated from further investigation and the Union City site was identified by the Authority as the preferred location for a potential Southern Alameda County HST station. Please see standard response 6.3.1. Please see response to Comment O064-08 in regards to suitable mitigation measures. The Final Program EIR/EIS has been revised to incorporate more information on the Williamson Act (see Section 3.8.1). Please see Chapter 5 of the Program EIR/EIS in regards to identification of potential agricultural impacts as a result of "population growth and urbanization that will result from the development of the HSR or Modal Alternative". The Program EIR/EIS document references the supporting technical reports that were done for each resource topic in each region, including those done for "Traffic and Circulation" (See Section 3.1 and Chapter 12). Please also see standard response 10.1.1 in regards to the availability of the technical reports that support the Program EIR/EIS. Section 3.2 of the Program EIR/EIS evaluates safety for air transportation, the automobile, and HST. The document concludes that the HST Alternative is the safest because it results in additional passengers being diverted from the automobile mode (the least safe). No safety benefits were assumed for air transportation as a result of the HST Alternative. The co-lead agencies believe that none of the analyses included in the Program EIR/EIS are impacted by differences in emergency access. Potential

differences in emergency access should be investigated as part of future study between the Bay Area and Central Valley. Identifying potential conflicts with alternative transportation such as bus turnouts and bicycle racks is beyond the scope of this program EIR/EIS process. Should the HST proposal move forward this would be investigated as part of more detailed project level studies. Please also see discussion of transit-oriented development measures in the Final Program EIR/EIS (Chapter 6B). Future project-level studies will further consider these issues, including the information provided in Appendix 8 to the comment.

**O067-38**

Please see standard response 6.3.1. Please see standard response 3.15.2 and standard response 3.15.13 regarding the general level of detail in this Program EIR/EIS and the anticipated more detailed project-level, Tier 2 studies. Please see response to Comment O042-1 for more information on the purpose of the Program EIR/EIS and the subsequent studies. The co-lead agencies believe that the Program EIR/EIS provides sufficient information and analysis for the decisions made related to this document. Please see response to Comment O064-08 in regards to suitable mitigation measures.

**O067-39**

The Program EIR/EIS does not include a financing plan for the HST Alternative (this is beyond the scope of the Program EIR/EIS process). Developing a financing plan is beyond the scope of this Program EIR/EIS. Some funding assumptions were made as part of the Economic Growth and Related Impacts analysis in order to calculate the potential impacts of the HST and Modal Alternatives on growth inducement. The co-lead agencies do not believe that the statement that has been quoted (DEIR/S page 5-9) is "self-contradictory". Please see Section 2.3.2C "Alternatives Development" of the Program EIR/EIS in regards to the use of the "high end" ridership and revenue forecasts for this Program EIR/EIS. Please also see standard response 2.1.1 and standard response 2.1.2 in regards to the ridership and revenue forecasts.

**O067-40**

Please see response to Comment O067-2 and response to Comment O067-8. Please refer to Chapter 6A of the Final Program EIR/EIS in regards to the selection of the preferred alignment and station locations. All of the HST stations selected for further evaluation are "potential" stations (please see standard response 2.1.12). Please see Section 5 for which summarizes the growth impacts analysis done for this program process. Please see standard response 6.3.1 in regards to options between the Bay Area and Central Valley. Please see Chapter 6B of the Final Program EIR/EIS for transit-oriented development measures.

**O067-41**

Thank you for providing this information. Please see standard response 2.1.12. The Authority believes that transit oriented development around HST stations will be important for the proposed HST system. This is addressed in the Final EIR/EIS (see Chapter 6B and the Summary – S.4.5 and S.7).