



30 August, 2004

Re: Comments on DEIR/EIS for the proposed California High Speed Rail Project

To whom it may concern:

I have been following the State of California's progress on High Speed Rail since 1980, when I was in the eighth grade, and received the RFP for the initial project. Page 9-2 of the 1996 High Speed Rail Summary Report and Action Plan assumed the financial plan for the project would be on the 1998 or 2000 ballot. Something has gone very wrong with this project.....

California needed this project 20 years ago, soon after the French proved the effectiveness of a new high speed rail system. Sadly, the information and analysis in the current DEIR/EIS is nowhere close to the level needed to move this vital project forward. My questions and comments on some of the most troubling assumptions in the DEIR/EIS are included in the following text.

I would be very happy to meet with staff and consultants to further clarify my questions and comments.

-Michael Kiesling

Notes on CHSRA DEIR/EIS

The document overreaches the scope of a Program-Level EIR/EIS. The document seeks to predict the intrastate transportation infrastructure for the year 2020, and then find the best way to meet the (assumed) projected demand. At this macro-level, it defines a high speed rail system to meet the projected demand. It then develops improvements and expansions to the existing highway and air travel infrastructure to meet the same projected demand. These constitute the project alternatives, listed in Section 2.1 of the DEIR/EIS, page 2-1. The alternatives to be studied are:

2.1.1 No Project Alternative - assumes planned improvements to the existing transportation infrastructure



2.1.1 Modal Alternative - "potentially feasible" highway and aviation system improvements

2.1.2 High Speed Train Alternative - "reasonable and feasible" alignment and station options.

Why does this project level DEIR/EIS go beyond the stated alternatives in Section 2 and enter in to the question of defining a single HSR alignment and route?

Demand was predicted prior to the initiation of the EIR/EIS. Why not satisfy the program level EIR/EIS by determining the environmental superiority (or not) of a HSR alternative prior to establishing a set alignment? Isn't there the strong possibility that unforeseen impacts will be unmitigable?

What is the legal threshold between a "program level" and project level" EIR/EIS? Has this threshold been crossed by the CHSRA? Will that threshold be crossed by the CHSRA by using the EIR/EIS to define a single route for implementation?

2.5.2 Modal Alternative Carried Forward

Highway Component

Why is I-680 not considered for improvement? Isn't I-680 a primary route for Bay Area-Sacramento area auto traffic, especially from the Santa Clara and San Ramon Valleys? What was the criteria for determining the highway component of the Modal Alternative? Was this criteria, if it exists, applied evenly throughout the state?

Why are there no highway improvements assumed between the San Francisco Peninsula (I-80, SR-92, SR-84) and the East Bay when there are three stations assumed for the HSR system on the peninsula? How are the 15,630 daily trips (2000 CRA Table E-9) generated by the three peninsula stations to be accommodated by the modal alternative? Is it assumed all these trips will travel via US-101 and SR-152 to reach the Central Valley and Los Angeles? What travel data backs this assumption? Aren't the majority of trips between the San Francisco peninsula and the Central Valley / Los Angeles made via I-580 (Altamont Pass)? Aren't the majority of trips between the greater Bay Area and the Central Valley / Los Angeles made via I-580 (Altamont Pass)?

Existing I-5 between SR-99 and SR-14 is a 8-10 lane facility. Why is it listed in Table 2.5-1 on page 2.19 as a 6 lane facility?



Aviation Component:

How can it be assumed "future local/regional trips would shift from San Francisco International Airport to Oakland International Airport and the airport in San Jose" (p 2.21)? How will the privately owned and operated airlines shift their service plans to accommodate this assumption? How realistic is this assumption of a reduction of local/regional flights (assumes reduction to accommodate growth in long distance/international flights) when many of the shorter flights serve to fill the longer flights? How does this assumption of a shift in the flights to the two other Bay Area airports affect traffic congestion on the regional highway system? How does this affect the investments in fixed transportation infrastructure to SFO? How do limitations on operating hours (San Jose) and environmental issues (bay fill Oakland) affect this assumption? Where has this planned shift of services between airports happened in the United States? What is the governmental authority to do so?

2.6 High-Speed Train Alternative

Why was the Altamont alternative dropped when the Final Report - Corridor Evaluation, December 30, 1999, states the following about the retained Pacheco Alternative:

"this alternative leads to a Sacramento to San Francisco travel time of 1 hour and 48 minutes, which is not as competitive with other modes of travel compared to the Altamont Corridor alternative."

In other words, **Pacheco does not attract as many trips between the Bay Area and Sacramento as does Altamont.....**

"the time to San Francisco is only 3 minutes longer".

In other words, **trips using the Pacheco alignment are 3 minutes longer to the majority of Bay Area stations.....**

or, **trips using the Pacheco alignment are 3 minutes longer to the second-busiest station in the system, San Francisco, from every location.**

or, **trips using the Pacheco alignment are 3 minutes longer for almost 70% of the passengers with origins/destinations in the greater Bay Area...**

"the Pacheco Pass option would have more negative environmental impacts as compared to Altamont Pass option."



"There would be substantially more water crossings associated with this alignment including over 20 small streams between the San Joaquin River and Los Banos."

Why are travel times and environmental impacts ignored when the decision was made to completely drop the Altamont Alignment from consideration?

Travel Times / Operations

How do longer travel times to the second (San Francisco) and third (Sacramento) busiest destinations on the system meet the goals of fastest travel time? How does a greater than ten-fold increase in wetlands impacts by acre (Altamont 27.4, Pacheco 290.0 - Appendix 2-H CHSRA EIS / EIR - January 2004) reduce environmental impacts? Why is it stated "the greatest benefit of the Pacheco Pass is found in system operations since all trains would pass through San Jose " (p 2.36), when San Jose is not even one of the top five busiest stations? Why was the statement revised from the 9/3/01 report that said, "the greatest benefit of the Pacheco Pass is that all trains would pass through San Jose"?

How do operations improve by creating a system with a greater overall length, especially when operation and maintenance costs are based on train and track miles? How well is equipment utilized if trains must serve both the San Francisco peninsula and San Jose on a single line? San Jose - San Francisco travel time is about 20% of the total trip time for a San Francisco - Los Angeles run, yet trains will run at only 2/3 capacity if they need to serve all Bay Area stations on a single line. Isn't it more efficient to run full trains to their destinations? Wouldn't Altamont be a more efficient way to operate, with a schedule that considers the demand for all stations, providing service balanced to demand?

Given that the system must be constructed in phases, please provide estimated ridership (broken down by station origin and destination) and estimated operating revenue and estimated operating cost for both the initial system, any subsequent phases, and full system build-out. Which choice of initial operating system has the highest return on investment as measured by operating surplus minus borrowing costs? Would an initial operating system via the Altamont Pass provide a higher return on investment by this metric?

If a longer and slower Palmdale alignment is chosen in Southern California for geotechnical or other reasons, how will this affect decrease ridership to and from the Bay Area? How much less would ridership decrease if the system entered the Bay Area via the Altamont Pass, which previous studies showed resulted in a lower trip time for the majority of passengers?



South Bay Wetlands

The environmental impact of a new bay crossing is given as a reason to eliminate Altamont. Why was the Mulford Line alternative for the San Jose - Oakland line retained in the DEIR/EIS when Altamont wasn't? What was the criteria employed to determine impacts on the South Bay wetlands? The Mulford alternative affects over seven times the acreage of wetlands of the Altamont alternative (Altamont 6.7, Mulford 49.9 - Appendix 2-H CHSRA EIS / EIR - January 2004). Both pass through the Don Edwards refuge. Mulford passes through an area planned for restoration, Altamont doesn't. The Dumbarton line (Altamont) is publicly-owned and planned for reactivation as a publicly-operated commute rail service. The Mulford line is owned by the UPRR and operates as a freight railway, along with Amtrak and ACE passenger service. The Mulford line will require a separate facility for HSR. Coordination of service would allow Dumbarton (Altamont) to run on the same facility as the HSR. Is the implementation of a new facility on the Mulford line present fewer impacts than a consolidated facility on the Dumbarton alignment?

Dumbarton HSR Crossing Estimate

Cite a single high speed rail bridge with a cost approaching anywhere close to the \$1.2b quoted for the new Dumbarton crossing. The longest bridge on the new Dutch HSR, over the Hollandsch Diep, is about the same length and has about the same main span as a high-level Dumbarton crossing would, but it cost less to build than even the Authority's previous estimate for Dumbarton, \$300m. From:

<http://enr.construction.com/features/transportation/archives/030630.asp>

Hollandsch Diep

Designed to carry fast, heavy trains on a 2% slope, the bridge has 12, mainly 105-m spans with a continuous single trough deck topped with a 14-m-wide composite concrete slab. The roughly 3-m-deep steel troughs rest on V-shaped pier-top supports of similar dimensions.

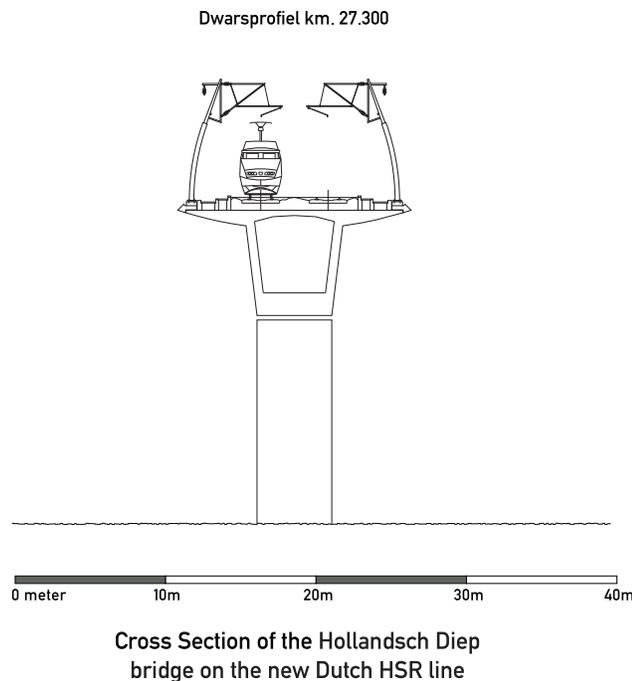
The mainly Dutch, six-firm consortium HSL-Drechtse Steden signed the \$427 million design-build contract in mid-2000, aiming to complete the bridge next May. Two 2.5-km sunken tube tunnels under the Oude Maas and Dordtsche Kil rivers, plus some 9 km of simple track also form part of the contract.

Except for concrete piers, all major elements, including nearly 9,000 tonnes of steel, are prefabricated nearby and delivered by river. Precast concrete caissons, each sunk onto large steel piles, support cast-in-place piers. The 25-m-long x 10-m-wide caissons travelled on pontoons before being sunk into place.

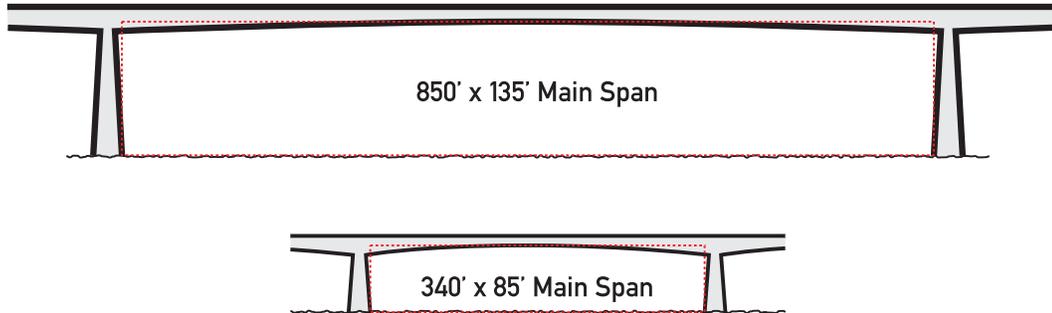


Deck steelwork troughs were barged to site in 60-m lengths, with concrete slabs already attached, all weighing some 1,200 tonne. At each pier top "hammerheads" form the deck support and end sections of each span. Hammerheads are 45-m-long box fabrications made integrally with V-shaped supports of similar proportions bearing on the piers.

Too tall to clear overhead obstructions on the boat ride from the fabricator's yard, hammerheads travelled to the site on their sides, leaving tops slabs to be cast later on the bridge.



The above description of the Dutch bridge seems to be much closer to the requirements and cost for a new Dumbarton crossing than What was the methodology for the \$300m estimate for a Dumbarton Crossing in the initial HSR studies? Why does the DEIR/EIS quote a mitigation cost of up to \$1b, based on the SFO runway expansion project, when no such number was ever cited in the SFO project? How does the estimate for a mid-bay crossing compare to the physical situation at Dumbarton? How does the mid-bay location of the example bridge, a 11.2 mile bridge with the main span about 5 miles from the shore, compare to the location of the Dumbarton crossing?



The clearance for the bigger span is almost 4x greater

How does the scale of the example bridge, a 850' span and 135' clearance, compare to the required span and clearance of the Dumbarton Bridge, maximum requirement assumed to be 340' x 85'? (based on existing SR 84 bridge). How does the cost inflate so greatly from the \$70m cost (1984 dollars - about \$200m in 2004) for constructing the Dumbarton highway bridge? What is the "high speed factor" (15-20% increase in construction costs) in Appendix 2-J? Is this "high speed factor" applied anywhere else in the project?

Why is it assumed that the proposed commute rail service in the Dumbarton corridor would still run on the old bridge, thus requiring an entirely new corridor for the HSR bridge? Does this assume there would be no commute service on the HSR? If the CRA 1996 draft ridership study assumes stronger demand for a commuter service in the Altamont Corridor than the Pacheco Corridor (for new riders), why is the commute potential of the Dumbarton corridor ignored in the DEIR/EIS?

Operations

Why was ridership modeled for the Altamont alternative based on the assumption that service to the Northern California terminals would be based on an equal split of service? Why wasn't the demand taken into consideration when deciding how to model the ridership differences in the Pacheco vs Altamont alternatives? How does the potential for ridership in Gilroy and Los Banos compare to the potential for ridership in Fremont, Pleasanton-Livermore, and Tracy? If headways play a significant role in the modeling of ridership, why did demand play no role in the assumptions used to model Altamont ridership? What would the results be if the Altamont ridership was modeled with 2/3 of the trains running to San Francisco and 1/3 to San Jose?





What is total ridership for the San Francisco peninsula stations (San Francisco, San Francisco International Airport, Redwood City)? What is the total ridership for San Jose? How do these two numbers compare? Why wasn't service modeled relative to the numbers generated by summing the ridership on the two Bay Area lines?

What does the assumption of both an Oakland and San Francisco terminal do to the overall ridership? How many new riders are gained with the addition of an Oakland terminal, assuming the existence of a San Francisco terminal? What is the cost-benefit analysis of an Oakland extension, assuming a San Francisco terminal?

Is a BART extension to San Jose assumed for the project? How is ridership affected if it is assumed that San Jose riders access the system in Fremont via BART? What is the cost of constructing an extension of BART from Fremont Station to San Jose Diridon Station? What is the cost of constructing HSR from Fremont to San Jose Diridon?

Los Banos Light Maintenance/Storage Facility

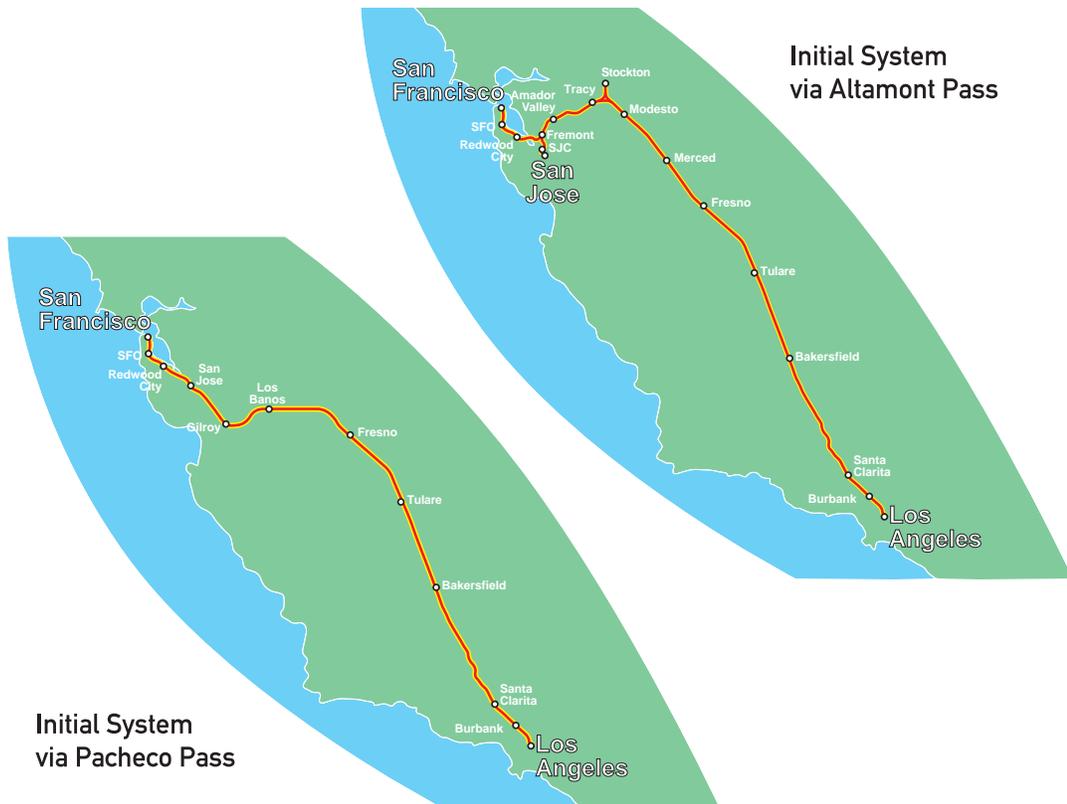
How was Los Banos determined to be the best location to service Bay Area trains, when it's over 200km from the terminal in San Francisco? How does the Los Banos location meet the requirement that the light maintenance facility be within a 5-minute trip of the terminal? What criteria was used to determine this location? Are there no other locations closer to San Francisco than Los Banos that could serve as a light maintenance facility? What are the impacts of the Los Banos facility on the surrounding environment, including wetlands?

How does the goal of keeping the right of way alongside Henry Miller Avenue "The route is proposed to be alongside the roadway to minimize disruption to agricultural fields." (Bay Area to Merced High Speed Train Screening Evaluation 9-3-02, p. 62) create the fewest impacts? By keeping the railway right of way immediately adjacent to Henry Miller Avenue, doesn't this require the acquisition and demolition of all homes and most farm structures along the ROW? How is this a benefit? Has an assessment of the number and value of structures along Henry Miller Avenue required for the Pacheco HSR alignment been made? What are the impacts to agriculture if these acquisitions take place? What are the environmental justice issues surrounding condemnation and relocation of the residents of these homes?



System Ridership

The DEIR/EIS assumes full build-out, but this assumes the initial segment will be successful, as funding is assumed to come from the "profits" of the initial segment. Has the ridership of the initial operating segment, assumed to be San Francisco to Los Angeles, been modeled as a stand-alone system? Do the number of cities served on this initial segment affect ridership? What are the projections for revenue on this initial segment? How many more passengers would an initial Los Angeles - San Francisco system attract if it utilized the Altamont Alternative? How much less expensive would the extension to Sacramento be? What is the ridership on a initial system if it uses the Pacheco alignment?



How great is the catchment for stations? How does the various station locations in Northern California serve the Bay Area? How many miles are passengers expected to travel to reach a HSR station? What is the rush-hour travel time from San Ramon to a HSR station? What is the travel time from San Ramon to the Oakland Airport? Which cities are outside the HSR catchment? What percentage of passengers are expected to access stations via private auto? What demand for parking will exist at Redwood City station?



San Jose? SFO? Has a schedule been developed that shows the combined operations of HSR and Caltrain service between San Jose and San Francisco? Has a schedule been developed which shows the combined operations of HSR and high speed commuter service between the Central Valley and the Bay Area?

How was the site for the Los Banos station chosen? Why is there no corresponding station on the Coe/Diablo alignments? What market is served by a station on the west side of the Central Valley in Merced County? How does this affect the potential for sprawl?

Central Valley

A west of 99 route was shown to require 180 acres of farmland, 57% of which is considered prime farmland (December 1999 Corridor Evaluation, p. III-25). Yet a UPRR alignment (along SR-99) would require 250 acres of farmland, 71% prime. The UPRR alignment was estimated in 1999 to cost over \$3b more than the west of 99 alternative. How is farmland preservation aided by dropping the West of 99 corridor? What benefit of the UPRR alignment is worth the added \$3b? What criteria was used in the decision to drop the West of 99 alternative? What criteria was used in the decision to retain the UPRR alternative?

The UPRR alignment runs through the city centers, allowing (obviously) city center station, but the trade off is higher cost (at least \$3b) and greater travel times (15 minutes more than west of 99), assuming reduced speed operations in the city centers, and a longer route (6 miles). To remedy this, the DEIR/EIS assumes high speed bypasses of the larger city centers along the UPRR, and full speed operation through the smaller ones. These bypasses will add to the length of the line (straight line through town vs. curved bypass around town), leaving the "express" line the longer line. This scheme for bypasses around city centers also adds to the \$3b difference in alternatives, because bypasses were not assumed in the original analysis. How much cost do the addition of the bypasses add to the project?



UPRR Corridor with Bypasses



West of 99 with branches to City Center Stations

Express = Red

Local = Black





Assuming a bypass and station line for each major city in the Central Valley, wouldn't the West of 99 alignment result in lower costs, a significantly shorter route, and actually fewer acres of farmland needed for construction? Wouldn't the lines into the city centers cost less, as they could be engineered for lower operating speeds? Depending on service levels, couldn't these lines initially be constructed as single-track spurs, saving initial construction costs? If funding is limited, is there a possibility that ONLY the bypasses or the in-town line will be built in the UPRR corridor? If the decision is made to "phase" the bypasses first in the UPRR corridor, will "temporary" stations be built outside of city centers? With a west of 99 alternative, could the existing Amtrak service serve as an initial feeder to the HSR if some lines into city center stations were deferred?

Why hasn't the mitigation of parcel splits by swapping land on either side of the ROW with adjoining farms been addressed? What is the effect of a HSR alignment along the UPRR corridor on the pressure to bring SR-99 to full interstate status if many interchanges will be built or re-built for the HSR project? How does this upgrade of highway facilities affect sprawl?

Project Costs

How were the estimates for the SFO-Millbrae and Redwood City Station developed? Were these costs checked against Caltrain's recent experience with new station design and construction? Why are many components of the cost of a Fourth and Townsend Station in San Francisco omitted, such as real estate costs, environmental mitigation, etc?

Why are no maps available to complement the detailed capital cost data? There is no way to determine the segments that the capital cost tables refer to, so it is virtually impossible to determine the cost of each alternative where there are a number of sub-alternatives. Please provide detailed maps clearly showing each segment of the project, keyed to the extensive spreadsheets.

Other Impacts

Why is there no mention of the San Joaquin Valley National Cemetery? Doesn't the Pacheco alignment cross the cemetery property? How far is the railway from the gravesites at the cemetery? What is the sound impact of the trains on the solitude of the cemetery? How was this significant receptor missed in the study? How many other omissions like this might there be in the DEIR/EIS?



What is the construction impact on the Coe/Diablo alternatives? How will machinery and workers access the tunnel portals? How many miles of construction roads will be built? How long will it take to bring workers to and from construction sites for each shift? How does this travel time affect the labor cost of the alternative? What amount of energy is required to move in workers and material to the remote construction sites? Where will materials be staged? What impacts does the introduction of large numbers of humans have on the animals in the area? How will the construction roads be removed (will they be removed) and how will the land be restored when construction is complete? How is emergency access provided for the line, once in operation? What effect will wildfire suppression policies have on the operation of the railway in the wilderness?

How realistic is it to assume a station in Santa Clara (to serve Mineta International Airport) and a station in San Jose at the existing Diridon Station? Are these stations not more than 3 miles apart? Why wasn't an analysis of either a San Jose OR a Santa Clara station conducted? Every rail operation, with the exception of VTA's Vasona line, stops or runs past the Santa Clara station, making it as strong a candidate for a Silicon Valley station as Diridon station. Additionally, could not the adoption of the Santa Clara station site reduce the need to add two new levels to Diridon Station, including over a mile of elevated railway tracks?

Thank you for your review of my comments and I await answers to all my questions. I am available to meet with Authority staff or consultants to answer any questions that may arise from the preceding comments.