California High-Speed Rail Peer Review Group

Stacey Mortensen | Lou Thompson, Chairman | Martin Wachs

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The Honorable Toni G. Atkins
Senate President Pro Tem
State Capitol Building
Room 205
Sacramento, CA 95814

The Honorable Anthony Rendon
Speaker of the Assembly
State Capitol Building
Room 219
Sacramento, CA 95814

The Honorable Patricia Bates
Senate Republican Leader
State Capitol Building
Room 305
Sacramento, CA 95814

The Honorable Brian Dahle
Assembly Republican Leader
State Capitol Building
Room 3104
Sacramento, CA 95813

Dear Honorable Members:

The California High-Speed Rail Authority's draft 2018 Business Plan marks a critical decision point for high-speed rail in California. Although the Authority's work to date is in accord with earlier program and funding actions by the Legislature, the 2018 draft Plan highlights the fact that there is a continuing and growing funding gap that must be addressed in order to complete service between San Francisco and Bakersfield and eventually to Los Angeles and Anaheim in Phase I of the system. This is only in part because costs have gone up since the 2016 Plan and they may well continue to do so. It is also not surprising that the project schedule has slipped and may well slip further, nor is it unexpected that compromises continue to be made with respect to expected system performance. The table below illustrates the general magnitude and direction of change from Business Plan to Business Plan.

Evolution in Capital Costs, System Size and Demand, Revenue and Net Revenue Forecasts								
(Revenue Projections for the Year 2040 re-stated in 2017$)								
Capital Cost, Demand and Revenues are Medium Level Estimates								
Business Plan	**Ph I Capital Cost ($ Billions)**	**Miles**	**Capital Cost/Mile ($Millions)**	**Demand (Millions)**	**Gross Revenue* ($Millions)**	**Net Revenue** ($Millions)**	**Ratio: Net/Gross (%)**	**Schedule: SF to LA 3 stops**
2012	61.0	490	124.5	26.4	1,948.5	1,076.3	55.2	na
2014	61.4	490	125.3	34.9	1,766.0	843.3	47.8	3:08
2016	57.9	520	111.3	42.8	2,512.5	1,566.0	62.3	3:10
2018 draft	67.5	520	129.8	42.0	2,561.0	1,610.0	62.9	3:32 ***
* Farebox revenue plus ancillary revenue								
** Gross Revenue minus O&M Costs and ongoing capital replacement								
*** To be revised in Final 2018 Business Plan								

None of the changes since the 2016 Business Plan are surprises given the history of the project and experience with similar projects worldwide. These patterns result from the enormity and complexity of the project and the inherent uncertainty surrounding it. The changes do not necessarily reflect badly on the competence or honesty of management and many of the changes resulted from issues that were highlighted as risks in earlier plans. They follow the well-established trajectory of most mega-projects that start from a grand *vision* and end up, eventually, forming a more realistic picture of the actual challenges. Public comment is likely to focus on cost escalation, schedule changes, and modifications to system design, but the Peer Review Group would like to highlight questions that are in our opinion more fundamental.

The 2018 Plan poses critical questions because it starkly underlines the need for decisions on the future of the program. Growth in expected costs is of concern even before considering the fact that the most complex and costly parts of the construction (tunneling, for example) have yet to be started, and there is an inadequate and uncertain stream of money to finance the project. There has always been a gap that will have to filled from unidentified sources, but earlier Plans held out the hope that there would be a set of construction cost estimates, public financial resources, and operating income projections that would elicit enough private investment to build at least a significant operational part of the system without major additional state or federal grants or loan programs. Our earlier comments noted that the expressions of interest from potential private sector investors had made it clear that an added role of the state in guaranteeing the income flow of the Authority would be needed, no matter what other sources were identified.

The Group has comments on the Plan's details attached below, but more importantly we urge the Legislature to respond to the 2018 Plan by focusing instead on the key questions of whether the project should proceed and, if so, what would a revamped project look like and how can it realistically be financed? It will be essential to develop a realistic program of project finance by revenue source and agency (local, state, federal, private) and a realistic discussion of the predictability of funds generation.

The Authority can no longer be expected to deliver a project for which the proposed scope is not matched by adequate and reliable funding. The Legislature will need to consider how adequate and reliable funding can be provided if the project is to continue. The issue is two-fold: current funding is not sufficient to complete even the San Francisco to Bakersfield section; and the primary source of added funding – Cap and Trade – is too volatile to support monetization by the private sector except at a high risk premium.

The 2018 Plan does not clearly lay out the Legislature's choices or the actions needed to implement the chosen option. This increases the risk that the mismatch between the desired outcome and available funding will continue to grow to the detriment of the project and the state. In broad terms, the choices appear to be:

1. End the project, pay the remaining contractor charges, retain purchased property for state uses where needed and otherwise sell it or return it to its former owners and scrap any work already done. In practice this would not be practical because the work done so far would have no utility and the federal ARRA money would probably have to be repaid.
2. Complete the existing committed work in the Central Valley and provide connections to the existing San Joaquin service so that use could be made of the investment and the ARRA funding would not need to be repaid. Complete all contracted commitments to local authorities on the Peninsula and in the Los Angeles basin including Phase I environmental clearances. After doing so, end the project. This appears to be the minimum feasible program, though it would leave Cap and Trade appropriations unspent.
3. Complete existing work as described above and, using Cap and Trade receipts provided under current policies, add improvements in electrification from San Jose to Gilroy and upgrade Los Angeles Union Station and the Los Angeles to Anaheim lines. Complete planning and engineering for the Pacheco Pass tunnels and all environmental clearances needed. Defer other commitments for future consideration but continue to pursue potential financial options such as state guarantees of the share and level of Cap and Trade flows. This is basically the program status in the draft 2018 Plan. If the Legislature chooses this approach, it may want to commission a review of the program before authorizing further commitments.
4. Reconfirm the state's commitment to completion of an agreed version of Phase I as contemplated in Proposition 1A and provide the Authority with adequate and reliable sources of financing to complete the project. A workable funding plan should be based on the understanding that the project's schedule and costs are likely to change as the project evolves.

In considering these options (or others the Governor, Authority or Legislature may define), the Legislature will need to reassess the *vision* embodied in Proposition 1A and the reality it is turning into. If the Legislature opts to continue the project beyond the Central Valley segment and the existing commitments to the bookend areas, it may want to request that a study be commissioned to revalidate the role of high-speed rail in the future transport network of California and reaffirm the priority that transportation, and high-speed rail, have in comparison to other spending needs of the state. This would be especially important if, for example, the Legislature considers changing the share of Cap and Trade receipts dedicated to high-speed rail. An essential element of the study would be a full discussion of the role of high-speed rail within the state's overall rail plan and plans for highways and airports. This should also be based on inputs from the Authority's early operator, who could provide more detail and justification for the projections of services and financial/economic performance of the system for the options being considered.

As stated in previous letters the PRG believes that rail passenger service, including high-speed rail service, is important to the economic growth of the State and can play a central role in the State's future transport network. Enhanced passenger rail service – high-speed, conventional and commuter – will be needed in California just as it is useful in other regions of the country and around the world. There is little doubt that better rail service can be achieved if the various providers (not just the Authority) are given appropriate policy guidance and financial support. Unfortunately, the high-speed rail program as it is currently defined and financed will not be able to support the role that high-speed rail could have in the state's future transportation system.

Please let us know if you have any questions, need any further information, or would like to meet with the Group to discuss this letter.

Sincerely,

Louis S. Thompson
Chairman, California High-Speed Rail Peer Review Group

cc: Hon. Jim Beall, Chair, Senate Transportation and Housing Committee
Hon. Anthony Canella, Vice Chair, Senate Transportation and Housing Committee
Hon. Jim Frazier, Chair, Assembly Transportation Committee
Hon. Vince Fong, Vice Chair, Assembly Transportation Committee
Brian Ennis, Secretary, California State Transportation Agency
Mac Taylor, State Legislative Analyst
Ken Alex, Director, Governor's Office of Planning and Research
Dan Richard, Chair, California High-Speed Rail Authority
Brian Kelly, Chief Executive Officer, California High-Speed Rail Authority
Members, California High-Speed Rail Peer Review Group

Detailed Comments

Early Operator

The draft Plan does not incorporate the input of the early operator recently contracted by the Authority. The Authority states that the early operator will be asked to assess the reasonableness of the cost estimates and ranges presented and "[w]hen that assessment is complete, this information will be publicly available." (page 32 of draft Plan). There are a number of areas where the input and advice of the early operator will be very important, including capital and O&M costs, cash flows and the business model as discussed below. If at all possible, this input should be included in the final 2018 Business Plan. If inclusion in the final Plan is not possible, the Authority should commit to an agreed date when the assessments will be available because the inputs are likely to have a significant impact on the project and this may affect the Legislature's continuing evaluation of the program.

Business Model

The Authority's discussion of its proposed business model needs better definition and explanation in the final Plan. This is an area in which the early operator will be able to assist based on experience with rail passenger business models elsewhere in the world. For example, the Authority states "The rail infrastructure provider will interface with the system operator and will be responsible for integrating other elements of the high-speed system (high-speed rail trains, civil works and facilities) so that the system works seamlessly. The rail infrastructure provider is intended to be a key long-term partner and also [to] be responsible for maintaining the underlying civil works of the system." (page 27 of the draft Plan) The Authority should elaborate on how this would actually be implemented in practice. Would there be a separate contractor or concessionaire who would own and maintain the infrastructure and charge a fee for use while paying the Authority a fee? How would the charges be established and regulated? How would the various service providers interact with the infrastructure provider? There is no single, "right" answer to these questions, and the business model need not be defined in complete detail, but the Authority needs to present a clear and consistent concept of its business model in order not to make decisions now that will foreclose future choices.

Interaction with the Bookend Operators

The Authority has decided to expand the blended operations with Caltrain from San Francisco to Gilroy, and with Metrolink from Burbank to Anaheim, an approach that we consider appropriate both because of limited funding, and because this will have significant immediate benefit to current riders. This approach underlines the need for a clear and fully agreed upon set of operating agreements with the two agencies and with the Union Pacific and BNSF railroads. The existing memoranda of understanding have launched the process, but the Authority should move as quickly as possible to convert the general understandings into specific agreements on ownership, rights of access, costs of access, maintenance responsibility, and dispatching and scheduling decisions, among others. The Authority has already seen how negotiations of final agreements with freight railroads tend to increase estimates of cost and schedule. Any added impacts of these agreements with the commuter operators and the freight railroads should be identified and managed as soon as possible.

Grade Crossings
In prior letters we urged that a broad program of grade crossing elimination be developed. The dangers of the interactions of heavy highway traffic and dense, high-speed, conventional and commuter rail passenger traffic moving through rail/highway grade crossings cannot be overstated. Now that the Plan envisions operation over grade crossings in the San Jose to Gilroy area and plans for joint operations over the grade crossings in the Burbank to Anaheim territory, the need for a program to eliminate grade crossings is even greater.

This is not a problem that the Authority alone can or should solve. Resolution will be expensive, it will take time, and there may well be a need for prioritizing of funds by crossing exposure and acceptance of interim solutions. Local governments, the state, Caltrain, Metrolink, the freight railroads and federal authorities all have roles to play. A coordinated program over a reasonable period of time to reduce the danger at grade crossings should be developed and implemented. The Legislature may want to request that Caltrans take the lead in forming such a program.

Schedule Trip Time Changes
Although Proposition 1A required that the system be **designed** so that a train could run from San Francisco to Los Angeles in 2 hours 40 minutes or less, continuing changes in plans, all of which have reduced speeds and increased potential trip times, will make it more difficult to meet this requirement. In past Business Plans, the Authority took the position that the "pure run time" as reflected in their train performance calculator results indicated that the 2:40 time could be met for a non-stop train from San Francisco to Los Angeles, but none of the planned schedules included non-stop service. The three-stop **scheduled** trip time from San Francisco to Los Angeles was shown as 2:55 in the 2009 Business Plan (page 66, Table A), 3:08 in the 2014 Business Plan (page 8 of 2014 Service Planning Methodology) and 3:10 in the 2016 Business Plan (page 5 of 2016 Service Planning Methodology). It is now shown at about 3:30 in the draft 2018 Business Plan (page 5 of 2018 draft Service Planning Methodology) though we have been informed that this will be revised in the final Plan. The proposed schedules must be consistent with the actual demand modeling in the plans in order that the revenue and O&M forecasts will match the conditions needed to fulfill the schedule. At the same time, the revised schedules illustrate the risk of reduction in system performance due to added maximum speed limitations in a number of areas.

Overall Variability
A common thread through all our previous letters has been that all of the forecasts of construction cost, O&M costs, revenue and cash flow, and completion schedule should be presented as having a wide range of potential outcomes. The experience gained so far has confirmed this point, as the draft 2018 Plan states. We fully support the Authority's move to show all projections in terms of ranges and not just point estimates.

For example, on page 18 there is a discussion of international experience with tunneling without furnishing any information on cost experience. If the Authority is learning from international experience, given the enormous contribution of tunneling to the cost uncertainty of the project, it might be especially helpful to include preliminary insights about the ranges of unit costs from these experiences as compared with the Authority's estimates. The Authority expects to build over 44 miles of tunnels, which is likely the largest single project cost component, so a clearer perspective on the tunneling estimates would help in building confidence the projected costs will fall within the estimates.

More broadly, all future projections should acknowledge that costs, revenues, system performance and completion schedules are still subject to a lot of uncertainty, even after the various contingency allowances are applied. Any funding plans for the system should take into account the possibility that the actual outcomes could be at the unfavorable end of projected ranges.

Urban/Regional Development and Potential for Value Capture by High-Speed Rail
The Draft Business Plan argues (page 1) that high-speed rail will contribute to resolving the state's affordable housing problem and repeats the assertion (pages 11-12), under the heading "Benefits to Disadvantaged Communities." High-speed rail is presented as a catalyst for infill development and for sustainable infrastructure that can make communities safer places to live and the Plan suggests that high-speed rail can benefit lower income communities. The Group considers the relationships between the construction of high-speed rail and land use changes near the stations to be a matter of enormous policy significance and notes that this issue receives inadequate attention in the Draft. Our concern is that the claims, though potentially credible, are not supported by evidence. It is possible, as speculated in the draft Business Plan that people will move to lower-cost housing close to stations while working in Silicon Valley or San Francisco. It could equally be argued that high-speed rail will bring urban sprawl to the central valley and will replace inexpensive housing with luxury market rate development. Because of the significance of the issue of the impact of high-speed rail on regional development, we recommend that better and more detailed studies be undertaken before this issue can be resolved with confidence.

Similarly, the plan mentions (page 72) the creation of a Transit and Land Use Committee that is pursuing station area development. References appear to the possibility in the future of value capture financing, to the creation of station area development corporations, and to interest in federal programs such as the federal program of "opportunity zones." We do not argue with the potential importance of these possibilities, but they are not well enough defined or established to give us any confidence in their future role. Much more needs to be done before they can be taken seriously as elements of system planning or finance.

Data are provided on page 5 to demonstrate that Los Angeles has a serious traffic congestion problem (clearly true). The Authority asserts that high-speed rail will contribute to the alleviation of that problem, even though the plan makes no commitment to initiate service in the coming decades in Southern California and provides no analysis to show the contribution that high-speed rail or mass transit will make in future. The Authority should consider removing this discussion from the final Plan. Exhibit 1.3 compares travel times by automobile, conventional rail, and high speed rail. Air travel should be added in the comparison for longer trips like those between San Francisco and Los Angeles.