

Subcommittee on Railroads, Pipelines, and Hazardous Materials

Field Hearing in Madera, CA titled "Oversight of California High Speed Rail."

May 28, 2013

Statement of Louis S. Thompson

Mr. Chairman and Members of the Subcommittee, my name is Louis S. (Lou) Thompson, Chairman of the California High-Speed Rail Peer Review Group. I am happy to appear at your invitation and hope that the experience and work of the Peer Review Group (the Group) will be useful to you in your deliberations on this important topic.

The role of the Group is established in State law. When the voters approved the Proposition 1A bond measure in 2008, the State Legislature passed AB3034 that required that "the Authority shall establish an independent peer review group for the purpose of reviewing the planning, engineering, financing, and other elements of the authority's plans and issuing an analysis of the appropriateness and the accuracy of the authority's assumptions and an analysis of the viability of the authority's financing plan, including the funding plan for each corridor required pursuant to subdivision (b) of Section 2704.08 of the Streets and Highways Code." The law provides for eight members, of which there are five currently serving. The members are appointed by various State authorities including the Secretary of the Business, Transportation and Housing Agency, the Director of Finance, the State Treasurer and the State Controller. The law requires that the Group members possess various types of experience including finance, planning and construction of high-speed rail, environmental issues and operation of intercity or commuter passenger train service. The Group began its work in 2009.

The members of the group have very wide experience in transportation planning, project planning and management, and operation of rail passenger services at various levels, including high-speed rail. The Group's members have not attempted to analyze all the details of the Authority's designs or plans. Instead, we have focused on broader policy, financial and economic issues where our expertise may have most value.

The Group reports directly to the Legislature. Members of the Group are not State employees. The Group has no staff or budget and members receive no compensation other than expenses for travel, food and lodging. We have attempted to meet monthly by phone and quarterly in person and we have met from time to time with Members of the Legislature, legislative staff, the Legislative Analyst's (LAO) staff and the GAO. We have also held a number of meetings with the Authority and with Authority staff and have developed an effective working relationship. The Group has issued a number of reports or letters, all of which have been posted to the Group's website at [www.cahsrprg.com](http://www.cahsrprg.com). The website also includes all responses to questions we have posed to the Authority.

The Group has consistently maintained that we support the concept of high-speed rail in California, although we have had, and continue to have, a number of concerns about the project. Our objective in expressing these concerns, which we believe is in accord with the purposes of the Act, is first to strengthen the project and second to ensure that the Legislature and the public fully understand and accept the risks as well as the benefits of the project. Our experience has been that the better a project is understood at the beginning, the better it will be able to weather the inevitable problems that occur along the course of planning, construction and operation. Over the course of our work, we have raised a number of questions that I will discuss below, along with the status as of today in their resolution.

### **Source of Complete Project Funding**

As of today, the project can count on around \$3 billion in Federal American Recovery and Reinvestment Act of 2009 (ARRA) grant funding and \$9 billion in State bonds. Although President Obama has announced a program for future Federal funding for high-speed rail of up to \$50 billion, Congress has yet to approve such a program and prospects for passage in the near term are not clear. Even if California received this entire amount, the total cost of the project could not be covered. As a consequence, funding for the project beyond the Central Valley segment and the work between San Jose and San Francisco and in the Los Angeles area is not available from any existing source.

Governor Brown has argued that any shortfall in Federal funding can be covered from the State's carbon trading program, which would in total generate enough funding to pay for at least a major part of the project if allocated for this purpose. The 2000 Business Plan for the Authority suggested an 0.25% sales tax to pay for the entire project. By rough calculation, a fuel tax of around 25 cents/gallon would also raise adequate funding.

We do not advocate or oppose any of these measures. The point is that, when the Central Valley segment is complete and the Authority turns to construction from Bakersfield to the Palmdale, one or more of these sources (or others) will need to be developed.

### **Risk of an Incomplete Project**

If, for whatever reason, the project stalls after the completion of the Central Valley segment, the State would be left with an investment of limited value. The line would not be electrified and would not permit testing of high-speed trains. It would permit a reduction in the schedule time of the Amtrak San Joaquin trains from Sacramento to Bakersfield but this would benefit approximately one million passengers per year.

The Group recommended that the Authority shift some of the initial money from the Central Valley to the two end segments (the "bookends") because the immediate benefits would accrue to 25 million passenger annually and would constitute a continuing benefit even if the project stalled at the end of the Central Valley segment. The Authority's response in its Revised 2012

Business Plan was to include an additional \$1 billion to use on the “bookends,” an approach that we believe significantly strengthened the overall value of the project by generating greater benefits more quickly and by reducing the risk of completing only a stranded segment.

### **Planning Context**

The early development of the California high-speed rail project put the cart before the horse. Instead of having high-speed rail emerge from a state-wide transportation context considering intercity competition and urban connections, the high-speed rail proposals were essentially free-standing with little recognition of the need for access to stations or connectivity to conventional and commuter rail. As a result, the demand forecast models assumed access times and costs that were not embedded in the actual plans of the State or local communities to improve access.

The State recently updated its State Rail Plan to better integrate high-speed rail into the State’s highway, air, conventional rail and various urban rail and bus system. This is a step in the right direction but more may need to be done, especially in integrating high-speed rail station access and development into the urban areas around the stations.

### **Phasing and Blending**

In its initial Business Plans, the Authority did not clearly define the sequence of phases to be undertaken, leaving open the question of whether the first step beyond the Central Valley would be to the south or to the north. In the Revised 2012 Business Plan, the Authority plans to complete the link to the south first, a decision that will also have the benefit of filling the major remaining gap in rail passenger service from Sacramento and San Francisco to Los Angeles.

In addition, the Authority had continued to plan for a four-track, separated alignment from San Jose to San Francisco and from Los Angeles to Anaheim, an approach that had generated adamant local opposition as well as increasing the project’s cost. In response to an inquiry from then State Senator Joe Simitian, State Assemblyman Rich Gordon and U.S. Representative Anna Eshoo, the Group argued that a “blended” approach in which high-speed trains and Caltrain service would operate on the same tracks with only minimal expansion of the existing right-of-way would be a better initial step in establishing service to San Francisco. The Metropolitan Transportation Authority in Los Angeles and the Orange County Transportation Authority proposed a similar shared use approach. The Authority adopted the blended and shared use approaches in its Revised 2012 Business Plan.

### **Business Model**

In its existing Business Plans, the Authority has not defined the business model it expects to follow in managing the service once the project is completed. That is, the Authority has yet to decide whether to advertise for a private operator under a management contract or to advertise for one or another form of private, for-profit franchise or concession. The terms under which the

high-speed service will operate in conjunction with commuter operators on the blended service links have also not been defined. The Authority has stated that further development of this issue will be a priority in its 2014 Business Plan and the Group encourages this emphasis.

### **Management Resources**

The Group has been concerned that effective project control will be beyond the Authority's capability, both in sheer scale of the required human resources and in availability of the specialized skills needed for high-speed rail. The Authority's approach to meeting this challenge relies heavily on Design-Build (DB) contracting that minimizes the numbers of staff on the Authority's payroll and places responsibility on the contractor who is supposed to complete the preliminary designs furnished by the Authority as well as manage construction. In addition, the Authority plans to make greater use of reimbursable staff assignments from other State agencies, principally Caltrans, which already have experience in many of the areas needing supervision.

Progress in expanding the Authority's in-house staff is encouraging and clearly reflects the Governor's priority in getting the project under control. This priority will need to continue as the project ramps up its construction effort. We have advocated expanded use of inter-agency staffing and believe this will also play a positive role in bringing the varying levels and types of skills the project will need as the level and types of work change over the project's life.

The reliance on DB contracting will pose risks as well as advantages. The DB approach minimizes the Authority's direct staffing needs and gives the DB contractor the maximum flexibility to turn the Authority's preliminary plans into a cost-effective finished product. By the same token, the quality of the plans furnished by the Authority will be of paramount importance, as will the ability of the Authority to work with the contractor, to supervise the contractor's efforts and to coordinate the contractor's work with that of subsequent contractors connecting to, or building on, the contractor's work. Since the engineering and construction effort for high-speed rail pose a number of specialized problems, the qualifications and capability of the contractor to do the DB work will also be important. The Authority's experience in managing the DB contracts in the Central Valley in the next several years will deserve close scrutiny.

### **Demand Forecasting**

The Authority's demand forecasting has been conducted and reviewed by recognized professionals and is in accordance with modern practice within the limits of the resources so far allocated to the effort. With this acknowledged, a number of outside observers and the Group have argued that demand forecasting for creation of an entirely new service ("greenfield"), where no existing service pattern exists, is subject to a larger degree of variation than would be the case where an existing service was being improved ("brownfield"). Most of the world's high-speed rail services were built to improve or replace existing services and much of the demand forecasting experience comes from these situations. In addition, the market surveys used in the demand forecasting are less extensive than would be desired to support a project of this

magnitude and they necessarily focus on what people **say** they would do if offered a new choice that they may never have experienced (“stated preference”) rather than measuring what they have actually **done** in making market-based modal choices (“revealed preference”).

In response to comments from a number of sources including the Group, the Authority has revised its demand forecasts downward and has incorporated several sensitivity analyses in recent Business Plans. The Authority’s demand forecasting peer review panel has conducted an exhaustive assessment of the demand forecasting approach and has submitted a series of recommendations for improvement both in the structure of the modeling and, over a longer term, in the data collected for use in calibrating the models. We understand that this will be partly reflected in the 2014 Business Plan and that better input data will be available for later plans. Since there are actually no decisions to be made in the short term that will depend on the results of the demand forecasts, this staged approach appears appropriate; but, the Group believes that the demand modeling should be fully upgraded before a decision is made to extend the network south beyond Bakersfield. We have discussed with the Authority the value of adopting a probability-based approach in presenting future demand forecasts (as well as capital and operations and maintenance cost forecasts) based on Monte Carlo simulation techniques and encourage them to incorporate this approach in future planning and analysis.

### **Capital Costs**

Based on discussions with the Authority, we believe that the construction cost forecasts for the work in the Central Valley have been done in accordance with modern professional standards and are not obviously biased either up or down. At the same time, it should be emphasized that essentially all existing estimates in the project are still based on preliminary designs without actual construction or managerial experience. While the recent bidding in the first Central Valley project offers some encouragement, the dispersion in the bid amounts and technical scores may not yet add much to increased confidence in future capital cost estimates. With the final alignment and a number of design decisions for the first package still in flux, costs for even the first package may still evolve.

The history of the project has seen cost estimates rising well above the rate of inflation. It is difficult to draw firm conclusions from this because the project scope has not been fixed, but it is not unusual for project cost estimates on mega-projects to grow in line with the movement of the project from initial vision to actual realization. The Group has argued that the traditional approach of offering a low, medium and high cost estimate may not accurately portray the likely cost uncertainly of this project. This is especially true since the project is at a stage where so little actual experience is available. As with demand forecasting, probability-based estimating techniques may be a better approach.

### **Operating and Maintenance Cost (O&M) Models**

The Group opined that the O&M model applied in the Revised 2012 Business Plan was probably simplistic, may not have been fully linked to the Authority's other planning tools such as the operating simulations, and was not fully based on experience either in Europe or the U.S. The Group considered this to be important because all of the Authority's financial analyses are based on both demand and cost forecasts and because the ability of the Authority to operate without State subsidy, as required by law, depends on the difference between revenues and costs.

The Authority commissioned a peer review study by European experts to assess the O&M model. The panel recently concluded that there were no fatal flaws in the model, but issued 19 findings identifying ways in which the model can be upgraded.

The panel's findings appear reasonable and the Group will encourage the Authority to adopt them in upgrading the model. One aspect of the recommendations – translating European costs and maintenance practices into U.S. conditions and future California outcomes – is especially important. The Group will encourage the Authority to employ experts with specific experience with U.S. practice to ensure that the model will be suitable for conditions expected in California.

**In summary, I would like to emphasize two basic points.**

First, even within the realm of mega-projects, building and operating high-speed rail in California is going to be an immense, enormously complex undertaking. High-speed rail projects in Europe, Japan, China, Korea, and even the Northeast Corridor in the U.S., have been managed by very experienced and adequately (except for the Northeast Corridor) financed operating enterprises. The Authority faces a very steep learning curve before it is on a par with these organizations and some of the learning is likely to be costly. They have a bear, albeit a Golden Bear, by the tail.

Second, the Authority has made manifest progress in the planning and management of the project since Governor Brown decided to give it high priority and his direct support. In a number of ways described in this statement, the Revised 2012 Business Plan presents a much improved view of how to initiate the project and how to better integrate it into California's overall transportation system. The Authority has also listed a number of credible ways in which future Business Plans will give a more realistic picture of the project's costs and benefits and has made decisions that will reduce the financial risks to the State.

The Independent Peer Review Group has worked diligently to assist the Legislature in understanding the project's risks and challenges as well as its benefits. This has often incorrectly cast us as project opponents. However, only the Legislature and the U.S. Congress are empowered to make the policy decisions regarding tradeoffs in benefits, costs and risks associated with the California high-speed rail project, as well as other high-speed rail projects in the United States. Our job is to work to ensure that the information you use in making those policy decisions is as complete, objective and unbiased as possible.