

## LEGISLATIVE OVERSIGHT FOR THE CALIFORNIA HIGH-SPEED RAIL AUTHORITY PROJECT

**Statement of Louis S. Thompson, Chairman  
High-Speed Rail Peer Review Group  
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The California High-Speed Rail Authority project for a high-speed rail system connecting San Francisco to Los Angeles is currently estimated to cost around \$58 billion in constant 2013 terms (\$68 billion in year of expenditure terms) and has a completion date of 2028. [see Project Update Report, March 1, 2015, pages 21 – 24] This makes the HSRA project by far the largest single project ever undertaken by the State and one of the larger ever undertaken anywhere. The average construction spending rate (“burn rate”) will be approximately the same as the entire Caltrans construction program and the peak rate of construction may be even higher. In the context of California’s overall financial capacity, the performance of the HSRA project could pose significant issues if it encounters problems.

At its current stage, the project unavoidably has significant uncertainties in the “iron triangle” of scope, schedule and budget. Since California has only one, slow train per day between San Francisco and Los Angeles -- and no existing HSR service at all -- the demand and revenue forecasts on which the project plans are based remain to be proven and, until demand is established, it is likely that the major source of funding will have to be public rather than private. Given that the federal government’s future funding role is at best unpredictable, the State should expect to be a major continuing source of future funding.

While the Peer Review Group agrees that the Authority’s cost, schedule and demand forecasts are based on the best available professional estimates, the range of uncertainty in all of these dimensions shows that there is a possibility that the outcome could be very unfavorable along, of course, with a possibility that the outcome could be even more favorable than expected. With this acknowledged, experience with “mega-projects” around the world and, indeed, with the Bay Bridge, suggests that ignoring the potential for an unfavorable outcome would be a mistake, especially since the stakes for the State are so high. The project is committed and ground has been broken; the Legislature should plan now for exercising an oversight role commensurate with the importance of the project.

Management and control of the project begins with the Authority. The Peer Review Group met with the Authority on February 24, 2015 to assess the reporting and control system and the risk management system that the Authority has in place. Although the system is relatively new and is only now gaining experience, we conclude that the system is in accord with current practice and should be suitable for internal project management needs. It should also be capable of generating accurate information needed for external oversight.

The challenge is that while **management** depends on voluminous and detailed information, effective **oversight** needs summaries at appropriate levels of detail. This argues for several oversight functions with different capabilities to absorb information. At an initial level, the Legislature will need a dedicated and adequately staffed agency that can review the detailed

progress reports of the HSRA and identify potential problems. Since this will be at least a 10 year project, and possibly a 15 year project before it is complete, the review group at this level should have the continuity to follow the project over its life: just as there will be no substitute at the Authority for experience in managing the project, there is no replacement for a multi-year viewpoint from the oversight staff. The Legislature may want to establish such a staff within the Legislative Analyst's Office where the initial overview capability already exists.

Administratively, the Legislature also faces a choice between relying on the existing committee structure or considering establishing an active select committee in both the Assembly and the Senate solely for oversight of the project. Select committees would have the kind of time horizon needed. In either case, the oversight committees will need to be supported by the dedicated staff discussed above.

While resolution of these questions is crucial in the oversight effort, there is a real danger that details will obscure the information content. There should be simultaneous effort aimed at providing a limited set of broad indicators of metrics (a "dashboard") to help legislators answer the simpler but vital questions associated with the progress of the project and, in particular, identifying significant problems or threats that need to be understood and addressed. Developing these indicators can be harder than the more detailed progress reports usually generated, but those without a technical background and/or who cannot allocate the hours of dedicated time required will never be able to assess the project's status unless they have broad indicators. The challenge is in developing the balance between the details and the overall message. We note, for example, that the Project Update Report, intended to be a summary, still contains 52 pages – still far too much for summary review.

Our meeting with the HSRA in February discussed identification of an initial set of metrics for use by the Legislature. The set of indicators suggested below reflects the outcome of the discussion and is a beginning based on experience with large infrastructure projects. It is very much subject to further refinement by customers in the Legislature and by discussion with the HSRA. In the final analysis, the indicators must be understood and agreed by all parties so that, as problems emerge (and they always do), the discussion can focus on the problem and not on the indicator or the messenger.

### **Potential Oversight Indicators**

Indicators or metrics should answer two questions: 1) what has happened so far including the implications for the near future; and, 2) what is the overall, longer-range picture based on what we have learned? In both cases, the indicators must highlight any changes since the last report and discuss their implications. The initial reports should be used to **nailed down the baseline** so that developments can always be assessed against original intent as well as against the last reporting period. We suggest that the scope, schedule and budgets in the 2014 Business Plan be adopted as the baseline, though the current Legislative requirement underlying the Authority's Project Update Reports appears to be the 2012 Revised Business Plan. [Project Update Report, March 1, 2015, page 3] The 2014 Business Plan is more recent and should be more accurate. Whichever is selected, the important need is to select **one** clear baseline and then catalogue all changes made subsequently in cost, schedule or scope against that baseline.

For Legislative oversight use, the reporting period should be quarterly or even semi-annually both to keep the oversight burden down and to help the Legislature avoid the need (and temptation) to get involved in project management details. In addition, the content of the shorter-term indices may well change over time as the nature of the specific work underway changes: for example, the initial projects in the Central Valley are very similar to large highway projects in that they involve acquisition of right-of-way (ROW) and mostly civil construction. This will change with the advent of track work and electrification and when the project ventures into the Tehachapi Range south of Bakersfield. On the other hand, the long-term indicators need a stable format, including a clear baseline, so that the broad picture is consistent with results and experience without moving the original goal posts.

The indicators should be in the form either of “dashboard” indicators that give a simple red-yellow-green aspect or a short narrative description in order to avoid discussions and reports that are too long for legislators to read in detail. When properly formulated, a green means that attention can be focused elsewhere; yellow means that there is a potential problem; and, red calls for immediate attention and resolution. We note that the Authority has developed an initial set of dashboard indicators (see the Authority’s website at [http://www.hsr.ca.gov/docs/brdmeetings/2015/Finance\\_and\\_Audit\\_Committee\\_January\\_Performance\\_Metrics\\_20141220\\_FINAL\\_Rev1.pdf](http://www.hsr.ca.gov/docs/brdmeetings/2015/Finance_and_Audit_Committee_January_Performance_Metrics_20141220_FINAL_Rev1.pdf)) for their Board’s use. As discussed below, these cover some but not all of the metrics that the Legislature may want. Most of the information described below can be readily summarized from the 2014 Business Plan along with the latest version of the Project Update Report.

#### **Short Term Indicators, provided for each of the Design-Build contracts (Construction Packages):**

- **Right-Of-Way (ROW) acquisition.** ROW acquisition is the critical step before construction can start. The Legislature needs an overall indication of how ROW acquisition is proceeding against the construction schedule with a focus on whether or not the contract will be delayed.
- **Project Contingency.** The “contingency” is the amount the Authority expects it may need to keep available to add to the contract to allow for unexpected or unpredictable events, such as ROW delays, litigation, soil conditions, etc. The Authority’s approach to calculating this contingency allowance appears to be well developed though it is as yet not fully proven in practice. The Authority has developed a metric for the predicted contingency’s required value as a percent of the remaining contract value. This is a good overall measure of performance against the contracted amount. It should be accompanied with an indicator of current contract value against the original budget.
- **Spending Rate.** Actual dollars expended against scheduled dollars expended. The Authority has a suitable metric “Schedule Performance Index” that measures the value earned by the contractor as a fraction of the planned value that should have been earned. This is a spending-based rather than a time-based performance index, but the two should be roughly comparable.
- **Risk Register.** Identify the top five problems or issues that could impact completion scope, cost or schedule and expected actions to resolve. This should be in the form of a simple bullet listing.

- **Schedule status.** Current schedule to complete against original schedule and last prior schedule.
- **ARRA Spending Rate.** This should measure the total spending rate for all projects against the rate needed to expend the \$2.3 billion in ARRA funds that expire on September 30, 2017.

### **Overall Project Indicators:**

- **Estimate of the expected scope, cost, performance and schedule of each of the project Phases** (IOS, Bay-to-Basin, and Phase I blended) adjusted to reflect experience to date and any changed circumstances such as inflation or major technology decisions. This should also include major ancillary projects under Proposition 1A including Caltrain electrification, funded Metrolink projects (which generally do not affect project status north of Burbank) and acquisition of rolling stock.
- **Risk register:** a simple narrative listing of the 10 largest risks to the overall project and actions to resolve.
- **Status of funding:** identify amounts and timing of each source of funding and compare with the flow of funding required for project completion. This could either be in the form of a dashboard indicator or a simple chart showing over time the expected cumulative outflows and inflows from the known and potential sources including Federal funding, Proposition 1A, local agencies and new sources such as cap-and-trade funding or private participation.
- **Overall trend assessment:** if the trends are bad, what is being done about it and, if the trends are favorable, what is being done to take advantage of it?

Although it may seem paradoxical, we would like to highlight the potential danger of too much data and too many reports, with different contents, to different agencies. Over its lifetime, the project has gradually been festooned with a number of disparate reporting requirements many of which may no longer be needed now that the project is actually underway. These reports consume management time and resources that can better be spent managing the project. The Legislature may wish to ask the Authority to make a listing of all of its reporting requirements along with a recommendation of how these requirements can be combined and simplified.

### **The future role of the Peer Review Group.**

The Peer Review Group was established in Proposition 1A with the remit to report to the Legislature on its comments and views on Authority Business Plans, Funding Plans, and other items that the Group finds to be significant. We serve without staff or compensation except for expenses. We have issued 13 letters or reports and members of the Group have testified before State or Congressional hearings 4 times. We believe we have established a constructive and professional relationship with the Authority.

The future of the Group is weakened by attrition of the membership. Proposition 1A calls for up to eight members, but the maximum membership has been seven. As of now, there are four members with the empty slots having been unfilled for several years. The four empty slots are: 1) individual with experience with high-speed trains in Europe, Asia or both (Treasurer); 2)

individual with experience with engineering and construction of high-speed trains (Controller); 3) individual with financial services or financial consulting background (Director of Finance); and, 4) an expert representative from an agency providing intercity or commuter passenger train services in California (California State Transportation Agency). If the Legislature wants the external comments and advice from the Group in the future, action to fill the empty slots will be necessary.