

Curt Pringle, Chairman
Tom Umberg, Vice-Chair
Russell Burns
David Crane
Rod Diridon, Sr.*
Fran Florez*
Richard Katz
Judge Quentin L. Kopp*
Schenk
chair

ARNOLD SCHWARZENEGGER
GOVERNOR



CALIFORNIA HIGH-SPEED RAIL AUTHORITY

August 2, 2010

The Honorable Sen. Alan Lowenthal
Chair, Senate Transportation and Housing Committee
State Capitol, Room 2032
Sacramento, CA 95814

Dear Senator Lowenthal,

Following the request of the state Senate Transportation and Housing Committee, the California High-Speed Rail Authority [Authority] contracted with the Institute of Transportation Studies at the University of California, Berkeley [ITS], to prepare a peer review of the Bay Area/California High-Speed Rail Ridership and Revenue Forecasting Study. The scope of work for this peer review involved reviewing the documentation related to the ridership and revenue model developed by Cambridge Systematics [CS] between 2005 and 2007 under a separate contract with the Metropolitan Transportation Commission [MTC]. While the Authority did not contract for or direct development of the ridership and revenue model, the 2007 ridership forecasts have been used in the Authority's Bay Area to Central Valley program environmental review process and the Authority has continued to work with the model as part of its project level environmental processes, business planning, and system development. This letter addresses the procedure and final outcome of this assessment by ITS, as well as the Authority's conclusion as to the findings of the assessment.

The UC Berkeley ITS Peer Review Procedure

The Authority contracted with ITS to complete its assessment by June 30, 2010. As can be seen from the compilation of the ITS Final Report (see attachment), ITS states that it followed a process by which it first reviewed the background modeling reports prepared by CS for its work under contract with MTC, and then invited CS to furnish answers to a series of questions. A total of 30 questions were asked by way of two transmittals from ITS, the first on May 17th and the second on June 11th. CS replied to the ITS questions by memoranda dated June 8th and June 24th.

Consistent with the scope of work for the peer review, ITS provided the Authority with an internal review draft report for its consideration and written comment. The Authority provided a written response on June 25, 2010, which included additional input from CS. The ITS Final Report dated June 30, 2010, contains all the questions, answers, and comments as attachments to the report (35 pages of the 45 page report). At the Board meeting on July 8, 2010, Professor Brownstone commented about the CS responses: "In many cases they explained to our satisfaction at least, why they made their decisions they did." (Transcript, p. 4.)

Presentations to Authority Board on July 8, 2010

On receipt of the ITS Final Report, the Authority requested that ITS present their Final Report to the Authority Board at its meeting on July 8, 2010 and requested CS to make a presentation to the Board on their interpretation and response to the ITS Final Report. Both ITS and CS were asked to limit their presentations to 15 minutes and then be available to respond to questions. Members of the Board were provided the full ITS Final Report for their consideration in advance of the meeting. These Board presentations were delivered by Professor David Brownstone (UC-Irvine) for ITS and by Dr. Lance Neumann, President, and Dr. Kimon Prousaloglou, Principal, for Cambridge Systematics. Each of the presenters were asked questions to which they responded. The Board also heard public comment from numerous individuals on this topic. The transcripts of these proceedings are attached.

Cambridge Systematics Written Response to the ITS Final Report

CS was requested to provide a written response to the ITS Final Report which was submitted by CS to the Authority. The CS report was presented orally at the July 8, 2010 Authority board meeting (see attachment).

Pertinent Findings and Outcomes Associated with the Peer Review and Board Presentations

Based on the ITS Final Report and the presentation by Professor Brownstone, we understand that ITS' primary conclusion is that the ridership forecasts are unreliable for policy analysis. (Final Report, Executive Summary; Transcript, p. 2.) In his presentation, Professor Brownstone summarized two key issues: (1) use in 2005-2007 of an estimation technique allegedly found incorrect in an academic paper

subsequently published in 2008; and (2) lack of quantification of so-called "error bounds" of the forecasts. Professor Brownstone characterized the lack of the "error bounds" or "measures of statistical error" as the more problematic issue of the two.

At the same time, CS in its presentation and written responses to ITS, has provided a basis and explanation for each of the technical issues identified by ITS as creating supposed flaws in the ridership model and the resulting forecasts. In his presentation, Dr. Lance Neumann indicated that he stands fully behind the ridership modeling work CS performed under contract with MTC without reservation and strongly disagrees with the conclusions of the peer review. (Transcript pp. 16-17.) Dr. Neumann, as well as his colleague Dr. Kimon Prousaloglou, identified the role of practical considerations and professional judgment that must be taken into account in real-world modeling applications.

Numerous members of the public offered comments on the ITS Final Report at the Board meeting on July 8th. The public comments encompassed both criticism and support. Two agencies that have extensive travel model experience and expertise, and participated in the CS model development, offered their strong support for the veracity and adequacy of the ridership and revenue model. David Ory, Principal Planner of the Metropolitan Transportation Commission (MTC), the public agency that oversaw model development between 2005 and 2007, affirmed that agency's ongoing opinion that the model is an appropriate tool for statewide and regional level planning purposes. (Transcript, pp. 39-40.) Chaushie Chu, Ph.D., Deputy Executive Officer of the Los Angeles County Metropolitan Transportation Authority (LA Metro) offered similar observations and noted that in his professional judgment, "this high-speed rail model developed for California is by far the most advanced model of this kind in the nation." (Transcript, p. 46.)

The Authority recognizes that it has before it some very strong differences in professional opinion between the ITS team and the CS team. On the issue of the use of the newer estimation method advocated by ITS, the CS team indicated that they were not aware of the newer method being tested for potential use in practice. Rather, CS affirmed that they remain convinced that the estimation method actually used to develop the ridership and revenue model was, and still is "state of the practice" in the industry. On the issue of providing error bands for the ridership forecasts, Professor Brownstone stated

that this “is not common in this kind of work” and that it is “not standard practice,” although he advocated that travel demand forecasting should employ this newly developed technique. (Transcript, pp. 2, 6.) Moreover, the ITS Final Report acknowledges that “Cambridge Systematics (CS) has followed generally accepted professional standards in carrying out the demand modeling and analysis” (p. 2). It appears that ITS’s primary conclusion is not principally focused on CS’s work or the model they developed. Rather, ITS’ opinion seems mostly oriented toward the overall state-of-the-practice in travel demand forecasting, and it appears ITS would have come to the same conclusion for any new model developed that used “accepted professional standards”. When asked if all such models are unreliable, Professor Brownstone responded affirmatively. (Transcript, p. 13)

While Professor Brownstone and Dr. Neumann expressed strong mutual respect for each other’s reputation and work, we believe that the robust exchange of opinions as captured in the ITS Final Report and the July 8th presentation frames a classic disagreement between the academician and the industry practitioner. In the Authority’s view, the professional opinions of the industry practitioner carry more weight in this particular “real world” context. CS has a wealth of travel demand modeling experience accrued over 35 years with the most respected “real-life” transportation customers in the USA and abroad. CS is highly regarded in the industry and even recognized by the ITS team as “the best firm in the business.” We find that CS has provided a thorough response to the ITS Final Report and has shown that it has based its ridership and revenue model development on well-proven, and widely accepted and applied techniques in the industry. This conclusion is supported by two highly respected regional agencies, MTC, and LA Metro. In light of today’s industry standards, the Authority plans to continue to utilize the current ridership and revenue model developed by CS for input to its environmental review, business planning, and system development.

The Authority has an ongoing need for ridership and revenue forecasts to assist it with planning and development of the HST system, refinements to its Business Plan, and with its engagement of private sector financing for the HST system. A joint effort is underway by CS and UC Davis’ ULTRANS (UCD), developer of the new Statewide Integrated Interregional Model (SIIM) for Caltrans. This effort will produce ridership and revenue forecasting ranges for the HST system, and will include refining current forecasting models, developing independent forecasts of critical inputs, and conducting a rigorous risk

Lowenthal Ltr.
Page 5
8/2/10

analysis to better understand the influence of key determinants of HST ridership and revenue. CS and UCD plan to use the existing model as the platform for a refined forecasting tool, updating key inputs for future year conditions, and selectively refining some model components to improve sensitivity to changes in HST operations, fare approaches, interaction with competitive and complementary service, and other issues. This model refinement, application, and risk analysis process will include the appropriate integration of peer review – including oversight and input from an independent “peer review team.” As the Authority further develops the high-speed train program, the input of ITS and other interested parties will certainly contribute to improving our ability to forecast HST ridership and revenue.

Conclusion

The peer review report process and the July 8th presentations have been very informative and robust. We appreciate the extensive work undertaken by both the ITS team and the CS team in this process. We further appreciate the professionalism, and cordiality of those involved. The Authority notes that some critics have suggested that the 2007 ridership forecasts were intentionally skewed or biased in some way. We therefore particularly appreciate the clear statement by Professor Brownstone that the ITS team “did not find any indication of bias on the part of MTC, Cambridge Systematics, anybody.” (Transcript, p. 13.) After careful review of the ITS Final Report, we conclude that CS has provided a direct and credible response to each technical point raised and that the ridership model has been, and continues to be, a sound tool for use in high-speed rail planning and environmental analysis. As the Authority continues to update and refine its ridership analysis the input of ITS and other interested parties as well as future peer review will help contribute to improving our work.

Sincerely,



Roelof Van Ark
CEO

Attachments: See next page

Attachments to this Letter

The following documents are attached and form part of this response:

1. Review of "Bay Area/California High-Speed Rail Ridership and Revenue Forecasting Study" Final Report (ITS Final Report) Prepared by: Prof. David Brownstone (UC-Irvine), Prof. Mark Hansen (UC Berkeley) and Prof. Samer Madanat (UC Berkeley) ITS, dated June 30, 2010
2. Response to aforementioned report by Lance Neumann, Ph.D. President and, Kimon Proussaloglou, Ph.D. Principal, of Cambridge Systematics Inc. as presented at the Authority Board meeting on July 8, 2010
3. Powerpoint presentation: Ridership and Revenue Forecasting: Response to Review by Lance Neumann, Ph.D. President and, Kimon Proussaloglou, Ph.D. Principal, of Cambridge Systematics Inc. as presented at the Authority Board meeting on July 8, 2010
4. The transcript document of the presentations by Prof. David Brownstone (UC-Irvine ITS), and by Lance Neumann, Ph.D. President CS, and Kimon Proussaloglou, Ph.D. Principal CS, at the Authority board meeting on July 8th, 2010, and all subsequent discussion directed at these presenters.
5. Correspondence received in support of the modeling structure and protocol during the assessment process.

cc's:

Senate Transportation Committee:

Lowenthal (Chair) (via Hard Copy)
Huff (Vice-Chair)
Ashburn
DeSaulnier
Harman
Kehoe
Pavley
Simitian (via Hard Copy)
Wolk

Assembly Trans Chair:

Asm. Lowenthal (via Hard Copy)

Other Legislators:

Asm. Galgiani (via Hard Copy)
Asm. Ma (via Hard Copy)

Lowenthal Ltr.

Page 7

8/2/10

cc's cont'd:

Joint Legislative Budget Committee Members:

Senate Members:

Senator Denise Ducheny (Chair) (via Hard Copy)

Senator Mark DeSaulnier

Senator Robert Dutton

Senator Robert Huff

Senator Christine Kehoe

Senator Alex Padilla

Senator Lois Wolk

Assembly Members (8):

Blumenfield (Vice-Chair) (via Hard Copy)

Adams

Carter

De Leon

Evans

Fuentes

Niello

Nielsen

Others:

LAO – Eric Thronson (via Hard Copy)

LAO – Farra Bracht

LAO – Dan Curry

Governor's Office

-- David Knudsen (via Hard Copy)

Brian Kelly (via Hard Copy)

Erica Martinez (via Hard Copy)

- Note: All other cc's – via pdf/e-mail