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COUNTY IS EXEMPT FROM FILING FEES PER GOV. CODE SECTION 6103

SUPERIOR COURT OF THE STATE OF CALIFORNIA

COUNTY OF SACRAMENTO

JOHN TOS, et. al.,

Plaintiffs,

v.

CALIFORNIA HIGH SPEED RAIL AUTHORITY, et al.,

Defendants.

CASE NO. 34-2011-00113919

DECLARATION OF QUENTIN L. KOPP

Trial Date: May 31, 2013

I, Quentin L. Kopp, declare and say:

1. I reside in the City and County of San Francisco. I was admitted to the State Bar of California in January, 1954, and am presently an inactive member. I engaged in trial practice in San Francisco and other California counties from approximately December 20, 1955, until December 31, 1998, prior to my appointment to the San Mateo County Superior Court. I retired from the San Mateo County Superior Court in February, 2004, entered and served in the Assigned Judges' Program of the California Judicial Council for over six years, and ended my participation in that program in December 2010. I am presently a member of the American Arbitration Association. I also served in the California State Senate from December 1, 1986, until November 30, 1998, and as a member of the Senate Transportation Committee for 12 years. From 1987 until 1998, I was Chairman of the Senate Transportation Committee. I also was a member of the Metropolitan Transportation Commission from 1977 until my election to the

California State Senate in 1986, and served as Chairman of such Commission for two years during that period of time. I was a member of the San Francisco Bay Area Rapid Transit District governing board, appointed by the San Francisco Board of Supervisors, from January, 1973 until such Board became an elected body in November, 1974, and was also a member and eventual Vice President of the Board of Directors of the Golden Gate Bridge, Highway and Transportation District from 1976 until election to the California State Senate in 1986. I have personal knowledge of the facts stated herein, and, if sworn as a witness, would and could competently testify thereto.

2. I have been involved with the planning and implementation of a California high speed train system since 1992, and served as a member of the California High Speed Rail Authority ("Authority") from June 2006 until March 2011.

3. I initiated the legislative action to establish high speed rail ("HSR") in California in 1992 with a bill creating the HSR Commission. Such bill was vetoed by then-Governor Pete Wilson. In 1994, I introduced, and there was enacted, a measure establishing a California HSR Committee to evaluate whether high speed rail was (1) desirable and (2) feasible in California. By the term "high speed rail," I refer to electrified trains capable of speeds as fast as 220 miles per hour.

4. The California HSR committee members were appointed by then-Governor Pete Wilson. Such committee analyzed the issues of desirability and feasibility, and reported to the Governor and Legislature in early 1996 that high speed rail was both desirable and feasible in California. That same year, I introduced legislation creating the present Authority.

5. In August 2006, I was elected Chairman of the Board of Directors of the Authority and served continuously in that responsibility through 2008 and until on or about July 1, 2009. During the period of such chairmanship, necessary legislative acts to implement a high speed train system occurred. In that period, Assembly Bill No. 3034 (AB 3034), involving provisions in the California Public Utilities Code and Streets and Highways Code, was developed as integral to submitting a $9,950,000,000 State General Obligation Bond to California voters for approval on November 4, 2008. Such General Obligation Bond had been authorized for voter action by the

Legislature and then-Governor in 2002, but because of external events, that ballot measure was postponed, first, to the 2004 State General Election, then to the 2006 State General Election, and, finally, to the 2008 State General Election, all without amendments of the type contained eventually in AB 3034.

6. As Authority Chairman, I appeared several times before legislative committees in the Assembly and the State Senate testifying on HSR plans. The Senate Transportation Committee, then under the chairmanship of State Senator Alan Lowenthal, particularly participated in developing the statutory language of AB 3034 and, hence, the language of the underlying ballot measure which became known thereafter as Proposition 1A. I was familiar with the concerns of various legislators and professed objectives and desires concerning language of Proposition 1A. I was also well-aware of the intent of the Authority in conforming its implementation of HSR plans to satisfy legislative concerns and the Authority's ability to fulfill promises that would be made and were made to California voters in the November 4, 2008, General Election.

7. In my opinion, the HSR project, as it has evolved in the 2012 Authority's Business Plan, is no longer a genuine HSR system, as covenanted to California voters and the Legislature. Instead, it has been distorted in a way directly contrary to the high speed rail plan the Authority attempted to implement while I was Chairman, namely, a true HSR system containing all the features, terms and protections desired by the Legislature and honoring restrictions placed upon use of Proposition 1A bond proceeds by the Legislature. Accordingly, it is my opinion the project is not lawfully eligible to receive Proposition 1A bond funds.

8. Proposition 1A was approved by a majority of California voters on November 4, 2008, as a bond measure designed to finance part of the cost of HSR in California in conjunction with federal funds, local public funds, regional public contributions and money from private investors. The vast proportion of the $9,950,000,000, to wit, $9,000,000,000, was for genuine HSR. The remaining $950,000,000 was allocated to eligible recipients for capital improvements only to inner-city and commuter rail lines and urban rail systems providing direct connection to HSR or that are part of construction of the HSR system or provide capacity enhancements and

safety improvements.

9. As pointed out by the Legislative Analyst in the Official Voter Information Guide, Proposition 1A requires "accountability and oversight of the authority's use of bond funds authorized by the measure for a high-speed train system." (Emphasis added.) The Legislative Analyst also noted that of the $950,000,000 for improving other passenger rail systems or allowing riders to connect to HSR, $190,000,000 was designated to improve inner-city rail services and $760,000,000 was specified for other passenger rail services including urban and commuter rail. No part of the $9,000,000,000 for HSR was designated for urban or commuter rail. The Legislative Analyst iterated that in 2006, the Authority estimated total costs of the entire HSR system would amount to approximately $45,000,000,000.

10. In May, 2007, the Authority had decided that Phase I of HSR is the corridor between San Francisco and Los Angeles and Anaheim. It also decided that Phase II would extend HSR from Los Angeles to San Diego on the south and from Merced to Sacramento on the north.

11. Both AB 3034 and Proposition 1A require the project to be built in usable segments. Streets and Highways Code section 2704.01(g) defines a "usable segment" as "a portion of corridor that includes at least two stations." The full meaning of "usable segment" is shown through its repeated use in the extensive statutory provisions in sections 2704.08(c) and (d) of AB 3034 (incorporated into Proposition 1A) that delineate the mandatory provisions of the detailed Funding Plans the Authority is required to approve. Thus, section 2704(c) requires the Authority to approve and submit to the Legislature, the Director of Finance, and the Peer Review Group, "a detailed Funding Plan for that corridor or a usable segment thereof" that meets the requirements of subsections (A) through (J) – each of which (except for subsection I) specifies that the requirement must be met for "the corridor or usable segment thereof." These mandatory provisions include:

> (D) The sources of all funds to be invested in the corridor, or usable segment thereof, and the anticipated time of receipt of those funds based on expected commitments, authorizations, agreements, allocations, or other means.
>
> (E) The projected ridership and operating revenue estimate based on projected high-speed passenger train operations on the corridor

> or usable segment.
>
> . . .
>
> (H) The corridor or usable segment thereof would be suitable and ready for high-speed train operation.
>
> . . .
>
> (J) The planned passenger service by the authority in the corridor or usable segment thereof will not require a local, state, or federal operating subsidy.

Essentially the same provisions are repeated in the Funding Plan required by subsection (d), the provisions of which must be met before the Authority can commit to the expenditure of Proposition 1A bond funds for construction.

Accordingly, at the meeting of the Authority's Board of Directors on December 2, 2010, Deputy Attorney General George Spanos advised the Board that the proposed construction of a section of track between north of Fresno to north of Bakersfield was not a "usable segment" within the meaning of Proposition 1A, but it would be a subset of a "usable segment." That legal advice conformed to my understanding of "usable segment," both then and at all times since.

Such definition is part of Proposition 1A.

12. A usable segment cannot be commenced in terms of construction until adequate funding for that usable segment is obtained or committed; such funding must be sufficient to ensure completion of that particular usable segment. The purpose of such provision is protection of the State from risks that a portion of the system would be abandoned or uncompleted because of lack of money to finish construction. Such rigid funding protections are an integral part of the statutory scheme and ballot measure. The present HSR plan does not contain those protections. The Authority itself describes the alleged usable segment it proposes to build in the Central Valley as running from Merced to the San Fernando Valley, and represents it will cost $31,000,000,000. That amount of money has not been secured by the Authority and is not committed by any state, federal, local or private investor source. The Untied States House of Representatives, in its most recent transportation bill, specifically eliminated California from further funds for HSR.

13. Streets and Highways Code section 2704.09(a) mandates that the high speed train system constructed under the Streets and Highways Code and Proposition 1A "shall be designed to achieve" certain characteristics, including electric trains capable of "sustained maximum revenue operating speeds of no less than 200 miles per hour." Streets and Highways Code section 2704.09(b), also incorporated in Proposition 1A, specifies maximum nonstop service travel times for seven different corridors, including San Francisco to Los Angeles Union Station in two hours, 40 minutes. Streets and Highways Code section 2704.09(c), also incorporated in Proposition 1A, mandates achievable operating "headway" (time between successive trains) of five minutes or less. Streets and Highways Code section 2704.09(f) requires that for each corridor described in section 2704.09(b), passengers shall be able to travel "from any station on that corridor to any other station on that corridor without being required to change trains." (Emphasis added.) Streets and Highways Code section 2704.08(c)(2)(J) effectively prohibits passenger service by the Authority in any usable segment which requires a local, state or federal operating subsidy. That provision is incorporated in Proposition 1A. Proposition 1A and its statutory predicate (AB 3034) require each usable segment to be suitable and ready for genuine HSR operation, electrified and containing all components of a genuine HSR system. As HSR is now planned, no electrification is provided for the first alleged usable segment in the Central Valley, (a 130-mile section of track from south of Merced to north of Bakersfield) predicted to cost approximately $6,000,000,000 and financed by Proposition 1A bond proceeds and federal funds from the American Recovery and Rehabilitation Act of 2009. I have never read an Authority explanation for building a conventional rail segment, or segments, without the components of a genuine HSR system. Such a tactic contravenes the Authority's intent in submitting Proposition 1A to California voters on November 4, 2008. Although the Authority's current business plans indicate it claims such conventional rail segment is only "preliminary" and that the Authority will at some unspecified time electrify such segment, there exists no legal justification for such a plan or claim, and such plan completely violates the Authority's intent and its representations to the Legislature and California voters. Furthermore, it appears wasteful to spend approximately $6,000,000,000 on a conventional rail segment, then return years later to modify it and replace it

with a fully compatible electrified genuine HSR segment. Finally, the aforementioned first construction segment cannot itself qualify as a "usable segment" because it is not electrified. Statutory schemes and the Authority's intent in 2008 were clear, to wit, build qualified (under statutory definition) usable segments, one at a time, and do not begin a new usable segment until funds are committed and sufficient for completion of the next usable segment, with electrification of every segment from the outset.

During all my time with the Authority I never participated in any discussions, agreements, authorizations, or understandings that would incorporate the concept of conventional rail segments into the definition of a "usable segment," even on an interim or preliminary basis; nor was there ever any agreement, intent, or understanding that conventional rail could come first as part of a blended or phased system with genuine high-speed rail to be built later. Such an inclusion would contravene the Authority's intent in submitting Proposition 1A to California voters on November 4, 2008. Statutory schemes and the Authority's intent in 2008 were clear, to wit, to build in qualified (under statutory definition) usable segments for high speed rail, and only high speed rail.

My comments above with respect to lack of legal authorization for conventional rail relate to the $9,000,000,000 portion of Proposition 1A bond funds, and not to the $950,000,000 portion of those bond funds. The $950,000,000 portion is allowed to be used to improve/modify conventional rail systems in California; that specific authorization for those funds to be used for conventional rail necessarily implies that the $9,000,000,000 portion was not to be used for that purpose, and this was always my intent and understanding as Chairman of the Authority in attempting to carry out the Legislature's intent, the Authority's then intent, and the intent of the voters in passing Proposition 1A.

14. Under the Authority's present business plan, the Authority has adopted a scheme to use Proposition 1A bond proceeds for a so-called "blended" system. It has effectively diverted approximately $2,000,000,000 of Proposition 1A bond funds and matching funds, with plans to deliver this amount to the Los Angeles Basin (to Metrolink and related rail agencies there) and to Caltrain on the San Francisco Peninsula, so that these Northern and Southern California

commuter operations (referred to as "bookends" in the legislation) can obtain various operational improvements and so that Caltrain can electrify itself. The Authority refuses to proceed with the plan approved by the pre-2012 Authority Board of Directors to obtain sufficient real property to build HSR on its own dedicated tracks. The "blended" system forces HSR and Caltrain to share existing right-of-way and tracks from San Francisco to Gilroy. That means the Authority will be unable to comply with Streets and Highways Code section 2704.09(c) in achieving operating headway time between successive trains of five minutes or less. It also means the Authority will violate Streets and Highways Code section 2704.09(f) which requires that passengers shall have the capability of traveling from any station on each corridor to any other station on that corridor "without being required to change trains." (Emphasis added.) Both of those provisions are incorporated in Proposition 1A, as noted above. The Authority's present business plan will require a rider from San Francisco to Los Angeles and Anaheim to board Caltrain in San Francisco, then leave Caltrain to board a theoretical HSR train from San Jose (or Gilroy) to a station in Los Angeles County such as Sylmar, and change trains again to a Metrolink train to arrive in Los Angeles or Anaheim, whichever is the rider's destination. Such a deviation from Proposition 1A's explicit requirement of no change of trains in the corridor from San Francisco to Los Angeles Union Station consequently renders it doubtful that Streets and Highways Code section 2704.09(b)(1) mandate of maximum "non-stop service travel" time for the San Francisco-Los Angeles Union Station corridor of two hours, 40 minutes can be performed.

15. On July 6, 2012, as stated above, the Legislature approved seizure of approximately $1,000,000,000 from Proposition 1A bond proceeds for use, as described above, for regional and commuter rail transit purposes on the San Francisco Peninsula and in Southern California. Such diversion of funds from the Central Valley undermines funding prospects for that area, rendering risk of non-completion much higher. Such diversion is also contrary to the Authority's own intentions in 2008 in presenting the proposed General Obligation Bond to voters on November 4, 2008, and contrary to the Legislature's concern about increasing financial risk from an uncompleted project.

16. The statutory scheme in Proposition 1A assured voters there would be no state,

local or federal operating subsidy for HSR. I repeatedly assured groups of voters of that statutory and bond measure prohibition. The current plan ignores that prohibition. For HSR to succeed financially, it must use dedicated trackage reserved exclusively for HSR as is the case in all countries with HSR. HSR will not succeed financially if it must share tracks with conventional or commuter rail. As noted, without its own dedicated tracks, not nearly as many HSR trains can operate per day. The "track-sharing" arrangement with Caltrain represents one example (Los Angeles to Anaheim represents another) of the Authority's current alteration of the project from a genuine HSR system to a distortion of such, using such terms as "blended system" to describe the present plan. Those concepts contravene the Authority's representations to the public that a true HSR system would be built with all $9,000,000,000 in bond money from Proposition 1A spent for exactly that. To me, the Authority Chairman during all the planning and pre-November 4, 2008 efforts regarding the bond measure, this constitutes the greatest betrayal of all in the context of the original intent and promises to voters. The project, as now planned rather than what was promised, constitutes a distortion and mangling of California's HSR project and promises to California voters.

17. The Authority has also participated by approval in another violation of Proposition 1A and Streets and Highways Code sections 2704.095(a)(1) and (d) which, as stated above, allocate $950,000,000 of bonds authorized by Proposition 1A to eligible recipients for direct connection to the HSR system. Section 2704.095(d) mandates that funds allocated pursuant to the subsection shall be used to pay or reimburse the cost of providing or improving "connectivity with a high speed train system." On or about June 8, 2012, the Authority was presented with information showing that $61,300,000 of such money was allocated to the so-called "Central Subway Project" in the City and County of San Francisco, based upon a planned HSR station stop at Fourth Street and King Street, San Francisco. Prior to 2012, the Authority's plans, while premised upon a HSR terminal at the so-called Transbay Terminal located at First Street and Mission Street in San Francisco, also provided for the aforementioned Fourth Street and King Street station (the present Caltrain San Francisco terminal location) because the Transbay Terminal could not physically accommodate 10-12 HSR trains per hour plus all arriving

Caltrain trains. Prior to the Authority's plan released publicly on April 2, 2012, the Authority's business plans were based upon 10-12 trains arriving in San Francisco during peak hours from 7:00 until 10:00 a.m. and 4:00 until 7:00 p.m. The present Caltrain terminal, which the Authority prior to April 2, 2012, had planned to utilize, will now be "connected" to HSR by the Central Subway. The Central Subway Project does not, however, connect with HSR or improve connectivity with HSR because the current plan of the Authority eliminates any station at Fourth Street and King Street in San Francisco.

Furthermore, the Central Subway Project changes the route of an existing San Francisco Municipal Railway light rail line (called the T Third Line) and by doing so eliminates the segment of that line which would connect to the HSR system at the San Francisco Transbay Terminal. In short, the $61,300,000 allocation of HSR Proposition 1A connectivity funds would finance a project which not only fails to connect to HSR, but disconnects an existing light rail line from HSR. Instead of providing or improving "connectivity with the high-speed train system," it destroys connectivity in degradation of section 2704.095(d). In fact, in June, 2011, $61,300,000 from the $950,000,000 of so-called connectivity funds described above were allocated to the Central Subway Project in San Francisco and included in the proposed State Budget Act of 2011-12 for distribution to the San Francisco Municipal Railway Central Subway Project only to be vetoed by Governor Edmund G. Brown Jr. who stated that the Central Subway Project appeared to be "unrelated to the high-speed rail project or an integrated rail plan." I am informed and believe that following the Authority's current business plan public release on April 2, 2012, the California Transportation Commission by electronic mail informed all applicants for money from the aforementioned $950,000,000 portion of Proposition 1A that new applications for any such funds must be received by May 1, 2012, and stated that the projects submitted must be consistent and have a direct connection to the HSR system. The California Transportation Commission thereafter allocated $61,300,000 to the San Francisco Municipal Railway Central Subway Project. The current Authority business plan which eliminates any station connecting in San Francisco to the Central Subway and provides $61,300,000 for the Central Subway Project constitutes an illegal expenditure under Proposition 1A.

18. I am informed and believe that the failure to proceed with dedicated tracks on the San Francisco Peninsula for HSR has caused the Authority business plan now to project that a maximum of four trains per hour will arrive in San Francisco during the peak hours mentioned above, which will have a resultant effect of reducing ridership and thereby preclude the Authority from operating without a state, local or financial operating subsidy, in violation of Proposition 1A and Streets and Highways Code section 2704.06(2)(J).

I declare under penalty of perjury pursuant to the laws of the State of California that the foregoing is true and correct.

Executed on this 15th day of February, 2013, at San Francisco, California.

QUENTIN L. KOPP

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CASE NO. 34-2011-00113919

DECLARATION OF WENDELL COX

Trial Date: May 31, 2013

I, Wendell Cox, declare as follows:

1. I declare under penalty of perjury, that the following is true and correct, and that if called as a witness to testify to the following, I would be competent to so testify.

2. I have spoken and taught extensively on urban affairs, having been a visiting professor at the Conservatoire National des Arts et Métiers in Paris, and lectured at the University of Sydney, the University of Toronto, Tonji University in Shanghai, Cairo University (Egypt) and the Institute of Economic Affairs in London.

3. I presently head Demographia, a public policy research firm in St. Louis, Missouri-Illinois metropolitan area, focused on urban policy issues. My commentaries on urban

issues have appeared in the Daily Telegraph of London, the National Post of Canada, the Washington Post, the Wall Street Journal, the Los Angeles Times, La Stampa (Turin), the Apple Daily (Hong Kong), the San Francisco Chronicle and the Australian Financial Review.

4. I was appointed to three terms, where I served from 1977-1985, on the Los Angeles County Transportation Commission. In 1980, while on the Commission, I authored the Proposition A amendment that established local funding for light rail and metro lines. I served on the Amtrak Reform Council from 1999 to 2002, and was instrumental in forging a Congressionally-demanded Amtrak final financial self-sufficiency plan – unfortunately not enacted. I am vice president of CODATU, an international organization headquartered in Lyon, France dedicated to improving urban transport in the developing world's urban areas, and served for more than a decade on the steering committee of the International Conference on Competition and Ownership in Land Passenger Transport.

5. In 1997, I authored the James Madison Institute's evaluation of the proposed Florida high-speed rail system and subsequent report. I have been advised that this report was instrumental in the cancellation of the project by Governor Jeb Bush. In 2011, my financial and project analyses of a later high speed rail project helped the Governor of Florida decide to decline Federal high-speed rail grants and cancel that project.[i] My analysis of the proposed Las Vegas Monorail contained accurate ridership projections, in contrast to the project-sponsored "investment grade" projections that were more than double the eventual ridership. My prediction that the Las Vegas monorail system would ultimately be unable to service its bonded indebtedness has been proven correct. Conversely, my 2000 commentary (2000) in Hong Kong's largest newspaper, argued for vigorous expansion of that urban area's rail system, given the high urban density, which exceeds that of Los Angeles and San Francisco (the nation's two most dense urban areas) by nearly ten times and its more than 75 percent mass transit market share.

6. I have been published in and interviewed by several newspapers and magazines on the California High-Speed Rail Authority (CHSRA), the California high-speed rail project and high speed rail in general. The Charlottesville *Libertarian Examiner* interviewed me in a June 28, 2010 about high-speed rail, when the CHSRA's capital costs were 'only' $43 Billion. There I

pointed out that; *"Heavy subsidies for rail, including high speed rail, are going to continue."* In January 2011, I pointed out in a *National Review* article that high-speed rail projects are a *"budget buster"* and that the costs of California's project had already increased 50% for a "Train to Nowhere" in the Central Valley. In January 10 2012, I wrote an article for the *Wall Street Journal* called "California's High-Speed Rail Fibs – Florida and Ohio have walked away from dubious train projects. Are Golden Staters more gullible?" This article pointed out that, if the project goes forward, Californians are likely to have to pay much more than the $9 Billion than they committed to in 2008. On December 10 2012 the *Orange County (OC) Register* published my article; "High-speed rail's fiscal cliff," in which I pointed out not only that independent analysts have proven that rail systems consistently and seriously overrun their estimated construction costs. It is my view that there will be no private, at-risk investments in the California high speed rail project and the promised 2hour and 40 minute travel time required by law will not be achieved. With Joseph Vranich, I provided analysis in The California High Speed Rail Proposal: A Due Diligence Report to the effect that the 2:40 travel time was unlikely to be achieved, even with the full high-speed rail build out of the Los Angeles to San Francisco segment, and before it was scaled back to a "blended system" that would share tracks with much slower commuter rail systems.

7. Two months before the Proposition 1A vote, in September 2008, The California High Speed Rail Proposal: A Due Diligence Report, which I co-authored with Joseph Vranich and which Adrian Moore of the Reason Foundation oversaw, was published. In that document (pg 4) we said;

> *The CHSRA plans as currently proposed are likely to have very little relationship to what would eventually be built due to questionable ridership projections and cost assumptions, overly optimistic projections of ridership diversion from other modes of transport, insufficient attention to potential speed restrictions and safety issues and discounting of potential community or political opposition.*
>
> *The CHSRA documentation provides virtually no objective analysis about risks and uncertainties, nor has CHSRA documentation been scrutinized in an independent review.*

Such mega-projects run high risks of failing to meet their ridership projections, financial forecasts and other objectives.

8. Those nearly five-year old conclusions seem even more prescient today than two or three years ago. In 2013 we have a Phase 1 Blended system (aka 'Blended System') that falls short of the promises made to voters, ridership projections that have failed to convince various independent experts , a genuine threat that operating costs will be higher than revenues, and the costs of building the promised, Full Phase 1 that are approximately double the 2008 cost projections in 2011$.

9. In March 2013 the Reason Foundation released its follow-up to the 2008 report, for which I am again a co-author with Joseph Vranich and for which Adrian Moore was the Project Director. That report, called California High-Speed Rail: An Updated Due Diligence Report, compares and contrasts the CHSRA's progress and assertions with the conclusions of our 2008 Due Diligence Report.

10. I understand that the capital costs of this high-speed rail project, and their availability are of concern in this case. Depending on when one began to study the costs of building what the voters were promised in 2008 as 'real' Phase 1, the costs of building the high-speed rail program from Los Angeles to San Francisco, has risen considerably. Prior to the 2008 election, our Due Diligence Report estimates for what is now called the Full Phase 1 ranged from $40-50 billion (2008$s) while the Authority promulgated one price, $33 billion – between a fifth and a third lower than our estimate.[ii] By November 2011, the Authority's cost for Full Phase 1 had reached the $66-$76 billion (2011$s) cited above, or over $100 billion in Year of Expenditure (YOE) dollars.

11. The 'sticker shock' of surpassing $100 billion may have touched off a statewide negative reaction to the project, based on subsequent public surveys.[iii] Five months later (April 2012) the Authority released a hybrid project (Phase 1 Blended) consisting of some high-speed rail in sparsely populated areas and combining with existing, slower commuter rail transit systems in the Los Angeles, San Francisco and San Jose metropolitan areas. This was accompanied by a $69-$79 billion (Year Of Expenditure dollars) construction price tag and rebranded as the Phase 1

Blended System, or the 'Blended System.' The Authority claims their 'Phase 1 Blended System' will be faster and cheaper than their previous plans.[iv] I believe that the "Phase 1 Blended System" represents a violation of the promises made to voters in 2008, on which they relied in approving issuance of the bonds under Proposition 1A. The "Phase 1 Blended System" is inconsistent not only with Proposition 1A, but also what was presented and analyzed in the Authority's November 2008, December 2009 and the November 2011 business plans.

12. I understand that securing funding to even the complete Initial Operating Segment, much less the 'Phase 1 Blended System' or the Full Phase 1 from Los Angeles to San Francisco as promised voters in 2008, is an issue in this legal case. The Authority's business plans have always depended on Federal monies taking the lead risks. In 2008, Federal monies were projected to be a third to more than two fifths of the total – roughly equal again in the 2009 business plan.[v] In the November 2011 Plan, the Federal dollars take on even more of the risks, despite the unlikely premise of private money; *"On the basis of such a private-sector transaction, the federal government funding requirements will be reduced significantly to represent approximately 61 percent of the total funding to achieve Bay to Basin connectivity."* [vi] In the Bay-to-Basin stage of the project, the adopted 2012 Plan lowers the Federal portion to 56% while assuming the profits from operations will attract $10 billion of private investment for operating rights – 20% of the total.

13. It is impossible for me to believe such vast amounts of Federal resources will come to California's high-speed rail program. The award of about $3 billion of Federal ARRA grants was a lucky break for CHSRA; a coincidence of Prop1A's success and the Obama Administration's attempt to stimulate a moribund US economy. That federal money, along with financial windfall of refused federal funding for high speed rail projects in Florida, Wisconsin and Ohio, may have created a marriage of convenience between the CHSRA and the DOT/FRA. There is now strong opposition to the project in the US House of Representatives and it seems likely that there will not be sufficient federal funding (and there may be none at all).

14. In their four most recent business plans, the Authority has listed weak or non-existent Federal programs to tap, such as the Federal Infrastructure Bank, the Dedicated

Passenger Rail Trust Fund, etc. The Authority claims that $4-5 billion would come from California's cash-strapped local governments, and that private funding would be forthcoming. My review of private investment (and losses) in high-speed rail around the world suggests that there is little or no potential for such funding.[vii] The California project's history is replete with official and independent analysts' asking for the Authority to 'show me the money.' In 2008 the Legislative Analyst's Office (LAO) asked; *"What level of confidence is there for receiving each type of funding?"* of the sketchy, delayed Business Plan.[viii] LAO repeated the question about the 2009 Plan*; "How would funds be secured?*" and emphasized that "*Federal Funding Expectations Highly Uncertain*"[ix] In May 2011 the LAO repeated the point; *"The availability of the funding necessary for the new system is highly uncertain."* [x] Shortly after the 'Phase 1 Blended System' was accepted, the LAO pointed out; *"Given the federal government's current financial situation and the current focus in Washington on reducing federal spending, it is uncertain if any further funding for the high-speed rail program will become available."*[xi] While the Authority captured the largest portion of ARRA grants, nothing has been awarded CHSRA since 2011.

15. In 2010 and 2011 State Auditor Elaine Howle, expressed concerns about funding sources; then in early 2012 amplified them because of the jump in construction costs: *". . the program's overall financial situation has become increasingly risky. This is in part because the Authority has not provided viable funding alternatives in the event that its planned funding does not materialize*."[xii] In 2010, the statutorily created Independent Peer Review Group was concerned about realistic Federal funding prospects given the national economic malaise, and repeated that caution in May 2011.[xiii] On January 3, 2012, before the April 2012 Business Plan was published the Official Peers said; "*The fact that the Funding Plan fails to identify any long term funding commitments is a fundamental flaw in the program . . . . Moreover, we are not optimistic that this situation will change in the foreseeable future."* [xiv] In the intervening year this situation has not been rectified.

16. In the March 2013 Updated Due Diligence Report we reflect on funding for the truncated, Phase 1 Blended System versus what voters were promised: *"Given the doubtful prospects for the CHSRA to obtain sufficient funding for the Phase 1 Blended system, more*

degradation of the system could also be in the offing." [xv] We are not alone in that conclusion.

17. Then, after the April 2012 Plan of the 'Phase 1 Blended System' was adopted, the California Legislative Analyst's Office (LAO) found:

> *The future sources of funding to complete Phase 1 Blended are highly speculative. Specifically, the funding approach outlined in the 2012 revised business plan is no more certain than what was proposed in previous plans. For example, the recent plan assumes nearly $42 billion, or 62% of the total expected cost, will be funded by the federal government. However, about $39 billion of this amount has not been secured from the federal government. Given the federal government's current financial situation and the current focus in Washington on reducing federal spending, it is uncertain if any further funding for the high–speed rail program will become available.*[xvi]

18. To amplify the LAO's finding on lack of secured construction funds, the LAO's cited $42 billion is the CHSRA's low estimate for the 'Blended System' while the high estimate of requisite federal funding is nearly $51 billion (YOE). [xvii] This means that between $39-$48 billion needed for the 'Blended System' alone has not been secured from the federal government or any other source.[xviii] In light of this, the LAO's April 2012 report recommended; "*the Legislature not approve the Governor's various budget proposals to provide additional funding for the project."*[xix] Lastly, in July 2012, Senator Joe Simitian (D-Palo Alto), who was among the project's most knowledgeable and consistent supporters in the Legislature, said:

> *Is there an additional commitment of federal funds? There is not. Is there an additional commitment of private funding? There is not. Is there a dedicated funding source we could look to in the coming years? There is not. . . the only conclusion I can come to today is that this is the wrong plan in the wrong place at the wrong time. And I will be a "no" vote.* [xx]

19. In the intervening months since SB2019 authorized matching funds, nothing has changed except more planning funds have been expended. The nation's fiscal difficulties seem likely to preclude appropriation of further federal funding by the Congress, in addition to the strong opposition to the project in the House of Representatives. As the Senator who was as concerned about continued funding as LAO, the Auditor and others said before SB2019 passed; *"This is the wrong plan, in the wrong place, at the wrong time."*

20. Apparently ignoring the 2008 and 2009 warnings from the Infrastructure

Management Group, that private capital would be on board only with subsidies in the form of 'revenue guarantees' the Authority continues to insist that private capital will step forward once the publically-funded $31 billion Initial Operating System (IOS) has been shown to be profitable.[xxi] In a series of papers over the last three years, a group of finance experts have investigated this assertion and found;

> *The myth persists that private sector money, either 'at risk' or though Public Private Partnerships (PPPs), will appear after the State and Federal governments build an initial 'proof of concept'. More than twenty years after the State began to invest in the concept, no private money has appeared. Ask a simple question . . . "why haven't private investors clamored for the opportunity to build California's system at their risk"* [xxii]

21. I am also concerned about the Authority's failure to materially address the lack of funding available for high-speed rail to destinations that voters were promised in 2008. As said in our Updated Due Diligence Report; *"Absent from the 2012 Revised Business Plan is any even speculative identification of capital funding to cover the cost for Phase 2, which would include lines to the major metropolitan areas of San Diego, Riverside-San Bernardino (the Inland Empire) and Sacramento."* [xxiii] Not speaking to what might be the costs and sources of Phase 2 funds does not make the need for those funds go away.

22. I understand that the accuracy of ridership forecasts and their resultant impacts on revenues is an important issue in this case. Reviewing the ever-fluctuating ridership model results is disturbing. In 2000, Charles River Associates estimated there would be about 32 million riders for the high-speed train.[xxiv] By the time that the 2008 Business Plan emerged, that estimate had more than tripled as the*;". . 800-mile system designed to carry over 100 million people a year by 2030."* was promulgated, with projections of up to 96.5 million intercity riders and 117 million including high speed rail commuter riders. [xxv] A year later the forecast had been shrunk to about 20 million riders the year the train was supposed to start operating (2020) but rose to 41 million five years later and nearly 60 million riders by 2034.[xxvi] The November 2011 Plan forecasted 36 million riders by 2035 with ticket prices were set at 83% of airline fares – a 40% decrease in estimated ridership in less than two years.[xxvii] If different experts produced estimates that varied between 20 million and 100 million riders by the 2030s, what value are their models if

not calibrated against the growing body of empirical evidence on forecasted versus actual rail passengers?

23. I am concerned that although ridership numbers in the 'Phase 1 Blended System' decrease, the CHSRA still claims that truncated rail line will be operationally profitable. The final and now-adopted April 2012 indicates that the 'Phase 1 Blended System' would have 19.6 to 31.8 million riders annually, with a medium projection of 25.7 million.[xxviii] In itself that forecast is disturbing, since it isolates potential customers in the two major population centers, the Los Angeles Basin and San Francisco, with slower service merged into commuter rail schedules. I am not alone in believing the Authority's ridership model's output has been and still is fundamentally flawed and not credible – flawed enough so to sink any potential to generate the required revenues to exceed operating expenses. On December 6th 2012, the Director of Physical Infrastructure for the Government Accountability Office testified in the Congress to that; "*In addition, the ridership and revenue forecasts in the April 2012 revised business plan reflected a wider uncertainty range than the forecast presented in the November 2011 plan.*"[xxix] Having read the Authority's April 2012 Plan, and given my experience in transportation and urban affairs, I agree with the GAO's conclusion and am concerned about the accuracy of CHSRA ridership and resultant revenue forecasts.

24. Accurate ridership forecasts are understood to be of issue in this case. I am concerned by the CHSRA's insufficient 'benchmarking' on the accuracy of their ridership forecasts with international experiences. In her testimony the GAO Director also cited a November 2012 international study on the inaccuracy of passenger rail ridership forecasts;

> *Research on ridership and revenue forecasts for rail infrastructure projects have shown that ridership forecasts are often overestimated and actual ridership is likely to be lower. For example, a recent study examined a sample of 62 rail projects and found that for 53 of them, the demand forecasts were overestimated and that actual demand was lower than forecasted demand.* [xxx]

25. The same European authors of the GAO Director's cited research had gone on record in 2003 saying; "There is a massive and highly significant problem with inflated forecasts for rail projects. For two-thirds of the projects, forecasts are overestimated by more than two-

thirds.[xxxi] The problems with demand forecasts extend well beyond Europe's vaunted high-speed rail system. After careful study of existing high-speed rail systems there and in Asia, in 2011 the World Bank said;" ... high-speed projects have rarely met the full ridership forecasts asserted by their promoters and in some cases have fallen far short.[xxxii] It is my belief that the ridership projections by CHSRA are consistent with the findings of this international research.

26. My concerns about dramatically lower actual ridership are not solely in the international arena, nor recent, nor outside the sphere of the CHSRA's influence. The Authority's own internal and statutorily created Peer Review group weighed in on ridership in 2009, saying;" *"The issues identified by the University of California at Berkeley, the Legislative Analyst's office and the State Auditor's office have raised sufficient concerns with the demand model so as to call into question the project's fundamental basis for going forward."* [xxxiii] Then in 2010, the California Senate commissioned the Institute for Transportation Studies (ITS) at UC Berkeley to investigate the CHSRA's ridership model. Their concluding statement said there were: *"...significant problems that render the key demand forecasting models unreliable for policy analysis."* [xxxiv] CHSRA dismissed the ITS' findings, but a year after those conclusions, the ITS report's co-author repeated their concerns that CHSRA's ridership forecasts were; "*...not reliable enough to support the expenditure of billions of dollars.* [xxxv]

27. In our 2008 Due Diligence report we were concerned about the same ridership projection issues as we are five years later. Back then we said;

> *The CHSRA's ridership projections reflect assumptions contrary to actual experience, forecasts inconsistent with independent projections, load factors and other calculations that are highly questionable, and reliance on extraordinarily low fares that are not found on similar systems."* [xxxvi]

28. I understand that a central issue in this case is operating profits by the California high-speed system. The CHSRA's 2008 Business Plan spoke of $2.4 billion in revenue, and operating costs around $1.2 billion; suggesting a potential 50% gross margin.[xxxvii] The Authority's 2009 financial analysis said *" . . the initial San Francisco-to-Anaheim portion of the project is expected to generate significant operating surpluses even after accounting for operations and maintenance costs and renewal and replacement reserves."* [xxxviii] Despite not one

serious offer of at risk investment from private investors, but rather a 2008 warning that 'no guarantees on profits, no investments, in November 2011, the Authority boldly asserted *"Private-sector involvement is feasible because each of the operating sections generates a net operating profit."* [xxxix]

29. I hold such assertions, as in the 2009, 2011 and 2012 plans, do not encourage credulity, because in many international cases, capital costs have been paid entirely for from government budgets, and operating costs have been subsidized as well. For example, in 2009 Iñaki Barrón de Angoiti, Director of High-Speed Rail at the International Union of Railways (IUR), said, *"Only two routes in the world — between Tokyo and Osaka, and between Paris and Lyon — have broken even."*[xl] After careful study, in December 2009 the US Congressional Research Service (CRS) said of high-speed rail: *"Typically, governments have paid the construction costs, and in many cases have subsidized the operating costs as well."*[xli] Seven months later, in July 2010, a World Bank report cautioned that governments planning high-speed rail systems: *". . should also contemplate the near-certainty of copious and continuing budget support for the debt."* [xlii]

30. These findings were brought to light in late 2010.[xliii] The International Union of Railways' (IUR) Director was asked to provide counterpoint. In February 2011, the Director General (DG) of the International Union of Railways (IUR) claimed that statement (cited above) by the IUR's Director of High-Speed Rail, Iñaki Barrón de Angoiti, had been taken out of context.[xliv] However, the DG's letter to CHSRA's then-CEO reinforced Mr. de Angoiti thesis. The DG's letter and accompanying memorandum said: *" . . public authorities/society generally bear the costs of investing in new infrastructure, constructing and maintaining the infrastructure and related equipment such as safety, control-command and signaling, etc."* and *"Economic calculations for infrastructure projects in Europe include all the socioeconomic benefits of future rail infrastructure and its contribution to society . . ."* .[xlv] The DG's only reference to profitability says *"Generally speaking Operating Costs can be covered by fare box revenues making the operations of HS an attractive proposition for private investors . . "*[xlvi] The conditional tense phrase, *"generally speaking"* covers a host of options, and the DG's declaration would have been

stronger had it been accompanied by actual examples of income statements, balance sheets, statements of cash flow and sources and uses of funds data, conforming to United States accounting standards. The DG concluded with a uniquely European method of calculating operating profits; "*all high-speed rail projects developed in Europe have to be considered profitable as a system (combining profitability for the operating company and profitability for society to which the state-owned rail infrastructure belongs).*"[xlvii] Clearly IUR either did not know about, or has misinterpreted the language of AB3034, which does not allow counting "social profitability" as an offset against a deficit of actual dollars in operating revenues in relation to actual dollar operating costs.

31. The GAO's Physical Infrastructure Director said in December 2012; "To make its operating-cost estimate more comprehensive and better documented, the Authority has contracted with the International Union of Railways to evaluate the existing methodology and data and help refine its estimates." [xlviii] In my opinion, contracting with IUR, which has as part of its mission the advocacy of rail passenger service, is questionable. It is even more questionable because IUR apparently appears to be unaware of the fact that in the United States, profitability is a commercial term and cannot include administratively estimated "social" benefits (the determination of which is highly subjective). It is hard to imagine how collaborating with IUR, which has a perspective so inconsistent with California law on the definition of profitability and which is also an advocacy group for passenger rail could possibly bring the kind of objectivity to this project that it needs.

32. Several independent economists and finance experts have studied the issue of the CHSRA's claims of profitability, comparing their revenues and expenses to international and US experience. In my opinion, the report, <u>To Repeat: The CHSRA's Train Will Need A Subsidy Forever</u> is a credible comparative analysis of the worldwide financial experiences of high-speed rail systems. While their findings must be put into the context that neither they, nor the Government Accountability Office (GAO) were able to attain line item details on what the Authority uses in its operating expense formulas, they make a strong case that;

> *Both CHSRA's revenues and O&M (Operations & Maintenance) costs are 'outliers' when compared with actual HSR operations. Even disregarding that some, if not much, of European HSR systems' O&M costs don't land on their operators' accounts, the CHSRA's revenues and O&M costs are unreasonably low. In short, the CHSRA 'low balled' both revenues and O&M expenses – revenues to seem to be competitive with airline fares, and O&M costs to seem to produce profits.*[xlix]

33. Their To Repeat report documents that the Authority plans a per-passenger mile charge of about 22¢ and operate at about 10¢ per-passenger mile (PPM). This would make the CHSRA's revenue charges about half the international experience, and their operating costs about a quarter of what existing European high-speed rail systems operate at – whether or not they are profitable.[l] Perhaps more importantly, they document that Acela, the USA's closest approximation of high-speed rail, charges and operates on a per passenger mile basis at considerably higher rates. Acela charges about 70¢ PPM and operates at about 60¢ PPM.[li]

34. I make two important conclusions from this Acela example. The first is that Acela's accounting methods – set under DOT/FRA guidelines for Amtrak – are far more akin to those that must be used by the CHSRA's eventual operations. My second conclusion springs from a question. If the labor, electrical power, health, pension, liability and other Acela O&M costs require Acela's operators to charge over 70¢ per-passenger mile to perhaps be profitable, how can CHSRA justify charging less than a third of Acela's per-passenger mile charges and still claim the California system will be profitable? It simply doesn't compute. I believe that these authors have added to the weight of credible evidence that the Authority has purposely misled about the costs of its operations and therefore the likelihood of profitability.

35. Our Updated Due Diligence report also puts paid to notion that the California system will be operationally profitable. In that report, we went through four distinct scenarios of different ridership, speed and operations and maintenance costs while still using the various fare structures of the 2012 Plan.[lii] Even accepting the European ridership profile of the Authority's planning, the annual subsidy would be around $124 million. This deteriorates even assuming that the far-from-being-proven speeds of the train and more so if lower speeds are assumed. The latter two scenarios would require annual operating subsidies from $200 million to $373 million. I

believe that our Updated Due Diligence report's assumptions are not only fair to the Authority, but give perhaps undo favorable judgment in the absence of line item operating costs not attainable by either the U.S. Government, or independent analysts as ourselves.

36. The high-speed rail project has often been cited as an important strategy in the state's efforts to reduce greenhouse gas (GHG) emissions. In my view, nothing could be further from the truth. Indeed, if funded, and indeed, the project could, to the extent that the project might be funded from Global Warming Solutions Act (AB32) cap and trade revenues, higher GHG emissions could occur. This is explained in detail below.

37. In 2008, CHSRA projected a GHG reduction of 3.1 million annual tons in 2030, for the entire system, including the segments to San Diego and Sacramento. Based on CHSRA ridership and cost data. we estimated the cost per GHG ton that would be removed by high-speed rail line in our The California High Speed Rail Proposal: A Due Diligence Report at a minimum (net) of $1,949. This was between 49 and 97 times the $20 to $50 per ton that the United Nations International Governmental Panel on Climate Change has identified as the top of the range necessary to achieve sufficient worldwide GHG emissions reductions.[liii] At the time (2008), we projected (as it was to turn out, correctly) that the CHSRA cost projections were materially lower than would be achieved and that ridership was over-projected (as has occurred). Based upon those 2008 assumptions, we provided a high projection of $10,032 per net GHG ton removed. This would have been between 200 and 500 times the $20 to $50 range determined by the Intergovernmental Panel on Climate Change.

38. Since that time, CHSRA has materially increased its cost estimates and reduced its ridership projections. The increase in capital costs would increase the cost per GHG ton removed. Similarly, because with fewer riders, there would be fewer persons replacing their automobile travel with high-speed rail travel, the lower ridership projections would increase the cost per GHG ton removed. Moreover, the CHSRA GHG emission reduction analysis available in late 2012 was based upon the blended system, which excludes the segments to San Diego and Sacramento.

39. Yet, CHSRA's most recent projections of total GHG emission reductions is *greater*

than CHSRA projected in 2008. CHSRA projects GHG emission reductions in 2035 will be between 5.3 million and 6.3 million tons. This is more than double CHSRA's previous projection, despite the higher capital costs, their lower ridership projections and the exclusion of the San Diego and Sacramento segments. This new CHSRA projection is implausible.

40. Based upon these factors, the GHG emission reduction projection should be *less.* Moreover, there is another factor that would reduce the GHG emission reduction projection. Since 2008, federal CAFE standards (new car fuel efficiency standards) have been materially increased, which would mean that GHG emission reductions would be less (each gallon of gasoline combusted produces the same amount of GHG emissions).

41. But there is more. It appears that CHSRA has used unreasonably high automobile fuel consumption factors in its newer projections. Environmental consultant Joel Schwartz (of Blue Sky Consulting Group) submitted an analysis to CHSRA showing that the GHG emissions reduction estimate was overstated between 130 and 190 percent. A copy of that report is appended to this Affidavit. All of these factors lead me to believe that our estimates of from $1,949 to $10,032 per ton of GHG removed were much lower than will be the reality, given the changes in capital costs, ridership projections, the exclusion of the San Diego and Sacramento segments and the use by CHSRA of optimistic fuel economy assumptions for automobiles that would bias the equation toward better results for high speed rail.

42. There has been public discussion about using cap and trade revenues from Assembly Bill 32 (AB32), the Global Warming Solutions Act. In view of the many times by which the cost per GHG ton reduced by high-speed rail exceeds the IPCC $20 to $50 range, such use would be, in my view, a gross violation of the spirit and intent of the AB32. The purpose of AB32 is to reduce GHG emissions. The objectives of GHG emission reduction are aggressive, both at the state and international level and will not be easily achieved. This means that any revenues from AB32 must be judiciously used to obtain the maximum reduction in GHG emissions for the money expended. Any AB 32 revenues spent above the $20 to $50 range constitute a misappropriation of funds in the context of the intent of the law. In effect, use of AB32 funds for high-speed rail would increase GHG emissions by displacing spending on

alternatives that would produce a greater reduction in GHG emissions. In the case of the high-speed rail project, money expended from AB32 revenues for each GHG ton removed could eliminate the opportunity to reduce GHG emissions by hundreds of tons or more. To spend more than the IPCC maximum range could betray a less than serious commitment to the purposes of AB32.

I declare under penalty of perjury pursuant to the laws of the State of California that the foregoing is true and correct.

Executed on this 27 day of February, 2013, at O'Fallon, Illinois.

WENDELL COX

[i] See: Florida's Governor Rejects High-Speed Rail Line, Fearing Cost to Taxpayers: New York Times: January 16, 2011.

[ii] Joseph Vranich and Wendell Cox: Adrian T. Moore, Ph.D. Project Director. California High Speed Rail: A Due Diligence Report, The Reason Foundation; September 2008; Table 1, pg. 11.

[iii] In September 2011, by Probolsky Research that found 62.4% of respondents would vote to stop the bullet train project and nearly that number said they are unlikely ever to travel on the train between San Francisco and Los Angeles. Found at http://www.probolskyresearch.com/wp-content/uploads/2011/09/Probolsky-Research-State-Spending-and-High-Speed-Rail-Results-Memorandum1.pdf. In December 2011 a USC Dornsife/Los Angeles Times Poll found that with the cost of the high-speed rail project rising dramatically "a clear majority of California's registered voters would reject the proposal if given a second chance to vote on it today." See: Dan Weikel and Ralph Vartabedian, "Californians would reject bullet train in revote, polls finds," *Los Angeles Times*, December 6, 2011, http://articles.latimes.com/2011/dec/06/local/la-me-train-poll-201112071. Two subsequent polls have reaffirmed those findings.

[iv] CHSRA's Chairman, Dan Richard, said the new blueprint for a bullet train made *"the plan better, faster and cheaper."* From the website of Senator Mark DeSaulnier, Chairman of the Senate Housing and Transportation Committee of April 2 2012. Found at http://sd07.senate.ca.gov/news/2012-04-02-california-high-speed-rail-authorities-say-they-can-build-it-better-faster-cheaper-6

[v] See pg. 21 Figure 26 of the 2008 Plan and page 93 of the 2009 Plan.

[vi] See California High-Speed Rail Program, Draft 2012 Business Plan; November 1, 2011; page 8-38.

[vii] See: http://reason.org/files/florida_high_speed_rail_analysis.pdf ###

[viii] See: 2009-10 Budget Analysis Series: Transportation: LAO 2009-10 Budget Analysis Series: Transportation: High-Speed Rail; page 2.

[ix] See: The 2009 High-Speed Rail Business Plan; Legislative Analyst's Office January 11, 2010; pages 1 and 8.

[x] See: High-Speed Rail Is At A Critical Juncture; May 10, 2011, page 6.

[xi] See: The 2012-13 Budget: Funding Request for High-Speed Rail; Mac Taylor, Legislative Analyst; April 17, 2012, pg. 7.

[xii] "High-Speed Rail Authority Follow-Up: Although the Authority Addressed Some of Our Prior Concerns, Its Funding Situation Has Become Increasingly Risky and the Authority's Weak Oversight Persists," California State Auditor, Bureau of State Audits, Report 2011-504, January 2012, Cover letter, http://www.bsa.ca.gov/pdfs/reports/2011-504.pdf

[xiii] See Attachment A, page 2 of the California High-Speed Rail Peer Review Group report of November 18, 2010 and Item (d) of their report of May 2, 2011.

[xiv] Letter to Senate President Pro Tem Darrell Steinberg, et. al., California High-Speed Rail Peer Review Group, January 3, 2012, p. 4, http://www.calhsr.com/wp-content/uploads/2010/10/CHSR-Peer-Review-Group-Comments-on-CHSRA-2010-Funding-Plan-2.pdf

[xv] For a description of the 'Phase 1 Blended System' see: CHSRA's April 2012 Funding Plan chapter, Part I, Section 4. See page 18 of the Updated Due Diligence report for the quotation.

[xvi] "The 2012-13 Budget: Funding Requests for High-Speed Rail," Legislative Analyst's Office, April 17, 2012, http://www.lao.ca.gov/analysis/2012/transportation/high-speed-rail-041712.aspx

[xvii] YOE$ is used here because the April 2012 *Business Plan* does not provide funding source details in 2011$.

[xviii] Estimated using the $3 billion difference between the low estimate of $42 billion in federal funding requirements per the LAO and the $39 billion not yet committed.

[xix] Ibid.

[xx] Closing remarks of Senator Joe Simitian; July 6th 2012 in the chambers of the Senate of the State of California

[xxi] To find the IMG Report of June 2008, go to: http://www.cahighspeedrail.ca.gov/images/chsr/20081118152745_Source%20document%209%20rfei.pdf. Next, type in the name of the report: Report Of Responses To The Request For Expressions Of Interest For Private Participation In The Development of A High-Speed Train System In California. To find the 2009 presentation go to: www.imggroup.com/news/.../CAHSRIMGPressRelease090809.pdf

[xxii] The report was prepared by retired Silicon Valley executives William H. Warren and William Grindley and Stanford Business School professor Alain Enthoven, "The Financial Risks of California's Proposed High-Speed Rail Project," September 14, 2011, p. 10. Posted at www.sites.google.com/site/hsrcaliffr

[xxiii] Joseph Vranich and Wendell Cox: Adrian T. Moore, Ph.D. Project Director. California High Speed Rail: An Updated Due Diligence Report, The Reason Foundation, March 2013. Found at: http://reason.org/

[xxiv] See page ES-12. Charles River Associates: Independent Ridership and Passenger Revenue Projections for High Speed Rail Alternatives in California: prepared for the California High-Speed Rail Authority, January 2000. Found at http://www.cahighspeedrail.ca.gov/assets/0/152/198/df0eb282-063c-48cf-92b4-7ccf7adb976c.pdf

[xxv] See: California High-Speed Train: Business Plan, November 2008; page 2. In the 2008 Due Diligence Report (Table 1) we estimated ridership to vary between 23.4 million and 31 million. See: Joseph Vranich and Wendell Cox: Adrian T. Moore, Ph.D. Project Director. California High Speed Rail: A Due Diligence Report, The Reason Foundation: September 2008.

[xxvi] See: California High-Speed Rail Authority (CHSRA): Report to the Legislature; December 2009; Figure 1, page 71 and Table C, page 72.

[xxvii] See: California High-Speed Rail Program Draft Business Plan, November 1, 2011: pg. 6-18

[xxviii] Includes both interregional and intra-regional ridership.

[xxix] Statement of Susan A. Fleming, Director Physical Infrastructure Issues, Before the Committee on Transportation and Infrastructure, House of Representatives, December 6, 2012; pgs. 5-6.

[xxx] Director Fleming's testimony (page 13) refers to – Bent Flyvbjerg, "Quality Control and Due Diligence in Project Management: Getting Decisions Right by Taking the Outside View," International Journal of Project Management (November 2012). Found at http://dx.doi.org/10.1016/j.ijproman.2012.10.007

[xxxi] Bent Flyvbjerg, Nils Bruzelius and Werner Rothengatter, *Megaprojects and Risk: An Anatomy of Ambition*, (Cambridge, UK: Cambridge University Press, 2003), p. 26.

[xxxii] See: Paul Amos, Dick Bullock and Jitendra Sondhi; World Bank Report No 55856; July 2010; pg.14. See: *www-wds.worldbank.org/.../558560WP0Box341SR1v08121jul101final.pdf*
http://documents.worldbank.org/curated/en/2010/07/12582340/high-speed-rail-fast-track-economic-development

[xxxiii] The Official Peer Review Group's memo can be found at http://www.cahsrprg.com/files/Attachment%20A.pdf

[xxxiv] Found at http://www.its.berkeley.edu/publications/UCB/2010/RR/UCB-ITS-RR-2010-1.pdf

[xxxv] Transcribed from DVD of the hearing recorded by the California State Assembly Television office.

[xxxvi] See: Joseph Vranich and Wendell Cox: Adrian T. Moore, Ph.D. Project Director. California High Speed Rail: A Due Diligence Report, The Reason Foundation; September 2008; pg. 7

[xxxvii] See: California High-Speed Train: Business Plan, November 2008; page 17 and Figure 16.

[xxxviii] Op Cit. See Report to the Legislature; December 2009; page 92. Specifically, the CHSRA expected its operating surplus, (operating margin) to be $370Million its first operating year, increasing to $1.5Billion by the third year of running the train.

[xxxix] California High-Speed Rail Program Draft 2012 Business Plan, November 1, 2011; page ES-8.

[xl] See: Victoria Burnett, "Spain's High-Speed Rail Offers Guideposts For U.S." Statement by Iñaki Barrón de Angoiti NY Times, May 29, 2009 at www.nytimes.com/2009/05/30/business/energy-environment/30trains.html

[xli] Op Cit See: Peterman, Frittelli, and Mallett, W.; CRS; pg.1.

[xlii] Op Cit "High-Speed Rail: Fast Track to Economic Development?" World Bank Report No 55856.

[xliii] See: Enthoven, Alain, Grindley, William and Warren, William: The Financial Risks of California's Proposed High-Speed Rail Project; October 12, 2010; pgs. 71-72.

[xliv] The Union Internationale des Chemins de fer (UIC), or International Union of Railways (IUR) in English, is headquartered in Paris. Apparently, then-CHSRA CEO Roelof van Ark requested the UIC/IUR's support as the letter starts with an apology for taking time to answer.

[xlv] See: letter to CHSRA CEO Roelof van Ark from Msr. Jean-Pierre Loubinoux, Director General of the International Union of Railways, dated 8 February 2011. Letter is found at http://www.calhsr.com/wp-content/uploads/2010/02/IUR-Officials-Letter-to-CHSRA-CEO.pdf

[xlvi] Ibid

[xlvii] Ibid

[xlviii] Statement of Susan A. Fleming, Director Physical Infrastructure Issues, Before the Committee on Transportation and Infrastructure, House of Representatives, December 6, 2012; pgs. 5-6.

[xlix] See: To Repeat: The CHSRA's Train Will Need A Subsidy Forever; August 2012, Second Edition December 2012; page 7. Found at available at www.sites.google.com/site/hsrcaliffr or at www.cc-hsr.org; then go to Financial Reports.

[l] Ibid

[li] Ibid

[lii] See: pages 301-33; Joseph Vranich and Wendell Cox: Adrian T. Moore, Ph.D. Project Director. California High Speed Rail: An Updated Due Diligence Report, The Reason Foundation, March 2013. Found at: http://reason.org/

[liii] Intergovernmental Panel on Climate Change, "Mitigation from a cross-sectoral perspective,"2007, www.ipcc.ch/pdf/assessment-report/ar4/wg3/ar4-wg3-chapter11.pdf p. 660.

Blue Sky
CONSULTING GROUP

Comments submitted to the California High Speed Rail Authority on the Revised Draft Environmental Impact Report/Supplemental Draft Environmental Impact Statement for the Fresno-Bakersfield Segment of the California High Speed Train project

prepared for

Wittwer & Parkin, LLP

prepared by

Joel Schwartz
Blue Sky Consulting Group

October 16, 2012

INTRODUCTION

This document presents Blue Sky Consulting Group's comments on the California High Speed Rail Authority's Revised Draft EIR/Supplemental Draft EIS (DEIR/DEIS) for the Fresno-Bakersfield segment of the proposed California High Speed Train system. We prepared these comments under contract to Wittwer & Parkin, LLP, which represents Citizens for California for High Speed Rail Accountability. Our comments are focused mainly on the global climate change and air quality benefit projections in the DEIR/DEIS, the 2012 Business Plan, and their associated technical reports and documentation.

For the sake of brevity and clarity, we use the following abbreviations in our comments:

- We abbreviate the Revised Draft EIR/Supplemental Draft EIS for the Fresno-Bakersfield segment as "DEIR/DEIS".
- We refer to the California High Speed Rail Authority as "CAHSRA."
- The technical documents that support CAHSRA's environmental documents and Business Plans were produced by the consulting firms Parsons Brinkerhoff and Cambridge Systematics. When we use phrases such as "CAHSRA's analysis of…" it should be understood to mean analysis performed by CAHSRA and/or its consultants. Citations clarify the specific document(s) to which we refer.

THE DEIR/DEIS AND 2012 BUSINESS PLAN OVERSTATE CO_2 REDUCTION BENEFITS OF HSR DUE TO AN UNREALISTICALLY LOW AUTOMOBILE FUEL ECONOMY ASSUMPTION FOR 2035

The DEIR/DEIS includes projections of vehicle miles traveled (VMT) and CO_2 reductions due to drivers switching to HSR. Below we demonstrate that, by assuming little or no improvement in fuel economy of the automobile fleet between now and 2035, the DEIR/DEIS overstates the CO_2 reduction of HSR by a large margin. The 2012 Business Plan also overstates the CO_2 reduction benefits of HSR, but not to the same extent as the DEIR/DEIS. We evaluate both estimates below.

The analysis in this section takes CAHSRA's HSR ridership estimates as given and focuses only on the fuel economy of the automobile travel displaced by HSR. In a later section we also present evidence that CAHSRA overstates likely HSR ridership, which results in an additional overestimate of CO_2 reduction benefits from HSR.

2012 Business Plan automobile fuel economy assumptions. To project the per-mile fuel cost for driving in 2035, the 2012 Business Plan assumes the fuel economy of the vehicle fleet will be somewhere between 27.9 mpg and 36.7 mpg.[1] The lower number is the U.S. Energy Information Administration's "Reference" projection, while the higher number is an average of the assumption of 3% and 6% annual growth in the fuel economy of new automobiles. CAHSRA's "Medium" forecast is the average of these two values, or 32.3 mpg.

DEIR/DEIS automobile fuel economy assumptions. The DEIR/DEIS uses EMFAC 2007, the California Air Resources Board's vehicle emissions model, for its projections of future fuel economy of the vehicle fleet.[2] However, as the DEIR/DEIS itself acknowledges, "According to the current version of EMFAC2007, future fuel economy factors are forecast to improve only slightly between the years 2008 and 2035. However, this

[1] Cambridge Systematics, *California High-Speed Rail 2012 Business Plan, Ridership and Revenue Forecasting*, p. 2-8.
[2] DEIR/DEIS, p. 3.3-14, 3.3-15.

forecast reflects the current version of EMFAC2007, which does not consider recent regulatory actions for improvements in vehicle fuel economy."[3]

The DEIR/DEIS does not appear to state explicitly what it assumed for fuel economy of the vehicle fleet in 2035. However, this can be inferred from other information in the document. Table 3.3-15 on page 3.3-60 of the DEIR/DEIS provides projections of Project vs. No Project changes in total on-road vehicle miles traveled (VMT) and CO_2 emissions in 2035 with and without the HSR system. Table 1 shows the statewide changes in VMT and CO_2 emissions from Table 3.3-15. The table shows the DEIR/DEIS's projection of statewide daily VMT in 2035 without the HSR system and with the HSR system, along with the reduction in CO_2 emissions due to the HSR system. In summarizing the CO_2 emissions reduction, the DEIR/DEIS averages the high and low values and converts to a daily CO_2 reduction to conclude "The HST [High Speed Train] alternatives would reduce statewide daily roadway VMT by more than 30 million miles because of travelers using the HST rather than driving. This equates to approximately 15,800 tons of CO_2 per day…"[4]

Table 1. CAHSRA's Projection of VMT in 2035 with and without the HSR System and CO_2 Reductions Due to HSR

No Project Total Daily VMT	Project Total Daily VMT	Change in CO_2 Emissions (MMT/Year)
1,254,608,000	1,223,333,000 to 1,233,758,000	-6.3 to -5.3

Source: Table 3.3-15, p. 3.3-60 of the DEIR/DEIS
VMT = Vehicle Miles Traveled
MMT = Million Metric Tons

Table 2 provides the reduction in VMT and the reduction in CO_2 emissions resulting from the reduction in VMT. We can use these numbers to determine what CAHSRA assumed about the average fuel economy of the cars taken off the road by HSR. The left-hand column of Table 2 converts the change in daily VMT to a change in annual VMT. The next column repeats the annual change in CO_2 from Table 1. The third column, CO_2 emissions per vehicle mile, is the ratio of Column 2 over Column 1 along with a conversion factor of 2,205 lbs./metric ton. We can convert lbs. of CO_2 per mile to miles per gallon (mpg), knowing that burning gasoline emits 19.7 lbs. of CO_2 per gallon.[5] This conversion is performed in the right-hand column of Table 2, which shows that the DEIR/DEIS's estimates of VMT and CO_2 reductions imply a fleet-average fuel economy ranging from 12.8 mpg to 16.2 mpg.

In other words, given CAHSRA's DEIR/DEIS projections for VMT reductions and CO_2 reductions due to HSR, the right-hand column of Table 2 shows what CAHSRA implicitly assumed for the average fuel economy of the cars of taken off the road due to people switching to HSR. These mpg values are well below the fuel economy of even the current automobile fleet, which has an average on-road fuel economy of about 21.5 mpg,[6] much less that of the 2035 automobile fleet, which will be far more fuel efficient.

[3] DEIR/DEIS, p. 3.3-15.
[4] DEIR/DEIS, p. 3.3-60.
[5] U.S. Environmental Protection Agency, "Calculations and References," http://www.epa.gov/cleanenergy/energy-resources/refs.html, accessed on September 18, 2012. Calculated by converting 8.92×10^{-3} metric tons of CO_2 per gallon of gasoline to lbs. of CO_2 per gallon.
[6] Caltrans, *California Motor Vehicle Stock, Travel, and Fuel Forecast (MVSTAFF)*, December 2011.

Table 2. Inferred Fleet-Average Automobile Fuel Economy Assumed in the DEIR/DEIS

Change in Annual VMT (millions of miles)	Change in Annual CO_2 emissions (MMT)	CO_2 Emissions per Vehicle Mile (lbs.)	Fleet-average fuel economy
-7,610 to -11,415	-5.3 to -6.3	1.54 to 1.22	12.8 to 16.2

Realistic estimate of automobile fuel economy in 2035. The amount of CO_2 reductions due to HSR displacing automobile travel in 2035 depends on the average fuel economy of the VMT displaced by HSR in 2035. There are three reasons why actual fuel economy will be significantly higher than assumed in CASHRA's 2012 Business Plan and far higher than assumed in the DEIR/DEIS.

(1) Until recently, federal and California law required that the fuel economy of new light-duty vehicles (cars, SUVs, pickup trucks, and minivans) average at least 35 mpg from the 2016 model year onward.[7] In November 2011, the federal government proposed additional Corporate Average Fuel Economy (CAFE) standards that would increase the fleet-average mpg of new automobiles to 54.5 mpg by 2025.[8] These regulations were finalized on August 28, 2012.[9]

Based on the CAFE standards and the predicted mix of vehicles actually purchased, the U.S. Energy Information Administration (EIA) predicts that the CAFE fleet-average fuel economy will be 34.1 mpg for the 2016 model year, rising to 49.6 mpg for the 2025 model year.[10] These mpg standards represent the "laboratory" CAFE requirements. Fuel economy in actual use will be lower, because the CAFE laboratory test does not necessarily represent the way most motorists actually drive their cars.

To derive a valid prediction of fleet-average fuel economy in the year 2035, we use an estimate of real-world fuel economy for a given CAFE standard.[11] We combined this with an estimate of the "travel fraction" of the vehicle fleet by model year. The travel fraction represents the fraction of total VMT accounted for by each model year. We use counts of how many vehicles from each model year were driving in Los Angeles in 2010 as the predicted travel fraction for 2035. The on-road vehicle fleet was relatively old in 2010—nearly 2 years older, on average, than the fleet on the road in 2008—presumably due to substantial reductions in new-car purchases and delays in scrapping older cars during the recent recession.[12] Using this travel fraction to predict fleet-average fuel economy in 2035 therefore results in a relatively conservative prediction, since it includes fewer new, higher-mpg cars and more older, lower-mpg than might actually be the case in the future. Combining the fuel economy and travel fraction values gives a fleet-average fuel economy of 38 mpg in 2035. Details of this calculation are provided in Appendix A.

[7] DEIR/DEIS, p. 3.3-6.
[8] Environmental Protection Agency and National Highway Traffic Safety Administration, "2017 and Later Model Year Light-Duty Vehicle Greenhouse Gas Emissions and Corporate Average Fuel Economy Standards," Notice of Proposed Rulemaking, *Federal Register*, December 1, 2011.
[9] National Highway Traffic Safety Administration, "Obama Administration Finalizes Historic 54.5 mpg Fuel Efficiency Standards," August 28, 2012.
[10] U.S. Energy Information Administration, *Annual Energy Outlook 2012*.
[11] An estimate of in-use fuel economy of future automobiles is provided in J. Miller, "Can the New CAFE Standards Deliver (Promised Benefits)?" The Energy Collective, August 20, 2012, http://theenergycollective.com/node/104841, accessed on September 25, 2012.
[12] Gary A. Bishop, Brent Schuchmann, and Don Stedman, *Multi-species On-Road Remote Sensing of Vehicle Emissions in Van Nuys, California–August 2010*, prepared for the National Renewable Energy Laboratory, University of Denver, August 2010.

(2) The fleet-average fuel economy values represent a weighted average that assumes 55% of total VMT is urban driving and 45% is highway driving.[13] However, the VMT that HSR displaces will be nearly all highway driving, which is more fuel-efficient than urban driving. Thus, the VMT displaced by HSR will have a fuel economy greater than the38 mpg estimated above.

(3) In 2035, 11 model years (2025 through 2035) will have been built to the most stringent CAFE standard. Based on the travel fraction observed in Los Angeles in 2010, 69% of VMT is driven by the newest 11 model years. The next nine model years(model years 2016-2024 in 2035) account for another 27% of total VMT. These model years represent the ramp-up from the 34 mpg CAFE average of 2016 to the 50 mpg average of 2025. This means that in 2035 relatively high-mpg automobiles will account for the vast majority of total VMT.

But this VMT distribution by vehicle age describes the *overall* on-road vehicle fleet. The VMT displaced by HSR is more likely to be driven in newer-than-average automobiles—that is, automobiles built from 2025 onward and meeting the most stringent CAFE requirements. This is because people who can afford to take business or pleasure trips tend to have higher incomes and wealth than the average person and to own and drive newer automobiles.

Long-distance travel increases with income. For example, households with incomes between $50,000 and $100,000 take about twice as many long-distance trips as households with incomes below $25,000, while households with incomes above $100,000 per year take 2.2 times as many long-distance trips.[14]

In addition, business travelers have higher average incomes than the general population. Households with incomes under $25,000 per year account for 21% of households, but only 6% of business trips. In contrast, households with incomes above $100,000 per year account for only 12% of households, but for 27% of all business trips.[15]

Likewise, wealthier households own newer automobiles. In 2001, households with incomes greater than $100,000 owned cars with an average age of about 5 years, while households with incomes below $25,000 owned cars with an average age of about 10 years. The average automobile age for all households was 7.6 years.[16]

Even for the automobile fleet as a whole, we have seen that most VMT is driven by newer vehicles. However, the VMT displaced by HSR will be even more heavily skewed toward the newest, most fuel-efficient automobiles.

Using realistic automobile fuel economy in 2035 dramatically reduces HSR's projected CO_2 reduction benefits. We showed above that using a relatively conservative prediction of future fuel economy and a relatively conservative travel fraction weighted toward older cars, the average fuel economy of the on-road vehicle fleet in 2035 is likely to be at least 38 mpg. However, the fuel economy of the VMT displaced by HSR will be even higher than this, because HSR will displace (1) mainly highway driving, which is more fuel efficient than urban driving, and (2) mainly driving of newer cars meeting the most stringent CAFE standards.

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[13] U.S. Environmental Protection Agency, Gasoline Vehicles, Learn More About the New Label, http://www.fueleconomy.gov/feg/label/learn-more-gasoline-label.shtml#fuel-economy, accessed September 22, 2012.
[14] U.S. Bureau of Transportation Statistics, *Long-Distance Travel by Income, Gender, and Age*, Transportation Statistics Annual Report, 2004.
[15] U.S. Bureau of Transportation Statistics, *U.S. Business Travel*, October 2003.
[16] U.S. Bureau of Transportation Statistics, *Highlights of the 2001 National Household Travel Survey*, 2003.

Nevertheless, to be conservative, we assume 38 mpg for the fuel economy of the VMT displaced by HSR in 2035.

Now that we have a more realistic value for the fuel economy of the vehicle fleet in 2035, we can re-estimate CO_2 reductions due to HSR in 2035 by taking the DEIR/DEIS's VMT reduction in 2035 as given and applying it to the more realistic 2035 fuel economy we calculated above. Rather than 5.3 million to 6.3 million metric tons, a more realistic range for the reduction in CO_2 in 2035 due to drivers switching to HSR is 1.8 million to 2.7 million metric tons, or 57% to 66% less than the DEIR/DEIS claims.[17] In other words, CAHSRA's CO_2 benefit estimate is too high by a factor of somewhere between 2.3 and 2.9.

We note also that using the 2035 fleet fuel economy projection presented in CAHSRA's own 2012 Business Plan would also diminish the CO_2 reduction benefits claimed in the DEIR/DEIS. Using the Business Plan's "Medium" assumption of 32.3 mpg fleet-average fuel economy in 2035, the CO_2 benefit from HSR displacing automobile travel declines to 2.1 million to 3.2 million metric tons per year, or 50% to 60% less than the DEIR/DEIS claims. We showed above that fleet-average fuel economy in 2035 will likely be at least 38 mpg. Furthermore, the 2012 Business Plan's fuel economy assumption fails to take into account the fact that most VMT displaced by HSR will be highway VMT driven in relatively new cars. Still, it shows that even with CAHSRA's own projection of future fuel economy, the CO_2 reduction benefits of HSR are no more than half the amount claimed in the DEIR/DEIS.

For completeness, we should also point out that CAHSRA's HSR benefit-cost analysis assumes little change in fleet-average fuel economy between now and 2035. The benefit-cost analysis assumes fleet-average CO_2 emissions of 379.1 grams/mile in 2035 (this is an average of values given for 2030 and 2040).[18] Using conversion factors of 448 grams/lb. and 19.7 lbs. CO_2/gallon, this can be converted to a fuel economy of 23.2 mpg for the vehicle fleet in 2035—or not much higher than the current fleet. This means that in the benefit-cost analysis, even if the ridership assumptions are correct (that is, even if HSR displaces as much automobile VMT as CAHSRA projects), the CO_2 reductions from HSR displacing automobile travel are too high by a factor of 1.6.[19]

In summary, using a realistic fleet average fuel economy for the VMT displaced by HSR in 2035, the CO_2 reduction due to HSR displacing automobile travel is somewhere between 1.8 million to 2.7 million metric tons per year, rather than the 5.3 million to 6.3 million claimed in the DEIR/DEIS. Note that this analysis is based only on using a more realistic value for the fuel economy of the VMT displaced by HSR in 2035. In addition, this analysis is conservative, because we used a travel fraction that is relatively skewed toward older

[17] This was calculated by multiplying the DEIR/DEIS's projected CO_2 reduction by the ratio of its fuel economy assumption to our more realistic fuel economy assumption. For example, 5.3*(12.8/38)=1.8.

[18] Parsons Brinckerhoff, *California High-Speed Rail Benefit-Cost Analysis (BCA)*, prepared for the California High Speed Rail Authority, April 2012, Table 13, p. 19. We used the CO_2 emission values in this table, because that is what CAHSRA used to estimate the CO_2 emission reductions due to HSR. However, we note that the CO_2 emission values in Table 13 are inconsistent with the fuel economy values in Table 9, p. 13 of the same report (the fuel economy values were used to estimate expenditures for gasoline with and without HSR). The CO_2 emission rates in Table 13 translate into fleet-average fuel economies of 23.1 mpg and 23.3 mpg in 2030 and 2040, respectively. However, Table 9 assumes fleet-average fuel economies of 26.8 mpg and 29.5 mpg in 2030 and 2040, respectively. This means that the report's CO_2 reductions and gasoline costs are not self-consistent. Furthermore, because the fuel economy in Table 9 is unrealistically low, it means that the report overstates savings on gasoline costs due to HSR. Thus, even if the HSR ridership estimates are correct, the benefit-cost analysis dramatically overstates the benefits of HSR (both in terms of CO_2 reductions and savings on gasoline costs) by using an unrealistically low fleet-average fuel economy for future years.

[19] 38 mpg/23.2 mpg = 1.6. In other words, using a more realistic fleet-average fuel economy for 2035 would eliminate about 38% of the CO_2 reduction benefits claimed due to HSR displacing automobile travel.

automobiles and we have not even accounted for the fact that the VMT displaced by HSR would be mainly freeway driving in newer-than-average automobiles, both of which would increase fuel economy above the 38 mpg fleet average that we used for our calculations. Furthermore, we have taken CAHSRA's projections of HSR ridership as given. Below we will present data and analysis that suggest the ridership projections are also inflated, which will diminish the projected CO_2 reduction benefits of HSR even further.

The greenhouse gas reduction benefits in the DEIR/DEIS, 2012 Business Plan, the *California High-Speed Rail Benefit-Cost Analysis*, and other CAHSRA documents should be revised using a more realistic projection of future fleet fuel economy.

THE DEIR/DEIS AND 2012 BUSINESS PLAN LIKELY OVERSTATES HSR RIDERSHIP

CAHSRA assumes too high a marginal cost of driving an automobile, which gives HSR an unwarranted cost advantage relative to driving

Achieving the ridership levels assumed in the DEIR/DEIS and 2012 Business Plan depends on attracting large numbers of automobile travelers to HSR. According to CAHSRA's ridership modeling, 74% of HSR riders will be former automobile travelers and 26% will be former airplane travelers: "For the 2012 Business Plan, the 2030 TDM [Transportation Demand Model] output shows that 7 million riders will be diverted from air to HSR and 20 million from highways to HSR. That is equivalent to 26% and 74% for air and highways, respectively…Although rail, inter-city bus, and other modes also contribute passengers to the HSR system, they are not included in this analysis because their relative share is very small."[20] In other words, almost three-fourths of HSR ridership depends on attracting riders who would have traveled by car in the absence of HSR, while about one-fourth depends on attracting riders who would have traveled by airplane.

The likelihood of switching from automobile to HSR depends in part on the relative costs of automobile and HSR travel. Here we present evidence that CAHSRA and its consultants overstate the likely cost of driving in 2035. As a result, driving appears less attractive, relative to HSR, than it actually will be, resulting in an overestimate of the number of drivers switching to HSR.

The marginal cost of driving is lower than CAHSRA assumes. The 2012 Business Plan assumes that the marginal cost of driving in 2030 will range from 20¢/mile to 28¢/mile (in 2011 dollars) in the "low range" and "high range" scenarios, respectively.[21] This includes 10.3¢/mile for maintenance and tire wear and the remainder for gasoline. The per-mile cost of gasoline results from a combination of assumptions regarding the cost of gasoline and the average fuel economy of the vehicle fleet in 2030. CAHSRA assumed fleet-average fuel economy in 2030 would be 27 mpg and 33.6 mpg in the "low range" and "high range" scenarios, respectively, while the cost of gasoline was assumed to be $2.60 and $6.11, respectively.[22] The 2012

[20] CAHSRA, Comparison of Providing the Equivalent Capacity to High-Speed Rail through Other Modes, prepared by Parsons-Brinkerhoff, April 2012, p. 7. We note that the benefit-cost analysis appears to assume an even greater automobile share of HSR riders, relative to air (see tables 4 and 5 in Parsons Brinkerhoff, *California High-Speed Rail Benefit-Cost Analysis (BCA)*, April 2012).

[21] Cambridge Systematics, California High-Speed Rail 2012 Business Plan *Ridership and Revenue Forecasting*, prepared for Parsons Brinkerhoff for the California High-Speed Rail Authority, April 12, 2012, p. 2-9.

[22] Ibid., p. 2-8 and 2-6. The 2012 Business Plan cost-of-driving forecast is for 2030, while the DEIR/DEIS forecasts are for 2035. However, the 2012 Business Plan includes a forecast of fleet-average fuel economy for 2035 in addition to 2030. Using this fuel economy forecast, the cost of driving in 2035 would be 19.6¢/mile and 26.7¢/mile in the "low" and "high"

Business Plan includes a "medium" forecast of 24¢/mile, using mid-range assumptions for the cost of gasoline ($4.23/gallon) and fleet-average fuel economy (30.3 mpg), and the same constant value of 10.3¢/mile for non-gasoline operating costs.

The DEIR/DEIS appears to assume that the marginal cost of driving is 22¢/mile, based on the Ridership and Revenue Modeling technical support document.[23] However, this value is in 2005 dollars, and would be roughly 24¢/mile when inflated to 2011 dollars.

A marginal cost of 24¢/mile is substantially more than the actual perceived marginal cost of driving is likely to be in 2035. We detail each of the reasons for this in turn:

First, 10.3¢/mile for maintenance and tire wear costs appears to be too high. In discussing vehicle maintenance and tire wear costs, CAHSRA's own consultant cites a study by researchers at the University of Minnesota that found these costs to be about 5¢/mile in 2011 dollars, or about half CAHSRA's assumption.[24]

Second, regardless of the actual per-mile marginal cost of wear and tear, Cambridge Systematics, the consulting firm that performed the California HSR ridership and revenue modeling as a contractor to Parsons Brinkerhoff and CAHSRA, has concluded that motorists tend not to account for maintenance and tire wear costs when deciding whether to drive or travel by another mode:

> "Usually, auto travelers will consider their cost of travel to be only their out-of-pocket gas costs. Thus, in most intercity travel models, auto costs are generally in the range of $0.10 to $0.15 per mile. While higher per mile costs are more consistent with the true costs of driving (including operating, maintenance, and ownership costs), they are generally not considered by travelers for specific travel decisions."[25]

Thus, CAHSRA's own ridership modeling contractor has concluded that motorists generally only consider the cost of gasoline when deciding whether to drive or to use another mode of travel. If so, then for the purposes of ridership modeling, the marginal cost of maintenance and tire wear would be zero, rather than the 10.3¢/mile that Cambridge Systematics used in its California HSR ridership and revenue modeling.

Third, for the purposes of ridership modeling, what matters is the fuel economy of the future automobile fleet. As demonstrated in detail in the previous section, the VMT displaced by HSR will have a fuel economy on the order of at least 38 mpg and probably higher in 2035. Assuming $4.23/gallon of gasoline (the "Medium" forecast in the 2012 Business Plan) and 38 mpg for the average fuel economy of the VMT replaced by HSR, the marginal cost of gasoline in 2035 will be on the order of 11.1¢/mile. This is the total perceived marginal cost of driving if Cambridge Systematics is correct. This figure is 21% less than the 14¢/mile mid-range cost of gasoline and 54% less than 24¢/mile mid-range total cost of driving used in CAHSRA's ridership and revenue modeling.

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scenarios, respectively. The costs are slightly lower because fleet-average fuel-economy is predicted to continue to improve between 2030 and 2035.

[23] Parsons Brinckerhoff, Ridership and Revenue Model: Development, Application, and Project-level EIR/EIS Forecasts, prepared for CAHSRA, June 2011, p. 90.

[24] Gary Barnes and Peter Langworthy, *The Per-mile Costs of Operating Automobiles and Trucks*, prepared for the Minnesota Department of Transportation (University of Minnesota, Humphrey Institute for Public Affairs, 2003), cited by Parsons Brinkerhoff, *California High-Speed Rail Benefit-Cost Analysis (BCA)*, prepared for the California High Speed Rail Authority, April 2012.

[25] Cambridge Systematics, *Desert Xpress Ridership Forecast Review*, prepared for Circle Point, February 29, 2008, p. 17.

In summary, CAHSRA's own consultant cites a marginal cost for automobile maintenance and tire wear that is half the value CAHSRA actually uses for its ridership modeling. In addition, CAHSRA's own consultant further notes that motorists generally consider only gasoline costs and not maintenance or tire wear costs when deciding whether to travel by car. Finally, CASHRA bases the marginal cost of gasoline on current fleet fuel economy and not on fleet fuel economy in 2035. The latter is the relevant value for estimating the cost of driving and HSR ridership in 2035.

Taking account of these facts, the perceived marginal cost of driving in 2035 will be about 11¢/mile or 16¢/mile if motorists take account of maintenance and tire wear costs. Both of these values are much lower than the 24¢/mile mid-range value CAHSRA uses for its ridership and revenue modeling. Using this lower, but more realistic projection for the perceived marginal cost of driving would reduce the attractiveness of HSR to motorists, thereby reducing predicted HSR ridership and attendant CO_2 and air pollutant emission reduction benefits.

The projected greenhouse gas and air pollutant benefits and HSR revenue estimates in the DEIR/DEIS, 2012 Business Plan, the *California High-Speed Rail Benefit-Cost Analysis* and, other CAHSRA documents should be revised to take account of the effect of using a more realistic, lower marginal cost of driving on projected HSR ridership.

French Data Suggest CAHSRA May Have Difficulty Attracting Large Numbers of Drivers to HSR

CAHSRA assumes that most HSR riders will be attracted away from automobile travel. As noted above, according to CAHSRA's ridership modeling, 74% of HSR riders will be former automobile travelers and 26% will be former airplane travelers. HSR thus depends for its success mainly on attracting drivers to HSR. As we show below, experience suggests that HSR mainly substitutes for air travel rather than automobile travel. The DEIR/DEIS and 2012 Business Plan therefore may be overstating likely HSR ridership and revenue and attendant CO_2 and air pollution reduction benefits due to displacement of automobile travel.

Few French HSR riders are former drivers. Data from the French TGV HSR system suggests that it competes mainly with air travel, rather than with car travel. Chapulut and Taroux (2010) studied the experience when new lines were opened on the French TGV high-speed rail system.[26] For these lines, 78% of TGV riders came from the existing conventional rail system. The remaining 22% of TGV riders came from cars, air, or were totally new "induced" trips that weren't taken at all before the new TGV lines opened. This means first of all that more than three-fourths of TGV riders switched from conventional rail to TGV. California HSR will not have this source of existing rail ridership and will have to rely on attracting drivers and flyers for nearly all of its riders.

For the 22% of TGV riders who were not already traveling by rail, Table 3 summarizes the percentage of travelers switching from air or automobile plus new trips induced by the new TGV lines. Note that only about one-fourth of new rail riders came from automobiles. Even if we focus only on the automobile and air portion of TGV ridership, only 40% to 45% were attracted to HSR from automobiles, while the remaining 55% to 60% were attracted from airplanes.

[26] Jean-Noel Chapulut and Jean-Pierre Taroux, "Trent Ans de LGV, Comparaison des Prevision et des Realisations," ("Twenty Years of High-Speed Rail Lines, Comparison of Predictions and Achievements"), *Transports*, no. 462 (Juillet-Aout (July-August) 2010): 229-239.

Thus, for the French TGV, when a new TGV line became available, only 6% of total TGV riders came from automobiles.[27] Of new rail riders, only 26% came from automobiles. And of the portion of TGV riders who came from just automobiles and airplanes, only 40% to 45% came from automobiles and 55% to 60% came from airplanes. Each of these represents a much smaller automobile share than the 75% share that CAHSRA predicts for HSR ridership in California.

Table 3. Share of New Rail Riders Attracted to TGV from Other Modes

Route	Previous Mode of Travel	Share
Atlantique (Paris-Le Mans and Paris-Tours/Bordeaux)	Air	30%
	Automobile	25%
	New "induced" travel	45%
Mediteranee (Paris-Marseille)	Air	40%
	Automobile	27%
	New "induced" travel	35%

Note: 78% of TGV riders on these lines were attracted from conventional rail systems. This table focuses on the previous mode of travel only for the remaining 22% of riders who were traveling these routes by other modes (air or auto) or not traveling these routes at all before the TGV line became available.

French TGV data suggest HSR competes poorly with driving on cost. Air and HSR can provide similar door-to-door travel times and travel costs over distances of about 500 miles or less. In addition, after arriving at one's destination, the decision over whether to rent a car imposes the same additional cost whether you arrived by rail or by air.

In contrast, people who currently travel by car already have air travel as a faster option, yet choose not to take advantage of it. California HSR would face the same hurdles as air travel when trying to attract people out of their cars. A likely reason for this is cost. The perceived cost of driving—mainly the cost of gasoline—is much lower than the cost of air travel. Even at $4/gallon and a car that averages 25 mpg highway, driving costs about 16¢/mile, or $61 for a 380-mile trip. This is lower than CAHSRA's projected average cost of $81 for a single San Francisco-to-Los Angeles HSR fare and only a fraction of the cost of two, three, or four HSR fares that would have to be paid in cases where two or more people would have traveled in a single car had they not traveled by HSR.[28]

Adding to the relative cost of HSR is the need to rent a car upon arrival at one's destination, since auto-to-HSR switchers would otherwise have to give up the convenience of the car they would have had upon arriving at their destination, had they not switched to HSR.[29]

[27] Recall that former drivers represent about 26% of the 22% TGV riders who were not already riding conventional rail before the new TGV lines opened. 0.26 * 0.22 = 0.057, or about 6%.
[28] Projected HSR fares are listed in Table 5-7, p. 5-12 of CAHSRA's 2012 Business Plan.
[29] We were not able to determine what CAHSRA assumed regarding car rental for HSR riders attracted away from automobiles. It would be helpful if CAHSRA clarified various assumptions about former drivers attracted to HSR, including: what fraction of former drivers are business vs. pleasure travelers, average vehicle occupancy for former business and pleasure travelers, fraction of former business and pleasure travelers assumed to arrive at their departure station by taxi (and the cost of the taxi) or by personal vehicle vs. by public transportation, and the fraction of former business and pleasure travelers assumed to rent a car upon arriving at their destination and the cost of these car rentals.

In addition, many auto-to-HSR switchers will travel to their local HSR station by car and have to pay the additional cost of station parking for the duration of their trip, or will incur the additional cost of traveling to and from their departure station by taxi.

Taken together, these substantial additional costs of HSR, relative to personal automobile travel, suggest a key reason for the observation that more HSR riders are likely to be former air travelers than former auto travelers.

The lower cost of driving in the U.S. suggests HSR will be less cost competitive with the automobile in the U.S., when compared with France. California HSR travel will likely be less cost competitive with car travel when compared with France, because the marginal cost of automobile travel in France is much higher than in the U.S. There are at least two reasons for this: French drivers pay substantial road tolls, while California drivers do not, and gasoline costs much more in France than in the U.S.

For example, according to Michelin, the cost of automobile travel from Paris to Marseilles (482 miles) is €141 ($182), of which $72 is tolls and $110 is gasoline.[30] (For reference, a trip of the same distance in the U.S. in an average U.S. automobile (assuming 25 mpg highway and $4/gallon gasoline) would cost about $77, or 58% less than the cost in France.)

Comparing this to the cost of the TGV, the least expensive Paris-Marseille TGV ticket (buy-ahead, 2nd class, restricted) costs €25 ($32) for an adult and half-price for children up to age 11.[31] Tickets purchased near to or on the day of travel are more expensive, ranging from about €70 to €108 ($90-$139) for adult weekday travel.

Thus, in France, the least-cost HSR trip costs 82% less than the cost of driving for a single driver, and 47% less than the cost of driving for a family of four. Tickets bought near the day of travel cost 24% to 51% less than the cost of driving for a single driver, and 48% to 128% more than the cost of driving for a family of four.

For comparison with the U.S. we use the 380-mile trip from San Francisco to Los Angeles. The cost to travel this route in an average U.S. automobile would be $61 for gasoline (assuming 25 mpg highway and $4/gallon gasoline), compared with a planned HSR fare of $52 to $123 (depending on factors such as peak/off-peak, express or multi-stop train, and advance or last-minute purchase), with an average fare of $81.[32] Assuming the lowest fare of $52, the cost of HSR would be 15% less than the cost of driving for a single driver and 155% more than the cost of driving for a family of four.[33] Using the average fare of $81, HSR would cost 30% more than driving for a single driver and 298% more than driving for a family of four.

These results indicate that relative to driving, California's HSR system will cost far more than the French TGV system. Table 4 summarizes the comparison. The right-most column shows the ratio of HSR cost to driving cost. Lower values are more favorable to HSR. Note how much lower this ratio is for the French TGV when compared with projections for California HSR.

[30] Automobile cost is from Michelin, "Getting from Paris to Marseille," http://www.viamichelin.com/web/Itineraires?, accessed on September 18, 2012. The fuel cost is assumed to be €1.60/liter ($7.84/gallon). Given a travel distance of 482 miles, this fuel cost works out to an assumed vehicle fuel economy of 35 mpg. This is higher than the current average U.S. automobile, but typical for Europe, where the cars are smaller and more likely to be diesel-fueled.
[31] TGV train ticket cost is from SNCF, http://www.sncf.com/en/passengers, accessed on September 24, 2012.
[32] Automobile costs assume $4/gallon gasoline and an average highway fuel economy of 25 mpg for the current California fleet. CA-HSR ticket cost is from Table 5-7, p. 5-12 of the CAHSRA 2012 Business Plan.
[33] We have assumed here that a child's ticket would cost half that of an adult's ticket.

These results are based on *current* automobiles. However, as shown above, driving in the U.S. will be even less expensive in the future, due to more stringent CAFE standards. As a result, California HSR is likely to be even less cost competitive with the automobile than the analysis in this section suggests.

To summarize, CAHSRA predicts that 74% of California HSR riders will come from automobiles and 26% from airplanes. In contrast, real-world data from France indicate that only about 6% of TGV riders were former drivers, while the vast majority of TGV riders were former conventional rail riders, a source of riders that does not exist in California. Even when comparing only automobiles and airplanes, only 40% to 45% of TGV riders were former drivers and the rest were former air travelers. This suggests that CAHSRA may be overstating the number of drivers who will switch to HSR. When considering the fact that California HSR will be more expensive relative to auto travel than is the case in France, CAHSRA's assumption of 74% of HSR ridership coming from former drivers seems even less plausible.

CAHSRA should re-evaluate HSR's ability to attract drivers to HSR in California in light of the French TGV data, along with the fact that HSR in California will be more expensive relative to driving when compared with the TGV in France. In performing this re-evaluation, CAHSRA should use a realistic value for likely fleet-average fuel economy in the 2030s, rather than the current fleet-average fuel economy. The projected greenhouse gas and air pollutant reduction benefits and HSR revenue estimates in the DEIR/DEIS, 2012 Business Plan, the *California High-Speed Rail Benefit-Cost Analysis*, and other CAHSRA documents should be revised to take account of the results of this re-evaluation.

Table 4. Cost of HSR Relative to Cost of Driving: French TGV vs. California HSR

Type of Fare	Trip	Fare	Cost of Driving	Cost of HSR/ Cost of Driving
Lowest	TGV Paris-Marseille Lowest advance purchase 2nd class fare	$32 adult $16 child	$182	0.2 (1 adult) 0.5 (Family of 4)
	California HSR San Francisco-Los Angeles Lowest projected fare	$52 adult $26 child	$61	0.8 (1 adult) 2.6 (Family of 4)
Mid-Range	TGV Paris-Marseille Purchase within a few days of travel 2nd class fare	$90-$139 adult $45-$69 child	$182	0.5-0.8 (1 adult) 1.5-2.3 (Family of 4)
	California HSR San Francisco-Los Angeles Average projected fare	$81 adult $40 child	$61	1.3 (1 adult) 4.0 (Family of 4)

Note: In the right-most column, lower values are more favorable to HSR.

THE DEIR/DEIS AND 2012 BUSINESS PLAN OVERSTATE CO_2 REDUCTION BENEFITS FROM AIR TRAVELERS SWITCHING TO HSR

The DEIR/DEIS and 2012 Business Plan overstate HSR CO_2 reduction benefits from air travelers switching to HSR in two ways. First, they overstate the CO_2 benefit per passenger-mile of air travel displaced by HSR. Second, they likely overstate the number of air travelers who will switch to HSR. We discuss each issue in turn below.

The DEIR/DEIS and 2012 Business Plan Overstate the CO_2 Benefit per Passenger-Mile of Air Travel Displaced by HSR

CAHSRA assumes that aircraft fuel economy will improve from 62.3 seat-miles per gallon in 2011 to 68.9 seat-miles/gallon in 2035, which translates to a 9.5% reduction in fuel burned, and concomitant CO_2 emissions, per seat-mile.[34] However, Southwest, one of the major airlines providing flights within California, had already achieved 68.6 seat-miles per gallon by 2010.[35] United was only at 62.8 seat-miles/gallon in 2010, but improved to about 66 seat-miles/gallon in 2011.[36] In other words, some of the major airlines that fly in California are already approaching the fuel efficiency CAHSRA assumed for 2035, even though they are flying a mixture of recent and older technology planes.

New jet models available now or soon to come on line will be even more fuel-efficient. According to Airbus, its A320neo (for "new engine option"), launched in 2010, is 15% more fuel-efficient than its predecessors.[37] According to Boeing, its 737MAX, expected to be available in 2017, will be 4% more fuel efficient than the A320neo.[38] Southwest has already ordered 150 737MAX aircraft. At least one more generation of new jet engines will likely come on line well before the HSR system is completed. Thus, we can expect continued incremental improvements in airplanes' fuel economy.

Another way to improve airplanes' fuel economy is to reduce the amount of time jet engines are running while on the ground. Especially for short-haul trips, such as San Francisco-Los Angeles, taxiing on the ground accounts for a significant portion—as much as 20%—of total fuel usage.[39] Some airlines are currently testing electric power systems that would allow aircraft engines to be shut down while taxiing, saving fuel and reducing costs and greenhouse gas emissions. EasyJet is about to begin testing one such system that is expected to reduce total fuel consumption per aircraft by 4%.[40]

In summary, current airline fuel-economy already appears to be near the level CASHRA assumed for 2035. The current generation of new jets is at least 15% more fuel-efficient than its immediate predecessors and

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[34] Parson Brinckerhoff, *California High-Speed Rail Benefit-Cost Analysis (BCA)*, prepared for the California High Speed Rail Authority, April 2012, p. 13.
[35] Bureau of Transportation Statistics, *A Decade of Change in Fuel Prices and U.S. Domestic Passenger Aviation Operations*, March 2012
[36] Ibid. and Loiseau, "Why Gas-Guzzling Airlines will Crash and Burn, *The Motley Fool*," July 12, 2012.
[37] Airbus, A320neo, http://www.airbus.com/presscentre/hot-topics/a320neo/, accessed on September 26, 2012.
[38] Boeing, "Boeing Launches 737 New Engine Family with Commitments for 496 Airplanes from Five Airlines," August 30, 2011, http://boeing.mediaroom.com/index.php?item=1907, accessed on September 26, 2012.
[39] Jimmy Yeh, "Electric aircraft taxiing: great fuel savings opportunity or unnecessary complexity?" GE Aviation Blog, February 8, 2012, http://www.theskywardblog.com/2012/02/electric-aircraft-taxiing-great-fuel-savings-opportunity-unnecessary-complexity/, accessed on September 23, 2012.
[40] AERO-Network, "Electric Green Taxiing System Set For Trials," February 10, 2012, http://www.aero-news.net/subscribe.cfm?do=main.textpost&id=d13f5465-4b46-4d1a-9cc0-bf3248a87a0b, accessed on September 23, 2012.

even more efficient relative to airlines' average fleets. A least one more generation of jet engines will come online well before 2035, improving fuel efficiency still further. Some airlines are now experimenting with electric power systems that reduce fuel usage during taxiing. Taken together, these observations suggest that airline fuel efficiency, and hence CO_2 emissions per seat-mile, in 2035 could easily be 20% or more below CAHSRA's assumption.

The projected greenhouse gas reduction benefits in the DEIR/DEIS, 2012 Business Plan, the *California High-Speed Rail Benefit-Cost Analysis*, and other CAHSRA documents should be revised to take account of the fact that the California jet fleet in 2035 will be more fuel efficient than CAHSRA assumed.

The DEIR/DEIS and 2012 Business Plan Assume Airlines Will Not Respond Competitively to HSR

The DEIR/DEIS and 2012 Business Plan assume future airfares will be the same as current airfares.[41] However, it seems unlikely that airlines will stop seeking ways to cut costs and improve service, especially if HSR becomes a genuine threat to their market share.

We showed in the previous section that airlines have been reducing and will continue to reduce fuel usage per passenger-mile in an effort to reduce fuel costs. Airlines competing against each other for market share have an incentive to pass these savings on to customers in the form of lower fares in order to attract business.

Comparing European and U.S. airlines, Milke (2010) showed that per-mile European airfares in mid-2010 were less than one-half of U.S. per-mile fares. Comparing the Los Angeles-to-San Francisco market in particular, per-mile fares between European cities were, on average, 35% lower, even though the trip distances were similar.[42] A key difference is that the U.S. generally does not allow foreign airlines to compete for business in domestic air travel markets, while Europe has an "open skies" policy, which fosters more vigorous competition. This suggests there might be significant room for airlines to reduce fares if they have an incentive—such as competition from HSR—to do so.

Overall, it seems reasonable to conclude that CAHSRA overstates HSR ridership, and therefore CO_2 and air pollutant reductions, by assuming that airlines will not respond to competition from HSR by cutting fares and taking other steps to protect their market share against competition from HSR.

The projected greenhouse gas and air pollutant reduction benefits and HSR revenue estimates in the DEIR/DEIS, 2012 Business Plan, the *California High-Speed Rail Benefit-Cost Analysis*, and other CAHSRA documents should be revised to take account of the fact that airlines will take steps to protect their market share when faced with competition from HSR.

[41] "…all the Business Plan scenarios assume that airfares stay constant at 2009 levels (but are adjusted for inflation.)," Cambridge Systematics, *California High-Speed Rail 2012 Business Plan, Ridership and Revenue Forecasting,* Final Technical Memorandum, prepared for Parsons Brinkerhoff, April 12, 2012, p. 2-3.

[42] Mark Milke, "Open Skies: What North America Can Learn from Europe," *Regulation Outlook*, No. 3, May 2010. Also see Mark Milke, "Why Europe Has Cheap Airfares," Canada.com, July 11, 2012, http://www.canada.com/life/chat-central/Europe+cheap+airfares/6915629/story.html.

ASSUMPTIONS REGARDING AIR POLLUTANT EMISSIONS DURING HSR CONSTRUCTION

The DEIR/DEIS notes that CARB's OFFROAD model was used to estimate air pollutant emissions during construction of the Fresno-Bakersfield segment. However, the DEIR/DEIS does not explicitly state what CAHSRA assumed regarding the age and emission-control technology classes of the construction vehicles. It would be helpful if CAHSRA provided more detailed information on what inputs were used for the OFFROAD model when estimating construction emissions for all HSR-related construction activities. For example, did CASHRA use the model default assumptions for the age and technology classes (e.g., Tier 4, Tier 3, etc.) of the construction equipment, or did CAHSRA use different assumptions? If the latter, what assumptions were used?

GREENHOUSE GAS AND AIR POLLUTANT REDUCTION BENEFITS DEPEND ON COMPLETION OF THE FULL HSR SYSTEM BEFORE THE 2030s

Our analysis suggests that the greenhouse gas and air pollutant reduction benefits of HSR are likely to be lower than the DEIR/DEIS predicts. However, both our analysis and the DEIR/DEIS implicitly assume the existence of a statewide HSR system that connects the San Francisco Bay Area, Sacramento, Los Angeles, and San Diego. To the extent the actual HSR system is less extensive or is not completed on schedule, the greenhouse gas and air pollutant reduction benefits discussed above will not be achieved in the timeframe assumed in the DEIR/DEIS. Thus, it makes sense for CAHSRA to include in the DEIR/DEIS a discussion of the extent to which the assumptions used to generate the numbers in the DEIR/DEIS are consistent with the construction schedule and financing plan in the 2012 Business Plan. To the extent necessary, the DEIR/DEIS should be revised to reflect the most up-to-date Business Plan construction schedule and financing parameters.

APPENDIX A

ESTIMATION METHOD FOR FLEET-AVERAGE FUEL ECONOMY IN 2035

Fleet-average fuel economy is an average of the fuel economy of each model year, weighted by the percentage of total vehicle miles traveled (VMT) accounted for by each model year, also known as the travel fraction. To predict fleet-average fuel economy for 2035, we used the federal CAFE standards as the basis for predicting the fuel economy of past and future model years. However, because on-road fuel economy in practice tends to be lower than the nominal CAFE standard, we adjusted the CAFE values downward to reflect this.[43]

A realistic travel fraction can be derived from counts of actual vehicles from each model year seen driving in a given area, because vehicles of a given model year are more likely to drive by a given location if there are more vehicles from that model year on the road and if they are driven more than vehicles from other model years. For counts of on-road vehicles, we downloaded remote sensing data collected in Los Angeles in 2010 (the most recent year of data available).[44] The remote sensor measures tailpipe emissions of passing cars and also photographs the license plate number for each car. This information is matched with registration data for each vehicle in order to gather make and model year information.

Remote sensing data inherently measure the travel fraction for each model year, because cars from a given model year are more likely to drive by the sensor to the extent that there are more cars from that model year and they are driven more frequently. Because these data were collected in 2010, they represent a fleet with a relatively low fraction of one- to three-year-old automobiles, due to reduced new-car purchases during the recession. In other words, these data represent a relatively old fleet. Using this travel fraction is therefore relatively conservative, in the sense that it is unlikely to overestimate the fraction of newer, high-mpg automobiles that will be on the road in 2035.

Table A-1 displays the travel fraction and fuel economy data. The left-most column is the actual model year. The next column is the number of vehicles in each model year that drove by the remote sensor. The third column is the travel fraction. It is calculated by converting the model year counts in column 2 to percentages. The sum of all the values in the Travel Fraction column is 100%. The fourth column is the "Shifted Model Year." For the purposes of predicting fleet-average on-road fuel economy in 2035, we essentially assume the travel fraction in 2035 is the same the travel fraction measured in 2010. The second-to last column is the nominal CAFE standard for each Shifted Model Year. The values in this column are based on actual and predicted sales fractions of larger and smaller vehicles in each model year. Finally, the right-most column is the estimated average on-road fuel economy of each vehicle model year.

To calculate fleet-average fuel economy, multiply the values in the Travel Fraction column by the values in the Predicted On-Road Fuel Economy column and add up all of the resulting values. This gives 38 mpg as the predicted fleet-average fuel economy in 2035.

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[43] An estimate of in-use fuel economy of future automobiles is provided in J. Miller, "Can the New CAFE Standards Deliver (Promised Benefits)?" The Energy Collective, August 20, 2012, http://theenergycollective.com/node/104841, accessed on September 25, 2012.

[44] Gary Bishop and Don Stedman, "Fuel Efficiency Automobile Test," http://www.feat.biochem.du.edu/light_duty_vehicles.html. The data set is located at http://www.feat.biochem.du.edu/assets/databases/Cal/vnnuys10.zip. Accessed on September 20, 2012.

Table A-1. Data used to predict fleet-average fuel economy in 2035

Actual Model Year	Number of Vehicles	Travel Fraction	Shifted Model Year	CAFE Standard (mpg)	Predicted On-Road Fuel Economy (mpg)
1956	2	0.02%	1987	26.2	18.6
1963	2	0.02%	1988	26.0	19.5
1964	1	0.01%	1989	25.6	20.4
1965	3	0.02%	1990	25.4	21.3
1966	1	0.01%	1991	25.6	21.5
1967	1	0.01%	1992	25.1	21.7
1968	2	0.02%	1993	25.2	21.9
1969	1	0.01%	1994	24.7	22.1
1970	2	0.02%	1995	24.9	22.3
1971	2	0.02%	1996	24.9	22.2
1972	4	0.03%	1997	24.6	22.1
1973	6	0.05%	1998	24.7	22.0
1974	2	0.02%	1999	24.5	22.0
1975	5	0.04%	2000	24.8	21.9
1976	1	0.01%	2001	24.6	21.6
1977	4	0.03%	2002	24.6	21.3
1978	6	0.05%	2003	25.0	29.9
1979	6	0.05%	2004	25.0	20.5
1980	5	0.04%	2005	25.4	20.2
1981	10	0.08%	2006	25.4	20.4
1982	11	0.08%	2007	26.4	20.4
1983	14	0.11%	2008	26.7	20.8
1984	26	0.20%	2009	27.0	20.8
1985	34	0.26%	2010	27.2	21.0
1986	54	0.42%	2011	28.5	22.5
1987	51	0.39%	2012	29.8	24.0
1988	73	0.56%	2013	30.3	24.9
1989	120	0.93%	2014	31.3	26.5
1990	133	1.03%	2015	32.7	26.5
1991	207	1.60%	2016	34.1	27.7
1992	185	1.43%	2017	35.3	28.8
1993	228	1.76%	2018	36.4	29.5
1994	295	2.28%	2019	37.5	30.5
1995	413	3.19%	2020	38.8	31.5
1996	395	3.05%	2021	40.9	33.5
1997	498	3.85%	2022	42.9	35.0
1998	596	4.60%	2023	45.0	36.8
1999	622	4.80%	2024	47.3	38.5
2000	823	6.36%	2025	49.6	40.5
2001	877	6.77%	2026	49.6	40.5
2002	870	6.72%	2027	49.6	40.5
2003	896	6.92%	2028	49.6	40.5
2004	891	6.88%	2029	49.6	40.5
2005	930	7.18%	2030	49.6	40.5
2006	910	7.03%	2031	49.6	40.5
2007	914	7.06%	2032	49.6	40.5
2008	812	6.27%	2033	49.6	40.5
2009	560	4.32%	2034	49.6	40.5
2010	444	3.43%	2035	49.6	40.5

STATEMENT OF QUALIFICATIONS

Joel Schwartz is a Senior Consultant with Blue Sky Consulting Group and has more than 20 years of experience in public policy analysis and environmental science.

Prior to joining BSCG, Mr. Schwartz was a visiting scholar at the American Enterprise Institute, where he focused on air quality, transportation, risk assessment, and climate policy. He also previously served as the executive officer for the State of California's Inspection and Maintenance Review Committee, a government agency charged with evaluating California's vehicle emissions inspection program and making recommendations to the Legislature and Governor on program improvements. His other experience includes director of the Air Quality Project at the Reason Foundation, as a consultant for the RAND Corporation and the South Coast Air Quality Management District, and as staff scientist for the Coalition for Clean Air. Mr. Schwartz also served as a Senior Policy Analyst at the Legislative Analyst's Office.

Mr. Schwartz has authored dozens of studies on a wide range of environmental policy issues and has coauthored articles published in a number of prestigious peer-reviewed journals, including *Science*, *Journal of Geophysical Research*, *Journal of Urban Economics*, *NYU Environmental Law Journal*, *Regulation*, *Icarus*, and *Environmental Progress*. He has also taught environmental science as an adjunct professor at California State University Sacramento.

Mr. Schwartz holds a bachelor's degree in chemistry from Cornell University and a master's degree in planetary science from the California Institute of Technology.

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COUNTY IS EXEMPT FROM FILING FEES PER GOV. CODE SECTION 6103

SUPERIOR COURT OF THE STATE OF CALIFORNIA

COUNTY OF SACRAMENTO

JOHN TOS, et al.,

Plaintiffs,

v.

CALIFORNIA HIGH SPEED RAIL AUTHORITY, et al.,

Defendants.

CASE NO. 34-2011-00113919

DECLARATION OF WILLIAM C. GRINDLEY

Trial Date: May 31, 2013

I, William C. Grindley, declare as follows:

1. I declare under penalty of perjury, that the following is true and correct, and that if called as a witness to testify to the following, I would be competent to so testify.

2. I have degrees in Architecture (Clemson, 1965) and in Urban Planning (MIT, 1972). I lived and worked in Lima, Peru for nearly five years (1965-1969), both as a Peace Corps Volunteer, later running a small savings bank under contract to the US Agency for International Development, and finally as an advisor to the United Nations Centre for Housing Building and Planning. I worked for the Organization for Social and Technical Innovation in Cambridge Massachusetts (1969-70) and was co-author of the World Bank's housing policy for developing

nations (1970-72). I was a contributor to *Freedom To Build* (Macmillan, 1972) and taught a course at MIT based on the principles in that book. I spent thirteen years (1973-1986) at Stanford Research Institute (now SRI International) consulting to both private corporations and governments in Canada, Australia, Germany, Indonesia, Italy, Paraguay, Saudi Arabia and the United States. In 1986 I founded Pacific Strategies, a consulting group assisting US high technology and pharmaceuticals firms expand in Latin America and Asia. My professional consulting experiences included considerable market analyses and interpretation, field and telephone survey design, development and execution, government and corporate finance, investment risk and due diligence analysis. In 1992 I co-founded a voicemail equipment sales and services business based in Buenos Aires Argentina, which we made profitable in two years. In 1998, the US-based equipment supplier abrogated our exclusive contract and we sued successfully in 1999. In 2006 I retired.

3. I have co-authored more than thirty reports and papers on California's proposed high-speed rail program, which include over 660 pages of analysis and conclusions substantiated with over 1,600 footnotes or end notes. All are available at www.sites.google.com/site/hsrcaliffr Some of these posted publications are:

- Major Reports on High Speed Rail:
  - The Financial Risks of California's Proposed High Speed Rail Project (Oct 2010)
  - A Financial Analysis Of The Proposed California High-Speed Rail Project (Jun 2011)
  - Revisiting Issues In the October 2010 Financial Risks Report (Sep 2011)
  - Twelve Misleading Statements on Finance and Economic Issues in the CHSRA's 2012 Draft Business Plan (January 2012)
  - California High-Speed Rail Authority's 2012 Draft Business Plan
  - Assessment: Still Not Investment Grade (January 2012)
  - The CHSRA Knows Their Proposed High-Speed Train Will Forever Need An Operating Subsidy (March 2012)
  - To Repeat – The CHSRA's Train Will Need A Subsidy Forever (August 2012) – A Second edition will issued on December 17, 2012

- Briefing Papers High Speed Rail:
  - Dubious Ridership Forecasts (Oct 2010)
  - Six Myths Surrounding California's High-Speed Rail Project (Jan 2011)
  - Seven Deadly Facts For California's High-Speed Rail Authority (Jan 2011)
  - A Train To Nowhere But Bankruptcy (Feb 2011)
  - Big Trouble For California's $66 Billion Train (Mar 2011)
  - Will The Train Benefit California's Middle Class? (Apr 2011)
- Brief Notes High Speed Rail: Twenty-three one page, single subject papers on various aspects of financial issues related to the proposed high-speed rail system, Oct 2010 - Aug 2011
- Reports for The GAO – Two papers were prepared for the Government Accountability Office (GAO), Division Of Physical Infrastructure (PI) investigation of the California high-speed rail project and were not publically available when submitted to GAO. They are:
  - A Partial Catalog Of Inappropriate, If Not Illegal, Actions In The Conduct and Execution Of California's Proposed High-Speed Rail Project, March 14th 2012
- Addendum To A Partial Catalog Of Inappropriate, If Not Illegal, Actions In The Conduct and Execution Of California's Proposed High-Speed Rail Project – November 15th 2012.

4. I therefore believe I am qualified to speak to issues of importance in this trial. The sequence of seven issues I address will be:

On Promises to Voters

On The Amount Of Capital To Finance Construction

On Securing Funds To Continue

On Construction Start Dates

On the Validity of Ridership Forecasts

On Sustainable Profitability

On Elapsed Travel Times Between Metropolitan Centers

5. My declaration ends with my perspectives on why I, and others came to be in opposition to the present plans of the California High-Speed Rail Authority.

6. **On Promises To Voters –** I understand that departures from what 2008's voters were promised and what the California High-Speed Rail Authority (CHSRA) Board certified in

2012 as a high-speed rail system is at issue in this case.

7. What did California's Legislators' intend the project to be? Six years ago, and five months before the Prop1A vote, the Senate Transportation Committee report succinctly stated what the Legislature and Authority promulgated at the time;

> *"The Authority's plans assume that the high-speed rail service, operated by a private consortium, will generate sufficient revenue to repay the consortium's investment, cover the annual cost of operations, and provide a profit. Furthermore, the Authority assumes that the rail service will not require any future operating subsidy from the State of California."*

Now, the Governor admits that public transportation requires subsidies. [1]

8. That same 2008 Committee report continues;

> "*This farsighted transportation project, however, is not . . .to be built with pay as you go funding, or by relying on public debt financing . . that the demand for high-speed rail in California is so strong that it will attract a private consortium with the resources to design, construct, finance, and operate the high-speed project under the terms of a long term franchise . .*" [2]

9. Neither the Legislature nor the Authority intended a 'build-it-when-government-funds-are-found project' or a system dependent on local rail transit systems to complete the passengers' rides, or one where the risk prior to any potential proof of profit depended on more than $30 billion of public investment.

10. The 'real' Phase 1, that is, a high-speed train service approved by voters in 2008, would be as the Voter Information Guide described; *" The proposed system would use electric trains and connect the major metropolitan areas of San Francisco, Sacramento, through the Central Valley, into Los Angeles, Orange County, the Inland Empire (San Bernardino and Riverside Counties), and San Diego."* [3] The first phase of this voter-approved project, called

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[1] See: Senate Transportation Committee, Committee Report: Oversight Hearings for High-Speed Rail, June 2008; authored by then-Chair, Senator Alan Lowenthal, page 2. Found at http://stran.senate.ca.gov/highspeedrailhearings or downloaded from: http://stran.senate.ca.gov/sites/stran.senate.ca.gov/files/FINALHSRREPORT.pdf On January 9, 2013, Governor Brown 'Good Day LA' hosted by Larry Elder, commented on public transport subsidies. Reported on January 10, 2013 and found at: http://www.youtube.com/watch?v=HjQi0VyI1vg

[2] Ibid

[3] Official Voter Information Guide for the California General Election, November 4, 2008, pg. 4 See: http://www.voterguide.sos.ca.gov/past/2008/general/argu-rebut/argu-rebutt1a.htm.

Phase 1 in the LAO's analysis inside the Official Voter Information Guide said; *"Phase I of the train project is the corridor between San Francisco Transbay Terminal and Los Angeles Union Station and Anaheim."* [4] By the time the Authority's Board certified the 2012 Revised Business Plan in April of last year, Phase 1's promise of electric trains to connect the major metropolitan areas, had morphed into a Phase 1 Blended System built in segments. The April 2012 Business Plan gave no ridership, revenue, operating cost or profit estimates for the 'real Phase 1 which is not the Authority's Phase 1 Blended System. Not only will there be no electric trains in the portion of the project scheduled to begin construction this year, but the Authority also makes no mention in their publications of electric trains that connect the major metropolitan areas, as described in the Voter Information Guide.[5] It can't because the Authority-created Phase 1 Blended System depends on conventional diesel after the Initial Operating System (IOS) reaches the San Fernando Valley and eventually Los Angeles, with no electric high-speed train connecting to Anaheim, Orange Country or San Diego.[6] Additionally, a year ago the Authority Board's Chair conceded that voters won't get what they voted for when he said about spending $6 billion in the Central Valley*; "We don't get a high-speed rail system but we get a lot."* [7] The Chairman also conceded that their $6 billion may not get their un-electrified rails all the way to Bakersfield. Voters sanctioned building a high-speed rail system, not the Authority's truncated Phase 1 Blended System, nor a 'Train To Nowhere,' which according to a Congressional supporter of the several billion dollars of Federal grants to the project, " . . *defies logic and common sense to have the train start and stop in remote areas that have no hope of attaining the ridership needed to justify the cost of the project.*".[8] I believe the Authority deliberately attempts

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[4] Ibid, pg. 5

[5] See 2102 Revised Business Plan, and Fact Sheet, found at http://www.cahighspeedrail.ca.gov/assets/0/152/302/e4542793-c05d-4737-a214-e1d1074b37eb.pdf

[6] The Phase 1 Blended System may also depend on conventional diesel power along the San Francisco Peninsula unless CalTrain can find a great deal of funding that it doesn't presently have to 'electrify' its service. Even if that electrification occurs, the segment from San Jose to San Francisco will not be high-speed rail according to the April 2012 Business Plan.

[7] See comment by Chair Dan Richard, made in a March 15, 2012 hearing on high-speed rail at approximately 3 hours and 30 minutes into the following citation: http://calchannel.granicus.com/MediaPlayer.php?view_id=7&clip_id=374

[8] The 'Train to Nowhere' phrase first appeared in a letter to FRA Administrator Joseph C. Szabo of November 30, 2010 from then Congressman Dennis A. Cardoza (D- CA 18th District), in which he said: "*When Congress passed*

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to mislead by now promising a Phase 1 Blended System. That is not what voters approved in 2008, and the Authority has had no authorization from voters since then to provide anything less than a 'full-fledged' high-speed train ride between the downtowns of Los Angeles and San Francisco.[9]

11. I hold that the Authority's 'Phase 1 Blended System' doesn't only violate the 2008 promise to voters, but is also a disservice to the residents of ". . *Orange County, the Inland Empire (San Bernardino and Riverside Counties), and San Diego"* Anaheim and others elsewhere whose votes were garnered because they thought they would benefit from the high-speed rail system described in their Voter Information Guide.[10]

12. Another broken promise to voters is the lack of follow-through in what was described as the 'entire' system, including San Diego, which the Voter Information Guide of 2008 said; *"The authority estimated in 2006 that the total cost to develop and construct the entire high- speed train system would be about $45 billion."* The Authority's 2008 Business Plan, which went public a few days after the vote, had this to say about the entire system; *"A high-speed train system between Los Angeles/Anaheim and San Francisco with extensions to Sacramento and San Diego will carry more than 90 million passengers, generating $3.6 billion in gross revenues*

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the American Recovery and Reinvestment Act (ARRA) and when California voters approved Proposition 1A in 2008, they did not envision that the first segment of the state-of-the-art high-speed system would be build from Borden to Corcoran . . defies logic and common sense to have the train start and stop in remote areas that have no hope of attaining the ridership needed to justify the cost of the project."

[9] Article 2, Section 10 of California Constitution seems very clear about the importance of voter initiatives, and the State of California has some o f the nation's strictest laws to enforce the initiative process. Generally speaking, it holds that unless permission is given in an voter initiative, or a later voter initiative is passed that supersedes its predecessor, the Legislature may not change conditions outlined in the original. No such permission was given in Prop1A, and no initiative has superseded it.

[10] Op. Cit Voter Information Guide, pg. 5 Mysteriously, Anaheim did not appear in the April 2012 Business Plan. The Authority has assured the public that it was included, but as of early March 2013, no formal addendum to the April 2012 Plan has been issued with Anaheim included. There was a strange and improper, if not illegal, action taken towards the status of Anaheim by the CHSRA Board. In its April 2012 Board meeting, the Authority's Board resolved that the April 2012 Draft Revised Business Plan was to be its operational document. This was done in response to questions asked by the public as to why Anaheim was not part of that Plan. The vote was to restore Anaheim as part of the plan. However the resolution in from that April 2012 meeting, which added Anaheim back, does not reflect the actual vote. The inaccurate resolution is posted on the HSRA website. A signed version of the inaccurate resolution is included in the Attorney General's Administrative record. And nowhere since has any mention been made of the costs of building any phase of the high-speed train system between Los Angeles Union Station and Anaheim, nor the cost building or maintaining the Anaheim station itself.

annually, with fare levels assumed in the EIR/EIS to be around half the cost of airfares." [11] Since that time, there has been no mention of the 'entire' system's ridership, or construction costs.[12] Given that construction costs for only the 'real' Phase 1 surpassed $100 billion by the close of 2011, the Authority probably left out mention of the 'entire' system because of the likely reaction to construction costs that would be considerably more than the $100 billion that likely caused 'sticker shock' in late 2011. The Authority's planning for the 'entire' system, active before the 2008 vote, disappeared by the choice of the Authority, dashing the expectations of supporters in cities such as San Diego, Oakland and Sacramento who were led to believe a share of $9 billion was to be used to build a system that included them. This devolution of the promised system from a 800-mile entire system, to a Phase 1 (dedicated high-speed tracks between LA and SF) system that was still all high-speed rail; now to the Authority's Phase 1 Blended System that uses conventional diesel southward after Los Angeles, is not what voters approved in 2008.

13. Nor is a 'Blended System' what the Federal Railroad Administration (FRA) agreed to fund. In the DOT/FRA-CHSRA Grant/Cooperative Agreement signed August 18th 2011, the Statement of Work says, *"The new high-speed rail system will be grade-separated from road vehicle traffic and will operate almost exclusively on separate, dedicated tracks with a top design speed of up to 250 mph and an operating speed of up to 220 mph."* [13] The 130-mile Initial Operating Segment (IOS) of high-speed tracks don't qualify for being almost exclusive, as it is not electrified for the 520-mile Phase 1 Blended System; tracks south of Los Angeles and north of San Jose are not dedicated solely to high-speed rail, and only portions of the ICS, the IOS and the CHSRA's successor phases will be grade separated.[14] These now-missing elements to what the

[11] See, California High-Speed Train, Business Plan, California High-Speed Rail Authority, November 2008, pg. 7 [PDF 11]

[12] The California High Speed Rail Authority, Report to the Legislature, December 2009; page 5 (PDF 7] has a map of the extensions to the Phase 1 and a mention of Phase 2 on page 116 [PDF 118]. The California High-Speed Rail Program Draft 2012 Business Plan, November 1 2011, page 2-7 [PDF 39] mentions "Phase 2 will extend the high-speed system to Sacramento and San Diego, representing completion of the 800-mile statewide system." But no estimates of ridership beyond these expressions of lip service are found in these of the certified 2012 Business Plan.

[13] Found by a query to Google called "List of CHSRA Grant Agreement" See: FRA Grant/Cooperative Agreement for ARRA Funding ($2.27B - FR-HSR-0009-10-01-01) See page 38.

[14] Even if the CHSRA ever finds the funds to build the first 130 miles of the project, that is only a quarter of their stated route between the state's two largest city centers: negating the notion of "almost exclusively" for any of the other FRA-CHSRA agreed-to criteria. South of Palmdale, the Phase 1 Blended System operates on tracks shared by

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Federal ARRA funds were to be spent on might be changed by mutual assent. But these distinctly different descriptions of what was to be built from what is now to be built are demonstrations of how far afield the CHSRA's present plans are from what was promised to voters, and funded with ARRA funds before the Phase 1 Blended System became the operating plan.

14. Promises made about ticket prices in 2008 and afterwards are an issue because they underlie whether that the train can operate without a government subsidy. Prop1A voters were promised a fare of *"about $50"* to travel in a high-speed train from downtown Los Angeles to downtown San Francisco.[15] In November 2008, the Authority's Business Plan followed on with this promise, attempting to be competitive with airlines; *"Two scenarios were developed for this Business Plan, with air and auto costs at 2008 levels and high-speed train fares set at 77% of airline fares and at 50%."* [16] A discount on the intra-California airline fares sounded attractive, but this misled the public. By 2009's Business Plan, the 'real' Phase 1 metropolitan city center station-to-station fare had more than doubled; *"The fare is calculated in the same manner as the 50 percent, but is anchored by an LA-SF HST fare at 83 percent of the air fare, or in 2009 dollars a high-speed train fare of $105 vs. a $125 air fare, and a $118 cost to drive."* [17] Statewide 'sticker shock' showed there was little enthusiasm for paying as much as airfares, certainly more than discounted airfares for a $100 billion project, and voter enthusiasm for the project plummeted. Four surveys after the price skyrocketed showed that Californians would rather stay with their autos and airplanes if the train's fares were that high.[18] In 2011's Plan the claim was

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Metrolink's conventional diesel trains, and the San Francisco Peninsula rail corridor is owned by Union Pacific Railroad (UPRR), will share tracks with freight trains and Caltrain's conventional diesel systems: and always must share tracks with UPRR freight trains even if Caltrain's locomotion is changed to be electrical. To date most of the first 30 miles south of Merced, Construction Project 1 (CP1), is to be built at grade level, not, *" . . grade-separated from road vehicle traffic . ."* and the Authority has not described which, if any portions of even the IOS will be grade-separated, as its planning past the is still incomplete.

[15] See 2008 General Election; Official Voter Information Guide, pg. 6

[16] See High-Speed Train, Business Plan, California High-Speed Rail Authority, November 2008; Figure 21, page 17 [PDF 21]

[17] California High-Speed Rail Authority; Report to the Legislature: December 2009, pg. 65 [PDF 67]

[18] In September 2011, by Probolsky Research that found 62.4% of respondents would vote to stop the bullet train project and nearly that number said they are unlikely ever to travel on the train between San Francisco and Los Angeles. Found at http://www.probolskyresearch.com/wp-content/uploads/2011/09/Probolsky-Research-State-Spending-and-High-Speed-Rail-Results-Memorandum1.pdf. In December 2011 a USC Dornsife/Los Angeles Times Poll found that with the cost of the high-speed rail project rising dramatically "a clear majority of California's

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for " *the Bay-to-Basin and Phase 1 operating sections will be completed by 2033; the average ticket fare between San Francisco and Los Angeles will be $81 . .'* [19] The now-adopted plan 2012 plan kept the tautologically correct answer and says; *"The average ticket fare between San Francisco and Los Angeles will be $81 (83 percent of anticipated airline ticket prices)."* [20] While the roulette ball on fares dropped on to $81, that fare is still 60% more than voters were promised. That fare not only violates the *"about $50"* promise to voters, but is an important public relations advantage to the Authority independent analysts are unable to analyze to know its veracity.

15. No confidence can be put on this roller-coaster ride of CHSRA's fares to predict what actually will be charged. The Authority must know that unsubsidized fares for the Los Angeles to San Francisco high-speed single seat ride, ie what 2008's voters approved, will be much higher. Based on my co-authorship of reports that address this issue; specifically Brief Note #14 of 2011 and the 2012 'To Repeat' report, I believe an unsubsidized one-way, high-speed train only fare between downtown San Francisco and downtown Los Angeles would be about $200 in today's dollars.[21] That's quadruple the promised price.

16. There are other examples of the Authority's breaking 2008's promises to voters. First, voters were promised "THE USERS OF THE SYSTEM PAY FOR THE SYSTEM", which, at a minimum complies with Section 2704 8 (J) of AB3034 prohibiting an operating subsidy.[22] Yet, even Iñaki Barrón de Angoiti, the Director of High-Speed Rail at the International Union of Railways (UIC/IUR) has said: *"Only two routes in the world — between Tokyo and*

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registered voters would reject the proposal if given a second chance to vote on it today." See: Dan Weikel and Ralph Vartabedian, "Californians would reject bullet train in revote, polls finds," *Los Angeles Times*, December 6, 2011, http://articles.latimes.com/2011/dec/06/local/la-me-train-poll-201112071. Two subsequent polls have reaffirmed those findings.

[19] See California High-Speed Rail Program; Draft 2012 Business Plan, November 1, 2011, pg. ES-8 [PDF14]

[20] The $81 fare is tautological because it is simply based on being 83% of the average airfare. Any fare that is a discount on an existing fare will be cheaper. However, this mode of calculating prices is not only not acceptable business practice, it creates an illusion not likely to be borne out in reality. See California High-Speed Rail Program; Revised 2012 Business Plan, April 2012, pg ES14 [PDF 22]

[21] See Brief Note #14 of July 5th 2011 and To Repeat: The CHSRA's Train Will Need A Subsidy Forever; August 2012, Figure 1, page 18. Both are available at www.sites.google.com/site/hsrcaliffr

[22] Official Voter Information Guide for the California General Election, November 4, 2008, pg. 7 See: http://www.voterguide.sos.ca.gov/past/2008/general/argu-rebut/argu-rebutt1a.htm.

Osaka, and between Paris and Lyon — have broken even."[23] One would assume that the Director's mission is to promote and defend high-speed rail, so Mr. Angoiti's honesty was refreshingly welcome. Second, voters were promised *". . a clean, efficient 220 MPH transportation system."* [24] No high-speed system in the world operates at those speeds: most operate at or below 186 miles per hour. Over eighteen months ago, speed record holder, China, reduced operating speeds on its system in part because of disproportionately greater energy costs with higher speeds, and in part because of the fatal accident in Wenzhou.

17. Third and more importantly, the Department of Transportation/Federal Railroad Administration (DOT/FRA) specifies 'Class of Track' standards *" . . to keep freight and passenger trains moving safely."* [25] The highest, Class 9, track standards not only limit top speeds to 200mph, but for safety reasons, also demand an expensive, minimum inspection three times a week. Perhaps the FRA, in trying to quickly start the California project, forgot its responsibility to the safety of passengers to specify and regulate the speed of trains that travel at speed above their Class 9 standards. But it's hard to believe that after a decade or more of consulting with FRA, CHSRA did not know about Class 9 track standards. Fourth, the Prop1A Voter Information Guide said taxpayers' interests are protected because of *"public oversight and detailed, independent review of financial plans."* [26] To date there is no detail on operating expenses to be reviewed by anyone outside the Administration, including the Legislative Analyst's Office (LAO), the Legislature's oversight committees, and the United States Government's General Accountability Office (GAO). If none of those promises are fulfilled, the present-day project does not resemble what would bring the high-speed rail program to California that voters approved.

18. Perhaps the most poignant comments on what the Authority now offers as a high-

[23] See Victoria Burnett, "Spain's High-Speed Rail Offers Guideposts For U.S." Statement by Iñaki Barrón de Angoiti NY Times, May 29, 2009 at www.nytimes.com/2009/05/30/business/energy-environment/30trains.html
[24] Op. Cit Voter Information Guide, pg. 4
[25] See: page 1, Federal Railroad Administration's Federal Track Safety Standards Fact Sheet, 49 CFR Part 213; June 2008. Available at http://www.fra.dot.gov/downloads/PubAffairs/track_standards_fact_sheet_FINAL.pdf
[26] Op. Cit Voter Information Guide: http://www.voterguide.sos.ca.gov/past/2008/general/argu-rebut/argu-rebutt1a.htm.

speed rail project came on July 6th 2012 from then-Senator Joe Simitian's explanation of why he was forced to vote 'No' on appropriations in SB1028. After explaining that he had not only sponsored AB3034 but had; *". . voted for every dollar they requested, because I wanted them to be successful."* the Senator said, *"And so, when we asked the High Speed Rail Authority they told us, "Well, it's 130 miles of track." And we said, "Is it high-speed rail?" the answer was "no." Is it electrified? "No." Does it have positive train control? "No." Are you going to run high-speed rail cars on it? "No."* And the Senator concluded, *"So we're getting an upgraded Amtrak in the Central Valley. For 6 billion dollars."* [27] While I never have been of the stature of Senator Simitian, we both hold degrees in urban planning; and after more than three years of study and 660 pages published after analyzing the plans and announcements of the California High-Speed Rail Authority (CHSRA), I concur with the Senator's findings and conclude that the project as now promulgated is not what the voters or the Legislature approved in 2008.

19. **On The Amount Of Capital To Finance Construction –** The sums needed to build the voter-compliant Phase 1, are extremely large. This project is California's and perhaps the nation's largest-ever transportation project. Cost estimates for what is now the Full Phase 1 (not the unsanctioned Phase 1 Blended System) climbed or jumped in the past five years. A 2007-2008 Senate hearing's report, addressing a lot more being promoted at the time than the 'real' Phase 1, Senator Alan Lowenthal said;"

[27] These quotations come from pages 1 and 4 of a verbatim transcript of Senator Joe Simitian's comments at the Senate Floor Session on HSR Trailer Bill 1029, July 6, 2012. For Senator Simitian's arguments for voting "No" see: http://www.youtube.com/watch?v=NajQSD_Pscs&feature=youtu.be. For the complete Floor session's video, see: http://calchannel.granicus.com/MediaPlayer.php?view_id=7&clip_id=610. For the language of SB1029, go to: http://leginfo.ca.gov/cgi-bin/postquery?bill_number=sb_1029&sess=CUR&house=B&author=committee_on_budget_and_fiscal_review

> *"In 1999, the Authority estimated the entire high-speed rail system (from San Francisco to San Diego and the Bay Area/Central Valley to Sacramento) would cost $25 billion to complete. As of October 2007, the Authority reports the expected cost to build the entire system to be between $33 billion and $37 billion, with the cost for the first segment from San Francisco to Anaheim to cost approximately $30 billion."* [28]

20. After the Prop1A vote, the illegally-delayed 2008 Business Plan had pared down the promise of all those cities mentioned, and said; *"The high-speed train system's backbone: Los Angeles/Anaheim to San Francisco link is expected to cost about $33 billion, in 2008 dollars."* [29] A year after Prop1A was passed, the Authority said: *"Adjusting the project cost for YOE dollars brings an updated cost estimate of $42.6 billion."* [30] After working so closely with the Federal Railroad Administration (FRA) only incompetence or deliberate action in 2008 would have prevented the Authority from posting their capital costs in the FRA's Year of Expenditure (YOE) metric for building passenger or freight railroads. That $42.6 billion YOE represented a then-far closer estimate to the costs than the $33 billion of the 2008 Business Plan.

21. By November 2011, the construction costs to deliver what voters were promised jumped to $98.5 – 117.6 billion in Year of Expenditure (YOE) dollars or $65 billion in 2010 dollars.[31] Sticker shock at double the 2008 construction costs may have forced the Authority to reinvent the promise to voters, with the new label of Phase 1 Blended System (or Blended System). By abandoning a legal promise, without voter or legislative sanction, the price tag dropped to $68.4 – $79.7 billion in YOE dollars. [32] The Phase 1 Blended System seems to be 'eye candy' since neither future riders, nor 2008's voters will get what they wanted or voted for.

22. I believe that this high-speed rail construction project, like many, if not most

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[28] See Oversight Hearings of the California High-Speed Rail Authority, Committee Report; January 2008, pg.16. The 1999 estimate was from HSR 98004, Final Report – Appendix, Corridor Evaluation; California High-Speed Rail Authority; December 30 1999, by Parsons Brinkerhoff.

[29] The Plan was submitted in November 2008, three months after the legally required September 1, 2008 deadline. Although AB3034 had been ignored by the CHSRA, the Legislature did not act to enforce that provision of AB3034, which it passed earlier in 2008. For cost estimates see, California High-Speed Train, Business Plan, California High-Speed Rail Authority, November 2008; Figure 21, page 19.

[30] Year of Expenditure (YOE) dollars, which reflect cost escalations throughout the construction period, are the standard method the DOT/FRA requires construction estimates to be made in. California High-Speed Rail Authority; Report to the Legislature: December 2009, pg. 84 [PDF 86]

[31] See California High-Speed Rail Program Draft 2012 Business Plan, November 1 2011; pgs 8-1 and 8-2.

[32] See California High-Speed Rail Program Draft 2012 Business Plan pages 3-11 and 7-25

others, will seriously overrun even the new budget for providing even diminished promises. With most engineering studies for the Initial Operating Sector (IOS) at only a fifteen percent (15%) engineering estimate level or less, construction cost increases in the IOS are assured. History should teach that there is little reason to have confidence in any upper boundary of cost estimates in transportation projects. There are plenty of examples. A 2003 study of more than 200 large-scale transport projects, dubbed megaprojects, showed the average cost overrun to be 45%.[33] For example: the Channel tunnel was 80% over original estimates and bankrupted the private companies that were to be the system's builders and operators.[34] The Cologne to Frankfurt section of Germany's high-speed rail system, the Inter-City Express (ICE), cost 85% more than estimates, while the Nuremberg-Munich link's costs were 42% higher.[35] Nor is the USA exempt from megaproject's cost overruns: a DOT study concluded the median of total cost overruns for ten rail projects was 61%.[36] Boston's 'Big Dig' cost more than seven times its original estimate.[37] And California's east section of the Oakland Bay Bridge ran five times or more its original estimate of $1.2 billion.[38]

23. Builders will not make fixed-price bids on megaprojects, nor risk their own investors' money because contractors know they are generally not required to take such risks on what are invariably government infrastructure projects. Brasil's attempts to get contractors to risk their own money building and operating a São Paulo-to-Rio de Janeiro high-speed rail system is a case in point.[39] Foreign and local contractor consortia refused three times to risk their own

[33] Flyvbjerg, Bent; Bruzelius, Nils and Rothengatter, Werner: Megaprojects And Risk, An Anatomy of Ambition; Cambridge University Press, 2003

[34] Op Cit Flyvbjerg, Bent; et al pg. 12

[35] Ibid pg. 40-41

[36] Pickrell, Don: *Urban Rail Transit Projects: Forecast Versus Actual Ridership and Costs* (Washington, DC: US Department of Transportation, Urban Mass Transportation Administration, 1990).

[37] In September 1983, Boston's 'Big Dig,' the 7.5-mile highway project was originally proposed for a cost of $2.2 billion and with a completion date of 1995. The cost ballooned to almost $15 billion and it was completed on December 31st 2007 – twelve years late. See: "Boston's 'Big Dig': A Socio-Historical and Political Analysis of Malfeasance and Official Deviance" at http://www.nssa.us/journals/2010-34-2/pdf/34-2%2017%20Smith.pdf. The 'Big Dig' was managed by Parsons Brinckerhoff, the same firm employed by the CHSRA as its Project Management Team (PMT). Parsons Brinckerhoff is a subsidiary of Balfour Beatty, headquartered in the United Kingdom.

[38] See: http://prestowitz.foreignpolicy.com/posts/2011/07/18/bay_bridge_redux

[39] See: The Economist; "High-speed rail in Brazil: Fourth time unlucky" by H.J. August 24th 2012. Contactors say the *"estimate of how much the line will cost to build—34 billion reais ($17 billion)—is far too low, and that ridership predictions—33m journeys in the first year of operation rising to 100m by 2050—are also wildly optimistic. The*

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money until the government gave in.[40] A year after the third failed attempt, the project is still in limbo. In contrast, here in California with governments taking all the risks, even the losing consortia for the first few miles of the project will 'win' $2 million for submitting what are probably higher, perhaps more realistic bids.[41] The 'winning' consortium perhaps knows that once a megaproject is underway; however overpromised, underestimated and badly planned, somehow funds must be found to continue. They also know that 'change orders' on new 'Greenfield' projects, such as CHSRA's train, is a way to quietly escalate costs. The Bay Bridge is the quintessential example of the cycle of cost overruns at each stage being met with more public funds, which even during construction don't suffice, re-igniting the cycle to continue. It is highly risky to open the State's Treasury to a high-speed rail project that today is at least ten times the Bay Bridge's likely cost, and which could easily explode in the coming years to meet the 2008 promises to voters. Parsons Brinckerhoff's (PB) sister company Balfour Beatty Rail GmbH advises high-speed rail projects around the world.[42] Knowledge on rail projects' cost overruns must be ubiquitous in the world of rail engineers. Either Parsons Brinckerhoff or its sister company withheld information about cost overruns, or the Authority has been practicing 'credible deniability' about its construction costs. Given that PB's worldwide reputation is at stake, the evidence available suggests the Authority is aware of the history of 'low balled' construction cost estimates, is willing to participate in yet another an effort to start building what

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cheapest tickets will be 200 reads one-way, which is out of reach for most Brazilians, since it is more than a quarter the minimum monthly wage." Found at: http://www.economist.com/blogs/americasview/2012/08/high-speed-rail-brazil

[40] "After two failed attempts to procure Brazil's first high-speed railroad, the National Terrestrial Transportation Agency (ANTT) has divided the project into two 40-year concessions for bidding next year and in 2014. Planned to open in 2020, the 511-km line has also been slightly rerouted to enter the international airports at the end points, Rio de Janeiro and Sâo Paulo, and also some others along the route." See: Public Works Financing Newsletter, August 2012.

[41] See: Stephen Frank's California Political News and Views, at http://capoliticalnews.com/2013/02/04/losing-rail-bidders-will-get-2-million-each/

[42] Balfour Beatty Rail Gmbh, incorporated in Germany, is another subsidiary of the Balfour Beatty Group (BB), the UK parent also to Parsons Brinckerhoff (PB America). Their web page says, "*Our business is to help you plan, build and maintain your railway infrastructure: a total service for the whole life of the asset.*" Their brochure says "*Balfour Beatty Rail has in-depth experience in all types of rail systems including high-speed passenger lines.*" Found at http://www.bbrail.com/

will, with all due respect to Walter Bagehot will be, 'bad money thrown behind bad money.' [43]

24. **On Securing Funds To Continue –** I understand securing finances for the high-speed rail project is an issue in this case. One important aspect of securing finances for this project is whether there is any realism to the Authority's claims to have identified sources beyond what they have in hand. In the Prop 1A Voter Information Guide, those arguing in favor of the train said; *"Matching private and federal funding to be identified before state bond funds are spent."* [44] AB3034 amended Section 185033 to the Public Utilities code to read: "*The authority shall prepare, publish, and submit to the Legislature, not later than September 1, 2008, a revised business plan that identifies . . . an estimate and description of the total anticipated federal, state, local, and other funds the authority intends to access to fund the construction . ."* Further on, AB3034 2704.08 (2)(D) was more precise and said the CHSRA's plans shall include, identify, or certify to all of the following; *"The sources of all funds to be invested in the corridor, or usable segment thereof, and the anticipated time of receipt of those funds based on expected commitments, authorizations, agreements, allocations, or other means."* The implications of these statements were that only after private or federal monies were committed could matching General Obligation (GO) bond funds be authorized and raised. In 2012 the Legislature also exhibited 'optimism bias' when it went along with Prop1A's supporters when it passed SB1029, knowing there were no commitments or agreements on future funding.

25. For more than four years now, official and independent analysts have asked the Authority to 'show them the money.' The Legislative Analyst's Office (LAO) asked in 2008; *"What level of confidence is there for receiving each type of funding?"* of the sketchy, delayed Business Plan.[45] A year later the LAO repeated the question, "*How would funds be secured?*"

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[43] Walter Bagehot (1826-1877) was a British businessman and economics writer. He is attributed with coining the phrase 'throwing good money after bad.'

[44] Official Voter Information Guide, page 6. Found at http://www.voterguide.sos.ca.gov/past/2008/general/pdf-guide/suppl-complete-guide.pdf

[45] See: 2009-10 Budget Analysis Series: Transportation: LAO 2009-10 Budget Analysis Series: Transportation: High-Speed Rail; page 2. For a reason to use the word 'sketchy' note that CHSRA Board member Lynn Schenk said that the 2008 Business Plan was *"...pulled together with Scotch tape and hairpins because we had to get something to the Legislature, but we didn't have the money, the resources, the people to pull together, so there were a lot of errors"* View on YouTube of the statement at http://www.youtube.com/watch?v=jGyUxBnoVpc.

and emphasized that "*Federal Funding Expectations Highly Uncertain*" [46] In a July 2011 Board meeting Hans Van Winkle, Parsons Brinckerhoff's (PB) then-project manager, made it clear that once the first few miles of the Initial Construction Section (ICS) were built, he thought the results of building the ICS meant the state may be stuck with a short stretch of diesel track from just north of Fresno to just south of Fresno for a long time – a waste of money. [47] There is little likelihood that Mr. Van Winkle was speaking from ignorance of the future funding prospects, since the $2.7 billion ARRA grant award had been made about three months prior to his appointment.

26. Now it is twenty-seven months later: CHSRA has a different CEO, a different Chairman, and Parsons Brinckerhoff a different team leader. Hundreds of millions more dollars have been spent, and this month the Authority's Chair recognized there are no more Federal funds on the horizon, and that CHSRA has only a sketchy plan to build segment-by-segment if and when funds appear when he said*; " We don't have an answer for you but the solution will be a series of 10% solutions, there is not going to be a silver bullet."* [48] The Chair also pointed out that, at the federal level, there was a shift from 'free' grants to loans. Loans require repayment, which would probably require raising Californians' taxes to repay, which is prohibited by Prop1A's promise of "NO NEW TAXES."[49] Years after the last Federal dollars were given to the project, these are still awesome challenges to the project.

27. Only a serendipitous coincidence of the passage of Prop1A and one-off ARRA grants brought the project any Federal funds. While the Authority captured the largest portion of the $8 billion of nationwide ARRA grants, nothing has been awarded to CHSRA since 2011. But

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[46] See: The 2009 High-Speed Rail Business Plan; Legislative Analyst's Office January 11, 2010; pages 1 and 8.

[47] Then-CHSRA CEO Roelof van Ark appointed Maj. Gen. Hans Van Winkle (Ret.) PB's Project Manager for the CHSRA's project in November 2010. The quote comes from the July 14, 2011 CHSRA Board Meeting, Agenda Item #7, Initial Operating Segment, at approximately 4hours: 16 minutes into this recording: http://stateofcalifornia.granicus.com/MediaPlayer.php?publish_id=39

[48] See the February 26, 2013 Senate High-Speed Rail Meeting labeled, "High-Speed Rail hearing: How should the state safeguard the public interest" Found at the you-tube at the 7 min: 21 second mark on http://www.youtube.com/watch?v=AXWSusdxn6w&feature=youtu.be, or the Senate High-Speed Rail recording at 1 hour:32 min http://calchannel.granicus. com/MediaPlayer.php?view_id=7& clip_id=954

[49] Official Voter Information Guide for the California General Election, November 4, 2008, pg. 3, Proponents' arguments. See: http://www.voterguide.sos.ca.gov/past/2008/general/argu-rebut/argu-rebutt1a.htm

there weren't and still aren't, even vague promises of local governments' participation or private sector 'at risk' investment. The Authority has been told repeatedly that even the Initial Operating Segment (IOS) risks being an amputated stump in the Central Valley unless the people of the United States gift them six times what they have in hand. And to complete the Full Phase 1, as promised to voters, they will need at least fifteen to twenty times what they have in hand.[50] Yet the project proceeds under the hazy artifice that monies will somehow become available once the roughly $6 billion that is 'in hand' is spent.

28. CHSRA's history of un-kept promises of capital project funding is nearly five years old in large part because they only identify possible funds, and did not, nor cannot unequivocally state they have secured enough funding for the entire useable segment, called the IOS-South. As early as September 2009, IMG and Goldman Sachs told the CHSRA Board that the; *"Authority must secure long-term federal source"* [51] In January 2011, the statutorily created Independent Peer Review Group linked the likelihood of private capital to strong Federal funding; *"Private investment will materialize …only when our federal government has shown the same level of commitment that the voters of California have"* [52] in a May 2nd 2011 letter to then-CHSRA CEO van Ark, the then-Independent Peer Review Group's Chair warned that; *" . . private sector funding will be difficult to secure unless public sector funding is available and reliable."* [53] In a Senate hearing nine days later, the Group's Chair said the Authority, *". . will soon need assurance of more federal funding."* and *". . private sector funding will be difficult to secure unless the public sector funding is available and reliable.."* [54] On May 11th, 2011 the

[50] The Authority has roughly $6 billion 'in hand' but needs a total of at least $31 billion to complete the IOS, which it claims will be profitable. There is another $6 billion of GO bond capacity to use, which means they would need $19 billion of federal or private money to complete the IOS. The needed federal portion is more than three times what they have 'in hand.'

[51] See: Infrastructure Management Group and Goldman Sachs; California High-Speed Rail Authority Board Financing Workshop; September 3, 2009; pg. 8. Found at: http://www.google.com/search?q=California+High-Speed+Rail+Authority++Board+Financing+Workshop++September+3%2C+2009&ie=utf-8&oe=utf-8&aq=t&rls=org.mozilla:en-US:official&client=firefox-a

[52] Ridership Peer Review Panel: First Meeting January 10, 2011, page 5. Found at; http://www.google.com/search?q=2011_01_10_Ridership_Peer_Review_first_meeting1.pdf+&ie=utf-8&oe=utf-8&aq=t&rls=org.mozilla:en-US:official&client=firefox-a

[53] Letter to Mr. Roelof van Ark, signed by Will Kempton, Chairman, California High-Speed Rail Peer Review Group, dated May 2, 20110, pages 2/3.

[54] See: California High Speed Rail Peer Review Group Testimony before the Senate Select Committee on High

(continued…)

Authority's CEO said that without a Federal commitment, the project would not attract private investors.[55] In May 2011 the LAO again weighed in; *"The availability of the funding necessary for the new system is highly uncertain."* [56] And on June 28th 2011, State Treasurer Lockyer said: *"I think the federal funding is too speculative,"* and *"I think the likelihood of significant private capital is questionable"* as well as *"Is it prudent to cancel another worthwhile project and sell bonds for rail, given the project's unsettled finances?"*[57] Even after the Phase 1 Blended System was accepted in April 2012, the LAO pointed out; *"Given the federal government's current financial situation and the current focus in Washington on reducing federal spending, it is uncertain if any further funding for the high-speed rail program will become available."*[58] In February 2013, the LAO reiterated its concerns, *"After the initial construction project is completed, approximately $4.5 billion in Proposition 1A bond funds will remain. However, no additional funding for the remaining $53.8 billion has been secured."* [59] Given the independent and professional stature of these commentators, it is nearly impossible to believe that neither the Authority nor the Legislature treated their three years of prescient insight with the respect they are due. Yet the spending continued and still continues.

29. More than fifty months after Prop1A, only about $3.3Billion of Federal grants from 2010/2011 are available and matched to $2.7Billion California's General Obligation (GO) bonds for high-speed rail.[60] That is only one-fifth the funding to build the $31 billion IOS, one-tenth the funds for the Authority's 'Blended System' and at best, one-twentieth the monies

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(…continued)
Speed Rail: May 11, 2011, page 4. Found at www.cahsrprg.com/files/Testimony.pdf

[55] See: CHSRA's CEO Roelof Van Ark; CA Assembly hearing on high-speed rail; May 11th 2011, minute fifty-nine of YouTube recording.

[56] See: LAO's High-Speed Rail Is At A Critical Juncture; May 10, 2011, page 6.

[57] *State Treasurer worries about bullet train's finances*; California Watch, June 28, 2011; at http://californiawatch.org/dailyreport/state-treasurer-worries-about-bullet-train-s-finances-11126

[58] See: The 2012-13 Budget: Funding Request for High-Speed Rail; Mac Taylor, Legislative Analyst; April 17, 2012, pg. 7.

[59] See: 2013-14 Transportation Proposals, Legislative Analyst's Office, February 2013, page 21. Found at: http://lao.ca.gov/analysis/2013/transportation/transportation-proposal/transportation-proposals-022113.aspx

[60] The Federal grant amount assumes that about $0.9Billion of awarded, but not yet obligated, Federal grants eventually become obligated to the CHSRA. See: See: CHSRA *UPDATE ON BUSINESS PLAN AND FUNDING PLAN*; CHSR Board Presentation Sacramento, CA August 25, 2011; pgs 5-7. http://www.cahighspeedrail.ca.gov/assets/0/152/232/294/5752a7a8-506b-40d0-bee0-0b10fc7f06d6.pdf

needed to build what voters were promised and approved in 2008.

30. Given that the original project's designers assumed $17-$19Billion of 'free' Federal grants to 'jump start' Phase 1 (not the Phase 1 Blended System), what is the potential for further Federal funds? [61] On May 4th 2011, the Office of the President (OMB) requested $37.6Billion over the next six years to build new high-performance rail as part of President Obama's $53Billion vision to connect eighty percent of Americans by high-performance rail.[62] No supporting documentation accompanied the request, which would have indicated a true commitment to high-speed rail. The request died. In November 2011, in addition to giving the project the 'Boondoggle Of The Year' award, the House Budget Committee eliminated funding in FY 2012. Nor were funds forthcoming for FY2013, and there are no funds in Senate or House requests for FY2014.[63]

31. I believe that, while the Obama Administration may pursue the idea of high-speed rail in America and California's Governor will repeat his enthusiasm for the concept, the likelihood of substantially more 'free' Federal grants or loans for California's train diminishes daily. The Phase 1 Blended System plan is built on the hope for a series of miracles over the next two decades. Six of these are:

(1) Hope the project will only use the available $6Billion of Year of Expenditure (YOE) funds to construct the Initial Construction Section (ICS). At present there several serious legal challenges; and, to date, no land has been acquired, environmental clearances south of the first 30 miles are non-existent, and resistance is building in Central Valley communities. Practical or self-inflicted troubles may consume a lot more funds than

[61] California High Speed Rail Authority, Report to the Legislature, December 2009; page 93

[62] For the President's aspirations concerning high-speed rail, see the President's State of the Union Address of January 25, 2011 at http://www.whitehouse.gov/the-press-office/2011/01/25/remarks-president-state-union-address. For the budget request see, see "Congress Research Service for Transportation, Housing, and Related Agencies – FY 2013 Appropriations", June 25, 2012, page 7, Table 5 at https://www.fas.org/sgp/crs/misc/R42578.pdf. For the OMB submittal, see: Section 24602 (a), Network Development Program; Transportation Opportunities Act; pg. 12. This six-year capital budget covers FY2012 through 2017.

[63] The President (OMB) does not plan to submit the traditional budget message in 2013, claiming there are too many uncertainties, what with the pending "fiscal cliff," the approval of the second 6-month extension of the FY 2013 budget, etc. With no White House/OMB request, there is no likelihood that House Republicans will appropriate high-speed rail FY2014 funding on their own initiative. Even with a Presidential request, there would have been little chance, given the House Republicans' adamant opposition to any further federal HSR monies.

planned. If the Authority runs out of money substantially short of Bakersfield, the public relations 'stain' on the project will not be short lived.

(2) Hope that a Democratic-controlled Administration, House and Senate is in power in Washington continually between 2012 and 2024 and will put twice as much annually into California's high-speed rail project as during the entire first half of the first Obama Administration. That's not likely to happen. The President mentioned high-speed rail in his 2013 State of the Union address, but has made no grant request for two fiscal years, and the Administration's emphasis has shifted to repair and restoration of existing transport infrastructure. [A Federal loan has to be repaid, implying an broken promise not to raise taxes to build the project.]

(3) Hope that the House and Senate will provide more funds to keep construction moving forward. At present the votes of both parties in both houses of Congress seem to 'tilt' towards improving Acela's high-speed service along the Northeast Corridor, where there are eighteen Senators and ninety-three Representatives to counter the pleas of California's delegation of two Senators and sixty-four Representatives. Piling on to that 'Mission Impossible' is not only the staunch opposition to the project by House Republicans in general and California's Republicans specifically, but importantly the appointment in January 2013 of articulate opponent, Congressman Jeff Denham, to chair the House Subcommittee on Railroads, Pipelines and Hazardous Materials. On February 22nd 2013 Chairman Denham informed the CHSRA that they were in violation of Surface Transportation Board (STB) regulations for, *"failure by the state rail agency to ask federal regulatory permission to build a new railroad."* [64] While this roadblock may be temporary, the Central Valley Congressman's power nearly assures no more funds for the next several years.

(4) Hope that the US and world economy grows vigorously enough to produce the fiscal surpluses needed to eradicate Federal Sequestration or significantly lower a

[64] See Transportation Weekly; volume 14, No. 9, pp 1 and 8 of February 26, 2013

cumulative Federal debt now as large or larger than the nation's Gross Domestic Product: growth so large and fast that unknown tens of billions of high-speed rail funds become available for California's project over and above the yet-to-be negotiated Federal debt cuts of about $1.2 trillion in the next decade.

(5) Hope that not only does California's economy grow immensely to fill the State's coffers with tax receipts that enable the State to service not only the far over $100 billion long-term debt, including Prop1A debt, but not its unfunded pension liabilities.[65] This branch of the formula includes hope that the sustained economic surge won't be squandered as in the past and will lift local governments' revenues to grant the billions to the train as assumed by the CHSRA. With three cities already bankrupt, and no city in the last four years stepping forward to embrace high-speed rail with their dollars, this hope seems as improbable as others.

(6) Hope the resources are available – estimated to be $341 billion-$538 billion – to simply preserve the State's existing transportation infrastructure, not build additional infrastructure like the train. [66] If somehow all those hundreds of billions appear, proponents hope that more than twenty times what they now have to meet the high-speed train's promise of 2008 will be resurrected from many years of balanced State budgets, including what seems to be the Administration's desire to wrench Cap & Trade funds from their promised destinations.[67]

32. That's a great deal of hope, all pointed towards governments' coffers. Without all of that becoming true, and if the Governor insists that the project go forward, I believe the State may again face its voters to approve unknown billions more of General Obligation (GO) bonds

[65] The 'wild card' in the State's debt obligation is California's unfunded pension liability. While is not precisely known, it is thought to range from $50 billion to $500 billion. This 'unfunded pension liability' is frequently termed an 'off-balance-sheet' liability. Combined with 'on-balance-sheet' liabilities, such as Prop 1A and other GO bonds, it can result in a cash flow solvency crisis. See: "Going for Broke: Reforming California's Public Employee Pension Systems," April 2010 Policy Brief, Stanford Institute for Economic Policy Research.

[66] See: 2011 Statewide Transportation System Needs Assessment; November 2011; California Transportation Commission. Found at http://www.catc.ca.gov/reports/

[67] In a February 16, 2012 paper, the Legislative Analyst's Office warned that the notion of diverting funds from AB32 into the high-speed rail project rested on very thin legislative evidence. See: The 2012-13 Budget: Cap-And-Trade Auction Revenues. Found at: www.lao.ca.gov/.../cap-and-trade-auction-revenues-021612.pdf

for construction; plus eventually the costs of annual operating subsidies. The power of the available evidence suggests the Authority's unstated mission is to start building the first 130 miles of the IOS, try to find the remainder of $31 billion of Federal and State money to finish that; and hope that, like the Bay Bridge, once it's begun, some unknown rationale will be found to keep building what Californians have clearly stated in four surveys that they no longer not want.[68]

33. It is very clear that private 'at risk' capital or capital for 'at risk' Public Private Partnerships (PPPs) is unlikely to fill any part of the capital funding gap. The myth persists that private sector money, either 'at risk' singly or though Public Private Partnerships (PPPs) will appear after the State and Federal governments have risked $31 billion on a 'proof of concept' called the Initial Operating Segment (IOS). More than twenty years after the State began to invest in the high-speed rail concept, no private investment has appeared. Neither the worldwide history of high-speed rail's supposed profits, nor the Authority's business or financial plans have proven there is sufficient profit in the California project to overcome the all-too-obvious financial risks. Ask these simple questions: "If high-speed rail is so profitable, why did private US companies leave the rail business forty years ago, why are all high-speed rail systems owned and operated by or subsidized by governments and why haven't private investors clamored for the opportunity to build and California's system at their own risk?"

34. At present the only money to build the Central Valley 'backbone' are Federal grants and matching State General Obligation (GO) bonds. For what was promised voters but is now called the Full Phase 1, three layers of government were supposed to put in only a portion of the capital investment in the form of Federal grants, matching State bond authorization and local government grants to build the project.[69] The hope was that this up-front capital would attract 'at

[68] In September 2011, by Probolsky Research that found 62.4% of respondents would vote to stop the bullet train project and nearly that number said they are unlikely ever to travel on the train between San Francisco and Los Angeles. Found at http://www.probolskyresearch.com/wp-content/uploads/2011/09/Probolsky-Research-State-Spending-and-High-Speed-Rail-Results-Memorandum1.pdf. In December 2011 a USC Dornsife/Los Angeles Times Poll found that with the cost of the high-speed rail project rising dramatically "a clear majority of California's registered voters would reject the proposal if given a second chance to vote on it today." See: Dan Weikel and Ralph Vartabedian, "Californians would reject bullet train in revote, polls finds," *Los Angeles Times*, December 6, 2011, http://articles.latimes.com/2011/dec/06/local/la-me-train-poll-201112071. Two subsequent Field corporation polls have reaffirmed those findings.

[69] For a description of the 2008 mixes of construction finances, see: California High-Speed Train, Business Plan, (continued…)

risk' private investment or Public Private Partnerships (PPPs). But there are no local government grants or loans to the project, no private capital committed, no 'at risk' PPPs and no known serious prospects for any of those funds.

35. The Authority's Board has known since June 2008 that private sector capital is not interested in 'at risk' investments in California's high-speed rail project: investors want a 'blank check' subsidy, be it called a revenue guarantee. Five months before the 2008 Prop1A vote, the CHSRA's own consultants, the Infrastructure Management Group (IMG), told the Board that all the operators and equipment manufacturers, and nine out of ten builders, responding to their Requests for Expressions of Interest (RFEI) were reluctant to invest unless a large portion of the capital costs from governments was assured: *"Nearly all RFEI respondents noted that they would be unlikely to commit the resources necessary to participate in a procurement of this magnitude until after strong financial backing for the Project was provided by the public sector."* [70] IMG and Goldman Sachs repeated this message to the CHSRA Board fifteen months later. *"Due to uncertain demand, this will likely require a revenue guarantee."* [71] They stressed that; *"The Authority's major funding focus should be on federal grant funding, revenue guarantees and maximizing tools like vendor finance."* [72] There is no mention in that presentation to pursue private 'at risk' funding, from one of the world's largest investment banks.

36. While Goldman Sachs is willing to take Californians' money in the form of

(…continued)

November 2008; pg. 21. For that estimated $33Billion construction cost, the Federal government was to provide $12-16Billion in grants (36%-48%). The State was to provide $9Billion (27%); local governments $2-3Billion (6-9%) and public-private partnerships (PPPs) $6.5-7.5Billion (20%-23%). By 2009 the construction costs had risen to $43Billion and the financing sources proportions had changed slightly. The same State bonds were 22%, Federal grants were to be $17-19Billion (40-24%), local grants of $4-5Billion (8-9%) and private debt was to be $10-12Billion (25-27%). For 2009 numbers see HSRA Report To The Legislature; December 2009; pg. 93.

[70] See: Report of Responses to the Request for Expressions of Interest For Private Participation in the Development of A High-Speed Train System in California by the Infrastructure Management Group (IMG) to the California High-Speed Rail Authority Board Financing Workshop, dated October 2008; page 2 of 17. The presentation was given in June 2008 *"A presentation summarizing the results of the RFEI was made before the Authority Board of Directors on June 11, 2008* " The printed report issued in October 2008.

[71] Ibid

[72] See: Infrastructure Management Group and Goldman Sachs, September 3, 2009. There seems to be some considerable 'disconnect' between the Authority's work and their financial consultants. For example, less than three months before the CHSRA released its 2009 business plan, their consultants still believed the project would cost $33Billion (see pg 7).

advisory fees to the CHSRA, their pockets are empty when it comes to putting their 'skin in the game.' Certainly Goldman Sachs knows how to find money for very large investments: in 2000 the firm was a leader in Vodafone's $183 billion purchase of Mannesmann.[73] So, the firm has raised $100 billion or more. But the firm hasn't offered either their funds, or their shareholders' funds to help finance the California train. Nor apparently has Goldman Sachs risked its reputation and offered to lead or participate in a consortium of investors that would help build and/or operate that train. It would not be speculation to suggest Goldman Sachs, and perhaps other investment banks had an internal team perform a due diligence on the CHSRA's theoretical revenues and expenses; concluded that the claimed profits didn't 'pencil out' and decided to not put their funds or reputation 'at risk.' But for a fee, investors told the Authority something like; 'don't expect our money unless you give us a government-guaranteed profit.' The Authority continues to ignore these warnings, while continuing to ply their message about the interests of private investors. This conceit borders on, or is deception.

37. As a former Chair of the Senate Transportation & Housing Committee, who was closer to the 'inside' workings of the Authority than I will ever be, said on July 6th 2012 about capital availability beyond the CHSRA's funds in hand, *"Is there an additional commitment of federal funds? There is not. Is there an additional commitment of private funding? There is not. Is there a dedicated funding source we could look to in the coming years? There is not."* [74] And he concluded. "*Now it's always possible, of course, that 2, 5, or 10 years from now additional federal funding will be forthcoming. But as the High Speed Rail Authority acknowledged in our hearing in December* [2011], *it's hard to see that time over any reasonable horizon given the current lay of the land."* [75] The Senator's simple, yet elegant conclusions state my conclusions on potential future funding far better than I ever could.

38. **On Construction Start Dates –** Congress made special provision in the American

[73] See http://news.bbc.co.uk/2/hi/business/630293.stm

[74] This quote is from page 2 of a verbatim transcript of Senator Joe Simitian's comments at the Senate Floor Session on HSR Trailer Bill 1029, July 6, 2012. For Senator Simitian's arguments for voting "No" see: http://www.youtube.com/watch?v=NajQSD_Pscs&feature=youtu.be.

[75] Ibid. pg. 4

Recovery and Reinvestment Act (ARRA) requirements for California's high-speed rail project. Generally 'Stimulus Funds' had to be for "shovel ready" projects and their grants spent within a year. The ARRA's extension of more than five years, to September 30th 2017, is not a contractual agreement: it's a law and would take an Act of Congress to change it. The penalty for non-compliance could be the Federal government's demand that the State repay all Federal monies used.[76] Much is at stake.

39. To build any or all parts of the high-speed rail system requires starting somewhere. In August 2010, the Authority submitted several proposals to receive ARRA funds. The winning proposal was to begin construction the Central Valley. The DOT awarded the Authority nearly $200 million in September of that year for engineering/environmental work.[77] Three months later came the largest single ARRA grant ever given for high-speed rail, $2.27 billion.[78] Since late 2010 the Authority has declared, and FRA has confirmed that construction is to begin in the Central Valley, south of Merced and build towards Bakersfield.[79] It doesn't matter whether that initial construction is called Phase 1, the ICS, the IOS, the spine of the LA-SF system, or the Authority's Phase 1 Blended System. The project begins there, and all references to its start date refer to beginning there.[80].

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[76] ARRA provisions require the grants' funds to be dispersed prior to September 30th 2017 (end of Federal FY17). Pragmatically, contractors will have to make their final payments, submit their invoices for disbursement some five to six months earlier so those can be audited by the State, submitted to the Federal Government, which will then perform its own audit prior to reimbursing the State. Technically the penalties are based around the dictum of the State having wasted Federal monies, and therefore the Federal government would demand being reimbursed by the State. Practical politics may rule otherwise.

[77] This was FRA-Grant/Cooperative Agreement for Phase 1 Prelim. Engineering/Environmental Work; ($194M FR-HSR-0009-10-01-10) awarded September 22nd 2010. Found at http://www.cahighspeedrail.ca.gov/funding.aspx

[78] This was FRA-Grant/Cooperative Agreement for ARRA Funding ($2.27B-FR-HSR-009-10-01-01. December 22nd 2010. Found at http://www.cahighspeedrail.ca.gov/funding.aspx

[79] This was affirmed in a May 25th 2011 letter to CEO Roelof van Ark from the DOT's Undersecretary for Policy, Roy Kienitz, which says, "*On the matter of the initial construction segment, we view the Central Valley as a logical place to begin the core line to connect the San Francisco Bay Area with the Los Angeles Basin. We believe the decision to begin there was and remains a wise one.*" On January 3rd 2012, the Deputy Secretary of Transportation, John Pocari, reaffirmed that view in his letter; "*Beginning in the Central Valley will provide the core north-south infrastructure for California's HSR system . . "*

[80] Perhaps the 2010 decision to start with the Central Valley corridor was it was the only one close to being state environmental compliance; the only place where the Authority could showcase 220 mph speeds, and they were intrigued with the possibility of a test track that could be used there. The Authority also felt a sense of security since they were in constant talks with a 'welcoming' City of Fresno and did not expect the high levels of resistance they had experienced in Northern California.

40. The post-2008 plan was to start construction in September 2012 to meet the ARRA deadline. The Authority reiterated the ARRA obligation and that start date publically in Board meetings in 2009 and 2010, and Legislative hearings in December 2011.[81] But since January 2011, Parsons Brinckerhoff's Project Management Team's (PMT) progress reports have shown a different story. Ten months before the Authority's Chairman said the start date was on target, the PMT's progress report said that the last of the Records of Decision (ROD) for then-Phase 1 (Los Angeles to San Francisco on dedicated high-speed rail trains and infrastructure) would only be issued by September 2013, a year later than the Chairman's statement.[82] Each internal PMT progress report on start dates painted increasingly bleaker pictures. In January 2012, four months before the CHSRA's switch to the hybrid Phase 1 Blended System, the PMT's progress report said the last ROD would be issued in December 2014 – thirteen months later than the January 2011 PMT progress report had stated and more than two years after the Authority had defended.[83] By July 2012, the start date for the 'real' Phase 1 had slipped another year, to November 2015.[84]

[81] A good example of the Authority's public acknowledgment of the 'claw back' available to the Federal government and expressions of confidence they could start by September 2012 was then-Board member Rod Diridon's statement of August 6th 2009: *"Sept 2012 – contractors MUST be on the ground ready to work or else we have to give the ARRA money back."* See pages 10-11 of the Board Meeting transcript, found at http://www.calhsr.com/wp-content/uploads/2010/05/CHSRA-Board-Operations-Workshop-Transcript-Aug-6-2009.pdf. Board Member Diridon repeated the need to start in an April 15th 2010 Senate Sub-Committee on Finance exchange with a dubious Senator Simitian, who said*; "I worry that folks think they can hustle us along by using whatever is deadline is handy for that purpose."* As late as December 5th 2011, Chairman Richard, in front of a Senate Joint Committee hearing, said the project was on schedule to start in September 2012. Found at http://24.104.59.141/channel/viewvideo/3179; also see the August 6, 2009 HSRA Board Meeting Workshop video found at http://cahighspeedrail.ca.gov/assets/0/152/198/6712d432-0d99-483a-9461-7634ede505e4.mp4 and Tony Daniels' workshop presentation found at http://cahighspeedrail.ca.gov/assets/0/152/198/8b2bbb8d-a05e-4108-9b72-a0ff8b980361.pdf.

[82] A Record of decision (ROD) is the final step of an environmental clearance, which in this case, is when the FRA certifies the National Environmental Protect Act has been complied with and gives the go-ahead. In January 2010 the PMT expected the last of the Phase 1 Record of Decisions (ROD) to be issued by August 2012. See: http://www.calhsr.com/wp-content/uploads/2011/01/2010-01-Executive-Summary.pdf. But by January 2011 the PMT's progress reports stated the last of the Phase 1 RODs were to be issued by September 2013. See: http://www.calhsr.com/wp-content/uploads/2011/09/2011-01-Executive-Summary.pdf. This now twenty six month old document contradicts public statements made months after these documents were in the public domain. Strangely, the PMT's Procurement and Project Schedules from November 2011 told a different story – proposals due in September 2012 and the official Notice to Proceed (NTP) in January 2013 – different from the progress reports, but still later than the public claims. Procurement and Project Schedules from November 15th 2011 can be found at http://www.cahighspeedrail.ca.gov/assets/0/152/322/12f460c6-5130-4001-b8c9-cfeeabfb8548.pdf.

[83] In January 2012 the PMT said the last Phase 1 ROD was to be issued by December 2014. See: http://www.calhsr.com/wp-content/uploads/2012/06/2012-01-Executive-Summary.pdf

[84] See: http://www.calhsr.com/wp-content/uploads/2012/09/2012-07-Executive-Summary.pdf

In the past three years, according to the PMT reports, the ROD-dependent start date slipped from August 2012 to November 2015 – more than a year of slippage in each calendar year.

41. In May of 2012, when the CHSRA still defended a start date of September 2012, a LA Times story said, *"But state reports show the $6.5-billion Bay Bridge* [about five times over its original budget] *will have an average spending pace, or "burn rate," of $1.8 million per day when it is completed in 2013, less than half what the rail authority is planning."* [85] Even with that start date scenario, the 'burn rate' would be higher than any known transportation construction project in US history. The Authority defended its start dates, but failed to mention the January 2012 PMT progress report that already conflicted with their public stance. Then in late 2012, the realities of the start date were illuminated by two court declarations. In September, Parsons Brinckerhoff's (PB) Project Management Team (PMT) leader, said, *"Construction in earnest – large scale demolition, grading, etc. – likely would not commence until fall 2013 soonest."* A month later, PB's leader for the Central Valley attested; *"Construction in earnest is not expected to commence until very late 2013 or early 2014*." but ten days later withdrew that declaration, more closely aligning it to his superior's, saying; "*Construction activities would commence no earlier than the second half of 2013 . ."* [86] Something was amiss, and I hold that, on this issue of importance to the case, those closer to the realities of building such a megaproject are to be believed more than the Authority's management or Board.

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[85] On May 14, 2012, LA Times investigative reporter, Ralph Vartabedian published an article pointing out that a 'burn rate' of $3.5 million per calendar day on the Initial Operating Segment of the project would 2-3 times the fastest known: See Rail requires high-speed spending, at http://articles.latimes.com/2012/may/14/local/la-me-bullet-risks-20120514

[86] Court filings in the case of Madera County vs the California High-Speed Rail Authority (CHSRA) contradict one another on the matter of construction start dates. In a declaration signed September 19, 2012, Brent Felker, Parsons Brinckerhoff's Project Management Team (PMT) leader, said, *"Construction in earnest – large scale demolition, grading, etc. – likely would not commence until fall 2013 soonest."* But John Popoff, Parsons Brinckerhoff's director for the Central Valley construction attested the following; *"Construction in earnest is not expected to commence until very late 2013 or early 2014."* [Popoff declaration signed 31 October 2012, page 3, PDF page 5]. Ten days later, Mr. Popoff changed his statement and re-filed; saying, *" Construction activities would commence no earlier than the second half of 2013 sometime after NTP issuance, with construction likely commencing with more limited construction activities then ramping up thereafter."* [Popoff declaration signed November 9, 2012] In retrospect, Mr. Popoff, the engineer most aware of the actual problems facing the Authority in the Valley, was closer to what is now in the Authority's document, ICS_Schedule_Level3_CP1. The incident is disturbing in that it perhaps shows the ends to which the Authority will go to keep more reasonable and accurate portrayals of their progress from the courts and public.

42. A CHSRA document of February 2013 points out the Authority does not expect construction in the first of five discrete ICS section's (CP1) to start until March 2014 – eighteen months after the oft-announced planned start date of September 2012.[87] Nor does the Authority seem to be finished even the first roughly thirty miles until late 2018.[88] This document is also very optimistic. Examples:

(a) On page 2, in the section called 'Select RP (Real Property) Contractors, the document verifies that, as of February 2013, nothing was completed, even contracts with property appraisals. Yet preliminary designs for procurement were scheduled to have started over a year ago, and the Notice To Proceed (NTP) for the procurement was already five months behind schedule when the data for the document was collected.

(b) On page 2, Section 1602, the Permitting Process was nearly fifteen months behind schedule.

(c) On page 2, under Real Property heading, preparation of the appraisal maps was already five months late last December.

(d) On page 3, contracts to move irrigation channels, electrical distribution systems, roads and telephone towers, supposedly to be finished in 2011 and 2012, are still not completed. Theoretically construction work should have begun this month.

(e) On page 4, under the CP1 heading: First Access Granted to an Acquired Parcel – March 2014 – the earliest groundbreaking date, and the Last Access to be granted

[87] The responsibility for building first miles in the Central Valley is broken into five Construction Projects – CP1-CP5. But only CP5 lays rails on to the rail bed. CP1, the only with environmental clearance as of early March 2013, is broken into CP1a and CP1b, which add to approximately twenty-four miles: CP1c adds another six miles. The ICS construction schedule for Construction Package 1, as of January 2013, is from the California High-Speed Rail Authority; called *ICS Level 3_*Baseline Schedule Level, and dated 8 February 2013, It can be found at: http://www.calhsr.com/wp-content/uploads/2013/02/ICS_Schedule_Level3_CP1.pdf

[88] Op Cit. See, ICS construction schedule *ICS Level 3_*Baseline Schedule Level. Californians Advocating Responsible Rail Design (CARRD) found the February 8th 2013 in the CHSRA's records. CP stands for Construction Project. CP1 is the first section where construction will start – roughly 30 miles from south of Merced towards Fresno. The Authority can only begin there because they do not have environmental clearances beyond CP1 (which raises even more questions about the ability to meet the ARRA deadline). NTP is the Notice To Proceed, which is the legal definition of when shovels can go into the ground. Page 1 of the ICS Level 3 document (top about four rows down) recognizes the ARRA Construction Completion Deadline Buffer Date is (or was when prepared) 31-Mar-2017. But in the 'Finish' 1olumn on page 1, the estimated finish date as November 19, 2018. And page 5 of that document, points out that Civil Infrastructure Construction (From First Parcel Access) - CP1A/B, will only be completed in December 2017.

to an Acquired Parcel – Nov 2016. If the last parcels to which CHSRA is granted access are mid- distance between Merced and Fresno, are the contractors going to start in two (or more) places?

43. The February 2013 project schedule is to start building the first thirty miles in March 2014: the July 2012 PMT progress report said that the Record of Decision (ROD) – the last ROD for the IOS-South – will be issued only in November 2015. Parsons Brinckerhoff prepared both schedules. Which is closer to 'start date truth,' March 2014 or more than twenty months later? No one knows. But environmental clearances are not complete for sections after CP1's roughly thirty miles; construction cost estimates in those later sections are still at or below the 15% engineering estimate stage (ie. not reliable for bidding purposes) and land acquisition steps haven't begun. Although the Authority received bids for CP1 on January 18th 2013, no public notice on amounts or winners has been released as of late February.[89] CP1's future is still a mystery and what happens afterwards is a bigger mystery.

44. By mutual assent, the FRA and CHSRA postponed the September 2012 start date. Then in December 2012, the two agencies negated a May 2011 DOT ruling that had effectively required that each construction dollar spent be a 'blend' of Federal and State dollars.[90] In effect the CHSRA no longer has to meet the September 2017 deadline on spending ARRA grants in the 'blended' fashion. But this still may be a 'false dawn' for the Authority, given both the uncertain nature of acquiring the right-of-ways and conforming to the National Environmental Protection Act (NEPA) regulations, even if the Governor and Legislature 'streamline' CEQA regulations. These and other powerful hurdles still stand in the way of completing the ICS's first miles of the project.

45. In late February 2013, the Authority's CEO, Jeff Morales, assured a Legislative

[89] The Authority stalled releasing the actual bids for at least 30 days, despite the frustration of California Senate's Transportation Policy Chair, Mark DeSaulnier.

[90] The May 25th 2011 ruling was by then-Undersecretary Roy Kienitz in a letter to then-CEO Roelof van Ark. For the amended agreement see: AGREEMENT NUMBER: FR-HSR-0037-11-01-00, Attachment 1, page 93, which says, *"The Parties acknowledge their mutual benefit in efficiently spending the Federal and state funds to complete the Project and that there is an opportunity for substantial cost saving in Task 8 if the Grantee is allowed to accelerate the expenditure of ARRA funds."*

hearing that the project would start during this summer.[91] That official's statement, based on an insider's knowledge of the problems, must be taken at face value until further evidence shows otherwise.

46. **On the Validity of Ridership Forecasts –** I understand that an issue in this case is the accuracy, or lack of accuracy, of the CHSRA's ridership forecasts. Through the offices of its Project Management Team, Parsons Brinkerhoff (PB), the Authority has spent well over $5Million on the ridership issue, largely on the work of Cambridge Systematics (CS).[92] Since variables in both operating costs and revenue equations of the CHSRA's financial plans are generally proportional to the number of riders, the underlying ridership data must be defendable if not incontestable.

47. I believe faulty ridership information to be the Achilles Heel to the project's financial sustainability. In the halcyon days of 2008, the Authority said it was building a *". . 800-mile system designed to carry over 100 million people a year by 2030."* [93] By 2012, that had dwindled to CHSRA's Phase 1 Blended System carrying a low of 16.1 to a high of 26.8 million by 2030.[94] That is at most a quarter of what the Authority's paid-for ridership consultants told them before the vote. More stunning still is that in less than four years, the now-labeled Phase 1 Full Build, the closest surrogate for what voters were promised, medium forecast is 33 million riders.[95] The Department of Transport/Federal Railroad Administration (DOT/FRA) awards were based on ARRA guidelines that required a *". . reasonableness of revenue and operating and maintenance cost forecasts*".[96] The CHSRA's revenues were supposed to be based on reasonable

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[91] CEO Morales in an Assembly hearing, February 25th 2013 said, *"We have received our first bids for design-build, they came in mid-January and we again will be awarding that contract and underway by this summer; I expect so -- we will be again underway and breaking ground on the nation's first high speed system by this summer .... "* See this statement in a video from the Assembly Transportation Committee meeting of February 25th 2013. It occurs about 13 min and 15 seconds into the YouTube video, lasts about one minute and is located at http://youtu.be/WWhDk04_2bU

[92] The amount listed is $4,880,000. See page 29 of *Ridership Peer Review Panel, First Meeting, January 10, 2011*, Sacramento CA. Found at http://ebookbrowse.com/2011-01-10-ridership-peer-review-first-meeting-pdf-d79418701

[93] See: California High-Speed Train, Business Plan, November 2008; pg. 2.

[94] See California High-Speed Rail Program; Revised 2012 Business Plan, April 2012, Exhibit 5-12, pg. 5-17 [PDF 125]

[95] Ibid. Exhibit 5-15, page 5-20 [PDF 128]

[96] See ARRA HSIPR Requirements Federal Register/Volume 74, No. 119/Tuesday, June 23, 2009/Notices, Section 1.5 (page 28)

ridership forecasts. Certainly the plunge in ridership from the 100 million claim in the 2008 Plan to a third or less in the most recent Plan is not within the domain of reasonable. From my study of the worldwide realities of ridership forecasts, and observing the Authority's efforts to defend what are indefensibly high ridership numbers, the weight of evidence is against the Authority's unreasonable ridership forecasts.

48. Attempting to justify their ridership forecasts, in late 2010 the CHSRA awarded a thirty-month, sole source contract to five experts to provide a comprehensive, in-depth review of the models used to estimate ridership and revenue and the forecasts derived from them.[97] Reporting directly to the CEO of the CHSRA and not the Legislature, the Ridership Peer Review Panel contract cost the State about $460,000.[98] [Note that this panel is not the statutorily required Independent Peer Review Group.] Although the Panel is not independent of the CHSRA's payroll, in late July 2011 even they joined prior critics of the Cambridge Systematics model such as University of California, Berkeley's ITS, Smart Mobility and Californians Advocating Responsible Rail Design (CARRD).[99] In its report the paid-for review-cum-advisory Panel cited weaknesses in CS' model and methods.

> *"The Panel found several instances of incomplete or outdated information in the documentation, or could not locate such if it did exist." This refers to eight missing data variables such as levels of ridership on competing services, levels of airport congestion and fare levels used by CS.*[100]
>
> *". . the frequencies (passenger boardings) in San Francisco (8 million residents) in full build-out of 12 trains per hour are comparable to Tokyo, with 30 million residents). The Panel*

[97] Ibid The five experts are: Frank Koppelman, PhD, Professor Emeritus of Civil Engineering, Northwestern University (chair); Kay W. Axhausen, Dr.Ing Professor, Institute for Transport Planning and Systems, ETH, Zurich (Swiss Federal Institute of Technology Zurich); Billy Charlton, San Francisco County Transportation Authority; Eric Miller, PhD, Professor, Department of Civil Engineering and Director, Cities Centre, University of Toronto; Kenneth A. Small, PhD, Professor Emeritus, Department of Economics, UC Irvine. While professor Koppelman is a noted modeling expert, he not only has worked with Cambridge Systematics, but is also a colleague and former professor of the CS' chief model builder.

[98] Source: email from Nicholas Brand to Jeff Morales of March 19th 2011 (12:08pm) *"Assuming $250/hr for each of them the cost would be $131,600 for 10/11, $460,600 for all three years."* This email is part of a response to a public records request by Californians Advocating Responsible Rail Design (CARRD)

[99] See: *The Financial Risks Of California's Proposed High Speed Rail Project*; October 2010; pages 48-51. Found at http://www.cc-hsr.org/

[100] FINAL REPORT of the Independent Peer Review of the California High-Speed Rail Ridership and Revenue Forecasting Process: Findings and Recommendations from the January-March, 2011 Review Period; July 22, 2011

> *questioned whether such assumptions are realistic, and what the effect of lower levels of service (decreased frequency) on ridership would be."* [101]

49. Among the Panel's recommendations was ". . that any use of the model include some steps to make the demand forecasts more conservative, especially in forecasts for financial (investment and risk) analysis." and for CS to make "Comparisons of forecasted ridership to actual ridership on HSR systems in other parts of the world;" [102] This type of empirical or 'outside view' comparison is part of the due diligence process advocated by experts on megaprojects; specifically to avoid 'optimism bias' or, as they describe; "People who deliberately decide or conspire to be optimistic, are not optimistic; they are practicing strategic misrepresentation and are thus lying." [103]

50. The Authority has not been conservative in its ridership forecasts, nor incorporated the lessons from earlier overestimates of ridership. If the Authority had reviewed the worldwide experience of ridership forecasts, they would have found there are consistently far fewer riders than the forecasts pronounce. A DOT study found that the divergence between forecast and actual ridership was wider than the entire range of critical variables, and that *" . . forecasts overshot actual development by 38 to 578 percent (average of 257 percent)"* [104] While the cited-DOT study is from the 1990s, the 2003 Megaprojects And Risk authors concluded that ridership forecasts are no better today than in the past, and found through their survey of 210 megaprojects,

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[101] In 2009, the combined populations of San Francisco, Marin, Contra Costa, Alameda, Sacramento, and San Joaquin counties were 5.8Million. Assuming that total grows to 8Million on 2035, the CHSRA model double counts the populations of all of those counties except San Francisco and Marin in order to arrive at their boardings numbers. Effectively CS used the populations of the four other counties (Alameda, Contra Costa, Marin and Sonoma) to inflate San Francisco boardings assuming that riders would drive as far away as from eastern Sacramento County to use the train. Such a drive would pass over US Highway 5, the main north-south artery. At best, these are dubious assumptions.

[102] Op Cit FINAL REPORT of the Independent Peer Review. The GAO also was concerned that, *". . the ridership and revenue forecasts in the April 2012 revised business plan reflected a wider uncertainty range than the forecast presented in the November 2011 plan."* See: Susan A. Fleming, Director Physical Infrastructure Issues, in testimony before the Committee on Transportation and Infrastructure, House of Representatives, December 6, 2012.

[103] See: Bent Flyvbjerg**;** Quality Control and Due Diligence in Project Management: Getting Decisions Right by Taking the Outside View; Published online November 2012, Version 5.2

[104] Pickrell, Don: *Urban Rail Transit Projects: Forecast Versus Actual Ridership and Costs*; Washington, DC: US Department of Transportation, Urban Mass Transportation Administration, 1992: found in Flyvbjerg, Bent; et al: Megaprojects And Risk; pg. 25

that two-thirds of ridership forecasts are overestimated by two-thirds.[105] Those same authors stress: *". . (rail) forecasts were overestimated on the average by 65%."*[106] Examples abound: in 1992 Eurostar forecasted *"15 million passengers per annum in 1995 and growing"*. In 2009 Eurostar carried 9.2 million passengers, 60% of that forecast.[107] And in 2010, the World Bank reported that; *"High-speed* [rail] *projects have rarely met the full ridership forecasts asserted by their promoters . ."*[108] The Authority would also have found that airlines can not only take away passengers from established routes, they can cross-subsidize routes to drive out newcomers – such as is likely to happen with the CHSRA's train.[109]

51. What might be a pragmatic approach to understand how far the Authority's ridership forecasts deviate from reality? Using the USA's cousin to high-speed rail, Acela, as a surrogate for an 'outside view' and attracting the same 11% of California's 46.6Million residents in 2030 that Acela's market had in 2009, the 'real' Phase 1 (not the Phase 1 Blended System) system would carry about five million riders.[110] In July 2011, Amtrak announced that an enhanced Acela service could attract 18 million passengers on the Northeast (NE) Corridor, when completed in 2050; compared to CHSRA's Medium ridership forecast of 28.4 million riders for that same year.[111] Amtrak repeated that 2050 Vision claim a year later.[112] If the CHSRA had

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[105] See: Flyvbjerg, Bent; et al: Megaprojects And Risk; pg. 26

[106] Op Cit Flyvbjerg, Bent; et al: Megaprojects And Risk; pg. 26.

[107] Op Cit Flyvbjerg *et al*. for both the Eurostar quote at pg. 22

[108] See: Paul Amos, Dick Bullock and Jitendra Sondhi; World Bank Report No 55856; July 2010; pg.14. See: *www-wds.worldbank.org/.../558560WP0Box341SR1v08121jul101final.pdf.*

[109] Op Cit Ridership Peers' FINAL REPORT commented about airline competition could be applied to the US. For example, The February 2011 Amtrak monthly performance report found airlines change their pricing strategies to compete and recognized a fall-off Boston-Philadelphia passengers *"due to the entrance of Southwest Airlines into this market last June*." See: Amtrak Monthly Performance Report for February 2011: dated April 15th 2011; pg. A- 3.1. The entire quote is: "*Acela trends between Boston and Philadelphia continued to be down significantly in February due to the entrance of Southwest Airlines into this market last June."* Also note that the distance between Boston and Philadelphia's city centers is roughly 300 miles – an optimal distance for high-speed trains to compete: yet more potential passengers chose air travel. The Authority's projected 'real' Phase 1 is 520 miles between SF and LA's centers. See; PDF file found at: http://www.google.com/search?q=Acela+trends+between+Boston+and+Philadelphia+continued+to+be+down+significantly+in+February+due+to+the+entrance+of+Southwest+Airlines+into+this+market+last+June.%E2%80%9D+&ie=utf-8&oe=utf-8&aq=t&rls=org.mozilla:en-US:official&client=firefox-a

[110] The 11% is the ridership rate, which equals annual passengers divided by area's population. Acela attracts about 11% of the 28Million nearby residents along its route or roughly 4.8Million riders. Source: Table in "Amtrak Fiscal Year 2009" Oct. 2008-Sept. 2009. For population data see: http://www.city-data.com/forum/general-u-s/468856-census-bureaus-2030-population-projections-50-a.html

[111] "Full-Speed Ahead" by Al Engel, VP High-Speed Rail; appears on pg.10 of the July/August 2011 issue of All

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compared their results to Acela's Boston-to-Washington route they would first have found that the Northeast (NE) Corridor total distance is 450 miles; fifteen percent closer to the optimal distances for high-speed rail's competitiveness (300 miles) than the Authority's 540 mile SF-LA route.[113] The NE Corridor also has very good urban transit that connects to long distance train stations, higher city-center population densities, and a 150-year 'culture' of a train travel.[114] The CHSRA has never explained how it expects to capture half again as many riders in the 'real' Phase 1 (downtown LA to downtown SF) that Acela expects to capture by 2050 with roughly the same market size and distance, but with far less favorable urban densities and transit systems.

52. The Authority and its agent, Cambridge Systematics, didn't want a 'outside view' of their model's output against empirical data. In 2012, Bent Flyvbjerg and others who don't believe in the numinous quality of engineering companies' forecasts, and basing their work on two Nobel Prize winning economists' understanding of why megaprojects promoters underestimate costs and overestimate ridership said; *"Biased forecasts serve strategic purposes that dominate the commitment to accuracy and truth. Consider, for example, the case of urban rail. Here, the assumption of innocence regarding estimates typically cannot be upheld. Cities compete fiercely for approval and for scarce national funds for such projects, and pressures are strong to present business cases as favorably as possible . ."* [115] If Cambridge Systematics had

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Aboard. Also see: http://www.arrive-digital.com/arrive/20110708#pg10 This official claimed the market catchment area for the enhanced Acela is presently 50Million, less than ten percent more than the 46.4Million the Census Bureau forecasts for California in 2030. See: http://www.city-data.com/forum/general-u-s/468856-census-bureaus-2030-population-projections-50-a.html. The CHSRA ridership estimate for 2050 comes from the April 2012 Revised Draft Business Plan, Exhibit 5-12, page 5-17.

[112] See The Amtrak Vision for The Northeast Corridor, 2012 Update Report, July 2012, pg. iii.

[113] See: Google driving distances.

[114] This is at least 50% more than the Authority's November 2011 estimate for the 'real' Phase 1 from downtown Los Angeles to San Francisco's TransBay Terminal. Also noteworthy is Amtrak's admission that their Northeast Corridor enhancement, where DOT/FRA already owns or controls most of the rail right-of-ways would cost about $150 billion.

[115] Bent Flyvbjerg, "Quality Control and Due Diligence in Project Management: Getting Decisions Right by Taking the Outside View," International Journal of Project Management (November 2012), pg. 7. Daniel Kahneman and Amos Tversky won the Nobel Prize for Economics in 2002. Found at http://www.sciencedirect.com/science/article/pii/S026378631200138X Don Pickrell, a passenger rail expert confirmed such conclusions more than twenty years before. See: Don Pickrell, "A Desire Named Streetcar: Fantasy and Fact in Rail Transit Planning," Journal of the American Planning Association, Vol. 58 No. 2; Spring 1992, pp. 158-76.

followed the prescribed due diligence methods developed by the Nobel Prize winners more than a decade ago, there would not have been such great divergence between their ridership forecasts and more pragmatic reality. By vehemently defending its ridership forecasts. the Authority has not acted in the public interest. To do so would require 'outsiders' inspecting the record of high-speed rail ridership forecasts and altering the CS model's assumptions and computations. Having been a consultant to business and governments for over 35 years, I am painfully aware of the monetary and reputational costs of dashing the hopes of clients: and in my opinion Cambridge Systematics knew that an 'outside view' by truly independent experts of their ridership forecasts may have destroyed the Authority's arguments about revenues and therefore the system's profits, indicating a future violation of AB3034, and therefore the termination of California's high-speed rail project.

53. The Authority and their agent Cambridge Systematics (CS) have not shared their full ridership modeling algorithms and data with anyone 'outside' their realm, claiming proprietary privilege. They did this in the face of a project that could cost well over $100 billion (in Year of Expenditure dollars) to meet its promises to voters. This makes it impossible for the Authority's numbers on ridership to be properly analyzed. CHSRA refused requests from the Senate-authorized study by the Institute for Transportation Studies (ITS) to share this information; eventually ignoring the ITS' finding that CS' work was not reliable.[116] This ridership data is essential to understand what realistic revenue figures will be; and the amount of revenues obviously is essential to know whether the high-speed rail system will be profitable, or whether it will require a subsidy. This failure to disclose on the part of the Authority is an act of

[116] See email from David Brownstone Professor, Department of Economics - 3151 Social Science Plaza, University of California, Irvine, California 92697-5100 USA; Tel:+1 949-824-6231, Fax:+1 949-824-2182, Email:dbrownst@uci.edu WWW: http://www.economics.uci.edu/~dbrownst/ of the ITS, University of California to William Grindley at 1:49pm PST on Tuesday January 29 2013; that stated in total. *"We did not have access to the coding of the CS model, but we wouldn't have had the resources to carefully review it even if we had it."* On July 10th 2010, Board Member Rod Diridon said: *"You are saying, if I understood you properly, the lack of the margin of error calculations make the Cambridge Systematics (CS) work unreliable."* Prof. David Brownstone replied; "Yes, frankly." See: http://www.examiner.com/article/california-high-speed-rail-results-for-hire-mega-project-estimate-failures. Also see: Letter from Californians Advocating Responsible Rail Design (CARRD) to the HSRA Board, July 26, 2011, at http://www.calhsr.com/wp-content/uploads/2010/02/CARRD-Ridership-Public-Records-Letter-2011-07-26.pdf. See *Emails between CARRD and HSRA requesting Ridership Peer Review Group*, April 8 2011 thru June 30 2011. http://www.calhsr.com/wp-content/uploads/2010/02/PRR-Emails-requesting-Koppelman.pdf .

unfairness. How can 'outsiders' assess the validity of the Authority's ridership figures under these circumstances? This is particularly appropriate given that this is an extremely large public works project with fiduciary obligations owed to the citizens of California by the Authority.

54. The Legislature's fiduciary obligation is accompanied by a legal obligation. There should be no contest that AB3034 says that each 'useable segment' in the planned high-speed rail system must have a ridership and revenue forecast and estimate performed specifically for it.[117] Those calculations, plus material on operating and maintenance (O&M) expenses go towards proving sustainable profits, another AB3034 requirement. The history of how CHSRA came to claim profit for its preferred Initial Operating Segment-South (IOS), is telling. Cambridge Systematics' (CS) original ridership survey and forecasts were designed and prepared in 2005.[118] That ridership forecast projected ridership across the entire high-speed rail Phase 1 (San Francisco's center to Los Angeles's center) portion of the proposed 800-mile statewide system. However, that ridership forecast did not address the detailed level of ridership or revenues of a 'usable segment' as required in 2008 by AB3034. That's perhaps because the 'usable segment' concept only came to the fore three years after the 2005 forecast by the enactment of AB3034 in 2008. Nor did CS or the Authority know in 2005 that neither would construction not start where projected ridership and revenues would be high, but rather in the Central Valley nor would CHSA have relatively as little funding as it now does.[119]

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[117] AB3034, Section 2704.01 (g) says, *a; "Usable segment" means a portion of a corridor that includes at least two stations.* The useable segment requirement for forecasting ridership and revenue for useable segments is AB3034, Section 2704.08 (K)(f) or S&H Code Section2704.08 (c) (1) (C).

[118] There were major flaws in the 2005 Cambridge Systematics ridership survey design, including bias induced by asking a non-random sample of rail passengers if they would ride higher-speed rail. Another was that the survey was by region (not by county or city pairs), and included coastal populations and those from counties far north and east of Sacramento where residents were unlikely to use high-speed rail between the major metropolises much if at all: and also that in 2005 the Authority was also unaware of the relatively small percent of capital it would have in 2013 to build its system, nor how few track miles those available funds would build. The survey has been roundly criticized by outside experts such as the ITS at UC Berkeley, CARRD and Smart Mobility. Some of these critiques can be found in the research papers posted at www.sites.google.com/site/hsrcaliffr

[119] In sharp contrast to 2008's AB3034, Section 2704.08 (K)(f), that says*: " In selecting corridors or usable segments thereof for construction, the authority shall give priority to those corridors or usable segments . . Among other criteria it may use for establishing priorities for initiating construction on corridors or usable segments thereof, the authority shall include the following: (1) projected ridership and revenue . ."* either the FRA or the CHSRA or in tandem, then selected to start in Borden and proceed south towards Hanford, which led Democrat Dennis Cardoza the Congressman from that District to say the choice, *" . . defies logic and common sense . .* [with] *. . no hope of attaining the ridership needed to justify the cost of the project."* The quote is from a letter to FRA Administrator

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55. Both the 2008 Business Plan and November 2009 Business Plan had conformed to the voters' mandate on high-speed rail and did not contain a mention of 'usable segment' nor any ridership or revenue forecasts. It didn't make sense to, since the Authority planned to put into service the voter-approved full high-speed rail system on electrified, grade separated, and dedicated track between the downtowns of Los Angeles to San Francisco by 2020. 'Usable segments,' such as the IOS-South and IOS-North, first appeared in November 2011's Draft 2012 Business Plan. The Authority may have realized earlier that year that it had received most of the funding it was likely to receive in the foreseeable future, and reinterpreted its mission, without voter sanction, as being to build the system 'usable segment' by 'usable segment' when funds allowed. In the April 2012 Revised Draft Business Plan the CHSRA selected to build the IOS-South and there is no mention of another 'usable segment' in that document. From that point onward the Authority referred to the IOS-South as the Initial Operating Segment (IOS). To build by 'usable segments' and meet the letter of the law may be why CHSRA commissioned a supplemental CS ridership survey in May 2011, which was documented in a supplement to that Revised Plan.[120]

56. There were several important design flaws in CS' 2011 survey design, not inherent in the 2005 CS survey, nor the 2008 and 2009 plans that had reflected the Authority's aspirations to build the full high-speed rail system in one prodigious effort.[121] First, in 2011, nothing in the survey warned interviewees that the full high-speed rail service, voter-approved in 2008, would be not available between downtown San Francisco and Los Angeles' Union Station. Although by May 2011, the Authority knew it did not have funds to deliver on that promise to voters, the survey was silent on this point, yet that survey was an input to the ridership forecasts for the

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Joseph C. Szabo of November 30, 2010 by then Congressman Dennis A. Cardoza (D-CA 18th District).

[120] The May 2011 Survey appears in a document called "California High-Speed Rail 2012 Business Plan*; Ridership and Revenue Forecasting*: final technical memorandum prepared for Parsons Brinckerhoff for the California High-Speed Rail Authority by Cambridge Systematics, April 12, 2012. Found at: http://www.cahighspeedrail.ca.gov/assets/0/152/431/7b890372-19c0-4ba7-aa98-aa1d49dea11b.pdf

[121] PDF page 171 of CHSRA's California High-Speed Rail 2012 Business Plan*; Ridership and Revenue Forecasting*: final technical memorandum recognizes that Cambridge Systematics (CS) designed the 2011 survey: *"CS provided the survey questionnaire to Harris Interactive."* Found at: http://www.cahighspeedrail.ca.gov/assets/0/152/431/7b890372-19c0-4ba7-aa98-aa1d49dea11b.pdf

Authority's November 2011 Plan. Deliberately misleading or not, that flaw might have led to skewed survey responses because Central Valley interviewees might have thought they could ride the train between Central Valley stops and Bay Area stops as well as to stops like Anaheim in the Los Angeles Basin. These were 'rides' they had voted for. Their survey responses may have been very different if they had been informed that high-speed travel would only be available in the IOS 'usable segment': eg from a station in Merced to a station in Palmdale, or in an undisclosed location in the San Fernando Valley or later on to Los Angeles.[122] It appears that the 2011 survey only collected historical data regarding the prior travel of the participants: nothing was asked about future preferences to travel by air, car, train, or high-speed train. Therefore, the preferences for future travel had to continue to be based on the prior 2005 survey, when the high-speed rail system was envisioned to incorporate the Phase 1 high-speed train system, between Los Angeles' and San Francisco's centers by 2020. By 2011, that idea had been set aside, and the high-speed rail system had been redefined as being built in a series of construction phases, with passenger traffic over a series of 'usable segments' starting with the IOS. Clearly the limited scope of the 2011 survey did not collect new preferences for future travel that would be consistent with how the high-speed rail system was in fact going to be constructed, and made available to paying passengers. This allowed a significant bias to be incorporated into the updated ridership model (originally a 2005 view of an all-encompassing statewide high-speed rail system) when in fact there will be separate and discreet phases of passenger traffic starting with the IOS.

57. Second, the ultimately chosen IOS ridership estimates in the November 2011 plan,

[122] There is considerable disparity in CHSRA's documents between where the IOS-South is planned to stop south of the Central Valley. The now-certified April 2012 Plan, Exhibit ES-1 (page ES-3 or PDF 11) says the IOS-South, "*will close the gap between Bakersfield and Palmdale and connect the Central Valley to the Los Angeles Basin at San Fernando Valley, creating the first fully operational high-speed rail system.*" If the southernmost point in IOS-South is where the statement says (Palmdale), that is misleading both because Palmdale is northeast of the San Fernando Valley, and high-speed rail is not part of the IOS-South in the San Fernando Valley. Second, the map on page 2-2 in the April 2012 Plan shows the IOS-South (orange line) stopping in Palmdale, (other wise, why would investments in Metrolink as far north as to Palmdale be identified?) while on page 2-18 the IOS-South (green line) goes all the way to the San Fernando Valley. Third, the May 2012 report called California High-Speed Rail 2012 Business Plan*; Ridership and Revenue Forecasting*: final technical memorandum, (page 235) says the IOS trains will take 100 to 106 minutes from Merced to Palmdale, and 126 to 132 to 'San Fernando Valley' – wherever in the 260 square miles of that Valley the train is supposed to stop, such as Sylmar. The Authority is extremely vague on the southern terminus of IOS-South after more than a decade of planning and nearly $1 billion of expenditures.

based on CS' 2011 updated demographic and historic passenger travel data for 2025, had a medium forecast of 8.1 million riders. [123] It would be very hard not to be skeptical about even the lower of these estimates. In 2012, Amtrak's San Joaquin line, posted a record 1.1 million riders between Oakland and Bakersfield, in a banner year for growth.[124] The 8.3% year-on-year increase included passengers who took the Amtrak bus from Los Angeles to Bakersfield or vice versa to board or board onto or disembark from the Amtrak train. If the growth of Amtrak riders were to increase as robustly as between 2011 and 2012, by 2025 there would be about 3.4 million riders, or about half of the IOS projection. Two years ago Californians were asked to believe that the CS model, based on the 2005 survey and 2011's upgraded information, that indicated more than about 8.1 million riders – was credible. How could it be? The riders would come from the same market, including the San Fernando Valley and Los Angeles, as today's Amtrak San Joaquin line passengers. So in 2025 where will all those new riders come from? No evidence yet dampers the skepticism that twice to three times as many riders – 2 to 7 million more riders in 2025 than they project – will take their train in 2025 than an 'outside view' of existing ridership traffic in 2025.[125]

58. Third, under any plan that is anything less that the full high-speed rail experience voters approved, passengers in the IOS will still have to change their mode of surface transport at least once in a journey, to or from a train (Metrolink) or auto or bus. Those going to or from the downtown centers of Los Angeles or San Francisco at least probably change twice. The CS 2011 survey never touched on this realistic issue.[126] It could have asked how respondents viewed using

[123] See Chapter Six, page 6-15 of the November 2011 California High-Speed Rail Program; Draft 2012 Business Plan. These forecasts are detailed in a separate document.

[124] See: "Amtrak's San Joaquin line sets ridership record in 2012" The Fresno Bee, January 1, 2013, by Tim Sheehan. Found at: http://www.fresnobee.com/2013/01/01/3119238/amtraks-san-joaquin-line-posts.html.

[125] The terms 'outside view' and 'inside view' are used in a recent paper that describes a method to de-bias megaproject ridership forecasts. See: Bent Flyvbjerg, "Quality Control and Due Diligence in Project Management: Getting Decisions Right by Taking the Outside View," International Journal of Project Management (November 2012). Found at http://dx.doi.org/10.1016/j.ijproman.2012.10.007 or http://www.sciencedirect.com/science/article/pii/S026378631200138X

[126] Op Cit. Although Appendix D [PDF page 200] of the 2012's Business Plan*; Ridership and Revenue Forecasting*: final technical memorandum; Table 22 outlines the 2011 surveys results regarding historical trips by auto, air, rail and other, including bus. It did not measure, and it does not speak to the issue of the impacts on ridership of changing between any of those modes during the course of a future trip. Found at: http://www.cahighspeedrail.ca.gov/assets/0/152/431/7b890372-19c0-4ba7-aa98-aa1d49dea11b.pdf

the IOS segment if they knew they would still have to switch to or from either busses, Metrolink to use a bus or rent a car to get to their destinations south of Palmdale. Or for those going north of Merced if they knew they would need to rent a car or switch to Amtrak. Why would one, three or seven million potential new passengers make the choice to endure the same inconvenient, time-wasting modal changes that Amtrak's San Joaquin passengers now face? That flaw alone of CHSRA 2011's forecasts would have stretched credulity. Rather than doing a telephone, internet or mail-based survey in 2011 incorporating questions that measured the likelihood of potential passengers in or near Sacramento and in or near San Francisco were likely to take a bus to Merced to catch the CHSRA's train to either Palmdale, or the San Fernando Valley, and then take Metrolink to downtown Los Angeles - the 2011 survey only collected respondents' prior travel patterns and demographics. Since theses markets are the sources of about 20% of riders in CS's IOS forecast, that practicality would likely have serious negative impacts on the model's output.

59. Fourth, with any level of a paid-for service, there is always an impact of price changes on riders' choices about the same or similar offerings. Ridership surveys are notoriously overly optimistic, particularly when respondents are not asked to confront paying more than they presently pay for the same product or service.[127] The 2011 CS supplemental effort falls into this pattern. No questions were asked of respondents in 2011 whether they knew that present-day California Amtrak passengers' tickets had hidden subsidies about equal to what they paid for their rides; or conversely, whether they would be willing to pay twice what they would pay for a train trip of equal distance.[128] Subsidies to Amtrak's California riders are deep, but by law CHSRA's

[127] Citing a new study, where fifty-three of sixty-two rail projects' ridership demand was overestimated, Susan A. Fleming, Director Physical Infrastructure Issues, in testimony before the Committee on Transportation and Infrastructure, House of Representatives, December 6, 2012, observed that *"Research on ridership and revenue forecasts for rail infrastructure projects have shown that ridership forecasts are often overestimated and actual ridership is likely to be lower."* pg. 13 (PDF pg. 15). For the study cited by Fleming see: Bent Flyvbjerg, "Quality Control and Due Diligence in Project Management: Getting Decisions Right by Taking the Outside View," International Journal of Project Management (November 2012). See Table 3 on page 13. Found at http://dx.doi.org/10.1016/j.ijproman.2012.10.007 or http://www.sciencedirect.com/science/article/pii/S026378631200138X

[128] Op Cit. CHSRA's 2012's Business Plan*; Ridership and Revenue Forecasting*: final technical memorandum. Harris Interactive conducted the survey, although *"CS provided the survey questionnaire to Harris Interactive."* for the more than 15,000 internet-based interviews. See PDF page 171. Found at: http://www.cahighspeedrail.ca.gov/assets/0/152/431/7b890372-19c0-4ba7-aa98-aa1d49dea11b.pdf

riders won't have them. In 2009 the average ticket price for the three Amtrak lines was 21¢ per passenger mile (PPM), while the average operating and maintenance cost for the three was about 45¢ PPM. [129] On average, the State's subsidy to Amtrak riders is slightly more than (53%) the ticket price that riders pay.[130] The Central Valley San Joaquin line's passenger fares ranged from 21¢ to 29¢ PPM, depending on when a ticket is purchased, while in FY2008-09 the line had revenues of $25.9 million and expenses of $47.9 million – ie expenses were $22 million higher than fares collected. [131] The subsidy to each San Joaquin line ticket averaged 46% – that is, nearly half what it cost to run that train along that route.[132]

60. Computing the CHSRA's train fares, based on the Authority's 2012 adopted business plan, indicates the CHSRA's train tickets between Fresno and Bakersfield will be about $52, or 48¢ PPM.[133] Therefore CHSRA's train's fares for Central Valley riders would be 60%-66% higher per passenger mile than today's Amtrak rides within the Central Valley whether on CHSRA's trains in the IOS, the Bay-to-Basin or the Phase 1 Blended System's tenure – ie throughout the life of the Authority's known service offerings. The 2011 CS ridership forecast says the majority of the IOS riders' origins and destinations will be somewhere between Merced and Palmdale.[134] Therefore, it is difficult to see why riders in the heart of the Authority's service offerings would give up their subsidized 29¢ PPM fare for the Authority's 48¢ PPM fare. That is unless the Amtrak service is to be cancelled thereby forcing dependent customers to incur a substantial price increase – and reviewing the baseline data, it seems CHSRA intends to take away all the present-day Amtrak passengers. On average, the Authority proposes to more than double the cost of the same rides for Central Valley residents. It is probable that the few minutes

[129] For a discussion about the depth of subsidies on California's passenger rail lines, compared with what CHSRA intends to charge, see 'To Repeat: The CHSRA's Train Will Need A Subsidy Forever' August 22 2012. For a discussion on revenues see pp. 20. For discussion on operating costs see pages 27/28. Found at: www.sites.google.com/site/hsrcaliffr. Appendix 10 (starts on page 186) deals specifically with the operating economics of Amtrak's San Joaquin route.

[130] The San Joaquin line lost $5.79 per passenger in 2012. That operating loss, along with the losses of the Pacific Surfliner and the Capitol Corridor line, cost the State nearly $100 million. Op Cit. Fresno Bee, January 1, 2013.

[131] Op Cit 'To Repeat' See Appendix 5, page 2 for revenues. For Operating Expenses, see Appendix 10, page 186 of the To Repeat report, which reproduces the FFY 2008-09 Operating Performance table for the San Joaquin route.

[132] Op Cit 'To Repeat' See FN 107, page 39

[133] Op Cit 'To Repeat' See Appendix 5, page 2

[134] Op Cit. CHSRA's 2012's Business Plan*; Ridership and Revenue Forecasting*: final technical memorandum.

between Central Valley stops saved by the CHSRA's train won't appear to be attractive to most non-wealthy Central Valley-origin-or-destination passengers. Since the Central Valley is not one of the state's wealthy areas and since Amtrak passengers who ride their rails are probably not wealthy, it's practical to think the vast majority of high-speed rail riders won't be wealthy. A price increase by three-fifths would extinguish any private business trying to sell a similar product or service, but this doesn't seem to be part of the Authority's calculus. Even more skepticism seems warranted about the validity of the IOS's ridership and revenue forecasts, the B-to-B or the Phase 1 Blended System's forecasts that don't take into account the marginal impacts of price vs service trade-offs for Central Valley residents. The entire financial success of the IOS seems based on travelers riding buses in the north and Metrolink in the south; but there has been no survey of potential travelers to measure their interest in the combined prices and combined schedules of the three 'legs' of these trips. No survey, only CS's employees' assumptions.

61. A fifth reason to be skeptical of ridership and revenue forecasts for the IOS as well as the Phase 1 Blended System, is that the CHSRA's ridership estimates are based on the Department of Finance's (DOF) population estimates. The most recent DOF estimates were released in March 2010. More than two years later, the University of Southern California's (USC) School of Public Policy released its population growth projections for the state – the population was growing significantly lower rate than the DOF projections.[135] The USC study showed the state is now expected to reach the same level of population about eight years later than the DOF estimates, and therefore the Authority's business and funding plans base their ridership and revenue projections on is overly optimistic. The implications of the USC study, based on more recent field surveys than the DOF forecasts, are that there is less urgency to commence building the system and that the Authority's ridership and operating revenue projections should be revised downward. Even Cambridge Systematics admits that the year 2000 database on which their modeling has since been calibrated was taken, ". . *at the height of the "dot.com" boom*." and that

[135] The USC population study and forecast was released in April 2012. It acknowledged the DOF work, but used more up-to-date field surveys during the Great Recession to make its forecasts. See: http://news.usc.edu/#!/article/33871/usc-projection-of-california-population-shows-massive-slowdown/

"The 2008 population synthesis data used for the survey expansion are based on underlying population characteristics from the 2000 Census and are, in essence, pre-great recession data." [136] That validates the conclusions of the USC's findings that the rush to build is unwarranted.

62. Nothing has been done since May 2011 that supports the IOS's ridership or revenue claims that are the basis of the now-adopted Revised Business Plan of April 2012. In fact, the 'supplemental survey' of May 2011 was not a survey at all of the type that AB3034 demands for making ridership and revenue forecasts in each operating segment. The 2011 internet-based-survey's sole purpose was to recalibrate the findings from 2000's inputs regarding historic travel patterns, which went into the 2005 model, which then went into CS' 2008 output. Cambridge Systematics (CS) describes the 2011 process this way;

> *"CS designed the survey mechanism and hired Harris Interactive to conduct the survey in May and June, 2011. Harris employed a web-based polling methodology to contact California residents and perform the survey on line. The survey will be used to recalibrate and validate the model to 2008 conditions. Therefore, the 2011 data was factored to 2008 conditions. Throughout this memo, we refer to this survey and factoring effort as the 2011/2008 Trip Frequency Survey."* [137]

63. As the Authority states, the underlying database is still the year 2000 database, *"The model base year is 2000 and the forecast year is 2030."* [138] No questions were asked in 2011 about modal changes or price/value tradeoffs. No questions were asked in the 2011 survey about interest in riding a high-speed train in the Central Valley portion of the IOS, plus buses, cars and Metrolink at either end.[139] In 2011 Cambridge Systematics took their statewide ridership model and 'calibrated it' with unknown proportions of that year 2000-based model to be a

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[136] Op Cit. CHSRA's 2012's Business Plan*; Ridership and Revenue Forecasting*: final technical memorandum. Page 35 [PDF pg. 203]

[137] Op Cit. CHSRA's 2012's Business Plan*; Ridership and Revenue Forecasting*: final technical memorandum. See PDF pg. 171

[138] Op Cit. CHSRA's 2012's Business Plan*; Ridership and Revenue Forecasting*: final technical memorandum. Page 1-5 [PDF pg 16] Cambridge Systematics is clear on the point that *"The model base year is 2000 and the forecast year is 2030."* Then on page 4-1 [PDF pg 35] the report says, *"The expanded results provide an updated picture of medium- and long-distance interregional travel in California from that used for the 2000 calibration and validation of the existing R&R* [Ridership and Revenue] *Model."*

[139] Op Cit. CHSRA's 2012's Business Plan*; Ridership and Revenue Forecasting*: final technical memorandum. See: PDF pp. 204-217.

surrogate for the IOS's ridership. Briefly stated, CS 'tweaked' their statewide model based on CS' employees' assumptions about who, or how many, or what proportion of the database would travel within the IOS, based on the 2005 survey where future preferences were measured for the entire statewide high-speed rail system. At least two problems arise from that approach. First, CS' assumptions and methodologies are unknown to anyone trying to understand the inputs or methodology of their 'inside view' therefore the conclusion here can only be that 'it seems.' That type of CS, and therefore, CHSRA exclusivity leaves outsiders incapable of making a fair assessment of the validity of their 'tweaked' model's outcomes. Second, the highly granular nature of input data from the original 2005 survey may have induced sampling errors that skewed the 'tweaked' output because fewer respondents would be from the Central Valley than would be within the boundaries of the overall standard mean deviation of the statewide model. More simply put, there may have been so few Central Valley folks questioned in 2000 that statistics based on their answers were worthless. From this analysis, and my experience designing and understanding surveys, I conclude that the ridership (and eventually revenue) outcomes from 'tweaking' CS' model was not what would have been the outcome of a genuine survey of potential IOS riders. Those forecasts and their provenance severely compromise the validity of CHSRA's ridership and revenue forecasts for IOS.[140] Based on these flaws, I firmly believe

[140] Even the Authority's in-house Ridership Peer Review Panel reports do not mention or describe the term 'usable segment.' Although the Panel later admitted that, *"remaining unresolved issues identified by the Panel in the first report"* and that a new survey had to be conducted, the 2011 survey's credibility to forecast for the Blended System are compromised in part because it only addressed the IOS ridership as a component of its 2011 model-driven outcome and not a discreet component of that survey, and therefore the outcome is a 'tweaked' model's output, not a survey in the IOS region. Note also that Cambridge Systematics designed the survey, which may have been biased, as well as other flaws noted in the text. In its May 2012 report, the Ridership Group stated that it *"has anticipated the development of a thoroughly revised modeling system"*, which it proposed be designated Version 2. Then went on to say that, *"The Panel has previously identified a number of long-term issues that can only be overcome with the collection and analysis of new survey data"* See: "Ridership Peer Review Group, then the "Ridership Peer Review Group: Progress Report 4", dated May 29, 2012, pp. 4-5. Found at: http://www.cahighspeedrail.ca.gov/Ridership_and_Revenue_Forecasting_Study.aspx In its October 2012 report, the Panel stated, *"we have considered more precisely the priorities for developing components of the major revision to the model, which we have called "Version 2.0,"* and now recommend certain of these to be completed for the 2014 Business Plan. The Panel also spoke about Cambridge Systematics' existing proposal for a sample survey targeting 4,500 completed surveys in three corridors: SF Bay to Central Valley, Central Valley to LA Basin, and SF Bay to LA Basin. This was the first time a 'Valley to LA Basin' sample – ie the IOS-South –was mentioned. See: "Ridership Peer Review Group, then the "Ridership Peer Review Group: Progress Report 5", dated October 31, 2012, pages 1 and 7/8. Found at: http://www.cahighspeedrail.ca.gov/Ridership_and_Revenue_Forecasting_Study.aspx. The Cambridge Systematics' meeting with the Ridership Peer Review Group of May 2011, noted that, *"In the May 2-3,*

(continued…)

nowhere near the number of CHSRA's projected Central Valley passengers, the core of CHSRA's IOS's projected financial success, will come if they build it.

64. Predicting how many passengers could produce the revenue to offset the costs of operating the IOS's first construction, the Initial Construction Sector (ICS), is a non-starter. In mid-2011 Parsons Brinckerhoff's then-Project Management Team's leader told CHSRA's Board, that with respect to the Merced to Bakersfield ICS section, *". . we're not calling it an extended ICS because in all likeli[hood], we don't think that the revenue projections with associated costs would make a viable system."* These comments were almost immediately echoed by then-Chairman of the Authority, Curt Pringle, *"We understand that with an ICS, we don't make enough money to pay for the operations."* [141] Those coherent and lucid statements of nearly two years ago from the Authority's Project Management Team's leader and its Chair, shed more light on the probable outcome of spending $6 billion in the Central Valley on un-electrified track without rolling stock than anything since. A year later, former Amtrak Chief Engineer Frank Vacca replaced Mr. van Winkle as PMT Leader.[142] Spending continued at about one-million per working day.[143]

65. In practical terms, the damage done by this *deus ex machina* approach may be irretrievable. That's because whatever the outcome, even if based on flawed ridership and revenue projections, construction on the IOS is supposed to be underway soon. Ask the practical question: would the Authority throw away millions of dollars already spent on forecasting after

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2011 Peer Review Panel meeting, the overall 2000 and 2030 annual per capita long distance trip rates were deemed acceptable, albeit possibly ***at the high end of the acceptable range****."* Op Cit. 2012 Business Plan*; Ridership and Revenue Forecasting*: final technical memorandum; While a cynic might see the fact of CS's proposal existing in May 2012, coupled with the weakened reputation of the Panel's chairman due to his relationships with CS and its employees, as merely another attempt to charge professional time and materials to Californians, this may not be so. But because the project starts construction in mid-2013, and the survey has yet to be funded, the practical effects of a de-biased survey would be negligible if not worthless.

[141] The quotes come from the July 14, 2011 CHSRA Board Meeting, Agenda Item #7, Initial Operating Segment, at approximately 4hours: 16 minutes into this recording: http://stateofcalifornia.granicus.com/MediaPlayer.php?publish_id=39

[142] For an outline of the senior management changes in the CHSRA's project, see: High-speed rail: More changes atop the state's HSR agency; Fresno Bee Newsroom Blog; by Tim Sheehan, October 25, 2012. Found at http://news.fresnobeehive.com/archives/date/2012/10/page/2

[143] Spending in FY2012-13 will likely be above $200 million. There are 250 working days per year: therefore spending per day is likely to be over $800,000 per day.

they start to build the ICS or IOS even if the results of a new survey of the type required in AB3034 conclusively showed ridership did not exist to support their claims? Construction of the IOS could waste billions of dollars if independently verified evidence showed far fewer riders on the IOS than the Authority currently projects; all because of a flawed 2011 ridership model's outputs, or because other choices in the management hierarchy keep the project alive despite these or other noted flaws.

66. **On Sustainable Profitability –** I understand that at issue in this case is that the operations of the high-speed train program must be profitable. The Prop1 Voter Information Guide says; "*Two independent ridership and revenue forecasts by outside experts were subject to tough peer review*" [144] Despite CHSRA's repeated assurances that even the rump Initial Operating Segment (IOS) will be profitable, there is no independently verified accounting that, with the exception of two routes, high-speed systems anywhere in the world are operationally profitable.[145] To have an operating profit, as CHSRA claims its system will have from the start of IOS operations onward, revenues must exceed operating and maintenance (O&M) expenses. Revenues are the consequence of ridership multiplied by the per passenger mile (PPM) charges. Setting aside for the moment the very contentious issue of the reasonableness of the Authority's ridership forecasts, the per passenger mile revenue side of CHSRA's profitability equation is simple math.[146] Dividing the Authority's $81 forecasted fare by 382 miles between the two largest metropolitan centers produces a long haul fare in the order of 23¢ per passenger mile (PPM).[147]

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[144] http://www.voterguide.sos.ca.gov/past/2008/general/pdf-guide/suppl-complete-guide.pdf

[145] In May of 2009 Iñaki Barrón de Angoiti, Director of High-Speed Rail at the International Union of Railways (IUR), said, *"Only two routes in the world — between Tokyo and Osaka, and between Paris and Lyon — have broken even."* See; Spain's High-Speed Rail Offers Guideposts For U.S." NY Times, May 29, 2009. One would assume the Director's job includes promoting high-speed rail to promote those systems. For Director Barrón de Angoiti to speak frankly about the subsidized systems speaks volumes.

[146] For an explanation that FRA requires financial performance measured in per passenger miles rather than seat miles, and why per passenger miles (PPM) is the financial metric used universally to measure the financial performance in the rail and airline industries and therefore recommended by the DOT/FRA, see Appendix 16 for DOT/FRA guidance on this subject. Also see Appendix 3 that describes why per passenger miles (PPM) is the financial metric used universally in the rail and airline industries and is recommended by the DOT/FRA.

[147] Google Maps says the shortest driving distance from the present day SF Caltrain station to LA's Union State is 382 miles. See:
http://maps.google.com/maps?saddr=4th+and+Townsend%2C+san+francisco&daddr=union+station+los+angeles+ca

(continued…)

67. However, no one except the Authority and its agents really know whether this, or a proximate or another number, is the actual number the PPM revenue the Authority used in its profitability equations. In the seesaw history of CHSRA's financial forecasts – from ridership for the now-described routes of over 50 million to less than 30 million, undisclosed operating and maintenance (O&M) expenses and one-way fares between the largest metropolitan centers have zigzagged from $50 to $105 to $81 – the Authority has always claimed that revenues exceed expenses. Without an independent-of-the Authority forensic review of the input data and the equations that produce the profits, no one but the Authority knows if the high-speed train system is truly profitable as it must be to meet AB3034's requirements and the promise to 2008's voters of no operating subsidies. The Authority's proprietary knowledge of what revenue numbers went into its equations puts independent analysts at a disadvantage, makes discussion about ridership and revenues sterile, and CHSRA's claims of transparency hollow. The 'playing field' is not level. There has been no way to independently verify whether these numbers are accurate or reasonable.

68. The Authority's fare calibration, based on its 'outside view' for competitive positioning, was driven by the need to compete for passengers with airlines serving the two major metropolitan centers.[148] To do that, it had to set its price at or below the 29¢ PPM the intra-state

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(…continued)
. The Draft 2012 Revised Plan is based on 540 rail miles between SF and Anaheim for the Full Phase 1; or 505 rail miles for Blended Phase 1. Subtracting the 20 rail miles of the Y spur to Merced brings the distance from SF Transbay Terminal to LA Union Station to 485 miles. The Authority's rail miles distance is more than 100 miles, or about 27% longer than the 383 driving miles. Using the Authority's 540, or 505 miles would lower the cost per passenger mile to within the teens, and make their argument of profitability even more difficult to uphold. The To Repeat report uses the 382 miles driving distance throughout as the consistent benchmark for comparing fares on a per passenger mile basis as it is the best reflection of the travel consumer's decision process. See To Repeat: The CHSRA's Train Will Need An Operating Subsidy Forever; August 2012, pg. Figure 1 page 18 and page 21. Found at: www.sites.google.com/site/hsrcaliffr and at www.cc-hsr.org, then go to Financial Reports

[148] For a discussion of 'inside view' and 'outside view' see: Bent Flyvbjerg**;** Quality Control and Due Diligence in Project Management: Getting Decisions Right by Taking the Outside View; Published online November 2012, Version 5.2. Page 4 of that paper says, *"Following and expanding upon Buehler, Griffin, and Ross (1994), Lovallo and Kahneman (2003:58) would later call such common behavior the "planning fallacy."3 Kahneman (1994) argued that this fallacy stems from actors taking an "inside view" focusing on the constituents of the specific planned action rather than on the outcomes of similar actions already completed. Kahneman also identified a cure to the fallacy, namely taking an "outside view" on planned actions, which consists in using experience from previous similar ventures already completed . ."* Daniel Kahneman shared the Nobel Prize of 2002 for economics. Found at http://www.sciencedirect.com/science/article/pii/S026378631200138X

air carriers charge.[149] After studying the possibility of charging half the airline's PPM fares to capture passengers, the Authority chose to price their train's PPM fares 17% lower than average airline fares, then created for shorter distance, higher fares, which about 23¢ PPM between 2025 and 2060. The 'outside view' by outsiders paints a very different picture. It seems worth touching what actual high-speed rail systems charge per passenger mile (PPM).[150]

– The LAO said the CHSRA's break-even must be at least 30¢ PPM

– The average high-speed rail fare in Europe is over 45¢ PP

– Spain's AVE operator told the Authority their fare was 55¢ PPM

– The US Northeast Corridor's Acela fare is over 70¢ PPM

69. The national government of Brasil's thrice-failed attempts to get high-speed rail underway indicate that the cheapest fares between São Paulo and Rio de Janeiro would be 38¢ PPM.[151] If the fares for California Amtrak's were not subsidized by the State, they would be about 45¢ PPM.[152] Those and other real world examples make it impossible to believe the Authority's formula-chosen fare (23¢ PPM) that is designed to compete with airlines fares (29¢ PPM) is not flawed. And it is inconceivable that the CHSRA's PPM fare could be a less than a third of Acela's.

70. Likewise, no one outside the Authority knows what constitutes the other half of the CHSRA's profit equation; operating and maintenance (O&M) expenses – neither whether the inputs are complete nor the computing formula accurate. One would assume that the CHSRA should have adopted the same O&M accounting standards as used by the U.S. passenger rail system. Since the Authority has a Praetorian wall around its profits' calculations, the portion of profits that includes what variables actually went into their computations of O&M expenses is

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[149] See 'To Repeat: The CHSRA's Train Will Need A Subsidy Forever' August 22 2012. For a discussion on revenues see pp. 24. Found at: www.sites.google.com/site/hsrcaliffr

[150] Op Cit 'To Repeat' see pp. 21.

[151] *"The cheapest tickets will be 200 reais one-way, which is out of reach for most Brazilians, since it is more than a quarter the minimum monthly wage."* If 1Reai (Real) is equal to US$0.50, then a 200Reai ticket would be $US100. The Google driving distance is 263 miles making, the Per Passenger Mile (PPM) cost at $0.38 (38¢ PPM). See: The Economist; "High-speed rail in Brazil: Fourth time unlucky" by H.J. August 24th 2012. Found at http://www.economist.com/blogs/americasview/2012/08/high-speed-rail-brazil

[152] Ibid. To Repeat See Appendix 11 for an analysis of CA Amtrak's Operational Results

still a mystery. Nor does the United States' Government Accountability Office (GAO) know, as the Director of Physical Infrastructure testified in December 2012; ". . *over half of the operating costs are captured in a single category called Train Operations and Maintenance. In addition, the Authority did not clearly describe certain assumptions underlying both* [capital and operating] *cost estimates.*[153] In short, the U.S. Government is as much 'in the dark' about CHSRA's operating expenses, and therefore the ways operating profits are calculated as anyone else. This opacity is a large and unfair advantage to the Authority's efforts to promote its project.

71. Without publically available, forensic level data to analyze, the Authority claims a 50% profit margin, which means the other half of the profit equation deducted from revenues is O&M expense. The mathematics bring CHSRA's O&M expenses to about 10¢ PPM after 2025. Any operating entity loathes revealing its operating expenses. Though a public entity, the Authority seems to be no different. Consequently, to estimate the Authority's and other high-speed rail operators' Operating and Maintenance (O&M) expenses becomes a matter of successive approximation based on what can be extracted and analyzed bit-by-bit from public documents. When faced with this task, the authors of the 'To Repeat' report were forced to build an 'inside view' of actual operating entities' O&M expenses from reports and presentations.[154]. Some findings:[155]

– The LAO found international O&M expenses at about 30¢ PPM

– Spain's AVE operator told CHSRA's Board theirs was 45¢ PPM

– Amtrak in California operates at about 45¢ PPM

– Amtrak in the Northeast Corridor operates at 48¢ PPM

– Acela (aka Acela Express) operates at 61¢ PPM

72. The 'To Repeat' authors do not claim scientific precision, but the differences between the Authority's claim (10¢ PPM) and actual operators' O&M costs don't require them to.

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[153] Statement of Susan A. Fleming, Director Physical Infrastructure Issues, before the Committee on Transportation and Infrastructure, House of Representatives, December 6, 2012; pg. 8 (PDF pg. 10)

[154] Op Cit. See: Bent Flyvbjerg**;** Quality Control and Due Diligence in Project Management: November 2012, Version 5.2

[155] Op Cit 'To Repeat' see pp. 26-28

A simple question should put paid to doubts about their range of findings: how can the Authority claim to have O&M expenses of somewhere between a third and a sixth of experienced rail operators? The more relevant and trenchant question should be: how can the Authority claim their 'outlier' O&M expenses are reasonable when they will have labor, benefits, electrical power, and other expenses similar to Acela? Additionally, the CHSRA's IOS and subsequent segments' private operator will expect profits and therefore will have to pay income taxes. My experience, and these analyses of railroad's O&M costs lead me to believe the CHSRA's O&M expenses are not reasonable, but are probably an account's computational result driven by having to demonstrate profitability as demanded by AB3034.

73. The CHSRA seems to believe Europe's high-speed rail systems are profitable and refer to them in their April 2012 Plan.[156] Similarly, in 2011, then-Assembly Member Cathleen Galgiani (sponsor of AB3034) said *"The high-speed rail system in France runs with a profit margin of 25 percent . . ."* [157] But again, it is unclear whether now Senator Galgiani was cognizant of how Europe's underlying projected revenues and expenses lead to profits. The Authority makes reference in its now-adopted 2012 Business Plan to the experiences of European high-speed rail systems' profitability;[158] *"According to the International Union of Railways* [UIC, aka International Union of Railways (IUR)], *high-speed rail systems throughout the world achieve positive operating revenues. The revenues generated from fares and other sources more than cover the cost of operating and maintaining the system."* [159] But that contradicts the UIC/IUR's own Director of High Speed Rail who said only two routes (not systems) were

[156] Comparisons between the CHSRA train's financial performance and the high-speed systems of Europe are frequent in the California High-Speed Rail Program; Revised 2012 Business Plan, April 2012, and particularly Chapter 2.

[157] Assembly Member Galgiani said this during June 2nd 2011 hearings on AB145 in response to Assembly Member Diane Harkey's criticism of the Bill. See: http://www.smdailyjournal.com/article_preview.php?type=bnews&id=160156&title=Assembly%20acts%20to%20end%20independent%20rail%20authority&eddate=

[158] See California High-Speed Rail Program; Revised 2012 Business Plan, April 2012, pg. 1-12.

[159] See California High-Speed Rail Program; Revised 2012 Business Plan, April 2012, pg. 1-12. An End Note on that page refers to a February 2011 letter named; "Official stance of UIC, the worldwide railway association, on the profitability of the high speed rail system." Position Paper. The Union Internationale des Chemins de fer (UIC) and the International Union of Railways (IUR) are the same organization.

profitable.[160] The UIC/IUR Position Paper that makes the 'profit' claim has significant 'qualifying adverbs' in its defense of operating profitability, using modifiers to claims of profitability like *'mainly'* and *'generally speaking'* and *'depending.'*[161] Even if some of the European systems have operating profits, they do so with fares that range from at least twice the Authority's claimed per passenger mile fares. The preponderance of evidence from 'outside views' says the Authority's math defies common sense. Fares must be higher. But they can't be. If they were, the CHSRA's train would then not be competitive with airlines.

74. But a larger caution flag needs to raised by the UIC/IUR Position paper when it concludes: *"To summarise, all high speed rail projects developed in Europe have to be considered profitable as a system (combining profitability for the operating company and profitability for the society to which the state-owned rail infrastructure belongs)."* [162] But *"profitability for the society"* is not how profits are calculated in the United States. If that were the case, even Amtrak and the United States Postal Service could be counted profitable. The CHSRA claims in their business plans that their project's benefits outweigh its costs. Maybe that is true or not. However, they must first prove that operating revenues exceed O&M costs, while the Authority's train's operations are prohibited from counting profits the way the European

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[160] See Victoria Burnett, "Spain's High-Speed Rail Offers Guideposts For U.S." Statement by Iñaki Barrón de Angoiti NY Times, May 29, 2009 at www.nytimes.com/2009/05/30/business/energy-environment/30trains.html

[161] Note this is the same February 2011 letter as requested by the then CEO of the CHSRA, in which uses conditional tense phrases (**in bold here)** about operating expenses describe operating expenses; such as *"Operating costs that will **mainly be borne** by operating companies . .* or *. . **Generally speaking** Operating Costs can be covered. .* or *. . the payment of track access fees ,**depending on their level** can cover operating and maintenance costs . .* or *. . To summarise,[sic] all high-speed rail projects developed in Europe have to be considered profitable as a system (**combining profitability for the operating company and profitability for the society** to which the state-owned rail infrastructure belongs),* or "*payment of track access fees, depending on their level **can cover operating and maintenance costs** of such infrastructure."* These are hardly defensible statements of profitability, particularly when all such European high-speed rail systems are 1) government owned and operated, and 2) separate ownership of the track and power (electrical) systems from the trains' operators, with separate and largely opaque accounting rules and results, and 3) at least in France known to shift money from the government's track owners (RFF) to its operator (SNCF) to actually pay for track and electrical power infrastructure maintenance. That same Position Paper separates out the accounting of operations from ownership of the fixed investments; *"Operating costs that will mainly be borne by operating companies (costs to be paid from farebox revenues); these costs will include operating and maintenance costs, amortisation of rolling stock, maintenance depots, payment of track access fees by operators, energy costs, etc. "Costs borne by the public authorities as the owner of rail infrastructure (as for other public infrastructure, highways or public airports)"*

[162] See the letter from Jean-Pierre Loubinoux, Director General of the UIC (International Union of Railways), to CEO Roelof van Ark of 8 February 2011, page 4. Found at http://www.calhsr.com/wp-content/uploads/2010/02/IUR-Officials-Letter-to-CHSRA-CEO.pdf

operators or the UIC/IUR compute profitability.

75. But not only has the UIC/IUR Director for High-Speed Rail stated that only two sections of two systems in the world are profitable, in 2007 the U.S. Congress learned that the French government grants SNCF $2-$3Billion annually for *"tariff and public service contributions, concessionary fares and various other services"* and pays a retirement supplement to SNCF, *"which is not shown on SNCF's income statement."* At that same hearing, the conclusion about high-speed profitability was; *"Unfortunately, most of those systems are highly subsidized by government . . ."*[163] Similarly, In December 2009 the US Congressional Research Service (CRS) said of high-speed rail: *"Typically, governments have paid the construction costs, and in many cases have subsidized the operating costs as well."*[164] A 2005 Beijing conference on European financing for privately operated high-speed rail systems, pointed out that; *". . the British government guarantees an income to the company (Channel Tunnel Rail Link) by paying the costs for passenger train operator Eurostar for using the line at a guaranteed minimum level of frequency."* [165] That's another way of saying the British government awarded that company the 'revenue guarantee' that Goldman Sachs said was necessary for private investment. These examples are hardly robust defenses of profitable systems, nor testimony to Ms. Galgiani's understanding of the finances of Europe's high-speed rail systems.

76. It's reasonable to think that the way European rail systems' accounting systems are structured underlie the Authority and Legislator Galgiani's conclusions on operating profits. If the Authority is following the European methods, the CHSRA's accounts leave out many, if not

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[163] For the statement by the Director for High-Speed Rail of International Railway Union, see: statement by Iñaki Barrón de Angoiti; NY Times, May 29, 2009. For Representative John Mica's statement see: International High-Speed Rail Systems: a Hearing before the Subcommittee on Railroads, Pipelines and Hazardous Materials of the Committee on Transportation and Infrastructure, House of Representatives; April 18, 2007. http://frwebgate.access.gpo.gov/cgi-bin/getdoc.cgi?dbname=110_house_hearings&docid=f:34799.pdf

[164] Peterman, Frittelli, and Mallett; CRS: High-Speed Rail (HSR) in the United States- 7-5700; www.crs.gov; R40973; December 8, 2009.

[165] In 1998 the LCR (the PPP) asked government for an additional 1.2 billion pounds (€1.8 billion) subsidy. This was refused but bankrupting LCR would have cost the government 800 million pounds in guarantees it had provided on pre-flotation bank loans. A new financial package was negotiated based on more realistic traffic projections with increased subsidies. See: The Role of Government in European Railway Investment and Funding, Beijing, China; 20 September 2005, page 25. Found at: http://www.internationaltransportforum.org/IntOrg/ecmt/railways/pdf/SPbeijing05.pdf

most, of the expenses any USA high-speed rail operation would have to absorb. The same UIC/IUR Position Paper referenced by CHSRA's April 2012 Plan clarifies that Europe's accounting systems for rail entities separate the costs of operating trains from the costs of maintaining their on-the-ground fixed infrastructure.[166] A series of European Union (EU) Directives govern the separation of accounts for Europe's conventional and high-speed rail systems. They direct state-owners of the infrastructure how to account for charges made for maintenance of tracks, track beds and electrical power system, plus they direct the train operators' accounting system. [167]

77. The way the French Government, with Europe's longest running high-speed rail system, claims profitability for its Société Nationale des Chemins de fer Français (SNCF), its conventional and high-speed rail operator, illustrates the point. As per the EU Directives, the government-owned Réseau Ferré (RFF) owns and maintains track beds, tracks, catenary structures and power distribution of France's rail system. Supposedly, SNCF, the rail operator, pays for right-of-way use of RFF-owned tracks. But RFF is only really a 'pass-through' government organization: "*. . RFF contracts with the SNCF for its railroad building and maintenance operations, most of the company's revenues are ultimately returned to the SNCF.*" [168] A less polite way to summarize this arrangement is that RFF is a 'laundry' for passing government money through to SNCF so the train operator maintains some semblance of

[166] See California High-Speed Rail Program; Revised 2012 Business Plan, April 2012, pg. 1-12. An End Note on that page refers to a February 2011 letter named; "Official stance of UIC, the worldwide railway association, on the profitability of the high speed rail system." a Position Paper.

[167] Starting in 1991, EU Directive 91/440 made it a requirement for independent companies to be able to apply for non-discriminatory track access on a European Union country's track. Before that Directive, private or state owned rail companies in one European Union member were either prohibited from operating on another member's track, or charged fees that made cross border services expensive. See: http://en.wikipedia.org/wiki/EU_Directive_91/440 - cite_note-6. EU directive 2001/14, (replacing EU directive 95/19) set out the framework for agencies that control and regulate the allocation of line possession to companies, and the charges they levy for their national or other EU members' operators for using the track, electrical supply and other 'fixed' investments. Subsequent directives 2001/12/EC, 2001/13/EC and 2001/14/EC, which built upon the initial legislation, are collectively known as the First Railway Package. In September 2010 the process began to merge the Directives into a single piece of legislation. Mention of these EU Directives was first found in the report to the CHSRA called "High Speed Railways in Spain" pgs. 44 47. Found at http://trb.metapress.com/content/1783390k673797lj/?p=43e43340740c43c4bf34eae35e5c3400&pi=4

[168] For a description of how the Government of France separates the functions, See: Réseau Ferré de France (RFF) History at http://www.fundinguniverse.com/company-histories/Reacute;seau-Ferreacute;-de-France-company-History.html

profitability. This EU sanctioned 'shell game' would be disallowed under the USA's Generally Accepted Accounting Principles (GAAP).

78. The European accounting method, separating responsibility and ownership of the rails and trains' electrical power from the financial responsibility of the passenger train's operators, is required when twenty-seven nations belong to the European Union. But it is unnecessary here because the United States abides by a single interstate commerce system. More importantly, the 'two accounts' system bears no resemblance to the single account system used by our national passenger railroad system, Amtrak.

79. The US National Railroad Passenger Corporation, Amtrak, publishes annual accounts of its revenues, expenses and sources and uses of funds (cash flow analysis).[169] Like publically held businesses, its accounts include reckonings both for its train's operations, and for its capital equipment maintenance, operation and replacement. Like corporate annual reports, Amtrak states not only its mission, but also the risks, including being vulnerable to, "*operational risks . . . federal, and to some state and local laws . . rising fuel costs . . strikes, work stoppages or substantially higher ongoing labor costs. . .* and *. . large potential pension and other post-employment benefit obligations . .* including the risks of *. . small changes in assumptions about healthcare cost "*[170] These are all operating expense 'unknowns' that the CHSRA's train will confront. But unlike publically held businesses, Amtrak's accounts contain annual requests for Federal capital budget assistance.[171] This admits Amtrak, while serving a social purpose, is not profitable in the sense that CHSRA's train must be.

80. Amtrak's profit and loss statements include both operating expenses that relate to specifically running their trains, including the Acela high-speed train, and the costs of maintaining the 'fixed' or un-moveable capital equipment the trains run on. In doing so, it largely

[169] The US Government owns all of Amtrak's shares. Apparently unlike publically traded companies, Amtrak does not publish a balance sheet.

[170] National Railroad Passenger Corporation (Amtrak), Fiscal Year 2013 Budget and Comprehensive Business Plan; Operating, Capital Programs and Debt Service Expense Budget, January 2012, page 11 of 81.

[171] Ibid. Table 3, page 10, includes requests for about $5 million to study and plan for high-speed rail. Interestingly, although Amtrak services debt, it seems no commercial lending institution will lend them working capital. See page 29 *"Amtrak's FY2013 Simple Sources and Uses (Cash flow) is based on this budget and the receipt of federal funding of $2,097.2 million during the year. Amtrak continues to have no access to short-term credit lines."*

conforms to US business accounting metrics, namely Generally Accepted Accounting Principles (GAAP).[172] Amtrak lists food and beverage revenue items, as well as line items for the police, fuel and power, which are used by trains' operations and therefore accounted for in its income statement as operating revenues and expenses.[173]

81. Amtrak has accounts for capital development from both Amtrak generated funds as well as federal, state and local capital grants, including for example, the purchase of *"130 single-level long-distance cars . .* and *. . . 70 electric locomotives . ."* [174] Amtrak largely uses the private freight railroads' rail infrastructure, *but " . . controls and is directly responsible for the condition and reliability of most of the Northeast Corridor (NEC) between Boston, New York, and Washington, which hosts the nation's most intense and complex passenger train operations."* including more than *". . 200 bridges, most dating to the turn of the last century . ."* and " *. . New York Penn Station and the Hudson River Tunnels"* [175] That NEC track section includes dedicated track for Acela's high-speed operations.

82. Amtrak accounts put their fixed and rolling assets' operating expenses into 'a single pot' and the Surface Transportation Board (STB) has ordered such. Europe's passenger rail accounting systems separate the ownership and maintenance of tracks, electrical power distribution from operations of the rolling stock. Maintenance of the fixed assets is an integral part of Amtrak's accounts.[176] They are split away in Europe. Maintenance of fixed investments is detailed in Amtrak's Engineering Department's accounts: *"Amtrak's Engineering department can be described as an engineering firm and operating/construction company responsible for keeping infrastructure in a state of good repair."* [177] The Engineering Department's Capital

[172] Ibid. pg. 13 of 81 says; *"As compared to a GAAP financial statement, this income statement excludes costs for Amtrak's Office of the Inspector General (funded independently), non-capitalizable* [sic] *costs and state contributions associated with capital projects (funded by capital appropriation), and net interest expense (funded by debt service appropriation)."*

[173] Ibid. Each Department, such as police, lists its expenses with Train Operations. For example see page 32 for Amtrak Police Department

[174] Ibid pages. 20-21, pages. 24-25.

[175] Ibid pg 25 and 27

[176] This reference to Europe's double organization accounting was outlined in testimony by CHSRA Board Member Mike Rossi, given before the Assembly Transportation Committee in April 2012. See the To Repeat report, August 2012, PDF pg. 168.

[177] National Railroad Passenger Corporation (Amtrak); Fiscal Year 2012 Budget and Comprehensive Business Plan;

(continued…)

Projects accounts list those responsibilities.[178] Amtrak's Mechanical Department is responsible for; *" . . the maintenance, repair and upgrade of all of Amtrak's rolling stock (cars and locomotives)."* [179] Both types of maintenance occur within Amtrak's accounts, as STB has ordered.[180] They are not thrust aside to some non-balance sheet accounting as apparently done in Europe. Amtrak's and STB accounting rules are very different from the rail accounting systems used in Europe which make it virtually impossible for an independent analyst to understand what should be counted as operating profits, or what is meant by, ". .. *profitability for the society*." as the International Union of Railways (UIC/IUR) insists be part of its accounting. [181]

83. Since no independent authority has been let 'inside' the CHSRA's accounting for profits, no 'outsider' knows exactly what weight and factors they use to calculate operating costs. But since labor costs – whether for infrastructure maintenance or operating the rolling stock – are likely to constitute a solid portion of the total costs, the USA's labor rates versus labor rates in

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(…continued)

Operating, Capital Programs and Debt Service Expense Budget, February 2011, revised January 2012 in accordance with Public Law No. 112-36 "FY2012 Continuing Resolution." page 38 of 79 says that " . .includes maintenance, testing, and inspection of Amtrak's physical infrastructure, including track, signals, electric traction, tunnels, and bridges on Amtrak owned right of way and stations and facilities along the right of way. The group is responsible for the maintenance and overhaul of roadway machines and equipment used in the operation

[178] Ibid. pg. 40

[179] National Railroad Passenger Corporation (Amtrak); Fiscal Year 2013 Budget and Comprehensive Business Plan; Operating, Capital Programs and Debt Service Expense Budget, January 2012, page 64 of 81

[180] Amtrak's financial reports describe the net value of all of its moving and fixed assets on its balance sheets, including depreciation charges against its revenues. While Amtrak's statements note that, in the future, they will provide a capital charge at the route level, in FY2012 Amtrak only published depreciation charges at the corporate level. This 'non-cash' depreciation charge was 23% of Revenues in FY2012, the largest cost item after "Salaries, Wages, and Benefits". The depreciation charge is not included in the calculation of its annual operating subsidy from the Federal government. But it is a good indicator of the relative level of Federal appropriations to keep Amtrak's asset base functional, reliable, and safe. See: http://www.amtrak.com/ccurl/23/871/Amtrak-Monthly-Performance-Report-September-2012-final-audited-revised.pdf. AB 3034 is silent on how to replace or fund both the train's rolling stock and its fixed capital assets. If so, the replacement costs must come from the General Fund, and it appears there will need to be legislation authorizing such expenditures as such authorizations are not sanctioned in AB 3034. Additionally Section 209(a) of the Passenger Rail Investment and Improvement Act of 2008(PRIIA), the National Railroad Passenger Corporation (Amtrak) must implement a single, nationwide standardized method for allocating operating and capital costs among the States and Amtrak. The routes include high-speed rail corridors designated by the Secretary of Transportation (other than the Northeast Corridor). See: 49 U.S.C. § 24102(5)(B). Designated high-speed rail corridors become subject to PRIIA, Sec. 209(a), only after regularly scheduled intercity service over a corridor has been established. The Surface Transportation Board (STB) found that the methodology complies with PRIIA, and in 2012 ordered that it be implemented.

[181] See the letter from Jean-Pierre Loubinoux, Director General of the UIC (International Union of Railways), to CEO Roelof van Ark of 8 February 2011, PDF page 5. Found at http://www.calhsr.com/wp-content/uploads/2010/02/IUR-Officials-Letter-to-CHSRA-CEO.pdf

Europe are important to consider. As a Federal Railroad Administration's Inspector General's 2009 report found, Amtrak's labor costs for its average 'infrastructure worker' is 2.3 times as much as the average European rail infrastructure worker. And while base wages are only 30 percent greater than Europe, Amtrak pays 4.25 times as much in fringe benefits.[182] To operate a train in California will probably require just as many or more labor hours as in Europe; therefore using Amtrak's 'fully burdened' labor rates in California's high-speed rail program are likely to dramatically increase its losses.[183] Conversely, given that labor rates for railroads are more than twice European railroad labor rates, the evidence shows that CHSRA must not be using US labor rates or GAAP accounting principles in its 'profit' equations.

84. There is another uncounted-for O&M cost 'gorilla in the room.' Unlike European or Amtrak's reality, a private operator will run the CHSRA's train. Therefore the California high-speed train system's accounts will also have to account for Federal, State and local taxes to its legally required operating profits. Nothing in AB3034 legislation or the FRA/DOT-CHSRA agreements excludes those tax or revenue charges. But neither the CHSRA nor its Board mentioned that not-insubstantial expenses of operator profits and taxes in the now-adopted plan.[184] Unless the Authority actually plans to illegally lose money on its annual operations, their approach to profits and taxes joins several other indefensible statements about operating expenses in their projected operating accounts.

85. Amtrak's accounts are not without deficiencies however, and these alone could cripple the California train. In 2005, "GAO found that Amtrak had omitted or misallocated key expenses in several areas, substantially understating operating expenses in reports."[185] This

[182] From: Amtrak, Office of Inspector General, EVALUATION REPORT E-09-01; Comparison of Amtrak Infrastructure Labor Costs to European Railroad Averages; March 24, 2009. From: http://ti.org/antiplanner/?p=1502

[183] Fully burdened labor rates include vacations, holidays, pension and health benefits, defined pension plans, etc.

[184] The only mention of taxes in the California High-Speed Rail Program; Revised 2012 Business Plan is the supposed tax revenues that the American Public Transportation Association says would accrue to the Federal, State and local governments from rises in property taxes by spending the now-in-hand $6 billion. See page 9-4 [PDF 194] Yet, nowhere in the now-adopted Business plan is there any mention of the to-be private operator's obligation to pay income on its profits.

[185] United States Government Accountability Office (GAO); Report to the Chairman, Committee on Transportation and Infrastructure, House of Representatives; AMTRAK MANAGEMENT Systemic Problems Require Actions to Improve Efficiency, Effectiveness, and Accountability; October 2005, pg 2. (no PDF)

included understating employee benefit costs; "by more than $100 million because certain accrued employee benefit expenses were not considered" . . and ". . allocated only the company's estimated cash contributions to fund health benefit expenses for current retirees." [186] But GAO was particularly concerned with Amtrak's accounting for $606 million of depreciation and amortization of assets, which; ". . represented approximately 20 percent of Amtrak's total operating expenses for fiscal year 2003, and Amtrak's capital assets represent more than 83 percent of its total assets." [187] Amtrak's 2003 revenues were $2.12 billion and CHSRA's Medium Case projected revenues in its Blended System in 2060 are $1.9 Billion. If CHSRA's accounts miss depreciation and amortization only as badly as Amtrak's did in 2003, then twenty years after voters were promised a full high-speed ride between the two metropolitan centers, that uncounted $600 million might be one of the variables that swing the train into an operating loss.[188]

86. Another dent in the CHSRA profitability forecasts' credibility is that they do not account for depreciation and amortization of assets in the GAAP-preferred manner. Rather, their method postpones paying to replace track structures and trainsets until at least two decades after IOS operations start, and only replaces rolling stock on the tracks nearly three decades after IOS begins operating.[189] This lack of transparency and a non-GAAP conforming manner of accounting for highly significant operating and capital equipment replacement costs could leave out significant swaths of O&M costs; and could contribute to changing California's train's operations from profit to loss. If that happens then, *de facto,* the State of California must find an operating subsidy to account for actual, not accountant-contrived, costs. This lack of accurately accounted for operating costs seems to be one more facet of the Authority's strategy to build enough of the high-speed rail system that there would be no way to stop their momentum. If

[186] Ibid. pg. 11 and pgs. 70-71 (actual, not PDF)
[187] Ibid. pgs. 66 and 81
[188] For CHSRA's Revenues in 2040, see California High-Speed Rail Program; Revised 2012 Business Plan; April 2012, page 5-10 [PDF 124]. For Amtrak's 2003 revenues, see AMTRAK MANAGEMENT Systemic Problems Require Actions To Improve Efficiency, Effectiveness, and Accountability: report to the Chairman, Committee on Transportation and Infrastructure, US House of Representatives; October 2005, Table 6, pg. 91.
[189] See California High-Speed Rail Program; Revised 2012 Business Plan; April 2012, page 6-7 [PDF 113] Exhibit 6-8 speaks about *"Minor cost replacement"* of the civil structures' (100 year life), track systems, facilities/yards (30-60 years), stations (50 years), etc replacement. Then Exhibit 6-9 and 6-11 speak of the first payments to replace those that go in operation on the IOS in 2022 of $364 million between 2041-2045 for trainsets to be delivered in 2048.

followed, that strategy will defer later consequences onto now-younger Californians.

87. Shouldn't the Authority, or California's high-speed train system's future private operator conform to U.S. passenger rail accounting standards? What is the rationale that would make this state's high-speed rail accounting different from corporations if supposedly run by a private entity after the IOS-South is built with public money?

88. The Authority certainly believes that, like GAAP recommends, there should be a single organizational account for both the train's fixed infrastructure, rolling stock and its day-to-day operating expenses. This would be more relevant to the train's future than the unclear European accounting approach of splitting the O&M expenses between government organizations. The Authority's official policy on organizational structure was articulated on 30 April 2012 when Board member Mike Rossi contrasted the CHSRA's approach to organizational design to European systems in an Assembly Transportation Committee;

> "The Europeans have built an operating structure that has a series of charges that we don't have; they have a series of management companies that we don't have; they have the classic that results in a series of profit centers taking money from one profit generator." [190]

89. Mr. Rossi repeated that argument in a letter a few days later; "As we have noted in the past, comparisons with European systems are misleading because of the very different business structures they utilize . . with . . a lean vertically integrated structure . ." Board Member Rossi argued that by having a single entity organization and accounting structure, CHSRA would have a more cost effective business model.[191] In effect this will be like the Amtrak organization. CHSRA would not have separate organizations like Europe: where one runs the train and the other supposedly owns and maintains the fixed infrastructure.[192] The single organization's accounts would have both the 'fixed' operating and maintenance (O&M) and replacement costs

[190] For a transcript and analysis of Mr. Rossi's testimony of April 2012, see the To Repeat report of August 2012, PDF pg. 168.

[191] See: Letter to Messrs. Warren and Grindley, May 4, 2012, pg. 3 also says, "The best parallel to California's proposed system is Taiwan's high-speed rail model where, unlike in Europe, the train operators own the tracks in a lean vertically integrated structure, similar to the one we are developing in California."

[192] For a description of how the Government of France separates the functions, See: Réseau Ferré de France (RFF) History at http://www.fundinguniverse.com/company-histories/Reacute;seau-Ferreacute;-de-France-company-History.html

for un-moveable infrastructure (rail beds, rails, electrical power distribution, passenger stations' upkeep, IT systems for traffic control, ticketing, and communications, etc.) plus the O&M costs derived from the rolling stock (train-bound crews' labor, pensions and healthcare; taxes, cleaning and maintaining and replacing capital equipment, liability insurance, debt servicing on operating capital and leased equipment, etc). Mr. Rossi argued for having all of the CHSRA train's revenues and O&M costs use the same accounting policy as those of Amtrak: a single account.

90. Because neither the GAO, nor anyone outside the Authority knows what the CHSRA has assumed as its operating expenses, there is no reason to take the CHSRA's claims of profitability *prima facie*. It could be that the Authority has separated its revenue and operating expense accounts into a European-like system that obfuscates the real expenses and/or justifies high-speed rail as *'profitability for the society'* instead of accounting for operating revenues, expenses and profits that follow established GAAP rules in US accounting practices.[193] Either the Authority has not studied the differences between Europe's double accounts for rail or has misled the public, including U.S. Government with its references to European high-speed rail profits, while simultaneously avoiding Amtrak's accounting practices as their benchmark. One of Europe's gurus on high-speed rail systems wrote in 2011 that in many cases, "*". . . the level of demand cannot sustain even operating costs (when properly accounted for)"* so even he has trouble understanding the accounts of Europe's operators.[194] As the example of RFF and SNCF of France shows, there is ample room for legerdemain in the Europe's two-organizations, with two sets of books, accounting system. Additionally, the Authority's present use of the UIC/IUR, whose mission is to "*to promote rail transport at world level*" as a supposedly independent arbiter indicates the Authority's policies towards opaqueness on its O&M expenses. If the CHSRA actually has embraced Europe's double accounting system that would be a deliberate choice to mislead.[195] From analyzing the CHSRA's revenues, O&M expenses and profits, plus

[193] See the letter from Jean-Pierre Loubinoux, Director General of the UIC (International Union of Railways), to CEO Roelof van Ark of 8 February 2011, page 4. Found at http://www.calhsr.com/wp-content/uploads/2010/02/IUR-Officials-Letter-to-CHSRA-CEO.pdf

[194] See: Germà Bel, Professor, Queralt Universitat de Barcelona. Found in Public Works Financing, July 2011.

[195] The GAO Director's testimony of December 6 2012 mentions UIC/IUR *"To make its operating-cost estimate more comprehensive and better documented, the Authority has contracted with the International Union of Railways*

(continued…)

European and the UIC/IUR's accounting system versus those used in the United States, I conclude that what Californians ride in Europe and want for California can't be had without unknown, but substantial amounts of AB3034-illegal annual subsidies.

91. What happens if California's high-speed train system, or even a portion of it gets built, goes into operation and is found to need an operating subsidy? This is certainly a plausible scenario. Surely no government is going to abandon the IOS' miles of track that cost at least $31 billion to build. A rationale for another $20 billion will have to be invented to at least make the Bay-to-Basin phase operational. Setting aside the question of where the construction funds would come from, if there were an operating subsidy, every Californian will share the burden. But will all, or just a few benefit? A clue from two European authors' recent book on high-speed rail is telling.

> *". . if we keep in mind that the public resources used in high-speed rail imply a regressive transfer of income, in that taxpayers are subsidizing journeys realized above all by users belonging to the upper-middle and upper income brackets, who usually travel for business reasons and whose ticket (the amount of which is far from covering the total cost of the service) is paid for by their employers."* [196]

92. In short, the results from Europe show the 'Reverse Robin Hood' effect – everyone pays to build and operate the system while tourists, upper income and expense account riders enjoy a subsidy from the middle class and working poor. A more recent citation in the *New Yorker* magazine indicates the depth of subsidies to Spain's wealthier high-speed rail riders.[197] But would that happen in California? It would happen to some degree even if the Federal Government pays the entire costs to build the entire project, net the $9 billion of Prop1A bonds, because the lesser materially wealthy also pay income taxes. It would happen if the Authority

(…continued)
to evaluate the existing methodology and data and help refine its estimates." For the UIC/IUR mission statement, see Wikipedia pages on International Union of Railways at http://en.wikipedia.org/wiki/International_Union_of_Railways

[196] See: Albalate, Daniel and Bel, Germa; The Economics and Politics of High-Speed Rail; Lessons From Experiences Abroad; Lexington Books, 2012, page xiii.

[197] In the February 25th 2013 issue of *The New Yorker* in an article on Spain's disastrous economy the author says, *"As the Madrid banker told me "The cost embedded in taking someone by high-speed rail to Galicia is so high that it would be cheaper just to give people in Galicia a free plane ticket."* See: p. 43 of "Letter from Madrid –THE HANGOVER" Subscriber found at http://www.newyorker.com/reporting/2013/02/25/130225fa_fact_paumgarten

charged the international fare's rates, because middle and lower income households pay California and US income taxes that will build the system. Would they enjoy the benefits? Probably not, but best illustrated with an example. If a middle class four person household used the train, at an un-subsidized fare of 47¢ PPM, they would each pay over $240 for a one-way San Francisco to Los Angeles 520 mile ride that the Authority's last business plan claims will be the distance.[198] That's $1995 for four high-speed rail round trip fares if they bought at the full 'rack rate' or $1600 with a 20% discount. California's median household income in 2011 was $61,632.[199] That makes their round trip tickets alone about 3% of that year's total household income. Flying the 338 miles between SFO and LAX at the average fare of 29¢ PPM, they would spend $784 – or 60% less.[200] Whatever discounts the train may offer will surely be matched by the airlines, so claims about special fares are specious for this kind of calculation. At those price differences between the travel modes, Californians are more likely to fly or drive (for about $400 round trip) and the high-speed train would only attract the same; "*. . upper- middle and upper income brackets . .*" that European high-speed rail systems serve today. The subsidy to wealthier riders would be even deeper if California decides to 'go it alone' and build the system. That mini-doomsday scenario would pass an even higher tax burden to the less wealthy who are less likely ride the train. It seems ironical that this icon of California's transportation future will depend on the state's lower income households supporting upper income riders.

93. **On Elapsed Travel Times Between Metropolitan Centers –** The Phase 1 Blended System's ability to meet both the promise to voters in the Voter Information Guide of 2008 that says *"Travel from Los Angeles to San Francisco in about 2½ hours . . "* and the Section 2704.09 (b)(1) of AB3034 that says the train will go from; "*San Francisco-Los Angeles Union Station: two hours, 40 minutes."* is an issue in this trial.[201] In a March 2012 hearing the

[198] Op Cit. California High-Speed Rail Authority, April 2012 Revised Draft Business Plan, Exhibit ES-3, page ES-13 or page 2021 [PDF 65]

[199] US Census Bureau, State and County Quick Facts; found at http://quickfacts.census.gov/qfd/states/06000.html

[200] The distance between the major metropolitan airports is available at http://www.travelmath.com/flying-distance/from/SFO/to/LAX

[201] For the quote from the Official Voter Information Guide for the California General Election, November 4, 2008, see page. 6. Found at: http://www.voterguide.sos.ca.gov/past/2008/general/pdf-guide/suppl-complete-guide.pdf

Authority Chairman said that the Phase 1 Blended System would comply, but only for 'express trains.' [202] A cynic might interpret that provision to mean that even a one-off, midnight 'canon-ball express' with or without passengers would meet the letter of the law. A writer for the online version for the SF Examiner used the Public Records Request procedure to extract more detail on the statement; only to receive an answer that the Chairman's remarks weren't based on any research, or documentation; rather, "*These were verbal assertions based on skill, experience, and optimism . . of the engineers offering these assertions.*" [203] The writer persisted. She found that a memorandum on the subject was being drafted. She asked for, then was refused a copy by the Authority's Counsel; found legal opinion that the Authority was incorrect, and persisted to no avail. Finally, in mid-February 2013, nine months after the 'optimism' reply, she received a short memorandum with scarce and unverifiable documentation to justify the Chairman's claim. [204]

94. The conclusions in the six-page February memo are based on six assumptions. How precarious are those claims on meeting the elapsed travel times? Several examples:

> Assumption #1: "*Pure run time is calculated based on modeled trainset performance over a given segment of the alignment geometry*."
>
> Weakness: a pure run time is only the time the train is running, so it's unclear from the memo whether it ever stops for passengers along what unspecified "alignment geometry" the Authority chose, but has yet to designate publically, or will choose at some unspecified time.
>
> Assumption #2: "Travel times are for representative alignments based on

[202] During an Assembly Transportation Committee hearing of March 13, 2012, Chairman Dan Richard said: *"The express trains will go from LA Union station to the TransBay Terminal, also known as the TransBay Transit Center in San Francisco in two hours and forty minutes."* Found at http://www.senatorsimitian.com/entry/informational_hearing_on_high-speed_rail_part_4/

[203] See email of May 31st 2012 from CHSRA staff member, Kyle Wunderli, to SF Examiner's Kathy Hamilton: The full text is: "Ms. Hamilton – *"The answer is that no document exists. These were verbal assertions based on skill, experience, and optimism and so Dan Richard went with the expertise of the engineers offering these assertions. I have been informed that a memo is in the process of being drafted on this very issue and I will provide that to you as soon as it's complete. Their best guess is that by end of next week it may be ready. I apologize for the inconvenience in waiting so long only to find no documents existed."*

[204] See: California High-Speed Rail Authority: Memorandum from Frank Vacca to Jeff Morales titled Phase 1 Blended Travel Time; dated February 11 2013. Found at http://www.calhsr.com/wp-content/uploads/2013/02/Memo-Phase-1-Blended-Travel-Time.pdf-Adobe-Acrobat-Pro.pdf

alternatives included in the environmental documents. Alternative alignment may alter travel time." Weakness: This admits the Authority chose the best alignments to make their run time calculations. Whether or not these become the actual alignments remains to be seen, since they are as yet unspecified. The use if the conditional tense adverb "may" seems to be a warning that travel time will increase since the Authority has not specified alignments, nor has environmental clearance on the vast majority of the distance between Los Angeles and San Francisco's city centers.

Assumption #3: *"Advancement in train technology would allow train to operate safely at 220 mph on sustained steep grades."* Weakness: perhaps train technology will advance, but that's neither a 'given' nor guaranteed. There is no proof that the climb up the Tehachapi mountain range will not add significantly to travel time, nor proof that the descent at 220mph is not a threat to passenger safety. No high-speed system in the world operates at 220 mph as the Authority claims its trains will, and experiments at those speeds suggest safety problems with the rail beds at the speeds CHSRA has contractually-guaranteed to.[205]

Assumption #4: "FRA strategies and regulations are in place to support mixed fleet traffic (freight, conventional passenger, high-speed passenger)

[205] Apparently at about 200mph, the vacuum between the train's cars and the rail bed's ballast (ie. the rocks below the tracks and ties) is large enough to pick up ballast and catapult it sideways, creating safety issues for pedestrians and vehicular traffic nearby, or propel the rocks into the bottoms of the rail carriages, creating safety hazards for passengers. What happens at an operating speed of 220 mph, or the top speed of 250 mph, as shown in the FRA-CHSRA contracts, is unknown. On page 38 of the DOT/FRA-CHSRA Grant/Cooperative Agreement signed August 18th 2011, the Authority's Statement of Work says, *"The new high-speed rail system will be grade-separated from road vehicle traffic and will operate almost exclusively on separate, dedicated tracks with a top design speed of up to 250 mph and an operating speed of up to 220 mph."* Found at: http://cahighspeedrail.ca.gov/assets/0/152/281/11a35acc-e6c4-4e10-81e7-dbeb2fe514f6.pdf. Another prohibition on going over 200 mph is that the FRA's Class 9 track design, build and maintenance specifications only allow trains running up to 200 mph. See: page 1, Federal Railroad Administration's Federal Track Safety Standards Fact Sheet, 49 CFR Part 213; June 2008. Available at http://www.fra.dot.gov/downloads/PubAffairs/track_standards_fact_sheet_FINAL.pdf

to operate at speeds up to 110 mph." Weakness: to operate at 110 mph between San Francisco and San Jose means the present set of tracks must be grade separated, replaced, and the 'electrification' of that corridor must be built to specifications that will power both Caltrain's and the Authority's engines. Neither specifications for the commonly usable power supply, nor the budget for this assertion are more that memoranda between rail and transit operators.

Assumption #5: *"Caltrain train service will allow for a high-speed express train to run unimpeded between SF and SJ."* Weakness: neither the text of the memo, nor the SF-SJ chart clarifies whether the Authority is speaking of the Full Phase 1 system approved by voters, or the Authority's hybrid Phase 1 Blended System. Has Caltrain subordinated its passenger service schedule to allow for one daily high-speed, 'cannon ball express' service to run unimpeded? Caltrain's own simulations of the 'Blended Service' shows a travel time of forty minutes, not the thirty claimed by the Authority's February 2013 memo. [206] Another problem in the Authority's memo is that their contract with the DOT/FRA, from which about $600 million of the Caltrain upgrade is to come, specifies that the Federal ARRA grants are paying for, " *. . new high-speed rail system will be grade-separated from road vehicle traffic and will operate almost exclusively on separate, dedicated tracks."* [207] The Caltrain

[206] Source: http://www.caltrain.com/Assets/Caltrain+Modernization+Program/Documents/Final-Caltrain-California+HSR+Blended+Operations+Analysis.pdf

[207] For the specific language of the DOT/FRA-CHSRA Grant/Cooperative Agreement signed August 18th 2011, the Authority's Statement of Work, go to page 38, which says, *"The new high-speed rail system will be grade-separated from road vehicle traffic and will operate almost exclusively on separate, dedicated tracks with a top design speed of up to 250 mph and an operating speed of up to 220 mph." ."* Found at: http://cahighspeedrail.ca.gov/assets/0/152/281/11a35acc-e6c4-4e10-81e7-dbeb2fe514f6.pdf The March 28th 2012 Memorandum of Understanding between the CHSRA, the MTC, the Peninsula Joint Powers Board and others does not guarantee the Caltrain system the $600 million that appears in Attachment B (page 5). Rather, the CHSRA 'hedges' (page 4) and says, "That the AUTHORITY will endeavor in good faith to secure approval and release of $

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'electrification' program neither separates any of the high-speed rail program trains from road traffic, whatever speed they run at, nor will those trains be on separate, dedicated tracks. The Authority's Blended System trains will run on tracks that are used by both conventional passenger and freight rails. Either the FRA and the CHSRA need to change the terms of their contract, or they need to find another way of raising money for Caltrain's allowing even slow trains built with ARRA money to run on their tracks.

Assumption #6: "Track infrastructure will be constructed or upgraded, as required, to achieve FRA/CPUC regulatory requirements and AREMA standards for the speeds modeled." Weakness: the "as required" portion of this assumption is a statement of intent to conform when demanded, does not reassure passenger safety, nor state any legal guarantee that the Authority will do what they say when time for "as needed" comes.

95. If each of the Authority's assumptions is dependent on other assumptions or all others for the 2 hour 40 minute elapsed travel time to be accomplished, what is the travel time between San Francisco and Los Angeles if even one of those assumptions does not become reality. If the weakness of Assumption #1 is correct, and the 'pure run' time is only the 'at speed' time, what time is to be added to account for boardings and discharge time? How much actual travel time is to be added to decelerate and then accelerate back to 220 mph? How much time will be added if Assumption #3 is incorrect and the FRA will not actually allow a passenger train to safely descend the Tehachapi's at 220 mph? Taken separately each of the February 2013's assumptions raise questions. Taken together, their support for the claim that the train will meet the 2 hour 40 minute travel time presses the boundaries of credulity, and not just if any one of those assumptions fails to be reality.

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600 million of Proposition 1A funds . ." That is far from a guarantee that high-speed rail funds will be available for Caltrain's ambitions. Found at www.caltrain.com/Assets/Caltrain.../2012+nine+party+agreement.pdf

96. The memo is a weak, *post hoc* justification for having been caught in a spiral of difficulties that arose because the Authority admitted; *". . no document exists. These were verbal assertions based on skill, experience, and optimism.*" [208] Additionally, while the CHSRA's official position is their Ridership and Revenue Forecast, the one that supports the adopted April 2012 Business Plan, the best 'non-stop' times shown for the Blended System is 3 hours, and for the "Full" Phase 1 is 2 hours and 40 minutes. Until that document is updated, I conclude that the best time for the Blended system is three hours.[209]

97. The strength of evidence contrary to the Authority's February memo forces me to not take seriously its statements on elapsed travel times, unsupported by convincing documentation and eleven months after the Chairman made his assertions without evidence.

98. **Conclusions –** The cover page of first of more than thirty reports I co-authored on California's high-speed rail project declared:

> "We do not oppose high-speed rail in concept. It seems to work in parts of Europe and Japan and possibly elsewhere. The 2008 Prop 1A promise that captured many voters was that the California High-Speed Rail (CHSR) would not cost the taxpayer a penny. After months of work on this report, we are forced to conclude that the Authority's promise seems an impossible goal." [210]

Two and a half years later I still hold to that premise and conclusion.

99. This declaration began by showing that promises made have been promises broken. 2008's promise of a Phase 1, electrified, high-speed trains connecting riders between the downtowns of Los Angeles and San Francisco, is not the Authority's now-adopted, truncated Phase 1 Blended System. CHSRA's Chairman reinforced that a year ago when he said of the $6 billion about to be spent in the Central Valley*; "We don't get a high-speed rail system but we get a lot."* [211] After the Phase 1 Blended System plan's release, the LAO recommended that; *". . the*

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[208] Op Cit see email of May 31st 2012 from CHSRA staff member, Kyle Wunderli, to Mrs. Kathy Hamilton

[209] "California High-Speed Rail 2012 Business Plan*; Ridership and Revenue Forecasting*: final technical memorandum prepared for Parsons Brinckerhoff for the California High-Speed Rail Authority by Cambridge Systematics, April 12, 2012. Found at: http://www.cahighspeedrail.ca.gov/assets/0/152/431/7b890372-19c0-4ba7-aa98-aa1d49dea11b.pdf. Appendix F: Scenarios, 12-043b, 12-047b, and 12-046.

[210] See: The Financial Impacts of California's Proposed High-Speed Rail Project, October 2010; page 1. Found at www.sites.google.com/site/hsrcaliffr

[211] See comment by Chair Dan Richard, made in a March 15, 2012 hearing on high-speed rail at approximately 3

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Legislature not approve the Governor's various budget proposals to provide additional funding for the high–speed rail project. [212] And, as the Chair of the Senate budget subcommittee, responsible for transportation funding said last July, *"there's no arguing that this is a very different plan before us today both in scope and content and price."* [213] In short, the present plan is alien to what voters were promised.

100. The project's ardent supporters have a vision that somehow, someday the money will be there and high-speed rail will connect the centers of the two metropolises. But today's reality is that they might have about one dollar of every twenty needed to fund that vision; with prospects for future public sector funds dark: and for private 'at risk' funds, non existent.[214] Yet the spending has continued since 2009 when they knew no legal private funds would invest: and since 2011 when the OMB signaled its low support for the project.

101. The Authority's plan is based highly questionable ridership and therefore revenue forecasts, which somehow make their per passenger mile charges one-third that of Acela's. They have opaque Operating and Maintenance (O&M) line-item expenses that result in their O&M expenses being a sixth of Acela's, a US high performance train that operates under similar, if not exactly the same cost structure the California train will face. And despite administrative changes

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hours and 30 minutes into the following citation:
http://calchannel.granicus.com/MediaPlayer.php?view_id=7&clip_id=374

[212] See: The 2012-13 Budget: Funding Requests for High-Speed Rail, Legislative Analyst's Office, April, 17, 2012, pg. 1. Found at http://www.lao.ca.gov/analysis/2012/transportation/high-speed-rail-041712.aspx

[213] This is found on pg. 1 of a verbatim transcript of Senator Joe Simitian's comments at the Senate Floor Session on HSR Trailer Bill 1029, July 6, 2012. For Senator Simitian's arguments for voting "No" see: http://www.youtube.com/watch?v=NajQSD_Pscs&feature=youtu.be.

[214] The one-dollar-in-twenty (5%) calculation was derived by dividing the $6 billion 'in hand' by $117 billion, the Authority's upper range to construct what voters were promised: as shown in the November 2011 Draft Business Plan. Public announcements to the contrary, the Authority does not have $6 billion more in State funds for the project. It has the potential to match whatever public or private monies it can garner with the remaining $6 billion of authorization to raise Prop 1A General Obligation bonds – a very different concept, which limits its access to that specific GO bond pool. The potential itself is not guaranteed without a vote of the Legislature being backed by the Governor, and future Governors' enthusiasm for the project may wither. Other obstacles to going beyond the present reality are the 'optimism bias' or 'strategic misrepresentation' of the project's consulting engineers, and the unknown decline in value of monies for future construction. There is ample evidence that transportation megaprojects overrun their budgets; eg the Oakland Bay Bridge's 500% overrun. The time value of money also devastates supporters' vision. If construction inflation increases with the economic recovery in progress to its 5.6% of 2008, today's $6 billion will be worth only $5 billion when the Obama Administration leaves office, and only $3.2 billion two federal administrations later. Even with Governor Brown's support through 2018, today's $6 billion would only buy $4.7 billion of construction by mid-2019.

to their contracts to spend ARRA money, the CHSRA still runs a risk of having to pay back federal funds. Each of these parameters would put up a caution flag in a private sector investment due diligence exercise. But without any semblance of an investment grade business plan to prove the train's operations will be profitable, spending continues in the twentieth year of the project's existence – the cumulative total of about a billion dollars.[215]

102. High-speed rail supporters' indistinct vision of the future competes with today's reality that the $1 billion already spent could have paid for full four-year scholarships to graduate 10,000 students (at $100,00 each) from the CSU system. The graduates would create jobs, income and subsequently taxes and revenues for the State.[216] That's a real benefit versus more promises that are likely to be broken. We are now about to spend six times more than already spent on some unknown miles of Central Valley, un-electrified track bed with no rolling stock that, " . . *defies logic and common sense* . . [with] . . *no hope of attaining the ridership needed to justify the cost of the project.*".[217] The present plan has failed to meet the promises and legal requirements of 2008, and the prospects for more funding are minimal to non-existent. Yet the spending continues. The vastness of these and other facts in my declaration show the Authority has extensively violated both the promises to voters and AB3034's provisions, as yet with impunity.[218]

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[215] By the close of FY 2011-12, the Authority had spent about $600 million of Federal and State funds planning and promoting the project. Another $250 million was requested for FY2012-13, to complete preliminary design and environmental reviews. At the rate of spending of $1 million/working day (250 working days), the Authority will have spent another $125 million by the end of CY 2013 – a total of at least $975 million.

[216] To study at one of the thirteen CA State University campuses, the highest annual costs would be $24,938 at Vallejo (Maritime): the lowest is Fresno at $21,553. This includes fees and tuition ($5,472), books and supplies, meals and housing, transportation, and other miscellaneous personal expenses. Four years at the Vallejo campus would cost slightly less than $100,000. See: http://www.calstate.edu/sas/costofattendance/

[217] Op Cit: letter to FRA Administrator Joseph C. Szabo of November 30, 2010 from then Congressman Dennis A. Cardoza (D-CA 18th District).

[218] Among the more obvious rules the Authority, and to some extent the Legislature, have broken are the following. 1.California's Legislature has never commented on nor taken action to negate the effects of having violated the 1974 Reform Act by drafting the ballot descriptions for Proposition 1A. 2. California's judiciary, after finding in favor of the plaintiffs in a suit on violating the 1974 Reform act did not demand the Legislature rescind or in any way negate or ameliorate the results of Prop1A. 3. California's judiciary has never reprimanded the Legislature for drafting confusing and misleading ballot descriptions. 4. The Legislature never attempted to clarify or correct their confusing and misleading ballot language to: 4a) Clarify whether voters were choosing to support only Phase 1 (LA to SF), or the entire six-city, 800-mile high-speed rail system: 4b) Clarify what the construction costs of the already-selected route (Phase 1 through Pacheco Pass) would be: 4c) Define where exactly the train project they were voting for would arrive at and depart from: 4d) Clarify why the ballot said the train would enter the SF Bay region via the

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103. In closing, I am of the same opinion as that of a high-speed rail supporter with a far greater franchise to effect change than I; *"But regrettably, the only conclusion I can come to today is that this is the wrong plan in the wrong place at the wrong time."* [219]

I declare under penalty of perjury pursuant to the laws of the State of California that the foregoing is true and correct.

Executed on this 12th day of March, 2013, at Atherton, California.

WILLIAM C. GRINDLEY

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Altamont Pass, yet the decision to enter via the Pacheco Pass had already been made: 4f) Clarify who was to pay the remainder of construction costs if these costs exceeded the $9.95Billion being authorized by Prop 1A, and what commitments had already been made in 2008: 4g) Change the ballot language's 'hedge' against the guarantee to voters that they were only exposed to service $9.95Billion of debt. 5. After the CHSRA appointed and paid for their Ridership Review Peers to eventually approve the Cambridge Systematics' forecasts, the Legislature never withheld funds or disciplined the CHSRA based on independent analyses. 6. The Legislature has never reprimanded nor penalized the CHSRA for: 6a) Violating AB3034's demand to submit a business plan by September 1st 2008; i.e. before the November 2008 Prop1A vote: 6b) Not following AB3034's requirement to submit a 2008 business plan based on Year of Expenditure (YOE) estimates: 6c) Changing the construction costs of Phase 1 from $33Billion to $42Bilion to $98.5-$117Billion: 6d) Twice changing ticket price estimates. Ticket prices more than doubled in 2009; then they dropped by a fifth in late 2011, despite construction costs having doubled: 6e) Not submitting business plans that were investment grade although demanded by the Senate: 6f) Not following AB3034's requirement to submit professional grade risk mitigation plans in 2008 and 2009, and again in 2011: 6g) Never having shown a written commitment of any private sector investment while claiming to have private sector investors' interest: 6h) Not having revealed that private sector investment would only come with a 'revenue guarantee' although known to CHSRA in mid-2008: 6i) Not having credible forecasts of construction and permanent job creation in any of their plans: 6j) Never having revealed what their operating cost data sets were, how they compared to the operating costs of existing high-speed rail systems, nor how each variable was used in their profitability equations: 6k) Knowing the Operating Costs in their Draft 2012 Business Plan will be four times or more their stated estimate – thereby canceling asserted profits and requiring an illegal operating subsidy: 6l) Never having to prove through independent sources their consistent claim that all high-speed rail systems are profitable: 6m) Having created phantom profits in their Draft 2012 Business Plan by weighting expenses at a lower rate than revenues: 6n) Basing unrealistic financial forecasts on non-existent Federal funds (TRIP bonds), a discounted cash flow sale to private investors whose rationale is highly questionable, and loans or grants from California's strapped local governments: 6o) Having used Parsons Brinckerhoff's contrived calculations to 'prove' that alternatives to high-speed rail were considerably more costly. 7. Not meeting the requirements of AB3034 that the proposed high-speed rail project costs cannot exceed one-third of the highway and airport enhancement alternatives.

[219] This quote is found on page 5 of a verbatim transcript of Senator Joe Simitian's comments at the Senate Floor Session on HSR Trailer Bill 1029, July 6, 2012. For Senator Simitian's arguments for voting 'No' see: http://www.youtube.com/watch?v=NajQSD_Pscs&feature=youtu.be

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COUNTY IS EXEMPT FROM FILING FEES PER GOV. CODE SECTION 6103

SUPERIOR COURT OF THE STATE OF CALIFORNIA

COUNTY OF SACRAMENTO

JOHN TOS, AARON FUKUDA; AND COUNTY OF KINGS, A POLITICAL SUBDIVISION OF THE STATE OF CALIFORNIA, Plaintiffs, v. CALIFORNIA HIGH SPEED RAIL AUTHORITY; JEFF MORALES, CEO OF THE CHSRA; GOVERNOR JERRY BROWN; STATE TREASURER, BILL LOCKYER; DIRECTOR OF FINANCE, ANA MATASANTOS; SECRETARY (ACTING) OF BUSINESS, TRANSPORTATION AND HOUSING, BRIAN KELLY; STATE CONTROLLER, JOHN CHIANG; AND DOES I-V, INCLUSIVE, Defendants.	CASE NO. 34-2011-00113919 **DECLARATION OF RICHARD F. TOLMACH** Trial Date: May 31, 2013

I, Richard F. Tolmach, declare as follows:

I declare, under penalty of perjury, that the following is true and correct, and that if called as a witness to testify to the following, I would be competent to so testify.

1. Following graduation with an independent major in planning and urban development topics from the University of California, Berkeley in 1971, I was an employee of the Rail Transit Branch and subsequently the Division of Rail in the California Department of

Transportation (CalTrans) for over 30 years (1976 – 2008). I developed the schedules and marketing that made the expanded San Diegan 403(b) Amtrak corridor service into a nationally acclaimed success, tripling ridership by doubling its frequency. In 1979, I developed the schedules and integrated bus service that saved San Joaquin train service and turned the corridor into the sixth strongest corridor nationally. Between 1984 and 1994, I produced the statewide rail timetable, developed train schedules, ridership projections and marketing to launch the Capitol Corridor and developed new proposals for feeder bus routes statewide. From 1997 to 2001, I was Caltrans project manager for the Caltrans-Amtrak Rail Ridership Model, an econometric model used by the State and Amtrak to project revenues and ridership on future California rail service reliably.

2. In 1987 I co-founded the California Passenger Rail Foundation (CRF), a 501(c)3 non-profit organization. In 1990, CRF helped develop and promote Prop. 116, that resulted in funding for $2 Billion of rail improvements throughout California, including the purchase of key rights-of-way that became the basis for Metrolink and Coaster commuter rail systems. CRF publishes the California Rail News, co-sponsors the annual CalRail 2020 rail conference, and educates the public about cost-effective rail transportation.

3. The California Passenger Rail Foundation (CRF) supports rail-based transportation. In fact, "*CRF has worked since its inception, to foster a California high-speed rail project that is well planned, efficient, environmentally beneficial, and affordable*."[1] My support extended through most of the years leading up to 2008. By the time of the November 2008 election, and after considerable efforts to point out the flaws in the high-speed train's route selection and project design approach, I joined those in opposition to Proposition 1A, and signed the Rebuttal to Argument in Favor of Proposition 1A in the Official Voter Information Guide. Despite the outcome of that election, and my continuing objections to the approach taken by the California High-Speed Rail Authority's (CHSRA), CRF continued to describe the project as potentially " . . *an exciting new era of high quality passenger transportation* . . "[2]

[1] See: http://www.calrailfoundation.org/Home.html
[2] See: California Rail News, November 2008–January 2009, page 5

4. Based on my having read, analyzed and written about the CHSRA's business plans issued in November 2008, December 2009, November 2011, and April 2012, and my background and expertise described above, the following are my observations on the CHSRA's past and present high-speed train program.

5. Every Authority business plan so far has routed high-speed trains through the Pacheco Pass and San Jose and northward to the San Francisco Transbay Terminal. Entering the San Francisco Bay Area through the Pacheco Pass is more route miles than an Altamont Pass-based alternative. The Pacheco Pass routing increases not only the costs of building that corridor, but also the recurring costs of operating the high-speed train. Higher capital costs makes funding harder to acquire. Increased operating costs increase the possibility the train will require a prohibited operating subsidy.

6. I understand that one of the issues in this case is the question of whether high-speed trains will be able to meet the travel time required in Proposition 1A. Based on my decades-long experience in preparing rail timetables, it is my opinion that despite operating speeds of 220 mph, the total travel time for most, if not all, trips between Los Angeles Union Station and the San Francisco Transbay Terminal is well beyond 3 hours. It is not credible to me as a professional that a trip using the Blended System will take only 2 minutes longer than the trip time in the 2008 Business Plan.[3]

7. I reviewed the response from Ms. Angie Reed of the High-Speed Rail Authority Records Staff to a May 31, 2012 request by reporter Kathy Hamilton for documentation supporting the April presentation to the Board that the Los Angeles Union Station to the San Francisco Transbay Terminal trip would take 2 hours and 40 minutes: "*The answer is that no document exists. These were verbal assertions based on skill, experience, and optimism and so Dan Richard went with the expertise of the engineers offering these assertions*." In my opinion, decisions on a project with the immense cost and substantial impacts of the high-speed rail

[3] The 2008 Business Plan was premised on high-speed trains traveling on independent tracks. The 2012 Business Plan proposes a Blended Approach, in which high-speed trains share tracks from San Jose to San Francisco with Caltrain commuter trains, resulting in lower speeds. The CHSRA's claimed Los Angeles to San Francisco travel times are: 2:38 and 2:40 respectively.

program cannot responsibly be based on optimism.

8. In April 2012, Californians Advocating Responsible Rail Design delivered a document to the CHSRA Board showing the difference between the 3-hour Los Angeles-San Francisco trip time in the supporting documents for the Revised Business Plan versus the 2 hours 40 minutes presented to the Board. Given my experience and expertise, I believe the Authority and its Board acted recklessly and deliberately ignored this submission of the Authority's own work, and continues to falsely assert that their 'Blended System' will meet the statutory requirement to take travelers between Los Angeles' Union Station and the San Francisco Transbay Terminal in 2 hours and 40 minutes.

9. The question of whether CHSRA's system will require operating subsidies is directly related to travel time. The CHSRA business model depends on achieving a San Francisco - Los Angeles travel time that is competitive with air travel. I have seen no studies that demonstrate that the Blended System can deliver competitive travel times for all--or even some--of its trips. Models depend on credible inputs. This is the message of the famous saying "garbage in-garbage out." In the absence of reliable travel times, I can state as an expert in ridership that ridership and revenue model outputs are meaningless. Without operations studies, which indicate the assumed speed for each segment of the San Francisco - Los Angeles trip, thereby allowing a critical review of the practicability of the assumptions that go into the travel time, there is no evidence to back up the CHSRA's claim that it can operate high-speed trains without a subsidy.

10. CHSRA's April 2012 Business Plan projected the 2025 ridership for the Initial Operating Segment (IOS) to be 8,100,000.[4] This estimate is more than ten times the three counties' current travel via rail, bus and air to the Los Angeles Basin, despite the lack of one-seat service or significant time savings. A 2025 ridership of 8.1 million would require every person in the market catchment area,[5] on average, to ride the high-speed train six times per year, or receive 3 visitors making rail round-trips from the Los Angeles Basin. Given my professional training

[4] See page 5-17, Medium forecast.

[5] The total population of the three counties, the only market from which riders logically can be drawn, was 1,339,225 in 2010 (Merced County = 255,793: Fresno County = 930,450: Kings County 152,982. Although population was once projected to grow rapidly in those counties, reality has not matched expectations for most of the last decade.

and thirty years of rail planning in California, I believe that the CHSRA's ridership projections are entirely unreasonable.

11. I found the 2012 report "To Repeat – The CHSRA's Train Will Need A Subsidy Forever",[6] an independent analysis of the need for an operating subsidy for the California high-speed train, to be highly credible. My experience with the literature leads me to have confidence in the report's key findings: that international high-speed rail systems' revenues are in the range of US40¢ - US50¢ per passenger mile (PPM), and that the CHSRA will have lower revenues, US20¢ - 23¢ PPM, due to the competitive nature of the California air and auto transport marketplace. Starting with the CHSRA's claim that it would achieve a 50% profit, and assuming a 65% load factor, the "To Repeat" report calculates HSR operational costs to be 10¢ PPM.[7] I can think of no reason why the CHSRA's operating costs should be materially less than the existing international operators' costs (US40¢ - 50¢ PPM). It seems clear to me that the CHSRA will have insufficient revenues PPM to cover their costs per passenger mile.

12. Based on my experience in the passenger rail field, including the time it takes to plan and build rail systems, and based on my understanding of the progress the Authority has made to date in planning the high-speed rail system, I believe it unlikely that the Authority will complete the San Francisco to Los Angeles corridor by its planned 2029 date. In my opinion, there is almost no possibility the corridor will be meet the Legislature's desired completion date of 2020.

13. The Authority has not disclosed the financial consequences of bringing Amtrak trains onto its new tracks, in order to be able to claim in a federal grant application that the project will have independent utility, in case high-speed rail does not go forward. Additional structural strength is needed to be able to carry Amtrak diesel locomotives. The 30-ton axle loading of Amtrak's locomotives is far heavier than the 17 ton maximum on most high-speed railways. Having been surrounded by engineers most of my professional life, I am aware that the required strength of structures varies as a square of the axle loading. This means that concrete structures

[6] Available at: www.sites.google.com/site/hsrcaliffr
[7] Ibid. pg. 7, Figure 5.

like bridges and viaducts in the Central Valley would have to be made about four times stronger to be able to carry Amtrak equipment. That adds a great deal of unnecessary cost to the project.

14. I see no transportation benefits from the current 130-mile project in Fresno. This facility will not improve California's rail network, and will not solve any systemic problems. I do not expect that it will produce new ridership. The Authority's assertion that it will be used by Amtrak is highly questionable. Amtrak already has a facility that is complete with tracks, stations, and signaling. It is unlikely to give up its existing stations in Fresno, Hanford, Corcoran and Wasco, not to mention their significant ridership and revenue, for what I estimate to be a few minutes of time-savings to Bakersfield.

15. The Fresno section of the 130-mile project bears a striking resemblance to the Fresno County Rail Consolidation Plan, developed in the early 1990s. Its purpose was to improve downtown Fresno, and by implication, raise its land values, by removing freight rail traffic. I am concerned that this $6 billion dollar project is an outrageous bait-and-switch, with the Fresno section the only thing likely to ever be built by the CHSRA.

16. Instead of bringing in an experienced high-speed rail operator to run the project, CHSRA has insisted on a 'go-it-alone' strategy, in which a small staff provides minimal oversight to an army of consultants, with no private investment. This has resulted in an out-of-control politically driven project. A business-led project would have focused instead on the bottom line. In my opinion, the CHSRA approach of investing $31.3 billion of public funds[8] in the hopes of attracting private investment is highly unreasonable.

I declare under penalty of perjury pursuant to the laws of the State of California that the foregoing is true and correct.

Executed this 23 day of January 2013, at Sacramento, California.

Richard F. Tolmach

RICHARD F. TOLMACH

[8] Revised 2012 Business Plan, p. 3-2.

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COUNTY IS EXEMPT FROM FILING FEES PER GOV. CODE SECTION 6103

SUPERIOR COURT OF THE STATE OF CALIFORNIA

COUNTY OF SACRAMENTO

JOHN TOS, et al.,

Plaintiffs,

v.

CALIFORNIA HIGH SPEED RAIL AUTHORITY, et al.,

Defendants.

CASE NO. 34-2011-00113919

DECLARATION OF WILLIAM H. WARREN

Trial Date: May 31, 2013

I, William H. Warren, declare as follows:

1. I reside in the city of Palo Alto, in the County of Santa Clara, in the State of California. I am a native of California, and have been a resident of California all my life, except two years when I was on active duty with the US Navy. Between 1959 and 1965 I completed my undergraduate studies and my MBA (Masters of Business Administration) at Stanford University. Between 1965 and 2005, for 40 years I was a business professional located in the Bay Area of California.

2. Over these 40 years of my career I was deeply involved in the high technology computer software and hardware marketplace, with an emphasis on the telecommunications and

storage systems market segments. During this period I preformed activities including: (1) product line management and product marketing (including business plans, market and financial forecasts, acquisition and contract negotiations, and product launches); (2) software development process management, with a heavy focus on defect prevention through requirements definition, test strategies, and test cases; (3) development support such as hardware, software, and documentation configuration and release management, product test, and test automation; (4) manufacturing support, including vendor management and incoming and final quality assurance and control; (5) formation and management of headquarters customer service and support groups including centralized technical support and field support teams; (6) sales and installation/service field management with heavy customer involvement; (7) corporate computer and information service management, including voice and data operations, LAN, desktop support, and programming services; and (8) corporate finance and administration, including venture capital relationships, merger and acquisition selection, relationships and analysis, and corporate financing. During these 40 years, I had a variety of employment experiences. I started as a Data Processing Officer in the US Navy, then was in Sales and System Engineering for IBM (in the transportation marketplace in San Francisco), moved to management and leadership roles at Memorex Corporation, ROLM Corporation, a number of small start-ups, and as a corporate officer at Centigram Communications, with the last eight years as an independent consultant in the San Francisco Bay Area. I retired in 2005. Much of my work over these 40 years dealt with the same business planning issues being dealt with today with respect to the California high speed rail project. In the late 1960's I did my first marketing requirements statements defining what customers wanted, what the competition was proposing and what the long term revenue forecasts would be. In the early 1970's my department teams and I were producing my initial Business Plans, including product plans, competitive analysis, revenues and manufacturing and field cost projections, operating margin contributions, capital requirements, and long term return on investment. By the late 1970's, I developed the Business Plan for a "start-up" that I was one of the founders of, working with venture capital firms in San Francisco to secure initial and subsequent rounds of financing, and managing all the marketing, sales, accounting and financial

matters for this start-up. By the 1980's I was back in a large corporation, ROLM that was subsequently acquired by IBM. I was on the product and marketing team working through the acquisition process of our company, which at $1.5B in 1983 was the largest acquisition IBM had ever made. During the 1990's I was one of the officers of a small Silicon Valley telecommunications company that we took from $5M in annual sales to over $100M in annual sales; during that time the company went public and I was one of the primary officers working with the investment bankers during the IPO (Initial Public Offering) process. In the 2000's I was running my own consulting business, and worked with a number of high-tech firms that wanted outside guidance in merger and acquisition activities, focusing on revenue and cost projections, marketing strategies, competitive analysis and the valuation of the planned acquisitions or mergers. I have personal knowledge of the facts stated herein, and, if sworn as a witness, would and could competently testify thereto.

Analysis of 2008 and 2009 California High Speed Rail Authority Business Plans

3. I became actively involved in the California high speed rail project in early 2010, after attending a presentation in Palo Alto by the California High Speed Rail Authority (CHSRA) in the fall of 2009 and a California Senate Hearing in Palo Alto in January 2010. After studying the material provided at the CHSRA presentation, and listening to the plans presented at the 2010 California Senate Hearing, I became extremely concerned that what I was hearing made no economic or financial sense. Therefore, I immersed myself in the then existing CHSRA documentation and the California legislation that enacted the High Speed Rail project, specifically AB 3034 which became the basis of the November 2008 ballot measure Proposition 1A.[1]

4. In early 2010 I reviewed the CHSRA 2008 Business Plan,[2] released in November, 2008 (after the ballot measure had passed, not before, as required by AB 3034), and the 2009/2010 Business Plan, titled "Report to the Legislature – released in December, 2009".[3] From

[1] See: http://leginfo.ca.gov/pub/07-08/bill/asm/ab_3001-3050/ab_3034_bill_20080826_chaptered.pdf
[2] See: http://www.cahighspeedrail.ca.gov/assets/0/152/198/c4889c87-be35-4869-8cb9-1f32416dca8a.pdf
[3] See: http://www.cahighspeedrail.ca.gov/assets/0/152/198/18a28048-f143-4855-b9b4-a9471e50b8ef.pdf

my perspective, there were two important facts to recognize from these two plans. First, the costs to construct this project were very high, and that funding of this construction would greatly exceed the $9B in Prop 1A funds authorized by the voters in 2008. If this gap in construction funds could be provided by "non-California" sources, such as Federal grants (that did not have to be repaid solely by California taxpayers), the financial impact on the taxpayers of the State could be minimized. If the construction had to be paid for with State funds to service construction costs and debts, the impact on the taxpayers would be very large. This problem remains to this day, as only about $11B (the $9B of the Prop 1A funds and $3B in Federal grants) of the currently projected construction costs of between $68B (for the Blended System) and $92B (for the complete Phase 1 System) has been identified and committed. Second, the revenue and cost projections in these two Plans both presented operating margins (revenues less expenses) in the range of 50%, thereby projecting a positive cash flow that could be used to help fund the construction costs. If either the revenue projections are too high, or the cost projections are too low, it is entirely possible that an operating subsidy would be required. This is not allowed under AB 3034, Section 2704.08 (c) (2) (J).

5. A detailed review of their first Business Plan, of November, 2008, showed it to be based on a Marketing Plan that was a low price - high volume marketing strategy, with a $55 ticket price from Los Angeles to San Francisco and about 55 million riders per year. This is the price range mentioned in the Prop 1A material provided to the voters in November 2008. By the time of the 2009 Business Plan, one year later in late 2009, I BELIEVE the CHSRA had concluded that they could not break even with this low price-high volume marketing plan. At the 2008 price of $55 for a Los Angeles to San Francisco ticket, this produces a revenue flow of about 12 cents per passenger mile. The term "per passenger mile", or PPM, is the transportation industry measure of revenues and costs, as supported by the US Department of Transportation (DOT).[4] Please note this PPM measurement will be used extensively in this declaration. (Note

[4] See: Appendix 16 of "To Repeat – The CHSRA's Train Will Need A Subsidy Forever", August, 2012, Second Edition, December, 2012, found at: www.sites.google.com/site/hsrcaliffr/home/2-1-major-reports---2012-plan/08-12-new-report

that this 2008 projection of 12 cents of revenue per passenger mile turns out to be in the range of the Authority's projected operating and maintenance costs in their subsequent 2009 and 2011/2012 Business Plans.[5]) The reason I stated that "I BELIEVE" this to be true, is the 2008 Business Plan and its supporting documentation was totally lacking in any operating and maintenance cost projections, other than to show that their operating margin was going to be 45%, which would mean costs were in the range of 6 cents per passenger mile.

6. With the 2009 Business Plan, I concluded that the CHSRA had moved to a higher price, lower volume marketing strategy, with a Los Angeles to San Francisco ticket price raised to about $105, and a reduction in their ridership volume from about 55M passengers per year to about 40M passengers per year. Such a ticket price leads to a revenue stream that is in the 25 cents PPM (per passenger mile) range. In the 2009 Plan the CHSRA projected a cost structure of 45% of revenues, which would mean operating and maintenance costs of about 11 cents PPM, twice as high as what supported their 2008 projections. Note that with this projected price increase, from the 2008 to the 2009 Plan, of about 100%, from 12 cents of revenue PPM to 25 cents PPM, their operating cost projections also increased about 100%, such that their operating costs remained at about 45% of revenue. This makes no sense in the real world, and means that they most probably did not have a detailed 2009 operating cost estimate, and lacking this detail, they just left it at 45% of revenue. Either that or the 2008 cost number was just a guess, and by the 2009 Plan time frame they were starting to get a handle on their cost estimates

7. Finding such a dramatic PPM price increase in the 2009 Plan I decided to see if I agreed with their marketplace analysis that supported this price increase and the commensurate reduction in passenger volumes. In October 2010, I joined others and published a report of our analysis of the CHSRA 2009 Business Plan, called "The Financial Risks of California's Proposed High-Speed Rail Project, October, 2010".[6] Included with this report was "Appendix A - Analysis of The High Speed Rail Authority's Planned Pricing, October, 2010". This analysis of an average ticket price from Los Angeles to San Francisco concluded that the price increase, from the

[5] See: http://www.cahighspeedrail.ca.gov/assets/0/152/431/1a6251d7-36ab-4fec-ba8c-00e266dadec7.pdf
[6] See: www.sites.google.com/site/hsrcaliffr/home/major-reports/the-2010-chsra-business-plan

CHSRA planned price of about $55 in the 2008 Plan, to the $105 price in the 2009 Plan, was too high to achieve the market penetration desired by the Authority, against the airline and automobile travel alternatives. Our recommendation was to reduce the ticket prices by about 20% to 25% to be more competitive with the airline and automotive travel alternatives which future potential passengers would consider. These conclusions are summarized in Table C on page 18 of Appendix A. This Report and Appendices A, B, and C were delivered to the Governor, the State Treasurer, the Legislative Analyst's Office, the State Auditor, Senators Lowenthal and Simitian, and the CHSRA Peer Review Committee. There was no feedback from the CHSRA regarding our work, but when the November 2011 Draft of the 2012 Business Plan was released, about one year later, it showed a reduction in pricing of about 21%, within in the range of our recommendation.

Our Finding That The CHSRA Revenues And Costs Per Passenger Mile Were Low

8. During 2011, as we continued to study the worldwide HSR marketplace and the CHSRA 2009 Business Plan, we published two reports that spoke to the problems we saw in the 2009 Business Plan. The first, "Big Trouble For California's $66 Billion Train"[7] in March, 2011 addressed the financial impact on the citizens of California having to fund the construction of the system, and also fund an operating subsidy, if the CHSRA did not produce the operating margin defined in the 2009 Business Plan. The second, "Financial Analysis of the Proposed California High-Speed Rail Project"[8] in June, 2011 addressed in extensive detail the financial costs of the combinations of a lack of massive Federal Grant construction financing and the potential lack of operating profitability. Both of these reports were sent or delivered to selected members of the Legislature, the Treasurer's Office, the Office of Finance, the Legislative Analysts' Office, and the CHSRA Board Chairman (Mr. Pringle in March, and Mr. Umberg in July). There were no responses from the Authority. It also became apparent, during this investigation that the ticket prices the CHSRA were planning to charge, at about 24 cents on a PPM (per passenger mile)

[7] See: /www.sites.google.com/site/hsrcaliffr/home/3-1---briefing-papers---2010-plan/11-10-to-4-11-six-briefing-papers

[8] See: www.sites.google.com/site/hsrcaliffr/home/major-reports/still-not-ready

basis, were dramatically lower than the prices of the existing HSR international systems and the Acela system on the North East Corridor of the United States. These systems' ticket prices were averaging above 40 cents PPM. This analysis was first published as Brief Note #14, "On Evidence-Based High-Speed Rail Fares" in July, 2011.[9] As we continued to investigate the existing worldwide high-speed rail operations we learned that, generally speaking, these operations, most of which are state owned and operated, are not highly profitable operations (by US commercial standards), and according to public reports, these systems are currently requiring government operating subsidies. If there was any truth to these points, the implication is that operating costs, worldwide, are ALSO in the range of above 40 cents PPM, just like the revenues streams of above 40 cents PPM. It immediately became clear to us that there was a fundamental disconnect between the CHSRA's intent to operate with a cost structure in the 11 cents PPM range, while international costs appear to be in the range of over 40 cents PPM. Based on the market pricing analysis we had performed in 2010 (see paragraph 7, above), we were sure the CHSRA did not have the ability to raise their ticket prices beyond the price range of 24 cents PPM, without a dramatic reduction in passenger volumes. Therefore, the highest the CHSRA's projected costs could increase to would be about 24 cents PPM (about double their current projection of 11 cents PPM), before the Authority would require an operating subsidy, which is prohibited by AB 3034 and Prop 1A. However, with international costs appearing to be in the above 40 cents PPM range, this risk of the CHSRA costs moving into the 24 to 40 cents, and above, PPM range seemed very high, leading to the need for the prohibited subsidy. We first published this apparent price-to-cost problem in July, 2011, in Brief Note #15 "On Operating Costs Out Of Sync With The FRA And Reality".[10] Both Brief Notes #14 and #15 were distributed to the Authority, selected members of the Legislature, the Treasurer's Office, the Office of Finance, and the Legislative Analysts' Office in August, 2011

9. By September, 2011 we had finished our last report on the 2009 Business Plan, updating our earlier version of October, 2010. This report, "Revisiting Issues In The October

[9] See: www.sites.google.com/site/hsrcaliffr/home/brief-notes/2011-brief-notes
[10] See: www.sites.google.com/site/hsrcaliffr/home/brief-notes/2011-brief-notes

2010 Report: The Financial Risks of California's Proposed High-Speed Rail Project",[11] incorporated all of the events of the past year, including the FRA Grants, the focus on the Central Valley as the initial point of construction, and the financial implications of the international HSR revenues and costs that we had documented in our Brief Notes #14 and #15. This report was sent or delivered to selected members of the Legislature, the Treasurer's Office, the Office of Finance, the Legislative Analysts' Office, and the CHSRA Board Chairman Mr. Umberg. There was no response from the Authority. Also by September, 2011 we had formalized a Power Point Presentation, titled "Financial Aspects of California's Proposed High-Speed Rail System, September, 2011".[12] Included in this presentation was a slide summarizing the apparent 'disconnect' between the very low operating costs the Authority was projecting on a PPM basis, and what appear to be much higher worldwide operating costs, on a PPM basis. Printed copies of this presentation was given to the Authority, selected members of the Legislature, the Treasurer's Office, the Office of Finance, and the Legislative Analysts' Office in September, 2011. A copy of this presentation, with a cover letter, was provided to Governor Browns Office in October 2011.[13] As this cover letter mentioned, copies of this presentation were also delivered in September to Ken Alex, Gareth Elliott and Chris Ryan who were assisting Governor Brown at the CHSRA. At the urging of the Treasurer's Office, a meeting was arranged between the new CHSRA Board Members, Mr. Richard and Mr. Rossi, and Mr. Morales of Parsons Brinckerhoff, me and one of my co-authors, Mr. William Grindley, in November 2011. A substantial portion of the meeting centered the pages of the Power Point Presentation that highlighted the ticket price (revenue) to operating cost PPM 'disconnect' relative to the world market and the risk of the need for an illegal subsidy.[14] Mr. Rossi took the responsibility to investigate the matter and respond to

[11] See: www.sites.google.com/site/hsrcaliffr/home/major-reports/09-11-revisiting-financial-risks

[12] See: www.sites.google.com/site/hsrcaliffr/home/3-1---briefing-papers---2010-plan/09-11-presentation-power-point-financial-aspects-of-chsra-plan

[13] See: Attachment One of "To Repeat – The CHSRA's Train Will Need A Subsidy Forever", August, 2012, Second Edition, December, 2012, found at: www.sites.google.com/site/hsrcaliffr/home/2-1-major-reports---2012-plan/08-12-new-report

[14] See: Attachment Two of "To Repeat – The CHSRA's Train Will Need A Subsidy Forever", August, 2012, Second Edition, December, 2012, found at: www.sites.google.com/site/hsrcaliffr/home/2-1-major-reports---2012-plan/08-12-new-report

us. To assist them, on November 18, 2011, I e-mailed copies of Brief Notes #14 and #15, as additional information. (See paragraph 8, above, for more information regarding these two Brief Notes.) Despite numerous attempts to follow up with Mr. Rossi and Mr. Richard, no response was received.[15]

The Latest CHSRA Business Plan Contains The Same Subsidy Risk Problem

10. In November 2011 the Draft version of the 2012 Business Plan was released by the CHSRA. In addition, new Ridership and Revenue, and Operating and Maintenance Cost documents, produced by Parsons Brinckerhoff, became available in the same time period. The CHSRA's Draft 2012 Business Plan stated that O&M cost projections were around 10 cents PPM and revenues ranged from 20 cents to 25 cents PPM.[16] This official stance was reaffirmed on December 15, 2011 in Washington at a US House Subcommittee Hearing, when then-CHSRA CEO Roelof Van Ark responded to a question from Representative Gary Miller of California of the US House Subcommittee on Railroads, Pipelines and Hazardous Materials. CEO Van Ark said that all of the price and cost projections in the 2012 Draft Business Plan had been checked and cross checked against all HSR systems.[17] However, as the text of his speech shows, in Attachment 12 of the "To Repeat" report, Mr. Van Ark's specific answer to the question regarding O&M costs is not consistent with: (1.) The UIC/IUR's February 2011 letter to Mr. Van Ark, and its Official UIC/IUR stance on profitability where HSR revenues and operating cost were roughly equated to one another. For example, if revenues are about 40 cents PPM, O&M costs must therefore be in the range of 40 cents PPM.[18] (2.) Spain's RENFE presentation to Mr. Van Ark and the CHSRA Board in June 2011. When AVE's revenues, profit margins, load

[15] See: Attachments Three and Four of "To Repeat – The CHSRA's Train Will Need A Subsidy Forever", August, 2012, Second Edition, December, 2012, found at: www.sites.google.com/site/hsrcaliffr/home/2-1-major-reports---2012-plan/08-12-new-report

[16] These assertions were restated in the Revised 2012 Draft (and Final) Business Plan of April 2012, and are analyzed in Appendix 4 of the "To Repeat – The CHSRA's Train Will Need A Subsidy Forever", August, 2012, Second Edition, December, 2012, found at: www.sites.google.com/site/hsrcaliffr/home/2-1-major-reports---2012-plan/08-12-new-report

[17] See US House testimony of Mr. Van Ark; a video at: http://www.youtube.com/watch?v=IXDeu_4-AXs&feature=youtu.be

[18] See Attachment 11 of "To Repeat – The CHSRA's Train Will Need A Subsidy Forever", August, 2012, Second Edition, December, 2012, found at: www.sites.google.com/site/hsrcaliffr/home/2-1-major-reports---2012-plan/08-12-new-report

factors, ticket prices and distances were analyzed, revenues and costs per passenger mile could be estimated to be 55 cents to 45 cents per passenger mile, as shown in the right hand column of Figure A6-1 of the "To Repeat" report.[19] (3.) The 2007 BBVA Report referenced in the 2012 Business Plan Operating Cost document, produced by Parsons Brinckerhoff for the Authority's Draft 2012 Business Plan. [20] This Plan was presented to the CHSRA Board and management in November 2011. When Mr. Van Ark testified in December 2011 there was no indication then that some of the O&M cost data in the range of 45 cents to 50 cents (PPM), might be flawed, as it was to be subsequently report by the CHSRA in April 2012. It is not clear how could these significant data points, all pointing to costs and revenues in the 40 cents to 50 cents PPM range, be set aside in CEO Van Ark's testimony? This paradox remains unexplained, yet the Authority continues to plan with the same revenues and costs as CEO Van Ark defended as *"cross checked."* In early January, 2012 we released our first analysis of the Draft version of the 2012 Business Plan. That report, "Twelve Misleading Statements On Finance And Economic Issues In The CHSRA's Draft 2012 Business Plan"[21] was submitted as our "Comments" to the CHSRA for their feedback period on the Draft Plan. The report was also hand delivered to the Authority's Board Chairman and Board Members Richard and Rossi, selected members of the Legislature, the Office of Finance, the Treasurer's Office, and the Legislative Analysts' Office. Of the twelve points in the report, points 5 through 9 spoke directly to the ridership, revenues, and costs that were presented

[19] See Appendix 6 of "To Repeat – The CHSRA's Train Will Need A Subsidy Forever", August, 2012, Second Edition, December, 2012, found at: www.sites.google.com/site/hsrcaliffr/home/2-1-major-reports---2012-plan/08-12-new-report . Also discussed in detail on page 6 of the " The CHSRA Knows Their Proposed High-Speed Train Will Forever Need An Operating Subsidy" report, available at www.sites.google.com/site/hsrcaliffr/home/briefing-papers/03-12-need-for-an-operating-subsidy

[20] This and further references to a 'BBVA Report' are to the 2007 paper named "The cost of building and operating a new high speed rail line" by Javier Campos and Gines de Rus and Inaki Barron; BBVA Foundation, 2007; online athttp://mpra.ub.uni-muenchen.de/12396/ MPRA Paper No. 12396; posted 28. December 2008, 16:01 UTC Found at http://mpra.ub.uni-muenchen.de/12396/1/MPRA_paper_12396.pdf. There is also a second paper on high-speed rail, sponsored by the BBVA Foundation and published in 2009. Its findings and conclusions are the same as the 2007 paper. See: Economic Analysis of High-Speed Rail in Europe: Ginés de Rus (Ed.), Ignacio Barrón, Javier Campos, Philippe Gagnepain, Chris Nash, Andreu Ulied, Roger Vickerman. Found at http://www.fbbva.es/TLFU/tlfu/ing/publicaciones/informes/fichainforme/index.jsp?codigo=424. These are referenced on page 5 [PDF 76] of Appendix 8 and again in Appendix 14 of "To Repeat – The CHSRA's Train Will Need A Subsidy Forever", August, 2012, Second Edition, December, 2012, found at: www.sites.google.com/site/hsrcaliffr/home/2-1-major-reports---2012-plan/08-12-new-report

[21] See: www.sites.google.com/site/hsrcaliffr/home/briefing-papers/01-12-twelve-misleading-statements

in the Draft Plan. Our analysis of the Draft Business Plan showed the same issues existed, as in the 2009 Business Plan, and that the risk of an operating subsidy being required had not been mitigated. In late January, 2012 we released our second and last analysis of the Draft version of the 2012 Business Plan. That report, "California High-Speed Rail Authority's 2012 Draft Business Plan Assessment: Still Not Investment Grade"[22] was hand delivered to the Authority's Board Chairman and Board Members Richard and Rossi, selected members of the Legislature, the Legislative Analysts' Office, the Office of Finance, and the Treasurer's Office. Chapter Two, on pages 22 to 31, spoke directly to the very high risk of an operating subsidy based on our understanding of world revenues and costs on a PPM basis, compared to the Authority's projected revenues and costs on a PPM basis. No response was received from the Authority regarding either of these reports. In April 2012, the Final version of the 2012 Business Plan, and its supporting Ridership and Revenue[23], and Operating and Maintenance Cost[24] documents, were released and approved. All of my following comments regarding their 2012 Plan will be based on the "Medium" forecasts in Final version of this Plan. (The 2012 Plan contained High, Medium, and Low forecasts.) As mentioned in Paragraph 7, above, with the 2011 Draft Version of the 2012 Business Plan the ticket prices were reduced, as we had recommended, to the price of $83 for a ticket from Los Angeles and San Francisco, which computes to a price of about 22 cents PPM, and over all average ticket prices of about 23 cents PPM (across all traffic segments).[25] The projected Operating and Maintenance (O & M) costs were projected to remain at about 10 cents PPM. There were no significant changes in the Revenue and Operating Cost projections on a PPM basis between the Draft Plan issued in November 2011 and the Final Plan in April 2012. However, the April 2012 Plan focused on the "Blended System" (sharing tracks with Caltrain between San Francisco and San Jose), and the overall annual ridership forecast dropped to a peak

[22] See: www.sites.google.com/site/hsrcaliffr/home/2-1-major-reports---2012-plan/01-12-plan-not-investment-grade
[23] See: http://www.cahighspeedrail.ca.gov/assets/0/152/431/7b890372-19c0-4ba7-aa98-aa1d49dea11b.pdf
[24] See: http://www.cahighspeedrail.ca.gov/assets/0/152/431/fef25ce4-056f-4262-9a2e-ca3c8fb15724.pdf
[25] See: Figure A4-1, Page 2 of Appendix 4 of "To Repeat – The CHSRA's Train Will Need A Subsidy Forever", August, 2012, Second Edition, December, 2012, found at: www.sites.google.com/site/hsrcaliffr/home/2-1-major-reports---2012-plan/08-12-new-report

of about 28M passengers per year[26], as compared to the 40M forecast in the 2009 Plan.[27]

11. In our analysis of the Parsons Brinckerhoff Operating and Maintenance Cost documents that were published with the November 2011 Draft of the 2012 Plan, we found references, via Footnotes, to a 2007 international study by BBVA showing operating costs for existing European HSR systems far in excess of the CHSRA cost projections. (This same reference was to be repeated in the subsequent April version of this Operating Cost document.) That led us to go back and examine a Spanish government presentation made to the CHSRA Board of Directors in June 2011 regarding their HSR program. Our analysis showed that the operating costs discussed in that presentation were consistent with the BBVA study, with both sources showing operating costs in the 40 cents to 50 cents PPM range. This was much higher than the projected CHSRA operating costs of 11 cents PPM, and even higher than the CHSRA projected revenues in the 22 to 23 cents PPM range. This finding led us to produce the report of March 2012 " The CHSRA Knows Their Proposed High-Speed Train Will Forever Need An Operating Subsidy".[28] In March 2012, copies of this report were distributed to the Authority, selected members of the Legislature, the Authority's Chairman, the Treasurer's Office, the Office of Finance, and the Legislative Analysts' Office. Copies were also provided to the United States Government Accountability Office (GAO). The message in the report was very simple - that these two pieces of information, in conjunction with our initial price and cost work documented in Brief Notes 14 and 15, needed to be a wake up call to the Legislature and the Administration that the Authority's plans in all probability will lead to the need for an operating subsidy. We also recommended that independent investigations of this issue needed to be undertaken, including on-site visits to existing international HSR operators. As a result of this report two events occurred, neither of which were the independent investigation we had recommended; in effect, the well established business practice of "due diligence" was set aside. First, in response

[26] See: Figure A4-1, Page 2 of Appendix 4 of "To Repeat – The CHSRA's Train Will Need A Subsidy Forever", August, 2012, Second Edition, December, 2012, found at: www.sites.google.com/site/hsrcaliffr/home/2-1-major-reports---2012-plan/08-12-new-report

[27] See: Page 73 of 2009 Business Plan at http://www.cahighspeedrail.ca.gov/assets/0/152/198/18a28048-f143-4855-b9b4-a9471e50b8ef.pdf

[28] See : www.sites.google.com/site/hsrcaliffr/home/briefing-papers/03-12-need-for-an-operating-subsidy

to a request from four members of the Legislature, the Legislative Analysts' Office (LAO), reviewed our report and issued a May 2012 letter, to the four members of the Legislature.[29] This letter included the LAO's finding that existing international HSR operating and maintenance cost appear to be in the range of 30 cents PPM. This is below the 40 to 50 cents PPM range we had reported, but was still 30% higher than the projected revenue streams of 22 to 23 cents PPM imbedded in the CHSRA Business Plan, and substantially above (three times) the CHSRA's projected operating costs of 10 to 11 cents PPM. This LAO finding would clearly indicate a need for an operating subsidy if the CHSRA incurred costs in the range of the international HSR operators. The LAO also said they could not reconcile the difference between their international operating and maintenance cost findings of 30 cents PPM and the CHSRA's cost projection of 10 cents PPM. To the best of my knowledge no on-site visits to existing HSR operators were undertaken to produce this LAO report. Second, on April 30, 2012 CHSRA Board Member Rossi told an Assembly Transportation Committee Hearing that further investigation on their part had revealed that the 2007 BBVA report footnoted in their Operating and Maintenance Cost report, and therefore referenced in our report, had flawed operating cost data from the UIC (Union Internationale des Chemins de Fer). The Authority concluded the BBVA report could therefore not be a useable source of information. The CHSRA committed to the Chairman of the Assembly Committee that new and corrected information would be provided by the UIC and BBVA. To date, to the best of my knowledge, no new or "corrected" UIC data has been published by BBVA, and the current Web site version of the BBVA report shows the data is still "under revision" by the UIC, ten months later. It is not understandable how the UIC data, that had been in the public view for five years (since 2007), can be found to be incorrect two months after we reference it, and ten months later, the corrected data is still not available. Multiple attempts by us to obtain the new "corrected" information from the UIC and BBVA have been to no avail. The UIC do not

[29] See: Attachment Nine of "To Repeat – The CHSRA's Train Will Need A Subsidy Forever", August, 2012, Second Edition, December, 2012, found at: www.sites.google.com/site/hsrcaliffr/home/2-1-major-reports---2012-plan/08-12-new-report

respond to our requests for assistance.[30]

Our Latest Report Confirms The Risk Of An Operating Subsidy

12. With the CHSRA Board approval of the Final Revised 2012 Business Plan in April 2012 we decided to undertake a more extensive investigation of the publically available information on existing HSR operating and maintenance (O & M) cost data. With the inability to access new and corrected BBVA data as a stand alone source, it was necessary to look to multiple sources to see if some degree of "commonality of results" would occur. Since the original BBVA data existed, we continued to reference it, with an explanation that it has been reported to be incorrect. We have no idea as to the magnitude of the error that is imbedded in the "old" data; "new" data, if it is ever released, could be 5%, or it could be 50%, higher or lower than the original data. As shown in our subsequent analysis, the "old but supposedly flawed" BBVA data is very similar to other data sets we were able to develop from public records. In August 2012 we produced our latest report on the question of the potential need for the CHSRA project requiring an operating subsidy, "To Repeat – The CHSRA's Train Will Need A Subsidy Forever", August 2012".[31] The report was hand delivered to the Authority's Board Chairman, the Governor, selected members of the Legislature, the Legislative Analysts' Office, the Office of Finance, the State Auditor, and the Treasurer's Office. Copies were also provided to the United States Government Accountability Office (GAO). (In December, 2012, a Second Edition[32] of this report was released, correcting some grammatical and punctuation issues and clarifying the meaning in two sentences. No changes were made to the data, its analysis, or our conclusions. This Second Edition of the report was delivered to the Authority's Chairman.) This "To Repeat" report shows a wide range of international HSR, Amtrak, and Acela systems with revenues in the 40 to 70 cents PPM range.[33] As stated above, the Authority proposes to charge 23 cents PPM.[34] It remains

[30] See: Attachment Thirteen of "To Repeat – The CHSRA's Train Will Need A Subsidy Forever", August, 2012, Second Edition, December, 2012, found at: www.sites.google.com/site/hsrcaliffr/home/2-1-major-reports---2012-plan/08-12-new-report

[31] See: www.sites.google.com/site/hsrcaliffr/home/2-1-major-reports---2012-plan/08-12-new-report

[32] See: www.sites.google.com/site/hsrcaliffr/home/2-1-major-reports---2012-plan/08-12-new-report

[33] See: Figure 1, page 18, and page 7 of "To Repeat – The CHSRA's Train Will Need A Subsidy Forever", August, 2012, Second Edition, December, 2012, found at: www.sites.google.com/site/hsrcaliffr/home/2-1-major-reports---2012-plan/08-12-new-report

my conclusion that the California transportation marketplace is too competitive to allow for dramatically higher HSR prices, without resulting in dramatically lower HSR passenger volumes. The "To Repeat" report also shows a wide range of international HSR, Amtrak, and Acela systems with operating and maintenance (O & M) costs that appear to be in the 30 to 60 cents PPM range.[35] The Authority continues to project its O & M costs in the 10 cents PPM range.[36] If the Authority has incorrectly projected their future O & M costs, the actual costs could easily exceed the 23 cents PPM of revenues, triggering the need for continuous operating subsidies.

13. There are two ways for cost projections to be developed and analyzed, in any business enterprise. The first way is the "inside view", where forecasters make multiple line item cost estimates, which, when added together, may be presented as what it will cost to produce a product or a service. The second way is to take a "outside view" approach by taking existing cost structures that currently provide similar goods or services and then deciding how one's proposed product or service will be different in its cost structure from the existing products or services, or will they be the same as existing cost structures. These existing cost structures may be within the same operational structure or they be based in a detailed outsider analysis of competitor's product lines or services. There is a 2012 publication by Professor Bent Flyvbjerg of the University of Oxford that speaks to the need for this practice in the transportation industry. [37] For example, the "inside view" approach would show the cost of energy, on a cost per passenger mile basis. From the "outside view", the cost of energy being used in similar situations around the world would be compared to the "inside view" projections. If there are dramatically lower costs of energy in the

(…continued)

[34] See: Figure A4-1, Page 2 of Appendix 4 of "To Repeat – The CHSRA's Train Will Need A Subsidy Forever", August, 2012, Second Edition, December, 2012, found at: www.sites.google.com/site/hsrcaliffr/home/2-1-major-reports---2012-plan/08-12-new-report

[35] See: Page 7 of "To Repeat – The CHSRA's Train Will Need A Subsidy Forever", August, 2012, Second Edition, December, 2012, found at: www.sites.google.com/site/hsrcaliffr/home/2-1-major-reports---2012-plan/08-12-new-report

[36] See: Figure A4-1, Page 2 of Appendix 4 of "To Repeat – The CHSRA's Train Will Need A Subsidy Forever", August, 2012, Second Edition, December, 2012, found at: www.sites.google.com/site/hsrcaliffr/home/2-1-major-reports---2012-plan/08-12-new-report

[37] See: "Quality Control and Due Diligence in Project Management Getting Decisions Right by Taking the Outside View", by Professor Bent Flyvbjerg, University of Oxford, November, 2012. Available at: http://www.sbs.ox.ac.uk/centres/bt/directory/Documents/QualityControl5%202FinalText3.pdf

US, than in Europe, that would materially lower the operating cost per passenger mile from the European number to a lower US number. This could be an adjustment to lower the European cost per passenger mile to a more realistic cost per passenger mile in the US marketplace. When these two approaches, the "inside view" and the "outside view" converge on a similar cost estimate, there is a reasonably good chance most of the needed components of the "inside view" approach have been incorporated in the estimates, and the differentiations in the "outside view" approach that allow for a difference from existing cost structures are identified, so they can be managed to, and hopefully achieved. Unfortunately, there is normally wide variations between the "inside view" and the "outside view", and it is this variation that management must address. This also is a standard methodology that is used in many industries and is taught as a "best practice" in Business and Engineering Schools. Most importantly, Professor Flyvbjerg stresses the point that there is too much error and institutional bias in the "inside view" forecasts to trust such forecasts, unless they can be reconciled to "outside view" real world information. To the best of my knowledge, this level of "inside view" versus "outside view" analysis has not been performed consistently by the CHSRA, and we are aware of instances where it has been ignored, as discussed in paragraph 10, above. In effect, they did a "inside view" approach, but never endeavored to look, in detail, at worldwide HSR operating and maintenance costs and explain how their projections can be so much lower than what appears to be world wide actual results. However, there is no convergence between the "inside view" and the "outside view" of operating and maintenance costs documented in the Business Plan and its publically available supporting reports and documents.

The CHSRA Inside View Model Is Missing Key Cost Parameters

14. To look at the question of operating and maintenance (O & M) costs with the "inside view" approach, in the "To Repeat" report, in Appendix Nine, and Appendices Twelve through Fourteen, we reviewed the contents of the CHSRA's Operating and Maintenance Cost report, and especially its cost model,[38] which supports the 2012 Business Plan. We compared it

[38] See: Table 7 of the CHSRA Operations and Maintenance Report at www.cahighspeedrail.ca.gov/assets/0/152/431/fef25ce4-056f-4262-9a2e-ca3c8fb15724.pdf and Figure A9-1 of "To (continued…)

to a UIC "direct cost to speed"[39] HSR report which the CHSRA had referred us to, and its cost per seat mile model. Our conclusions were that the CHSRA costs were very similar to the UIC "direct cost to speed" model, leading us to conclude that many costs are not included, or are minimized in the CHSRA projections. Unfortunately, it appears the CHSRA has not performed this level of investigation and comparison to existing HSR systems. In fact, the CHSRA projections are deficit in a number of ways, as discussed in Appendix 13 of the "To Repeat" report. First, as mentioned above, it appears some cost items were left out, such as the profit and taxes that the HSR rail operator will need, and incur, while operating the HSR service in California for the Authority. Second, it appears that some line items costs are very low, from a common sense point of view, such as the amount of Administration and Support costs needed to interact with the public, and provide for all the security and people and baggage support needed for good customer care. Third, some costs are deferred from being recognized in the early time periods out to the later years, such as the replacement costs of the train sets has no reserves being set aside as the existing trains are being used, instead the costs to buy replacement train sets is just seen as a cost many years in the future. This is contrary to generally accepted accounting principles in the United States.[40] Fourth, the maintenance projections for some items, such as for the tracks/lines, are lower than independent studies the CHSRA has access to, and it is not clear if their projections just include routine maintenance, or also include periodic replacement at the end of their useful lives. Fifth, the primary drivers of the operating and maintenance costs are the costs of the train crews, the cost of the power to move the trains and the maintenance of the train set equipment. There needs to be some variability analysis built into these projections, as they are treated as being 'directly variable' with the number of seat miles, but in reality some of these

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Repeat – The CHSRA's Train Will Need A Subsidy Forever", August, 2012, Second Edition, December, 2012, found at: www.sites.google.com/site/hsrcaliffr/home/2-1-major-reports---2012-plan/08-12-new-report

[39] See: The "Relationship Between Rail Service Operating Direct Costs and Speed" study was published by the UIC (International Union of Railways), December 12, 2010. This UIC 2010 publication is found at: http://www.uic.org/IMG/pdf/report_costshs.pdf

[40] The standards for accounting in the United States are referred to as Generally Accepted Accounting Principles (GAAP). These principles set the parameters for reporting accounts and allow corporations to operate with some flexibility within them given the wide variety of industries they are applied to.

costs will occur when the train sets are idle. Sixth, the use of the Authority's 76% Load Factor is not reasonable, and there is no publically available international data which supports such a projection over an entire HSR system over a protracted period of time. There are periods when such a high degree of efficiency might be attained, but to assume that three quarters of all seats will be full, morning to night, seven days a week from the early years of operation in 2030 out through 2060 is simplistic at best, and is misleading in its consequences. The result of all of this analysis is that the CHSRA "inside view" cost projection of about 10 cents PPM appears to me to be flawed, incomplete, and dramatically less than a realistic projection that followed US accounting principles and common sense. This is clearly a classic example of what Professor Flyvbjerg would identify as an "insider view" with an "institutional bias". Looking at the CHSRA projection of operating and maintenance costs of about 17 cents at low IOS passenger volumes and an overall cost Phase 1 projection of about 10 cents, it shows that there is most certainly an extremely high degree of variability in the existing CHSRA cost projections and that, in all likelihood, reality is above, not below, the current CHSRA cost projection. Given how sensitive the projections are to critical assumptions, such as the ones above, it is a serious problem that these assumptions have not been validated by independent organizations within the California state government.

All Other Costs Projections Are Much Higher Than The CHSRA Cost Projections

15. In contrast to the CHSRA "inside view" approach, Appendix 11 of our "To Repeat" report starts with the Amtrak cost structures and works down, in a "outside view" approach, to a common set of cost parameters. Unfortunately, not a lot of detailed cost data was publicly available, so while we could see revenue and cost per mile structures in the various Amtrak rail corridors, as shown in Figure A11-2, it is not clear to us why, for example, the operating cost per passenger mile is 61 cents for Acela when the CHSRA is projecting 10 cents per passenger mile. Closer to home, the Amtrak data for the Amtrak San Joaquin, which runs between Oakland and Bakersfield, does provide detailed cost data. This data shows that in FY 2008 -2009 it had Revenues of $20.5M and Operating Costs of $47.9M, for an Operating Loss of

$27.4M. This loss was paid, as a subsidy, by the State of California.[41] It is not clear to me how anyone can believe that the initial operations of the HSR system, such as the IOS period, will not require a subsidy. It is clear that the market driven prices of the San Joaquin which produce revenues of 15 cents per mile can not begin to cover its operating and maintenance costs of 36 cents per mile. The San Joaquin is one of three Amtrak systems in California whose performance is presented as the "Amth CA '09" column in Figure A11-5 of Appendix 11 of the "To Repeat" report. Again, this level of "outside view" analysis was lacking in the CHSRA Plan, consequently there is no way to understand the difference between existing real world examples, such as Amtrak and Acela cost reports, and the CHSRA costs projections.

16. Given the level of "inside view" analysis I have preformed, it is my conclusion that the best case the CHSRA can expect to achieve is that actual costs will rise from their projection of 10 cents PPM and exceed the range of their projected revenue stream of 23 cents, which means they will be more than 2.3 times the CHSRA's cost projection, and this will lead to the need for a subsidy. This also turns out to be the conclusion of the official Peer Review Group as well, when they stated that their projection was that costs would be about equal to costs, in other words they will be in the range of 23 cents PPM, and therefore about 2.3 times higher than the current CHSRA cost projection.[42] The worse case, and the most probably case, is that the actual costs for the CHSRA will exceed the revenue projections in the 20 to 25 cents range, and head for the costs we see in our "outside view" analysis. Examples of these are the LAO projection of international HSR operating costs in the 30 cents PPM, and the Acela market and in the overseas HSR market, where costs are in the 40 to 50 to 60 cents per passenger mile range. Given there is no convergence of these two approaches (the "inside view" and the "outside view"), it is my conclusion that the CHSRA is in a very dangerous situation that will lead to consistent losses. These conclusions are summarized in Appendix 14 of the "To Repeat" Report,

[41] See: Attachment 10 of "To Repeat – The CHSRA's Train Will Need A Subsidy Forever", August, 2012, Second Edition, December, 2012, found at: www.sites.google.com/site/hsrcaliffr/home/2-1-major-reports---2012-plan/08-12-new-report

[42] See: Appendix 2 of "To Repeat – The CHSRA's Train Will Need A Subsidy Forever", August, 2012, Second Edition, December, 2012, found at: www.sites.google.com/site/hsrcaliffr/home/2-1-major-reports---2012-plan/08-12-new-report

and are best illustrated in Figure A14-3 which is based on 100% attainment of the revenue projections. (There is a similar chart, Figure A14-5, which considers what occurs if revenues are only 90% of the CHSRA projections; with ticket prices down 10%, and therefore with the same number of passengers to transport.) Figure A14-3 shows our projection of the CHSRA operating margins if the CHSRA revenue streams are used as a baseline, so that just the impact of the variability in operating and maintenance costs can be observed. The top line in the chart is the CHSRA's projection of their operating margin, in the April 2012 Business Plan, with their 76% Load Factor, with results in the range of about $1B per year in positive operating profit margin, over the long term. In the same area of the Figure are the margins if their costs were based on the UIC Direct Cost model, and their April 2012 Business Plan with a Load Factor of 60%. Therefore, my conclusion is that these three "inside view" cost curves do not give a fair representation of "total operations" costs, but rather just those related to direct speed/operations costs. Since the requirement of AB 3034 to have no operating subsidy does not separate direct, speed related, costs from the maintenance and support of the infrastructure, it is reasonable to conclude that the Legislature's intent was to include all costs, over the long term, that would be consistent with US accounting principles (eg. GAAP). It is only these three sets of CHSRA data that say that an operating subsidy would most probably not be required. On the "zero" margin line is the prediction of the official Peer Review Group, as referenced above, that revenues will cover operating costs. Below the Peer Review Group are a range of different negative operating margins that may occur. It is very important to recognize the three dark lines on the bottom of the graph which present the results of three different "outside view" approaches we analyzed. First, at an annual loss of about $500M per year is the graph line of the impact of an operating and maintenance cost of 30 cents PPM. This is based on the LAO's conclusion that international cost are in the 30 cents PPM range, discussed above in paragraph 11, and the Spanish Report[43] that the CHSRA referenced which showed operating costs in the 30 cents PPM range. Second, the next

[43] See: Appendix 6 of "To Repeat – The CHSRA's Train Will Need A Subsidy Forever", August, 2012, Second Edition, December, 2012, found at: www.sites.google.com/site/hsrcaliffr/home/2-1-major-reports---2012-plan/08-12-new-report

dark line represent our "outside view" prediction taking the various Amtrak (excluding Acela) and international HSR studies that show that operating costs are in the range of about 40 cents PPM. Included in this group are the results, of about 45 cents PPM, of the Spanish RENFE Presentation made to the CHSRA Board in June 2011, as discussed in paragraph 11, above.[44] To be clear, there are two sets of Spanish HSR data; the Spanish Report referenced by the CHSRA with data in the 30 cents PPM range, and the Spanish presentation to the CHSRA Board with data in the 45 cents PPM range. Finally, it is of critical importance to note that in a 2011 letter to the CHSRA the Director General of the UIC said "Generally speaking Operating Costs can be covered by farebox revenues….".[45] This statement has to be put in the context of HSR operations around the world that have "farebox revenues" in the range of about 40 cents PPM, or more, as discussed in paragraph 12, above. Given that fact, the Director General is confirming that operating cost are also "generally speaking" in the range of 40 cents PPM, or higher. The result of this convergence of indicators is that operating losses would be in the range of $1.5B to $1.7B per year, over the long term. Third, the last "outside view" analysis shows that operating losses could approach $3B per year if the operating costs of the CHSRA track the operating costs of the Amtrak Acela system in the Northeast Corridor. This Acela based projection is clearly the worst case, with a cost structure in the range of 60 cents PPM including infrastructure charges, which we were not able to reconcile to being actual out of pocket costs of Amtrak or of the operators who manage parts of the infrastructure, or if they are not true "cost" based charges being allocated to Acela. If one was to assume that half of these costs are not true "costs", this would reduce their cost structure from 60 cents PPM down to 30 cents PPM.[46] That would move the Acela operating margin line up to the range of the "LOA and Spanish Report" line with annual

[44] See: Page 27 of "To Repeat – The CHSRA's Train Will Need A Subsidy Forever", August, 2012, Second Edition, December, 2012, found at: www.sites.google.com/site/hsrcaliffr/home/2-1-major-reports---2012-plan/08-12-new-report

[45] See: Attachment 11 of "To Repeat – The CHSRA's Train Will Need A Subsidy Forever", August, 2012, Second Edition, December, 2012, found at: www.sites.google.com/site/hsrcaliffr/home/2-1-major-reports---2012-plan/08-12-new-report

[46] See: Pages 9 and 10 of "To Repeat – The CHSRA's Train Will Need A Subsidy Forever", August, 2012, Second Edition, December, 2012, found at: www.sites.google.com/site/hsrcaliffr/home/2-1-major-reports---2012-plan/08-12-new-report

losses of "only" about $500M per year. It seems to me that it is improbably that as much as 50% of these costs are "Allocated", it is probably much less. Clearly the various "outside views" and "inside views" and the analyses we have preformed show that the operating margins will be negative. The only question is by how much, as it is not possible, with the existing data, to achieve the convergence of the different sets of data, which professional analysts would desire. Against this preponderance of evidence and analysis, the CHSRA's "inside view" projection of operating costs of 10 cents PPM, and therefore immediate and constant operational profitability, appears to me to be an overly optimistic and predominantly biased projection.

The CHSRA Is Now Facing Unknown Risk Which Could Have Been Avoided

17. It is my conclusion that at the point that operating losses start to occur, once the Initial Operating Section goes into operation, , one of two things will happen, (1) the Authority will have to raise ticket prices and accept a significant drop in passenger volumes as the HSR system becomes less competitive with air fares and automobile costs;[47] or (2) the Authority will move costs out of the category of operating and maintenance costs the Authority is being measured by, and these "other" costs will have to be absorbed by other State agencies, such as the repair and replacement of trains and infrastructure, taxes, liability insurance, and health and pension benefits of the employees of the HSR system, etc. This would mean that the taxpayers will be paying for these non-recovered costs, which is contrary to the intent of AB 3034 and the promise in Prop 1A that the "users will pay for the system"; and the prohibition against allowing an operating subsidy will have been broken "in spirit" if not "in the letter of the law". In either case this "loss" operating strategy will most likely drive away potential private investors which the CHSRA is counting on to help fund the construction of the later stages of the HSR system. It is my conclusion that the lack of reality in the existing CHSRA projections masks this large strategic treat that will cause the HSR system to both fail to deliver on the promises to the voters of Prop 1A (a State wide system from Sacramento to San Diego), and cause the HSR system to

[47] See: Page 10 of "To Repeat – The CHSRA's Train Will Need A Subsidy Forever", August, 2012, Second Edition, December, 2012, found at: www.sites.google.com/site/hsrcaliffr/home/2-1-major-reports---2012-plan/08-12-new-report

not be in compliance with the "no subsidy" provisions of AB 3034 (with some HSR costs impacting the State's General Fund and therefore the annual demand for tax "revenues").

18. To summarize the conclusions I have arrived at, it is necessary to first review the revenues and then the costs of this project to assess the risk of a required subsidy. Over the long term, on the revenue side, the Authority is projecting revenues of 23 cents per passenger mile, which I think is the best they can achieve, given the competitive nature of the California market place. In comparison, the existing overseas HSR market outside the US is commanding revenues of 40 to 45 cents PPM, while the Acela commands 72 cents PPM. This dramatic difference in revenue generating ability places the Authority at a distinct disadvantage in being able to cover its operating costs. While the Authority projects operating costs of just 10 cents PPM there is no validating evidence that this will be the case. Instead, my "outside view" projections are that operating costs will be similar to the overseas HSR operators' costs in the range to 30 to 45 cents PPM, and could approach the Acela's costs of 61 cents PPM (or just 30 cents PPM if half of these costs are not based in true operation costs). My best case "inside view" projection, considering the Peer Review Report and my analysis of the CHSRA cost model is in the 23 to 30 cents PPM range, not the Authority's 10 cents PPM. Note that these "outside view" and "inside view" projections converge in "operating loss" operations (not the 50% operating margin profitability the Authority is projecting). In all probability, they lead to a dramatic annual operating loss which will constantly require a subsidy in the range of hundreds of millions of dollars per year. Additionally, over the shorter term this conclusion is also true for a comparison of the CHSRA IOS operations, in the early 2020's, compared to the existing Amtrak San Joaquin Central Valley service it will replace and enhance. In 2009 the Amtrak San Joaquin route had revenues in the range of 15 cents PPM and operating costs in the range of 36 cents PPM, leading to a current day subsidy, paid by the State, of 21 cents PPM. The CHSRA IOS operation is intended to replace this service with projected revenues of 29 cents PPM (double the current ticket pricing) and operating costs of 17 cents PPM down from the existing 36 cents PPM (one half the cost). Even if the CHSRA can command a higher price (from 15 cents PPM up to 29 cents PPM) and our "outside view" cost projections occur, the CHSRA will definitely require a subsidy. There is no

independent validation as to what these revenues and costs will be, for a construction project that is about to begin

19. The reality of the market place says the odds are that the CHSRA will face operating costs that exceed the projected revenues. Only CHSRA's computer models and written reports project dramatically lower operating costs. Even Governor Brown recognized in January 2013 that high-speed rail, like other public conveyances, requires a subsidy.[48] There is no way to accurately project the future, given the limited available data. There is, however, one thing the CHSRA could have done, and the fact that they have not done it speaks to the reality that operating costs will, in fact, exceed revenues. Anytime over the past two years the Authority could have put out a Request For Proposal to the existing French, German, Spanish, British, and Japanese HSR operators to ask them to bid for the operating and maintenance rights for the initial operating segment (What is now referred to as the IOS). This could have been structured to be a firm contract, with no option for the operator to cancel (without a substantial cancellation fee) for a fixed number of years. Such a contract would have told the Authority what the price an established operator would charge the Authority to "run the railroad" for a fixed period of time. It would have showed that the price was possibly in the 10 cents PPM range (the CHSRA projection), or possibly in the 40 to 60 cents PPM range (what the world market appears to be at), or somewhere in the middle. That fact that the Authority has chosen NOT to implement such an activity leads me to conclude that they know the operation and maintenance cost PPM will exceed their projected revenue stream of 23 cents PPM, confirming the fact that an operating subsidy is going to be required.

I declare under penalty of perjury pursuant to the laws of the State of California that the foregoing is true and correct.

Executed on this 12 day of March, 2013, at Palo Alto, California.

William H. Warren

WILLIAM H. WARREN

[48] See: Governor Brown on the Larry Elder Show on January 9, 2013 regarding subsidies, reported on January 10, 2013: at http://www.youtube.com/watch?v=HjQi0Vyl1vg

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COUNTY IS EXEMPT FROM FILING FEES PER GOV. CODE SECTION 6103

SUPERIOR COURT OF THE STATE OF CALIFORNIA

COUNTY OF SACRAMENTO

JOHN TOS, et al.,

Plaintiffs,

v.

CALIFORNIA HIGH SPEED RAIL AUTHORITY, et al.,

Defendants.

CASE NO. 34-2011-00113919

DECLARATION OF RANDAL O'TOOLE

Trial Date: May 31, 2013

I, Randal O'Toole, declare as follows:

1. I declare under penalty of perjury, that the following is true and correct, and that if called as a witness to testify to the following, I would be competent to so testify.

2. I am a Cato Institute Senior Fellow working on urban growth, public land, and transportation issues. I have written four books about land-use and transportation issues including the regulation of land and homeownership. I have also written for the Cato Institute's *Regulation* Magazine as well as Op-Ed pieces and articles for numerous other national journals and newspapers. I was a Fellow at Yale University, and have been a visiting scholar at the University of California at Berkeley and Utah State University.

3. I am a rail enthusiast, have a lifelong love for passenger trains, traveling more than 100,000 miles on Amtrak in the US; as well as throughout Canada, Europe, Asia, Australia, and New Zealand by rail. I have a web site dedicated to historic passenger trains; and helped restore the nation's second-most-powerful operating passenger steam locomotive.

4. I have analyzed land-use and transportation plans for more than a dozen metropolitan areas, including Denver's "FasTracks" rail plan; Minnesota's Hiawatha light-rail plan; Cincinnati's Alternatives to Light-Rail Transit; Portland's land-use plan for ORTEM; and the San Francisco Bay Area transportation plans for the California Alliance for Jobs.

5. I understand that the California High-Speed Rail Authority's ridership forecasts are key to its projections that it will be able to operate the trains without operating subsidies. The Authority has previously forecast ridership between 39 million and 90 million trips per year. The Authority's 2012 Business Plan forecasted that ridership in 2035 would be between 23 and 34 million trips per year. Based on what I know of Amtrak's high-speed rail ridership in the Boston-to-Washington (Northeast) Corridor, these numbers are unrealistically high. Although the Northeast Corridor has more people today than the San Francisco-to-Anaheim Corridor is expected to have in 2035, Amtrak's high-speed Acela trains only carried 3.4 million trips in fiscal year 2012. Even counting Amtrak's slower Regional Trains in the same corridor, Amtrak carried less than 12 million trips in 2012. Amtrak trains run slower than the Authority plans to run its trains, but the Northeast Corridor has the advantage in that its largest metropolitan area is in the middle of the corridor, so most trips are around 200 miles or less. By comparison, the largest cities, Los Angeles and San Francisco, in the California high-speed rail corridor are at the end points of the 2035 corridor, so most trips would be closer to 400 miles. This need for longer trips eliminates the speed advantage of the proposed California train. I therefore conclude that the ridership forecasts in the 2012 Business Plan are two to three times higher than is realistic.

6. One of the concerns of this lawsuit is whether the revenues charged to passengers by California's high-speed rail system will exceed its operating costs. In short, will it be operationally profitable? I understand the issues surrounding subsidies to airlines, buses, autos, transit, and passenger rail. The California high-speed rail project intends to capture riders from

the airlines serving airports between Los Angeles and San Francisco. History is a probable indicator of what the costs of those subsidies could be. In September 2012, I testified before the House Transportation and Infrastructure Committee on Amtrak's 41 years of subsidies. In that testimony I said; *"Amtrak subsidies are nearly as great as the fares themselves. Starting from virtually zero in 1970, federal and state subsidies to Amtrak today are nearly 29 cents per passenger mile . . . Airlines and highways receive subsidies as well, but these amount to only about 1 to 3 cents per passenger mile,"* and when fares and subsidies are combined, *"the total cost of rail travel is nearly four times as great, per passenger mile, as the total cost of airline travel—about 60 cents vs. 16 cents per passenger mile."*[i] I believe the California High-Speed Rail Authority has purposely ignored such facts in an attempt to promote what will be loss-making operations, requiring continual subsidies from the federal, state or local governments.

7. I understand that the potential need for subsidies is an issue in this case. My experience with passenger rail systems gives me the expertise to know that a subsidized high-speed rail system would likely displace capacity on California's air corridor between its major metropolises. My October 2008 article, published two years before federal funding for high-speed rail was allocated to California and a month before Proposition 1A, the "High-Speed Rail: The Wrong Road for America" said that such high-speed rail systems *"will replace for-profit private commuter airlines with heavily subsidized public rail systems that are likely to require continued subsidies far into the future."* [ii] Moreover, after about 30 years, *"it will be time to completely rebuild the line—at a high energy as well as fiscal cost,"* yet *"California's business plan and EIS are characteristically silent on the question of who will pay for future rehabilitation costs."*[iii] Based on years of experience analyzing rail charges, I believe the California High-Speed Rail Authority purposely misled the public five years ago with its promise to have travelers pay only half the per passenger mile airline charge in its 2008 business plan, which claimed, *"With train fares at 50% of airfares, high-speed trains will carry an estimated 55 million trips in 2030 and generate $2.4 billion in ticket revenue in 2008 dollars for the Los Angeles/Anaheim to San Francisco link*"; and continues to mislead the public in its now-adopted Business Plan by saying *". . HSR fares are assumed to be relatively high (83 percent of airfare) . ."* [iv]

8. One issue in this case is the whether there will be a need for operating subsidies. If so, who will pay for those subsidies is a central question of fairness. To capture the tens of millions of riders the California High-Speed Rail Authority forecasts, the train project will require using the taxes of not only California's financially well-off, but will dig deeply into its middle and working class's resources. In my 2009 article, "High-Speed Rail Is No Solution" I said; *"Moderate or high-speed rail would require everyone to subsidize trains that would serve only a small elite."* [v] My assertions about both subsidies and high-speed rail's use by elite travelers were borne out three years later in a book about the economics and politics of Europe's high-speed rail systems, which said; *". . . keep in mind that the public resources used in high-speed rail imply a regressive transfer of income, in that taxpayers are subsidizing journeys realized above all by users belonging to the upper-middle and upper income brackets, who usually travel for business reasons and whose ticket (the amount of which is far from covering the total cost of the service) is paid for by their employers."*[vi] I believe the Authority has not only ignored worldwide evidence of the need for operating subsidies in high-speed rail systems, but also the findings that the preponderance of high-speed trains' passengers are from the upper and professional classes; leaving the tax burden for that transportation subsidy to fall disproportionately on the middle and lower classes.

9. I understand that two issues in this case are the lack of funding available after the first nearly $6 Billion is spent to begin the Initial Operating Segment (IOS) in California's Central Valley and the probable need for operating subsidies for the train. In my opinion there is no evidence that either the Federal government or the private sector will provide matching funds that would allow California to issue more General Obligation bonds under the aegis of Proposition 1A to continue building the IOS in California's Central Valley. To me, evidence is to the contrary, given not only the massive budget cuts and fiscal discipline the Federal Government is undergoing, but also the fact that the politics of Washington are now such that there is little enthusiasm for the California project. I believe the California High-Speed Rail Authority and its Board continue to deceive the public that federal funds to match with Proposition 1A General Obligation bonds will be forthcoming.

10. Furthermore, On June 11th 2008, the Infrastructure Management Group, a CHSRA contractor told its Board that private capital would not participate in the HSR project without a "revenue guarantee."[vii] This presentation preceded the passage of AB3034, with its prohibition against operating subsidies in AB3034 [Section 2704 subsection 8 (J)] as well as preceded the Proposition 1A vote by nearly five months. The Authority has continued mislead with its claims of private sector interest, such as when it said in its 2009 Business Plan; *"California's high-speed train project is on track and being pushed along by tremendous momentum from our partners in government, the private sector, . . ."* [viii] Based on my experience and understanding of the Authority's plans, it is my opinion that the California train will not receive even the more than $20 billion of federal grants to simply complete the IOS between Palmdale and Merced. I also hold that despite what the Authority says about its trains' ability to be profitable such as in last April's certified Plan; *"On its own, the IOS is a viable, profitable high-speed rail system"*; a portion of a high-speed rail system that CHSRA claims will have over 8 million riders in 2025 in three Central Valley counties, whose populations total about 1.3 million, will not be profitable and will cost Californians more in taxes to support its operations.[ix]

11. I understand the issues of capital availability to build the CHSRA's project, and subsidies for California's high-speed train are pertinent to this case. In my May 2011, article, "The Great Train Con" I pointed out that not only would the State of Michigan have to spend a great deal more than the Federal government granted them for high-speed rail to reach only half the operating speed the California high-speed train proposes to meet (110mph versus 220mph), but that fares on the Michigan bullet train will have to be subsidized, probably more than present-day Amtrak. For example, in 2010 *"Amtrak lost $19 million running three round trips a day between Chicago and Detroit. Amtrak fares start at $31 and the subsidy per ride is almost $40. Increasing the number of trains to 20 per day could cost taxpayers as much as $100 million a year on top of the capital costs."*[x] From my experience and study on whether the US Congress would be willing to grant or loan the CHSRA the Federal at least $20Billion in matching funds needed to complete the Initial Operating Segment, I believe those funds will not be forthcoming during the Authority's forecasted timeframe to be operating by 2025, if ever. Given my

experience with Amtrak's operations, I see no reason to believe that the Authority's train will operate under different labor laws, pay less for health and retirement benefits, purchase electrical power at different (lower) rates, or be able to maintain and replace its track bed, rolling stock, or electrical grid in a lengthier cycle that Amtrak. I therefore conclude that California's high-speed train, if it ever operates, will require as large an annual per passenger mile subsidy as Amtrak does, if not more.

I declare under penalty of perjury pursuant to the laws of the State of California that the foregoing is true and correct.

Executed on this 22 day of February, 2013, at Camp Sherman, Oregon.

RANDAL O'TOOLE

[i] Testimony of Randal O'Toole, Cato Institute; House Transportation and Infrastructure Committee Hearing on Amtrak Operations: 41 Years of Taxpayer Subsidies; September 20, 2012. Found at ti.org/ROTAmtrakTestimony9-20-12.pdf

[ii] See: Cato institute, Policy Analysis No. 625, October 31, 2008. Found at http://www.cato.org/publications/policy.../highspeed-rail-wrong-road-america

[iii] Ibid

[iv] For the source, go to California High-Speed Train, Business Plan, California High-Speed Rail Authority, November 2008 page 17. For the Revised 2012 Draft Plan go to California High-Speed Rail Program; Revised 2012 Business Plan, April 2012, page 5-20.

[v] See: Cleveland Plain Dealer, May 4, 2009. Found at www.cato.org/publications/commentary/highspeed-rail-is-no-solution

[vi] See: The Economics and Politics of High-Speed Rail; Lessons From Experiences Abroad; by Daniel Albalate and Germa Bel; Lexington Books, 2012, page xiii

[vii] See: Report Of Responses To The Request For Expressions Of Interest For Private Participation In The Development of A High-Speed Train System In California. This June 2008 presentation and report was prepared from data collected in May 2008, but not published until October 2008. Found at http://www.cahighspeedrail.ca.gov/images/chsr/20081118152745_Source%20document%209%20rfei.pdf.

[viii] See: California High-Speed Rail Authority; Report to the Legislature: December 2009, pdf pg. 5

[ix] For the quotation see: California High-Speed Rail Program; Revised 2012 Business Plan, April 2012, Chapter 2, page 2-15. The total population of the three counties, the only market from which riders logically can be drawn, was 1,339,225 in 2010: (Merced County = 255,793: Fresno County = 930,450: Kings County 152,982.

[x] Found at http://www.cato.org/publications/commentary/great-train-con or http://www.themichiganview.com

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COUNTY IS EXEMPT FROM FILING FEES PER GOV. CODE SECTION 6103

SUPERIOR COURT OF THE STATE OF CALIFORNIA

COUNTY OF SACRAMENTO

JOHN TOS, et al.,

Plaintiffs,

v.

CALIFORNIA HIGH SPEED RAIL AUTHORITY, et al.,

Defendants.

CASE NO. 34-2011-00113919

DECLARATION OF ADRIAN MOORE

Trial Date: May 31, 2013

I, Adrian Thomas Moore declare as follows:

1. I declare under penalty of perjury, that the following is true and correct, and that if called as a witness to testify to the following, I would be competent to so testify.

2. I am the Vice President for Policy at the Reason Foundation in Los Angeles. Prior to joining Reason, I served 10 years in the U.S. Army on active duty and reserves. I hold a Masters and a Ph.D. in Economics from the UC Irvine and a Master's Degree in History from California State University, Chico.

3. I have been deeply concerned about our nation's passenger transportation system's viability – particularly within metropolitan areas – throughout my career. In 1997 I co-authored

Curb Rights: A Foundation for Free Enterprise in Urban Transit, published by the Brookings Institution. In 2008 I also co-authored the book *Mobility First: A New Vision for Transportation in a Globally Competitive 21st Century*. The World Bank's former Principal Urban Planner, Alain Bertaud, called *Mobility First; "a must read for urban managers of large cities in the United States and around the world."* In 2002, I was awarded a *World Outsourcing Achievement Award* by PricewaterhouseCoopers for my work on how to use public-private partnerships and the private sector to save taxpayers' money and improve their agencies' efficiency. I believe that private sector participation can help deliver better, cheaper and more efficient public transportation.

4. In addition to dozens of policy studies, my thoughts have been published in the *Wall Street Journal*, *Los Angeles Times*, *Boston Globe*, *Houston Chronicle*, *Atlanta Journal-Constitution*, *Orange County Register*. My work has also been published in academic journals, *inter alia*, *Public Policy and Management*, *Transportation Research Part A*, *Urban Affairs Review*, and *Economic Affairs*. The overarching theme of these publications has been the need to treat infrastructure investments as investments, not solely as 'social goods' subject to political power, and to analyze proposed transport plans with the rigor of investment-grade due diligence effort.

5. In 2008 and 2009, I served on the U.S. Congress's National Surface Transportation Infrastructure Financing Commission. The Commission made specific recommendations to increase investment in transportation infrastructure while simultaneously moving the Federal Government towards more direct fees charged to transportation infrastructure users. From 2009 to 2011 I served on California's Public Infrastructure Advisory Commission.

6. As I see it, this case hinges on whether the current plans and expenditures of the California High Speed Rail Authority (CHSRA) of bond funds authorized by voters in approving Proposition 1A (AB3034) in 2008 conforms to the commitments made to voters in the letter of that measure. There are four aspects of current plans relative to Proposition 1A commitments in which my research and expertise is relevant: the cost of the project, ridership estimates, the time of the trip offered between Los Angeles and San Francisco, and the potential for operating

subsidies. The following represents my judgments on these issues based on research I have directed and review of related research and relevant plans of the CHSRA.

7. Nearly five years ago the Reason Foundation published The California High Speed Rail Proposal: A Due Diligence Report, which as VP for Policy at the Foundation, I supervised, along with co-authors Wendell Cox and Joseph Vranich.[i] That 2008 report quoted [pg.57] California's Senate Transportation and Housing Committee, which said:

> *California's high-speed rail project is a "mega" project. The cost, schedule, project scope and risks associated with such a project are unusually large. This has been demonstrated in mega projects throughout the world. For example, Boston's Big Dig, the Eurotunnel (or "Chunnel") linking Great Britain with France, and the Denver Airport experienced substantial difficulties controlling project cost, schedule and budget. Each of these large infrastructure projects deployed technologies that were known and understood, but each was delayed and came in significantly over budget.*[ii]

8. That Committee's Chairman, wiser by the experience of four years of confronting the Authority, concluded his remarks explaining his vote against the initial matching bond appropriations in July 2012 by saying; *"This is the wrong plan, in the wrong place, at the wrong time."* [iii] The Committee might have added *"And this project will be no different."* They were aware of a highly-respected academic publication of 1996, that a National Research Council study quoted*: ". . . the main lessons are that cost overruns of 50 to 100 percent are common; overruns of more than 100 percent are not uncommon."* [iv] Our September 2008 document concluded:

> *The proposed state bonds would be insufficient to build Phase I much less the rest of the system. Little appears firm about potential matching funds from federal and local governments and from potential investors . . . It is likely that HSR will require substantial additional taxpayer funding to complete Phase I.* [v]

9. Sadly, five years later and with more than $600 million already spent, much of what the 2008 Due Diligence report said when less than $10 million had been wasted, is still true.[vi] Those 'early warning signs' were ignored. The Authority and its plans are no more realistic today about capital costs, operating costs, ridership or funding sources than they were then. Guided by its self-serving gyroscopes, the project hurtles along without heeding warnings

from independent analysts.

10. In March 17th 2010 I spoke on KCET radio in Los Angeles on why California's high-speed rail system will cost much more than estimated and why practically nobody will ride it.[vii] In June 28 2010 I argued at a conference that the "Livability Agenda" largely consists of trying to push people out of their cars and onto trains and out of the suburbs and into cities, and will not work.[viii] When the California High-Speed Rail Authority (CHSRA) scorned its own statutorily created Peer Review Group's findings on their distorted calculations to provide more highways and airport infrastructure, I co-authored "California's High-Speed Rail Fibs" which appeared in the *Wall Street Journal* on January 12, 2012 that said that the: *"…plan is based on greatly exaggerated ridership projections, hallucinatory promises of billions in private investment pouring into the system, and the expectation that the now-canceled federal high-speed rail program will magically provide many billions more"* [ix] I believe that the project's out-of-control capital costs, have made the U.S. Congress pause to consider whether more public money is wasted money, and which in turn has made private investment stand aside, are the biggest obstacles to the almost any part of the project becoming reality.

11. In March 2013 the Reason Foundation completed a working paper follow-up to the 2008 report. As VP for Policy, I again assisted authors Joseph Vranich and Wendell Cox prepare that report. The California High-Speed Rail Project: An Updated Due Diligence Report examines the latest CHSRA business plan and other documents, and compares them with the Foundation's conclusions of the 2008 Due Diligence Report as well as more recent analyses of CHSRA plans and research on high speed rail systems worldwide.

12. I believe that increased capital costs, and securing the funding for those costs are major issues in this case. An authoritative study of major transportation projects worldwide concluded: "*Cost underestimation and overrun cannot be explained by error and seem to be best explained by strategic misrepresentation, namely lying, with a view to getting projects started."* [x] A decade after (2013) a similar team of academics used the word 'lying' when they noted reasons why such pressures to dissemble and obfuscate continue:

> *"Biased forecasts serve strategic purposes that dominate the commitment to accuracy and truth. Consider, for example, the case of urban rail. Here, the assumption of innocence regarding estimates typically cannot be upheld."* [xi]

13. After more than a decade of studying Europe's high-speed rail systems' attributes and failings, the authors of *The Economics and Politics of High-Speed* rail said: *"Cost overruns are also one of the most common features, as shown by numerous examples and run high in almost all instances; administrations should be fully aware that eventual construction costs might far outstrip initial expectations."*[xii] I agree with those authors' findings about escalating capital costs; namely that costs will rise dramatically. The CHSRA's project approach on costs is not guided by transparency. That guiding principle would reveal accurate capital costs; rather it is driven by a messianic and political agenda to build something at any cost.

14. If capital costs are of concern in this case, the proper discussion of capital cost escalation should not be focused on the CHSRA's recently invented, but amputated version of what voters were promised, called the 'Phase 1 Blended System'. It should be around what voters were promised in 2008; a full Phase 1 system that passengers in Anaheim could board and in 2 hours and 40 minutes exit in downtown San Francisco without changing seats. Nearly a year before the Prop1A vote, in late 2007, the Senate Committee on Transportation & Housing heard that; "*The California High-speed Rail Authority (Authority) has embarked upon an ambitious $33 billion program to provide high-speed rail service between Anaheim, Los Angeles, and San Francisco. An additional $7 billion will be required to extend service to San Diego and Sacramento*." In effect, the capital costs to build a real Phase 1 from LA to SF were said to be $33 billion; and from the southernmost metropolis to the state's center about $40 billion, or $45 billion as the Legislative Analyst's Office put it in the 2008 Official Voter Information Guide. [xiii]

15. In the Updated Due Diligence Report, we recalculated all capital costs in 2011$s, so that a 'real' Phase 1 (LA-SF on HSR) in 2011$s would be about $35 billion. The November 2011 Business Plan revealed that the cost of real Phase 1 had doubled in just three years, to between $66 billion and nearly $76 billion ($2011). This would be $98 billion to $117 billion in Year of Expenditure (YOE) dollars; a metric that estimates construction costs at the time the

funds will actually be used. This minimum doubling of construction costs, when engineering estimates of the real costs were still relatively primitive, created astonishment even among supporters. While probably still lower than, but closer to the truth about a real Phase 1's construction costs than the CHSRA's earlier estimates; within a few months, four public opinion polls showed that more than six in ten voters had turned against the project.[xiv]

16. I believe that the April 2012 Plan and its construction cost of $53 - $62 billion (2011$) is public relations 'spin' – introduced to dampen the public's dismay. The real Phase 1 (LA-SF on HSR) was reinvented to be the Phase 1 Blended System, (or 'Blended System') although that moniker meets almost none of the underlying characteristics of what the Authority now calls the Phase 1 Dedicated system (ie. one-seat, LA-SF, 2hrs. 40minutes, about $50 one-way) as promised to 2008's voters. Immediately after the Blended System was introduced, CHSRA's Chairman, Dan Richard, said the new blueprint for a bullet train made *"the plan better, faster and cheaper."* [xv] The 'Blended System' seemed to quell voters' anguish at broken promises by promising lower capital costs to gain less than either Prop1A, the 2008, or the 2009, or the November 2011 business plans had promised.

17. Under the April 2012 Business Plan's Blended System, the capital cost dropped to $53 - $62 billion (2011$), about a $13 billion reduction from the promised Full or 'real' Phase 1 system. In the real world, nothing changed. The cost of building the Full Phase 1 system, as described last in November 2011 (high-speed rail infrastructure from the Transbay Terminal in San Francisco to Anaheim), remains virtually the same – $66 -$76 billion in 2011$. The real Year of Expenditure (YOE) construction costs will likely be more than $100 billion, and passengers won't be able to use the full complement of high-speed rail service until at least 2030, ten years after they were promised that in Proposition 1A. I believe the Authority acted with intent and callously when it invented the Phase 1 Blended System – its own version of a Potemkin Village to slow the precipitous decline in public support.

18. I understand ridership is important in this case. Overestimated ridership creates a domino effect by not providing the revenues assumed for the commercial aspects of the project; ie the requirement to operate without a subsidy. The formula for accurately forecasting ridership

has not been invented, as accuracy depends on fluctuating job markets to pay potential passengers' fares, their trade-offs between costs of alternative modes (air, bus, auto), and on elapsed times from 'home' to destinations, which depends in part on trains' frequencies. But regulators expect reasonableness. The Department of Transport/Federal Railroad Administration (DOT/FRA) awards to the CHSRA were based on ARRA guidelines that required a ". . *reasonableness of revenue and operating and maintenance cost forecasts*".[xvi] But the history of CHSRA's ridership projections suggests something other than reasonableness.[xvii] While the Authority may claim that they are constantly refining their ridership model, the World Bank's 2010 high-speed rail report concluded that, *"High-speed projects have rarely met the full ridership forecasts asserted by their promoters . ."* [xviii] What is important in this case is what the voters were promised in 2008 as ridership versus what changed in the intervening four years.

19. In 2008 the Authority produced what it considered an; "*investment-grade forecasts of ridership, revenue, cost and benefits of the system"* for 800 miles of high-speed rail *"designed to carry over 100 million people a year by 2030."* [xix] Their 2009 forecast reduced that ridership claim to 39 million riders by 2030.[xx] This 2008-to-2009 decrease of more than sixty percent was challenged by a Senate-commissioned validation study by UC Berkeley's Institute For Transportation Studies (ITS).[xxi] In June 2010, the ITS reported, "*The forecast of ridership is unlikely to be very close to the ridership that would actually materialize if the system were built. As such, it is not possible to predict whether the proposed high-speed rail system in California will experience healthy profits or severe revenue shortfalls."*[xxii] Even that lower 2009 CHSRA projection depended on double counting passengers; thereby artificially inflating some stations' boardings, creating contrived revenues, justifying specific routes and resulting in fictitious financial credibility.[xxiii] Also in 2010, the expert transport modeler at Smart Mobility Inc. challenged the CHSRA's model; " . . *model coefficients used in developing the ridership and revenue forecasts are different from those disclosed to the public during the environmental review period.* . and concluded that "*The California high-speed rail ridership and revenue forecasts used in the selection of a preferred alignment were based on modeling that was misrepresented and invalid."*[xxiv]

20. The CHSRA's overestimated ridership is an issue in this case; but this should not be a reason to be shocked since, worldwide, ridership forecasts are consistently higher than actual ridership. In their seminal 2003 study, Megaprojects And Risk, three European authors stress: *". . (rail) forecasts were overestimated on the average by 65%."*[xxv] There are specific examples too. In 1992 Eurostar forecasted *"15 million passengers per annum in 1995 and growing"*. By 2009 Eurostar carried 9.2 million passengers: by 2011 that had increased to 9.7 million, still only 60% of Eurostar's' forecast for its first year of operations.[xxvi] By their fifth year of operations, the Paris Nord TGV (France's high-speed rail system) carried 25% of its estimated ridership, while a US DOT study found that rail ridership forecasts overshot actual development an average of 257%.[xxvii]

21. In a recent paper retracing evidence from both large-scale surveys and particular case studies on passenger demand for intercity rail, the authors caution that; *"The numbers show that the risk of overestimates in rail demand forecasts is high. For instance the risk is 50:50 of an overestimate of 96 percent or more."* [xxviii] When they asked forecasters whether they checked their estimates against reality the authors add; *"when asked for evidence of track record for the accuracy of these forecasts, no evidence was provided. The reasons given were the same as above, i.e., no ex post data had been collected or such data were confidential."* [xxix] They trace forecasters' consistent overestimations of ridership to a "conspiracy of optimism" and add that; *"… optimistic forecasts are more likely to get projects approved than realistic ones."*[xxx] Forecasters like to be paid, and know the devastating consequences of saying 'no' with a lower-than-needed-to-justify-the-project forecast. Put colloquially, forecasters know what side their bread is buttered on. That recent report's final footnote concludes; *"People who deliberately decide or conspire to be optimistic, are not optimistic; they are practicing strategic misrepresentation and are thus lying."* [xxxi] I believe that the Authority has consistently practiced strategic misrepresentation in its ridership forecasts; the most egregious being to advertise in 2008 that more than 100 million rides would be taken annually on the high-speed train.

22. The Authority estimates it ridership by theoretically taking large numbers of Californians out of their automobiles, as they claim has happened in Europe. The comparison is

facetious. Intercity travel in Europe has been dominated by trains for decades, even before systems were upgraded to high speed systems. Europeans pay three-to-four times what Californians pay for fuel, live closer to one another than between San Francisco and Los Angeles in more densely populated cites, and use transit systems (subways, buses, trolleys) to get to a high-speed rail station. Based upon the experience in France and Spain, the passenger attraction from cars would be far less than forecast than the Authority has estimated. If the CHSRA's ridership model were adjusted to reflect this experience, intercity ridership in 2035 would fall from 21.1 million to 7.6 million, a reduction of 64%.[xxxii]

23. I understand that an issue in this case is whether the high-speed train, even the promised Full Phase 1 project, is supposed to travel between Los Angeles and San Francisco in two hours and forty minutes. The 2008 promise to voters that they could ride a high-speed train between the state's two metropolitan centers in two hours and forty minutes is the benchmark to evaluate this issue. Speed is critical to meeting that promise. To comply, the train, with the exception of stops, seems to have to be high-speed throughout its journey as explained in the text of Proposition 1A, Section 2704, Section 9 *(d)* which says *"High-speed train" means a passenger train capable of sustained revenue operating speeds of at least 200 miles per hour where conditions permit those speeds."* And the train is not permitted to operate at lower speeds according to Section 2704.09 (a) demands *"Electric trains that are capable of sustained maximum revenue operating speeds of no less than 200 miles per hour."* The Authority understands that sustained high speeds determine compliance, and even 'raised the *ante*' on speed in their grant agreement with DOT/FRA.[xxxiii] But I believe this too is not achievable.

24. However, CHSRA Board Chairman Richard argued in early 2012 that there was no problem complying with the two hour forty minute the promise to voters – even under the CHSRA created Phase 1 Blended Plan.[xxxiv] In CHSRA's April 12th 2012 Board meeting, moments before the Board adopted the April 2012 Revised Draft Plan, ie the phase 1 Blended Plan, Chairman Richard said;

> *"And I think what we just saw from the staff presentation was that this business plan leads to the creation of an electrified High-Speed Rail system that is self-sustaining, that could achieve 220 miles an hour, that can transit from LA Union station to San Francisco TransBay Transit Center, TransBay Terminal in two hours and forty minutes. So we are adopting a plan that is consistent with the Prop 1A requirements."*[xxxv]

Immediately, Thomas Fellenz, Chief Counsel to the Authority said *"All that is true."* [xxxvi]

25. But in fact the plan they were voting on contained no assertion of two hour and 40 minute trips. Californians for Responsible Rail Design (CARRD) found in CHSRA's documents that the same Phase 1 Blended System would take 180 minutes – three hours.[xxxvii] Then in May 2012, an investigative reporter's Public Records Request (PRR) for documentation behind the Chairman's statement yielded this statement; "*The answer is that no document exists. These were verbal assertions based on skill, experience, and optimism and so Dan Richard went with the expertise of the engineers offering these assertions.*" [xxxviii] The CHSRA employee went on to say "*I have been informed that a memo is in the process of being drafted on this very issue and I will provide that to you as soon as it's complete."*[xxxix] In the subsequent ten months, no prior-to-April-2012 memo addressing the two hour forty minute time-between the metropolitan stations has been forthcoming.

26. Railroad planning and scheduling expert Richard Tolmach addressed the time-speed dimension for the Blended System in January 2012. His thoughts included: "*The blended* [San Francisco] *Peninsula* [section] *adds about 20 minutes, Sylmar-LA blended adds at least another 15 (they previously assumed 130 mph 7 miles out of LA Union Station), so right off the bat they are at least 3 hours 15 minutes."*[xl] And he pointed out other problems with meeting the 2 hour forty minute requirement.

> *"Currently, there is no railroad worldwide that operates at 220 mph and the FRA does not even define a class of track capable of 220 mph.*[xli] *If the FRA caps speed at near 200 mph for safety reasons, as is likely, average speed on the 400 mile San Jose-Sylmar segment would likely be no higher than 150 mph instead of the 180 mph they have estimated to date. This would add at least 25 more minutes to travel time, netting 3 hours 40 minutes."*

27. While Amtrak's Acela service is capable of operating at speeds greater than 150 miles per hour, it is not currently authorized by FRA to do so.[xlii] If the FRA imposes that

restriction on any part of the proposed California train, the Authority's claims of two hours and forty minutes becomes even more fanciful. I do not believe a fully operational Phase 1 Blended System can achieve the voter-promised and CHSRA-proposed travel time and speeds. For example, CHSRA's Phase 1 Blended System's non-stop average speed between Gilroy and Bakersfield is 198 mph. This is nearly equal to the 199 mph *peak* speed of the fastest high-speed trains in the world (France). CHSRA's proposed speeds are well above the 150 mph average speed identified by the Transportation Research Board research for rural operations peaking at 200 mph. A 199 mph average speed seems impossible to achieve, not only theoretically, but also because the routing operates through urban areas, such as Fresno and Bakersfield, where the train will have to slow down for a sustained period.[xliii] Likewise, even under the three-hour schedule, trains are indicated as traveling between San Francisco and San Jose in 42 minutes. The problem with this CHSRA thesis is that the high-speed rail service would be sharing the newly electrified, but principally two-track Peninsula commuter rail line, still and with multiple grade crossings, with Caltrain's 'Baby Bullet' service. Passing those faster conventional commuter trains would be a scheduling and safety challenge. I have concluded that the Authority continues to make false claims about meeting the 2 hour forty minute requirement in order to keep the project's construction in progress until it reaches a 'point of no return' and the option to cease capital spending is no longer feasible.

28. I understand that an issue in this case is whether the train, when operating, will need an operating subsidy. Ultimately, the project must stand or fall on principles set forth in Section 2704 08(J) of AB3034 that says the project cannot receive an operating subsidy. Proponents argue that that two high-speed rail segments, Tokyo-Osaka and Paris-Lyon operate without subsidies.[xliv] But no high-speed rail system operates without a subsidy. This issue has been studied before, and in December 2009 the US Congressional Research Service (CRS) said of high-speed rail: *"Typically, governments have paid the construction costs, and in many cases have subsidized the operating costs as well."*[xlv]

29. The Authority and Legislature are much enamored with the high-speed rail system in France: in fact during June 2011 legislative hearings, then-Assembly Member

Cathleen Galgiani (sponsor of AB3034) said *"The high-speed rail system in France runs with a profit margin of 25percent . ."* [xlvi] The Authority even based some of its operating cost assumptions on examples from there.[xlvii] While track ownership and maintenance in France is the responsibility of Réseau Ferré de France (RFF), a non-operating state-controlled finance agency, Société Nationale des Chemins de fer Français (SNCF), another agency of the government, operates the nation's rail system, including the Train à Grande Vitese (TGV). The potential for legerdemain between the two government agencies to make one or the other seem profitable is virtually unrestricted. Even the Director of the TGV Est (East) said *"TGV Est is a brilliant commercial success, but it is not profitable."*[xlviii] Testimony in the US Congress pointed out that French government grants SNCF $2-$3 Billion annually for *"tariff and public service contributions, concessionary fares and various other services"* and pays a retirement supplement to SNCF *"which is not shown on SNCF's income statement."* [xlix] If the Authority is pursuing a similar model and assumes the State of California will take over its retirement and health benefits, will provide "concessionary fares", pay its private operators' Federal and local taxes, plus other unspecified operating costs, they are assuming the State will subsidize some of the costs of its operations. I believe that to be prohibited under Section 2704 of AB304 and a violation of the promise to 2008's voters.

30. I agree with other economists that have done forensic analyses of the Authority's operating costs and found them wanting. I think the Authority is 'gaming the system' by keeping line items in its operating cost and cost calculations not only out of the public eye, but also from the scrutiny of the U.S. Government Accountability Office (GAO). In U.S. Congressional testimony, the GAO Director of Physical Infrastructure said; *". .. over half of the operating costs are captured in a single category called Train Operations and Maintenance . . The Authority also did not compare their operating-cost estimate to an independent cost estimate."* [l] Specifically pointing to the use (or exclusion) of line item operating costs from European and Asian high-speed rail systems, the GAO Director said*; "For example, we were unable to identify how the operating costs from analogous high-speed rail projects were adjusted for the California project.*" I believe that the Authority is either aware of some agreement unknown to the public

about the State assuming these not-insubstantial operating costs, or has consciously juggled its operating cost calculations to reflect unrealistic assumptions and conclusions. In either case, CHSRA has attempted to deceive the public and promote its trains' operations as being profitable.

31. Based on realistic ridership projections of annual riders, I believe the California high-speed rail system will require operating subsidies to cover its day-to-day financial losses. These losses are projected at a range of from $124,000,000 to $373,000,000.[li] If the U.S. Government, which has put up roughly half of all the Authority's 'cash in hand' cannot figure out what items the CHSRA uses in its operating cost analysis, nor how those fit into the equations of profit-and-loss, then the Authority is either incompetent to design a megaproject that meets the specifications of AB3034, or it is deliberately misleading the Legislature and the public with its claims of profitability.

I declare under penalty of perjury pursuant to the laws of the State of California that the foregoing is true and correct.

Executed on this 26 day of February, 2013, at Los Angeles, California.

ADRIAN THOMAS MOORE

[i] Joseph Vranich and Wendell Cox: Adrian T. Moore, Ph.D. Project Director. California High Speed Rail: A Due Diligence Report, The Reason Foundation; September 2008. Found at http://reason.org/files/1b544eba6f1d5f9e8012a8c36676ea7e.pdf

[ii] "Oversight Hearings of the California High-Speed Rail Authority," Committee Report, Senate Transportation and Housing Committee, June 2008, p. 24.

[iii] Closing remarks of Senator Joe Simitian; July 6th 2012 in the chambers of the Senate of the State of California

[iv] Mette K. Skamris and Bent Flyvbjerg, "Accuracy of Traffic Forecasts and Cost Estimates on Large Transportation Projects," *Transportation Research Record* (Washington, D.C: Transportation Research Board, National Research Council), 1996.

[v] Op. Cit. Due Diligence, 2008, pg. 4-5

[vi] From budget allocations for the CHSRA. By year and by source they are:

CHSRA's Budget And Appropriations by Fiscal Year And By Sources Of Funds
(Thousands of Dollars)

Fiscal Year	PTA	Prop. 1A	SHA	Federal	Reimbursement	Total
1993-94*			$4,275			**$4,275**
1994-95*			$4,266			**$4,266**
1995-96*			$409			**$409**
1996-97*			$332			**$332**
1997-98	$1,500					**$1,500**
1998-99	$3,000					**$3,000**
1999-00	$3,027					**$3,027**
2000-01	$1,021					**$1,021**
2001-02	$1,047					**$1,047**
2002-03	$800		$5,750			**$6,550**
2003-04	$2,597			$1,242		**$3,839**
2004-05	$1,099					**$1,099**
2005-06	$3,926					**$3,926**
2006-07	$14,298					**$14,298**
2007-08	$1,159				$3,500	**$4,659**
2008-09		$29,100				**$29,100**
2009-10		$139,180				**$139,180**
2010-11		$143,781		$77,500		**$221,281**
2011-12**		$88,623		$66,565		**$155,188**
Total	**$33,474**	**$400,684**	**$15,032**	**$145,307**	**$3,500**	**$597,715**
% of Total	**6%**	**67%**	**2.5%**	**24%**	**0.6%**	**100%**

*Funding for the Intercity High-Speed Rail Commission created in 1993 (SCR 6 -Quentin Kopp)

PTA = Public Transportation Account SHA = State Highway Account

Fiscal Year – July 1 of one year to June 30 of the next year

**FY2011-12 is appropriations as of early 2012

[vii] Op. Cit. Due Diligence, 2008

[viii] See: http://reason.com/reasontv/2010/06/28/reason-weekend-2010-robert-poo

[ix] Found at http://reason.org/blog/show/californias-high-speed-rail-fibs

[x] Bent Flyvbjerg, Nils Bruzelius and Werner Rothengatter, *Megaprojects and Risk: An Anatomy of Ambition,* (Cambridge, UK: Cambridge University Press, 2003). Flyvbjerg is a

professor at the Oxford University. Bruzelius is an associate professor at the University of Stockholm. Rothengatter is head of the Institute of Economic Policy and Research at the University of Karlsruhe in Germany and has served as president of the World Conference on Transport Research Society (WCTRS).

[xi] Bent Flyvbjerg, "Quality Control and Due Diligence in Project Management: Getting Decisions Right by Taking the Outside View," International Journal of Project Management (November 2012), pg. 7. Found at http://www.sciencedirect.com/science/article/pii/S026378631200138X

[xii] See: Albalate, Daniel and Bel, Germa; The Economics and Politics of High-Speed Rail; Lessons From Experiences Abroad; Lexington Books, 2012, page 163.

[xiii] See: Oversight Hearings of the California High-Speed Rail Authority; December 7, 2007, Los Angeles and January 11, 2008, Oakland. Report prepared by the Senate Committee on Transportation & Housing; June 2008, pg. 2. On page 5 of the Official Voter Information Guide, it says of the project that would also include San Diego, Sacramento and Oakland, *"The authority estimated in 2006 that the total cost to develop and construct the entire high-speed train system would be about $45 billion."*

[xiv] The September 2011 Probolsky survey with over 60% of Californians against the train is found at www.probolskyresearch.com/.../2011/.../Probolsky-Research-State-Spending-and-High-Speed-Rail-Results-Memorandum2.pdf. The December 6, 2011 Field Poll saying 64% would vote against the train is Release #2400, and can be found at http://media.sacbee.com/smedia/2011/12/05/17/53/SJkN2.So.4.pdf. In December 2011 a USC Dornsife/Los Angeles Times Poll found that with the cost of the high-speed rail project rising dramatically *"a clear majority of California's registered voters would reject the proposal if given a second chance to vote on it today."* See: Dan Weikel and Ralph Vartabedian, "Californians would reject bullet train in revote, polls finds," *Los Angeles Times*, December 6, 2011, http://articles.latimes.com/2011/dec/06/local/la-me-train-poll-201112071. In January 2012, this survey reiterated the prior ones' findings. http://www.surveyusa.com/client/PollReport.aspx?g=a6de7d0b-533c-4f

[xv] From the website of Senator Mark DeSaulnier, Chairman of the Senate Housing and Transportation Committee of April 2 2012. Found at http://sd07.senate.ca.gov/news/2012-04-02-california-high-speed-rail-authorities-say-they-can-build-it-better-faster-cheaper-6

[xvi] See ARRA HSIPR Requirements Federal Register/Volume 74, No. 119/Tuesday, June 23, 2009/Notices, Section 1.5 (page 28)

[xvii] See ARRA HSIPR Requirements Federal Register/Volume 74, No. 119/Tuesday, June 23, 2009/Notices, Section 1.5

[xviii] See: Paul Amos, Dick Bullock and Jitendra Sondhi; World Bank Report No 55856; July 2010; pg.14. See: *www-wds.worldbank.org/.../558560WP0Box341SR1v08121jul101final.pdf.*

[xix] Flyvbjerg, Bent; Bruzelius, Nils and Rothengatter, Werner: Megaprojects And Risk, An Anatomy of Ambition; Cambridge University Press, 2003, pg.2

[xx] California High-Speed Rail Authority (CHSRA): Report to the Legislature; December 2009; page 73

[xxi] Samer Madanat; Director, UC ITS Berkeley; found at http://www.berkeley.edu/news/media/releases/2010/07/01_high_speed_rail.shtml and CARRD Ridership Comments; April 26, 2010 at http://www.calhsr.com/

[xxii] Statement by Samer Madanat; Director of ITS Berkeley; found at http://www.berkeley.edu/news/media/releases/2010/07/01_high_speed_rail.shtml

[xxiii] Both the 2009 San Francisco and Anaheim boardings include, that is, 'double count' passengers from Oakland and San Diego where stations are supposed to be constructed in later phases. This is acknowledged in: Bay Area to Central Valley High-Speed Train: Revised FINAL Program Environmental Impact Report; Volume 2: Response to Comments; August 2010, California High-Speed Rail Authority Page 1082. Found at

http://www.cahighspeedrail.ca.gov/assets/0/152/198/082f1fb0-c589-4719-88e7-99ef392cce91.pdf.

[xxiv] Memorandum To David Schonbrunn, TRANSDEF; From: Norm Marshall (Smart Mobility); April 26,2010: Subject: California High-speed Rail Model Coefficients Review; pg. 13.

[xxv] Op Cit Flyvbjerg, Bent; et al: Megaprojects And Risk; pg. 26.

[xxvi] Op Cit Flyvbjerg *et al*. For the 2009 Eurostar quote at pg. 22. For the 2011 Eurostar ridership, see RailwayAge, March 12, 2012, found at http://www.railwayage.com/index.php/passenger/high-performance/us-riders-aid-eurostar-2011-ridership-revenue.html

[xxvii] Op Cit page 25 for the DOT citation

[xxviii] Op Cit. Bent Flyvbjerg, "Quality Control. ." November 2012, pg. 14

[xxix] Op Cit. Bent Flyvbjerg, "Quality Control. ." November 2012, pg. 17

[xxx] Ibid

[xxxi] Op Cit. Bent Flyvbjerg, "Quality Control. ." November 2012, pg. 35

[xxxii] Automobile attraction estimated by applying the ratio of automobiles to airline high-speed rail attraction in the European cases to the CHSRA forecast attraction from airlines.

[xxxiii] No high-speed train in the world operates at 220mph, with speeds up to 250mph, as the agreements between the CHSRA and the Federal Railroad Administration/DOT state in their contractual agreements California's train will. See: Attachment 3A, Statement of Work, July 2001, page 30 of Grant/Cooperative Agreement Number: FR-HSR-0009-10-01-02; *"The new high-speed rail system will be grade-separated from road vehicle traffic and will operate almost exclusively on separate, dedicated tracks with a top design speed of up to 250 mph and an operating speed of up to 220 mph."*

[xxxiv] Examples of coverage: "Interview: New California High-Speed Rail Chairman Dan Richard Makes His Case," KQED News, March 7, 2012, http://blogs.kqed.org/newsfix/2012/03/07/interview-with-new-california-high-speed-rail-chairman-dan-richard/ and "Calif. set to release $68.4B high-speed rail plan," Associated Press, as published in the *Fresno Bee* (and many other publications), April 2, 2012, http://www.fresnobee.com/2012/04/02/2784527/calif-set-to-release-684b-high.html

[xxxv] Transcript of Proceedings: California High-Speed Rail Authority: Monthly Meeting; Thursday April 12, 2012, page 97 – lines 2-10.

[xxxvi] Ibid page 97 – line 11.

[xxxvii] See: CARRD's PDF file on this at, http://www.calhsr.com/wp-content/uploads/2012/04/CARRD-travel-time-inconsistencies.pdf. They refer to Scenario 12-04b: Blended Phase 1 (High) – For 2012 Blended Service from San Francisco Transbay to Los Angeles Union Station with bus connections to Sacramento and Merced. Source: "California High-Speed Rail 2012 Business Plan Ridership and Revenue Forecasting" at http://cahighspeedrail.ca.gov/assets/0/152/431/7b890372-19c0-4ba7-aa98-aa1d49dea11b.pdf

[xxxviii] From an email to Kathy Hamilton, a reporter for the San Francisco Examiner, from Kyle Wunderli, CHSRA Public Records Staff, on May 31st 2012, 4:43pm, labeled "Trip Times fo [sic] Phase 1 route and between cities as outlined in AB3034."

[xxxix] Email of Thursday May 31 2012 at 4:43PM from Kyle Wunderli of High-Speed Rail Records to Ms. Kathy Hamilton titled RE: Trip Times fo [sic] Phase 1 route and between cities as outlined in AB3034.

[xl] Found in an email message dated 1/22/2012 10:41:12 P.M. Pacific Standard Time, to Kathy Hamilton from Rich Tolmach

[xli] The highest FRA class of speed and maintenance is Class 9, for up to 200mph. See: page 1, Federal Railroad Administration's Federal Track Safety Standards Fact Sheet, 49 CFR Part 213; June 2008. Available at http://www.fra.dot.gov/downloads/PubAffairs/track_standards_fact_sheet_FINAL.pdf

[xlii] Statement of Susan A. Fleming, Director Physical Infrastructure Issues, Before the Committee on Transportation and Infrastructure, House of Representatives, December 6, 2012; See FN8, pg. 3.

[xliii] It is assumed that 220 mph operation, if it were achievable, would result in an average operating speed of no more

than 165 mph in rural areas.

[xliv] In May of 2009 Iñaki Barrón de Angoiti, Director of High-Speed Rail at the International Union of Railways (IUR), said, *"Only two routes in the world — between Tokyo and Osaka, and between Paris and Lyon — have broken even."* See: Spain's High-Speed Rail Offers Guideposts For U.S." NY Times, May 29, 2009.

[xlv] Op Cit See: Peterman, Frittelli, and Mallett, W.; CRS; pg.1.

[xlvi] Assembly Member Galgiani said this during June 2nd 2011 hearings on AB145 in response to Assembly Member Diane Harkey's criticism of the Bill. See: http://www.smdailyjournal.com/article_preview.php?type=bnews&id=160156&title=Assembly%20acts%20to%20end%20independent%20rail%20authority&eddate=

[xlvii] See: CHSRA Revised Draft 2012 Plan; page 6-2 which says: *"In October 2010, the Authority compiled an abstract of its current operations and maintenance strategies, including a network overview, detailed service plans, rolling stock/infrastructure maintenance concepts, and staffing levels and sent it to eight international HSR operators. Seven respondents—Belgium, China, France, Italy, Japan, Korea, and Spain—provided the Authority with comprehensive commentary that helped shape and validate the Authority's methodologies."*

[xlviii] See: Statement of Mr. Christian Durr, Commercial Director of the TGV Est; *"Le TGV Est est un succès commercial éclatant mais il n'est pas rentable"* Found at http://www.republicain-lorrain.fr/actualite/2011/09/22/tgv-est-un-succes-pas-rentable

[xlix] See: International High-Speed Rail Systems: a Hearing before the Subcommittee on Railroads, Pipelines and Hazardous Materials of the Committee on Transportation and Infrastructure, House of Representatives; April 18, 2007. http://frwebgate.access.gpo.gov/cgi-bin/getdoc.cgi?dbname=110_house_hearings&docid=f:34799.pdf, pgs 5-6.

[l] Op Cit. See: Susan A. Fleming, Committee on Transportation and Infrastructure, December 6, 2012; pgs. 8-9.

[li] See: Joseph Vranich and Wendell Cox; Project Director: Adrian T. Moore, Ph.D.: The California High-Speed Rail: An Updated Due Diligence Report, March 2013. At the CHSRA high operating cost assumption, the annual losses would range from $253,000,000 to $502,000,000 under the three projections on page 31. At the CHSRA low operating cost assumption the annual operating losses would range from $7,000,000 to $256,000,000.

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COUNTY IS EXEMPT FROM FILING FEES PER GOV. CODE SECTION 6103

SUPERIOR COURT OF THE STATE OF CALIFORNIA

COUNTY OF SACRAMENTO

JOHN TOS, et al.,

Plaintiffs,

v.

CALIFORNIA HIGH SPEED RAIL AUTHORITY, et al.,

Defendants.

CASE NO. 34-2011-00113919

DECLARATION OF JAMES ELLIOTT MOORE II

Trial Date: May 31, 2013

I, James Elliott Moore II, declare as follows:

1. I hold Bachelor of Science degrees in Industrial Engineering and in Urban Planning (1981, Technological Institute at Northwestern University); a Masters of Science in Industrial Engineering (1982, Stanford University); a Masters of Urban and Regional Planning (1983, Northwestern University); and a PhD in Civil Engineering – Infrastructure Planning and Management (1986, Stanford University).

2. I am presently the Vice Dean of the Viterbi School of Engineering at the University of Southern California (USC), and have been a member of the USC public policy and engineering faculties since January 1988. Prior to joining USC, I was a faculty member in

Northwestern University's McCormick School of Engineering and Applied Science (then called the Technological Institute). I received tenure in what is no USC's Price School of Public Policy (formerly USC's School of Urban and Regional Planning) in 1993; in USC's Astani Department of Civil and Environmental Engineering in 1998; and in USC's Epstein Department of Industrial and Systems Engineering in 2003. I have serve as Director of the Transportation Engineering program in the USC Astani Department of Civil and Environmental Engineering, and served for six years as Chair of the USC Epstein Department of Industrial and Systems Engineering.

3. My fundamental and applied research is on the engineering and economic aspects of large-scale transportation and land use systems. My specific research interests include risk management of infrastructure networks subject to natural hazards and terrorist threats; infrastructure investment and pricing policies, especially in California; economic impact modeling; transportation network performance and control; and large scale computational models of metropolitan land use/transport systems. I have published extensively in the transportation planning and engineering literature.[1] I have closely followed the course of the California high-speed rail project since spending a sabbatical year at the California State Library in 1998, and have followed the project closely since 2003, reading both materials from the California High-Speed Rail Authority (CHSRA) and its critics; and lecturing on the project.

4. I understand that accurate ridership forecasts for the California high-speed rail project are an issue in this case, as their accuracy or inaccuracy will be subsequently reflected in both passenger revenues and operating and maintenance (O&M) costs. I became interested in the quality of rail cost and ridership projections in 1990, when the US Department of Transportation's Urban Mass Transportation Administration (now the Federal Transit Administration) issued a provocative report by Don Pickrell entitled *Urban Rail Transit Projects: Forecast Versus Actual Ridership and Cost*.[2] The report documented the consistent optimism of the ridership and cost forecasts supporting the decision to build the recent urban rail projects of

[1] Some of those articles are available through http://www.usc.edu/dept/ise/directory/james_moore.htm.

[2] Pickrell, Don: *Urban Rail Transit Projects: Forecast Versus Actual Ridership and Costs* (Washington, DC: US Department of Transportation, Urban Mass Transportation Administration, 1990)

the time.

5. As part of my research activities at USC, I have traced the history of rail projects in the United States and internationally. As early as 1999, I published on myths about the US urban rail system, noting that: *"Ridership forecasts always tend to be high, which capital and operating costs forecasts always tend to be low. The net effect is that actual costs per passenger tended to be much higher than forecast, sometimes as much as an order of magnitude."* [3]

6. In 2003, Bent Flyvbjerg and his colleagues pointed out the inaccuracies of ridership and capital costs for transportation megaprojects in their seminal book, Megaprojects and Risk: An Anatomy of Ambition.[4] On over-estimated rail ridership forecasts, the authors said: *". . (rail) forecasts were overestimated on the average by 65%."* [5] A glaring example within Megaprojects was that in 1992, Eurostar forecasted *"15 million passengers per annum in 1995 and growing"*. Fourteen years later (2009) Eurostar carried 9.2 million passengers, only three-fifths of the forecast for the first operating year. [6] Flyvbjerg and his colleagues concluded, *"Rail passenger traffic forecasts are consistently and significantly inflated"* and *"we conclude that traffic estimates used in decision making for rail infrastructure are highly, systematically and significantly misleading."* [7]

7. In 2009, research on high-speed rail by seven European authors, including the International Union of Railways' (IUR) Director of High-Speed Rail, reached similar conclusions on high-speed rail ridership forecasts: *"Constructing new lines with an optimistic demand bias translates into a waste of taxpayer money, because this mode of transport is being developed in Europe within the public sector, without private participation and with revenues far from covering total costs."* [8] By 2010, the World Bank's high-speed rail report concluded that, *"High-*

[3] See: Rubin, Thomas: Moore, James and Lee, Shin: Ten myths about US urban rail systems, Transport Policy 6 (1999) 57-73. Found at http://www.usc.edu/dept/ise/directory/jmoore_refereed.htm The article reinforces research done earlier, especially Pickrell, Don: *Urban Rail Transit Projects: Forecast Versus Actual Ridership and Costs* (Washington, DC: US Department of Transportation, Urban Mass Transportation Administration, 1990)

[4] Flyvbjerg, Bent; Bruzelius, Nils and Rothengatter, Werner: Megaprojects And Risk: An Anatomy of Ambition; Cambridge University Press, 2003

[5] Op Cit Flyvbjerg, Bent; et al: Megaprojects And Risk; pg. 26.

[6] Op Cit Flyvbjerg *et al*. for both the Eurostar quote at pg. 22

[7] Op.cit Flyvbjerg *et al* pg. 31

[8] Economic Analysis of High Speed Rail in Europe by Ginés de Rus (Ed), Iñaki Barrón de Angoiti, Javier

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speed projects have rarely met the full ridership forecasts asserted by their promoters . .” [9] Recently, the Government Accountability Office’s (GAO) Director of Physical Infrastructure, speaking before the US Congress about the CHSRA’s April 2012 Revised Business Plan said; “*In addition, the ridership and revenue forecasts in the April 2012 revised business plan reflected a wider uncertainty range than the forecast presented in the November 2011 plan.”*[10] Given my familiarity with both the general history of transportation project forecasts overstating potential ridership, and the decreases in the Authority’s ridership forecasts for the voter-approved project from about 55 million in 2008 to 36 million in 2011, I agree with the GAO Director’s uncertainty on CHSRA’s ridership estimates and its attendant impacts on revenue and profit calculations.[11]

8. I understand that the question of potential capital cost overruns is also material to this lawsuit. My PhD’s specialty, infrastructure planning and management and my research in engineering economics versed me in the issues of capital planning and project management in large engineering projects. Seventeen years ago (1996) the Transportation Research Board of the prestigious National Research Council studied capital cost overruns in transportation projects and said*: “. . . the main lessons are that cost overruns of 50 to 100 percent are common; overruns of more than 100 percent are not uncommon.”* [12] I am also aware of such cost overruns as Boston’s Big Dig, about seven times the original estimate: and the Bay Area’s Oakland Bay Bridge overrun of about five times the estimate.[13] The Megaprojects’ authors’ research-based findings on

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Campos, Philippe Gagnepain, Chris Nash, Andreu Ulied and Roger Vickerman (2009), page 16

[9] See: Paul Amos, Dick Bullock and Jitendra Sondhi; World Bank Report No 55856; July 2010; pg.14. See: *www-wds.worldbank.org/.../558560WP0Box341SR1v08121jul101final.pdf.*

[10] Statement of Susan A. Fleming, Director Physical Infrastructure Issues, Before the Committee on Transportation and Infrastructure, House of Representatives, December 6, 2012; pgs. 5-6.

[11] For 2008’s estimate, see California High-Speed Rail Authority; California High-Speed Train, Business Plan, November 2008, pg. 2 refers to Charles River Associates: Independent Ridership and Passenger Revenue Projections for High Speed Rail Alternatives in California: prepared for the California High-Speed Rail Authority, January 2000. Found at http://www.cahighspeedrail.ca.gov/assets/0/152/198/df0eb282-063c-48cf-92b4-7ccf7adb976c.pdf For the November 2011 estimate, see California High-Speed Rail Program Draft Business Plan, November 1, 2011: pg. 6-18

[12] Mette K. Skamris and Bent Flyvbjerg, “Accuracy of Traffic Forecasts and Cost Estimates on Large Transportation Projects,” *Transportation Research Record* (Washington, D.C: Transportation Research Board, National Research Council), 1996.

[13] The same Parsons Brinckerhoff presently employed by the CHSRA as its Project Management Team (PMT) managed Boston’s ‘Big Dig’. In September 1983, Boston’s ‘Big Dig,’ the 7.5-mile highway project was originally proposed for a cost of $2.2 billion and with a completion date of 1995. The cost ballooned to almost $15

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capital cost overruns, concurred; *"For rail, actual costs are on average 45 percent higher than estimated costs."* [14] They did not absolve privately-financed projects from their critique either, saying; *"there is no indication . . that overruns will be eliminated by simply placing projects in the private sector . ."* [15] Nor have engineering consulting firms' cost estimates improved; *". . . cost overrun has not decreased over time. Cost overrun today (2003) is in the same order of magnitude as it was ten, thirty or seventy years ago."* [16] Given that the voter-promised Phase 1, electrified and dedicated high-speed rail track and rail service between the center of Los Angeles and San Francisco, jumped in price from $33 billion in 2008 dollars to over $65 billion in 2010 dollars, the CHSRA's capital cost projections carry similar risks to its capital costs being underestimated as megaprojects' have in the past.[17] This greatly worries me.

9. Since both ridership and capital costs continue to be over and underestimated respectively, the question for independent analysts becomes – why does this happen in the age of large databases on ridership and revenue variables, sophisticated modeling algorithms and enormous computing power? Since these are two of the key variables that define whether any project, including California's high-speed rail project, will be profitable, it is worth reviewing research on the reasons behind why this may be. Two Nobel Prize economists' work on why over and underestimation continues has triggered others to investigate the subject. [18] A recent

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billion and it was completed on December 31st 2007 – twelve years late. See: "Boston's 'Big Dig': A Socio-Historical and Political Analysis of Malfeasance and Official Deviance" at http://www.nssa.us/journals/2010-34-2/pdf/34-2%2017%20Smith.pdf. On the Bay Bridge overruns; See: http://prestowitz.foreignpolicy.com/posts/2011/07/18/bay_bridge_redux

[15] Op Cit Flyvbjerg et al pg. 19

[16] Op.cit Flyvbjerg, Bent, *et al*; pg. 16

[17] *"The high-speed train system's backbone Los Angeles/Anaheim to San Francisco link is expected to cost about $33 billion, in 2008 dollars."* Found on page 19 of California High-Speed Rail Authority; California High-Speed Train, Business Plan, November 2008. Exhibit 1-1, page 1-3 of the California High-Speed Rail Program Draft 2012 Business Plan, November 1 2011 says that the "Phases 1 San Francisco-Los Angeles/Anaheim – 520 miles will require a $65 billion investment (in 2010 $s) or a $98.5 billion investment if counted in YOE through 2033.

[18] Kahneman and Tversky (1979a, 1979b), in their Nobel-prize-winning work on decision making under uncertainty, argued that such inaccuracy is caused by a systematic fallacy in decision making causing people to underestimate the costs, completion times, and risks of planned actions, whereas people overestimate the benefits of the same actions. This work has been followed by authors such as: Flyvbjerg, Holm, and Buhl (2002, 2005) and Flyvbjerg, Bruzelius, and Rothengatter (2003) (Arena et al 2006; Dantata, Touran, and Schneck 2006; Flyvbjerg and Stewart 2012; Gardener and Moffat 2008; Merrow 2011; Moløkken and Jørgensen 2003; Scott, Levitt, and Orr 2011; Williams, (continued…)

paper, focused on large passenger rail projects and cited by the GAO in its study of the California project, investigates whether bias in project planning is from innocent confusion and errors of judgment (aka optimism bias) or whether it is willful deception, referred to as 'strategic misrepresentation.' The paper then recommends eight steps to diminish both types of bias. [19] The paper and many in its provenance subdivide forecasting methods into those made solely by a project's planners, called the 'inside view' and the 'outside view' often derived from independent analysts comparisons of like or kindred projects. Results become a function of choice: " . . *project managers, cost engineers, and risk departments – are inclined to adopt the inside view in planning new projects. This is the conventional and intuitive approach."* [20] *"The outside view bypasses cognitive and political biases such as optimism bias and strategic misrepresentation and cuts directly to outcomes."* [21] However, it is very clear from the 2002 Laureates' experiments, that: *"When both forecasting methods* [inside views and outside views] *are applied with equal skill, the outside view is much more likely to produce a realistic estimate*" [22]

10. Two comparative examples illustrate my concerns about the CHSRA's ridership forecasts. First: as previously noted, the CHSRA's inside-view produced ridership forecasts for the voter-approved Phase 1 project ranging from about 55 million as a basis of the 2008 Plan to 36 million in the November 2011 Draft of the 2012 Plan, while the adopted April 2012 Plan with its Phase 1 Blended System is to ticket an average of about 26 million in 2030. [23] If the

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Samset, and Sunnevag 2009. Lovallo and Kahneman (2003:58) would later call such behavior "planning fallacy." Other authors have called this phenomenon "cognitive bias," or "optimism bias."

[19] Bent Flyvbjerg, "Quality Control and Due Diligence in Project Management: Getting Decisions Right by Taking the Outside View," International Journal of Project Management (November 2012). Found at http://dx.doi.org/10.1016/j.ijproman.2012.10.007 or http://www.sciencedirect.com/science/article/pii/S026378631200138X For the citation by GAO, see: Statement of Susan A. Fleming, Director Physical Infrastructure Issues, Before the Committee on Transportation and Infrastructure, House of Representatives, December 6, 2012, pg 13.

[20] Op. Cit. See: Flyvbjerg, "Quality Control and Due Diligence" pg. 5/35.

[21] See: Flyvbjerg, Bent, "Policy and Planning for Large-Infrastructure Projects: Problems, Causes, Cures." Environment and Planning B: Planning and Design, vol. 34, no. 4, pp. 578-597

[22] Nobel Laureate Daniel Kahneman led or performed most of these experiments.

[23] For 2008's estimate, see California High-Speed Train Project: Ridership and Revenue Forecasts; prepared by Parsons Brinckerhoff, Cambridge Systematics and SYSTRA. The 55.1 million riders is the assumption of High-Speed Train fares being only 50% of airfares. Found at: http://cdm16255.contentdm.oclc.org/cdm/singleitem/collection/p266401coll4/id/2801/rec/19. For the November 2011 estimate, see California High-Speed Rail Program Draft Business Plan, November 1, 2011: pg. 6-18. The now-

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Authority's train captures the same percentage (11%) of California's estimated 46.6Million residents in 2030 that Acela, Amtrak's fast rail service in the Northeast corridor, captured in 2009, the real Phase 1 (not the Phase 1 Blended System) system would carry about five million riders.[24] That's one-seventh to one-fifth of the CHSRA's projections. Second example: in July 2012, Amtrak's vision for enhanced Northeast (NE) Corridor service estimated that an Acela could attract 18 million passengers on the NE Corridor, estimated to be 65 million by 2050 – a market area nearly 40% more than California's in 2030. [25] That's only half to two-thirds what the CHSRA's ridership projections. These outside views, even allowing for a possible inside-view bias of Amtrak planners, put into perspective how far afield the Authority's ridership forecasts are likely to be from reality. Given that Cambridge Systematics produced the CHSRA's business plan forecasts over a period of years, not months, I find it hard to conclude that such a sophisticated modeling firm's output was the result of errors of judgment.

11. The issue of the train's sustained profitability is important in this case. The equation of profitability has two parts; revenues and operating and maintenance (O&M) costs. Ridership multiplied by fares per passenger mile equates to revenues, one half of the question of the California train's profitability.[26] To my knowledge there is only one independent work on the CHSRA train's revenue, albeit restricted by its access to only publically available data. I have previously read and commented on that report, To Repeat: The CHSRA's Train Will Need A

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adopted April 2012 indicates that the 'Phase 1 Blended System' would have 19.6 to 31.8 million riders annually, with a medium projection of 25.7 million.

[24] The 11% is the ridership rate, which equals annual passengers divided by area population. Acela attracts about 11% of the 28Million nearby residents along its route or roughly 4.8Million riders. Source: Table in "Amtrak Fiscal Year 2009" Oct. 2008-Sept. 2009. For population data see: http://www.city-data.com/forum/general-u-s/468856-census-bureaus-2030-population-projections-50-a.html

[25] See: "Full-Speed Ahead" by Al Engel, VP High-Speed Rail; appears on pg.10 of the July/August 2011 issue of All Aboard. Also see: http://www.arrive-digital.com/arrive/20110708#pg10 This official claimed the market catchment area for the enhanced Acela is presently 50Million, less than ten percent more than the 46.4Million the Census Bureau forecasts for California in 2030. See: http://www.city-data.com/forum/general-u-s/468856-census-bureaus-2030-population-projections-50-a.html. For Vision 2050, see The Amtrak Vision for The Northeast Corridor, 2012 Update Report, July 2012, pg. iii.

[26] Per Passenger Mile is the metric used by the DOT as the measure of financial performance of trains, airlines, etc. A full discussion of this appears in Appendix 16 of the report, To Repeat: The CHSRA's Train Will Need A Subsidy Forever. Found at www.sites.google.com/site/hsrcaliffr or atwww.cc-hsr.org, then go to Financial Reports

Subsidy Forever.[27] The To Repeat authors found that, on a per passenger mile (PPM) basis, the Authority forecasts revenues at 22¢-23¢ PPM.[28] The authors also note that, to be competitive with airlines operating in California, the CHSRA is forced to forecast its price per mile below the airlines – and does so by selecting to charge 83% of the average airline fare without explaining why.[29] Using both an 'outside view' from ticket prices divided by mileage, and an 'inside view' computed from published reports and presentations to the CHSRA, the authors found that European high-speed rail systems, some in operation for decades, charge an average of 47¢ per passenger mile, about twice what CHSRA's promises to charge.[30]

12. However, the most dramatic difference is with Acela's revenues. Using the outside-view based on mid-week, mid-morning fares, the To Repeat authors found that Acela's per passenger mile charges are around 74¢ PPM. Using DOT information on Acela, the inside-view of per passenger mile charges computes at 72¢ PPM.[31] The To Repeat authors made their computations from both inside- and outside-views – and found that European per passenger mile fares are twice, and Acela's more than three times CHSRA's forecast. Nowhere in the CHSRA's business plans are their projected ticket fares or revenues per passenger mile (PPM) compared by an 'outside view' with international and Acela fares. Also unlike the 'To Repeat' report, the CHSRA's plans have no discussions on how to run an un-subsidized rail business if their per passenger mile revenues are half or a third that of existing operators. I am convinced the Authority has not made an error of judgment, but rather has practiced strategic misrepresentation in the matter of not displaying its revenues per passenger mile and comparing those with known high-speed operators' revenues per passenger mile. These data would inform the debate, and the

[27] This report was first issued in August 2012, with a second edition issued in December 2012. Found at www.sites.google.com/site/hsrcaliffr or atwww.cc-hsr.org, then go to Financial Reports

[28] The smaller PPM revenue is for longer haul routes; ie. Los Angeles to San Francisco, while the 23¢ PPM is for shorter routes.

[29] See: California High-Speed Rail Program, Revised 2012 Business Plan April 2012, page ES-14.*"The average ticket fare between San Francisco and Los Angeles will be $81 (83 percent of anticipated airline ticket prices) in 2010 dollars"*

[30] For computed PPM revenues from actual operating systems, go to the To Repeat report's Table 1, page 18 of 44. For the results of 'inside view' revenue computations, see Figure 5 from Section 3 on page 7, and Figure 2 page 21 of 44.

[31] Ibid

Authority prefers not to draw attention to data that so fundamentally contradicts its claims.

13. Because the other half of the crucial question of the train's profitability is what it costs to operate the rail system, operating and maintenance costs (O&M) are at issue in this case. The Authority has not made detailed information about its O&M costs publically available. Even the Government Accountability Office (GAO) noted they don't have enough information to assess the reasonableness of the Authority's O&M costs; *"However . . over half of the operating costs are captured in a single category called Train Operations and Maintenance. In addition, the Authority did not clearly describe certain assumptions underlying both* [capital and operating] *cost estimates.* [32] The Authority claims its operating costs will be about half its revenues, somewhere around 10¢ per passenger mile. When asked to verify the Authority's O&M costs, California's Legislative Analyst's Office (LAO) found the international costs appear to be about 30¢ per passenger mile, three times the Authority's O&M cost estimate.[33] Recognizing that European systems do not incorporate the full costs of operating and maintaining the tracks, track beds, electrical distribution systems, and some (if not most) of the health and pension costs into a single accounting unit, the To Repeat authors used independent experts' reports and presentations to the Authority itself, plus prepared their own 'inside and outside view' to analyze existing international systems' O&M costs.[34] They found the O&M costs of these international systems, net of the USA's Acela, to range between 32¢ PPM, similar to the LAO's finding, and 45¢ PPM.[35] Strikingly, the To Repeat authors found that Acela's O&M costs were around six times

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[32] Statement of Susan A. Fleming, Director Physical Infrastructure Issues, Before the Committee on Transportation and Infrastructure, House of Representatives, December 6, 2012; pg. 8 (PDF pg. 10)

[33] The LAO's analysis was in response to a letter from four members of California's Legislature. See: Attachment Nine of "To Repeat – The CHSRA's Train Will Need A Subsidy Forever", August, 2012, Second Edition, December, 2012, found at: www.sites.google.com/site/hsrcaliffr/home/2-1-major-reports---2012-plan/08-12-new-report

[34] Unlike European accounts for rail that split the O&M costs of the accounts related to rolling stock from the O&M costs of the fixed-in-place assets, Amtrak 's profit and loss statements include both operating expenses that relate to specifically running their trains, including the Acela high-speed train, and the costs of maintaining the 'fixed' or un-moveable capital equipment the trains run on. In doing so, it largely conforms to US business accounting metrics, the Generally Accepted Accounting Principles (GAAP). For example see: National Railroad Passenger Corporation (Amtrak); Fiscal Year 2013 Budget and Comprehensive Business Plan; Operating, Capital Programs and Debt Service Expense Budget, January 2012

[35] For the results of computed PPM O&M from actual operating systems, go to the To Repeat report's Figure 5 from Section 3 on page 7, and Appendix 4 for more details on how those costs were computed.

(61¢) CHSRA's projections, despite the fact that CHSRA's train is likely to have similar labor, electrical power and benefit costs as Acela's.[36]

14. Given that the To Repeat authors approached their work on O&M costs with both inside- and outside-views, the difference between their findings and the CHSRA's appears to be that CHSRA did not use a consistent frame of reference to establish comparisons of O&M costs. It seems possible the CHSRA selectively chose to use some version of European or International Union of Railways accounts systems, with separate accounts between the operators and owners of the infrastructure, and perhaps a 'social profitability' measure.[37] Given the resources already spent by the CHSRA on developing O&M cost forecasts, and the expertise employed in those computations, I do not believe the differences between outside-views on O&M costs such as the To Repeat authors found are reconcilable, or that the Authority's forecasts of costs were innocent errors. As the authors of the recent work on the foundations of bias in forecasting said "*Biased forecasts serve strategic purposes that dominate the commitment to accuracy and truth. Consider, for example, the case of urban rail. Here, the assumption of innocence regarding estimates typically cannot be upheld."* [38] I am forced to conclude that on the matter of estimated O&M costs, the Authority has knowingly practiced strategic misrepresentation. [39]

15. I find the To Repeat report very credible, but stymied from producing more accurate profit or loss projections that would determine the need (or lack of need) for subsidies,

[36] Ibid. The GAO challenged the accuracy of Amtrak's charges in a 2005 report, which showed numerous omissions of charges, underestimations of charges and questionable assumptions about other charges; see: United States Government Accountability Office (GAO); Report to the Chairman, Committee on Transportation and Infrastructure, House of Representatives; AMTRAK MANAGEMENT Systemic Problems Require Actions to Improve Efficiency, Effectiveness, and Accountability; October 2005.

[37] In a letter solicited by the-CHSRA CEO Roelof van Ark, Msr. Jean-Pierre Loubinoux, Director General of the International Union of Railways, dated 8 February 2011, the DG says; *" . .the public authorities/society generally bear the costs of investing in new infrastructure, constructing and maintaining the infrastructure and related equipment such as safety, control-command and signaling, etc."* and "*To summarize, all high-speed rail projects developed in Europe have to be considered profitable as a system (combining profitability for the operating company and profitability for society to which the state-owned rail infrastructure belongs)."* The Letter is found at http://www.calhsr.com/wp-content/uploads/2010/02/IUR-Officials-Letter-to-CHSRA-CEO.pdf

[38] Op. Cit. See: Flyvbjerg, "Quality Control and Due Diligence" pg. 7/35.

[39] In Flyvbjerg, "Quality Control and Due Diligence" pg. 27/35, the authors refer to the work of Nicholas, Nassim Taleb, whose 2010 book, *The Black Swan: The Impact of the Highly Improbable*. (New York: Random House) distinguished "fools" from "liars*." Being academic, the theories use more polite language, needless to say, describing Taleb's fools as people who are subject to "optimism bias" and the "planning fallacy;" and liars as those practicing "strategic misrepresentation," "agency," and the "conspiracy of optimism."*

because neither the authors nor others had full access to the Authority's ridership forecasting model. If there were full access, CHSRA's revenues as a function of variations in demand would probably be better understood. Subsequently, the Authority's operating and cost model would need to measure the effects not only of variations in ridership, but also all of the fixed and variable costs that would change as Load Factors change.[40] The recent paper on quality control points to findings from a 2005 study, based on a sample of 210 transportation infrastructure projects including twenty seven rail projects, in which twenty-three (85%) ridership demand forecasts were overestimated an average of 106%.[41] This suggests that the outside-view analysis in this declaration comparing Acela's present ridership and Amtrak's forecasts for enhanced NE Corridor ridership to the Authority's, while not precise, is valuable since CHSRA's forecast is double (100% greater than) the Amtrak forecast for Amtrak's enhanced Acela program.

16. The recent Flyvbjerg paper also uses an expanded rail projects' database (62 vs 27) to compare the accuracy of demand forecasts to actual ridership. Once again, on average the demand forecast was at least twice as great as the number of actual riders. However, when broken into quartiles of accuracy in forecasting, the higher granularity of findings were informative:

> ". . that for 25 percent of rail projects actual demand is 65 percent lower or more than forecast demand, equal to an overestimate in forecasts of 186 percent or more in a quarter of cases. For half the projects in the sample actual demand is 49 percent lower or more than that forecast, equal to a overestimate of 96 percent or more. Finally, the table [Table 4] shows that for 75 percent of rail projects actual demand is 22 percent lower or more than forecast, equal to an overestimate in demand forecasts of 28 percent or more for these projects." [42]

17. In light of Flyvbjerg's larger database with its quartile analyses of the impacts on ridership's downward variability of nearly two thirds, actual ridership (assuming 186% overestimated) could be devastating to the CHSRA train system's profitability. If the Authority

[40] Load Factors measures the percent of available seats that are occupied by revenue paying customers and are the DOT/FRA's preferred method of converting seat miles to per passenger miles (PPM). Only in the case of every seat being a paid-for seat do the two metrics coincide. Per passenger miles is the metric the DOT uses to measure the financial performance of airlines, passenger rail, etc.

[41] Op. Cit. Flyvbjerg, "Quality Control and Due Diligence" pgs 12-13/35

[42] Op. Cit. Flyvbjerg, "Quality Control and Due Diligence" pg 14/35

chose to continue to stimulate demand with the high frequency of trains assumed in their 2012 Plan, the Load Factor with such a fall in ridership would drop from 76% to about 25%. As a consequence, their per seat mile cost would translate to a per passenger mile (PPM) cost of about 32¢, higher than even their projected per passenger mile revenues, which the outside-view has shown to be only a half to about a third of existing high-speed rail systems.

18. Comparatively, the 'To Repeat' authors calculated the Authority's best inside-view cost scenario at around twice the Authority's projection, about 25¢ PPM. The 'To Repeat' authors' estimates are higher because they made adjustments for O&M line items left out or underestimated by CHSRA's inside-view. If the 'To Repeat' author's estimates are correct, and as discussed, the Load Factor drops, then the Authority's costs per passenger mile could be far above their revenue projections, of about 50¢ PPM. Conversely, if the Authority cuts the trains' frequency to reduce costs, costs would drop. But then it becomes impossible to predict this choice's implications for future growth and short-term profits or losses. The Authority has not provided sufficient variability analysis to make reasonable financial conclusions.. While there is no way of knowing, until actual service is provided, how accurate (or inaccurate) the CHSRA's demand, revenue, O&M costs and profits (or losses) will be, I conclude that the Authority's foundation for claiming to have achieved a legally demanded operating profit is baseless.

I declare under penalty of perjury pursuant to the laws of the State of California that the foregoing is true and correct.

Executed on this 8th day of March, 2013, at Los Angeles, California.

JAMES ELLIOTT MOORE II

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COUNTY IS EXEMPT FROM FILING FEES PER GOV. CODE SECTION 6103

SUPERIOR COURT OF THE STATE OF CALIFORNIA

COUNTY OF SACRAMENTO

JOHN TOS, et al.,

Plaintiffs,

v.

CALIFORNIA HIGH SPEED RAIL AUTHORITY, et al.,

Defendants.

CASE NO. 34-2011-00113919

DECLARATION OF MICHAEL G. BROWNRIGG

Trial Date: May 31, 2013

I, Michael G. Brownrigg, declare as follows:

1. I declare under penalty of perjury, that the following is true and correct, and that if called as a witness to testify to the following, I would be competent to so testify.

2. I was a Managing Partner at ChinaVest LLC, the oldest U.S. venture capital firm in Greater China. I worked at ChinaVest from 1997 until today, though more recently in an advisory capacity, finishing as a Managing Partner. ChinaVest makes investment in logistics, manufacturing, consumer services and information technology. In US terms, the firm would be considered both a venture capital (early stage) and private equity (buy-outs) style investor. I served on its Investment Committee, reviewing all investment decisions, and managed investor

relations with ChinaVest's blue chip US institutional Limited Partners. These sophisticated investors included leading US pension funds and endowments, which are charged with maximizing their returns for their pension/endowment beneficiaries with an appropriate risk profile.

3. In 2010 I founded the financial services company, Total Impact Advisors, to advise and help source investors for social enterprises, which must be profitable, but will also make the planet better off. TIA works with investors large and small around the world, both advising smaller companies on early stage financings, and large enterprises like hospitals and universities that are looking for growth capital from non-traditional (impact investment) sources.

4. Prior to ChinaVest LLC, I served for 12 years in the U.S. Foreign Service, the bulk of which was spent negotiating trade issues with Europe, the Middle East and China. In 1990, I joined the Office of the U.S. Trade Representative (USTR). From 1993 to 1996 I served as chief trade negotiator at the US Consulate General in Hong Kong and in 1996-1997 I was a Pearson Fellow and diplomat in residence at the University of Southern California.

5. Since 2009, I have served as an elected member of the Burlingame, California City Council. Prior to being elected to City Council, I was eight years on the Planning Commission. I am familiar with land use issues and debates as well as government budgeting at the city level.

6. As a member of ChinaVest's Investment Committee and as a lead Deal Partner at ChinaVest and now at TIA, I am aware of, versed in, and have practiced the several disciplines required to understand the methods and practices of investment analysis, including due diligence, comparative and competitive analysis and risk analysis: all crucial to determining the credit worthiness of an investment prospect. In my 11 years of being a Managing Partner at ChinaVest and now at TIA, I have participated directly in dozens of investment committee reviews as to whether to put firm capital at risk. I have worked on numerous (100+) enterprise due diligence teams and worked with many other VC and PE firms as we look at co-investments together. I am also familiar with sovereign wealth funds, having met with leaders at both the Chinese and Singapore investment corporations.

7. I was one of the lead authors for the January 2012, 76-page report, California

High-Speed Rail Authority's 2012 Draft Business Plan: Still Not Investment Grade. I co-authored three other reports on the financial prospects of California's high-speed rail project: the January 2012, 23-page report; Twelve Misleading Statements on Finance and Economic Issues in the CHSRA's Draft 2012 Business Plan. In August 2012, I co-authored the 197-page report, To Repeat – The CHSRA's Train Will Need A Subsidy Forever; as well as the second edition to the To Repeat report of December 2012. I have also provided comments on more than a dozen drafts of similar reports on the high-speed train's finances.

8. I understand that an issue in this case is the inadequacy of funding for the Los Angeles to San Francisco high-speed rail project as approved by voters in November 2008, specifically the lack of funding to complete the Initial Operating Segment (IOS). I have read the four most recent business plans or draft business plans from the California High-Speed Rail Authority (CHSRA), including its November 2008, its December 2009, its draft November 2011 and its draft April 2012 plans.

9. I understand further that a substantial piece of the funding was held out to be available from private sector investors. For example, California voters were assured there would be private funding involved in the project in the 2008 Voter Guide (emphasis added):

> *"Provides that at least 90% of these bond funds shall be spent for specific construction projects, with **private and public matching funds required**, including, but not limited to, federal funds, funds from revenue bonds, and local funds."*[i]

10. Based on my review of those documents, and as cited specifically in the following paragraphs, it is my opinion that the CHSRA has known since mid-2008 that there was an exceptionally low likelihood of private investment capital being available to help construct the San Francisco – Los Angeles high-speed rail project or the Initial Operating Segment (IOS), yet CHSRA continued to claim private sector interest to invest in that project. This is crucial to the Authority's plans because other sources of capital do not appear to add up to the requisite amount, even in "soft circles", to allow one confidence that the Authority has sufficient funds to build the IOS, a requirement by law. To date, the CHSRA has only $6 Billion of the roughly $31 Billion they claim they need to build the IOS.

11. There is no commitment of further funding from the Federal government to build the IOS, nor any other part of the Phase 1 Blended System, LA-SF system, as I understand it. Based on my own conversations in Washington DC, I can assert that there is significant tension between the two parties on committing capital to High-Speed Rail in general, and then there is competition between the regions for whatever federal High-Speed Rail money might be available. I conclude that there is a significant, knowable risk of any substantial additional federal funding being used to complete the IOS.

12. There is no commitment, nor any prior commitment nor even expressions of interest so far as I aware, from California's local governments to fund the remainder of the IOS or any other significant part of the system. Indeed, as a representative myself of local government, I can assert that most local budgets are extremely overstretched, have pension and health deficits that need to be resolved, and that any additional capital for investment will be prioritized locally, such as deferred maintenance for sewers, parks and sidewalks inter alia; these projects are a much higher priority for most of my colleagues than investing in a mass transportation system, and I believe this will be true indefinitely.

13. Another source of construction capital might be the State of California itself. There are three major barriers to this approach, however. The first, and most important, is that the AB3034 Bond Money requires matching funds from other, non-State sources. The second matter is the implicit promise made to California voters that the AB3034 money was all that would be asked of Californians in terms of bonding to pay for construction. And the third matter is the California Budget itself, and its ability to absorb $25 Billion or more in additional bonding to construct the IOS, not to mention the much larger and more expensive CHSR system.

14. The only other source of funds to match the approximately $6 Billion remaining of California General Obligation bonds authorized by 2008's voters is private capital. Yet since mid-2008 the Authority has known that the investment proposition was not attractive to private equity investors without giving the private investor some sort of guarantee, either a revenue guarantee or a promise to buy them out at an agreed rate. Yet revenue guarantees would violate the statutory prohibition against operating subsidies embodied in AB3034 [Section 2704

subsection 8 (J)] and any sort of "take out" commitment basically converts the investment into debt, not equity, and removes any risk that the private sector is bearing.

15. The Authority has not adequately presented the risk that private investment would fail to show up, notwithstanding the high degree of importance of private investment in the plan put before voters and still today. In the Authority's 2008 business plan, for example, private sector capital was forecast to provide 43% of the total estimated construction costs (then forecast at$33 Billion) for the Los Angeles – San Francisco route.[ii]

16. The CHSRA has often obscured and confused expressions of private sector interest. For example, the CHSRA in the 2008 Plan claimed that within the private sector that *"Interest was strong, especially among construction firms, system and equipment providers, financial institutions and operators."* [iii] This phrasing conflates different private sector actors with grossly different cost/benefit calculations; of course, a construction firm is interested in winning a bid to supply steel or labor; an equipment supplier likewise; and an operator may be interested if he is going to be paid to run a system. These are not private investors, willing to put their own capital at risk to earn a return. The only actor that is relevant to the question at hand – namely, will private capital help defray construction expense by investing in the High-Speed Rail line – are the "financial institutions."

17. With respect to this much smaller subset of "private sector interests", that same plan raised a *caveat*, namely that *"The amount of private funding and timing of private sector participation will be a reflection of how risky the private sector perceives this project overall."* [iv] The 2008 Plan also said private firms *"would need financial and political commitment from state officials that government would share the risks to their participation."* [v] Those phrases refer to the findings of a study prepared by the Infrastructure Management Group (IMG) in May 2008, and presented to the CHSRA Board in June 2008, three months before AB3034 prohibited operating subsidies in AB3034 [Section 2704 subsection 8 (J)] and five months before the November 2008 Proposition 1A vote.[vi] That presentation, which polled actual private investors, said private capital deemed the project too risky, and would therefore not participate in the HSR project without a 'revenue guarantee' – a *de facto* subsidy that guarantees operators/investors will

always recover more revenues than their operating costs, or if an investor, then that they would receive a guaranteed financial return. No commitment, or intention to commit private sector investment, was cited in that 2008 plan because there was none to cite.

18. More importantly from a public point of view, the Official Voter Information Guide of 2008 made no mention of the findings of the IMG study. Yet that Guide says *". . the authority plans to fund the construction of the proposed system with a combination of federal, private, local, and state monies . . ."* [vii]

19. Based on those documents, the failure to divulge the importance of those findings, presented to the Board five months before the Proposition 1A vote, misled and has continued to mislead, the public and the Legislature's understanding on private capital's interest and availability. Inasmuch as there is less than half the roughly $31 Billion of capital needed to build the entire IOS, and with no Federal or local commitment to provide any of those matching funds, private capital is not to be forthcoming without violating what private operators and investors told the Authority in mid-2008.

20. Moreover, the Authority has continued to mislead the Legislature and the public on this matter. In September 2009, private investors made statement to the CHSRA Board that reiterated their view that revenue or other financial guarantees would be needed before private capital would invest in the High-Speed Rail project.[viii] Yet the CHSRA Board did not alter or amend its forthcoming December, 2009 Business Plan to reflect the reluctance of private investors to risk their capital on any portion of the high-speed rail project as approved by the voters in November 2008. The CHSRA's 2009 Business Plan, released in December 2009, says that plan *" . . lays out a realistic scenario for paying for the system with a combination of state, federal, local, and private funds."* and that *"California's high-speed train project is on track and being pushed along by tremendous momentum from our partners in government, the private sector, . ."* [ix] By late 2009, the Authority had known for more than 18 months that private sector investment would be highly unlikely to materialize absent a guarantee for the then-$43 Billion Los Angeles to San Francisco high-speed rail line. Yet, the 2009 Business Plan makes no mention of the demands for revenue guarantees. Based on my review of the 2009 Plan, and the

2008 and 2009 presentations to the CHSRA Board clarifying private capital investors' reluctance to invest without guarantees, I conclude that the CHSRA purposely obscured this analysis for legislators and members of the public. The failure to do so has resulted in the continuation of un-substantiated assertions and has led policy makers to conclude that the IOS can be commenced because it is more likely than not that the remainder of the funds will be forthcoming from the private sector and elsewhere.

21. Over time, the forecast construction costs have continued to rise. CHSRA's November 2011's plan for the San Francisco to Los Angeles high-speed rail project was to cost $99-$117 Billion to build. And, over time, the CHSRA has begun to provide a more realistic assessment of private sector risk capital – now the CHSRA asserts that private sector risk capital will NOT be available for the $31+ Billion to build the IOS, but rather it would "wait and see" what the business looked like at that stage. This therefore requires that the State and Federal governments (and taxpayers) take all the risks to construct the IOS in a location (the Central Valley) in which it is extremely uncertain that ridership will prove robust or profitable, notwithstanding CHSRA's optimistic statement that the Central Valley stretch of sparsely-populated track will: *" . . serv(e) as a launch pad for private participation."* [x] If Central Valley ridership is below forecast and unprofitable – very common in mass transit projects everywhere —then private capital will be even more reluctant to participate. Even so, CHSRA ambitiously forecasts that it will be able, in essence, to "sell" the Central Valley HSR business to an operator, generating*: " . . nearly $11 billion in potential private-sector capital … once an IOS is in operation."* [xi] In short, after government would have put up all the capital, taken all the risks to run the system for a decade, the private sector might take on the operations, if and only if, the IOS operations proved profitable enough to attract private capital.

22. I understand that an issue in this case is the inadequacy of funding for the Los Angeles to San Francisco high-speed rail project as approved by voters in November 2008, or any portion of the project beyond what is buildable with the approximately $6 Billion the Authority now has at its disposal. Part of what the public and policy makers require, in reaching an

informed decision about the likelihood of having sufficient funding to build the entire system, is a fair estimate of what the system might actually cost to construct. This figure climbed slowly over time, to reach an estimated $100 Billion in 2011, a number that caught many in the Legislature and the media by surprise given that only 3 years earlier the forecast was $33 Billion. The April 2012, Draft Business Plan lowered the publically-perceived capital costs by eliminating the more expensive 'bookends' from the high-speed rail formula and substituting investment upgrades into existing metropolitan rail transit systems. Moreover, the now-certified 2012 Plan repeats the forecast that CHSRA will be able to "sell off" its profitable Central Valley IOS operations once built: *"The IOS can be built within 10 years, generating positive cash flows from operations, carrying millions of riders, and serving as a launch pad for private participation in the construction and operation of the system."* [xii] If this were the case, one might think that an expression of interest from a private sector buyer could have been obtained by now: it is a common business practice to offer Letters of Interest (LOI) in acquiring a potential asset, subject to due diligence and so forth. None has been forthcoming. Alternatively, if the CHSRA were truly interested in running a "commercial" operation that might be attractive to a future buyer, it could do what my industry does all the time, which is to hire a professional Operating Management Team at the outset to help with business planning and pricing. Again, this has not happened; indeed, the CHSRA has been criticized for relying too much on paid consultants and not having sufficient expertise in-house.

23. Based on my review of the 2008 Business Plan, the 2009 Business Plan, the November 2011 Business Plan and the April 2012 Revised Draft Business Plan, and the 2008 and 2009 presentations to the CHSRA Board clarifying private capital investors reluctance to invest without guarantees I find that the Authority's assertions on private sector capital availability are unsubstantiated. More than four years after 2008's voters approved Prop1A, there is no commitment of private, at-risk financing in the CHSRA's project. None has been promised through a memorandum of commitment, a memorandum of understanding or any written statement. Indeed, just the reverse – written communications from private financial institutions

have all indicated the need for revenue or other guarantees by the government, which would be a violation of the "no operating subsidies" legal language. The result has been, and likely will continue to be, public funds matched by other public funds, without any substantial match from the private sector.

24. I understand that to raise the private capital needed to supplement State, federal and local investments in California's high-speed rail project, private investors would perform a due diligence effort. That due diligence would establish a risk profile concerning either the rate of interest any form of lending to the project would carry. I have performed such due diligence exercises in the course of my career at least one hundred times, and fully understand the parameters and practices of the private investment community when determining the level of risks inherent in projects. I have read the four most recent business plans or draft business plans from the California High-Speed Rail Authority, including its November 2008, its December 2009, its draft November 2011 and its revised draft April 2012 plans. AB3034 required the Authority to submit professional grade risk mitigation plans as per *SECTION 1. Of Section 185033 of the Public Utilities Code, "The revised business plan shall also include a discussion of all reasonably foreseeable risks the project may encounter, including, but not limited to, risks associated with the project's finances, patronage, construction, equipment, and technology, and other risks associated with the project's development. The plan shall describe the authority's strategies, processes, or other actions it intends to utilize to manage those risks."* I shall not comment on whether the State believes those CHSRA plans comply with its AB3034 requirements. However, in my professional experience, none of those CHSRA's business plans; not the November 2008, the December 2009, the draft November 2011 or the April 2012 draft business plan would be considered "investment grade" by private sector investors. Most of the Plans read more like marketing documents than due diligence reports. More than four years after the Legislature approved AB3034, and the voters approved Proposition 1A, no written commitment, or intention to commit funds from any private sector investor has been revealed to the public that would transfer any of the investment risks to a private sector investor.

25. In the course of my career, I have been involved in investing in many companies

that did not have sufficient capital, at the outset, to get to profitability. I am familiar with taking that risk and how to mitigate it. When one is investing in an especially risky new business with insufficient capital, as the people of California are here, and especially when one is investing in a business that has little or no comparable operations elsewhere in the country from which to draw lessons, then one looks for co-investors to share the risk; this has the advantage of making sure there are more pockets to pull from if the project runs short of money; and it also assures the "lead investor" that his risk assessment is validated by other professional investors. In my judgment, the people of California and the 2008 Legislature thought they were getting these "co-investors" when they insisted on matching funds from the private sector.

26. CHSRA has now discarded this risk mitigation strategy – insisting on private sector co-investors – by abandoning its assertion that private capital would be available to help construct the IOS. CHRSA is now insisting that the public (federal and state) bear all the execution risk for the first $31+ Billion IOS segment.

27. Second, in circumstances in which a new business is being launched with insufficient capital for the entire business, it is vital that the backers of the project set milestones that, when hit, are likely to attract or merit investing additional capital; it is then vital that one invest enough capital at the front end to ensure those milestones are met. For example, a company that has invented a new product might raise enough money to build a prototype, and when the prototype works, then its backers can reasonably expect to be able to raise more money to build a factory to produce the product in mass. The investors in such a company would prudently insist that there be enough capital in the first round to comfortably build a prototype (but not worry if there were not enough to build the factory). In my judgment, the people of California and the 2008 Legislature thought they were adopting exactly this kind of risk mitigation strategy when they insisted that all the construction capital be identified for a given segment before construction would begin. In the case of CHSRA, this means having enough capital to build the whole IOS – their prototype line.

28. Now CHSRA also wants to abandon the second risk mitigation strategy – having

enough capital to achieve a milestone – by start construction without having all the capital identified. This is not just some stale or archaic legal point; this is a real world investment strategy that I believe informed voters and legislators in 2008. Indeed, CHSRA is not even close to having enough capital for the IOS; excluding the money that CHSRA proposes to spend on the "bookend" sections, there will be perhaps $6 Billion to build the IOS, or less than 20% of the total amount needed. Based on my readings of the CHSRA plans, my conversations in Washington, my knowledge of private risk capital decision making, my experience in local government, my awareness of the challenge of expanding California's capacity to issue more HSR bonds on top of the current amount, I see no evidence from CHSRA that they have the capital they need to build the IOS.

I declare under penalty of perjury pursuant to the laws of the State of California that the foregoing is true and correct.

Executed on this 12 day of February, 2013, at Los Angeles, California.

MICHAEL G. BROWNRIGG

[i] Official Voter Information Guide for the California General Election, November 4, 2008, pg. 4 See: http://www.voterguide.sos.ca.gov/past/2008/general/argu-rebut/argu-rebutt1a.htm.
[ii] See, California High-Speed Train, Business Plan, California High-Speed Rail Authority, November 2008, pg. 21 [PDF 25]
[iii] See, California High-Speed Train, Business Plan, California High-Speed Rail Authority, November 2008, pg.24 [PDF 26]
[iv] Ibid
[v] Op Cit. 2008 Business Plan, page 26
[vi] To find the IMG Report of June 2008, go to: http://www.cahighspeedrail.ca.gov/images/chsr/20081118152745_Source%20document%209%20rfei.pdf; then type in the name of the report: Report Of Responses To The Request For Expressions Of Interest For Private Participation In The Development of A High-Speed Train System In California
[vii] Official Voter Information Guide for the California General Election, November 4, 2008, pg. 5 See: http://www.voterguide.sos.ca.gov/past/2008/general/argu-rebut/argu-rebutt1a.htm
[viii] California High-Speed Rail Authority Board Financing Workshop September 3, 2009 Infrastructure Management Group, Inc. Goldman Sachs. Found at http://www.imggroup.com/transportation/documents/CAHSRBoardFinWS.pdf
[ix] For both quotations, see California High-Speed Rail Authority; Report to the Legislature: December 2009, pg. 5
[x] See: California High-Speed Rail Program Draft 2012 Business Plan, November 1 2011, pg ES-3
[xi] See: California High-Speed Rail Program Draft 2012 Business Plan, November 1 2011,pg ES-8
[xii] See California High-Speed Rail Program; Revised 2012 Business Plan, April 2012, pg. ES9]

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COUNTY IS EXEMPT FROM FILING FEES PER GOV. CODE SECTION 6103

SUPERIOR COURT OF THE STATE OF CALIFORNIA

COUNTY OF SACRAMENTO

JOHN TOS, et al.,

Plaintiffs,

v.

CALIFORNIA HIGH SPEED RAIL AUTHORITY, et al.,

Defendants.

CASE NO. 34-2011-00113919

DECLARATION OF ROBERT W. POOLE, JR.

Trial Date: May 31, 2013

I, Robert W. Poole, Jr., declare as follows:

1. I declare under penalty of perjury, that the following is true and correct, and that if called as a witness to testify to the following, I would be competent to so testify.

2. I am presently director of transportation policy and Searle Freedom Trust Transportation Fellow at Reason Foundation. I co-founded the Reason Foundation in 1978 and served as its president and CEO from then until the end of 2000. In 2011, along with other Reason Foundation colleagues, I was instrumental in helping Florida's Governor return $2.4 billion of Federal ARRA funds for a poorly justified 84-mile high-speed rail project between Orlando and Tampa.

3. In 1989 I was appointed to the Caltrans Privatization Advisory Steering Committee, on which I served until 1991. In 1995 Gov. Wilson appointed me to California's Commission on Transportation Investment. From 2003 to 2005, I was a member of the Transportation Research Board's special committee on the long-term viability of the fuel tax for highway finance. In 2008 I was a gubernatorial appointee on Texas's Study Committee on Private Participation in Toll Projects. And in 2010 I was a member of the Washington State DOT Expert Review Panel on managed lanes for the I-405 corridor.

4. At the Federal level I have advised the Federal Transit Administration, on rail and other surface transit issues. I have also advised the Federal Highway Administration, the Office of the Secretary of Transportation, the White House Office of Policy Development, the National Economic Council, the Government Accountability Office (GAO), and various states' Departments of Transportation on issues related to surface transportation. These assignments have crossed over political lines, including the administrations of Ronald Reagan, George H.W. Bush, as well as the Clinton, and George W. Bush administrations. In 2011 I co-authored Reason Foundation's congressional testimony on high-speed rail for the Northeast Corridor.

5. I have written on the subject of both US and European and Asian high-speed rail systems since early in this century. Among those articles and publications are:

a) "Look Before You Leap: Questions Legislators Should Ask about High-Speed Rail," testimony before the National Conference of State Legislatures transportation committee, April 9, 2010

b) "High Speed Rail for Florida: Questions Floridians Should Ask," *Journal of the James Madison Institute*, Fall 2010

c) "The Tampa to Orlando High-Speed Rail Project: Florida Taxpayer Risk Assessment," Reason Foundation Policy Brief 95, January 2011 [project director]

d) "High-Speed Rail for the Northeast Corridor," Carlos Bonilla and Robert W. Poole, Jr., testimony before the House Transportation & Infrastructure Committee, May 26, 2011

6. Between 2009 through 2012 I also wrote twelve high-speed rail-related articles in the Reason Foundation e-newsletter, Surface Transportation Innovations. Among those was one

that seems most pertinent to California's situation, in which I pointed out that Governor Rick Scott of Florida made the right decision; *". . in turning down $2.4 billion in federal funding for the proposed Orlando-to-Tampa rail line. The line could have cost Floridians up to $4 billion more than advertised since there is good evidence the cost estimate was low-balled. And it would have required ongoing operating subsidies because it didn't meet even the basic criteria for a successful high-speed rail line."* [i]

7. I understand that an issue in this case is the adequacy or inadequacy of the high-speed rail system's operating revenues to cover the system's operating expenses, since Section 2704.08 of AB3034 says the Authority's plans shall include, identify, or certify to*: "(J) The planned passenger service by the authority in the corridor or usable segment thereof will not require a local, state, or federal operating subsidy."* Over the course of the last four years I have read and analyzed the findings and conclusions of publications on Europe's and Asia's high-speed rail experiences, as well as the noted independent analyses of the proposed California high-speed rail project. Each of these papers and books have concluded that some form of subsidy was required, or will be required, to sustain high-speed rail system's operations. They are:

a) The California High Speed Rail Proposal: A Due Diligence Report; Wendell Cox, Joseph Vranich, Adrian T. Moore (September 2008). This study cited a 1996 Federal Railroad Administration study on high-speed rail (*Overview Report: High Speed Ground Transportation for America* (Washington, D.C.: Federal Railroad Administration, United States Department of Transportation, August 1996) that said *"On average, capital and operating subsidy levels of more than 70 percent would be required."* [ii]

b) In High Speed Rail (HSR) in the United States, the Congressional Research Service said of operating costs; *"Typically, governments have paid the construction costs, and in many cases have subsidized the operating costs as well."* [iii] If a subsidy is needed it violates Section 2704.08 (c) (2) (J) and Section 2704.08 (d) (2) (D) of AB3034, which demands the train have no operating subsidy.

c) The 2012 book, The Economics and Politics of High-Speed Rail; Lessons From Experiences Abroad by Daniel Albalate and Germa Bel says about France's TGV *"The TGV Est*

Line (Paris-Strasbourg), ' . . which was initially expected to generate a financial rate of return of 4 percent but for which estimations were later lowered, has received subsidies from the central government and the regions involved . ." [iv]

d) The director of the TGV Est line declared in September 2011 that *"the TGV Est is an important success, but it isn't profitable."*[v]

e) The Economics and Politics of High-Speed Rail; Lessons From Experiences Abroad also found " Only two routes in the world are profitable. . . . Investment is executed with government subsidies, budget funds and debt." [vi]

f) The 2008 report, The Economic Effects of High-Speed Rail by Gines de Rus, quoted a 2007 paper by Crozet, that said; "Currently operating parts of the HSR lines should be distinguished from those which will be brought into service in coming years. These lines are indeed less and less profitable (Paris-Strasbourg, Rhin-Rhone HSL, HSL to Britany or Bordeaux). They require even larger public subsidies or maintain or even increase the French infrastructure manager's indebtedness´ (Crozet, 2007).[vii]

g) The 2009 paper, Economic Analysis of High Speed Rail in Europe said; "Constructing new lines with an optimistic demand bias translates into a waste of taxpayer money, because this mode of transport is being developed in Europe within the public sector, without private participation and with revenues far from covering total costs." [viii]

h) In 2009 The Director of High-Speed Rail for the Union Internationale des Chemins des Fer (UIR/IUR) Iñaki Barrón de Angoiti said that two routes – Paris to Lyon and Tokyo to Osaka – are profitable. [ix]

i) In an article 1994 on high-speed railways, authors Dunn and Perl showed that Germany's Inter-City Express runs operating deficits.[x]

j) The August 2012 report, To Repeat: The CHSRA's Train Will Need A Subsidy Forever, says, "Both CHSRA's revenues and O&M costs are 'outliers' when compared with actual HSR operations. Even disregarding that some, if not much, of European HSR systems' O&M costs don't land on their operators' accounts, the CHSRA's revenues and O&M costs are unreasonably low. In short, the CHSRA 'low balled' both revenues and O&M expenses –

revenues to seem to be competitive with airline fares, and O&M costs to seem to produce profits." [xi]

k) In April 2008, Amtrak Inspector General's report on Europe's high-speed and conventional rail said; *"European Passenger Train Operations operate at a financial loss and consequently require significant Public Subsidies."* [xii] The study of six European nations' operations showed their annual rail subsidies to average $42 billion. This ranged from Germany's high of nearly $23 billion annually to Denmark's low of $900 million. On average between 1996 and 2006, about $26 billion of the $42 billion annual subsidies were on the operators' balance sheets: nearly $16 billion was off-balance sheet accounting.

l) In March 2013, the Reason Foundation issued another report on California's high-speed rail project. That report said; "Based upon the more realistic ridership projections above, it appears likely that the California high-speed rail system will require operating subsidies to cover its day-to-day financial losses. These losses are projected at a range of from $124,000,000 to $373,000,000 annually at the operating cost midpoint projected by CHSRA for 2035." [xiii]

8. I understand that the potential for California's high-speed rail system's proposed profitability is an issue in this suit. HSR promoters proclaim the profitability of existing HSR systems. AB3034's sponsor, Assembly Member Cathleen Galgiani said; *"The high-speed rail system in France runs with a profit margin of 25 percent and the one in Japan at 50 percent."* [xiv] The Authority's April 2012 business plan, adopted by its Board, even claims that the portion of the system between Palmdale and south of Merced, known as the Initial Operating Segment (IOS) is also profitable; *"On its own, the IOS is a viable, profitable high-speed rail system."* [xv] Based on my expertise and background, as well as my understanding of the methods to financing high-speed rail operations in Europe and Japan, it is my opinion that such statements are not based on either fact, or on the perspectives of experts who are not tied to the promotion of high-speed rail systems for their own gain.

I declare under penalty of perjury pursuant to the laws of the State of California that the foregoing is true and correct.

Executed on this 5th day of March, 2013, at Plantation, Florida.

ROBERT W. POOLE, JR.

[i] See: "Florida Rejects High-Speed Rail Money – Again, So LaHood Will Just Spend Elsewhere": March 4, 2011; found at http://reason.com/blog/2011/03/04/florida-rejects-high-speed-rail

[ii] See page 16, Table 3 of A Due Diligence Report.

[iii] See: David Randall Peterman, John Frittelli and William J. Mallett, Congressional Research Service 7-5700 www.crs.gov R40973, December 8 2009, page 2

[iv] See The Economics and Politics of High-Speed Rail; Lessons From Experiences Abroad, Lexington Books, 2012 Pg. 65

[v] See "TGV Est: un success pas rentable" Republican Lorrain, September 22, 2011. www.republican-lorrain.fr/actualite/2011/09/22 tgv-est-un-succes-pas-rentable.

[vi] See The Economics and Politics of High-Speed Rail; Lessons From Experiences Abroad,page 172 – Table 10.1 Summary of Lessons Offered by International Experiences – Investment and Profitability,

[vii] See: The Economic Effects of High-Speed Rail; Discussion Paper 2008-16, revised May 2012, page 21 FN5. Found at http://www.trb.org/Finance1/Blurbs/160208.aspx

[viii] See: Economic Analysis of High Speed Rail in Europe by Ginés de Rus (Editor) Iñaki Barrón de Angoiti, Javier Campos, Philippe Gagnepain, Chris Nash, Andreu Ulied and Roger Vickerman (2009), pg. 16.

[ix] This statement was made in an interview with Victoria Burnett of the New York Times in an article called "Spain's High-Speed Rail Offers Guideposts For U.S." Statement by Iñaki Barrón de Angoiti NY Times, May 29, 2009 at www.nytimes.com/2009/05/30/business/energy-environment/30trains.html

[x] See: Dunn, James and Anthony Perl. "Policy Networks and Industrial Revitalization: High-Speed Rail Initiatives in France and Germany." *Journal of Public Policy 14*, No. 3, pgs. 311-43. Cited in The Economics and Politics of High-Speed Rail.

[xi] To Repeat: The CHSRA's Train Will Need A Subsidy Forever, page 7. Available at www.sites.google.com/site/hsrcaliffr and at www.cc-hsr.org, then go to Financial Reports

[xii] See: Amtrak, Office of the Inspector General: EVALUATION REPORT E-08-02 Public Funding Levels of European Passenger Railroads: April 22, 2008, pages ii and 4.Found at www.ncsl.org/documents/transportation/**amtrak**_goi_invest_0408.pdf

[xiii] Joseph Vranich and Wendell Cox: Adrian T. Moore, Ph.D. Project Director. California High Speed Rail: An Updated Due Diligence Report, The Reason Foundation, March 2013; page 5. Found at: http://reason.org/

[xiv] Then-Assembly Member (now Senator) Galgiani during June 2nd 2011 hearings on AB145. See: http://www.smdailyjournal.com/article_preview.php?type=bnews&id=160156&title=Assembly%20acts%20to%20end%20independent%20rail%20authority&eddate=

[xv] See California High-Speed Rail Program; Revised 2012 Business Plan, April 2012; Chapter 2 page 2-15

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COUNTY IS EXEMPT FROM FILING FEES PER GOV. CODE SECTION 6103

SUPERIOR COURT OF THE STATE OF CALIFORNIA

COUNTY OF SACRAMENTO

JOHN TOS, et al.,

Plaintiffs,

v.

CALIFORNIA HIGH SPEED RAIL AUTHORITY, et al.,

Defendants.

CASE NO. 34-2011-00113919

DECLARATION OF JAMES MILLS

Trial Date: May 31, 2013

I, James Mills, declare as follows:

1. I declare under penalty of perjury, that the following is true and correct, and that if called as a witness to testify to the following, I would be competent to so testify.

2. I represented the San Diego area in the California State Assembly from 1960 to 1966; then was elected to the State Senate. During my sixteen years in the Senate, I served as Chairman of the Transportation Committee, the Rules Committee and the Democratic Caucus. I also served as President *pro tempore* of the California State Senate from 1971 through 1979. During that time I sponsored the first legislation that appropriated State funds to subsidize the augmentation of Amtrak service in California.

3. In 1977 President Jimmy Carter appointed me to the Amtrak Board of Directors and I served as Chairman of the Amtrak Board from 1980 to 1981. While President *pro tempore* of California's Senate, I received the Golden Spike award from the National Association of Railroad Passengers for my contributions to the improvement of California rail passenger service.

4. I have served as Chairman of the Los Angeles-San Diego Rail Corridor Agency (LOSSAN), which oversees the implementation of additional intercity rail passenger service and the necessary track improvements. In 2009 I was honored by the Transportation Research Board of the National Research Council and American Public Transit Association as the person very responsible for the rebirth of light rail transit in the United States. In 1984 Governor George Deukmejian appointed me to San Diego's Metropolitan Transit Development Board, where I served as Chairman of the Board from 1985 to 1994.

5. I served on the Board of Directors of the State's High-Speed Rail Authority. I have kept abreast of California's development of the high-speed rail project both by reading the Authority's reports and business plans as well as independently prepared analyses of those documents. During my time, the Board made the decision to build the line directly between Bakersfield and Los Angeles on the grounds that it was cheaper than going through Palmdale. Special interests later have prevailed upon the current agency to reverse that decision.

6. Given my knowledge of the project as of the time of my departure from the Board of Directors of the Authority, I attest that at no time was today's concept of a cut-off 'Phase 1 Blended System' approved by the Board. The objective was, and remained so until early 2012, to build a high-speed rail facility from Los Angeles to San Francisco. The Board I served on did not ever consider building a high-speed rail system that would fall short of both destinations by so much of the distance between Union Station and the proposed TransBay Terminal in San Francisco. The complete San Francisco to Los Angeles rail corridor is what was presented to voters in 2008 under Proposition 1A, as the official ballot description said that it*;" Provides for a bond issue of $9.95 billion to establish high-speed train service linking Southern California counties, the Sacramento/San Joaquin Valley, and the San Francisco Bay Area."* [i] The project's concept through the time of the Proposition 1A vote remained as it had been during my time on

the Board. Since early 2012, the Authority has practiced deception by implying that the so-called 'Phase 1 Blended System' is what voters approved, The Authority also now fails to mention the original concept to have riders on a high-speed train the entire length of proposed trackage, and not dependent on conventional rail transit systems to complete their journey in the state's two metropolitan areas.

7. Based on my experience on the State's high-speed rail board, and my experience in Amtrak and transit issues concerning routing, I can attest that during my service, the route officially selected in 2012 by the present Board southward from Bakersfield through Palmdale to Los Angeles is neither what the Board of my time considered as an cost effective or efficient route, nor is that route the best to capture ridership in the Los Angeles Basin. Today's routing south of Bakersfield is not cost efficient because it adds at least fifty extra miles to the alternative routes being reviewed in 2002, and therefore considerable construction costs. That extra mileage will capture virtually no more riders and the addition of fifty miles on a route of either 490 miles or 440 miles is a difference of about ten percent. This will permanently add at least ten percent to the operating costs of the system. Since it will add no additional revenues, such a dramatic cost increase will increase the probability that an operating subsidy will be required.

8. I believe that the CHSRA's present-day route's rapid rise and fall of gradients also raises unanswered questions of passenger safety, as well as related issues of transit times between destinations south and north of Palmdale. A train along that route operating at 200mph, or even near 200mph, is a train being put in unnecessary danger. Yet Prop1A was called *"The Safe, Reliable High-Speed Passenger Train Bond Act."*. . [ii] The Authority's business plans' have claimed that the project is safe, while the Official Voter Information Guide for Prop1A described a high-speed rail project that; *"Establishes a clean, efficient 220 MPH transportation system."* [iii] In 2008, the Legislature included the statutory requirement of AB3034 2704 Article 2. (K) (f) that says' *"In selecting corridors or usable segments thereof for construction, the authority shall give priority to those corridors or usable segments . . . (2) the need to test and certify trains operating at speeds of 220 miles per hour,"* I maintain the Authority knows of the potential danger that to travel at those speeds on such steep gradients is to ignore a known hazard and to put passengers

lives in jeopardy.

9. Given my knowledge of and experience in the operations of U.S. passenger rail lines, I also believe that claims in the 2008's Official Voter Information Guide for Proposition 1A that a passenger could *"Travel from Los Angeles to San Francisco in about 21⁄2 hours . . ."*[iv] are overly optimistic in part because of the steep gradients northwards and southwards of Palmdale on the present-day plan. This claim of time between destinations is also enshrined in AB3034 Section 2704.09 (b) (1) that says; *"Maximum nonstop service travel times for each corridor that shall not exceed the following: (1) San Francisco-Los Angeles Union Station: two hours, 40 minutes."* Even this slight increase in the elapsed times between the two metropolitan centers is exaggerated; because to meet such a requirement, a high-speed train would have to travel on the portion of the routing north and south of Palmdale at speeds that would be detrimental to the safety or passengers: or conversely the high-speed train would have to slow to speeds low enough to assure passenger safety, but would then violate Prop1A Ballot description's for about two-and one half hour travel time or the assure the legitimacy of *:". . two hours, 40 minutes*" in AB3034 Section 2704.09 (b) (1).

10. Given my background in long distance passenger rail, my knowledge of the financing of passenger railroads in the United States, and my experience on the State's Board overseeing the development of California's high-speed rail project, I believe that statements by the Authority and the Board concerning the interest of private, at-risk capital to fund either the project's construction and/or operate that system once built, are misleading and false. In the 2008 Official Voter Information Guide, it says the project would *"establish a clean, efficient high-speed train service linking Southern California, the Sacramento/San Joaquin Valley, and the San Francisco Bay Area, with at least 90 percent of bond funds spent for specific projects, with private and public matching funds . ."* Section 2704.07 of AB3034 says; "*The authority shall pursue and obtain other private and public funds, including, but not limited to, federal funds, funds from revenue bonds, and local funds, to augment the proceeds of this chapter."* In 2008, the CHSRA's Business Plan claimed that within the private sector; *"Interest was strong, especially among construction firms, system and equipment providers, financial institutions and*

operators."[v] In 2009, the Authority's Plan said; *"California's high-speed train project is on track and being pushed along by tremendous momentum from our partners in government, the private sector, . . .*[vi]

11. As of the date of this declaration, more than four years after voters approved Proposition 1A by 52.7%, the promise of private sector, at risk capital, is still an empty one. There has been no written commitment by private sector companies or private persons to take the risks inherent in California's high-speed rail project.

12. From my decades of experience in passenger rail and transit, I know that privately owned passenger rail carriers exited the passenger business because, while there was profit to be made in freight rail, they could foresee no future profit in passenger rail. I was involved in the founding of Amtrak, technically a private firm; although the U.S. Government is still the sole owner of its stock. In the early 1980s that was not the objective: rather, like the CHSRA, we believed that by showing a passenger rail system could be operated efficiently enough to not require operating subsidies and would therefore attract private operators and investors. History has proven otherwise, and history will prove that to be the case if California's high-speed rail project is built. While they may vary widely, Amtrak and its passenger rail affiliates require annual operating subsidies, as do urban rail transit systems. Private sector operators or their investors will not risk their capital to operate a high-speed train without some form of subsidy to guarantee the profits they must make to attract and retain shareholders' earnings and interests.

13. I believe that the California High-Speed Rail Authority has purposely withheld the results of a crucial 2008 survey, and presentations to their Board in both 2008 and 2009 on that survey's results concerning private investors' demand for a subsidy to participate in the planned high-speed rail project. That survey and presentations, by the Infrastructure Management Group (IMG), and the later presentations by IMG and Goldman Sachs, told the Board that no private capital would be forthcoming for their project without a revenue guarantee.[vii]

14. In April 2012, as well as not mentioning the voter-approved high-speed ride between LA and San Francisco without using local rail transit, the CHSRA's now-adopted business plan still failed to mention the lack of interest from private investors or their 2008

demand for guaranteed profits when it said; *"Funding for the system will come from a mix of federal, state, and private sources . . ."* [viii] Given my expertise and experience in funding for passenger rail systems, I find that the 'revenue guarantees' demanded by private corporations as the *quid pro quo* of their participation would be illegal subsidies because they would provide their private sector investor recipients with a guaranteed return on their investment, without regard to the financial performance of the high-speed train's operations.

15. As misleading as the above claims are, the statements in the now-adopted Plan that declare that not only will private funding be forthcoming, but all other possible matching sources are likely to be available to build the Initial Operating Segment between Merced and Palmdale; are even more misleading. [ix] If anything, the House of Representatives of the Federal government has signaled its lack of support for this project. No bills emerged in the past Congress to continue funding, no new federal funds have been committed for over two years; the project won the House of Representatives 'Boondoggle of the Year' award in 2011, and Transportation Committee hearings on the project have repeatedly shown the lack of support among elected federal officials. What the Authority seems to be portraying is the concept that after spending $31Billion ($9Billion of the State's bonds and more than $22Billion of Federal funds) in the Initial Operating Segment (IOS) and IOS operations start, the need for 100% public capital will start to be reduced and private capital will come forward without a 'revenue guarantee.' What the Authority doesn't say is what happens if the IOS is not profitable and $31Billion of public capital – even if that is found – has been wasted on a train with no prospect of an operating profit. This represents a real danger to the State's fiscal situation and there will be no remedy if the IOS is built and operating expenses are shown to be greater than operating revenues. I am certain the Authority knows the prospects are dim for more federal funding, that prospects for unguaranteed profits for private sector investments do not exist, and that their strategy is to spend whatever public monies they can find, then argue for more because prior expenditures would have been wasted, if no additional money is forthcoming. In the popular vernacular, this strategy would be called "get them hooked, then what can they do other than stay hooked." From my prior experience both with the Board governing the project, and my knowledge of the project's status

as of early 2013, I believe the Authority is deceiving the public about the prospects of both private and public capital availability.

I declare under penalty of perjury pursuant to the laws of the State of California that the foregoing is true and correct.

Executed on this 18 day of February, 2013, at Coronado, California.

James Mills

JAMES MILLS

[i] See: Official Voter Information Guide, November 4, 2008, page 4
[ii] Ibid page 2
[iii] Ibid pg. 4
[iv] See: Official Voter Information Guide, November 4, 2008, page 6
[v] California High-Speed Train Business Plan, November 2008, pg. 22 [PDF 26]
[vi] Report to the Legislature, California High-Speed Rail Authority, December 2009, pg. 3 [PDF 5]
[vii] To find the IMG Report and presentation of June 2008, go to http://www.cahighspeedrail.ca.gov/assets/0/152/198/f2c58cca-b853-4390-aa84-96766ef7507b.pdf. To find the 2009 presentation on the same subject, see: California High-Speed Rail Authority Board Financing Workshop September 3, 2009 Infrastructure Management Group, Inc. Goldman Sachs. Found at http://www.imggroup.com/transportation/documents/CAHSRBoardFinWS.pdf
[viii] California High-Speed Rail Program, Revised 2012 Business Plan, April 2012, pg. ES-12 [PDF 20]
[ix] See: California High-Speed Rail Program, Revised 2012 Business Plan, April 2012, pg. ES -13 [PDF 22]. The specific phase is; *"Funding for the initial construction of the IOS will be a combination of federal funding and Proposition 1A funding. As the program proceeds, the state will continue to see significant federal support and private-sector capital investment once operations have commenced."*

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COUNTY IS EXEMPT FROM FILING FEES PER GOV. CODE SECTION 6103

SUPERIOR COURT OF THE STATE OF CALIFORNIA

COUNTY OF SACRAMENTO

JOHN TOS, et al.,

Plaintiffs,

v.

CALIFORNIA HIGH SPEED RAIL AUTHORITY, et al.,

Defendants.

CASE NO. 34-2011-00113919

DECLARATION OF KATHY A. HAMILTON

Trial Date: May 31, 2013

I, Kathy A. Hamilton, declare as follows:

1. I declare under penalty of perjury, that the following is true and correct, and that if called as a witness to testify to the following, I would be competent to so testify.

2. I am a resident of the City of Menlo Park, San Mateo County. I write on transportation issues for the SF Examiner, and since January 2010, have written over 150 articles on the California high-speed rail project.[i] I am also a board member of Community Coalition on High-Speed Rail, a group of concerned citizens who monitor the process of the high-speed rail project to inform the citizens of California. I have personal knowledge of the facts set forth in this declaration and am competent to testify as to them if called as a witness.

3. I have a Bachelors degree in business from Dallas Baptist University (1986). From 1977 to 1980, I was a real estate broker in Desoto, Texas. Between 1980 and 1998, I worked in the corporate relocation industry in various positions; such as Relocation Manager for a petroleum company, Vice President of Corporate Development and Training, and Director of Destination Services. In 1999 I was employed by Ernst & Young in Palo Alto, California as a Senior Manager in Global Services and managed an international program for a major technology firm with a worldwide implementation team. Currently I am writing about transportation issues as well as being self-employed as an independent furniture manufacturer's representative.

4. I have studied the California high-speed rail project since early 2009. In those four years I have attended more than 100 legislative hearings, California High-Speed Rail Authority (CHSRA), Caltrain meetings, and various private and public meetings throughout the state that related to the California high-speed rail project.

5. I understand that an issue in this case is the ability of the high-speed train to meet both the promise to voters in the Voter Information Guide of 2008 that says: *"Travel from Los Angeles to San Francisco in about 2½ hours . . "* and Section 2704.09 (b)(1) of AB3034 that says the train will go from "*San Francisco-Los Angeles Union Station: two hours, 40 minutes."* [ii] This declaration focuses on my attempts to obtain clear and accurate information from the CHSRA concerning the mileage, speeds and time it will take for the high-speed trains, as described in the Proposition 1A Voter Information Guide and AB3034, to make the journey between the downtowns of San Francisco and Los Angeles, as well as by city-to-city pairs indicated in AB3034. Specifically, I attempt to answer the question, "Does the April 2012 Revised Business Plan, which incorporates the concept of a Phase 1 Blended system using existing rail infrastructure, meet the travel times required in Prop 1A and the enabling legislation, AB 3034?"

6. While AB 3034 says that the train will be designed to achieve certain speed, or operate at certain speeds, AB3034 has no such ambiguity on required travel times. Section 2704.09 says: "*The high-speed train system to be constructed pursuant to this chapter shall be designed to achieve the following characteristics: (a) Electric trains that are capable of sustained*

maximum revenue operating speeds of no less than 200 miles per hour. (b) Maximum nonstop service travel times for each corridor that shall not exceed the following:

> *San Francisco to Los Angeles Union Station: two hours, 40 minutes*
>
> *Oakland to Los Angeles Union Station: two hours, 40 minutes*
>
> *San Francisco to San Jose: 30 minutes*
>
> *San Jose to Los Angeles Union Station: two hours, 10 minutes*
>
> *San Diego to Los Angeles: one hour, 20 minutes*
>
> *Inland Empire- Los Angeles: 30 minutes*
>
> *Sacramento to Los Angeles: two hours, 20 minutes"*

7. The time of the train within a corridor or the sum of those corridors has two primary components: how fast the train will go, or can go in each corridor, and how many miles will it travel per corridor or between the downtown Union Station of Los Angeles and San Francisco's Transbay Terminal. There is some ambiguity over speed since the Proposition says it will have electric trains that are capable of sustained maximum revenue operating speeds of no less than 200 miles per hour. But there is no interpretation needed for the city-set time requirements in AB3034.

8. Concerning the key element of route miles traveled there is a major discrepancy between the 2012 Revised Business Plan Fact Sheet and the Authority's trip planner on its website. The Fact Sheet for the Phase 1 Blended System says: *"In 2029, dedicated high-speed infrastructure will extend from the San Fernando Valley to Los Angeles Union Station, linking the upgraded Metrolink corridor to Anaheim and connecting to commuter and urban rail systems throughout the Los Angeles region. The entire length of Phase 1 from San Francisco to LA/Anaheim is 520 miles."* [iii] However, the CHSRA's Trip Planner says that from San Francisco to Los Angeles is 432 miles and the trip will take 2 hours and 38 minutes.[iv] Or the distance from San Francisco to Los Angeles is 465 miles and that trip will take 2 hours and 57 minutes.[v] The differences of seventeen and eleven percent less, respectively, than the 520 miles are not insignificant and not only seem contradictory, but also confused. I believe this confusion, after

hundreds of millions of dollars already spent planning this project, is an indication of the lack of detail the Authority has demonstrated to date and seriously calls into question their ability to manage such a complex project involving billions of dollars.

9. My interest in the 'elapsed times of the train journey' issue began when I attended an Authority Operations Meeting in August 2009 with Board members present. At that time then-Executive Director, Mehdi Morshed, and then-Parson's Brinckerhoff's (PB) operational leader, Tony Daniels, were managing the project. In their August 2009 presentation, Mr. Daniels showed a slide that outlined how it was possible to achieve the elapsed times of the train journey required in Prop 1A.[vi] (Also see Exhibit A) The slide showed how the high-speed train would achieve the times shown city-to-city pairs and between Los Angeles and San Francisco's city centers. This was a Phase 1 Full Build system; that is, a four-track system the full distance between the state's two major metropolises.[vii] According to Mr. Daniels, a Parsons Brinckerhoff team created the model underlying the times between cities. I have sought expert opinion on 'elapsed times of the train journey' issue since a discussion began that the Authority might offer a different project, which became the Phase 1 Blended System of April 2012. I believe the Authority has chosen to violate the promise to voters concerning the Full Build Phases 1 since finances became a major issue and the public was disturbed over a $98 to $117 billion dollar construction price tag.

10. I asked Richard Tolmach, a rail-scheduling planner, President of California Rail Foundation, and advocate of transit if he thought the Phase 1 Blended System could achieve Prop1A's promises and AB3034's requirements. Mr. Tolmach was very doubtful that the proposed Phase 1 Blended System could meet those requirements due to technical problems such as FRA having no specifications for such high-speed rail track, resulting in overall slower-than-200mph speeds, the train having to travel more slowly in urban areas on non-high-speed rail specified track, rocks in rail beds becoming airborne, and unrealistic acceleration rates, and noise pollution at high speeds.[viii]

11. In an early April 2012 CHSRA press conference, CHSSRA Chairman, Dan Richard, introduced the 2012 Revised Business Plan, featuring the Phase 1 Blended System.

Chairman Richard took questions after the formal announcement, one of which was about the elapsed times between destinations. The following, from the transcript of that conference, is telling.

> *"The reason that we are confident that the blended approach system, which will cost $30 billion less, could work, is because our engineers have told us that it will achieve the performance standards that the voters insisted on in the ballot measure. So that means trains that can go from Los Angeles Union Station to the San Francisco Transbay Terminal in 2 hours and 40 minutes."* [ix]

12. After having received Mr. Tolmach's email mentioned earlier, I was struck by the determination and confidence by which Chairman Richard unreservedly gave his confidence to Parsons Brinckerhoff's engineers. While it is unclear from Chairman Richard's statements if he or CHSRA's senior management reviewed or approved the engineers' claims on this statutorily driven promise to voters, it is clear he accepted their work. As was later discovered, the engineer had no underlying research or information to substantiate that claim.

13. A few days later, at the April 12th CHSRA Board meeting, the Board certified and approved going forward with the Revised 2012 Business plan. During this meeting, there was also a slide presentation in which the Authority asserted they had ascertained the Phase 1 Blended System's trains would achieve the required 2 hours and 40 minute elapsed time between Los Angeles Union Station and the San Francisco TransBay Terminal. [x] Californians Advocating Responsible Rail Design, (CARRD) examined the back up documentation for that business plan in the Authority's documents for the April 12th board meeting and showed 'travel runs' for a non-stop express train at or above three hours.[xi] Reading these documents, after both Mr. Tolmach and Chairman Richard's competing claims, I saw inconsistencies and began to be suspicious of the Authority's intentions.

14. These inconsistencies caused me to begin a public records request. On April 17, 2012 the High-Speed Rail Authority received my first public records request (PRR) to document the train could achieve the voter-approved Phase 1 system between the downtowns of LA to SF in 2 hours and forty minutes, as well as the segment between San Jose and the San Francisco Transbay Terminal. There was an error in my first request, and Mr. Thomas Fellenz, Counsel to the Authority, and I quickly clarified that error. [xii] Then Mr. Fellenz responded on May 1st 2012,

saying my request could not be fulfilled in its current form: *"According to the Authority's Records Retention Schedule, email communications are retained for a period of 90 days. Please narrow your scope of your request to adjust to this time parameter."* [xiii] I responded that same day and challenged the Authority's seemingly abbreviated email retention policy. The Authority at that time knew it was under investigation by both the Government Accountability Office (GAO) and the Congressional Committee on Oversight and Government Reform that demanded they immediately cease destruction of records. I advised Mr. Fellenz that they must retain everything from January 2009 forward, and they were required to notify their contractors, employees and former employees to do the same. I continued asking for information and pointed to the 10-day requirement for satisfaction of Public Records Act.

15. On May 31st 2012 CHSRA staff member, Kyle Wunderli responded to my inquiry on what information Chair Richard used to substantiate his statement: (Exhibit B)

> "Ms. Hamilton – *"The answer is that no document exists. These were verbal assertions based on skill, experience, and optimism and so Dan Richard went with the expertise of the engineers offering these assertions. I have been informed that a memo is in the process of being drafted on this very issue and I will provide that to you as soon as it's complete. Their best guess is that by end of next week it may be ready. I apologize for the inconvenience in waiting so long only to find no documents existed."*

16. In response to another part of my request I received the communications between Mr. Wunderli and Parsons Brinckerhoff (PB). These show Mr. Wunderli attempted to fill my requests. On January 11th 2013 I received those emails. (Exhibit C – emails) There was one important email dated May 23rd 2011 between Mr. Wunderli and Theirry Prate, a Principal Consultant of Parsons Brinckerhoff. Mr. Prate offered apologizes for the delay and said: (Exhibit C- emails)

> *"As you know this is a very sensitive matter, Jeff Morales and Hans van Winkle* [Vice President, Parsons Brinckerhoff] *have required from the team to produce a technical memo on how to achieve the 1A journey time under the Phase 1 Blended system. The memo is currently is being reviewed by Hans. You will receive the information from Hans directly today or tomorrow. "*

17. This confirmed the May 31, 2012 promise in Mr. Wunderli's statement; *". . a*

memo is in the process of being drafted on this very issue" suggesting that the matter was to be resolved quickly. However, no memo addressing the source of the elapsed time assertions by the Authority was received.

18. The significance of this exchange is that it appears, unless the Authority and PB were less than forthcoming, that there was no research after the August 2009 study presented to the board on the full Phase 1 that is the four-track system. There is also nothing to confirm the Phase 1 Blended System, using existing infrastructure in the bookends, (LA Union Station and Transbay Terminal in SF) can meet the legal requirements. Consequently, the April 2012 plan, certified by the Board, has no foundation in facts. I agree with Californians Advocating Responsible Rail Design, (CARRD) that Parsons Brinkerhoff's alleged 'back-up documents' for the business plan (a 3-hour express train, and the slide in the April 2012 Revised Business Plan (showing 2 hours and 40 minutes) were in conflict, unsubstantiated and speculative. [xiv] (Also see Exhibit D)

19. After our original exchange, Records Coordinator, Kyle Wunderli, said that he had nothing more in his system on the elapsed time issue; and unless a document had a Ca.gov address, he couldn't search it. I continued to ask him to broaden his search for correspondence among all agencies and contractors to see who else who might have been a consultant working for the Authority on this subject. June 3rd 2012 and again on June 14th 2012, I sent Mr. Wunderli an emails saying if he were unable to find documentation related to the travel time issue for the Phase 1 Blended System on the Authority's servers, the search should be broadened and I should receive a comprehensive answer. [xv] In PDF from May 24 to June 14, 2012, I continued to follow up, asking the Authority provide the source and documentation of the elapsed time statements by CHSRA during June and early July of 2012. Nothing was sent to me over those months on this issue.

20. I restarted my public records request on December 12, 2012 after I was told by an acquaintance in the Central Valley that indeed Parsons Brinckerhoff admitted to him that they indeed had the backup information on the train time. They told this person they couldn't release it because it belonged to the Authority.

21. On January 4, 2013, Chief Counsel Fellenz said; *" The data that shows what train time will be considering the blended system presented in the April 2012 Business Plan is in draft form, and is not being released under Government Code section 6254 (a)"* [xvi] (Also see Exhibit E)

22. Having followed the protocol that Mr. Fellenz requested, ie, asking for documents thorough the High-Speed Rail Records Coordinator obviously; unless they were again less than forthright telling me no document existed, this wasn't the backup information I requested in the business plan documents, but perhaps something new. Therefore, seven months later Mr. Fellenz said the Authority was preparing something that related to my public records request for the backup information about the train times. The question that comes to mind is: how could the Authority in late 2012 be preparing anything other than an after-the-fact justification of their prior undocumented claims? I wrote to Fellenz on January 10, 2012: (Exhibit F)

> *"If I understand this, you are saying that the Final Business Plan which the High-Speed Rail Authority voted to approve in April 2012 and which the Legislature referred to when appropriating $4.7 billion in bond funds and $3.29 billion in federal funds in the Budget Act of 2012 is based on draft travel times which are not ready to be released for public view. Is that correct?"*

23. Additionally, after consulting experts on California law; on January 16 2012 I challenged the Authority's basis for not releasing the draft materials Counsel Fellenz said were privileged.[xvii] (Also see Exhibit G)

24. Finally, on February 13th 2013, CHSRA released a memo on elapsed travel times between the two major metropolitan centers under the Phase 1 Blended System.[xviii] The memo came eleven months after Chairman Richard said "*The express trains will go from LA Union station to the TransBay Terminal, also known as the TransBay Transit Center in San Francisco in two hours and forty minutes."* [xix] It was also nine months after CHSRA Records Coordinator, Kyle Wunderli, replied to a Public Records request for documentation on the Chairman's statement, which said: *"The answer is that no document exists. These were verbal assertions based on skill, experience, and optimism and so Dan Richard went with the expertise of the engineers offering these assertions."* [xx] Despite Mr. Wunderli's assertion; "*that. . I will provide*

that to you as soon as it's complete . . by end of next week . . ., was not sent. Chief Counsel to the Authority refused to release a draft, and "*the end of next week*" became another forty weeks.

25. I believe the Authority had no evidence of their Phase 1 Blended System's ability to meet both the promise to voters that says *"Travel from Los Angeles to San Francisco in about 2½ hours . . "* and AB3034 that says the train will go from "*San Francisco-Los Angeles Union Station: two hours, 40 minutes."* I think they deliberately 'stalled' the answering those demands for such evidence until they could make enough assumptions to make their calculations meet the promises and legal demands. [xxi]

26. The memo itself lacks so much information that I find it impossible to ascertain the factual believability of what they claim is a new public records requests are underway. (Exhibit H and Exhibit I) Early views by experts indicate they are doubtful that what the Authority proposes is actually achievable. [xxii]

Other testimony or confirmations on doubts about train time issues:

27. On April 18th 2012, Elizabeth Alexis, co-founder of Californians Advocating Responsible Rail Design (CARRD) commented at the State Assembly Budget Committee that, according to the Rail Authority's records, the train will not go between the metropolitan centers in the promised 2 hours and forty minutes. Rather, its express train will make the fastest journey in three hours while other trains in the Blended System will take much longer. [xxiii]

28. Similarly, a recent study from the UK has said that the increased travel time, specifically if over three hours, would result in less ridership, which translates into less revenue and the greater likelihood of either bankruptcy or the need for a subsidy, which is forbidden by law.[xxiv]

29. On June 8, 2012, before the SB1029 vote, the Assembly's Legislative Counsel published a report stating that while the Authority says they can make the 30-minute time along the San Francisco rail corridor, *"we are not able to independently verify the authority's assertion that the required travel times can be met under the blended system."* [xxv] The quoted the run times that Caltrain had published were in fact more than 30 minutes and did not consider San Francisco's Transbay Terminal start or finish point.

30. And finally, Dan Richard, High-Speed Rail Chairman is in dispute with what Van Ark says. He says this on April 18, 2012 in Assembly Budget Sub-committee chaired by Assemblyman Gordon, *"There is nothing about using the existing tracks on the Peninsula in Northern California that prevents us from making the two hours and forty minutes. That is our plan. That is the law. That is what we are planning for and that is how we will operate. The express trains will go from LA Union station to the TransBay Terminal -- also known as the TransBay Transit Center -- in San Francisco in two hours and forty minutes."* [xxvi] Yet no information was available at this time verifying these claims.

Summary:

31. After my more than four years of observing the behavior of the Authority, including:

- Reading the Wunderli-Prate exchange
- The lack of documentation in Parsons Brinckerhoff's records, and conflicting records in the April 2012 business plan.
- Listening to other legislative testimony in contrast to the travel time memo produced by the Authority February 2013.
- The Authority's Counsel 'stonewalled' my request by stating documents were in draft form
- The release of the memo dated February 2013 and early expert opinions that are distrustful of what is in the memo.

32. For all these reasons, I believe the Authority has been less than forthcoming on this issue; and based on all the information I found, I have strong reasons to believe what they propose for the travel times in Phase 1 Blended System is unachievable, and will not meet the promises to voters or the provisions of AB3034 on times between San Francisco and Los Angeles or the corridors between.

I declare under penalty of perjury pursuant to the laws of the State of California that the foregoing is true and correct.

Executed on this 1 day of March, 2013, at Menlo Park, California.

KATHY A. HAMILTON

[i] These can be found at http://www.examiner.com/transportation-policy-in-san-francisco/kathy-hamilton

[ii] See: Official Voter Information Guide for the California General Election, November 4, 2008, pg. 6. See: http://www.voterguide.sos.ca.gov/past/2008/general/argu-rebut/argu-rebutt1a.htm.

[iii] Found at http://www.cahighspeedrail.ca.gov/assets/0/152/302/e4542793-c05d-4737-a214-e1d1074b37eb.pdf

[iv] See: http://www.cahighspeedrail.ca.gov/trip_planner.aspx

[v] Ibid

[vi] See the transcript - Page 2 is the slide that shows trip times. http://www.calhsr.com/wp-content/uploads/2010/05/CHSRA-Board-Operations-Workshop-Transcript-Aug-6-2009.pdf

[vii] Page 2 of the transcript shows trip times. Found at http://www.calhsr.com/wp-content/uploads/2010/05/CHSRA-Board-Operations-Workshop-Transcript-Aug-6-2009.pdf. In that presentation, Mr. Daniels states; *"The thing to note is that these train performance times are real times. They're not taken by some calculations."* Then Board Member, Rod Diridon, questioned the accuracy of the times. This dialogue goes on from page 2 to 5 but in the end Mr. Daniels remains firm, *"The alignment is the best alignment we have to date. We will continue to evaluate those, you're correct, as we move forward. But we've used this, and you'll see in the next couple slides, as the basis upon which we've drawn a very detailed timetable and operational plan from which we got the ridership." Okay?"* This 8-minute You-tube has a few of the highlights of that meeting. http://www.youtube.com/watch?v=KjNfh1L7gB8

[viii] In an email message dated 1/22/2012 10:41:12 P.M. Pacific Standard Time, rftolmach@yahoo.com wrote the following, which is quoted completely; *"Kathy---It's a complex question but a few of the answers are fairly sure. The blended Peninsula adds about 20 minutes, Sylmar-LA blended adds at least another 15 (they previously assumed 130 mph 7 miles out of LA Union Station), so right off the bat they are at least 3 hours 15 minutes. 220 mph operation on the remainder of the line has four different kinds of problems: FRA approval, sufficient power to maintain speeds on upward grades, safety on downward grades, and city opposition, so the net answer depends on the resolution of these. Currently, there is no railroad worldwide that operates at 220 mph and the FRA does not even define a class of track capable of 220 mph. This is partly due to aerodynamic issues such as ballast turning into airborne missiles when occasional high winds combine with trains operating over 200 mph. Apparently the critical speed is about 250 mph. When ballast flies it rapidly degrades the track and endangers passing trains. If the FRA caps speed at near 200 mph for safety reasons, as is likely, average speed on the 400 mile San Jose-Sylmar segment would likely be no higher than 150 mph instead of the 180 mph they have estimated to date. This would add at least 25 more minutes to travel time, netting 3 hours 40 minutes. Uphill and downhill speeds are still very unsure. As Tony Daniels said, the Tehachapi grade is "no mean feat" for a high speed train. The train performance calculator used on PB's August 2009 projection of speeds (centerfold of Oct. 2009 CRN) assumed a very extreme acceleration not typical of current fleets and also downhill speeds, which may not be achievable. Engineers who have examined the PB charts told me they are at least 10 minutes too tight. The biggest speed problem, as Clem Tillier has noted in his blog, is the racket trains make going more than 150 mph, exacerbated when they are on elevated structures, as is still planned in Morgan Hill, Gilroy, Chowchilla, Madera, Fresno, Corcoran, Wasco, Shafter, Bakersfield, Tehachapi, Rosamond, Lancaster and Palmdale. If even a few of these cities get active politically, they could get the PUC to severely limit speeds within city limits. This could add at least another half-hour of delay."* See Tillier's February 17th 2013 entry called "The Blend HSR Style" found at: http://caltrain-hsr.blogspot.com/

[ix] The transcript of the April press conference announcing the Phase 1 Blended System

contains the following; *"The question was asked that the California Voters had approved a proposition in 2008 that had specific time requirements to go from Los Angeles to San Francisco; we knew that we could meet that under the $98 billion dollar plan, how does this new plan relate to that . . . . The reason that we are confident that the blended approach system, which will cost $30 billion less, could work, is because our engineers have told us that it will achieve the performance standards that the voters insisted on in the ballot measure. So that means Trains that can go from Los Angeles Union Station to the San Francisco Transbay Terminal in 2 hours and 40 minutes. Those trains must be able to hit speeds of 220 miles an hour. We must have that system electrified and that system must operate without an operating subsidy from the taxpayers and bond holders. This plan will achieve those standards."* Found in the first 1 minute and 20 seconds of the press conference at http://www.youtube.com/watch?v=3uJX-SrNlAE.

[x] See page 14 of http://www.calhsr.com/wp-content/uploads/2012/04/Agenda_Item_2_-_Board_Briefing_Revised_Business_Plan_pp_presentation.pdf

[xi] Found at http://www.calhsr.com/wp-content/uploads/2012/04/CARRD-travel-time-inconsistencies.pdf

[xii] Instead of asking for an updated trip slide from the August 6, 2009 Operations meeting, I erroneously stated August 2012. Mr. Fellenz and I clarified my error.

[xiii] See a Huffington Post article relating to this incident. http://www.huffingtonpost.com/2012/05/21/california-high-speed-rai_n_1534209.html

[xiv] Found at http://www.calhsr.com/wp-content/uploads/2012/04/CARRD-travel-time-inconsistencies.pdf

[xv] My emails included that at a minimum, the search for any documents related to the fastest travel times for the blended system should include: They said the documentation should include: *1) Emails to and from board members. I believe that they only use their personal email accounts when conducting Authority business. Regardless of the form, hsr.ca.gov or earthlink.net, emails in which public business is being conducted are subject to the Public Records Act. Please check the personal email accounts for board members like Dan Richard for anything that would be responsive. 2) Emails to and from Authority consultants. I also reminded him of the court case that showed that the Authority is required to give up this information. "An agency has an affirmative duty to conduct a reasonable search based on criteria set forth in the PRA request. Gov't Code § 6253; Cal. First Amendment Coal, 67 Cal.App.4th at 165-66. The Court holds that a reasonable search requires the agency to: (1) ask the known custodian of records for (2) the documents requested in the PRA request." Again, Community Youth Athletic Center (CYAC) vs. National City, established that records created by a consultant that produced subject to a contract with an agency and owned by the Agency are available to the agency and subject to the California Public Records Act. Therefore, under the Parsons Brinckerhoff contract, all work, including emails, that the consultants and their sub-consultants produce is owned by the state of California and therefore subject to public records act requests. Please search or cause to be searched emails by PB staff to and from other PB staff, board members, Caltrain and other consultants like KPMG and Cambridge Systematics. The same would go for KPMG and Cambridge Systematics who were also working on the business plan.* I also asked if there any travel times or schedules communicated between PB and Cambridge Systematics who would have needed the times to produce ridership forecasts.

[xvi] January 4, 2013 – *Kathy Hamilton* ***SENT VIA EMAIL ONLY*** *Californians Advocating Responsible Rail Design (CARRD) katham3@gmail.com –Dear Ms. Hamilton, – The letter below is in response to your Public Records Act request where in the following was requested:* ***"[A]all data that shows what the train time will be considering the blended system presented in April 2012 business plan." The data that shows what the train time will be considering the blended system presented in April 2012 Business Plan is in draft form and is not being released under Government Code section 6254(a).*** *"The note you sent to your*

consultants asking for such data as you received a public records request. " – Our records staff has located the records responsive to your request, and will compile this information and send to you no later than 01/11/2013 via email. – ***"[T]he emails between PB and CS that had to have occurred in preparation of the attached chart."*** *–The emails have been requested; however it will take staff time to collect and compile, this information. If such documents exist the Authority will send them to you by January 31, 2013.*
If you have any questions concerning this letter of extension, please direct them to our records staff at records@hsr.ca.gov. – Sincerely, Thomas C. Fellenz Chief Counsel California High-Speed Rail Authority.

[xvii] January 16, 2013 – *Dear Mr. Fellenz – Thank you for some of the emails between staff at HSR and PB. You stated that the HSRA needed additional time to gather emails between Parsons Brinckerhoff and Cambridge Systematics regarding the travel times which were reported in the Final Business Plan, were included in back up information about the business plan and presented to the Board. You report I can expect them by January 31, 2013. (Please note that my request also included communications with KPMG) I appreciate this. – Note on the attachment (next document) you sent me with emails between CHSRA public Records Staff member Kyle Wunderli and Thierry Prate, staff member of PB, talking about the very sensitive matter of the documentation of the time of the train. In the communications it was noted that Hans Van Winkle and Jeff Morales required the team to produce a technical memo. Prate promises it will be sent in a day or two after review of the memo by Hans van Winkle. There is no date on this note but assuming it was after May 23rd and before Kyle wrote me on May 31st and promised this technical memo which was never was sent to me. – Apparently now you have documents that would satisfy my request, nearly 9 months later but now decline to release them, stating these are in draft form, citing Government Code section 6254(a). – I would like to explain that I have received advice from a specialist in this law. In short, according to the specifics of the law, you cannot declare the document is a draft. It fails on all counts:*

1. *It's not a draft since actions were taken on the final document*
2. *If you are retaining the information, it cannot be considered a draft*
3. *Public interest must be considered if it is a draft. Does withholding the information more damaging than releasing it. Since this aspect of the business plan about the time of the train was announced in a public statement on April 2, 2012 in Fresno, the public would be very interested in examining the backup documentation that either shows those ascertains were true or not.*
4. *In the case of a bone fide draft, you could only legally withhold recommendations not factual findings. Since this is clearly not a draft in addition to the information itself I would like recommendations by the staff and the consulting groups.*

Citations: Communities for Better Environment vs. California Department of Feed and Agriculture 171 CalApp.3D704 1985. Therefore I would like the materials backing up the time of the train with the new blended system and a city to city breakdown as required in AB3034 and all communication around the creation of such a technical memos, charts and slides. – Please find the next file with abbreviated communications to date so that the details of my request are not reduced in scope.
Please provide the response to my inquiry in electronic format. "
Since the January 16th note I sent to General Counsel Fellenz no communication has been received back.

[xviii] See: California High-Speed Rail Authority: Memorandum from Frank Vacca to Jeff Morales titled Phase 1 Blended Travel Time; dated February 11 2013.

[xix] See: Chairman Dan Richard at an Assembly Transportation Committee hearing; March 13, 2012. Found at: http://www.senatorsimitian.com/entry/informational_hearing_on_high-speed_rail_part_4/

[xx] See email of May 31st 2012 from CHSRA staff member, Kyle Wunderli, to Mrs. Kathy

Hamilton: The full text is: "Ms. Hamilton – *"The answer is that no document exists. These were verbal assertions based on skill, experience, and optimism and so Dan Richard went with the expertise of the engineers offering these assertions. I have been informed that a memo is in the process of being drafted on this very issue and I will provide that to you as soon as it's complete. Their best guess is that by end of next week it may be ready. I apologize for the inconvenience in waiting so long only to find no documents existed."*

[xxi] For the quote from the Official Voter Information Guide for the California General Election, November 4, 2008, see page. 6. See: http://www.voterguide.sos.ca.gov/past/2008/general/argu-rebut/argu-rebutt1a.htm.

[xxii] See the SF Examiner article with quotes from experts, found at www.examiner.com/article/the-little-train-that-could-truth-or-fiction

[xxiii] See: http://www.youtube.com/watch?v=ZPR6VAnfmKw Mrs. Alexis' comments start at 1:02:13 and run for approximately two minutes.

[xxiv] See Figure 1, page 18 of a UK study "Rail market share and rail journey time." Found at http://www.transportscotland.gov.uk/strategy-and-research/publications-and-consultations/j11298-02.htm

[xxv] The Legislative Counsel's report (page 6 and 7) starting with the section called Maximum Time Traveled shows that the Caltrain simulation travel times between San Francisco 4th and King and San Jose were 45, 43, 37 minutes – not the Authority's claim of 30 minutes

[xxvi] http://www.youtube.com/watch?feature=player_detailpage&v=ZPR6VAnfmKw#t=6828s

EXHIBIT A

CARRD Californians Advocating Responsible Rail Design

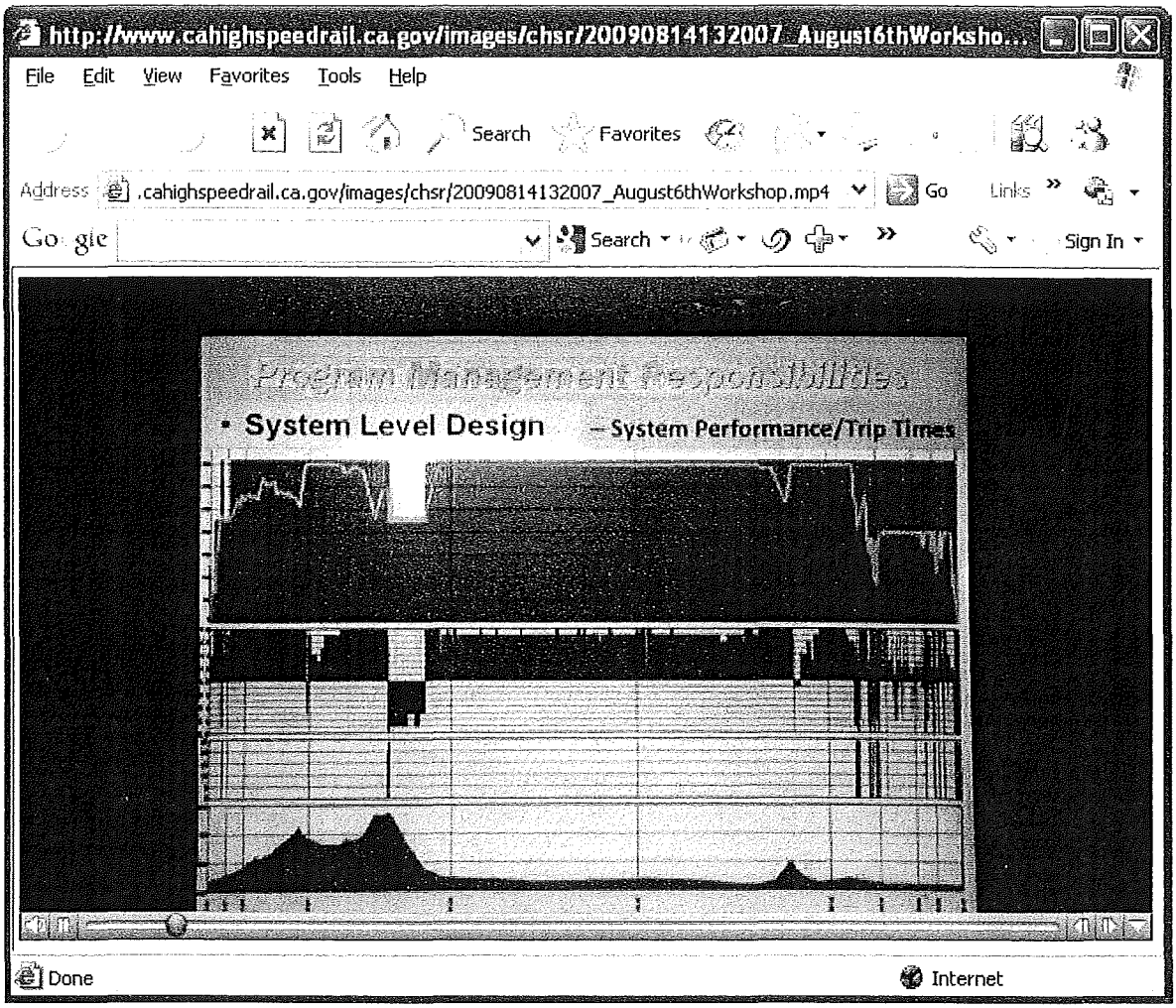
CHSRA Board Meeting, August 6, 2009.

Provided by Rita Wespi on behalf of CARRD.

Partial transcript only. NOTE: This transcript includes verbatim and paraphrased translations. Much, but not all, is verbatim. Use the video link to confirm if you plan to quote. No minute markers are available; use the pictures of the video control to approximate the location on the recording.

Audio:
Video archive:
http://www.cahighspeedrail.ca.gov/images/chsr/20090814132007_August6thWorkshop.mp4

Tony Daniels discusses outreach; says the Board Members played an important role.



Daniels: "And we produced a performance, a trip time. Now this looks kind of complicated but it is not. Now, this is trip time between LA & SF. And At the bottom you can see the profile in this wonderful climb here, or down gradient 3600 feet. No mean feat to run a train on this section. And then take it through, across the Pacheco, into Gilroy, San Jose and San Francisco. *The thing to note is that these train performance times are real times. They're not taken by some calculations.* They've been taken by, and this particular one is an HEV, a French HEV, one of the more latest trains that are out there, that's capable of, and has been designed for 360 kph as we're operating at. It also shows from the profile, here, what's the maximum speed that we can travel at, and what speeds we will be operating at to achieve the running time between LA and SF." {Discusses the green section with the power being used to drive the train; red block is regenerating power. An important feature of looking at the overall feature.} Before I do that [go to next slide] is there any question on this particular approach, on this graph?

Question taken – barely audible. Asks about the speeds going through Morgan Hill.

Daniels: I don't know, looking at this I can't tell.

Pringle: How about, though for anyone who does have questions, if there are, Mr. Morshed decided how we're going to run the workshop...there will be times along the way for the public to raise questions – at the microphone.

Katz: If there's a question that can't be answered, let's make sure we get back to them.

Pringle: Ask they state their name so we can get back to them.

Diridon (facing Daniels, not the questioner from the audience): "On that question, I think that we have to stress that these are demonstration diagrams for our own experience. They're not proposed speed limits for operational characteristics because we haven't done the studies to determine how we're going to operate the trains yet. So they're just demonstrations to give us some background. The point is that I wouldn't want someone to say, 'oh, it's going to go 200 mph through Morgan Hill'. Well, that's not the case. And we want to make sure that we have – everybody knows that these are examples. They're not actual situations, they're not proposed situations."

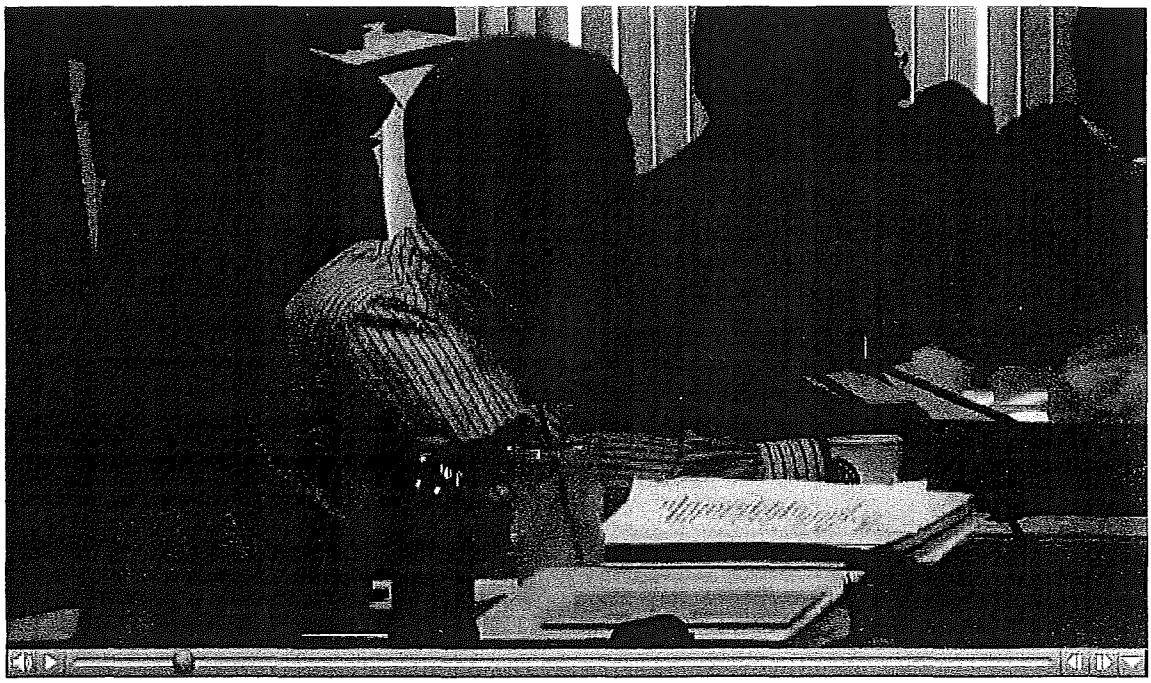


Figure 1 Board Member Rod Diridon suggests to Tony Daniels that the speeds in the slide are for demonstration only.

Daniels (facing Diridon & board members): Can I? I'd like to answer that. It's against the best information we have. The trenching will occur; they're real. The alignment is the best alignment we have to date. We will continue to evaluate those, you're correct, as we move forward. But we've used this, and you'll see in the next couple slides, as the basis upon which we've drawn a very detailed timetable and operational plan from which we got the ridership. Okay?"

Figure 2 Tony Daniels reiterates that the speeds noted in the slide are "the basis upon which we've drawn a very detailed timetable and operational plan from which we got the ridership".

Pringle: Okay, we understand that this is a maximum speed defined by physical conditions but not an operational plan. You're just suggesting that this is what things to consider in terms of what could physically occur but it's not the operational plan of the []. Got it."

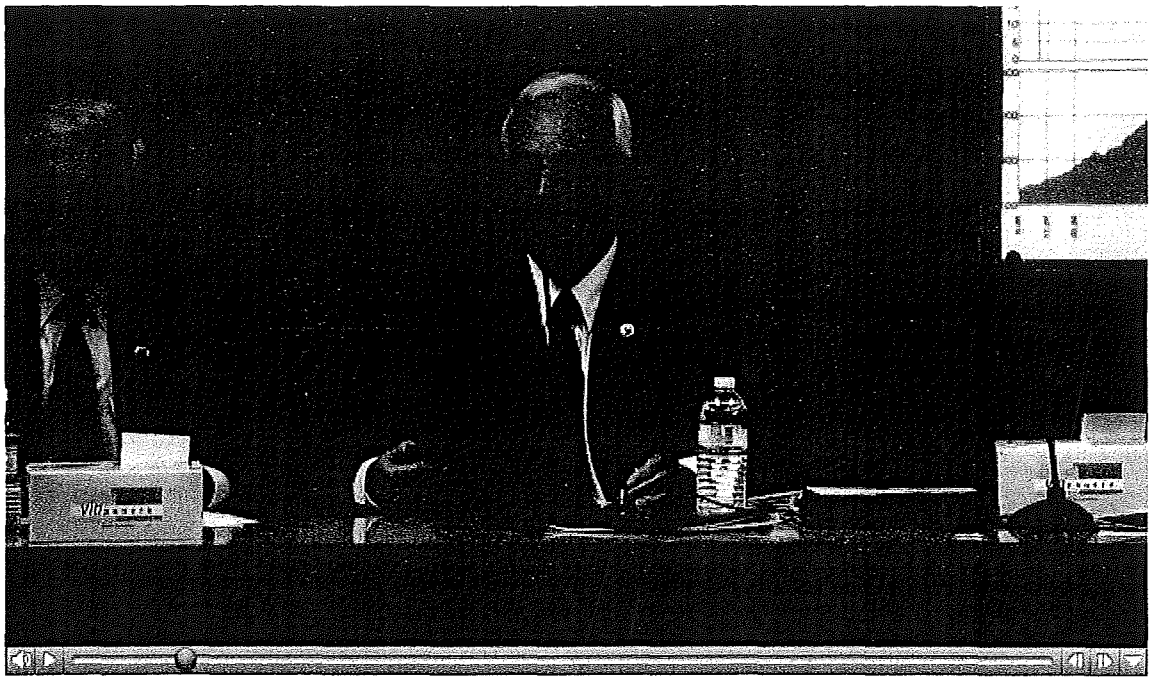


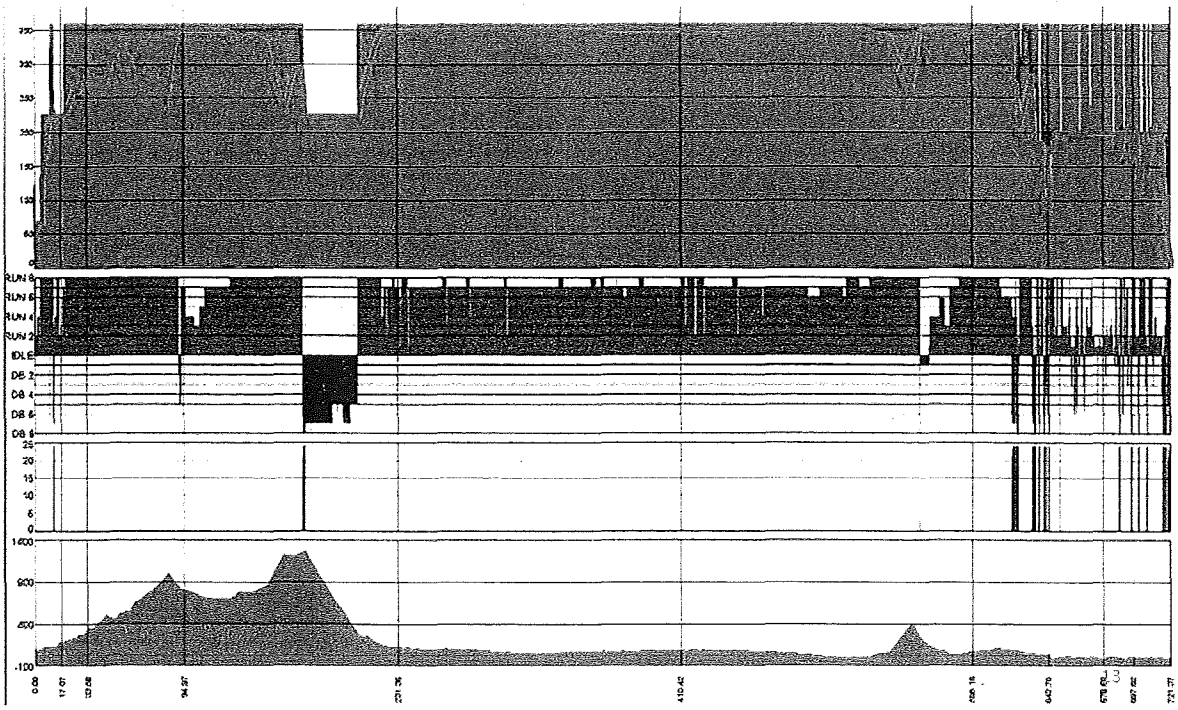
Figure 3 Tony Daniels' jaw visibly drops when Chairman Pringle provides a new interpretation of his explanation.

Daniels: "It's likely to be. It's close. You'll see when we go to the timetable and then the operational plan, and then you're going to laugh at this one but I'm going to go back, it's that it *is* close --"

Pringle: "—could you just proceed with your presentation as you've prepared it. Thank you."

[Below is the slide where the actual mph (200 kph=125 mph) is shown by mile mark, traveling from south to north. You can check which cities will have 220mph trains passing through. You can also verify the difference in travel time with Caltrain (no-build) service vs. HSR service.]

- **System Level Design** – System Performance/Trip Times



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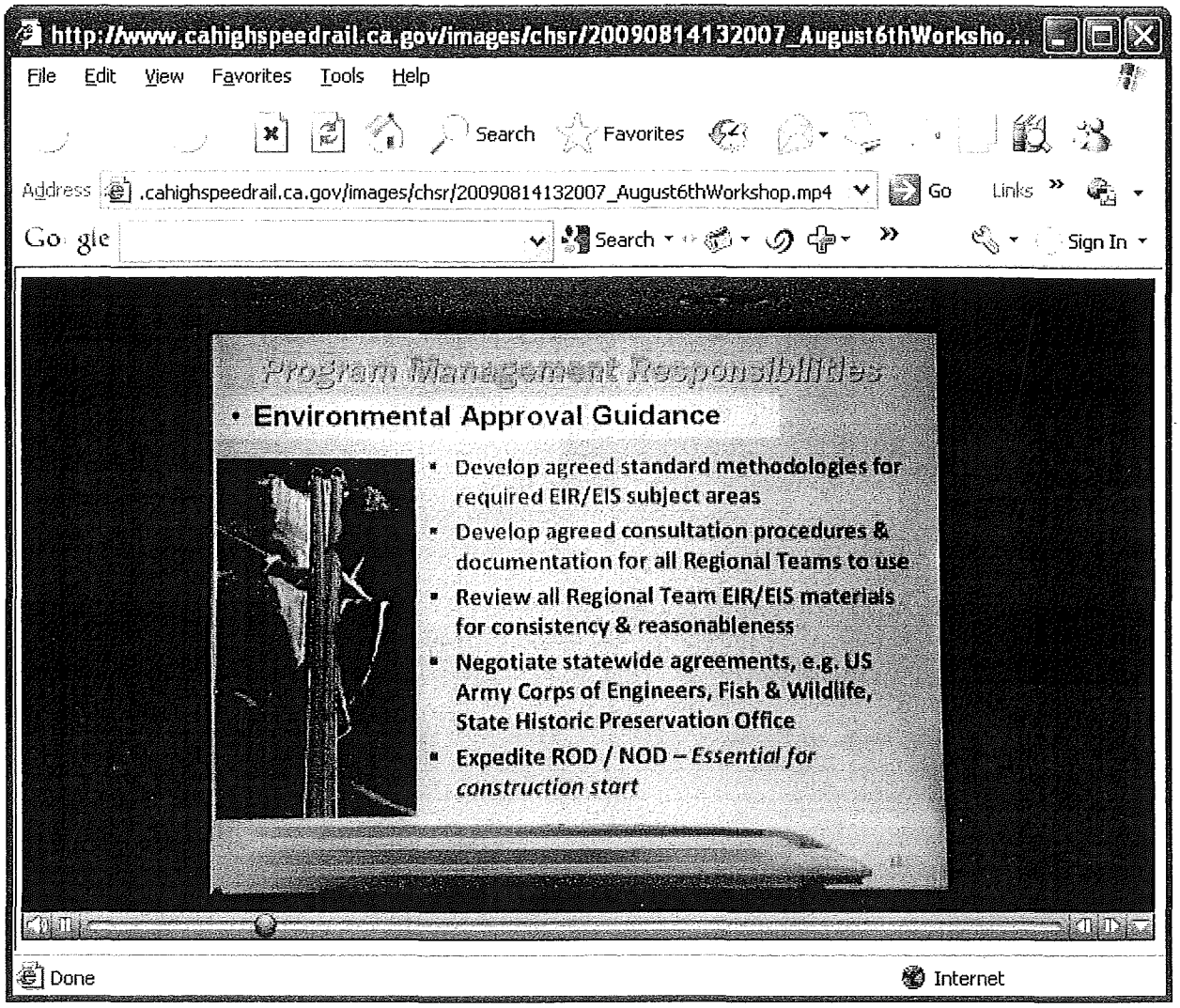


Daniels: The thing to remember, though, I think, Mr. Chairman, is that unless we complete the ROD & NOD and as far as I know we cannot move forward to construction. And I'll talk a little later on how we're trying to mitigate that, but ultimately to move on construction on any of the sections without getting approval environmental process approved with all the stakeholders, we would not be able to move forward. It's a critical piece of the work and you'll see that as we go – where we are today.

Pringle: If I may, Mr. Daniels, I just want to understand – or hear it articulated – we have a program level EIR that's complete. And in each of the segments we're working on a project level EIR. We are able to segment that EIR process into those individual segments, is that correct?

Daniels: Yes.

Pringle: Um, and one segment's, ah, challenges does not – in a project level EIR – deter what could in fact advance in another segment. Is that correct?

Daniels: I think it is so yes.

Pringle: "And, um, we made a selection of a segment, but is there the ability to have a sub-segment cleared independently, or because of our determination each segment must be held complete through this next project level EIR process?"

Daniels: We are looking at that – where's Carrie (Bowen?) she's in the room somewhere. [woman in background] Sure. Or either of you two because we're working on that right now.

Unknown female: "I'll just say we'll address the question by saying although we issued a notice of preparation and notice of intent for a certain section of a size not precluded from analyzing a smaller portion of that and doing additional documentation. But we need to satisfy both CEQA and NEPA responsibilities in doing so and those are the [] that we're now undertaking."

Pringle: "So it could be a tad premature but it says here that you're seeking to get the information. But even though we have originally established a segment as a certain distance, there may be an opportunity as long as we fully comply with all of the environmental review on a sub-section, we may in fact be able to consider approval of a sub-section?"

Female: "We may, but it does raise some legal issues that we need to address and have underneath the issues of independent utility and not pre-committing to other portions of the system in doing so. And because you are creating a system which must link all of its pieces to arrive at a whole, those are serious questions that we need to review."

. . .

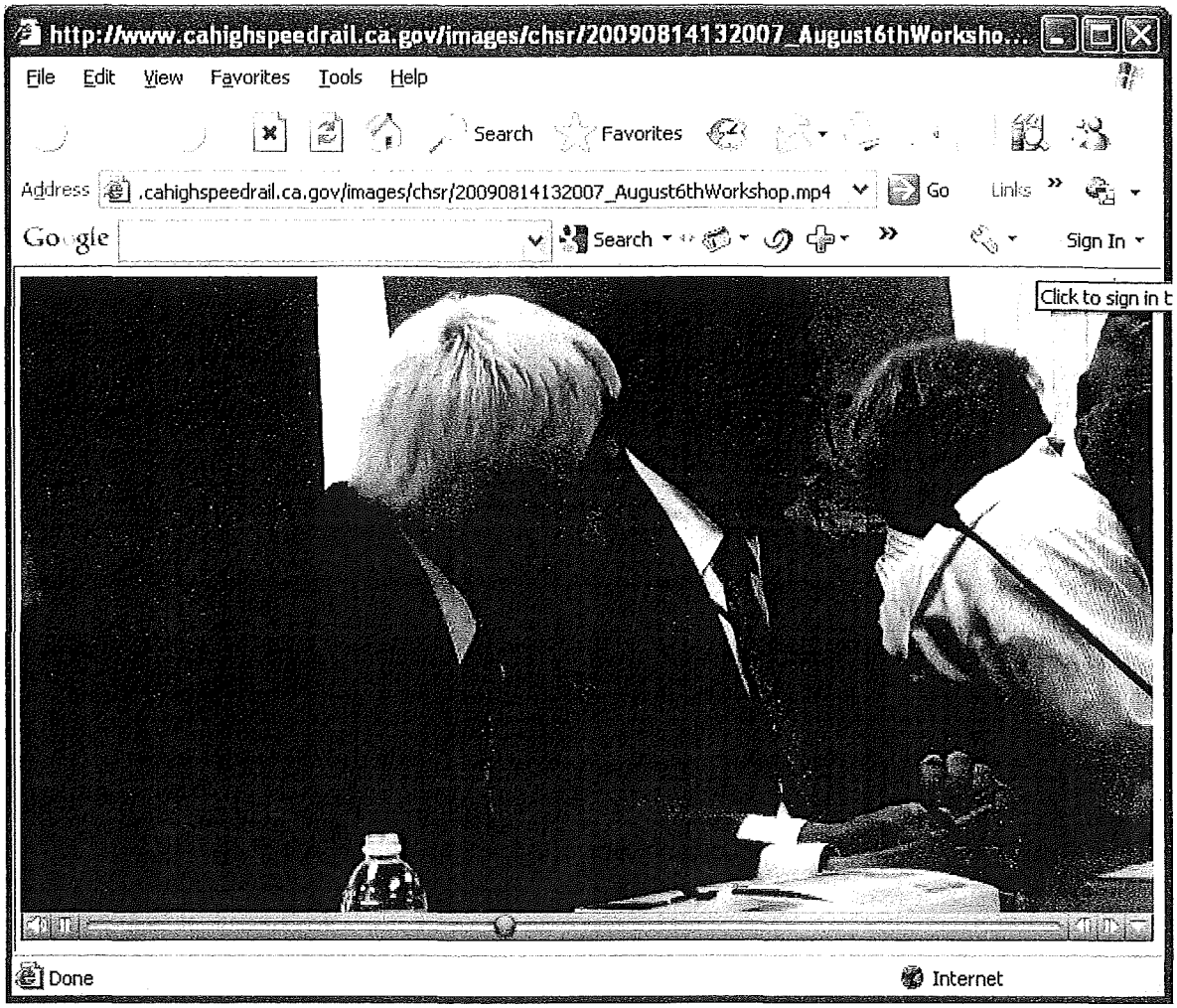
Daniels discussed outreach..."most of the board members have been heavily involved in this process." *Schenk is called out. Kris Deutschman called out; she's leaving the team at the end of the month.*

Katz: don't have a sense for the result of the outreach. I can't tell from the summary sheets ...what was the end product of all that? ...Out of those 400 meetings, are 200 hundred of them "don't come near my backyard."

Diridon talks about the Peninsula. Two teams of outreach folks, and they don't always talk to each other, and they don't always keep the board members informed. ...there's a tendency ... happened in Visalia area, and time to time on the Peninsula corridor. Is it necessary to have 2 diff. teams or consolidate it with the governor choreographing the effort.

Pringle: unify the message, one person who's responsible for it all. Not on the shoulders of the governor's person. ... The unifying individual.

. . .



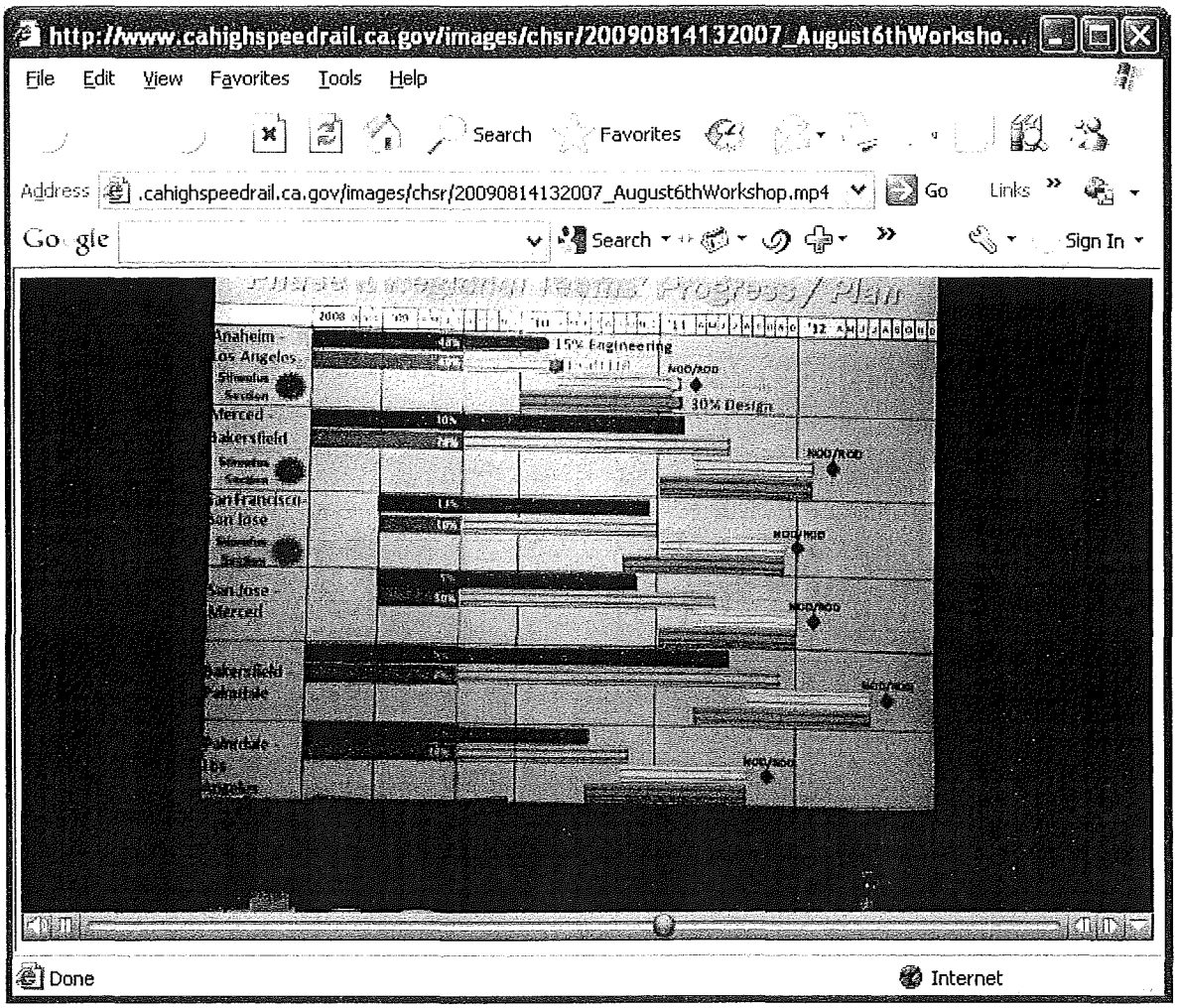
Morshed explains how no HSTs will be on tracks on individual segments. Not HST themselves, but it will have independent utility for other trains & services.

Pringle: We want to get HSTs in there, even if they aren't running at HS rates.

. . .

Diridon asks if LA-Anaheim and SJ-SF can operate HSTs early on, while the segments in between are still being built. Daniels said that although it's possible it may not be desirable because it would be very costly.

. . .



Diridon: Sept 2012 contractors MUST be on the ground ready to work or else we have to give the ARRA money back. And, we must have matching funds to use the bond funds.

Build it in Merced & Bakersfield – what's that all about?

. . .

Pringle states that "we WILL figure out a way" to make any segment that's operational to have HSTs operating on it. That is the challenge to Mr. Daniels. "It may be for show purposes". If it's ready to run but we're just worried about a few dollars, or testing it, it's not good enough. We should be prepared to operate trains there as soon as the track is in place and we have train sets.

Kopp: Explain the test track in relationship to other segments.

Daniels: It's coming in the next few slides.

Kopp: Opponents to this project use this to disdain, that consistent with Chairman's comments, we're going to open this for revenue segment by segment.

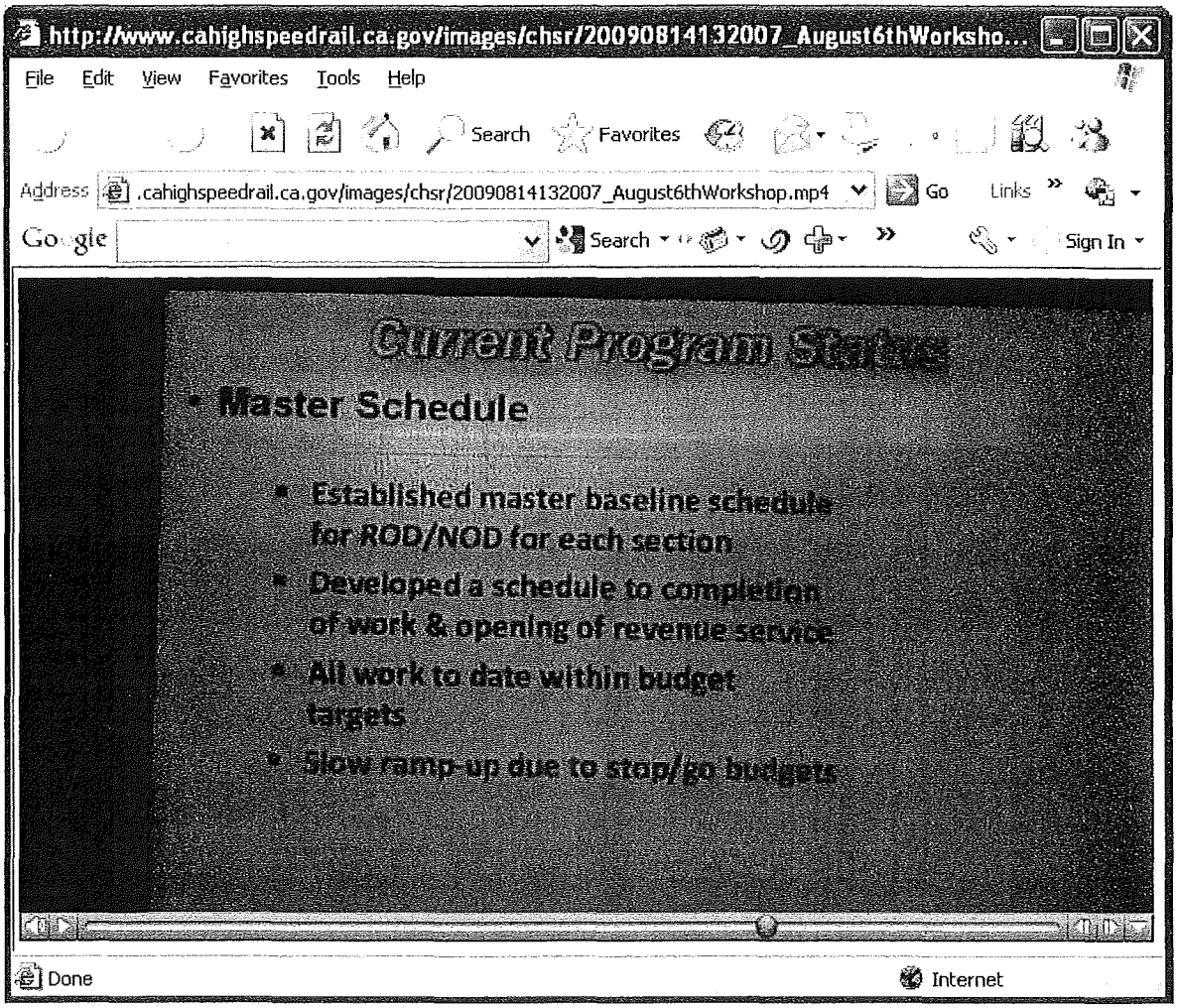


EXHIBIT B

On Thu, May 31, 2012 at 4:43 PM, High-Speed Rail Records <records@hsr.ca.gov> wrote:

Ms. Hamilton,

You're right about that. Sometimes it's tough to track down answers on such a dynamic project with so many different businesses involved. I have an answer on your request for some documented proof of the assertions the engineers made to Dan Richard. The answer is that no document exists. These were verbal assertions based on skill, experience, and optimism and so Dan Richard went with the expertise of the engineers offering these assertions. I have been informed that a memo is in the process of being drafted on this very issue and I will provide that to you as soon as its complete. Their best guess is that by end of next week it may be ready. I apologize for the inconvenience in waiting so long only to find no documents existed.

Sincerely,

Kyle Wunderli

CHSRA Public Records Staff

www.cahighspeedrail.ca.gov

EXHIBIT C

Hi Kyle,

I truly apologize for the delay but I have some update for you.
As you know this is a very sensitive matter. Jeff Morales and Hans van Winkle have required from the team to produce a technical memo on how to achieve the 1A journey time under the Phase 1 Blended system. The memo is currently being reviewed by Hans.

You will receive the information from Hans directly today or tomorrow
Best

Thierry Prate
Principal Consultant, Strategic Consulting
Parsons Brinckerhoff
555 17th Street, Suite 500
Denver, CO 80202
303-728-3058 (office)
720-375-3531 (cell)

pratetm@pbworld.com

www.pbworld.com

From: High-Speed Rail Records [mailto:records@hsr.ca.gov]
Sent: Wednesday, May 23, 2012 10:25 AM
To: Prate, Thierry MY.
Subject: RE: PRA Assistance

Hello Thierry,
I received the message below from the requestor yesterday. She is right. We need to handle this immediately. If there are responsive records, we're required to disclose them. Please mark this as a priority. Thanks!

"I remain very concerned because my original request of April 17th regarding the trip time charts is so late. It shouldn't take a month on what is normally a ten day request period. This is something that PB or the business plan team certainly has already prepared since they assured Mr. Richard that the new business plan would be in compliance with IA including travel times."

Sincerely,

Kyle Wunderli
CHSRA Public Records Staff
www.cahighspeedrail.ca.gov

From: Prate, Thierry MY. [mailto:pratetm@pbworld.com]
Sent: Tuesday, May 15, 2012 2:27 PM
To: High-Speed Rail Records
Subject: RE: PRA Assistance

Hello Kyle,

From: Prate, Thierry MY. <pratetm@pbworld.com>
Sent: Wednesday, May 23, 2012 2:08 PM
To: High-Speed Rail Records
Cc: Hans Van Winkle
Subject: RE: PRA Assistance

Hi Kyle,

I truly apologize for the delay but I have some update for you.
As you know this is a very sensitive matter. Jeff Morales and Hans van Winkle have required from the team to produce a technical memo on how to achieve the 1A journey time under the Phase 1 Blended system. The memo is currently being reviewed by Hans.

You will receive the information from Hans directly today or tomorrow
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Thierry Prate
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To: Prate, Thierry MY.
Subject: RE: PRA Assistance

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Sincerely,

Kyle Wunderli
CHSRA Public Records Staff
www.cahighspeedrail.ca.gov

From: Prate, Thierry MY. [mailto:pratetm@pbworld.com]
Sent: Tuesday, May 15, 2012 2:27 PM

This has been escalated above me to Jeff Morales and Hans van Winkle. I will reach out to them to get you an answer rapidly
Regards

Thierry Prate
Principal Consultant, Strategic Consulting
Parsons Brinckerhoff
555 17th Street, Suite 500
Denver, CO 80202
303-728-3058 (office)
720-375-3531 (cell)

pratetm@pbworld.com

www.pbworld.com

From: High-Speed Rail Records [mailto:records@hsr.ca.gov]
Sent: Tuesday, May 15, 2012 3:15 PM
To: Prate, Thierry MY.
Subject: FW: PRA Assistance

Hello Thierry,
I've got to get an answer to Kathy Hamilton on this request (below). Do you have any responsive documents to this request? If a record exists, at minimum I need to provide her with a determination as to when it will be made available to her. Please mark this urgent. We are long passed the deadline on this. Thanks!

Sincerely,

Kyle Wunderli
CHSRA Public Records Staff
www.cahighspeedrail.ca.gov

From: High-Speed Rail Records
Sent: Wednesday, May 02, 2012 10:37 AM
To: 'Prate, Thierry MY.'
Subject: RE: PRA Assistance

Thierry,
Can you please refer me to who has this information? The Authority needs to make a determination on this info ASAP as the Public Records Act has a statutory limitation of 10 days which has already passed. We received a follow up from the requestor today:

- The High-Speed Rail Authority maintains that the speeds will be consistent with 1A and in the newly released business plan dated April 2, 2012. Mr. Richard made a statement in Fresno on April 2nd in the Q & A in connection with that new release that he has been told by the engineers that the new plan will be in compliance with time requirements in the law. http://www.youtube.com/watch?v=3uJX-SrNlAE&feature=relmfu

I was present at the Operations meetings of August 3, 2009 and the feat to make trip times then were very tight. In fact there were experts that said it was very ambitious. I would like to see demonstrated either

by an updated trip slide (attached) or any other means that the engineers ascertained how each city mentioned in AB 3034 will make the time parameter indicated and the entire trip from San Francisco to Union Station would be made 2 hours and 40 minutes. Since Dan Richard was told this by the engineers, there must be some form of proof -- some analysis that allows him to make this statement. I am asking for proof of that statement as well as the back-up for the business plan slides which indicate that the time frames will be achieved per Prop 1A.

Sincerely,

Kyle Wunderli
CHSRA Public Records Staff
www.cahighspeedrail.ca.gov

From: Prate, Thierry MY. [mailto:pratetm@pbworld.com]
Sent: Wednesday, April 25, 2012 11:26 AM
To: High-Speed Rail Records
Subject: RE: PRA Assistance

Kyle,

I have passed on your request and will come back to you as soon as I have the information.
Regards

Thierry

Thierry Prate
Principal Consultant, Strategic Consulting
Parsons Brinckerhoff
555 17th Street, Suite 500
Denver, CO 80202
303-728-3058 (office)
720-375-3531 (cell)

pratetm@pbworld.com

www.pbworld.com

From: High-Speed Rail Records [mailto:records@hsr.ca.gov]
Sent: Wednesday, April 25, 2012 12:21 PM
To: Prate, Thierry MY.
Subject: PRA Assistance

Hello Thierry,
The Authority has a PRA request in for the following:

"...**the revised trip time charts for the LA to SF route presented August 6, 2012**. This is to insure trip times meet AB3034 from the data in the April business plan. Mr Richard said he was assured by the engineers that the April BP meets all requirements of IA at the Fresno Press Conference on April 2nd. If they do not have that exact chart other proof with time and miles city by city may be enough to meet this request, though I'd rather have the same chart."

Our response is time-sensitive. Do you have these trip time charts? Or can you provide direction as to where they might be found? Thanks!

Sincerely,

Kyle Wunderli
CHSRA Public Records Staff
www.cahighspeedrail.ca.gov

NOTICE: This communication and any attachments ("this message") may contain confidential information for the sole use of the intended recipient(s). Any unauthorized use, disclosure, viewing, copying, alteration, dissemination or distribution of, or reliance on this message is strictly prohibited. If you have received this message in error, or you are not an authorized recipient, please notify the sender immediately by replying to this message, delete this message and all copies from your e-mail system and destroy any printed copies.

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EXHIBIT D

CARRD Californians Advocating Responsible Rail Design

The following graph found in the supporting documents for the Revised Business Plan shows travel time for Phase 1 Blended express service from San Francisco TBT to Los Angeles with a single stop at SFO as **3:00 hours** (180 minutes). Source: "California High-Speed Rail 2012 Business Plan Ridership and Revenue Forecasting" at http://cahighspeedrail.ca.gov/assets/0/152/431/7b890372-19c0-4ba7-aa98-aa1d49dea11b.pdf.

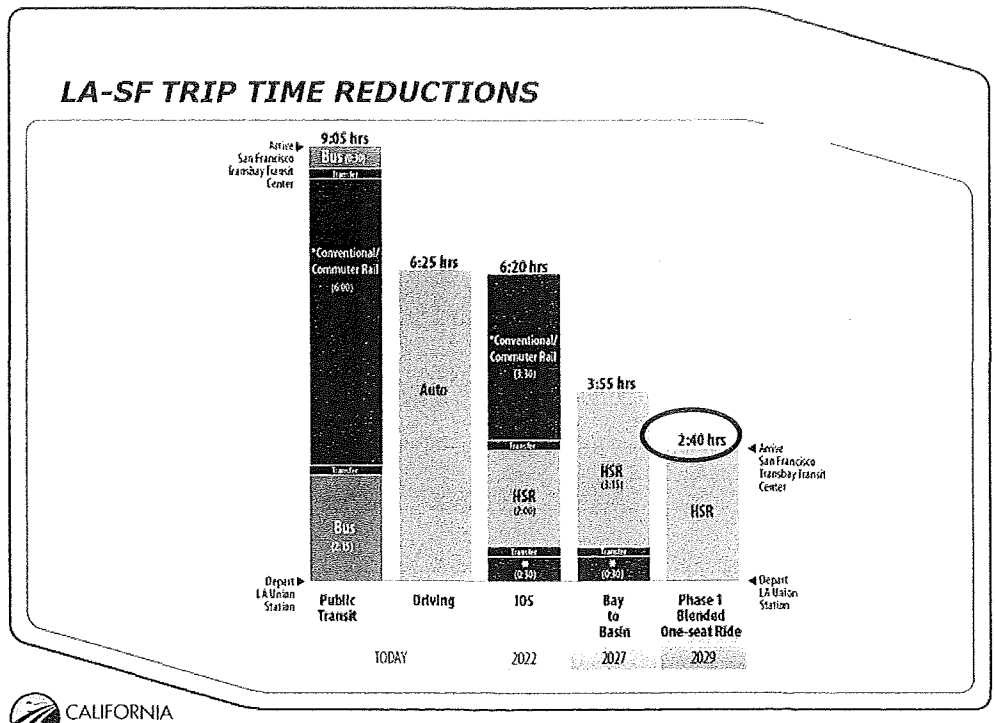
Scenario 12-042b: Blended Phase 1 (High) - For 2012 Final Business Plan
Blended Service from San Francisco Transbay to Los Angeles Union Station with bus connections to Sacramento at Merced. (DRAFT)

Operating Plan:

High Speed Rail - Peak

Pattern	10	20	30	40	50	60	70	80
Frequency	60	60	60	60	60	60	60	60
San Francisco Transbay	0	0	0	0				
Millbrae	16	16	16	16				
San Jose			48	48	0	0		
Gilroy				66	18			
Merced							0	0
Fresno		101	107		62			25
Visalia				120				44
Bakersfield		142	148			94		75
Palmdale		179		187	134		91	
San Fernando				208				132
Los Angeles	180	210	210	219	165	156	122	143
# of Trains	6	6	6	6	6	6	6	6

Below is an excerpt from the HSRA Board meeting presentation from April 12, 2012, describing the Phase 1 Blended travel time from SF TBT to Los Angeles as **2:40 hours**.



CALIFORNIA High-Speed Rail

EXHIBIT E

CALIFORNIA
High-Speed Rail Authority

January 4, 2013

Kathy Hamilton
Californians Advocating Responsible Rail Design (CARRD)
[redacted]

SENT VIA EMAIL ONLY

Board Members:
Dan Richard
Chairperson
Lynn Schenk
Vice-Chairperson
Thomas Richards
Vice-Chairperson
Jim Hartnett
Michael Rossi
Thomas J. Umberg

Jeff Morales
Chief Executive Officer

Dear Ms. Hamilton,

The letter below is in response to your Public Records Act request where in the following was requested:

"[A]ll data that shows what the train time will be considering the blended system presented in April 2012 business plan."

The data that shows what the train time will be considering the blended system presented in April 2012 Business Plan is in draft form and is not being released under Government Code section 6254(a).

"The note you sent to your consultants asking for such data as you received a public records request. "

Our records staff has located the records responsive to your request, and will compile this information and send to you no later than 01/11/2013 via email.

"[T]he emails between PB and CS that had to have occurred in preparation of the attached chart."

The emails have been requested; however it will take staff time to collect and compile, this information. If such documents exist the Authority will send them to you by January 31, 2013.

If you have any questions concerning this letter of extension, please direct them to our records staff at records@hsr.ca.gov.

Sincerely,

Thomas C. Fellenz
Chief Counsel
California High-Speed Rail Authority

JERRY BROWN
GOVERNOR

EXHIBIT F

Kathy Hamilton <[redacted]> Jan 10

to Thomas, High-Speed[redacted]

Hi Tom, I haven't heard back from you on my clarification below sent January 6th. I don't want to misinterpret anything. Perhaps you are out of town or hadn't received this. Just in case, here it is again. Thank you, Kathy Hamilton

> Dear Mr. Fellenz,
>
> In your letter you state that, "The data that shows what the train time will be considering the blended system presented in April 2012 Business Plan is in draft form." and therefore you will not forward the information. I need some clarification please.
>
> If I understand this, you are saying that the Final Business Plan which the High Speed Rail Authority voted to approve in April 2012 and which the Legislature referred to when appropriating $4.7 billion in bond funds and $3.29 billion in federal funds in the Budget Act of 2012 is based on draft travel times which are not ready to be released for public view.
>
> Is that correct? Thank you, Kathy Hamilton

EXHIBIT G

January 16, 2013

Dear Mr. Fellenz,

Thank you for some of the emails between staff at HSR and PB. You stated that the HSRA needed additional time to gather emails between Parsons Brinckerhoff and Cambridge Systematics regarding the travel times which were reported in the Final Business Plan, were included in back up information about the business plan and presented to the Board. You report I can expect them by January 31, 2013. (Please note that my request also included communications with KPMG) I appreciate this.

Note on the attachment (next document) you sent me with emails between CHSRA public Records Staff member Kyle Wunderli and Thierry Prate, staff member of PB, talking about the very sensitive matter of the documentation of the time of the train. In the communications it was noted that Hans Van Winkle and Jeff Morales required the team to produce a technical memo. Prate promises it will be sent in a day or two after review of the memo by Hans van Winkle. There is no date on this note but assuming it was after May 23rd and before Kyle wrote me on May 31st and promised this technical memo which was never was sent to me.

Apparently now you have documents that would satisfy my request, nearly 9 months later but now decline to release them, stating these are in draft form, citing Government Code section 6254(a).

I would like to explain that I have received advice from a specialist in this law. In short, according to the specifics of the law, you cannot declare the document is a draft. It fails on all counts:

1. It's not a draft since actions were taken on the final document
2. If you are retaining the information, it cannot be considered a draft
3. Public interest must be considered if it is a draft. Does withholding the information more damaging than releasing it. Since this aspect of the business plan about the time of the train was announced in a public statement on April 2, 2012 in Fresno, the public would be very interested in examining the backup documentation that either shows those ascertains were true or not.
4. In the case of a bone fide draft, you could only legally withhold recommendations not factual findings. **Since this is clearly not a draft in addition to the information itself I would like recommendations by the staff and the consulting groups.**

Citations: Communities for Better Environment vs. California Department of Feed and Agriculture 171 CalApp.3D704 1985.

Therefore I would like the materials backing up the time of the train with the new blended system and a city to city breakdown as required in AB3034 and all communication around the creation of such a technical memos, charts and slides.

Please find the next file with abbreviated communications to date so that the details of my request are not reduced in scope.

Please provide the response to my inquiry in electronic format.

Thank you, Kathy Hamilton

EXHIBIT H

Gmail

Kathy Hamilton <[redacted]>

Memo regarding Phase 1 Blended Travel Time

Kathy Hamilton <[redacted]> Wed, Feb 13, 2013 at 12:43 PM
To: High-Speed Rail Records <records@hsr.ca.gov>, Thomas Fellenz <[redacted]>
Cc: "[redacted]" <[redacted]>, [redacted] <[redacted]>

Thank you for the document. But in fact, this does not satisfy my public records request. I have told the Authority numerous times over the last 10 month period that I want the back up information and all communications between and among the board members (including a personal email address search), HSR personnel and all consultants concerning travel times for system wide and city by city information that was prepared for the Blended Plan, the April 2012 business plan. The backup material showing 3 hours for the complete Phase 1 route as well as chart showing 2 hours and forty minutes for the same route in the business plan. They are in direct conflict with each other.

There absolutely had to be email traffic between Cambridge Systematics and Parsons Brinckerhoff as well as the board members and HSR personnel since number of trains and run time greatly effects ridership. And yet nothing was sent to me.

The information you sent me on January 31st with email traffic between consultants was general information regarding the posting of the business plan and not at all about the travel times. I sent you a note immediately telling you this didn't satisfy my request.

There was a memo that Hans van Winkle and Jeff Morales were working on months ago in the time period of May 23rd which was not included and promised to me by Kyle Wunderli. It was finished just being reviewed. Even if this was never used, this draft must be provided. Was this the draft you were attempting to protect earlier in my request? It surely wasn't the document you sent me because this document was created February 11th, after the fact- after the business plan was approved and after the legislature voted on billions of dollars for the start of the project.

Since this communication has been on-going for 10 months now and we have still not reached satisfactory resolution, I would be happy to participate in a conference call with PB, CS, the HSR personnel, Elizabeth Alexis, Rita Wespi and myself so that we can go over the request and get the information requested.

By law, you must provide what was requested whether it is pleasant or unpleasant for the HSR Authority and it's consultants.

Thank you Kathy Hamilton

On Wed, Feb 13, 2013 at 8:12 AM, High-Speed Rail Records <records@hsr.ca.gov> wrote:
[Quoted text hidden]

[Quoted text hidden]

EXHIBIT I

Gmail

Kathy Hamilton [redacted]

Resent Request PRR

5 messages

Kathy Hamilton [redacted] Mon, Feb 18, 2013 at 7:59 PM
To: High-Speed Rail Records <records@hsr.ca.gov>
Bcc: [redacted]

Hi Angie, I have a very strange email system and I think my last note was confusing. I attempted to forward it with my last email to keep things in the same email chain but I think it just looks like a repeat of that former note sent last week so here it is again. Thank you for your help. Thank you, Kathy Hamilton

Hello Angie, I would like to do a follow-up PRA request please. I would like:

1. The backup documents for the 2/11/13 memo, including any writings pertaining to the Berkeley RTC Train Control simulation software.

2. All 2012 and 2013 simulation runs whether used for this report or not.

3. Documentation as to whether the northern terminus was the Transbay Transit Center or 4th and King, for the LA-SF, SF-LA and the SJ-SF runs.

4. Confirmation that the LA to SF Train Performance Curves in the 2/11/13 memo, which are labelled "Phase 1--Full" and show a 125 mph speed on the Caltrain Corridor, actually represent the Phase 1 Blended Service described in the cover memo.

5. Mileposts for each of the locations identified on the runs.

6. All assumptions other than those listed in the memo.

7. End-to-end mileage for each of the three curves provided.

8. The express service operating speeds through the following cities: Burbank, Sylmar, Palmdale, Bakersfield, Fresno, Merced, Gilroy, San Jose, and Redwood City.

9. All other work product and communications between and among consultants, HSR employees, the board, the attorneys for all sides (CS, PB, HSRA and any sub-consultants) pertaining to the preparation of this report, from May 2012 to present day.

10. The technical report that Hans Van Winkle and Jeff Morales were working on last April and May.

11. The same three train performance curves, using a currently commercially

available trainset. Identify the model of train.

As with all PRA requests, any assertion of privilege or exception must be accompanied by a listing of document title, initiator and date.
I am still waiting for the following materials I requested on April 17, 2012:

The back-up information that was generated while determining the 2 hour and 40 minute travel time between San Francisco and Los Angeles for the April 2012 business plan.

The back-up information that was generated while determining the 3 hour minimum speed for an SF-LA express train contained in a technical report for the April 12, 2012 Board meeting.

All communications between and among the Board, the HSRA personnel and all consultants including the peer review group to prepare the April 2012 business plan and to prepare for the board meeting.


Questions about Travel times dated.docx
22K

MICHAEL J. BRADY (SBN 40693)
1001 Marshall Street, Suite 500
Redwood City, CA 94063-2052
Telephone: (650) 364-8200
Facsimile: (650)780-1701
Email: mbrady(@rmkb.com

STUART M. FLASHMAN (SBN 148396)
Law Offices of Stuart M. Flashman
5626 Ocean View Drive
Oakland, CA 94618-1533
Tel/Fax: (510) 652-5373
Email: stu@stuflash.com

Attorney for Plaintiffs
JOHN TOS; AARON FUKUDA;
AND COUNTY OF KINGS

COUNTY IS EXEMPT FROM FILING FEES PER GOV. CODE SECTION 6103

SUPERIOR COURT OF THE STATE OF CALIFORNIA

COUNTY OF SACRAMENTO

JOHN TOS, et al.,

Plaintiffs,

v.

CALIFORNIA HIGH SPEED RAIL AUTHORITY, et al.,

Defendants.

CASE NO. 34-2011-00113919

DECLARATION OF JASON W. HOLDER IN SUPPORT OF PETITIONERS' OPENING BRIEF

Hearing on the Merits:
Date: May 31, 2013
Time: 9:00 a.m.

ASSIGNED FOR ALL PURPOSES TO:
THE HONORABLE MICHAEL KENNY
DEPARTMENT 31

I, Jason W. Holder, declare as follows:

1. I am an attorney in the Oakland, California, law firm of Fitzgerald Abbott & Beardsley LLP and am admitted to practice law in the State of California. I submit this Declaration in support of the Opening Brief submitted to the Court by Petitioners in the action referenced in the above caption.

2. I represent Petitioners and Plaintiffs County of Madera; Madera County Farm Bureau; Merced County Farm Bureau; Preserve Our Heritage; Chowchilla Water District; and Fagundes Parties ("Madera Petitioners") in a case pending before this Court, wherein Madera Petitioners, *inter alia*, challenge the Respondent California High Speed Rail Authority's ("Authority") compliance with the California Environmental Quality Act (CEQA; Public Resources Code §§ 21000 *et seq*.) in preparing an Environmental Impact Report ("EIR") for the Merced to Fresno section ("M-F Section") of the High-Speed Rail project ("Project").

3. I have practiced environmental and land use law for more than eight years and am familiar with the requirements of CEQA and other state environmental laws and regulations that apply to development projects. I am also familiar with federal and local laws and regulations concerning (1) environmental review and protection and (2) permitting of development projects proposed by public agencies and private entities. I have personal knowledge of the statements made in this declaration and, if called upon to testify, I could and would so testify.

4. In the course of participating in the administrative process for the M-F Section and in prosecuting the above-referenced lawsuit challenging the EIR for the M-F Section, I have become familiar with the environmental review requirements for the M-F Section and for the other nine sections of the statewide Project.

5. Attached hereto as Exhibit 1 is a true and correct copy of Resolution #HSRA 11-22, which resolution selects two portions of the Project as "usable segments."

6. Attached hereto as Exhibit 2 is a true and correct copy of an excerpt from the 2012 Revised Business Plan, which excerpt explains that the first usable segment that the

Authority plans to construct is "IOS-South," the segment from the Merced station to the Los Angeles Basin. (Exhibit 2, pp. ES-3, 2-11.)

7. Attached hereto as Exhibit 3 is a true and correct copy of excerpts from a July 2011 staff report to the Authority Board verifying that the first portion of IOS-south that the Authority intends to construct is the Initial Construction Section ("ICS"), a 130-mile portion of the Project (within the IOS-South usable segment) that extends from near Madera to just north of Bakersfield. (*See* Exhibit 3, p. 2.) The staff report confirms that the ICS includes a portion of the M-F Section and a portion of the neighboring Fresno to Bakersfield section ("F-B Section").

8. Attached hereto as Exhibit 4 is a true and correct copy of an excerpt from the Final EIR for the M-F Section, which excerpt lists the permit requirements for the M-F Section. According to Exhibit 4, the M-F Section requires:

a. a Section 404 Permit, under the federal Clean Water Act, for Discharge of Dredge or Fill Materials Into Waters of the U.S. from the U.S. Army Corps of Engineers ("Corps");

b. a Section 4(f) determination by the U.S. Department of the Interior, Federal Railroad Administration ("FRA");

c. Section 106 Consultation, under the National Historic Preservation Act of 1966, from the U.S. Advisory Council on Historic Preservation via the California State Historic Preservation Office ("SHPO");

d. review of Environmental Justice conclusions by the U.S. Environmental Protection Agency ("EPA");

e. a General Conformity Determination (concerning air quality impacts) from the EPA;

f. Section 7 Consultation, under the federal Endangered Species Act, from the U.S. Fish and Wildlife Service ("FWS") and from the National Marine Fisheries Service ("NMFS");

g. California Endangered Species Act ("CESA") permits from the California Department of Fish and Wildlife ("CDFW");[1]

h. a Section 1602 Lake and Streambed Alteration Agreement from CDFW;

i. Encroachment permits from the California Department of Transportation ("Caltrans");

j. Approval for construction and operation of railroad crossing of public roads and for construction of new transmission lines and substations from the California Public Utilities Commission ("CPUC");

k. a Lease for crossing state sovereign lands from the California State Lands Commission ("SLC")

l. Air quality permits from the San Joaquin Valley Air Pollution Control District ("SJVAPCD");

m. a Section 401 Certification, under the federal Clean Water Act, from the Central Valley Regional Water Quality Control Board ("CVRWQCB");

n. a Section 402 National Pollutant Discharge Elimination System ("NDPES") permit, including approval of a Spill Prevention, Control and Countermeasures ("SPCC") Plan, from the CVRWQCB;

o. a Dewatering Permit, under Order No. 98-67, from the CVRWQCB;

p. a Stormwater Construction and Operation Permit from the CVRWQCB; and

q. an Encroachment Permit for flood protection facilities from the Central Valley Flood Protection Board ("CVFPB").

9. Attached hereto as Exhibit 5 is a true and correct copy of Resolution #HSRA 12-19, which resolution memorializes the Authority Board's certification of the Final EIR for the M-F Section.

[1] As of January 1, 2013, this agency was renamed the "California Department of Fish and Wildlife," but throughout the administrative process for the Section, this agency was named the California Department of Fish and Game. For ease of reference, I refer to the agency by its current name.

10. Attached hereto as Exhibit 6 is a true and correct copy of Resolution #HSRA 12-20, which resolution memorializes the Authority Board's approval of the Hybrid Alignment for two discontinuous portions of the M-F Section.

11. Exhibits 2 through 6 are documents within the certified Administrative Record of Proceedings in Madera Petitioners' CEQA lawsuit referenced in Paragraph 2, above.

12. Attached hereto as Exhibit 7 is a true and correct copy of an excerpt from the FRA's Record of Decision ("ROD") for the M-F Section, which excerpt describes the federal approvals that have been granted for the M-F Section as well as the permits and approvals that remain outstanding. I personally downloaded the ROD document from the FRA's website (http://www.fra.dot.gov/Page/P0465). The ROD confirms the FRA's approval of the Hybrid Alignment for two discontinuous portions of the M-F Section. It includes FRA's Section 4(f) Determination and confirms SHPO's Section 106 consultation, both concerning solely the M-F Section. (Exhibit 7, p. 8.) It also confirms the General Conformity determination by the FRA and the issuance of a Biological Opinion by the FWS and a Biological Opinion by NMFS, again both concerning solely the M-F Section. (*Id.* at pp. 8, 10-11.) The ROD indicates that, at the time of its issuance in September 2012, the Corps had not issued its Section 404 permit for the M-F Section. (*Id.* at pp. 9-10.)

13. Attached hereto as Exhibit 8 is a true and correct copy of an excerpt from the Revised Draft EIR ("RDEIR") for the F-B Section, which excerpt lists the permit requirements for this neighboring section. I personally downloaded Chapter 2 of the RDEIR, where this list of permit requirements is located, from the Authority's website (http://cahighspeedrail.ca.gov/revised-draft-eir-f-b.aspx). Exhibit 8 confirms that the F-B Section will require all of the permits required for the M-F Section, and will also require a Section 6(f) permit, under the Land Water Conservation Fund Act of 1965 from the National Park Service ("NPS") (it is unclear whether the M-F Section will also require a Section 6(f) permit).

14. Attached hereto as Exhibit 9 is a true and correct copy of the Authority's "Approach for Obtaining ICS Environmental Approvals/Permits" ("ICS Permit Approach"), dated January 8, 2013. Exhibit 9 is an excerpt from Addendum 9 to the Request for Proposals for Design-Build Services ("RFP") for the first construction package ("CP1") for the ICS. I personally downloaded Exhibit 9 from the Authority's website (http://www.cahighspeedrail.ca.gov/construction.aspx). The ICS Permit Approach document confirms that, as of January 8, 2013, the Authority had not yet obtained the following permits and approvals required for the ICS:

a. Section 404 Permits and Section 408 Determinations from the Corps for both the M-F Section and the F-B Section;
b. Section 106 Memorandum of Agreement ("MOA") and Treatment Plan signed by the Authority, FRA and SHPO for the F-B Section;
c. a General Conformity Determination from the FRA for the F-B Section;
d. a Section 4(f) determination by the FRA for the F-B Section;
e. Indirect Source Review by the SJVAPCD for both the M-F Section and the F-B Section;
f. Title 14 MOA from CDFW regarding impacts to Camp Pashayan related to construction of a bridge over the San Joaquin River;
g. a Section 401 Certification from the SWRCB[2] for both the M-F Section and the F-B Section;
h. several types of Section 402 NDPES permits from the SWRCB;
i. a programmatic or multiple project-level Section 1602 Lake and Streambed Alteration Agreement(s) from CDFW;
j. CESA permits from CDFW for both the M-F Section and the F-B Section;

[2] This information is inconsistent with the corresponding permitting information provided in the M-F Section's FEIR and in the F-B Section's RDEIR. In the EIRs, the Authority stated that this and other water quality permits would be obtained from the CVRWQCB.

k. National Flood Insurance Program ("NFIP") compliance for both the M-F Section and the F-B Section;

l. Right-of-way ("ROW") encroachment permits from Caltrans for both the M-F Section and the F-B Section;

m. a long-term lease for crossing state sovereign lands from the SLC for both the M-F Section and the F-B Section; and

n. a programmatic permit and project level consistent determinations for construction and operation of railroad crossing of public roads and for construction of new transmission lines and substations from the CPUC for both the M-F Section and the F-B Section.

The ICS Permit Approach document does not address the air quality permits required by the SJVAPCD for both the M-F Section and the F-B Section.

15. Attached hereto as Exhibit 10 is a true and correct copy of the Notice of Preparation ("NOP") concerning the Draft Environmental Impact Report/Environmental Impact Statement ("DEIR") for the 85-mile long Bakersfield to Palmdale Section ("B-P Section"). I personally downloaded Exhibit 10 from the Authority's website (http://cahighspeedrail.ca.gov/revised-draft-eir-f-b.aspx). The NOP initiates a public agency's preparation of an EIR. (Pub. Resources Code, § 21092.) The Authority has not released the DEIR for the B-P Section. Because the B-P Section will impact a similarly wide range of resources and infrastructure, I anticipate that the B-P Section will require a similar range of permits and approvals as those required for the M-F and the F-B Sections.

16. Attached hereto as Exhibit 11 is a true and correct copy of the NOP concerning the DEIR for the Palmdale to Los Angeles Section ("P-LA Section"). I personally downloaded Exhibit 11 from the Authority's website (http://www.cahighspeedrail.ca.gov/lib_Palmdale_Los_Angeles.aspx). The Authority has not released the DEIR for the P-LA Section. Because the P-LA Section will impact a similarly

wide range of resources and infrastructure, I anticipate that the P-LA Section will require a similar range of permits and approvals as those required for the M-F and the F-B Sections.

17. Attached hereto as Exhibit 12 is a true and correct copy of a document prepared by the Authority's Program Management Team ("PMT") entitled "Initial Construction Schedule Level 3 to 1- January 2013" ("ICS Construction Schedule"). The ICS Construction Schedule was provided to Elizabeth Alexis, co-founder of Californians Advocating Responsible Rail Design ("CARRD"), in response to her Public Records Act request. Rita Wespi, another co-founder of CARRD, sent me an electronic version of this document via e-mail on February 11, 2013. The ICS Construction Schedule is dated February 8, 2013. This document provides the most up-to-date publicly available written information from the Authority's agents concerning the status of "environmental clearances" for the ICS. The ICS Construction Schedule indicates the Authority expects to certify the F-B Section FEIR in September 2013.

18. Attached hereto as Exhibit 13 is a table that summarizes the status of permits and approvals required for the four sections that comprise IOS-South, the first usable segment that the Authority proposes to build. I prepared Exhibit 13 for the Court's convenience and reference, using the information available in Exhibit 2, and Exhibits 4 through 12 referenced above and attached hereto.

19. Attached hereto as Exhibit 14 is a true and correct copy of the First Amended Declaration of John Popoff in Support of the Authority's Opposition to the Madera Petitioners' Motion for Preliminary Injunction ("First Amended Popoff Declaration"). The Authority filed the First Amended Poppoff Declaration with this Court in the lawsuit referenced in Paragraph 2, above. The First Amended Popoff Declaration states that, as of November 9, 2012, the only portion of the statewide High-Speed Rail ("HSR") system that had CEQA clearance for construction and funding was the portion of the M-F Section "located roughly east of Madera (at the Avenue 17/BNSF railroad intersection) to downtown Fresno (Santa Clara Street)." (First Amended Popoff Declaration, ¶2.) The declaration confirms that the RFP for CP1

includes this Madera to Fresno sub-portion of the M-F Section. It also confirms that the Authority anticipated awarding the contract for CP1 in June 2013 and issuing the Notice to Proceed ("NTP"), which NTP authorizes construction and other activities, in July 2013. (*Id.* at ¶¶4-7.) The declaration also confirms that the Authority intends to use federal funding to build the ICS (referred to in the declaration as "Initial Operating Segment First Construction" ("IOS-1st")).

20. Attached hereto as Exhibit 15 is a true and correct copy of a March 2012 staff report to the Authority Board. I personally downloaded this staff report from the Authority's website (http://www.cahighspeedrail.ca.gov/2012_March.aspx). The staff report describes staff's reasons for recommending Board approval to issue the RFP for CP1 in March 2012 (two months before the EIR for the M-F Section was certified).

21. Attached hereto as Exhibit 16 is a true and correct copy of an excerpt from Addendum 9 to the RFP, Instructions to Proposers. I personally downloaded Exhibit 9 from the Authority's website (http://www.cahighspeedrail.ca.gov/construction.aspx). The Instructions to Proposers includes a schedule for implementing CP1 (the first section of the ICS), which schedule states that the Authority expects to issue the design-build contract for CP1 in June 2013 and that the NTP will be issued in July 2013. (Exhibit 13, pp. 9-10.)

22. Attached hereto as Exhibit 17 is a true and correct copy of a January 2013 staff report to the Authority Board informing the Board of staff's intention to issue Requests for Qualifications ("RFQs") for Construction Packages 2, 3 and 4 ("CP2," "CP3," and "CP4")

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within the ICS. The staff report also describes staff's intended approach for issuing the RFQs. I personally downloaded Exhibit 9 from the Authority's website (http://www.cahighspeedrail.ca.gov/2013_January.aspx).

I declare under penalty of perjury under the laws of the State of California that the foregoing is true and correct.

Executed this _____ day of March, 2013, at Oakland, California.

By _____
Jason W. Holder

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COUNTY IS EXEMPT FROM FILING FEES PER GOV. CODE SECTION 6103

SUPERIOR COURT OF THE STATE OF CALIFORNIA

COUNTY OF SACRAMENTO

JOHN TOS, et al., Plaintiffs, v. CALIFORNIA HIGH SPEED RAIL AUTHORITY, et al., Defendants.	CASE NO. 34-2011-00113919 **DECLARATION OF PAUL S. JONES** Trial Date: May 31, 2013

I, Paul S. Jones, declare as follows:

1. I graduated from Cornell University in 1951, BME (with distinction); completed a Masters of Business Administration (Golden Gate University) MBA as well as a PhD in Industrial Engineering (Stanford University). From 1959 to 1972 I worked at Stanford Research Institute (now SRI International). Between 1978 and 1982, I taught Industrial and systems engineering at Georgia Institute of Technology. I returned to Stanford Research Institute in 1983 and retired in 1992. The principal focus of my work was passenger rail and freight planning and development. I consulted with private rail and government rail operators in Malaysia, Korea, Spain, Thailand and the United States during my career of 41 years

2. I was a principal consultant for the planning of high-speed rail systems in both Spain and Korea. For the Spain's Madrid to Barcelona route, we began in 1987 with thirty route alternatives, and through civil engineering studies reduced it to six. Vertical and horizontal alignments were laid out and cost estimates were prepared for the civil work. Travel demand was estimated considering both present travel along the route and potential induced travel. A modal share was estimated for the high-speed service on the basis of different fare levels. High-speed travel estimates were used to prepare a schedule of arrivals and departures for each station. An organization structure was designed and operating and maintenance costs were estimated for each route alternative and fare structure.

3. Later, in 1992, I also consulted on train set procurement Korea's for the Seoul to Pusan route. A careful technical assessment was made of each manufacturers' offers, producing a set of candidate trains. Economic comparisons among candidates were made in terms of first cost, travel times between station pairs, operating costs, maintenance costs, and political considerations. Much of this work was ground breaking.

4. I have examined CHSRA's Blended System's most recent memorandum's claims on travel times using of my high-speed rail expertise and professional experience.[1] Using available information from European high-speed rail designs and procedures, I attempted to reproduce the travel times estimated by CHSRA's consultant, but the analysis raised considerable doubts that such a trip could actually be made in the claimed travel times under the Blended System envisioned by the high-speed rail. Here are some of my concerns

5. Although I do not have the vertical and horizontal alignments for the specific route, because the memorandum doesn't specify the route, it is hard to imagine a route through the Tehachapi Mountains that does not have restrictive curves. The minimum curve radius for passenger comfort at 220 mph is 4.35 miles. Even with extensive tunnels and viaducts, it seems unlikely that all sharp curves can be avoided. The route through the Central Valley may also

[1] See: California High-Speed Rail Authority: Memorandum from Frank Vacca to Jeff Morales titled Phase 1 Blended Travel Time; dated February 11 2013. Found at http://www.calhsr.com/wp-content/uploads/2013/02/Memo-Phase-1-Blended-Travel-Time.pdf-Adobe-Acrobat-Pro.pdf

have some restrictive curves, especially at the Merced Wye, heading northwest toward Pacheco Pass). Each speed reduction from 220 mph to 150 mph due to curves would add 3 minutes to the travel time. That must be added to the extra time required to negotiate the curves. Combined these factors add enough time to bring the claim into doubt.

6. The consultant's brief memorandum mentioned the need to slow the trains during the steep downhill run on the northern side of the Tehachapi range. They cited a 20-mile stretch that may require reduced speed. This would add at least six more minutes to the travel time postulated. Uphill on such a grade would also add more travel time.

7. The memorandum is extremely short on details about operating assumptions. For example, train postulated by the consultant would have five cars and two locomotives and weigh 459 tons. But the memorandum doesn't mention passengers. A full load with baggage could add 40 tons to the weight, which would surely either increase travel time, or electrical power consumption or both. Much more detail is needed by independent analysts before such assertions can be defended.

8. The memorandum simulates operating at 125 mph through the San Francisco Peninsula corridor used by Caltrain. This would require full grade separations at all crossings. Quad gates at all crossings would only allow a speed no greater than 110 mph, which would add 3.5 minutes to the San Francisco to-San Jose run time. Neither of these improvements is included in Caltrain's plan for sharing the tracks with the Authority's Blended System. As currently configured for Blended System's operation on that corridor, the maximum speed is 79 mph. This would add more than 14 minutes to the San Francisco to-San Jose run.

9. In the San Francisco to-San Jose corridor, there also are curves that require speed reductions. For passenger comfort, the minimum curve radius for 125 mph is 1.4 miles; for 110 mph is 1.1 miles and for 79 mph is only .55 miles. This implies that construction upgrades are needed, or the speed limit must be as it presently is, 79 mph; which would add to the estimates of the consultant.

10. In their Blended System simulations, CHSRA and Caltrain postulated a clear window for two high-speed trains each peak hour. However, this requires compressing the time

between Caltrain trains to operate at shorter headways. The success of this would depend heavily on the consistency of Caltrain travel and stopping times. This is a factor that has only been postulated, and it is unclear from the memorandum whether there is any factual basis for this since there is no in-depth study accompanying the eight-page memorandum.

11. Based on my experience in rail scheduling and this analysis, I find it difficult to believe that the February memorandum on travel times is a realistic assessment of meeting the deadline of 2 hours and 40 minutes between Union Station, Los Angeles and the San Francisco TransBay Terminal.

I declare under penalty of perjury pursuant to the laws of the State of California that the foregoing is true and correct.

Executed on this 8th day of March, 2013, at Atherton, California.

PAUL S. JONES

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COUNTY IS EXEMPT FROM FILING FEES PER GOV. CODE SECTION 6103

SUPERIOR COURT OF THE STATE OF CALIFORNIA

COUNTY OF SACRAMENTO

JOHN TOS, et al.,

Plaintiffs,

v.

CALIFORNIA HIGH SPEED RAIL AUTHORITY, et al.,

Defendants.

CASE NO. 34-2011-00113919

SUPPLEMENTAL DECLARATION OF MICHAEL G. BROWNRIGG

Trial Date: May 31, 2013

I, Michael G. Brownrigg, declare as follows:

1. I, declare, under penalty of perjury, that the following is true and correct, and that if called as a witness to testify to the following, I would be competent to so testify. This statement is a supplement to my prior testimony; therefore I will not repeat my credentials.

2. In the interim, I have come across two concrete examples of private sector investors shying away from investments in large High Speed Rail projects. I believe these are pertinent examples since there are no High Speed Rail investments in the United States with which to compare experience, and the California High Speed Rail Authority also commonly refers to experiences in Europe and Asia to make its case.

3. The first specific case was mentioned *inter alia* in The Economist magazine, which reported that the Government of Brazil had hoped that the private sector would bid to build and operate a 510 KM line between Sao Paolo and Rio de Janeiro.[1] On three separate occasions, bids from the private sector were solicited and none/none were received.

4. As elaborated on in MetalMiner (a website aimed at looking at projects that would consume metals and/or help move ore), the "Brazilian government thought it a good idea to have private investors bid to build and run the thing, and they essentially said, "Nah, we'll pass" — three consecutive times. (Once in Dec. 2010, then in April and July 2011.) The 510-kilometer (318-mile) train project's initial cost estimate was R$33 billion ($19.3 billion) and the project would be entirely at the investors' own risk, without any revenue guarantees."[2]

5. Taiwan's experience with private financing also leads our own and other nations' private sector firms to be especially risk averse when considering high-speed rail projects. In that case, the system was to be built and run without any encumbrance on public finance. Private financing became harder to come by as construction costs mounted, so state-owned enterprises were used by the government to offer further investment. By the time the system opened, the government actually owned over 1/3 of the share capital through these enterprises. Then, because the operators were required to run it as a business, meaning handling the financing charges and depreciation, they struggled to make a profit. Finally, the government threw out the private sector board of directors and inserted their own directors, recapitalizing the company through state-owned banks and, in so doing, wiping out a great deal of private sector equity and debt; in other words: an effective nationalization of the service and a significant loss for many private investors. These are not tools that have been commonly used in our country, with the exception of the 2008/2009 near depression for autos and banks. And in any case, they give pause to private investors who might be considering investing in a US High Speed Rail system.

6. The Taiwanese system is sometimes hailed as a model in which the operations become "profitable," but that is only if the model does not include depreciation (which is saving money for the future replacement costs) and interest payments on the debt. As US PIRG wrote in a summary of private-public partnerships for High Speed Rail Development: [3]

High-speed rail Public-Private Partnerships and efforts toward rail privatization abroad have a mixed track record.

- In Taiwan, the government's efforts to pursue a fully private-sector built and financed high-speed rail line fell apart—despite rising ridership—as the private company responsible for building the line faced a financial crisis caused by its reliance on high-cost debt. The Taiwan government ultimately stepped forward to bail out the company and refinance its debt.

- In the Netherlands, a series of problems led to massive cost overruns in the construction of a high-speed rail line, most of which became the responsibility of the government. The PPP process was characterized by illegal collusion among bidders for the construction contracts, poor coordination among the various contracts, and unexpected delays that required the government to provide emergency bailouts.

- In Great Britain, an effort to privatize the operation of the nation's rail infrastructure led to a decline in the system's safety. Excessive use of contracting, coupled with poorly designed incentives, caused delays in the response to known safety problems and a massive backlog of critical maintenance projects—problems that contributed to a deadly train accident in 2000. In the wake of that accident, the formerly private infrastructure provider was reorganized as a government-regulated non-profit.

- Portugal engaged in thoughtful development of a PPP strategy for construction of its high-speed rail system. However, Portugal's high-speed rail program still required a large investment of public resources and the nation may be responsible for paying financial compensation to its private sector partners if it pulls back on its high-speed rail construction plans in the midst of a devastating financial crisis.

7. These experiences explain why private sector capital is exceptionally leery about becoming engaged in High Speed Rail projects unless there are revenue or other guarantees. It also explains why the Legislature wanted to be sure the California High Speed Rail Authority had enough capital, from whatever source, to construct something useful that could actually provide a public service and make money to recoup the investment, whether public or private. The Legislature wanted to avoid the pitfalls of "teaser loans," those devices that hook a borrower early on with favorable promises and then hit the borrower with added fees or higher rates later on, which the borrower has few options but to pay.

I declare under penalty of perjury pursuant to the laws of the State of California that the foregoing is true and correct.

Executed on this 7 day of March, 2013, at Burlingame, California.

MICHAEL G. BROWNRIGG

[1] http://www.economist.com/blogs/americasview/2012/08/high-speed-rail-brazil
[2] http://agmetalminer.com/2012/03/05/bad-economics-plague-brazils-high-speed-rail-plans/
[3] http://www.uspirg.org/sites/pirg/files/reports/HSR-PPP-USPIRG-July-19-2011.pdf