

EXECUTIVE SUMMARY

The Financial Risks of California's Proposed High-Speed Rail Project

**A Review And Assessment
Of Publicly Available Materials On
The California High-Speed Rail Authority's
Financial Plans**

October 12th 2010

"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."

We are grateful to the Community Coalition on High Speed Rail for providing a virtual 'home' for this review. For downloadable copies of the entire report and appendices, visit their website www.cc-hsr.org The following Table of Contents of the full report is provided as a guide to the context of this paper.

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THE AUTHORS AND PRINCIPAL REVIEWERS

The Authors and Principal Reviewers of this document worked without corporate, government or private sponsorship. They read considerable materials from both proponents and opponents of the proposed California High-Speed Rail (CHSR) project. The authors shared drafts with professionals who understand finance and comprehend the implications of the analyses. They met individually and in groups to give direction for the paper and reviewed and commented on drafts. Over several months of mid-to-Q3 2010, the paper came together to reflect the common themes and conclusions that arose in these discussions.

Over seventy Principal Reviewers have read the report and agree with the Authors' findings and endorse their conclusions.

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EXECUTIVE SUMMARY

After months trying to understand the available evidence and forecasts from the California High-Speed Rail Authority (CHSRA), our general conclusion is that there is little if any chance the system will pay for itself. That requirement is the baseline of AB3034.

The 2008 and 2009 CHSRA business plans asserted the system would earn an operating surplus, the most recent stating it would do so in the system's first year of operations. The private sector was supposed to be a financial partner, local governments were supposed to pitch in, and the Federal Government was to have funded about 45% of the presently estimated costs. The stark conclusion, of this financial Review, based only on CHSRA's Phase I plans and supported by these pages, is that CHSRA's financial promises can't be kept.

After reviewing this paper and documents in the End Notes, the Authors and Principal Reviewers cited in the Preface agree on the following specific conclusions.

1.0 Broken Promises And Unmet Demands From The Legislature Diminish The CHSR Project's Credibility

1.1 The CHSR Project That Voters Chose In 2008 Promised To Link Seven Cities, But Links Only Three. Although San Diego, Riverside, Oakland and Sacramento were part of the official ballot description for Prop 1A, what emerged after the vote as Phase I is only for Los Angeles/Anaheim to downtown San Francisco

1.2 The Prop 1A \$33 Billion Capital Cost Promise Morphed Into A \$42.6 Billion Capital Cost. How did the CHSR project drop routes but increase its costs?

1.3 The Promised \$55 One-way SF-LA Ticket Morphed Into A \$105 One-way Ticket After Prop 1A. Voters chose what looked like an attractive fare, but a year later were presented with a fare that nearly doubled.

1.4 Five Months Before Prop 1A Passed, The Authority Knew That Private Sector Participation Was Conditioned On Near Total Federal And State Capital Building The CHSR Project. IMG told the Authority that private sector firms were really only interested in building the CHSR if the government paid for it.

1.5 Five Months Before Prop 1A And Three Months Before AB3034 Passed, The Authority Learned The Private Sector Would Only Operate The CHSR If Given A Revenue Guarantee. IMG and Goldman Sachs told the CHSRA Board that the private sector considered the ridership risks too high to finance CHSR without a revenue guarantee

1.6 The CHSRA Did Not Meet The Senate's Demand For An Investment Grade Business Plan Prior To The 2008 Proposition 1A Vote. Although demanded by September 1,2008, the promotion-oriented document submitted to the Senate came after the election.

1.7 CHSR Proponents Promised Prop 1A Voters The Project Would Pay Its Way; But By Mid-2008 The CHSRA Knew The State Would Have To Guarantee The Operators' Revenue. Proponents promised "*THE USERS OF THE SYSTEM PAY FOR THE SYSTEM*"; that is riders, not taxpayers, would pay for the system.

1.8 Despite The Senate's Demand, CHSRA's Business Plans Have Still Not Met The Criteria Or Quality For Investment Grade. The Senate still does not have an investment grade business plan two years after demanding one.

1.9 A Year After AB3034 Passed, IMG Again Told The Authority That Private Sector Financing Would Only Become Available With A Revenue Guarantee. There was little or no change in the private sector's view of the financial worthiness of the CHSR project in the intervening year.

1.10 Although Twice Demanded By The Legislature And Promised Before September 2010, CHSRA Has Not Produced A Risk Mitigation Plan. This is the *sine qua non* of finance; what needs to be done if the scenario as presented fails to take place.

1.11 Despite The Demands Of AB3034 More Than Two Years Ago, No Independent Peer Review Group Has Reviewed And Assessed The CHSRA's Financial Plans. How the Authority can ignore that essential condition of AB3034 is a mystery.

2.0 CHSRA's Ridership Forecasts – Central to the System's Financial Outcome – Are Far Too Optimistic

2.1 Evidence-Based Analyses Contradict CHSRA's Forecasts. Empirical precedents from the USA and Europe suggest CHSR ridership by the tenth operating year (2030) should be 5-10 million, not the 39 million annual passengers claimed in the CHSRA models.

2.2. Independent Experts' Refute CHSRA's Ridership Model.

Three independent economists and transportation groups have found significant flaws in the CHSRA consultant's ridership model involving uses of coefficients and inappropriate data series. These findings have already produced calls for even more independent reviews of this critical planning element.

3.0 CHSRA's Estimated Phase I Capital Costs Should Be Significantly Higher.

The history of cost overruns on megaprojects such as high-speed rail suggests the CHSRA has seriously underestimated the price tag for Phase I (Los Angeles to San Francisco). Using overruns from recent infrastructure projects as a guideline suggests the present \$42.6 billion estimate could reach \$100 billion or greater.¹

3.1 Megaproject Histories Show Costs Were Substantially Underestimated. Transport projects' build-out costs can be anywhere as high as 600% of their original estimates.

3.2 The Costs Of Phase I Of The CHSR Project Could Fall Between \$62 Billion And \$213 Billion. Comparing the CHSR's estimated costs to real world outcomes gives a sobering view of how high the build-out costs could go.

4.0 CHSRA's Revenue Assumptions Are Too High And Its Operating Expenses Too Low

4.1 CHSRA Used Inflated Auto And Airfare Prices To Capture More Riders And Revenue. A detailed analysis of actual automotive and airline ticket costs between Los Angeles and San Francisco concludes that the CHSRA's input prices to its revenue model for auto and air travel should be at least 25% lower. Even using the Authority's ridership forecasts, the CHSRA would not gain enough revenue to avoid requiring an operating subsidy to service its operating debt, a situation strictly prohibited by AB3034.²

4.2 If CHSRA Had Used An Evidence-Based Pricing Approach, Ridership Estimates Would Have been Lower. Empirical analysis of the per-passenger mile ticket charges for five European and Japanese high-speed rail systems suggests ticket pricing assumptions should be about \$190 for a one-way SF-LA passage, about 80% higher than the \$105 CHSRA's present model uses.

4.3 CHSRA's Assumptions On Operating Expenses Do Not Reflect Real World Practices. Many of CHSRA's assumptions about operating expenses do not conform to rigorous accounting and financial practices. CHSRA's documents fail to distinguish between variable and fixed costs, do not recognize that maintenance costs increase yearly, do not

include insurance costs, and do not acknowledge that labor cost increases will be extremely difficult to manage.

5.0 Using The CHSRA's Data On Revenues and Expenses, The System Will Never Achieve Positive Cash Flow Without All The Assumed Federal Grant Monies

5.1 The Warren Financial Model Of The CHSR Highlights The Costs Taxpayers Will Have To Bear. Without independent access to the CHSRA's financial model, several of the authors built a surrogate model based on the assumptions stated in the CHSRA's 2009 Business Plan, with particular focus on the issue of 'if and when' the CHSR might achieve positive cash flow. This 'Warren Model' of CHSR's prospects for being financially self-sustaining assumes the point of view of the State of California's obligations, not the Authority's view that it can 'off-load' its financial obligations to other entities.

The model finds that unless the Federal Government supplies the CHSR with the complete package of \$19 billion of grants towards the supposed \$42.6 billion of capital costs currently needed, the CHSR will never achieve positive cash flow.

Any other finance scenario will require visible or seriously large debt servicing. Debt servicing becomes an operating expense. Therefore, if built, the CHSR will require a continual and reliable subsidy, now referred to by the CHSRA as a 'revenue guarantee'. The authorizing legislation for the system, AB3034 (Galgiani), explicitly prohibits such a subsidy.³ Meanwhile, the CHSRA commissioned the Infrastructure Management Group Inc. to outline how to interpret a revenue guarantee as something other than an operating subsidy.⁴

In this Review, numerous scenarios are analyzed to show the sensitivity and magnitude of the peak cumulative negative cash flows to various combinations of financing, various degrees of successful operating results, and the 'guaranteed' or 'at risk' returns for the private equity investor.

5.2. High-speed rail systems do not break even. The Director of High-Speed Rail at the International Union of Railways (IUR) stated that only two segments of two high-speed rail systems in Europe and Japan break even. A 2004 DOT study, then a the Congressional Research Service study reconfirmed this. In 2009 Amtrak's Inspector General documented the on-balance sheet and off-balance sheet subsidies European rail operators receive. Recently a World Bank report said the same thing. This reality should have been reflected in the CHSRA's 2008 promotion of Prop 1A. CHSRA's negligence of these facts is neither understandable nor excusable.

6.0. Complete CHSR Funding Has Not Materialized, Nor Is It Likely To Be Forthcoming.

As of third quarter 2010, the prospects for obtaining the funds listed in the Authority's 2009 Business Plan do not seem bright. There is a large and real funding gap between the sizes and sources the CHSR needs and what it has or is likely to get. Others have also pointed out this discrepancy. For example, within weeks of the April 2010 ARRA allocation that looked so hopeful, State Auditor Howle reported to the Governor: "*The program risks significant delays without more well-developed plans for obtaining funds.*"⁵

6.1 CHSRA's Proposed Capital Budget Sources Are Heavily Skewed To 'Free' Government Money. The 2009 CHSRA Business Plan specified four sources of capital prior to the start of operations in 2020.

Federal Grants	\$17-19 billion
State Grants (actually Prop. 1A bonds) ⁶	\$9.95 billion
Local Grants	\$4-5 billion
Private Debt or Equity Funding	\$10-12 billion

6.2 Purchasers For The \$9.95B Of Guaranteed GO Bonds Have Not Come Forward. Even with a State of California guarantee, the future of bond sales is questionable. State Treasurer Lockyer said, "*I would be reticent to try to go to market to issue bonds to finance the state's share. The only discretion I have is to say, 'You can't sell this.'*"⁷

6.3 The Probability Of CHSRA Receiving The Full Complement Of Federal Grants Is Small. As of August 2010, the total the Authority could use for building the project is \$4.7 billion -- the sum of the \$2.34 billion ARRA grant from the Federal Government and the dollar-for-dollar match authorized by Prop 1A, less the \$400 million earmarked in the Federal grant for the San Francisco Transbay Terminal. This totals about 11% of the currently estimated \$42.6 billion projected cost. We have found no provision for financing above that projected cost.

6.4 CHSRA's Assumptions About Local Government Assistance Have No Historical Basis. CHSRA's assumptions about the ability of California's fiscally strapped cities and counties to provide \$4-5 billion 'local contribution' grants for the CHSR project fail to take into account the financial distress of those governments. They are furloughing or laying-off police officers, teachers and other employees. Local governments have almost never funded transit projects outside their jurisdiction. The prospect of gaining such local funding through grants or secured debt within the foreseeable future is doubtful.

6.5 Twenty-three Months After Passage of Proposition 1A, There Is No Private Equity Or Debt-Based Financing for the CHSR. The United States' risk capital providers, of which California-based companies

are leaders, have not come forward in the past 23 months for the CHSR. This suggests there is little appetite for either a guaranteed or non-guaranteed return on investment in the CHSR project. Given the State's continued budget shortfalls, investment in California State projects, particularly of the order of magnitude of Phase I of the project (the segment between San Francisco and Los Angeles, without the Oakland, Sacramento or San Diego destinations) entails far greater risk than normal. Moreover, our analysis suggests the risk-adjusted return profile of CHSR will be highly unattractive to private investors. This further undermines the project's financial plans.

6.6 At Present California Is In The Least Favorable Position Possible To Go To Debt Markets To Fund The CHSR Project. Even if the Great Recession had not happened and the Federal Government was not purposely and rapidly increasing its debt through fiscal stimulus, the State's profligate spending even in 'good times' has put it at a disadvantage relative to other borrowers. Add to that the new dimensions of increased scrutiny by the State Treasurer and the SEC, and California will be hard pressed to attract bond buyers.

6.7 Discussions With Sovereign Governments Or Others About Using 'Creative Financing' To Fund CHSR May Not Be In The Best Interests Of California. Discussions by the CHSRA with sovereign financiers (such as China, France, Germany or Japan), or such sovereign financiers in combination with foreign builders, operators and private financiers, could be a dangerous foray into using 'creative financing' to fund CHSR. This could result in an excessively leveraged CHSR if the projected federal and city/county grants are indeed supplemented by foreign loans requiring ongoing debt service payments. What could be helpful to get the CHSRA's project built may be bad for California in several different ways.

7.0 CHSRA's Job Creation Forecasts Are Too Vague And Too Large To Be Credible. The CHSRA predicted 600,000 jobs would be created over the course of the CHSR construction period. Whether that is 60,000 jobs for ten years or 600,000 for one year or some other possibility is not defined. The CHSRA forecast of 450,000 permanent jobs is unsubstantiated by either methods or evidence presented in the CHSRA's reports.

7.1 CHSRA Is Silent On Exactly When Or Where Jobs Occur, Or How Many FTE Jobs Each Year Their Forecasts Represent. Promises of construction and permanent employment should be accompanied with information about whether these are Full Time Equivalents (FTE's); what the average income per job would be; what years these jobs would be created, and how long – if not forever – would these permanent jobs last.

7.2 CHSRA's Forecasted Employment For The 8-10 Years Of Construction Is Seriously At Odds With Estimates Based On Bureau Of Labor Statistics Data. The 600,000 construction jobs forecast differs significantly from other forecasts using Bureau of Labor Statistics (BLS) data.

7.3 If 'Permanent Jobs' In CHSRA's Lexicon Means Both CHSR Employees, As Well As Those Employed Permanently Because CHSR Exists, Their Forecast Is Beyond Believable. In August 2010, there were 15,968,000 jobs in California while there were 239,586 active State of California employees. To claim a train would create twice the number of employees as the entire State government, whether engineers, maintenance workers, local coffee shop owners or rental car agencies is highly questionable.

7.4 If 'Permanent Jobs' In CHSRA's Lexicon Means Only CHSR's Employees, Then Few Jobs Will Be Created. If CHSRA means 'permanent' to be jobs created over a 40-year life of the project, the impact – 0.1% – is miniscule.

7.5 There Are Inconsistencies In CHSRA's Forecasts That Raise Questions About The Rigor Of Their Methodologies For Computing Employment. CHSRA appears to be confused about its CHSR Phase I employment forecasts.

REFERENCES

¹ For purposes of this document, we are using only CHSRA's estimated Phase I capital cost of \$42.6 billion. However, this number fails to include several items, not the least of which right-of-way acquisition costs, including eminent domain takings.

² AB3034, Chapter 267, as approved by the Governor on August 26, 2008 and filed with the Secretary of State that same day says in Chapter 20 "(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.*"

³ Ibid

⁴ See: Minimum Revenue Guarantee; a memorandum to Curt Pringle, Medhi Morshed, Jeff Barker, CA High-Speed Rail Authority; from Sasha Page and Alene Tchourmoff; Infrastructure Management Group Inc; dated February 21, 2010. Among other approaches the memorandum suggests that the operator "*could be eligible to have part of its capital costs defrayed. **This type of capital cost-only limitation has been employed both in federal and state highway and transit projects and cannot in any sense be considered an "operating subsidy."** Unlike transit that often requires long-term guarantees, the revenue guarantee would be designed to be **limited in duration (5-10 years)** . . ." (emphasis in the original)*

⁵ Elaine M. Howle and Doug Cordiner, Chief Deputy State Auditor; California State Auditor Bureau of State Audits; Report 2009-106; April 29, 2010. Public Letter

⁶ The CHSRA continues to list both State of California monies and local government monies as non-repayable grants. However, the State of California (and its taxpayers) will be responsible for repaying those monies with interest; a reality not reflected in the Authority's funding map. See: California High-Speed Rail Authority (HSRA): Report to the Legislature; December 2009; page 108

⁷ San Diego Union-Tribune; Sign-on; July 14, 2010

<http://www.signonsandiego.com/news/2010/jul/14/u-t-editorial-lockyers-straight-talk/>