# SIX MYTHS SURROUNDING CALIFORNIA'S HIGH-SPEED RAIL PROJECT

– from the authors of –

## 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**

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*"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."*

# 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. The names and qualifications of the Principal Reviewers can be found in the full report.

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.**

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# California's High-Speed Rail Project
# Six Myths Wrapping A Fantasy,
# Shielded By Voter Apathy
# And Protected By Self-Interests

However well-meaning the supporters of California's high-speed rail project (CHSR) may have been in 2008, the California High-Speed Rail Authority (CHSRA) wasn't showing the public the 'full deck' when they sold Prop 1A. What they were supposed to sell was a project paying for its operations through tickets and other charges, since its authorizing law (AB3034) disallows an operating subsidy. A year after Prop 1A passed, Phase I (later defined as LA/Anaheim to downtown SF) was forecast to earn an 'operating surplus' (ie profit) of $370 million in its first year. CHSR wasn't sold as a 'social good dependent on continuous subsidies', but rather a business proposition. That's how it has to be evaluated.

What advocates sold the voters was the image of a 240-mph train zipping through the countryside that would close the 'US high-speed rail technology gap' and create oodles of jobs. One-way SF-LA or LA-SF was to be $55, and the ballot description showed the statewide system linking seven major cities. Private sector debt or equity investments were to profit by providing a quarter of the total $33 billion in capital costs. And the $9.95 billion of State-guaranteed bonds was to be complemented by Federal and local government gifts-from-the-people for the remainder.

To gain and keep Californians excited about this sexy-looking project meant keeping alive several high-speed rail myths. But the reality is that such megaprojects seriously overrun their capital project budgets, don't attract nearly the riders their engineering, construction, equipment and software maker proponents say they will, and therefore require subsidies. Proponents have kept CHSR alive by promoting at least six myths. These require exposing.

**Myth #1 – CHSR's Estimated Capital Cost Is The Whole Cost And Nothing But The Cost** – High-speed rail projects almost always overrun their capital costs by significant margins. Eurostar tunnel's final construction costs, absorbed by the governments of France and the UK, were 80% higher than estimated. The Cologne to Frankfurt Intercity Express (ICE) exceeded estimates by 42%, and Nuremberg to Munich ICE cost 85% more than estimated. In their seminal survey of 210 transport mega-projects, Flyvbjerg, Bruzelius and Rothengatter found that *"For rail, actual costs are on average 45 percent higher than estimated costs."*[1] Historical US evidence, including a twenty-year old DOT study, concluded the median of total cost overruns for rail projects was 61%.[2] Significantly, cost forecasts have not improved in fifty years. [3]

If Phase I of the CHSR overran its estimate equal to that of the Channel Tunnel, CHSR would cost $77 billion, not the present $42.6 billion.[4] If it overran as much as the Cologne to Frankfurt ICE, it would cost $60 billion, Nuremberg to Munich $79 billion, and if by as much as DOT found, CHSR would cost $69 billion. If the CHSR overran as much as Boston's Big Dig, supervised by the same team now managing the CHSR, the costs would be over $150 billion.[5] Californians would have to pay that.

**Myth #2 – We'll Have Nearly 100 Million Riders: Oops! – Make That 39 Million Riders –** After twenty operating years**,** Acela, the USA's closest cousin to a high-speed rail system, carries about three million riders along the Boston-NYC-Philadelphia-Baltimore-WDC corridor. If the CHSR project could capture the same 11% of its market, it would carry less than five million, not CHSRA's thirty nine million riders.

Other historical evidence is not kind to CHSRA's projections. In 2009 the Paris-London Eurostar carried 9.2 million passengers, 60% of what forecasters said it would carry fourteen years earlier.[6] Flyvbjerg *et al* also stress the lack of reliability of passenger forecasts: *"(rail) forecasts were overestimated on the average by 65%."*[7] And the World Bank's recent report concluded that, *"High-speed projects have rarely met the full ridership forecasts asserted by their promoters . . ."*[8]

Before the 2008 vote, CHSR proponents claimed it would carry ninety-four million riders, but a year later that had 'dwindled' to thirty-nine million. Even earlier, CHSRA's forecasters had put the total for the entire seven-city system at forty-two million, half what 2008 voters were told would be riders when the LA-SF ticket price was $55.[9] Does it make sense that California's new travel mode will carry eight times (39 vs. 5 million) Acela's train-trained customers? Or is it responsible to risk spending on the CHSR in the hope of capturing nearly as many passengers in its tenth year as the <u>entire</u> population of California (39 vs. 46 million) whether the customer is two or two hundred miles from a station?

Despite a vigorous defense by the firm that did CHSRA's latest forecasts, their peers and others don't believe their arcane and expensive modeling techniques were subject to sufficient objectivity. Widespread lack of confidence encouraged California's Senate to authorize an independent re-examination by UC Berkeley that concluded: *"The forecast of ridership is unlikely to be very close to the ridership that would actually materialize if the system were built."*[10]

Proponents paint a 'must-have' picture of Japan's Shinkansen zipping along with snow-capped Fujiyama substituted for the Sierra Nevada. But Japan's density is 880 people per square mile. It's 653 in Britain and 611 in Germany. The density of the suburbanized Golden State is 236 per square mile, a quarter of Japan's.[11] Nor do they account for switchovers to

telecommuting, hybrid or electric autos, nor the cost-efficiencies of inter-city buses. And what would these thirty-nine million riders do when they reach Anaheim or San Jose? [12] They'd drive cars. While sprawl is anathema to Ecotopia enthusiasts, it's how Americans persistently choose to reside, shop and work.

**Myth #3 – Don't Worry, Be Happy; The Riders Will Pay For It –** Despite what proponents say, no high-speed rail system in the world pays for itself. In 2009, the Director of High-speed Rail at the International Union of Railways (IUR) said that, with two exceptions (Paris-Lyon and Tokyo-Osaka), high-speed systems are subsidized.[13] That same year, the US Congressional Research Service reported: *"Experts say that virtually no HSR lines anywhere in the world have earned enough revenue to cover both their construction and operating costs."*[14] In April 2008, Amtrak's Inspector General, making a pitch for more Amtrak subsidies, reported that six European nations' operations required an annual subsidy of $42 billion:[15] Four years before Californians chose to help finance the state's system, the US Department of Transportation (DOT) said that inter-city rail required subsidies of $100 or more per 1,000 passenger miles.[16] And the World Bank recently cautioned about the debt created by high-speed rail systems: *"Governments . . . should also contemplate the near-certainty of copious and continuing budget support for the debt."*[17] If proponents have hard evidence to refute these objective studies and statements, they need to bring it into the daylight.

Work done by economists and finance experts, and agreed to by seventy business and financial industry leaders in *The Financial Risks of California's High-Speed Rail Projec*t, supports the above-cited studies.[18] But the CHSRA not only asserts an 'operating surplus' in the first year, but $1.5 billion of profit in the train's third operating year. By contrast, the *Financial Risks* report's authors find the system accumulates a negative cash flow of $4 billion under the same ridership, capital and operating costs and revenue assumptions as stated by the Authority. And that deficit – legally not coverable by a subsidy – could easily go to nearly $50 billion if riders don't show up or construction or operating expenses are more than projected.

Even to a non-financial expert, it must seem bizarre that with so much operating surplus supposedly being made, taxpayers are asked to bail out a supposedly profitable operation. The 2009 business plan repeats, no less than five times, the statement that the CHSR needs a revenue guarantee (aka a prohibited-by-law-subsidy, while claiming supposedly investment-attracting operating surpluses.

That contradiction wouldn't get advocates past a Silicon Valley venture capital firm's parking lot. Only when there is 'skin in the game' does a business proposition like CHSR take on the aura of reality. And two years after Prop 1A, not one cent of private capital has been put up for the CHSR.

**Myth #4 – Lots and Lots Of Jobs –Maybe, But Not Probably Here –** You actually can tell a book by its cover! As the Great Recession bit in late 2008, the CHSR business plan's cover shifted from all train to a job-generating juggernaut cover in 2009. CHSRA forecasted 600,000 jobs created over the course of construction and 450,000 'permanent' jobs. [19] This is four times more than 160,000 construction-related and 40% more than the 320,000 permanent jobs their earlier consultants predicted.[20]

For hard-hit construction workers and their unions, this sounded like manna from heaven. What do the CHSRA forecasts mean? But CHSRA is not clear on whether those are jobs or person-years of jobs.

The difference in interpretation is extremely significant. If the CHSRA means 600,000 workers will be employed throughout construction, they differ sharply from what Bureau of Labor Statistics suggests – only 10-12,000 jobs for the duration of "*the 10 years that construction is expected to last."*[21]. Alternatively, if 450,000 permanent jobs means 'forever' this represents 3% of the state's entire workforce.[22] Conversely, if 'permanent' were limited to the train's first twenty years, then dividing the 450,000 assertion by twenty years suggests only about 23,000 permanent jobs; or about 0.2% of the workforce. A very big difference indeed.

During the Prop 1A campaign, proponents officially committed that *"These are American jobs that cannot be outsourced"*.[23] Since then, the Authority is silent about these jobs' location. Very few of the highly skilled construction or operations jobs could be filled by Californians today. Job-desperate unions may have been misled.

**Myth #5 – What The Voters Chose Is What The Voters Get – No Bait And Switch Here –** Promises were made to the voters in 2008 to gain their approval for the seed capital of the CHSR – the State's $9.95 billion of government-guaranteed bonds. But CHSRA seems to ignore some of those promises.

In the official ballot description, proponents promised "*THE USERS OF THE SYSTEM PAY FOR THE SYSTEM"*; that is riders, not taxpayers, would pay for the system. But in June 2008, five months before the Prop 1A vote, CHSRA's Board learned that the State or Federal government would have to build the system and guarantee the operator's revenue; the latter a violation of AB3034. Why wasn't the ballot description clear that CHSR would require a subsidy?

Second, San Diego, Riverside, Oakland and Sacramento were part of the official ballot description of Prop 1A that 52% of voters supported. But what emerged shortly after the vote as Phase I was only for Los Angeles/Anaheim to downtown San Francisco. If a used car dealer had done that, it would be called bait and switch.

Third, Prop 1A's $33 billion capital cost promise increased by $10 billion after the election. How could the CHSR drop routes to Sacramento, Oakland, San Diego and Riverside, but increase capital costs? While CHSRA claims the rise was due in part to regulations from the Federal Railroad Administration (FRA) to account for inflation, that doesn't pass the smell test. FRA and CHSRA have worked together for years.

Fourth, the promised $55 one-way SF-LA ticket morphed into a $105 one-way ticket after Prop 1A. CHSRA claims ticket prices are only a variable of their expensive ridership model, dependent on their selected percentage (50% then 83%) of auto or airline tickets costs to passengers. The "Financial Risk" document's authors found the CHSR model builders used unrealistically high auto operations costs and airline ticket prices, resulting in higher ridership numbers making it cheaper to ride the train than fly. Using real-world prices from high-speed operations in Europe and Japan, the authors found that the CHSR needs to charge around $190 for a one-way LA-SF ticket – nearly four times the price that sold voters in 2008. Would Prop 1A have passed if the one-way LA-SF rail ticket was priced at twice that of an airline ticket?

**Myth #6 – A State Agency Always Follows The Law That Legalized Its Plans –** It might surprise some Americans that a government agency doesn't follow the law. In fact CHSRA has failed to comply with at least four critical elements of AB3034.

In August 2008, when the Legislature passed AB3034 (the legal authorization behind Proposition 1A) they specifically demanded the CHSRA provide the Senate with a business plan by September 1, 2008. What the Authority refers to as a business plan, but called a promotional document by authorities and critics, only appeared after Prop 1A passed that November.

Second, the Senate demanded an investment grade business plan during debate on AB3034. Even the December 2009 plan is so light on financial detail that it is useless for the due diligence needed to attract $10-12 billion of private sector investment. CHSRA's Board only appointed a financial advisory firm nearly two years after Prop 1A passed; a classic case of caboose-before-the-locomotive.

Third, when debating AB3034, the Legislature demanded a risk mitigation plan: i.e. what is Plan B if assumptions about Plan A change? The CHSRA business response is they'll 'monitor' changing circumstances. There has never been even an outline of an optional course of action if construction costs rise, operations are more expensive, or thirty-nine million riders fail to show up – or any combination of 'other than best case scenarios'.

Fourth, as of late 2010, no Peer Review committee has ever sat in deliberation. Despite this specific 2008 legislative demand, allies or critics of the Authority have never been able to independently deliberate the realities

versus the myths for California's largest-ever infrastructure project. How that happened is just one of the many mysteries of the CHSR.

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**Conclusions –** What Californians face today is a very different proposition from what they voted for in 2008. What seemed to be a ground breaking, job-creating, life-style-changing technology has become a 'behemoth by stealth' that violates not only its own promises, but the standards of good government. If CHSR is built, it will not only be to the detriment of a State nearly $80 billion in debt, not to mention California's unfunded pension liability of over $400 billion.[24]

If any part of it happens, the California High-Speed Rail project will also show that 'you really can fool the majority of voters some of the time'. Most tragically, its presence would once again bite into the credibility of government. That loss is increasingly harder to recover from.

# REFERENCES

[1] Flyvbjerg, Bent; Bruzelius, Nils and Rothengatter, Werner: Megaprojects And Risk, An Anatomy of Ambition; Cambridge University Press, 2003. pg. 15
[2] Pickrell, Don; *Urban Rail Transit Projects: Forecast Versus Actual Ridership and Costs* (Washington, DC: US Department of Transportation, Urban Mass Transportation Administration, 199089).*:*
[3] Op.cit Flyvbjerg, Bent, *et al*; pg. 16 "*Cost overrun today (2003) is in the same order of magnitude as it was ten, thirty or seventy years ago*."
[4] See: Figures 1 and 2; page 54: The Financial Risks of California's High-Speed Rail Project. Available at www.cc-hsr.org
[5] The project manager for CHSRA is Parsons Brinckerhoff, the same firm that managed Boston's Big Dig.
[6] Private communication with Jean-Claude Guez: Non-Executive Board Director/ Administrateur de Sociétés Internationales; Senior Management Advisor/ Conseiller Expert de Directions Générale: former director of the board of SNCF.; jen-claude@guez.ws
[7] Op. cit: Flyvbjerg, Bent; et al; pg. 26.
[8] Paul Amos, Dick Bullock and Jitendra Sondhi; World Bank Report No 55856; July 2010; pg.14
[9] The Cambridge Systematics (CS) estimate of 94 million, then 39 million replaced the forecast for 2020 made by Charles River Associates (CRA) in 2000 for inter-regional trips (32 million) and the Authority's estimate of long-distance commuting (10 million)"
[10] Statement by Samer Madanat; Director of ITS Berkeley; found at http://www.berkeley.edu/news/media/releases/2010/07/01_high_speed_rail.shtml
[11] US Density is 86 people per square mile. Sources for all density quotations: World Atlas.com http://www.worldatlas.com/aatlas/populations/usadensityh.htm
[12] The Official Voter Information Guide says *"Routes linking downtown stations in SAN DIEGO, LOS ANGELES, FRESNO, SAN JOSE, SAN FRANCISCO, and SACRAMENTO, with stops in communities in between."* Yet Phase I is only for funding the LA/Anaheim to the San Francisco Transbay Terminal. See http://www.voterguide.sos.ca.gov/past/2008/general/argu-rebut/argu-rebutt1a.htm
[13] Statement by Iñaki Barrón de Angoiti; NY Times, May 29, 2009
[14] Peterman, D; Frittelli, J and Mallett, W.; Congressional Research Service: High-Speed Rail (HSR) in the United States- 7-5700; www.crs.gov; R40973; December 8, 2009; Summary pg. 25. *"Experts say that virtually no HSR lines anywhere in the world have earned enough revenue to cover both their construction and operating costs, even where population density is far greater than anywhere in the United States. Typically, governments have paid the construction costs, and in many cases have subsidized the operating costs as well."*
[15] See: Amtrak, Office of the Inspector General: EVALUATION REPORT E-08-02. Public Funding Levels of European Passenger Railroads; April 22, 2008 *"When all revenues and expenses for the entire passenger train system are taken into consideration, European Passenger Train Operations operate at a financial loss and consequently require significant Public Subsidies."*
[16] US Department of Transportation; Bureau of Transportation Statistics; Federal Subsidies To Passenger Transportation; December 2004; Table 4.
[17] Paul Amos, Dick Bullock, and Jitendra Sondhi "High-Speed Rail: The Fast Track to Economic Development?: World Bank Report No 55856; July 2010: Summary; pg.6 -

*"Governments contemplating the benefits of a new high-speed railway, whether procured by public or private or combined public-private project structures, should also contemplate the near-certainty of copious and continuing budget support for the debt."* See<http://www-wds.worldbank.org/external/default/WDSContentServer/WDSP/IB/2010/07/26/000334955_20100726032714/Rendered/PDF/558560WP0Box341SR1v08121jul101final.pdf

[18] See: The Financial Risks of California's High-Speed Rail Project at www.cc-hsr.org

[19] Op.cit HSRA Report; December 2009; pg. 110. *nota bene*, this differs from the 2008 Business Plan which says *"Experts calculate about 160,000 jobs will be needed to construct the high-speed train, and more than 320,000 permanent jobs will result by 2030."* pg.8.

[20] California High-Speed Rail Authority CHSRA; California High-Speed Train Business Plan; November 2008; pg. 12.

[21] Source: "Factcheck on Jobs" – a pdf file, December 2009; by Elizabeth Alexis, Californians Advocating Responsible Rail Design (CARRD). http://www.calhsr.com/

[22] Source: Bureau of Labor Statistics: http://www.deptofnumbers.com/unemployment/california

[23] Op.cit The Official Voter Information Guide says: *"Vote Yes on Proposition 1A to IMPROVE MOBILITY and inject new vitality into California's economy by creating nearly 160,000 construction-related jobs and 450,000 permanent jobs in related industries like tourism. These are American jobs that cannot be outsourced."* See: http://www.voterguide.sos.ca.gov/past/2008/general/argu-rebut/argu-rebutt1a.htm

[24] On debt as of August 1, 2010, see: Report of State Treasurer Bill Lockyer. Long term bond debt was $77.8 billion, with another $42.9 billion authorized but not issued out of a total of $151.7 billion that voters had previously approved. Source: http://www.huffingtonpost.com/2010/10/07/ca-debt-triples-under-sch_n_754189.html On unfunded pension liabilities, see: Stanford Institute for Economic Policy Research; policy brief "Going for Broke" at http://www.google.com/search?q=siepr+policy+brief&ie=utf-8&oe=utf-8&aq=t&rls=org.mozilla:en-US:official&client=firefox-a