

Seven Deadly Financial Facts For California's High Speed Rail Authority

- A Briefing Paper from the authors of -

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

See: <http://www.cc-hsr.org>

January 18th 2011

The California High Speed Rail (CHSR) project's financial legitimacy rests on AB3034's clause demanding no local, state or federal operating subsidy. Despite the project's supposed social, political and environmental benefits, it is to be operated by the private sector, therefore subject to the need to be 'cash positive' as measured by private sector accounting rules. The project already has multiple subsidies with more to be triggered should it actually begin construction. Despite CHSRA's claims of operating surpluses from the initial operating year, even under their best scenario, the project will generate at least \$4 billion of cumulative negative cash flow in its first years of operations. If realities about revenue shortfalls or increased operating expenses affect operations, this cash flow deficit could be as high as \$50 billion in the first fifteen years of operations - essentially never decreasing. Even using CHSRA's cost estimates, which are certainly challengeable, thirty years of debt servicing on only the Borden-Towards-Bakersfield section will cost the State over \$5 billion. Servicing the debt on the Phase One plan would cost the State and local governments over \$1 billion a year for 30 years. Californians of middle income or modest means will carry a disproportionate portion of the burden of the CHSRA's unrealistic and unsustainable financial plans.

FACT ONE – A Law Determines The California High-Speed Rail Project's (CHSR) Financial Legitimacy

– The financial legitimacy of the proposal to build high-speed rail in California must be measured against Section 2704.08 (J) in Assembly Bill 3034 of August 2008 which says "*The planned passenger service by the authority in the corridor or usable segment thereof will not require a local, state, or federal operating subsidy.*" It is the Authority's legal burden to prove they have the financing to build any corridor or useable segment and the revenues and costs (operating and financial) projections are such that the segment will not require an operating subsidy. This statement becomes the point of departure to explore whether the financial plans made available to the public in the Authority's 2008 and 2009 business plans actually meet that 'no operating subsidy' benchmark.

The AB3034 provision propels the Authority into a unique situation. No US public transit or passenger rail system operates without either a subsidy to its capital development phase (construction plus equipping the systems) or a subsidy to its operations; or most likely, both. A study of twenty-six US transit systems showed that fare box revenue ratios (revenues from the fare box as a percent of operating costs) averaged about 40%. That means about 60% of those systems' costs were subsidized. Although not strictly comparable, if the CHSR were to achieve even a 50% fare box revenue ratio, it would cost California's taxpayers \$2,871,000,000, or nearly \$3 billion, per year by its fifteenth operating year (HSR'09 p. 71-72).

To analyze the high-speed rail project's finances, and to then conclude it would need any operating subsidy at all, and yet continue the project would negate promises made to voters of Prop 1A in November 2008 and violate the project's underlying legal status.

FACT TWO – Because The Private Sector Is To Operate The System, Private Sector Accounting Principles Must Prevail

– According to the CHSRA's 2009 Plan neither the State of California nor the Federal government are to be the builders or the operators of the project. Much of their 2008 and 2009 business plans are devoted to the rail project's social benefits. Those include its supposed ability to create substantial numbers of construction and permanent jobs, to minimize inter-city traffic congestion, to lessen dependency on foreign oil and mitigate environmental damage. Yet no one is in business to lose money or to continually pour in money that will never be recovered. While those noble goals might create 'social good', they miss the CHSR project's defining point: it has to at least break even on a cash flow basis.

The CHSRA pays lip service to its private sector foundation. "*The ridership of a high-speed train system, the revenue it brings in, and its operations costs are all interconnected. **Balancing the three elements determines the viability of the system as a business enterprise.***"¹ (Emphasis added). But the Authority's accounting parameters are selective. Its 2009 finance plan does not recognize the full measure of the accounts where its project's

operations need to be judged as a business enterprise. If it did, the CHSRA would have considered the servicing of its construction costs in conjunction with its operating margins (revenues less expenses). The hard fact is the CHSR project must produce a positive cash flow for its private builders and operators. Unless the authorizing legislation changes, specifically Section 2704.08 (J) of AB3034, then private sector accounting rules measuring positive (or negative) cash flows determine what will or will not happen.

Therefore, private sector financial analytical methods and accepted practices to account for revenues and expenses are in force. Reasonable assumptions must be made about these facts of life, including in worst-case scenarios. No private operator will knowingly step forward if there is not positive cash flow from the project. Their due diligence must conclude the rewards (lots of cash) clearly outweigh the risks under less-than-rosy scenarios. This axiom is even recognized by the 2009 Business Plan's capital development phase ". . . *an after-tax equity internal rate of return (IRR) or investment hurdle rate of 16 percent has been assumed.*"² Translated into laymen's terms, the Authority assumed private equity investors need a pre-tax annual profit of about 21% to participate in the capital development phase or operations.³

In their 2009 Business Plan, the CHSRA states "*Never before has there been more interest and more momentum behind building a high-speed train system in the United States . . . tremendous amounts of interest from private companies who work with train technology as well as construction . . .*"⁴ But by the close of 2010, twenty-five months after Prop 1A, no private investor has come forward with any of the \$10-12 billion required for the project's capital development. Unless the State and/or Federal governments build or guarantee Phase One's capital construction costs, there will be no project; a fact the Authority knew in mid-2008.⁵

The Authority also knows that without revenue guarantees for operations, there will be no private operator.⁶ Private operators' need for positive cash flows would have driven them to the project if it were clearly a 'winner'. They may be hesitant to proceed since both the Director of High-Speed Rail at the International Union of Railways (IUR) and the Inspector General of Amtrak have stated publically that all high-speed systems require subsidies.⁷ Or they may be hesitant because they suspect the information available from the CHSRA for due diligence is incomplete, unreliable or both.

Whether the project meets private operators' expectations is the acid test of its viability. While they may be sympathetic to the CHSR's social benefits, their shareholders demand a return on their capital in what, by any measure, is a high-risk venture. Private investors, builders, equipment, software suppliers or operators will perform due diligence on the project based on its ability to provide positive cash flow. So will this paper.

FACT THREE – Questionable Assumptions On Ridership, Revenues And Operating Expenses Make The CHSRA’s Financial Forecasts Highly Suspect

– It is difficult to trust the Authority’s assertions about investors, ridership, capital costs, revenues and operating expenses. Since the history of megaprojects’ capital cost overruns and the need for every high-speed rail system’s dependence on subsidies is well known, the burden of proof must be on the Authority to claim an operating surplus of \$1,500,000,000 (\$1.5 billion) in the CHSR’s third operating year and \$3,900,000,000 (\$3.9 billion) by its fifteenth operating year.⁸ Here briefly are some unsubstantiated claims that originate in the CHSRA 2009 Business Plan and are identified in the report, *The Financial Risks of California’s High-Speed Rail Project*.⁹

3.1 Ridership Forecasts Drive Projected Profitability But Are Built On Questionable Data and Methods – The 2008 proposition that more than 100 million riders annually would use the train by its tenth operating year (2030) was preposterous enough to be dismissed by all but the most naive. By 2009, CHSRA was claiming only 39 million riders by 2030 for its LA/Anaheim to San Francisco Phase One. But even that claim doesn’t withstand scrutiny.

Much has been documented about the challenges to the CHSRA’s assertions in the *Financial Risks* report.¹⁰ Challenges launched by several groups, including the Institute for Transportation Studies at UC Berkeley found flaws in the methodologies used to construct the CHSRA’s 39 million rider forecast. And Californians Advocating Responsible Rail Design (CARRD) found biases in their methodology. One notable bias is the claim that 96% of the Californians surveyed expressed an interest in taking High Speed Rail. But contrary to best practices and known to produce bias, the sample was a survey of train-based commuters.¹¹

Any inspection of final boarding numbers finds they don’t ‘add up’. For example, Oakland boardings were added to the San Francisco boardings, even though Oakland is to be a future destination, not in Phase One.¹² Curiously the total of the two destinations’ boardings is less than that from San Francisco alone. And the Authority admits – but doesn’t reconcile – the contradiction that SF boarding would decrease by over 50% if Oakland boardings were eliminated.¹³ While CHSRA might want to count Oakland boardings for Phase One and in later phases, it can’t ‘have it both ways.’

Other CHSRA boarding forecasts are suspect too. CHSRA lists two million riders coming from San Diego to the SF Bay Area; yet there is no San Diego station planned in Phase One.¹⁴ Those riders are counted in the Anaheim boardings. Why would a San Diego resident go to Anaheim to board a train to San Francisco, and add at least two hours to their trip? Another 1.2 million riders are forecasted to ride from the LA Basin to Sacramento, and a half million more from North and Sierra regions to the LA Basin. Yet the nearest station, Sacramento, is not part of Phase One.¹⁵ Nor is there an explanation

of where another half million riders between the Sacramento region and the San Joaquin Valley are to board.¹⁶ Almost as many Disneyland fans are supposed to go daily to and from the Anaheim station as San Francisco riders. More Gilroy (population 50,000) riders are to go outside the Bay Area than passengers using the Millbrae station to board airplanes at SFO. And somehow more interregional travelers use the Merced, Fresno and Bakersfield stations than all travelers from each of these three stations combined.¹⁷

3.2 The Costs Increases Of Borden-Towards-Bakersfield Suggest Phase One Capital Costs Are Seriously Underestimated – In CHSRA’s 2009 Plan, the CHSR segment between Fresno and Bakersfield was estimated to cost \$5.095 billion; about \$39 million per mile for the 131 miles. Similarly, the Merced to Fresno section was to cost about \$3.0 billion, about \$46 million per mile. On average the two segments total costs were about \$41 million per mile.

However, by December 20th 2010, while Californians were already numb with shock that the Train To Nowhere (Borden-To-Corcoran) didn’t include electrification or rolling stock, they missed another surprise. The price per mile of the new Borden-Towards-Bakersfield section had increased significantly or drastically. The total cost for the Borden-Towards-Bakersfield section is planned to be \$5.565 billion, which is the total amount of federal funds and state bonds funds currently available to the CHSRA. The central question is how many miles they can build with this money.

Figure 1 shows four options given to the CHSRA Board of Directors that day, and another based on GSP map readings that the distance between Borden and Bakersfield’s outskirts is 112 miles.

Alternative extensions from Corcoran towards Bakersfield	Additional Miles Above Borden-To-Corcoran	Total Miles	Cost/Mile - \$Ms -	Increase Over 2009 Plan
Proposal 1A	15	75	\$75	126%
Proposal 1B	45	105	\$53	61%
Average of 1A and 1B	30	90	\$62	88%
CEO Van Ark’s Statement	58	123	\$45	37%
GPS Map Indications	na	112	\$50	50%

Clearly something is askew here. The construction challenges of similar flat farming terrain combined with small towns and cities are very much like the earlier Merced to Bakersfield segments. Yet, on average, these latest Borden-Towards-Bakersfield estimates are nearly twice (88%) the average of the two sections in the 2009 Business Plan; and those 2009 costs accounted for heretofore not counted construction inflation costs.¹⁹ Figure 1 comparison is on an ‘apples to apples’ basis, removing the costs for items like locomotives, passenger cars and electrification from the 2009 estimates, to match the

December 2010 estimated items. Even the lowest increase, 37%, demonstrates continued inaccuracy of capital cost estimates in relatively a short portion of the proposed Phase One project.

But those increases would be no surprise to the authors of Megaprojects And Risk. In that 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.*"²⁰ The Borden-Towards-Bakersfield section's cost increases are even flagrant by the standards of other megaprojects' overruns.

As the *Financial Risks* report points out, the top end for Phase One construction costs may be far above what the Authority presently claims.²¹ Perhaps the Borden-Towards-Bakersfield section will not have the three-to-five times estimated cost overruns of Boston's Big Dig or the Oakland Bay Bridge. Perhaps Phase One won't bear out DOT's findings of average capital cost overruns of sixty percent.²² But, given the histories of such projects and the cost per mile increases of the Borden-Towards-Bakersfield section, there is little reason to put faith in the Authority's capital cost estimates.

3.3 CHSRA Used Unrealistically High Comparative Trip Costs To Calculate Their Ticket Prices – The approach CHSRA used to estimate their LA to SF ticket prices for both the Prop 1A ballot and the 2009 Business Plan will always make the high-speed train win the train versus airplane fare wars. It doesn't take a mathematician to conclude that 55% or 83% of an airfare or driving costs is always lower than the airfare or driving costs. But it takes some art to make sure that airfare prices and auto travel costs are high enough to produce robust high-speed train revenues that point to operating surpluses.

To claim that the average one-way SF-LA airfare is about \$125 clearly stretches credibility given the competitive nature of those routes and the airlines constantly adjusting prices under their yield management regimes. Driving between the two cities constitutes 95% of all trips made; and the CHSRA uses \$118 as their average auto cost between the two metropolises. However, more realistic driving costs (including depreciation, maintenance and operations) should really be about \$70-85. And a family of four can get from LA to SF for only a marginal additional cost, not \$420 (\$105 x 4) on the CHSR. Using far more realistic data on airline fares and the costs to drive, then applying CHSRA's carefully selected 83% of that realistic cost basis, suggests the average train ticket should cost about \$50. While the CHSRA needs their higher average fare to supposedly produce an operating surplus, to claim that the average regional and inter-city train ticket charge would be \$70 has little basis in reality.²³

3.4 CHSRA's Operating Expense Assumptions Would Not Pass Muster In A Private Sector Due Diligence – The CHSR project finance plan must be judged from the point of view of private sector accounting processes. Yet the CHSRA 2009 Business Plan treats almost all costs as

variable and directly linked to their projected ridership figures. This is fallacious. Two examples: the fixed cost of running a train from Los Angeles to San Francisco does not depend on the number of riders on that train. Fifty or five hundred passengers cost about the same to transport. Nor is the frequency of trainset maintenance dependent on the number of riders. But the CHSRA links both of these operating costs to their ridership forecasts.

Likewise, CHSR's equipment maintenance costs should also increase yearly due to cumulative wear and tear on the rails, carriages and the overhead electricity grid. CHSRA holds maintenance costs constant for thirteen years, assuming nothing except a 3% adjustment for inflation in both materials and labor. Medical and insurance expenses also use the same assumption of 3% inflation while those have increased at about twice the CPI rate. And some operating costs, like property, casualty and liability insurance are omitted from the calculations.

A recent study found that actual costs for some heavy rail systems were twice their planners' estimates.²⁴ A Transportation Research Board report estimated the operating costs of the now defunct Texas TGV at nearly 70 percent higher than the CHSRA's operating cost projections.²⁵ Given the CHSRA's underestimated or ignored operating costs and the rail industry's history of underestimating operating costs, there is little reason to trust the Authority's Operating Expense assertions.

FACT FOUR – CHSRA's Operations Will Need Subsidies

Anywhere From At Least Thirteen Years To Eternity – In the 2009 Business Plan, the Authority claims a \$370 million operating cash surplus in its first year, rising to \$5.77 billion by its twenty-fifth year.²⁶ That claim is based on cash flow analyses, as are conclusions in this analysis.²⁷

The Authority puts forward only its best-case scenario in the 2009 Business Plan. Presumably, that case assumes nothing deviates from their assumptions on ridership – which drives their assumptions about revenues and operating expenses – and therefore cash operating surpluses. But, as is shown earlier, the outcomes are based on highly questionable assumptions about ridership, capital construction costs, operating expenses and revenues. And the Authority assumes there are no debt servicing costs from the capital development part of Phase One above the voter-approved \$9.95 billion of bonds that the State (not the Authority) will service. In other words, their Plan ignores the costs of building the system and simply says what will happen in the subsequent years of operations; an interesting but not a credible approach to financial planning.

If an analysis of that 2009 Plan showed that Phase One required servicing debt from the capital development phase it would suggest:

a) the roughly \$43 billion capital construction costs forecasted in their Plan are underestimated, or

b) the balance of operating expenses versus revenues results in lower positive cash flows or maybe even negative cash flow, or

c) both capital construction costs and operating expenses are higher and revenues are lower – or some combination of these factors

In any of these three possible, and certainly probable, cases occur, CHSRA’s best-case scenario is invalid. The consequences would be the need for a prohibited operating subsidy.

4.1 Using CHSRA’s Own Inputs Doesn’t Produce Their Financial Results – Using CHSRA’s data from their 2009 Business Plan, and their same private investment, cash flow analysis techniques, we arrive at a wholly different conclusion about the first operating years of the proposed Phase One. Figure 2 shows the CHSRA’s 2009 Plan results.

Figure 2 CHSRA’S Phase One Operating Surpluses		
Year	Annual Operating Surplus (Deficit) US\$ Billions ²⁸	Cumulative Operating Surplus (Deficit) US\$ Billions
2017-2019	na	(\$0.39)
2020	\$0.37	(\$0.02)
2021	\$0.89	\$0.87
2022	\$1.49	\$2.36
2023	\$2.23	\$4.59
2024	\$2.34	\$6.93
NET CUMULATIVE TOTAL		\$6.93

There are three fundamental differences between the CHSRA 2009 Business Plan’s financial assertions in Figure 2 and the work presented in Figure 3.

4.1.1 Differences Between The CHSRA’s Financial Conclusions And The Warren Model – Figure 3, also Figure 3 in the *Financial Risks* report, is referred to as the Warren model after its principal author. The differences between its conclusions and the Authority’s assertions in Figure 2 are enormous, yet both use the same input data.

First, the CHSRA Plan stops short of integrating the annual cash flow requirements of other financial obligations they will clearly be responsible for, such as any private debt or equity, and/or any federally backed bonds the CHSRA may require. That Plan only shows the operating results of revenues less operating expenses. It’s akin to presenting your household’s financial situation by only showing your current income and expenses and claiming liquidity, but without mentioning your mortgage.

Second, the Warren model behind Figure 3 incorporates all the financial obligations the CHSRA must service, such as private investments or Federally backed bonds, into their cash flows from operations. This analysis goes at least one step further that the CHSRA’s Plan went. It is a demonstration of risk analysis, as demanded by the Legislature but never fulfilled.

Third, Figure 3 incorporates the point of view of the taxpayers of California. Those figures consider the cash flow required to service the 2008 Prop1A-authorized GO Bonds, as well as to service local governments' 'gifts' to the CHSRA which can only be raised by municipal bonds' debt obligations. This is broader view that includes the true costs to the taxpayers. As such, it attempts to measure all of the costs of building and operating the CHSR system, as opposed to allowing the CHSRA to use 'off Balance Sheet' liabilities to be serviced without being considered in the total project costs. As with private sector finances, all the costs of the CHSR project have to be counted, not just those that make the project appear financially acceptable.

In stark contrast to the CHSRA's assertions, Scenario A1 in Figure 3, which uses CHSRA's published data, shows that even with the assumed complete \$19 Billion of Federal grants and \$5 billion of local grants, the project has a peak cumulative negative cash flow of \$4 Billion in its early years.

Figure 3 (from the Warren Model)			
Financial Impact on the State of California Of Nine Different Financing Scenarios Between 2020 and 2035 ²⁹			
Revenues & Expenses (R&E) As A Percent Of 2009 Business Plan Using Different Mixes Of Financing Sources	As Per 2009 Plan (Mostly Federal+ Local Grants)³⁰	More Debt Than Grants ³¹	Most Finance Is Private Debt & Equity ³²
	Scenarios		
	A	B	C
Case 1 – Same R&E as in CHSRA 2009 Plan	Scenario A1 (\$4 Billion)	Scenario B1 (\$14 Billion)	Scenario C1 (\$25 Billion)
Case 2 – Only 75% of Ridership Achieved (75% of expenses still allocated)	Scenario A2 (\$9 Billion)	Scenario B2 (\$25 Billion)	Scenario C2 (\$35 Billion)
Case 3 – Ticket Revenues Down By 25%	Scenario A3 (\$16 Billion)	Scenario B3 (\$32 Billion)	Scenario C3 (\$43 Billion)
Case 4 – Combined Problems of Case 2 and Case 3 - >OpEx and <Revenues	Scenario A4 (\$22 Billion)	Scenario B4 (\$38 Billion)	Scenario C4 (\$49 Billion)

While Scenario A1's cumulative negative cash flow begins to turn positive cash flow in 2025, this does not negate the conclusion that, even under the Authority's best of all worlds' scenario, operations will require a government subsidy – strictly forbidden by AB3034.

4.2 'Stress Testing' The CHSRA's Financial Model's Data For Plausible Risks – It is enlightening to test the financial risks of financing this project, even under the CHSRA's unlikely assumption that the Federal government grants all \$19 Billion to the project. One test would be to establish what happens if a very possible downturn in the 39 million supposed riders occurs during an economic recession. If only three quarters of the CHSRA's forecasted riders show up in 2020 to 2035 (nearly nine of every ten people in California in those years) the cumulative negative cash flow (Scenario A2) worsens to \$9 Billion.³³

Next, there is little prospect for the CHSR operator to always be able to extract full fares from all its customers. If ticket sales' revenues from the 39 million riders are down by a quarter (Scenario A3), the peak negative cash flow is \$16 Billion. This scenario is very plausible because the CHSR will have to compete with airlines that use yield management pricing to efficiently employ their capital equipment.³⁴

Finally, and still using the CHSRA's assumptions about the 39 million riders generating revenue and expenses, what happens if both those plausible events happen together? The sunny outlook for Operating Surpluses has long disappeared, and the negative cash flow from fewer riders and less revenue builds an accumulated \$22 Billion (Scenario A4) of negative cash flow. In CHSRA terms, that scenario changes from their \$6.93 billion of surplus (Figure 2) to a \$22 billion cash need as shown in Figure 3.

4.3 Taking On Any Debt Or Equity Drastically Worsens The CHSR Project's Financial Outlook – Since another \$16 Billion of Federal grants looks less likely every day, it is important to study the consequences to Californians of scenarios where less than \$19 Billion of rapid Federal 'free money' grants might appear.

First, understand what happens if both the Federal government and private lenders participate in equal amounts – the 'More Debt Than Grants' financing mix. Prop 1A bond contributions remain the same, while Federal grants decrease to 12% and private debt increase to 23% and private equity increases to 10% of the \$43 Billion total. In Scenario B1, even while accepting CHSRA's assumptions on revenues and operating expense costs, the project's capital development costs create a cumulative negative cash flow of \$14 Billion. Importantly, it is necessary to realize this \$14 Billion negative cash position is after applying the available cash flow from operations (revenues less expenses) to the cash requirements to service all the debt and equity investments.

From Scenario B1 onwards, matters worsen. If the project loses a quarter of its revenues or achieves only three quarters of the riders projected, the negative cash flow accumulation would be in the mid-\$20 billions (Scenarios B2 and B3). If both of these were to happen, the cash flow deficit would go to \$38 billion (Scenario B4).

FACT FIVE – The CHSR Project Already Has Subsidies And Assumptions Of More Subsidies – AB3034's provisions are unique because voters were asked to approve a project with up to \$9 billion in State of California General Obligation (GO) Bonds that cannot have an operating subsidy. Implicit in that request was the *proviso* that the State's constitution guarantees that bond holders get paid before all other creditors; and before other State service organizations such as education, social services, highways, parks, etc. Without widespread voter understanding, the project

already receives several subsidies and its 2009 Business Plan assumes another. Because the CHSRA has decided to build the first 'sections' using only federal grants and matching State Bond funds, we begin our financial analysis by examining the ramifications of the impacts of these two sources of debt.

5.1 Foregoing Tax Revenue On The Debt To Finance CHSR Is A Subsidy Because It Denies Tax Revenue To The State of California –
 Figure 4 shows the real costs to the State of not only the Borden-Towards-Bakersfield section, but also what it will cost the State if Phase One is built.

FIGURE 4			
Costs To The State And Local Governments of California			
Of Bond Servicing And Taxes Forgone For Monies Given As Gifts To The CHSRA			
Type Of Gift And Amount Assumed By CHSRA To Be Gifts³⁵	Annual Debt Servicing Costs of GO Bonds	Total Debt Servicing Costs of GO Bonds, 30 years	Annual Tax Income Foregone On GO Bonds
BORDEN TOWARDS BAKERSFIELD SECTION			
Match Federal Gifts for Borden-Towards-Bakersfield – 80 to 123 miles of Phase One \$2,578,000,000	(\$168 Million)	(\$5.05 Billion)	na
State Income Tax Foregone On Borden-Towards-Bakersfield GO Bonds 9.3% of interest on \$2,578,000,000	na	na	(\$8 Million)
ANNUAL COST TO THE STATE FOR THE BORDEN-TOWARDS-BAKERSFIELD SECTION – 30 years	(\$176 million) per year for 30 years		
TOTAL DEBT SERVICING COSTS BORDEN TOWARDS BAKERSFIELD - FOR 30 YEARS	(\$5.05 Billion)		
PHASE ONE PLAN			
Phase One Plan – State Matches Federal Gifts with GO Bonds \$9,950,000,000	(\$649 Million)	(19.5 Billion)	na
Gift From Local Governments To CHSRA As Per Phase One Plan, funded by Local Bonds \$5,000,000,000	(\$326 Million)	(\$9.79 Billion)	na
State Income Tax Foregone As Per Phase One Plan for GO Bonds 9.3% of interest on \$9,950,000,000	na	na	(\$30 Million)
State Income Tax Foregone As Per Phase One Local Bonds For CHSRA 9.3% of interest on \$5,000,000	na	na	(\$15 Million)
TOTAL Costs To State and Local Governments For Debt Servicing CHSRA Gifts For Phase One	(\$976 Million)	(\$29.3 Billion)	na
Total Tax Revenue Foregone Annually From Bonds And Gifts To CHSRA	na	na	(\$44.4 Million)
ANNUAL COST TO THE STATE OF CA FOR PHASE ONE - 30 years	(\$1.020 Billion) per year for 30 years		
TOTAL DEBT SERVICING COSTS TO STATE OF CA FOR PHASE ONE, FOR 30 YEARS	(\$29,275,417,773) (\$29.3 Billion)		

While tax exempt bonds are a pragmatic method of attracting private capital for long term, capital-intensive infrastructure projects, California-resident bond holders are subsidized since interest income from their GO bonds is exempt from State taxes.

By contrast, income from corporate bonds is not tax-exempt. State and local governments produce less cash by not taxing interest income from the bonds going to the owners who are residents of California. The subsidy on the State's portion of \$9,950,000,000 (\$9.95 billion), from the State forgoing taxes on the bonds' income to bond holders would average about \$44 million per year for the next 30 years.

5.1.1 The Costs To The State Of Only The Borden-Towards Bakersfield Section Aren't Small – If the Borden-towards-Bakersfield section ends up costing 'only' \$5.565 billion, about half of that \$2,578,000,000 (\$2.578 billion) will come from the sale of California GO bonds to investors. As Figure 4 shows, at General Obligation bond rates for California of 5.03% for 30 years, the total cost to the State to retire that debt is \$5,050,000,000 (\$5.05 billion). Monthly debt servicing on those bonds is about \$14,200,000 (\$14.2 million) or \$168,000,000 (\$168 million) a year.

The marginal State tax rate for the likely buyers of GO bonds, couples earning \$95,000/yr, is 9.3%. For the Borden-towards-Bakersfield 'Train To Nowhere' section, the State will have an average of \$7,657,918 (\$8 million) less per year for the thirty years until the bonds' maturities. For thirty years the State will forego that income through tax exemption for the GO buyers (assuming they are all residents of California), amounting to a total of \$229,737,539 (\$230 million).

These two subsidies, amounting to \$176 million per year for 30 years, for a track bed in the Central Valley which may never be used for high-speed rail, and only maybe by Amtrak, is highly questionable.

5.1.2 The Annual Costs To The State And Local Governments To Service Prop 1A Bonds For Phase One Is Nearly \$1 Billion – Figure 4 also shows that if the CHSR project ever spends a full complement of Federal grants and/or private funds to 'trigger' the use of all the State approved \$9.95 billion in GO "matching" bonds, the situation worsens.³⁶ At those same rates, the sale of the \$9,950,000,000 (\$9.95 billion) of bonds would obligate the State to \$19,484,308,150 (\$19.5 billion) over thirty years; which costs about \$649,476,938 (\$649 million) per year to service. Since local governments will only be able to raise funds through bonds to grant the CHSRA their portion of the construction costs, they too service debt. Figure 4 also shows those annual costs to be \$326,000,000 (\$326 million). Together, these two tiers of government will pay out \$976 million per year if Phase One's capital costs do not exceed \$43 billion.

5.1.3 The Annual Cost Of Phase One To The State And Local Governments In Taxes Foregone Is \$45 Million – In addition, over the same thirty years the State would have foregone a total of nearly \$1 Billion (\$868,690,658) – or an average of \$29,737,539 (\$30 million) per year of tax revenues due to tax-free GO bonds. Likewise, cities and counties around the state will have contributed \$5 billion to build the \$43 billion

project, and will yearly miss out on \$15,000,000 (\$15 million) in tax revenue due to tax-exempt bonds sold to Californians.

5.2 The \$9.95 Billion of CHSR Bonds Raises The Costs Of All Other GO Bonds Today – The \$9.95 billion of Prop1A bonds sits on the State Treasurer’s books as a future State obligation. With California already named as the state most-likely-to-default first, only a convincing argument that the CHSR project would produce positive cash flows (after operating expenses and financial debt and equity servicing) and not require a ‘revenue guarantee’ would make that obligation less of a liability.³⁷ Private investment in the CHSR project would be a key signal to bond brokers and buyers that the project would be an asset – or at least not require further financing rounds. No private monies having come forth in the more than twenty six months since Prop1A, says investors see the project as a liability.

With yet another unfunded liability on its books, the interest rate California must pay to attract buyers for its Government Obligation (GO) bonds increases. The CHSR project’s future ‘debt overhang’ is an additional cost for the State more to borrow today for other purposes.

5.3 Servicing The Bonds Will Hurt The State Treasury The Most In The CHSR’s First Years – Since the first third to half of any bond amortization is almost completely the repayment of interest, and since the interest earned on the bonds is tax exempt, the State of California’s treasury gets hurt mostly in the bonds’ first years of maturity. If the Borden-towards-Bakersfield section begins in 2012, a time of fragile finances for the State, foregoing tax income on those bonds will worsen its overall credit rating. And it will occur at the worst possible time.

5.4 California’s Taxpayers Have Subsidized The Authority For More Than Thirteen Years – Since 1997, the State of California has spent over a quarter billion dollars (\$252.8 million) on studies, outreach and public relations for the high-speed rail project, an average of about \$20,000,000 (\$20 million) per year. Unless the Legislature decides otherwise, by the close of the State’s fiscal year 2010-2011 the Authority is projected to have spent nearly half a billion dollars (\$487.3 million) on the project.³⁸

Strangely, this money continues to fund studies for the entire 2009 Phase One project from Los Angeles/Anaheim to downtown San Francisco despite the project’s focus having been narrowed to an undesignated length of track in the Central Valley without electrification or rolling stock. Since the Authority’s State budget for FY 2010- 2011 is \$231,000,000 the State is spending \$1,000,000 (\$1 million) per working day for statewide studies; subsidizing highly paid consultants and consulting organizations whose work product for over three-fourths of the route will be useless within the near future. This has no added value to the Phase One project.

5.5 The People Of The United States Are Subsidizing The CHSR Project – At the close of 2010, the Federal Government had committed nearly \$2,987,000,000 (\$2.987 billion) in four grants to plan and build the first segment. No interest is charged on these grants and there is no requirement to pay them back. This is a \$10 gift from every US citizen.

These gifts from the people of the USA aggravate California's ability to service its present debt. For every Federal dollar granted, AB3034 allows the State treasury to equal that by the sale of bonds, authorized under AB3034-Prop 1A. The present \$3 billion Federal gift creates about another \$3 billion to be paid off to California bondholders. Of this \$3 billion, about \$2.6 billion have been identified to be used on the Borden-Towards-Bakersfield section. To finance this section, over 30 years at present bond rates of about 5%, Californians will pay over \$5,048,296,122 (\$5 billion) in thirty equal annual payments of about \$168,276,537 (\$168million) to amortize that debt. For a State government furloughing or dismissing employees, closing parks and raising tuitions, these Federal grants seem more like a liability than a gift.

5.6 The Authority Assumes That California's Cities And Counties Should Subsidize Phase One With \$5,000,000,000 (\$5 billion) – CHSRA's 2009 Business Plan's states the \$5 billion is a grant. While some might say this was an innocent editing error, this 'free-to-CHSR-money' assumption is repeated three more times. CHSRA's editors didn't make a mistake; this is the Authority's assumed policy.³⁹ Fiscally strapped cities and counties are supposed to give the project monies with no obligation on the part of the CHSRA to repay.

These gifts to build the system are to come from cities and counties, both along the route and far from it. Some of these gifts are to be from north of the Sacramento River and others along the mid-state Coast, where no high-speed train is ever proposed to run. The Authority suggests local governments might increase sales taxes, develop commercial property, sell naming rights to stations, or raise cash for the CHSR project through municipal bonds. Such actions would be unprecedented as local transit is the only transportation subsidized by local governments in California. Since these are gifts with no requirement to repay, the Authority is saying cash-strapped local governments should subsidize their project, whether there is any benefit or not for the residents of their city or county.

As Figure 4 demonstrates, if local governments were to issue, or 'float', bonds to gift the CHSR project, the impact of these costs would be significant. The total principal and interest costs of 30 year, 5.03% bonds worth \$5,000,000,000 (\$5 billion) would be \$9,791,109,623 (\$9.79 billion). Annual debt servicing on this would be \$326,370,321 (\$326 million).

FACT SIX – Officials’ Enthusiastic Rush For ‘Free Money’ Set In Motion The Law Of Unintended Consequences – The CHSRA and then-Governor Schwarzenegger’s mantra after the Prop1A vote was the need to move fast to capture Federal stimulus funds.⁴⁰ Throughout 2010, elected officials congratulated Californians for receiving the largest single award for high-speed rail. By the close of 2010 the CHSRA had promises, but no dispersals, of four Federal grants, totaling \$2,987,000,000 (\$3 Billion) available for constructing the Borden-Towards-Bakersfield section.⁴¹

Perhaps the Federal Government believed that the CHSR would have positive cash flow and would not add to California’s debt burden. That is the message from the CHSRA’s 2009 Business Plan which shows the Phase One CHSR not only continually cash flow positive after service begins in 2020, but also producing cash of \$3,020,000,000 (\$3.02 Billion) in its tenth operating year (2029).⁴² These numbers ignore the annual cash flow requirements to service the debt and equity that will be needed to build the system. In addition to the cash to service the debt and equity, if those figures are incorrect in any form, Californians must service the debt incurred annually by the train’s operations plus any debt incurred if there is either a capital construction cost overrun or if operating expenses exceed revenues.

6.1 Borden-Towards-Bakersfield Creates Nothing But Unrecoverable Debt For Californians – The Federal Railroad Administration (FRA) is not cynical and would not grant monies to the CHSR project if they didn’t believe the CHSRA’s assertions on continually positive cash flows. However, even if those assertions are correct, FRA is still (perhaps unknowingly) burdening California with debt; both directly through the matching bond fund authorized by Prop1A, by taxes foregone from interest on bonds, and by *de facto* costing Californians today more to borrow for other for other projects.

But the first section of the CHSR project has no passengers to produce revenue since there is no rolling stock. Debt will be created by California without a chance of recovering it. All the political capital and energy spent during FY 2010 to secure the four construction grants totaling \$2.987 billion, created a debt obligation by Californians of \$5,050,000,000 (\$5.05 billion), nearly twice the amount with which California can match the Federal grants.⁴³

6.2 More ‘Free Money’ Creates More Debt For Californians – Whether Californians understood that Prop 1A would put them in further debt isn’t clear or likely ever to be clear. But if the CHSR project ever advances to the point of being able to match Federal or private grants up to the maximum authorized, \$9.95 Billion, the total cost (repayment of principal and interest charges) of that ‘free’ money to California would be \$19,484,308,150 (\$19.5 Billion). The costs (repayment of principal and

interest charges) of servicing that debt at 5.03% interest over 30 years would be \$649,476,983 (\$650 million) a year or \$54 million a month.

6.3 It Will Cost Californians About \$1 Billion/Year To Service Debt EVEN IF The CHSR Phase One Is Somehow Built Without Private Capital – The total costs of bonds to California’s governments would not only be the debt servicing costs but also the revenues foregone to the State for not applying income taxes to the tax free GO bonds. For the present section plan of Borden-towards-Bakersfield, the total cost to the State will about \$174 million per year. That is, State bonds will cost \$168,276,537 (\$168 million) annually to service, while the State foregoes an average of \$7,657,918 (\$8 million) a year from tax exemption clauses of those bonds.

As Figure 4 shows, IF the Phase One as proposed in the 2009 Plan is somehow built at no more than their \$43,000,000,000 (\$42.6 billion) projected capital cost, and there is no further debt servicing beyond the \$9,950,000,000 (\$9.95 billion) from Prop 1A, then annual debt servicing costs are about a billion dollars, while the State also forgoes another \$44 million of taxes. Assuming, as does the CHSRA, Candide’s scenario of the best of all possible worlds; the State will pay out and forego tax revenues of over \$1.02 billion (\$975.8 million + \$44.4 million) per year to support a train, if there is no Operating Margin (revenues less operating expenses) left to lessen the cash requirement.

But even that turns out to be a rosy picture. Adding both the needed Federal grants of \$19 billion (increasingly less likely) and the needed \$5 billion of local government grants (extremely unlikely), to the \$ 9 billion in State GO Bonds, only brings the CHSRA’s Phase One about \$33 billion. There’s still at least a \$10 billion shortfall to their supposed \$43 billion plan. The sole source for this is private sector loans or equity positions, which the Authority knew by mid-2008 would not come without a prohibited operating subsidy (aka revenue guarantee). Finding that money for such a high-risk project is a formidable challenge.

But the Authority has even greater challenges. As Figure 3 shows, any outcome other than the Authority’s best of all possible worlds shown in Scenario A1 creates long term negative cash flows, most of which never have a chance of turning positive. The eleven other scenarios of Figure 3, where financing becomes more expensive and revenues or passenger numbers are lower than expected, will require debt servicing in one form or another. Although ignored in their accounts, the CHSR project will need to borrow and therefore service debt – which gets put into their operating costs. Plus any construction costs above their \$43 billion estimate creates financial havoc for the project. Finding out how to make up for either operating shortfalls, loans for construction or the construction overruns, when a revenue guarantee is prohibited, would be very hard if not impossible. Therefore, the State’s \$1.02 billion of annual debt servicing for the \$9 billion in State bonds, analyzed in Figure 4, is only the ‘tip of the iceberg.’

FACT SEVEN – The State’s Middle And Working Class Get Hurt The Most By The CHSR Project In Several Ways

– In 2008 and 2009, the State’s political leadership probably had the best of intentions to find jobs for the construction unions and others struck by the ‘Great Recession.’ But they, and California’s middle and working class may not have realized that noble goal included several subtle but real traps. Since the jobs haven’t appeared, and are unlikely to be essentially moving earth for a track bed between Borden and Bakersfield, perhaps its time to reconsider what the rush is about and the following points. Here are some causes and effects which will disproportionately hurt the very families the leadership set out to help.

7.1 Financing Phase One’s Debt Will Cost Every Californian, And The Lower Their Incomes, The Greater The Burden

– Californians who voted for Prop 1A may or may not have understood that the debt servicing was at least \$1.02 billion per year. But if somehow Phase One is built for only \$43 billion, and there is no need to finance any more of the capital development costs with debt or equity, the annual cost to every Californian is over \$25. While that may not sound like much to a professional or affluent family, that \$100 per year for a family of four is a serious sum. Even assuming the train’s operations don’t require a subsidy, and therefore a tax increase, that annual ‘hit’ will go on for thirty years.

Figure 3 shows what could happen if the best of all possible worlds for the CHSRA goes array. And Figure 4 shows those debt servicing and taxes forgone numbers are big. California’s political leaders need to think about whether middle income and working class Californians would agree to carry an extra tax burden through bonds to finance negative cash flows from the CHSR train as Figure 3 forecasts.

7.2 The Borden-Towards-Bakersfield Section Is A Cost To Those Far From It And The Less Fortunate

– the \$176 million per year of debt servicing and foregone taxes for only the Borden-Towards-Bakersfield section will cost a California family of four about \$25/year for the next 30 years. That includes every family in California, rich and poor, employed or not. Those who will pay include those in the more than fifty counties where the ‘Train To Nowhere’ won’t go, and those where even Phase One won’t go. Asking more than ninety-five percent of Californians to subsidize this nearly \$6,000,000,000 of undetermined length of rail section for the Train To Nowhere project – without electrification or rolling stock – seems unconscionable.⁴⁴

7.3 If Operations Are Financed By A Mix Of Debt And Equity, The Annual Toll On Middle And Working Class Families Will Get Very Significant

– If the very real probability that Federal grants and revenues and riders don’t show up as forecasted by CHSRA, the operating deficit – assuming construction remains at \$43 billion – could reach nearly \$50 Billion

(Scenario C4 of Figure 3) by 2035. That case would perhaps not be the worse case. But if it were to happen, each of the then 41 million Californians would be 'on the hook' for helping to pay for a subsidy of over \$80 per man, woman and child per year or \$320 per family of four, for the next 30 years. And if construction costs increase 'only' 37%, as shown by the Borden-Towards-Bakersfield section is turning out to be, would that family vote to pay \$440 more per year to keep the train running so creditors don't seize the assets?

7.4 The CHSR Train Is A Train For Business Class And Wealthy Passengers – A one-way ticket price of \$105 for Los Angeles to San Francisco will not attract middle or lower income families to ride the train. If that one-way fare is around the \$190 per person needed to make the operation legally break even, fewer still will ride the train.⁴⁵ And the Authority's approach to use fare prices at only 55% or 83% of airlines makes it easy to sound less expensive. But that's math. Less than 100% of any price is cheaper.

Granted that nowhere in the Prop 1A literature did it say fares would be cheap. The said it would be \$55 one-way and a year later \$105 between SF and LA. So, how is it that 39,000,000 seats in 2030 are to be filled other than by the wealthy, or those on expense accounts. The CHSR project didn't, and doesn't, offer the vast majority of Californians a safe, reliable and inexpensive way to travel. If the project ever happens it will be a railroad for California's business classes and upper incomes. Because all Californian's will pay for the costs of the bonds (and subsidies), the middle class and poor will subsidize the wealthy riders because they won't be riding it.

7.5 Wealthy Bondholders Not Only Get To Ride, They Get The Tax Breaks – Another subsidy to the wealthy is through their tax exempt investments in the Prop 1A bonds. Many poor and middle class Californians must have voted for Prop1A for it to have won that election. As one of the few tax shelters left for high-net-worth investors, tax-exempt bonds are subsidies to the large institutions and wealthy individuals. This is both a subsidy and a transfer of wealth from the State's redistributive policies such as for public education, health or social services. Instead of collecting the taxes that accrue from the investment in CHSR, the exemption is generally to institutional buyers or people with enough savings to purchase GO bonds in tranches of at least \$5,000 each. If fares for the train end up costing even as little as the Authority claimed in 2009, \$105 one-way between SF and LA, that would be a double insult for families of modest means – a train for the wealthy paid in part by allowing the wealthy to exempt taxes on their California-guaranteed bond investment.

Perhaps it's time to reconsider the CHSR project. In a state with the nation's second highest indebtedness, and nearly highest tax burden, the new debt servicing costs and subsequent taxes to support CHSR's operations – plus their disproportional impacts on the less affluent – might not 'sit well' with the populace.

REFERENCES FOR SEVEN DEADLY FINANCIAL FACTS

¹ See: California High-Speed Rail Authority; Report to the Legislature, December 2009; page 3.

² Ibid. page 108

³ The 2009 CHSRA Plan is silent on the size of IRR needed to attract private sector lenders or operators for the system's operations.

⁴ Ibid. CHSRA, 2009 Report: pg. 3. The entire statement is "*Never before has there been more interest and more momentum behind building a high-speed train system in the United States. Already in California, the Authority has experienced tremendous amounts of interest from private companies who work with train technology as well as construction, in addition to intense interest from foreign governments and consortiums with experience building and operating high-speed train systems overseas.*"

⁵ 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) ; pg. 20. The presentation was given in June 2008, but the printed report issued in October. "*A presentation summarizing the results of the RFEI was made before the Authority Board of Directors on June 11, 2008*" pg. 2

⁶ Ibid.

⁷ For the IUR Director's quote see: Spain's High-Speed Rail Offers Guideposts For U.S." *NY Times*, May 29, 2009. For the Amtrak Inspector General's Report see: US Department of Transportation; Bureau of Transportation Statistics; Federal Subsidies To Passenger Transportation; December 2004; Table 4.

http://www.bts.gov/publications/federal_subsidies_to_passenger_transportation/

⁸ Ibid. HSRA 2009 Plan, pg 83 Table K

⁹ *The Financial Risks Of California's Proposed High-Speed Rail Project*, October 12, 2010. Available at: <http://www.cc-hsr.org/>. See: <http://www.cc-hsr.org/index.shtml#finreport> Several Briefing Papers based on the findings of that report and subsequent actions are also found on the later site.

¹⁰ Ibid.

¹¹ Sampling commuter train riders was inappropriate. Caltrain, which serves the three counties of the San Francisco peninsula, carries an average of 38,000 weekday riders within a combined population of more than 3.4 million – approximately 1.1% of the population.

¹² See: Comment letter on Revised EIR I164 (William H. Warren, April 12, 2010) and Response to Letter I164, paragraph #1164-1 says "*These data illustrate that HST boardings at San Francisco Transbay are projected to decrease by 53% if HST service is split between San Francisco and Oakland termini.*" In a table on the same page, the Authority admits to gaining 9.16 annual million boardings by adding 3.63 million boardings at the not-to-exist-in Phase One Oakland 7th Street station to the 5.53 million boardings from the SF Transbay Terminal. In the same table, the Authority asserts that having only one station (SF) will bring a total of 11.72 million boardings; 28% higher than the combination of Oakland and SF boardings. This is the source of the comment on decreasing the SF Transbay terminal boardings. It is fair to ask how one station alone can produce 2.56 million additional boardings per year than two stations. Source: page 16-475 and 16-476 of a CD named "Bay Area to Central Valley High-Speed Train, Revised FINAL Program Environmental Impact Report; Volume 1 and 2": sent to those who submitted EIR comments.

¹³ Ibid.

¹⁴ Op. cit. CHSRA 2009 Report To The Legislature; See Table C, page 72

¹⁵ Ibid.

¹⁶ Ibid.

¹⁷ Ibid.

¹⁸ This is taken from proposals and statements made at the December 20th 2010 Board meeting of the California High Speed Rail Authority. The base for incremental cost increases is the \$41M/mile average of the Fresno-to-Bakersfield and Merced to Fresno segments in the CHSRA's 2009 Business Plan.

¹⁹ When the CHSRA's Phase One costs increased from \$33 billion to \$43 billion in one year, the reason given by CHSRA was the demand by the FRA to account for construction inflation in the year of use of the funds. That has always seemed a strange rationale since the FRA and the CHSRA have worked together for years. CHSRA should have known FRA rules for cost and inflation accounting.

²⁰ Op.cit Flyvbjerg, Bent, *et al*; pg. 15

²¹ *Op.cit. Financial Risks* October 12, 2010. That paper, and subsequent Briefing Papers, can also be found at the website of the Community Coalition On High-Speed Rail: <http://www.cc-hsr.org/>

²² Pickrell, Don; *Urban Rail Transit Projects: Forecast Versus Actual Ridership and Costs* (Washington, DC: US Department of Transportation, Urban Mass Transportation Administration, 1990).

²³ For a more complete description of the methods used, see Section 4.0 and Appendix A of *The Financial Risks Of California's Proposed High-Speed Rail Project*, October 12, 2010. Found at <http://www.cc-hsr.org/>

²⁴ Federal Transit Administration, Office of Planning and Environment, US Department of Transportation; Contractor Performance Assessment Report: August 2007: Table 6, pg.

24.

²⁵ Transportation Research Board, National Research Council, *In Pursuit of Speed: New Options for Intercity Passenger Transport*, Special Report 233, 1991, Table A-14 (operating cost items only).

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- ²⁶ Op cit. CHSRA, 2009 Report; Curiously, between pages 101 and 108 the Authority proposes the need for a revenue guarantee for the system's operator. A revenue guarantee is understood to mean that either the State of California or Federal government, or both, would guarantee the operator's revenues meet or exceed their annual operating expenses by government provided monies.
- ²⁷ Op cit. All financial analyses in this paper come from: *The Financial Risks Of California's Proposed High-Speed Rail Project*
- ²⁸ Op. cit. CHSRA 2009 Report To The Legislature; See Table K, page 83
- ²⁹ Op. cit. *Financial Risks*; See Section 5, Figure 3, page 65.
- ³⁰ In 'Mostly Grants' financing, 21% of the total \$42.6B is Prop1A bonds, 42% is Federal Grants, 18% is private debt, and 8% private equity sinking fund.
- ³¹ In 'More Debt Than Grants' Prop 1A bonds remain 21% of the \$42.6B capital cost, 12% is Federal grants; 23% is Federal Government Guaranteed loans or bonds, 11% is loans from local governments, 23% is private debt; and 10% private equity.
- ³² In the 'Mostly Private Debt and Equity' finance model, Prop 1A bonds remain 21% of the \$42.6B, Federal grants 11%, none from either Federal loans or bonds or local governments, but 48% from private sector loans and 20% from private equity investors.
- ³³ Series B, US Bureau of the Census; The figure is 41.8 million found at <http://www.census.gov/population/projections/state/stp1pop.txt>
- ³⁴ Deutsche Bahn has used yield management (called PEP) since 2002 and expressly acknowledges their competitors, the discount airlines of Europe, forced them into such a pricing policy. See: http://www.jrtr.net/jrtr38/f50_lin.html An excellent article on the perishable nature of the value of an airline (or rail) seat is found in <http://www.google.com/search?q=load+yield+pricing&ie=utf-8&oe=utf-8&aq=t&rls=org.mozilla:en-US:official&client=firefox-a>
- ³⁵ Assumptions for debt servicing are 5.03% for 30 years. CA income tax rate applied is 9.3%. Since there is no private money to date in the CHSR project, and the costs of servicing that \$10-12 billion has yet to be calculated, there is no way to know what additional debt servicing would be required
- ³⁶ AB304 prohibits the State to match the authorized \$9.95 billion with funds other than Federal or private monies. It is unclear whether the participation of a foreign sovereign government or its agency would 'trigger' the use of authorized bonds; but it clear that such bonds cannot be used to match gifts from the state's cities or counties.
- ³⁷ See the comments of Meredith Whitney: [Meredith Whitney, Chris Christie On 60 Minutes: Illinois & California Are Bankrupt, States Face Reckoning Day: http://dailybail.com/home/meredith-whitney-chris-christie-on-60-minutes-illinois-calif.html](http://dailybail.com/home/meredith-whitney-chris-christie-on-60-minutes-illinois-calif.html)
- ³⁸ Op cit. CHSRA, 2009 Report; page 8.
- ³⁹ Ibid: CHSRA, 2009 Report. In addition to the 'grant' statement on the page 93 table, on page 107 it says "... it is assumed that remaining project funding will come from federal, state, and local grants". Again on page 108 local grants are mentioned not only in the table, but also in the subchapter heading and the statement that follows. "It is assumed that the balance of the funding requirement will be met by government grants."
- ⁴⁰ Stimulus fund is the popular name given to the 2009 American Recovery and Reinvestment Act (ARRA).
- ⁴¹ In early 2010, CHSRA received an ARRA funds commitment from DOT/FRA for \$2.25 billion, of which \$594 million would go to construction. In October 2010, CHSRA received \$715 million and another \$16 million, but from DOT/FRA's HSIPR/SDP funds. On December 9th, the DOT/FRA announced that \$624 million of funds rejected by the Governors-Elect of Wisconsin and Ohio for high-speed rail would go to California. Of this, \$8 million will go to non-high speed rail uses, netting CHSRA \$616 million for construction.
- ⁴² Op cit. CHSRA, 2009 Report, pg 83
- ⁴³ Because they come from different DOT/FRA sources, California can only match the Federal grants for the Borden-Towards-Bakersfield section with \$2,578,000,000 (\$2.578 Billion)
- ⁴⁴ There are approximately 1,300,000,000 residents in the area the Borden-Towards-Bakersfield section is to serve. This is less than four percent of California's 39 million residents. See: <http://www.counties.org/default.asp?id=399> and <http://www.google.com/publicdata?ds=uspopulation&met=population&idim=state:06000&dl=en&hl=en&q=population+california>
- ⁴⁵ Op.cit. Financial Risks; See Section 4.2.