

APPENDIX C

To

Financial Aspects of California's Proposed High-Speed Rail Project

Prepared by Alan Bushell (MBA, Harvard)

Preface: As an experienced operating executive having worked in Silicon Valley for more than twenty years starting, restarting, rescuing and running technology based companies I know what makes an acceptable operating plan for a new business. I know what thoroughness is needed in building such a plan. I also have deep experience in standing up for the content of an operating plan and defending the plan as it is challenged by potential investors in both the venture capital community and institutional investors and bankers on Wall Street. I have successfully raised private equity capital from both venture capital and institutional investors and have also raised about \$300 million of high yield debt. The qualifications that afforded me the platform to assume such responsibilities are stated in Appendix 1.

I have devoted close attention to the Operating Section (pages 64 to 91) of the CHSRA December 2009 Report to the Legislature and the associated Addendum dated April 8, 2010 (page 70).

On CHSRA's Assumptions About Operating Expenses: Above all, I have serious reservations as to the methodology employed in developing operating costs and hence the reliability of the reported expectations. This review will first provide structural observations and then discuss selected referenced elements from the report.

The plan is driven from a ridership forecast and that is its major flaw. It says that it knows what ridership at one given price point will be and it seeks to perfectly match operations to that chosen revenue profile. Those of us that start up businesses know that the real world is not like this. You have costs before you have revenue. You have to differentiate between fixed cost and variable cost and look at every aspect of your cost structure in that light. There is not one word in this section of the document that acknowledges fixed versus variable cost. Fixed cost is by nature rigid. You have too much of it before you need it, too much that you can't offset if plans don't materialize and not enough if demand surprises you (insufficient on-train bicycle capacity for CalTrain). Variable cost does not vary in a straight line and every item of cost needs to be carefully understood.

Step back from the train for a minute. Apple was able to deliver 1 million iPads in the first thirty days following launch in 1Q 2010. That is downright impressive, but what if they had only built 500,000? On the 24th of June they had taken 600,000 pre-orders for 4th generation iPhones in two weeks and customers without pre-orders camped outside stores for nights hoping there might be an odd few units for them. On that first day of release there were reports within the first few hours of reception/antenna issues – do you

stop the factories or do you charge ahead? Do you stop deliveries to those champing at the bit to be first amongst their friends to have one, or do you keep taking the money and hope that you have got it right? Have you got sufficient customer service capacity to handle the uncertainty and possible fall out?

Potential investors will drill you every which way to make sure that you understand the dynamics of your business and your plan shows them that before they will part with a dollar. They expect you to lay out Risk Factors that show that you are fully prepared for all exigencies and have the ability and resources to respond to them. They want you to show that you understand that there can be a range of possible outcomes and that you are operationally and financially able to deal with them. This report does not even touch on this important aspect.

Potential investors expect you to be intimately knowledgeable regarding your competition and their potential responses to your participation in the marketplace. No discussion is offered of how the assumption of a HSR fare of 83% of a presumed airfare of \$125 might be countered by the airlines that already offer many variable fare options well below \$105. Where is the discussion of the impact of service disruption? Why is there no acknowledgement of the fact that trains travel one behind the other with little if any spontaneous overtaking opportunity/capability? One in-route disruption generally disrupts all trains. Auto wrecks can be reacted to by detours on alternate roads. Airplanes are least impactful upon the ability of other airplanes to maintain operations to schedule. Hundreds of miles of track, tunnels and bridges, combined with trains filled with passengers carrying luggage are a security target beyond thorough policing. What is the range of possible outcomes of scenarios such as these that what impact might they have on both the revenue as well as the cost sides of the income statement?

Investors in new businesses expect to be presented with detailed line item operating statements on a quarterly basis for five years forward and annual statements for subsequent years. They want to see impacts of seasonality, variability, ramp up rates and relative amounts being spent on discretionary elements. Some of these categories would include: Recruiting/Hiring; Education/Training (is this front end loaded and perhaps contracted); Legal Expenses; Government Relations and Lobbying; Union Relations; IT Services and Software Licenses; External Professional Services/Consultants and of course Travel and Entertainment. These operating statements need to be worked into cash flow statements to ensure that the cash needs of the business are understood and that if there are operating losses, it is understood how such losses are going to be funded.

The above comments relate to what should, but is not presented in the business plan. What follows are extracts from the plan that are shown in *Italics* followed by comments in regular typeface.

P. 64

Ridership, Revenue and Operations

Overview of Forecasts and Operations Planning

Ridership, of course, is a determining factor, along with the cost of operations and maintenance of the system, in developing revenue. These figures will be critical in developing interest from private investors in the California high-speed train project.

Being highly interdependent, the operations plans and the revenue forecast have been repeatedly refined to ensure consistency of assumptions and workability of the high-speed train service.

Page 65

Forecasts for the programmatic EIR/EIS work used fares based on an LA-SF fare at half (50 percent) of the 2005 air fare, and varied proportionally with distance for other trips. This "50 percent" fare level generates relatively large passenger flows without requiring operating subsidy

The fare is calculated in the same manner as the 50 percent, but is anchored by an LA-SF HST fare at 83 percent of the air fare, or in 2009 dollars a high-speed train fare of \$105 vs. a \$125 air fare, and a \$118 cost to drive.

Page 68

Between 2000 and 2030, population is forecast to grow by 42 percent to 48 million, and employment will grow by about 51 percent. This growth will increase total interregional travel by 65 percent to 911 million trips a year, with auto keeping its lion's share, but with a nearly five-fold increase in conventional rail trips.

For the purposes of this plan these are unsubstantiated forecasts that have a dramatic impact in favor of rail trips. To the experienced operating mind there are serious questions to be asked. How does employment increase twenty percent faster than population – are we to assume that this is the great employment opportunity for the presently unemployed? Why would interregional travel grow at a rate more than 50% faster (65%/42%) than population growth? Whose determination is it that despite auto maintaining its market share, rail trips will increase share of market by 500%? This is a meaningless statement if rail starts from an insignificant share. In addressing demographics no mention is made of the potential impact of telecommuting, telepresence, video conferencing, Internet document sharing and other emerging technologies which are already starting to reduce the number of business trips taken by air. The impact of these new technologies is already being reported in the Corporate Social Responsibility Reports for 2007 and 2008 of corporations such as Cisco, Symantec, Intel and Nike to name a few. Corporations are investing to see significant reductions in corporate travel in the immediate future. Without considerations of these trends the business plan can only be seen to be selectively self serving at best.

Page 69

The forecasts assume that high-speed train travelers will not face airport-style security checks and processing time, in line with practice in the Washington-New York-Boston 150-mph Acela train services, and all but one of the high-speed train services overseas.

If the operator of HSR chooses to omit equivalent security measures over its entire system (track, tunnels, bridges, viaducts, signaling systems, locomotives, carriages and power sources) in the interests of time and cost savings then the business plan needs to go

into depth on the risk factors associated with such a decision and the impact on future system economics and viability in the event of an attack of the proportions experienced in London and Madrid.

Page 70

The 83 percent level is in the middle of a wide range of experience in similar-length markets outside of California, based on prices examined in 2007²¹. At the top end, weekend Acela fares in the New York to Washington market were higher than air fares, and the Japanese Shinkansen fares were 108 percent of air fares for Tokyo-Osaka (322 miles) and 114 percent Tokyo-Hakata (722 miles). London – Paris Eurostar HST fares were 80 percent of air fares, both peak and off-peak. Madrid – Sevilla (333 miles) AVE fares were 71 percent of air, and Paris Lyon (244 miles) 71 percent of air. In the Paris Brussels market (191 miles) where HST has 95 percent of the air/rail market, and airlines are primarily connecting to long-distance flights, (similar to Central Valley service to San Francisco or San Diego-Los Angeles flights) air fares are very high, and HST fares were only 39 percent of air fares.

Fares for each trip continued to be expressed as a single average fare. The 83 percent level is in the middle of a wide range of experience in similar-length markets outside of California, based on prices examined in 2007²¹. At the top end, weekend Acela fares in the New York to Washington market were higher than air fares, and the Japanese Shinkansen fares were 108 percent of air fares for Tokyo-Osaka (322 miles) and 114 percent Tokyo-Hakata (722 miles). London – Paris Eurostar HST fares were 80 percent of air fares, both peak and off-peak. Madrid – Sevilla (333 miles) AVE fares were 71 percent of air, and Paris Lyon (244 miles) 71 percent of air. In the Paris Brussels market (191 miles) where HST has 95 percent of the air/rail market, and airlines are primarily connecting to long-distance flights, (similar to Central Valley service to San Francisco or San Diego-Los Angeles flights) air fares are very high, and HST fares were only 39 percent of air fares.

Fares for each trip continued to be expressed as a single average fare.

There is no discussion of the extent to which different fares are subsidized from the tax base and other sources to reduce face value of rail tickets. Comparison with these stated examples is therefore meaningless. Similarly certain air travel routes are able to maintain non market driven fares as a result of being restricted to a monopoly national air carrier and a reciprocal partner. Knowledgeable investors will by this stage be convinced that the authors of this business plan are brewing and drinking their own Kool-Aid.

Page 71 & 72

Year 2020 to 2023 increase. Figure 1 Ridership almost 262%

Figure 2 Revenue: 261%

The growth forecast over the first few years of operation is dramatic. Experienced business operators know that there is a limit to how many employees can be recruited, trained, learn the operating dynamics and chain of command and form a cohesive effective entity. A ramp rate such as this needs to be substantiated with examples of other entities that have successfully managed this type of flying start.

Page 80 Operations, Costing & Cash Flow

Operations cost (all expressed in 2009 \$\$) in the third year of reporting (2019) is stated as \$0.20 billion. 2020, the first full year of operations with passengers, is \$0.68 billion (340% year on year growth). 2021 has 20.6% growth, 2022 has 14.6% and 2023 has 9.8% growth. Thereafter, from 2023 (\$1.01 billion) through 2035 (\$1.07 billion), a span of 13 years, operating costs are projected to be essentially flat.

This scenario is almost impossible to believe. Surely by the 15th year of constant operation the maintenance cost should be increasing noticeably due to wear and tear. However it is held constant at approx. 42% of essentially flat total operating costs. One would only draw the conclusion that the executives that authorized this plan have no experience relative to the task at hand. Assuming that all costs from 2023 through 2035 will be almost constant when expressed in 2009 \$ and all experience the same average rate of inflation runs counter to past experience. Medical insurance and fuel will be major cost items for a system such as this. In the past twenty years no business operator has been able to successfully contain these two expenses to anything like the general rate of inflation.

Page 81 Insurance Cost shown as \$0.0

Page 82

Insurance is assumed to be handled by the Authority and the state in the initial phase, through an owner-controlled insurance program (OCIP).

This business is expecting private investors to be attracted. What guarantees will they be given that their investment is exempt from any insurance expense into the future, or if not, what is it likely to be? This business has assets that will need to be insured even if self insured and there are costs associated that need to be revealed. There is also the issue of liability insurance and no mention is made with respect to whether “handled” also means that unlimited cost will be absorbed by some entity other than the HSR system itself.

Table J

Initial Phase Operating Results

This Table anticipates an Operating Surplus in every year from 2020 through 2035.

It is surprising that despite forecasting fifteen consecutive years of substantial operating surpluses there is no discussion of any tax provision with respect to such surpluses.

What is not shown in the costs?

Costs that, by omission, will have to be borne by the citizens of California through their taxes and their portion of the federal subsidies through their portion of the federal taxes paid by all citizens of the US include:

Interest cost of servicing the bonds. Principal repayment of the bonds.

Interest and amortization on Federal Debt contributed to capital costs.

Page 84 Cost of the System Cost Estimate Summary

Page 85 & 86 Tables 1, 2 & 3

This discussion does not address and include costs of eminent domain takings for

expanded right of way, grade separations and approaches to grade separations nor takings for construction purposes.

It also does not address costs that might be incurred due to loss of business experienced through disruption by businesses impacted during the construction phase.

This discussion has not yet addressed the cost impact of alternative track solutions ranging from berm, to tressle, to open cut, to cut and cover and to tunnel.

The authors appear not to have processed the lessons taught by Flyvberg, Bruzelius and Rothengatter in their book Megaprojects and Risk – an Anatomy of Ambition.

In the interests of not overburdening the reader I reserve comment on pages 87 through 91 for those more qualified to address engineering matters.

ADDENDUM (April 8, 2010)

*to the California High-Speed Rail Authority's
"Report to the Legislature; December 2009"*

Page 70+

REITERATION OF TICKET PRICING IN BUSINESS PLAN REPRESENTING ONLY SCENARIOS AND NOT POLICY DIRECTION

Ticket Pricing Scenarios

As is indicated in the December 2009 Report to the Legislature, the average high speed train fares are scenarios, and no policy decision has yet been made on how much a ticket will cost for the system.

That decision will be made in the future, with input from the Authority's Board and any private entity contracted for the system's operations.

The Authority has looked at two scenarios for potential ticket pricing: one with high speed train fares being set at 50 percent of airfare over the same distance and another at 83 percent.

The first scenario shows the broadest ridership, and therefore the largest environmental impacts. And for that reason, that scenario continues to be used by the Authority for environmental review and mitigation.

The second scenario is used to illustrate that with this increase in fares, ridership goes down but so do operations and maintenance costs, such that the revenue surplus actually increases. Since fewer passengers are carried, fewer long trains need to be operated, reducing operations and maintenance costs. The result is an increase in the bottom line cash flow projections.

In both scenarios, the system would generate a significant revenue surplus after the initial ramp up and would not require a government operating subsidy.

It is alarming that, after four months of review and the opportunity to significantly improve the business plan, the above is the informed opinion of the California High Speed Rail Authority. I paraphrase: We can make it work at 50% of airfares, we like it better at 83% of airfares but, no matter what, we will generate a significant operating surplus that would not require a government operating subsidy!

Unbelievable

I also refer you to the work of Liam Julian (with whom I have never had any contact) referenced below:

<http://www.hoover.org/publications/policy-review/article/5296>

Hoover Institution

Stanford University

... ideas defining a free society

The Trouble with High-Speed Rail

by ***Liam Julian***

Liam Julian, a Hoover Institution research fellow, is managing editor of *Policy Review*.

Copyright © 2010 by the Board of Trustees of Leland Stanford Junior University

Phone: 650-723-1754

Extract from this article:

Other setbacks came in January, when the California Legislative Analyst's Office, the legislature's nonpartisan watchdog, issued an evaluation of the High Speed Rail Authority's most recent business plan. It found the following:

*The rail plan offered an "uninformative timeline" and presented an "inconsistent order of events."

*The rail plan contained "no risk management strategy." For instance, it addressed "the risk of incorrectly forecasted ridership with one sentence," murkily noting that "the risk 'would be mitigated by policies that continue to draw people to reside in California and encourage high-speed rail as an alternative mode of transportation.'"

*The rail plan did not "provide any numerical ranges nor confidence intervals for projections contained in the plan (such as cost, revenues, or ridership)." Thus, "the risk of not realizing the forecasted ridership, revenues, or costs is unknown."

These conclusions are simply devastating. Perhaps the most-damaging among them, even though it's not particularly new, is that the High Speed Rail Authority's latest business plan contains no realistic outline of how California will pay to build a high-speed rail system. And so the ridership problems, political problems, route problems, timeline problems all become secondary - none of them matters if billions of construction dollars never materialize.

A Note on Qualifications To Prepare This Appendix – I have been advised that it is necessary for me to establish my competence to be considered “expert” in my ability to relate to such a complex issue and document. I have a law degree, am a Chartered Accountant (CPA equivalent) and an MBA with distinction from Harvard. In the 70s I worked as a consultant for McKinsey & Co, then, and probably still now, the pre-eminent management consulting company in the world. In one of my client assignments I was able to assist KLM (the Dutch National Airline) in sustainably reducing overhead costs by 10% annually and then see that innovative work taken to many other international airlines with success. I have lived and worked in London and Amsterdam in the 70s and enjoyed being a regular user of public transport before moving to Menlo Park where I have owned a home and lived for the past 32 years. I believe I understand public transportation.