

If You Build It, They Will Not Come – The Sequel –

To not require an illegal operating subsidy, the Authority's (CHSRA) high-speed trains (HSR) must compete against Auto and Air for

passengers – [AB3034 Section 2704.08 (J) "*The planned passenger service by the authority in the corridor or usable segment thereof will not require a local, state, or federal operating subsidy.*"]

What did we do to understand HSR's competitiveness on 320 routes – We measured the Total Travel Time (TTT) and Total Travel Cost (TTC) of every step of a trip by HSR, Auto and Air on 140 routes during the SV-CV Period and 180 routes during False Phase 1.*

TTT and TTC were the metrics of a May 2008 joint US DOT-CHSRA EIR/EIS to determine HSR, Auto and Air's competitiveness and TTT is CHSRA's key competitive metric. **

What did we find? – During CHSRA's entire forecasted history (2029-2040) **less than one-in-five (<20%) of CHSRA's 2018 forecasted riders will take HSR** because its Total Travel Time is competitive with Auto or Air travel.

The implications of this are devastating to CHSRA's claims:

- even if we erred on 50% of the routes, one-in-three (34%) of 2018's forecasted riders 'showing up' is unlikely to produce enough revenue to not need an operating subsidy
- a nearly-empty train is unlikely to be a 'Green' energy train

* We call the truncated San Jose-Los Angeles route 'False' because while Section 2704 (b) (2) requires high-speed rail to connect the downtowns of SF and LA, the San Jose-Los Angeles route does not conform to AB3034. In 2012 the Authority said "*If required, a Full Build option for Phase 1 could be completed by 2033 ...* [See p. ES-14 [PDF 22] of the California High-Speed Rail Authority Revised 2012 Business Plan.] The Authority has no legal right to determine whether AB3034 requires it to conform.

** "*. . . the more competitive HSR travel times are, the higher share HSR attracts . . .*" See p. 2-40 [PDF 72] of Final Report, California High-Speed Rail Ridership and Revenue Model, Business Plan Model-Version 3 Model Documentation, prepared for California High-Speed Rail Authority, prepared by Cambridge Systematics, Inc.; February 17, 2016

**Here's What 10 Route Analyses Look Like –
37 COLUMNS OF DATA INPUTS AND MS EXCEL CALCULATIONS X 320 ROUTES = ±12,000 'CELLS'**



GRAPHICS WERE BUNDLED IN TO SETS OF 5-6 ROUTES TO VISUALLY HIGHLIGHT WHETHER HIGH-SPEED RAIL (HSR), AUTO OR AIR WAS TOTAL TRAVEL TIME FASTER THAN THE OTHER TWO TRANSPORT MODES AND WHETHER THE TOTAL TRAVEL COSTS OF EACH MODE WAS CHEAPER

What Were Our Strategic Findings ?

1. Nearly three-fourths of ALL Californians live in its three largest markets – Los Angeles Metro ($\pm 18M$) the SF Bay Area ($\pm 8M$) and San Diego County ($+3M$) – $\pm 29M/39M = 74\%$

The routes between those markets are crucial to HSR's un-subsidized survival is crucial to CHSRA – so we did competitive analyses on EVERY possible route between those major markets



Experienced travelers know how quickly (and cheaply) they can fly LA Metro Area-SF Bay Area and SF Bay Area-San Diego County.

- On the LA Metro Area-SF Bay Area route, HSR 'won' only one Origin-Destination (Gilroy-Palmdale)
- HSR 'won' NO SF Bay Area-San Diego Origin-Destination

The principal reason for route 'losses' between the largest two markets is their Origin-Destination distances are too long for HSR to be competitive

- HSR 'won' No LA Metro Area- San Diego County route because there is No planned HSR or Authority bus service between the two prior to 2040.

However, the Authority claims 300,000 riders on that route in 2029 and 2,800,000 riders in 2033.

How can that be true?

What Were Our Strategic Findings ?

2. The Authority Also 'Shot Itself In The Foot' With Mandatory Bus Rides To or From Sacramento [See Appendixes A.1 and A.2 of the 2018 Ridership and Revenue Forecasting Technical Supporting Document ***]

- During 2029-2032, a one-way Authority bus ride is 4 hours (240minutes)
- Between 2033 and 2040 a one-way Authority bus ride is 3hours 20minutes (200minutes)

In a competitive market, the consequences of this self-inflicted choice are extreme:

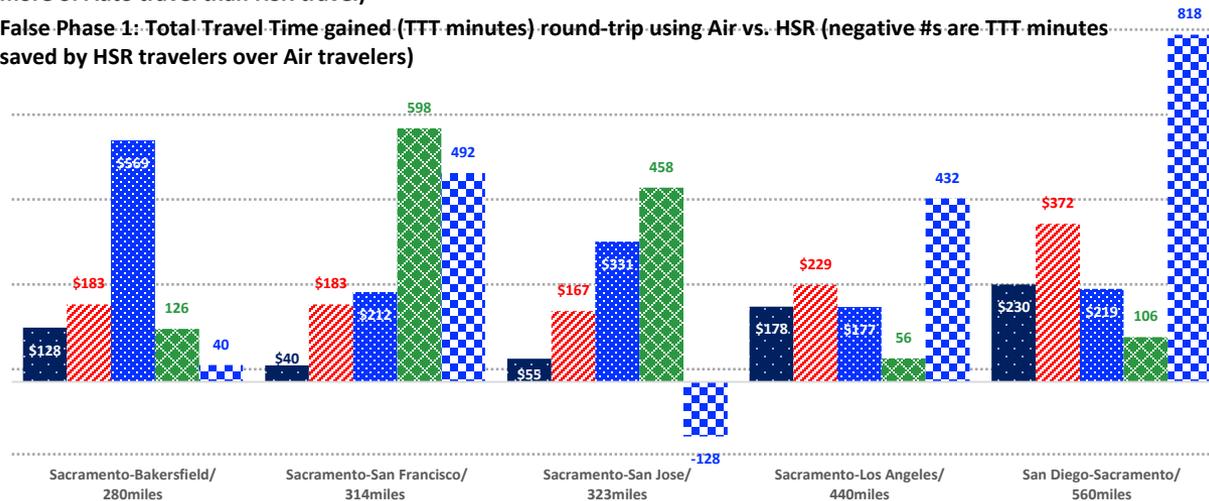
■ False Phase 1: Cost of Driving Alone Round-Trip @ 23¢/mile, the Authority's metric for fully-loaded auto costs

▨ False Phase 1: Per person cost of inter-regional round-trip using HSR; based on Table 2.2 fares

■ False Phase 1: Round trip airfares and \$23 of Round Trip access+egress costs

▨ False Phase 1: Total Travel Time gained (TTT minutes) round-trip using Auto vs. HSR (negative # is TTT minutes more of Auto travel than HSR travel)

▨ False Phase 1: Total Travel Time gained (TTT minutes) round-trip using Air vs. HSR (negative #s are TTT minutes saved by HSR travelers over Air travelers)



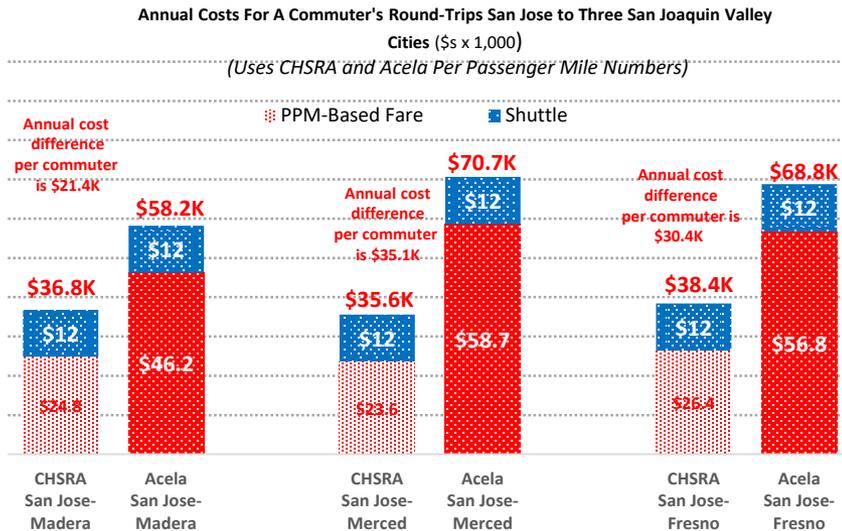
Auto 'wins' over high-speed rail on all Sacramento-inclusive trips to the SF Bay Area and the San Joaquin Valley and cedes all 'wins' to Air on all Sacramento-inclusive trips to both the LA Metro Area and San Diego !

*** Note that AB3034, Section 2704.09 (f) only allows passengers to travel by HSR "... without being required to change trains." which makes using a bus on any and all corridors, like the Sacramento or the Tehachapi Bakersfield-LA buses do, illegal.

What Were Our Strategic Findings ?

3. Neither type of Silicon Valley-San Joaquin Valley link will solve the former's housing problem nor the latter's underemployment problem

For the HSR-only trip – if the HSR trains are not to be subsidized, then Acela's Per Passenger Mile are the CHSRA's benchmarks – otherwise all Californians will pay for a few riders



The costs of a 200-day year of round trips to work in Silicon Valley varies between \$24K and \$26K – or if HSR is to 'pay its way' – between \$46K and \$59K – a very steep bill for largely non-mission critical employees.

By promoting the HSR-only SV-CV link, CHSRA is fostering housing inflation in the San Joaquin Valley

Recently the idea of connecting HSR at Merced with the Altamont Corridor Express (ACE) has been 'floated'

Using CHSRA and ACE's fares and timetables we found the following:

A Merced resident would pay less by boarding ACE and going round-trip to and from San Jose (\$60 vs. \$118) – But the Merced-San Jose-Merced trip would take 9hours every day.

A Fresno resident going round-trip to and from San Jose would pay \$154/day – 17% more than using HSR alone. – The Fresno-San Jose-Fresno trip would take 10hours 20minutes every day.

Using ACE from Merced to San Jose or the combination of HSR with ACE are 'non-starters'

**The Strategic Question becomes:
"Does California wish to build even a partial HSR system that clearly will need an operating subsidy"**

If it choses to continue funding any form of HSR construction, the project becomes a financial 'Albatross' while 165miles of "a train to nowhere" negates the state's image of being a leader in new ideas and technology

Is this what our state's leaders want to project to the nation and the world ?