High Speed Rail:
Plans vs. Reality & Cautions

Presentation by
Wendell Cox, Demographia
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THE CALIFORNIA HIGH SPEED RAIL PROPOSAL: A DUE DILIGENCE REPORT

By Wendell Cox and Joseph Vranich
Project Director: Adrian T. Moore, Ph.D.
TYPES OF HIGH SPEED RAIL

According to Federal Plan

Genuine HSR: HSR Express

Now gravitating to higher cost approaches

Definitions:
High-Speed Rail (HSR) and Intercity Passenger Rail (IPR)*

HSR – Express. Frequent, express service between major population centers 200–600 miles apart, with few intermediate stops. Top speeds of at least 150 mph on completely grade-separated, dedicated rights-of-way (with the possible exception of some shared track in terminal areas). Intended to relieve air and highway capacity constraints.

HSR – Regional. Relatively frequent service between major and moderate population centers 100–500 miles apart, with some intermediate stops. Top speeds of 110–150 mph, grade-separated, with some dedicated and some shared track (using positive train control technology). Intended to relieve highway and, to some extent, air capacity constraints.

Emerging HSR. Developing corridors of 100–500 miles, with strong potential for future HSR Regional and/or Express service. Top speeds of up to 90–110 mph on primarily shared track (eventually using positive train control technology), with advanced grade crossing protection or separation. Intended to develop the passenger rail market, and provide some relief to other modes.

Conventional Rail. Traditional intercity passenger rail services of more than 100 miles with as little as one to as many as 7–12 daily frequencies; may or may not have strong potential for future high-speed rail service. Top speeds of up to 79 mph to as high as 90 mph generally on shared track. Intended to provide travel options and to develop the passenger rail market for further development in the future.

* Corridor lengths are approximate; slightly shorter or longer intercity services may still help meet strategic goals in a cost-effective manner.
RECORD OF COST ESCALATION & RIDERSHIP PROJECTION EXAGGERATION

International Study
Federal Profits & Losses
AMTRAK ONLY SUBSTANTIAL INTERCITY SUBSIDIES

Cost per Passenger Mile
Iñaki Barrón de Angoiti, director of high-speed rail at the International Union of Railways in Paris, referred to the short Paris-Lyon and Tokyo-Osaka routes as the only ones in the world that have “broken even.”

_The New York Times, May 29, 2009_

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**Taiwan Today**

**In the News**

**Taiwan High Speed Rail seeks fund injections**

- Publication Date : 06/04/2009
- Source : [Economic Daily News](http://www.economicdailynews.com)

Loss-plagued Taiwan High Speed Rail Corp. is seeking to attract fund injections from insurance firms and take out new bank loans by the end of the year to bring to completion a financial restructuring plan.
California High Speed Rail Financing

HUGH UNFUNDED BALANCE

Costs

Phase 1: Anaheim-LA-SF
Phase 2: San Diego & Sacramento
Missing Phase: Altamont Pass-Oakland

Funding
Ridership (Fare) Projections High
LOWER REVENUES CAN BE A PROBLEM

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<th>Eurostar (Paris-London)</th>
<th>Taiwan</th>
<th>Korea</th>
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<td>Lower Revenues</td>
<td>Lower Revenues mean higher subsidies</td>
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California HSR Load Factors in Context
COMPARSED TO AIRLINES AND OTHER HSR SYSTEMS

California HSR
US Airlines 2007
France HSR
Spain HSR
US Acela
Natl Acadmy of Sciences
Impact on Highway Traffic
HSR IS TOO COSTLY FOR MOST PEOPLE

• CONGESTION IS IN URBAN AREAS
  — NOT BETWEEN

• HIGH TOLLS:
  — TOKYO-OSAKA $100+
  • 2ND (PARALLEL) FREEWAY UNDER CONSTRUCTION
  — PARIS-MARSEILLE $75+
HSR Reduces Car Travel Little

NECESSITY FOR CAR RENTAL AT DESTINATION
California: “Highway Alternative” Costs
EXAGGERATION ESTIMATED AT 200+ TIMES

- Included expansions where not needed
- Costed at multiples of FHWA standards
- Intense urban costs used in rural areas
- Attributed all costs to HSR
Traffic in 2030: Over Highway Capacity

From Consultants Report
FREIGHT MODES: US, WESTERN EUROPE & JAPAN

Rail Share of Truck & Rail

- United States
- Western Europe (EU-15)
- Japan

Year:
Impact on Airports

VERY SHORT MARKETS HAVE IMPACTS

• MARKET SHARE CLAIMS
  — IGNORE PRE-EXISTING LARGE RAIL SHARE

• SIGNIFICANT IN SOME SHORT MARKETS
  — PARIS TO LYON

• INSUFFICIENT TO REDUCE FUTURE EXPANSION
  — PARIS-MARSEILLE 23 FLIGHTS DROPPED TO 17
  — TOKYO TO OSAKA: HOU RLY 777 AIR SERVICE
Impact on Airports: Slight
SAN FRANCISCO AREA

Even with the large diversion of air passengers predicted by the Rail Authority (35% to 56%), we found that the projected runway demand at SFO would only be reduced 4-7%, due to the large number of SFO flights not associated with the California market. ...Finally, it is possible that the airlines would compete more effectively with fares than assumed in the HSR report.

Regional Airport System Plan (San Francisco Bay Area)
www.mtc.ca.gov/planning/air_plan/RASP_FinalReport.pdf, p.32
Barcelona-Madrid Flights: No Reduction
DESPITE 50% MARKET LOSS CLAIM BY HSR
GHG Emissions: LA to SF

CURRENT & PLANNED PERFORMANCE & POTENTIAL

Per Passenger Mile (Air Distance)

- High Speed Rail
- Air: A-320
- Auto: Hybrid
- 2016 New Car/SUV
- New Car/SUV
Impact of HSR on GHG Reduction Goal
2020: USING 2030 HSR IMPACTS

Based on California Air Resources Board Data
Cost Effective Greenhouse Gas Reduction
UN IPCC MAXIMUM RANGE

Market
Less than $15

Above $50 is wasteful
Detracts from efforts to reduce GHGs

Shenyang, China

McKinsey Average
$17
Plans vs. Reality & Cautions

BOSTON “BIG DIG”

• The Plan
  – Massachusetts to pay 10% (Federal share: 90%)
  – Massachusetts costs to be $1 Billion (2009$)

• The Reality
  – Massachusetts paying 73% (Federal share 27%)
  – Massachusetts costs $18 Billion
  – Will take to 2038 to pay debt
  – Borrowing to pay salaries ($28.80 per hour v $18)

Big Dig's red ink engulfs state
Cost spirals to $22b; crushing debt sidetracks other work, pushes agency toward insolvency