



# High-Speed Rail in California: Financial/Economic Issues

Lou Thompson  
UCLA Lake Arrowhead Symposium  
October 17, 2016

Thompson Galenson & Associates  
14684 Stoneridge Drive  
Saratoga, CA 95070-5745  
[www.tgaassoc.com](http://www.tgaassoc.com)

408 647-2104  
[lou.thompson@gmail.com](mailto:lou.thompson@gmail.com)

# California HSR: The Overall System Plans as of Oct 2016



# Project Evolution

## Evolution in Capital Costs, System Size and Demand, Revenue and Net Revenue Forecasts

(Revenue Projections for the Year 2040 re-stated in 2015\$)

Demand and Revenues are Medium Level Estimates

Business Plan	Capital Cost (\$ Billions)	Miles	Capital Cost/Mile (\$Millions)	Demand (Millions)	Gross Revenue* (\$Millions)	Net Revenue** (\$Millions)	Ratio: Net/Gross (%)
2000	20.4	442	46.1	43.8	1,895.3	781.0	41.2
2008	36.7	520	70.6	39.9	3,084.6	1,688.0	54.7
2009	39.2	520	75.4	41.0	3,287.3	2,062.2	62.7
2012	56.7	490	115.7	26.4	1,890.0	1,044.0	55.2
2014	56.4	490	115.1	34.9	1,713.0	818.0	47.8
2016	55.3	520	106.3	42.8	2,437.0	1,519.0	62.3

\* Farebox revenue plus 1% ancillary revenue

\*\* Gross Revenue minus O&M Costs and ongoing capital replacement

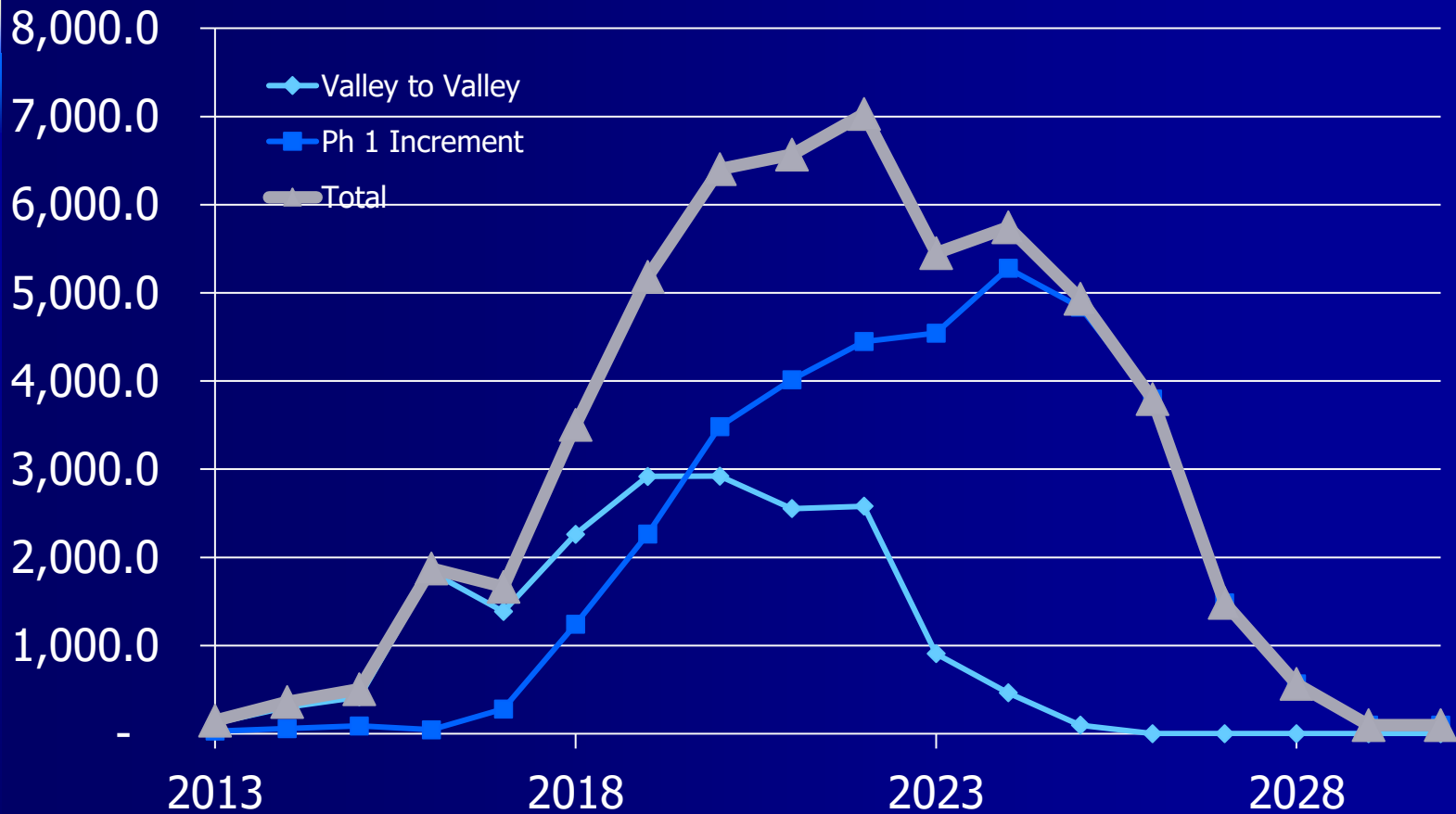
# Show Me The Money

(YOE\$)

	\$(000,000)	Risks
<b>COST</b>	<b>65,000.0</b>	<b>Accuracy of cost and schedule estimates</b>
Prop 1A	9,000.0	Litigation delays not resolved. Opposition from national and state politicians
FRA 2010	928.6	Available and partly spent, no risk.
DOT ARRA	2,551.0	Unspent amounts expire Sept 30, 2017
C&T through 2024	5,341.0	Program won't be continued. HSRA share (25%) won't be extended. Estimates of revenues optimistic (recent experience)
C&T Monetization 2025-2050	5,237.0	Program continuation/HSRA share. Future proceeds of 500 million/year. Future market valuation of proceeds and discount rates are speculative
C&T Surplus	2,075.0	Discount or interest rates higher than forecast (4.7%)
New Federal Grants	2,900.0	Doesn't exist at present. Hard to assess validity
<b>BASIC GAP</b>	<b>36,967.0</b>	<b>Existing Capital Gap. Required for sale of net revenues</b>
Monetization of Positive Cash Flow	17,000 22,000 35,000	Low/Medium and High Demand Scenarios. Also assumes 11% discount rate by potential operator. Will investors take demand risk at all?
<b>REMAINING GAP</b>	<b>20,000 15,000 2,000</b>	<b>Demand scenarios, profitability and discount rates by potential investor</b>

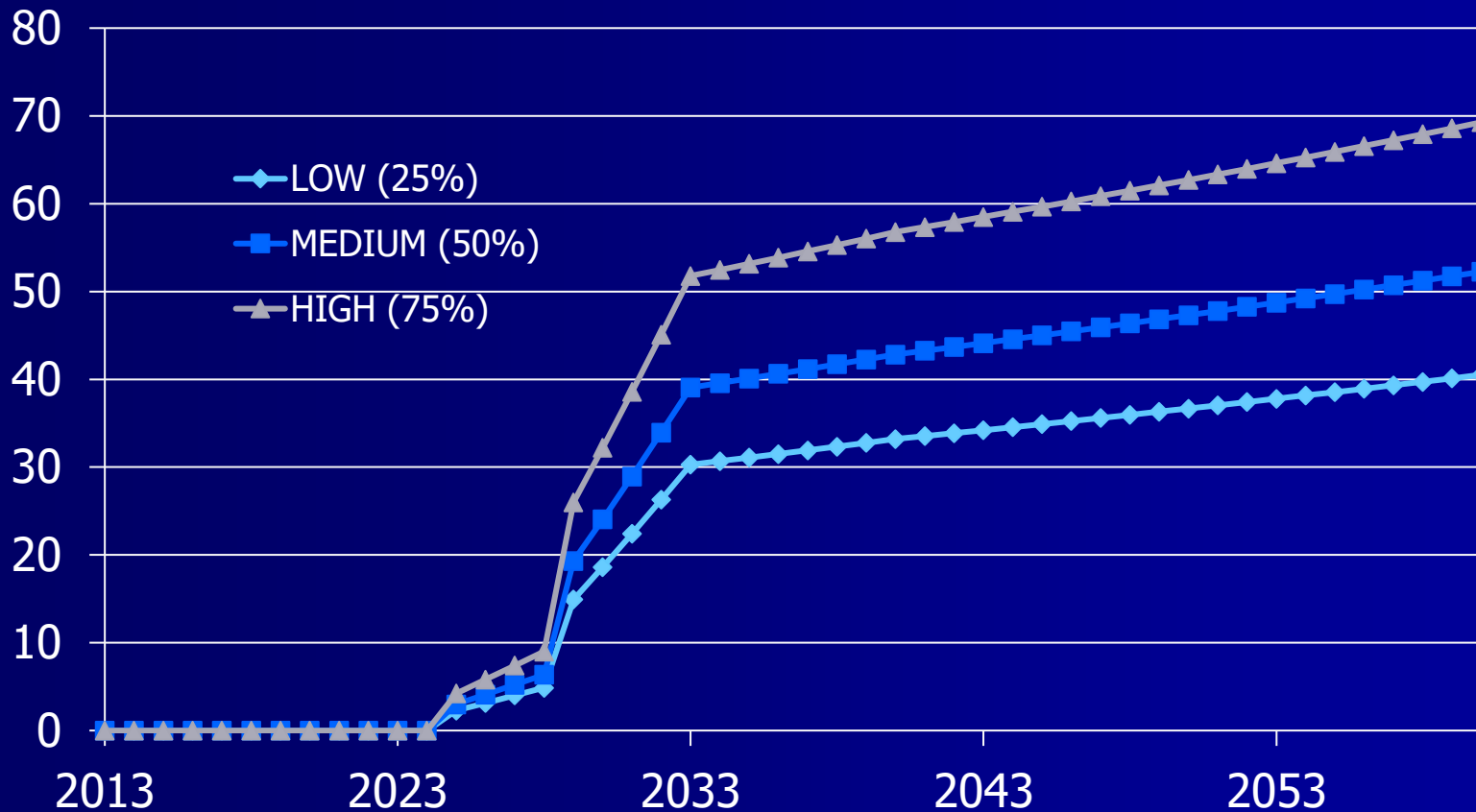
# Construction Cost By Year

(2015\$ billion)

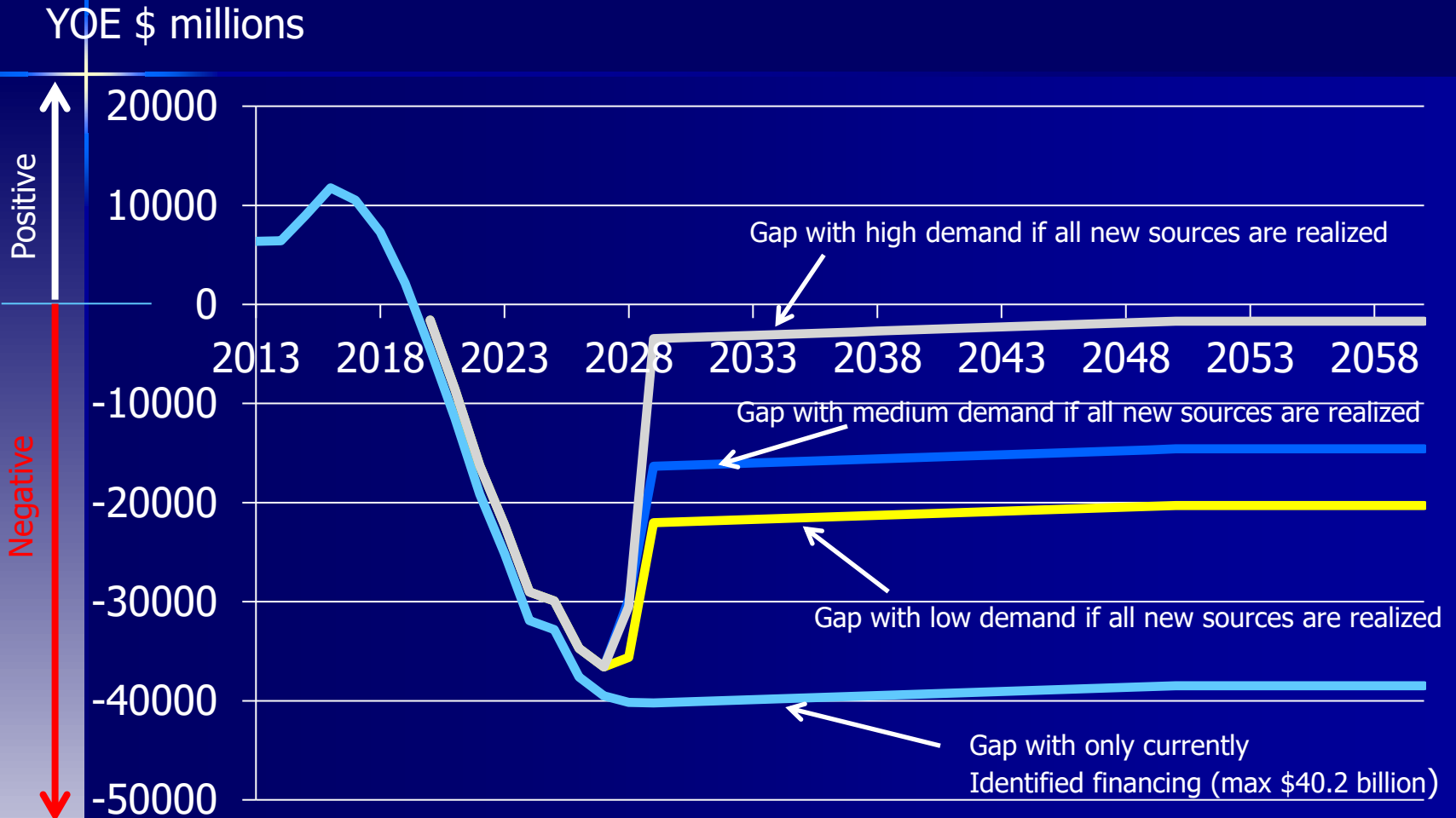


# Demand Projections

(million passengers/year)



# Gap: Total Cumulative Outlays versus Currently Identified and Potential New Financing



Assumes 11% discount rate for monetizing net cash flow

# Critical Issues

- Prop. 1A litigation
- Spending all the ARRA money?
- Continuing CA political support for HSRA?
- Prospects for new federal grant programs?
- Will C&T be extended through 2050 with HSRA 25% share?
- Can C&T be monetized as predicted if no state guarantees?
- Actual demand and net/gross results
- Will private investors agree with HSRA demand forecasts and/or will they require guarantees or availability payments?
- Mind the (funding time) gap
- Can it ALL happen?