



# Private Finance of Public Sector Infrastructure

**Transportation Research Board: Annual Meeting**

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The United States has a growing need for capital to invest in transportation facilities.

# Could private sector investment work for public infrastructure?

## Public Sector Cost

- Opportunity cost of investment
- Operating cost
- Renewal cost
- Risk

## Private Sector Price

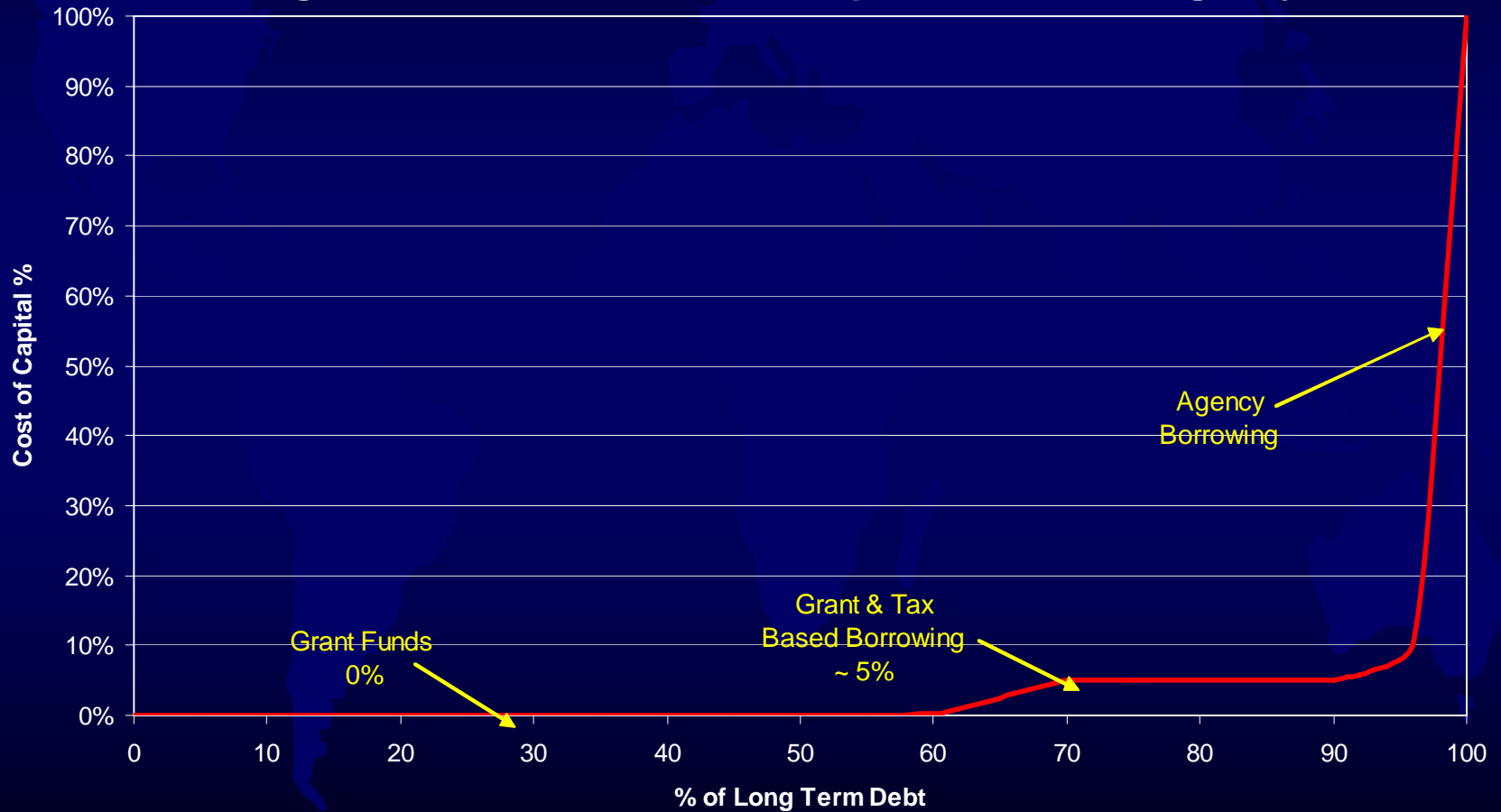
- Financing cost
- Operating cost
- Renewal cost
- Risk

# Private Sector Cost of Capital

	UK Railtrack 2000	US Class I RRs 2001	Private Operator
Capital Structure			
Debt	50%	41.8%	70%
Equity	50%	56.0%	30%
Preferred	na	2.2%	na
Cost of Capital			
Debt	7% - 7.25%	6.9%	7.25%
Equity (after tax)	9.4% - 10.7%	12.8%	13%
Preferred	na	6.3%	

# Transit Agency Cost of Capital

Figure 1: Illustrative Cost of Capital for Transit Agency

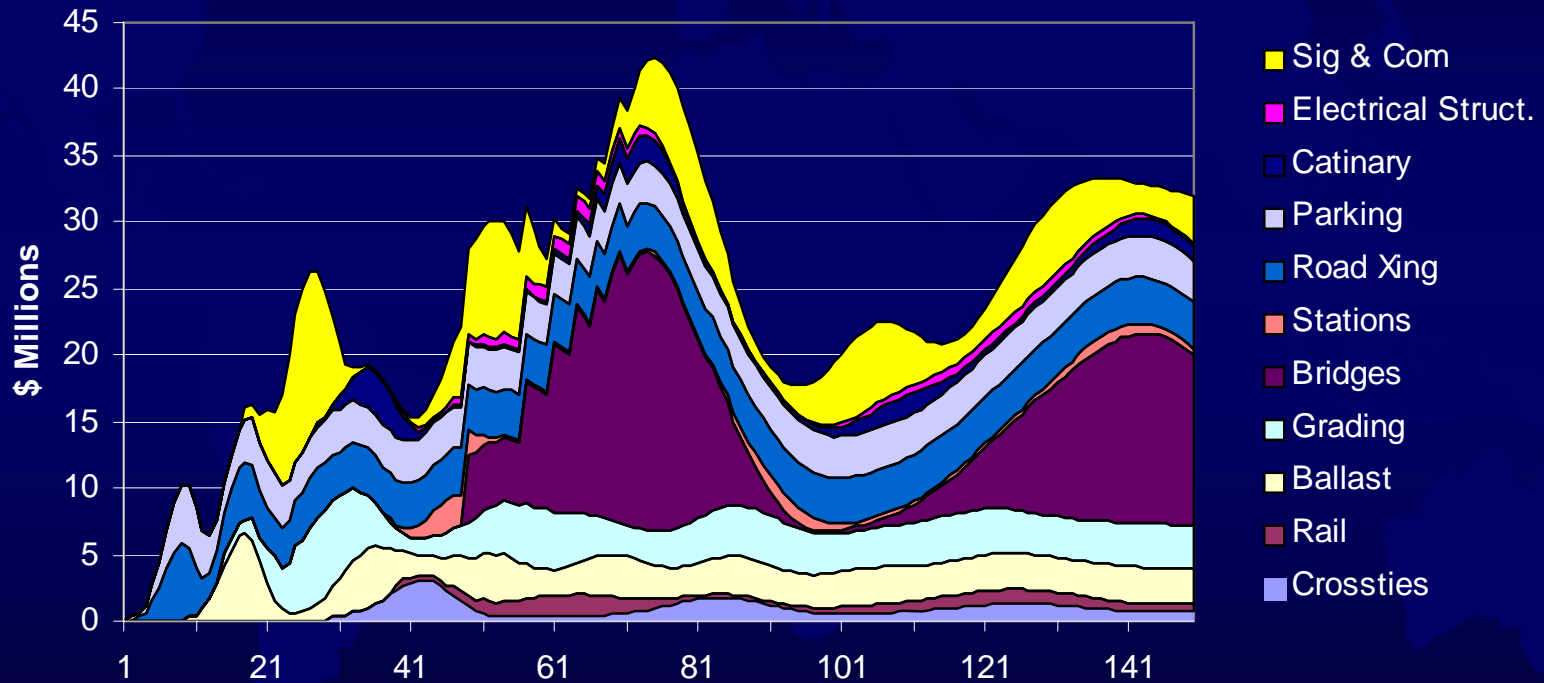


# Operating Costs

- Assumed transit agency costs of \$10 million/yr.
- Based on previous economic analysis, we believe private sector could operate 40% cheaper: lower overheads, less expensive labor.
- While big percentage, cost difference (\$4 million) is very small compared to cost of financing the investment.

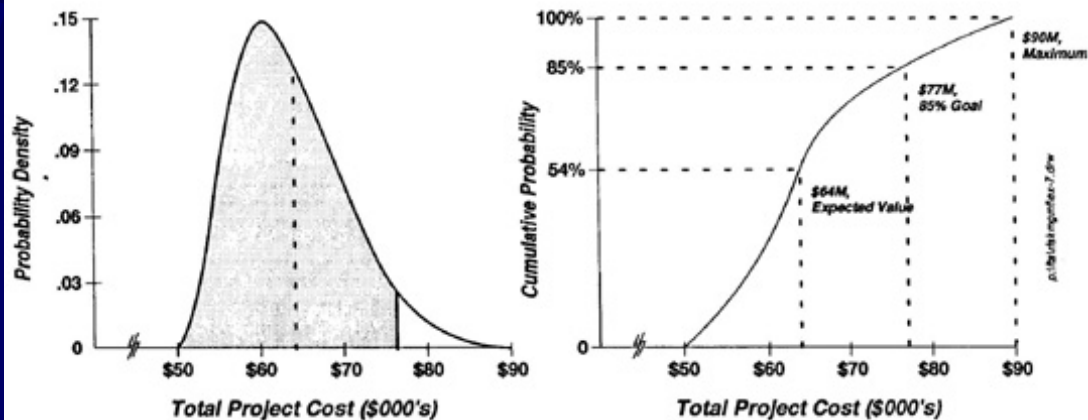
# Renewal Cost

## Asset Renewal Costs - Without Inflation



# Risk

**EXHIBIT 2-2**  
**Example of Probabilistic Risk Analysis Output**



Minimum	\$50
Mean (dotted line)	\$64
Maximum	\$90

Shaded region represents 85% confidence level.

If Owner's Estimate\* = \$60M and an 85% likelihood is desired to avoid a cost overrun, then the contingency amount will need to be valued at:  
 $\$77\text{M} - \$60\text{M} = \$17\text{M}$ .

\* Cost estimate without contingency.

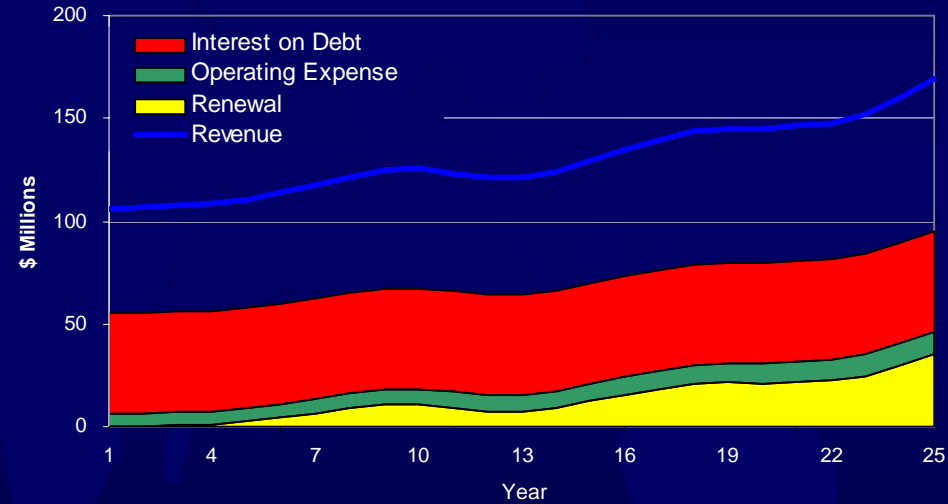
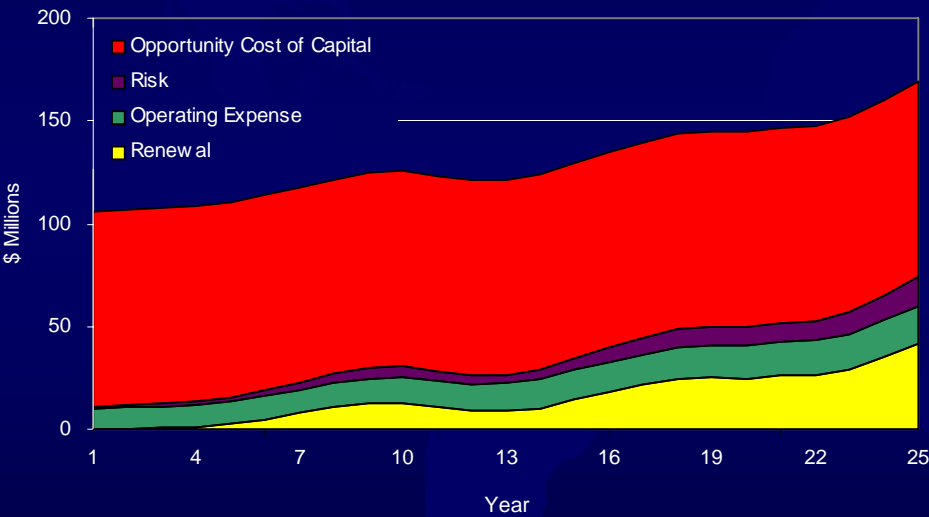
FTA, Probabilistic Risk Analysis for Turnkey Construction



# All Costs, First 25 Years

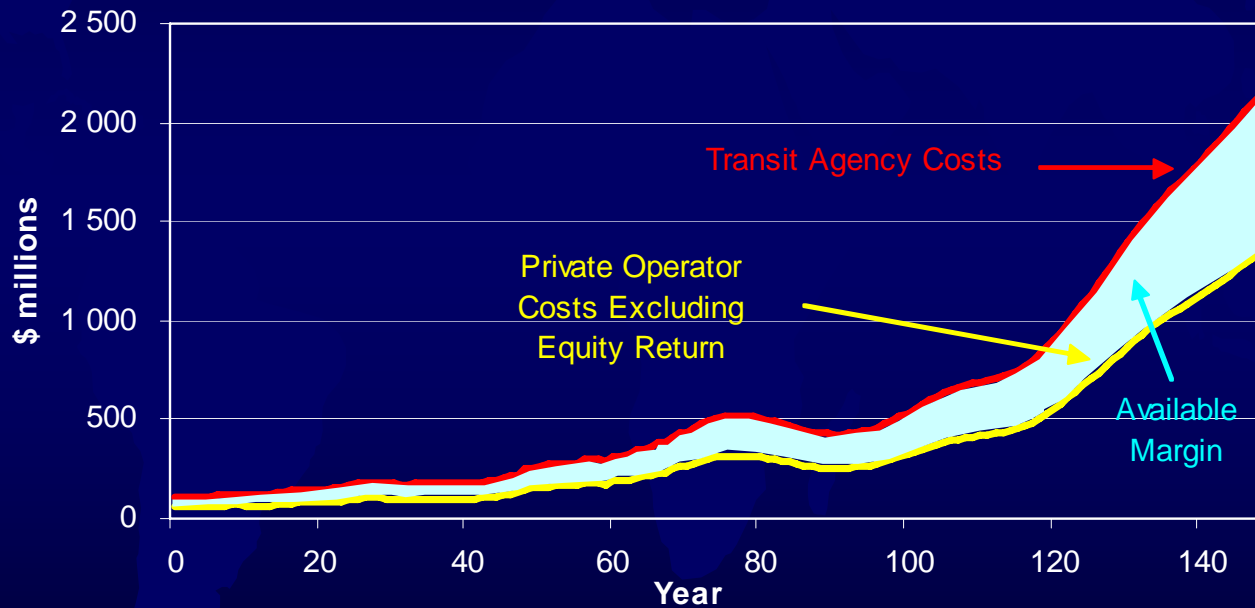
Transit Agency Costs

Private Operator Costs



# Margin for Equity Return

## Margin for Private Operator Return



# Great idea... But how to pay for it?

- The map shows real estate developments around the Hudson-Bergen Line
- There is money here, the question is how to tap the benefits from transit line development to help build/finance it

