



Transportation Finance: A Role For PPPs ?

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San Jose State
February 20, 2018

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Transportation Finance: PPPs Push the Experience Boundary

- US history in transportation finance – mostly grants or operating subsidies funded by taxes/charges and a few heavily regulated debt-based toll facilities. Very few actual PPPs.
- The model is in trouble -- distrust of Government, esp. Federal, opposition to charges of any kind (CA fuel taxes...). Value of existing charges is eroding due to inflation and fuel economy.
- Are there new models available that don't depend entirely on "free" public funding?

A New General Approach: Projects with Market **and** Social Impacts

- TRB study – no magic wand or free lunch.*
- Market benefit: I can charge users for.
Social/public benefit, I can't charge for.
- A new model will need clear and complete definition of benefits and costs and who receives or generates them.
- Information is critical: all parties want to get what they pay for.

What, Actually, **IS** a PPP?

- Any project not entirely public or entirely private is, in a sense, a PPP
- PPPs can range from:
 - Purchase of services (not materials)
 - Management contracts
 - Concessions or “franchises”
- Key defining questions:
 - Who defines the services (and prices) to be provided
 - Who bears what investment cost, operating cost, and demand risks
 - Contract obligations versus regulatory oversight
- The critical word is **PARTNERSHIP**
- Misunderstanding: **FIRR (private) vs EIRR (public)**

Making PPPs Financeable: Basic Conditions

- Need good benefit-cost analysis including both market and social/public impacts so that all parties are on the same page.
- Clear risk analysis: what are the risks, who is best equipped to bear them, what is the value of transfer from one party to another?
- Creating winners by balancing risks and net benefits.

Generalized Benefits and Costs of Transportation Projects

	Market-based	Social/Public
Benefits	Time savings, reliability, comfort, safety	Reduced pollution emissions, reduced accidents on other modes, reduced congestion, land use, "Jobs"
Costs	Operations and maintenance	Land consumed, noise, opportunity costs, operating support, if any
Investment	Share of infrastructure, equipment	Land, share of infrastructure

An Example: CA HSRA Project

Benefits and Costs

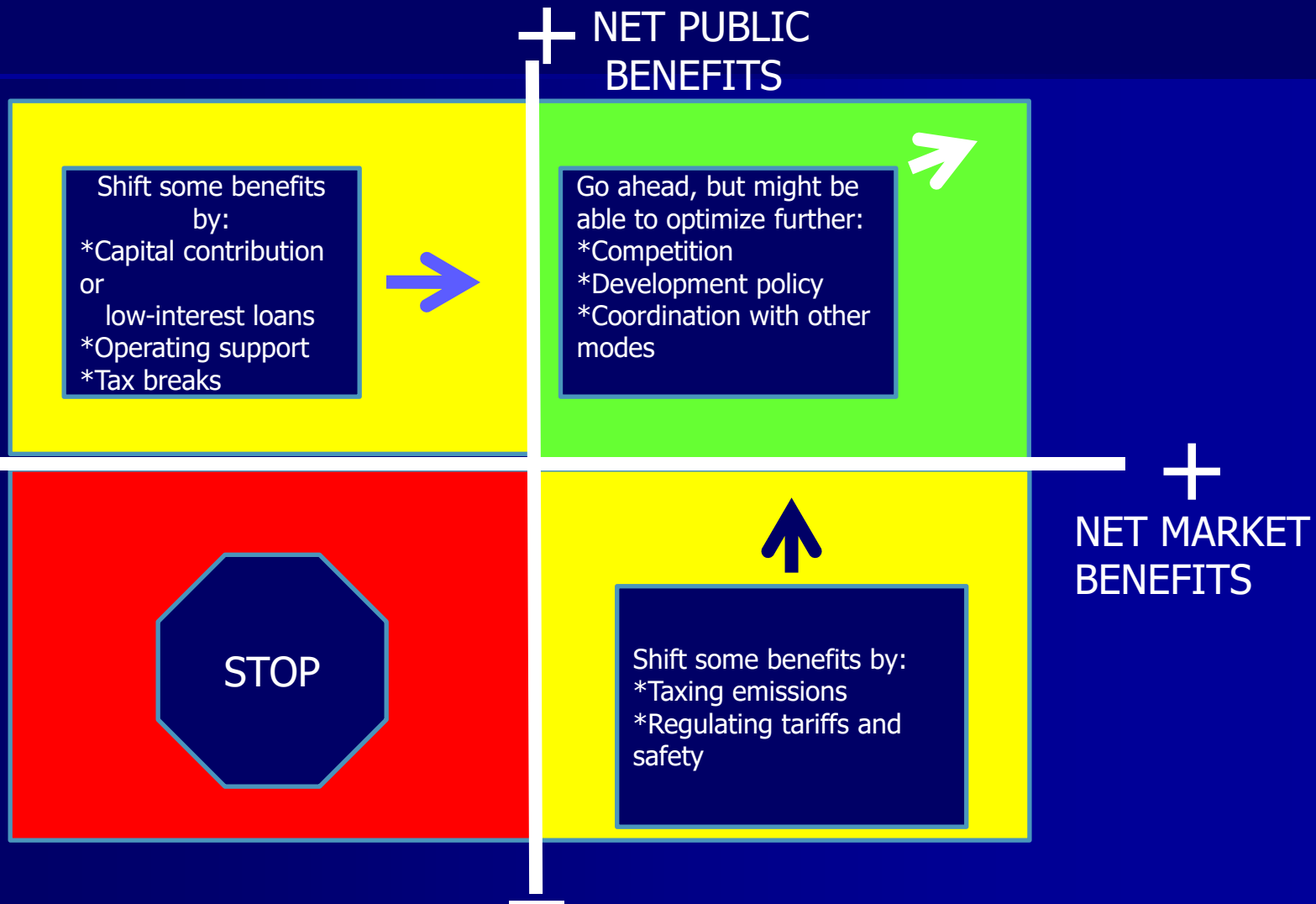
	Market-based	Social/Public
Benefits	Time savings (3:05), reliability, comfort, safety, Electrified Caltrain, improved Metrolink (24-30 million riders)	Reduced pollution emissions including GHGs, reduced accidents on highway, reduced air and highway congestion, better land use, "Jobs"
Costs	Operations and maintenance	ROW taking, noise of construction and operation, opportunity costs of State funds but NO operating "Subsidy"
Investment (IOS:\$31, B2B:\$51, Phi:\$68)	Share of infrastructure, equipment (\$2)	Land, share of infrastructure

The Balance of Benefits and Costs: Why it Matters

	Market net benefits (FIRR)	Public net benefits (EIRR)	Outcome	When could this happen?	Remarks
Case I	+	+	Project should go ahead	Project is profitable to the private operator with purely private financing, and it reduces road or air congestion, reduces total emissions or improves road or air safety	Private sector will do; no PPP needed, but some public coordination or regulation needed. Very rare case.
Case II	+	-	If private net benefits are sufficiently > public net dis-benefits, regulation or tax can shift enough benefits from private to public for project to go ahead. If not, project should stop.	Project is profitable to the private operator with purely private financing, but it generates added road or air congestion, increases total emissions, reduces road or air safety, or causes undesirable development	PPP is appropriate if benefits and dis-benefits can be balanced. More likely for air than for rail.
Case III	-	+	If net public benefits are sufficiently > than private losses, then public support (capital or operating) can cause the project to go ahead. If not, project should stop.	Project is unprofitable to the private operator, but it improves road or air congestion, improves road or air safety, or reduces total emissions	PPP is appropriate if benefits and dis-benefits can be balanced. Common case for mass transit, possible case for some HSR corridors
Case IV	-	-	Project should not go ahead	Project is unprofitable and it adds to road or air congestion, increases total emissions or increases accidents	Should not be done by either private or public sector. Possible if rail load factors are too low

HSR and mass transit in CA and US is arguably CASE III or IV – no clear Case I Or II examples yet.

Creating Financeable Transportation PPPs



Note: In yellow zones, the net positive benefits of one party are > the net negative benefits of the other party

Project Risks: Measurement, Mitigation and Transfer

- Risks – benefits fall short or costs rise:
 - Project scope, schedule or cost not met.
 - Demand of other performance goals fall short.
- Measurement – probabilistic approach (Monte Carlo) rather than single point or “lo-med-hi” estimates.
- Mitigation – independent reviews (PRGs), design-build contracting, operator involvement in design and forecasting. Get real “skin in the game.”
- Transfer – guaranteed loans, investment sharing, hi/lo demand collars, insurance and performance bonding, availability payments.

Indicators of “Risky” Transfer

- **Compressed time frame** (you want it bad, you get it bad, and negotiating power shifts to contractor/operator).
- **Pushing technology** (ask the Chinese HSR managers and the Bay Bridge project managers).
- **Improper location of risk** (all risks can be transferred at a cost, but transfer works best when risk lies with the one who can manage it best).
- **Risk too large** for contractor/operator (bankruptcy is not the answer).
- **“Irrational Exuberance”** (or strategic bidding).
- **Policy objectives poorly defined** (the FIRR/EIRR gap).
- **Unclear or overlapping authorities** (FRA/AAR/CPUC/HSRA/Caltrain/Metrolink.)
- **By and large, the actual record of risk transfer is poor. Nobody got it right the first time, some never did!**

HSRA's Current Finances: 2014 Business Plan*

- IOS: HSRA will finance totally and operate by Management Contract. HSRA will also finance improvements at Caltrain and Metrolink. **ALL** risk to HSRA.
- When IOS demand is proven (2029 or so), B2B may partly be financed by new Franchise operator.
- When B2B demand is proven, completion of Phase I will be shared with franchise operator.
- But...

*2018 Business Plan due in March.

Business Models in Rail Passenger Service “PPPs”

- Wholly integral – BART
- Management contract – Caltrain, MBTA
- Gross cost franchise (UK urban rail franchises and many bus franchises)
- Net cost franchise (UK longer haul franchises, Rio and BsAs suburban)
- Wholly private (Taiwan HSR, Japanese HSR)

COMMUTER RAIL CONTRACTING PRACTICES -- BUNDLED

	Service	Urban Area	Equipment Maintenance	Maintenance of Way	Operations
Agency/In-house	MBTA	Boston	Contractor	Contractor	Contractor
Freight Railroad	Metro North Railroad	NYC – North and East	Agency/In-house	Agency/In-house	Agency/In-house
Amtrak or VIA	Long Island Rail Road	NYC – Long Island	Agency/In-house	Agency/In-house	Agency/In-house
Contractor	New Jersey Transit	NYC - NJ	Agency/In-house	Agency/In-house	Agency/In-house
	SEPTA	Philadelphia	Agency/In-house	Agency/In-house	Agency/In-house
	Music City Star	Nashville	Freight Railroad	Freight Railroad	Freight Railroad
	NICTD	Chicago – South Bend IN	Agency/In-house	Agency/In-house	Agency/In-house
	Trinity Railway Express	Dallas – Ft. Worth	Contractor	Contractor	Contractor
	A-Train	Denton County TX	Contractor	Contractor	Contractor
	MetroRail	Austin TX	Contractor	Contractor	Contractor
	Rail Runner Express	Albuquerque NM	Contractor	Contractor	Contractor
	CalTrain	SF – San Jose	Contractor	Contractor	Contractor
	NCTD Coaster	San Diego	Contractor	Contractor	Contractor



COMMUTER RAIL CONTRACTING PRACTICES -- UNBUNDLED

	Service	Urban Area	Equipment Maintenance	Maintenance of Way	Operations
	Shoreline East	New Haven – New London	Agency/In-house	Amtrak or VIA	Amtrak or VIA
	MARC	DC – Baltimore/Brunswick	Amtrak or VIA	Contractor	Freight Railroad
	VRE	DC – Northern VA	Contractor	Freight Railroad	Contractor
	SFRTA (Tri-Rail)	Miami – West Palm Beach	Contractor	Freight Railroad	Contractor
	METRA	Chicago	Agency/In-house	Freight Railroad	Agency/In-house
	Northstar	Minneapolis	Agency/In-house	Freight Railroad	Agency/In-house
	Front Runner	Salt Lake City UT	Agency/In-house	Contractor	Agency/In-house
	Souder	Seattle	Amtrak or VIA	Freight Railroad	Freight Railroad
	Westside Express	Portland OR	Agency/In-house	Freight Railroad	Freight Railroad
→	ACE	San Jose – Stockton	Contractor	Contractor	Freight Railroad
→	Metrolink	Los Angeles	Contractor	Contractor	Contractor
	AMT	Montreal	Contractor	Freight Railroad	Freight Railroad
	GO Transit	Toronto	Contractor	Contractor	Contractor
	West Coast Express	Vancouver	Amtrak or VIA	Freight Railroad	Freight Railroad

-  Agency/In-house
-  Freight Railroad
-  Amtrak or VIA
-  Contractor



And Buses Too

- At least 18 private bus contract operators listed (Stagecoach, Keolis, First Transit, etc) in nearly every state
- Wide range of contract services from for-profit tours to contract operation of para-transit to local bus operation.
- Many CA operators

Question?

- What are we trying to accomplish with a potential PPP?
 - “Saving” public finance through efficiency
 - Enhanced market focus
 - Transfer of risk(s)
- What public (Fed, State, County, local)?
- Nobody’s perfect...