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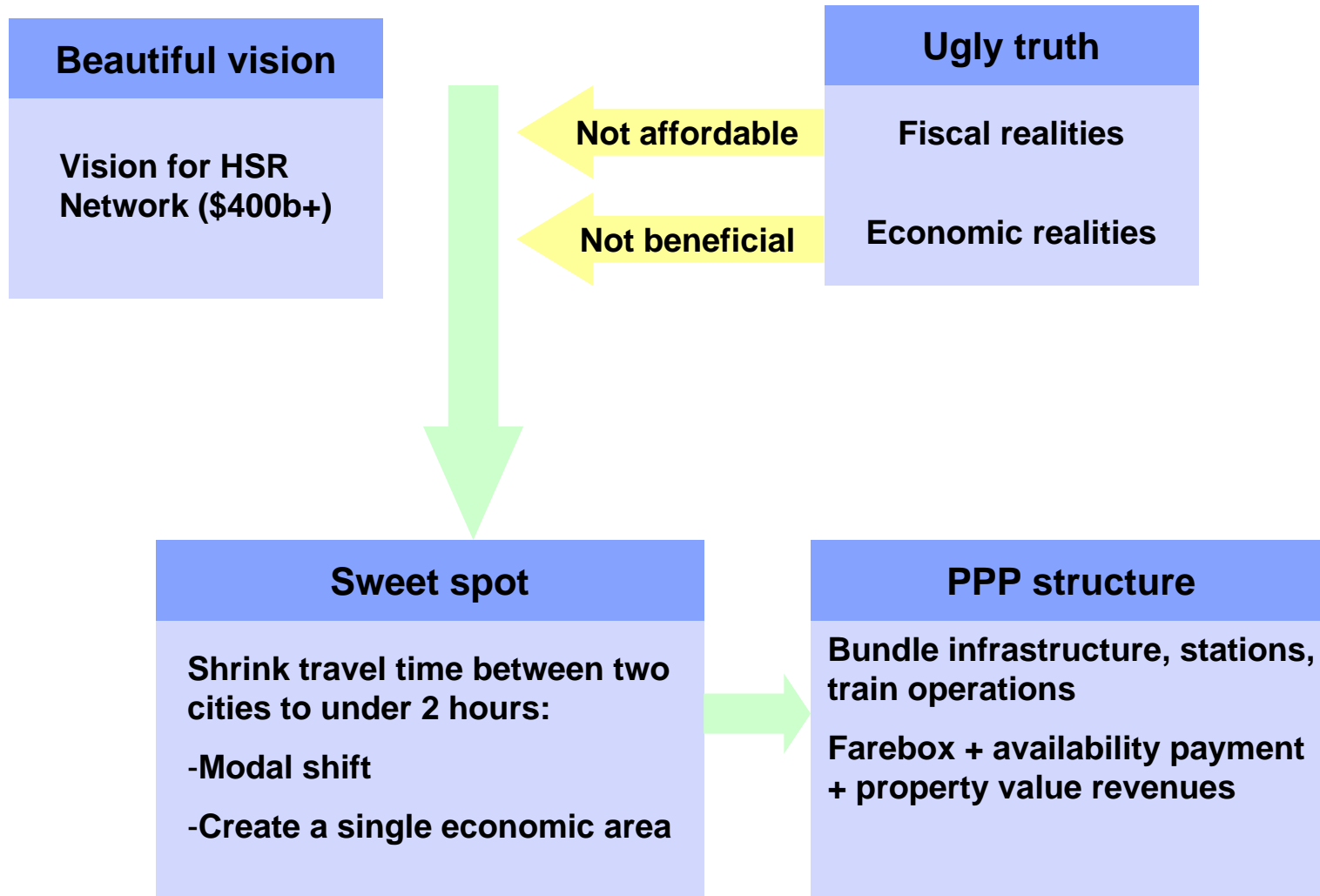
HSR PPPs:

Realism about what is possible Innovation in how to structure it

November 19, 2009

**National Council for Public-Private Partnerships
Phoenix, AZ**

Overview



I love High-Speed Trains

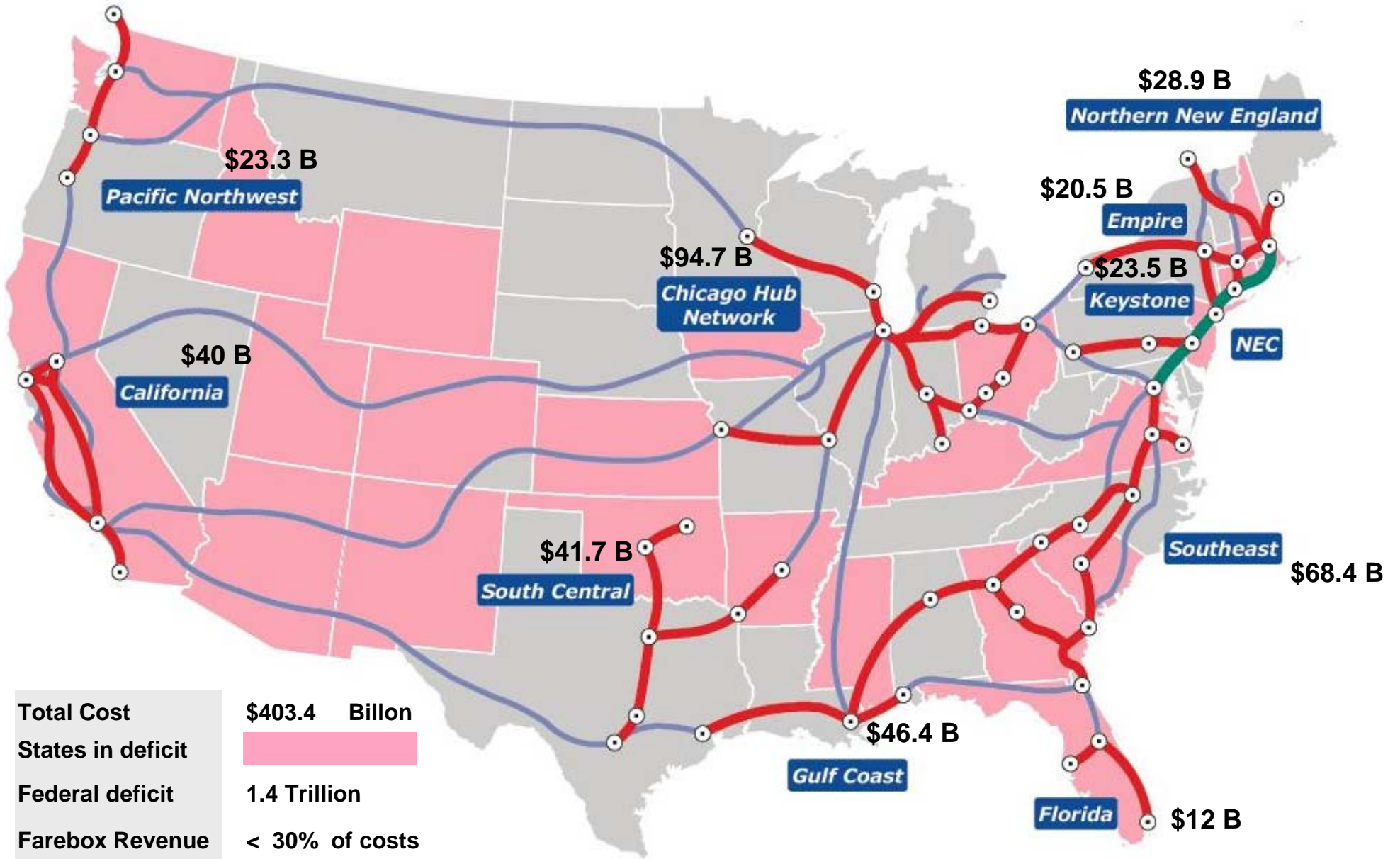
A Eurostar on High Speed 1 passing close to Temple Wood cation



Taking the Thalys to Paris

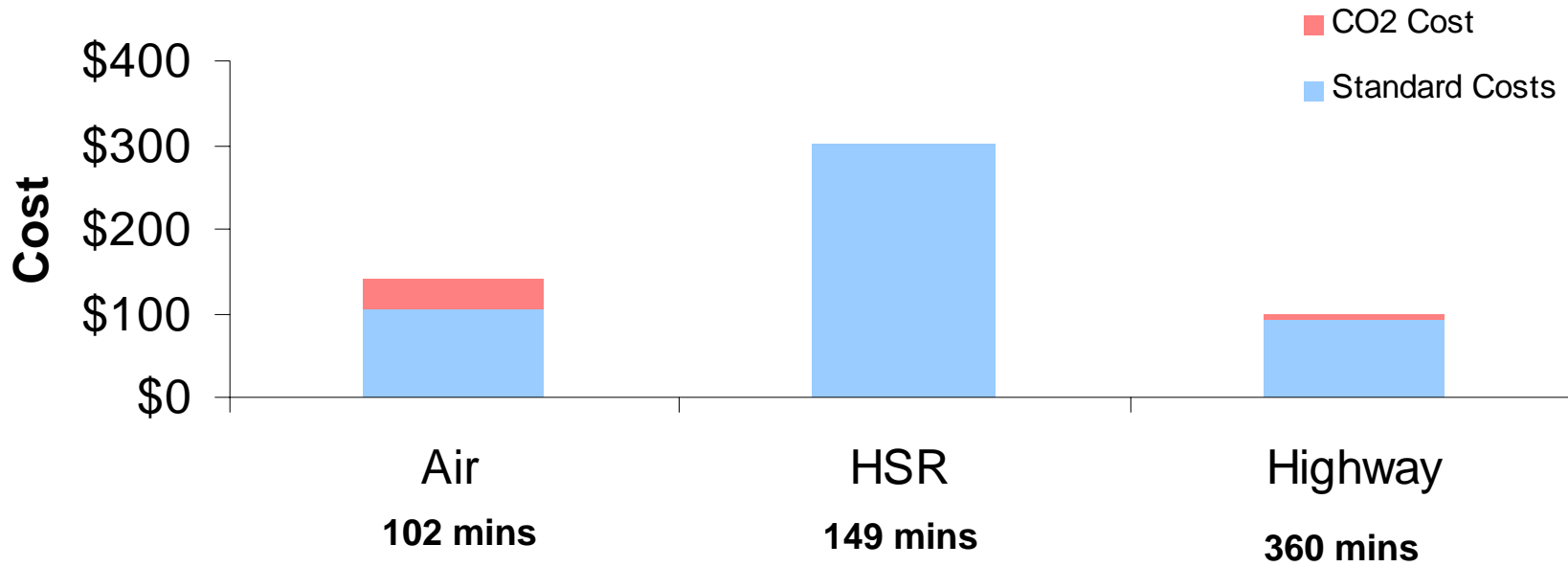


HSR Network vs. Fiscal Realities



Many routes don't make economic sense

Cost of Traveling LA to San Francisco

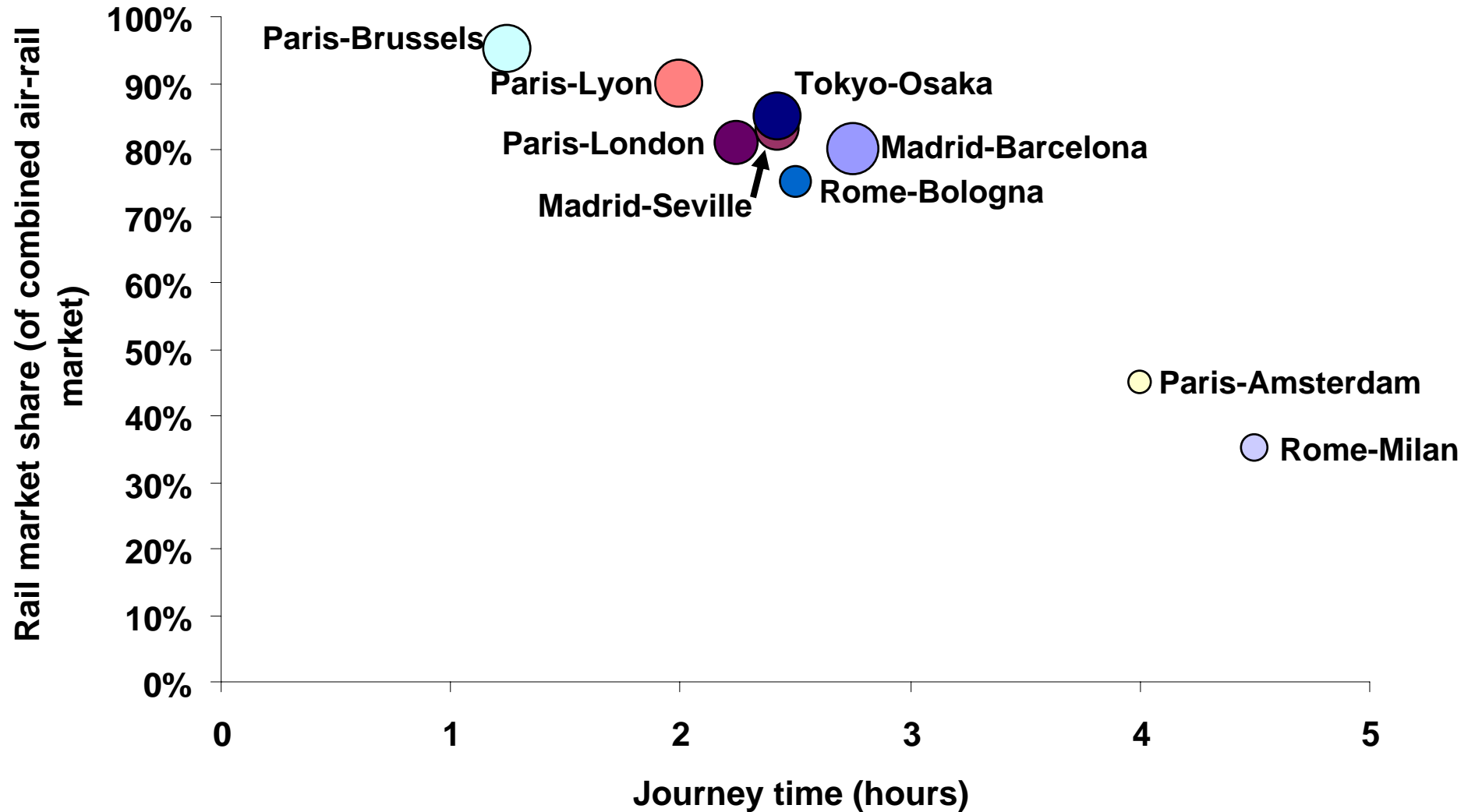


*CO2 cost calculated at \$50 per metric ton

Sources:

- David Levinson et al, 1996, *The Full Cost of Intercity Transportation –A Comparison of High Speed Rail, Air and Highway Transportation in California*
- Castalia calculations
- Terry Barker, Igor Bashmakov, et al., 2008, "Mitigation from a cross-sectoral perspective," Intergovernmental Panel on Climate Change

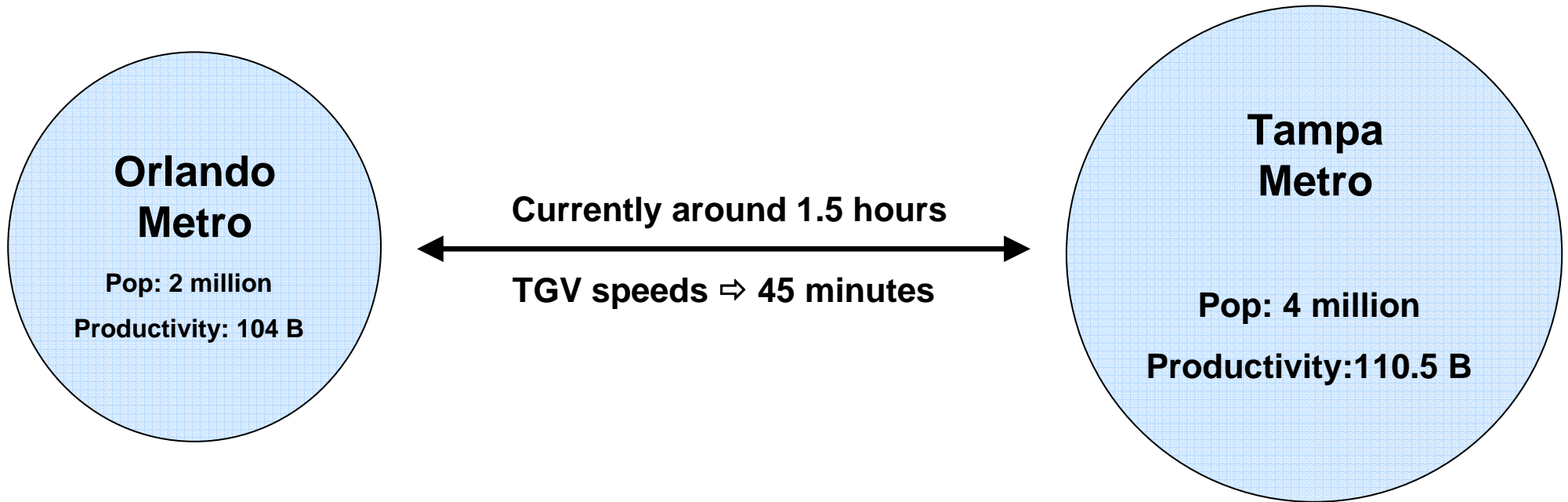
Need to be under two and a half-hours



Journey time under 2.5 hours generates modal shift, but not necessarily economic benefits.

Real sweet-spot is probably merging two metros into a single economic area

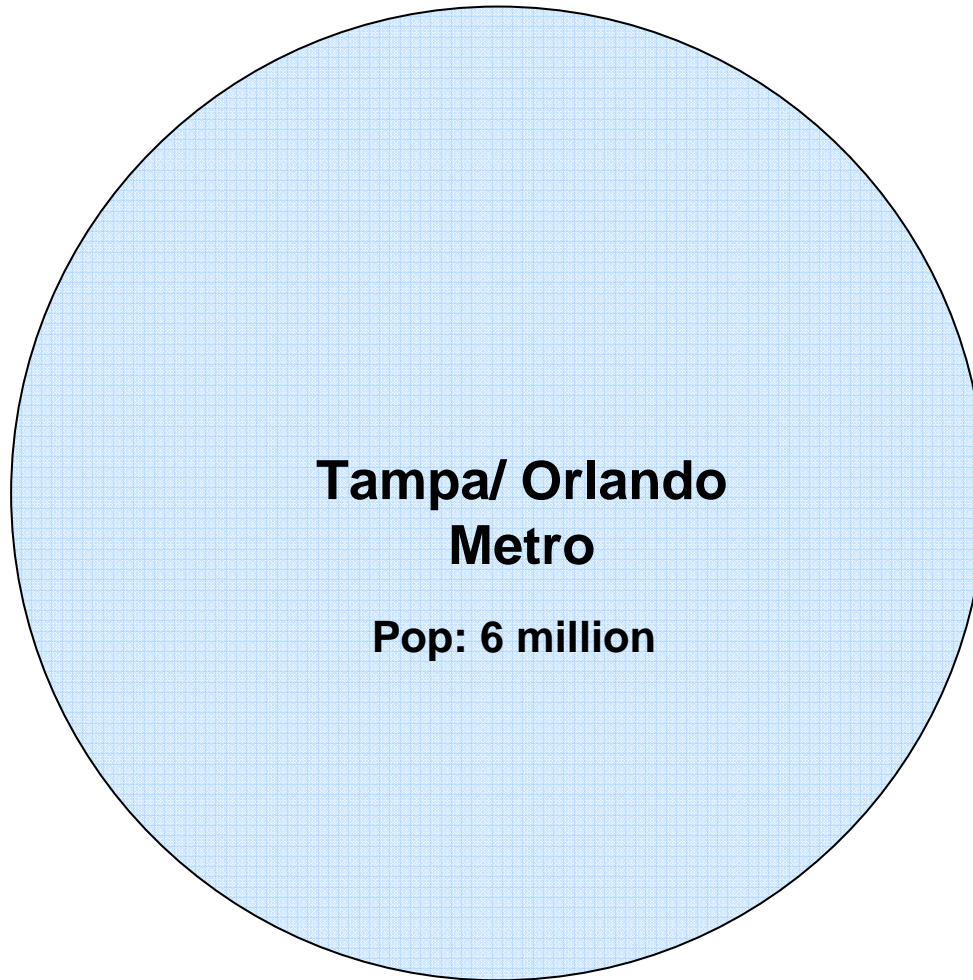
Orlando-Tampa Example:



Merging two metro areas generates significant productivity gains

Source: *Remy Prud'homme and Chang-Woon Lee, 1998, Size, Sprawl, Speed and the Efficiency of Cities*

A bigger economic area is more productive



	GRP (\$b)	6% Increase
Tampa	110	
Orlando	104	
Total	214	\$12b

Indicative Capital Cost of Link	\$4.2b
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**Regional productivity gains in a single year could generate benefits > capital cost of projects
May need journey times well under two hours. Consider the Acela—it does not merge DC and NYC**

International HSR PPPs – Operational Projects

Project	Length (miles)	PPP Type	Project Type	Capital Cost (\$US B)	Stage
Channel Tunnel (UK , France)	50	BOOT with 65 year Concession	Infrastructure Only	15.0	Completed in 1994
Channel Tunnel Link (UK)	68	Concession	Infrastructure and Train Operations	9.6	Completed 2003/2007
HSL-Zuid (Amsterdam-Belgian Border)	125	DBFM, for Infrastructure separate concession for operations	Infrastructure Only	10.6	Completed in 2005
Perpignan-Figueres Cross-Border Railway	28	BOT and Concession	Infrastructure Only	1.6	Completed in 2009
Taiwan HSR Line Taipei-Kaoshiang	345	Concession	Infrastructure Only	13	Completed in 2005

Definitions

High-Speed—Operating at over 120 mph

PPP—Infrastructure DBM or DBMF, or private train operations

International HSR PPPs – Active Projects

Project	Length (miles)	PPP Type	Project Type	Capital Cost (\$US B)	Stage
PPP2 Lisbon-Poceirao		DBFM	Infrastructure Only	2.5	Three bidders shortlisted
PPP1 Poceirao-Caia	170	DBFM	Infrastructure Only	2.1	Preferred Bidder Selected
Nimes-Montpellier Bypass (France)	46	DBFM	Infrastructure Only	2.2	Bidding
Argentine High-Speed Railway Links Buenos Aires, Rosario and Cordoba	435	DBOT	Infrastructure Only		On hold
Lyon-Turin Base Route France (Lyon) to Italy (Turin)	186	Still being planned	Infrastructure Only		Planning
Tour-Bordeaux (France)		DBFM	Infrastructure Only	11.3	RFP Out
LGV Bretagne-Pays de Loire (France) Le Mans-Rennes	182	DBFM	Infrastructure Only	4.8	RFP Out

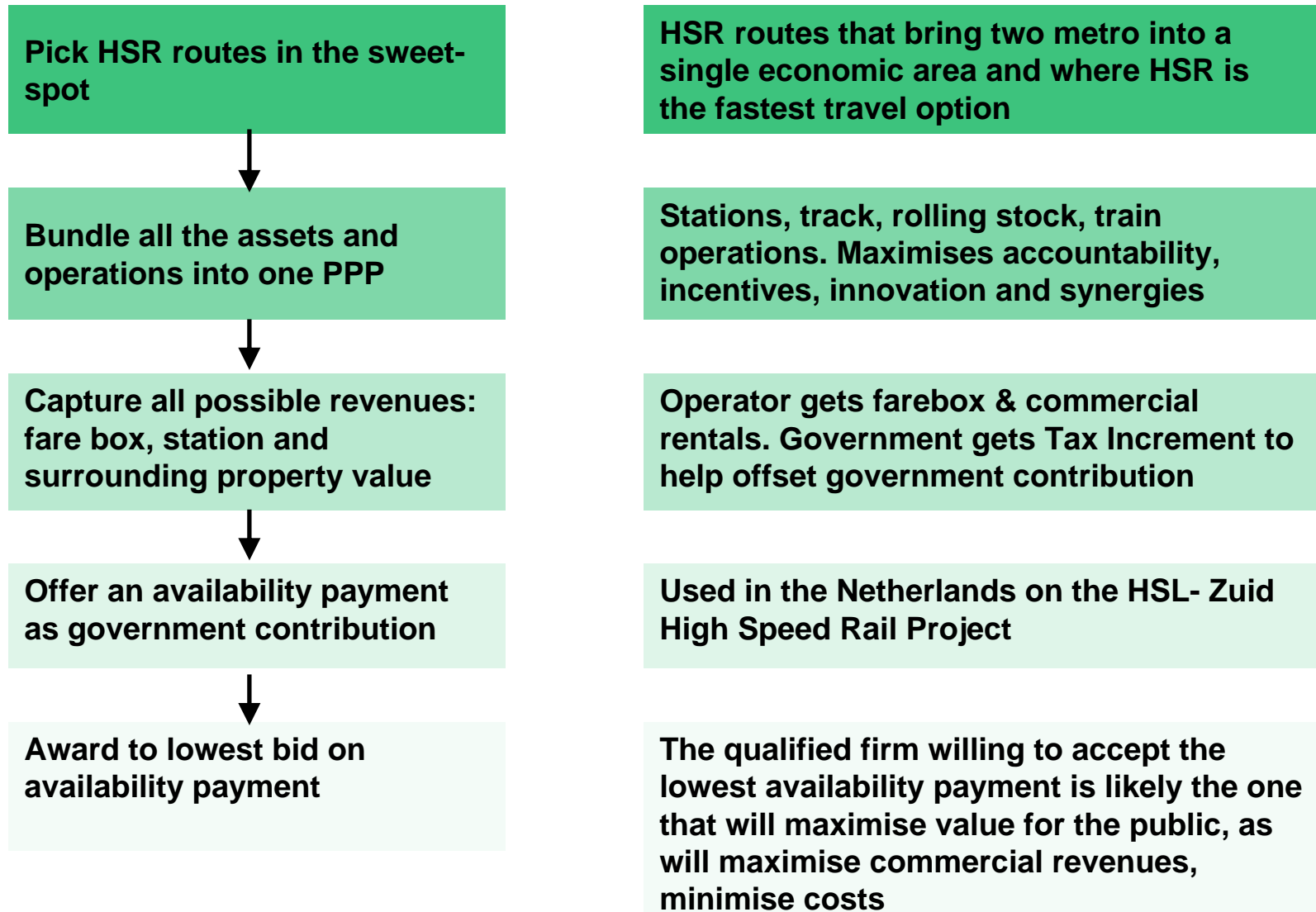
Availability Payment for Infrastructure : HSL- Zuid High Speed Rail Project (Netherlands)

- High speed lines began operating commercially in September
- New route runs for 62 miles from Amsterdam to Belgium border
- Can carry trains up to 185 miles per hour
- Infrasppeed is responsible for the design, construction, financing and maintenance
- Cost around \$10.6 billion
- PPP covers construction and 25 year maintenance
- Performance based availability payments cover building and maintenance

Source: <http://www.hslzuid.com>



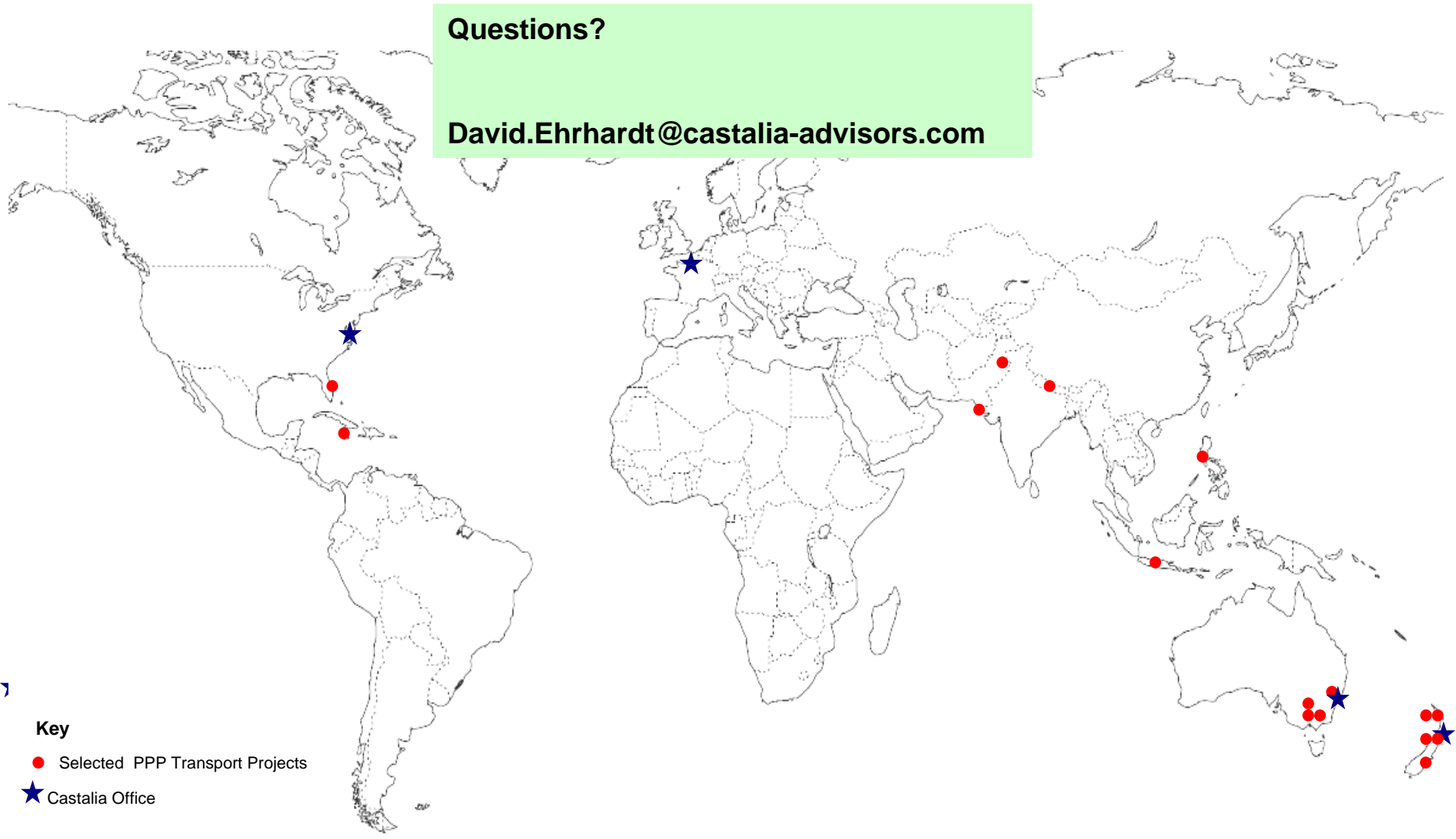
PPP Structure for USA - Maximising Value for Money



Questions?

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Key

● Selected PPP Transport Projects

★ Castalia Office