FTA/NCPPP

Partnerships In Transit Workshop

Philadelphia

September 2008

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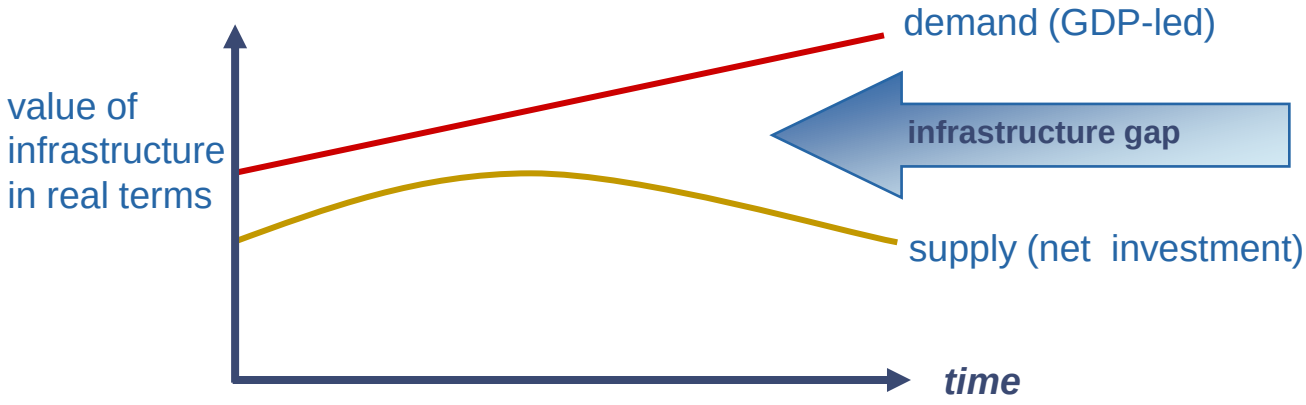
Introduction

- No single generic model in use for PPPs in public transit
- Two model categories:
  - those that transfer usage/ridership risk
  - those that transfer only availability and performance risks
- In certain sectors separate PPP operators will operate services (taking revenue risk) and provide infrastructure (on an availability payment basis).
- The PPP model is particularly suited to delivery of new rail infrastructure due to the substantial risks of development and commissioning associated with rail and light rail systems. These project management risks can often be better managed by the private rather than the public sector.
- But PPPs have also been used to upgrade or operate existing systems

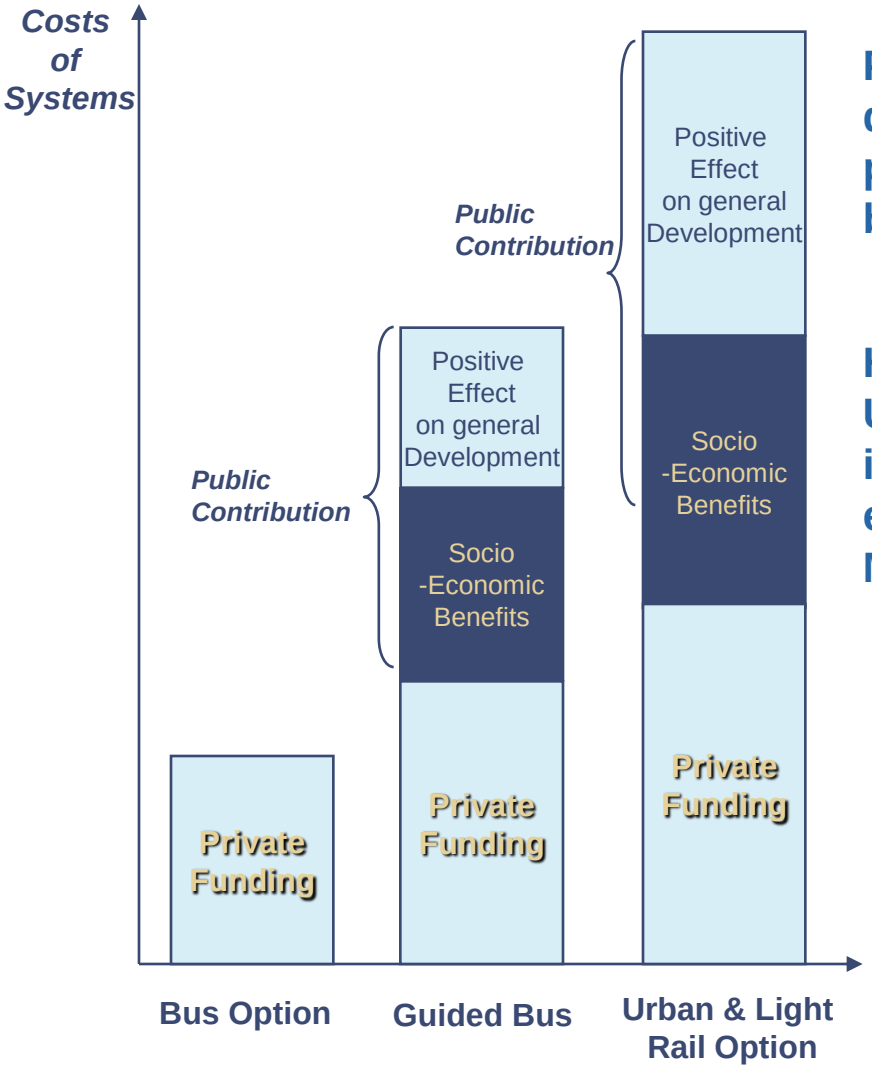
Introduction: Why private finance?

An increasing number of countries are resorting to Private Finance to fund Urban & Light Rail Projects:

- Need for investment in Infrastructure
- Getting investment off governments' balance sheet
- Reluctance to raise funding through increased taxation
- Perceived benefits of private sector involvement - economical and ideological
- Lifecycle costing creates possibility for long term budget plans



Introduction: Why Urban & Light Rail?



Preferred option should consider overall development of the concerned area (City, part of the City) and socio-economic benefits.

Higher Quality Transport Modes (e.g. Urban & Light Rail) can be more effective in generating positive development effects than lower quality Transport Modes

Introduction: Managing the Process Successfully – Avoiding pitfalls

The following issues are of equal importance for the public initiator and the private participant as the public sector's objective is to introduce a competitive environment, and the private side will have to decide on shortlist of projects to pursue actively:

Insufficient resources: due to the number of projects running concurrently	The public sector should consider phasing of projects as a priority
Project attractiveness: IRRs may not be perceived to be high enough on these types of projects	Public sector contributions should be sufficient to allow attractive returns for the private sector
Bid costs may be high, especially to the losing consortia	A transparent, well defined and short bidding process increases attractiveness for potential participants
Optimal transport integration with other local transportation modes	Traffic priorities, competition issues and future planning are best addressed up-front in a robust master plan. A well defined communication plan with stakeholders is desirable.
Risk Allocation	Risk allocation is fundamental to the attraction of private funds. A clear indication of risks allocated to the public sector at the start of the bidding process is essential to create competitive bidding situations.

Risk Allocation

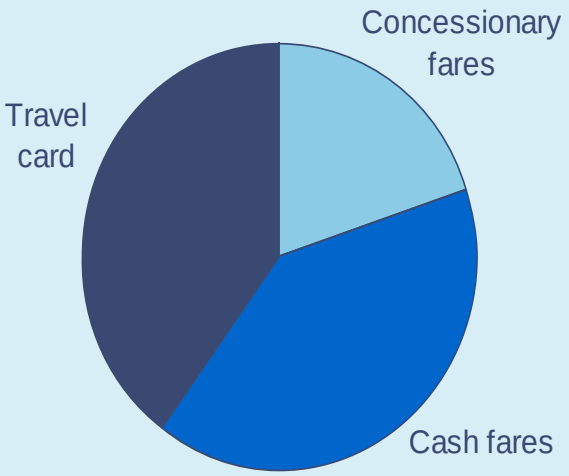
	Public	Private	Shared
Consents	✓	✓	
Land acquisition	✓	✓	
Detailed design		✓	
Cost overruns	✓	✓	
Completion delay	✓	✓	
Archaeological finds	✓		
Maintenance costs		✓	
Latent defects		✓	
Force majeure			✓
Interest rates		✓	✓
Inflation rate		✓	
Protestor action			✓
Revenue risk	✓	✓	

*This is a market norm. The major risk in the majority of Urban & Light Rail projects is **traffic/revenue risk***

Revenue Risk

Previous structures of Urban & Light Rail projects have successfully allocated revenue risk to the lenders

Revenue allocation challenge



Key issues

- Fares compensation formula
- Fare increases
- Market growth factors
- Price elasticity of demand
- “Off tram” revenue
- Competing bus services
- Traffic priorities
- Mixed modes travel cards
- Concessionary fares compensation

Urban & Light Rail Projects – Competitive funding

Track Record of PPPs in Metro & Light Rail

As Urban & Light Rail projects become increasingly popular as solutions for congested cities, **financial institutions are increasingly** interested in providing funds for these projects

A sample of successfully closed projects incorporating private finance:

Manchester Metrolink Phase I and II, UK
Nottingham NET Line 1, UK
Croydon Tramlink, UK
Docklands Light Rail, UK
Barcelona LRT, Spain
Bangkok Mass Transit, Thailand
Arlanda Airport Rail Link, Sweden
Sydney Airport Link, Australia
Bangalore Mass Transit, India
STAR Phase II, Malaysia
EDSA LRT, Philippines
Bosphorus tube crossing, Turkey

The following countries are procuring Urban & Light Rail Projects through PPP structures:

UK
Israel
Spain
Germany
Sweden
Australia
India
Indonesia
Malaysia
Philippines
Thailand
Turkey
South Africa
Italy
USA

There is now a competitive market for funding Urban & Light Rail and Urban transport projects. Banks are increasingly comfortable participating in Urban & Light Rail schemes

Sources of Funding

The following sources of funds are usually available to Urban & Light Rail project developers:

Type	Source	Characteristics
Equity	Sponsors	• Will want to keep to a minimum • Will want access to upside • Will want ability to sell
	Third Parties	• Will want access to upside • Will want ability to sell
Debt	Commercial banks	• Increasing interest in these schemes
	Bond issue	• Most interested in low risk schemes
Grant / Subsidy	Public Sector	• Will want to keep to a minimum

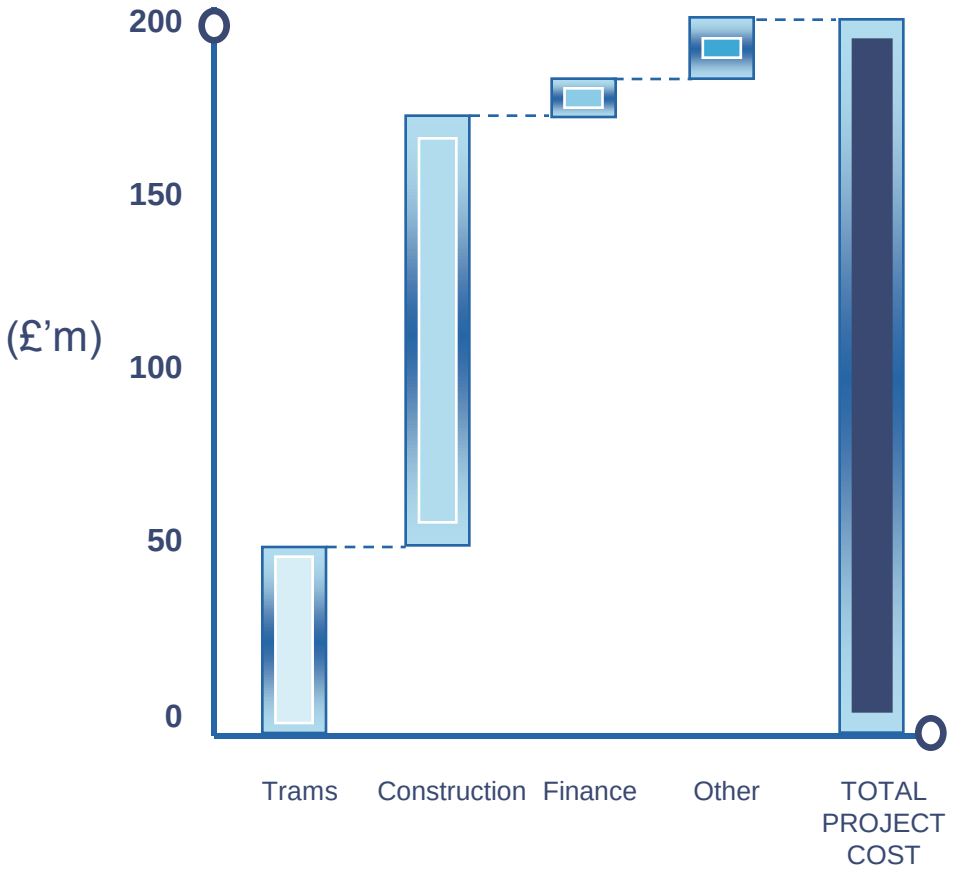
Senior Debt – Pros & Cons

The following sources of debt offer both benefits and disadvantages to bidders:

Source of funds	Commercial Bank Debt	Bond Debt
Pros	• Strength of support • Tailored financing • Ability to maintain competitive tension	• Longer tenors • Lower pricing
Cons	• Cost of finance • Syndication risk	• Complex financing process • Rating equipment • Cost of carry • Not possible to obtain full commitment at BAFO

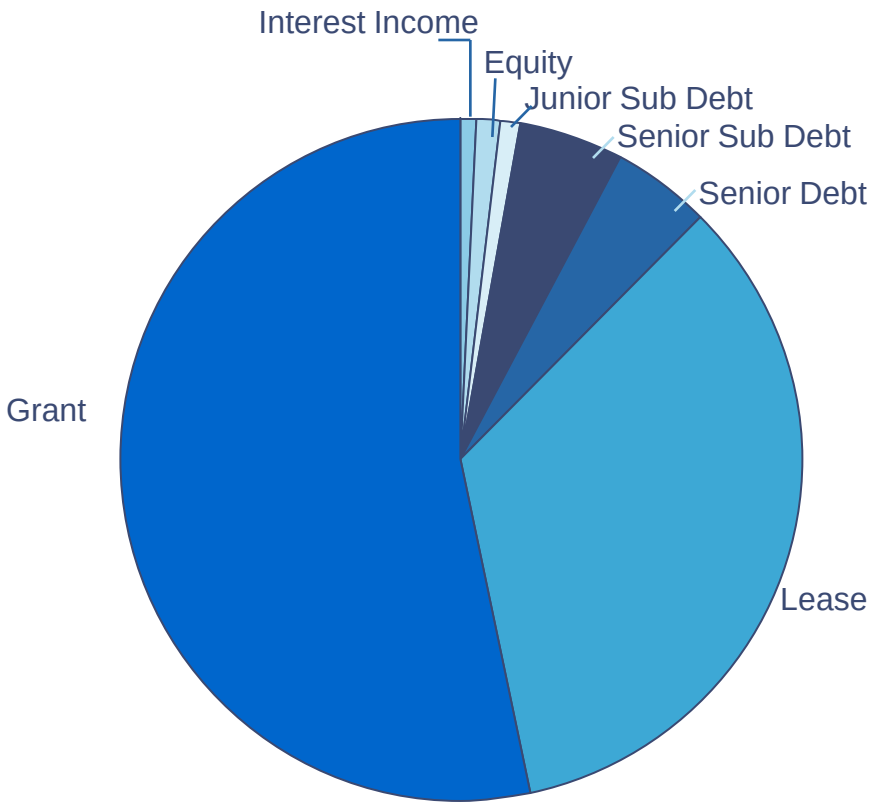
Urban & Light Rail Projects – Competitive funding

Project Cost (Construction and up-front)



Typical origination of project costs for Urban & Light Rail projects

Example of Sources of Funds



Example of funding mix for Urban & Light Rail project

Funding structure

Key issues in recent deals include:

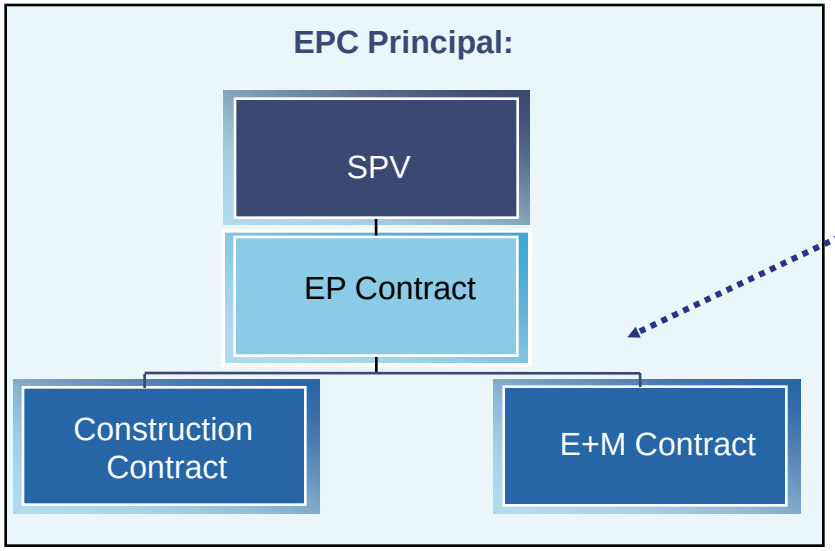
- Non recourse finance can absorb revenue risk (at the right price) on Urban & Light Rail Projects
- Real public/private partnerships are possible
- Innovative financing has been introduced to Urban & Light Rail Projects:
  - Lease and inter-creditor structure
  - Long tenor (in some cases exceeding 30 years)
  - Third party equity investment and mezzanine finance have become commonplace in PFI projects
- Systems integration can be managed in various ways:
  - Contractual approach
  - Turnkey integrator

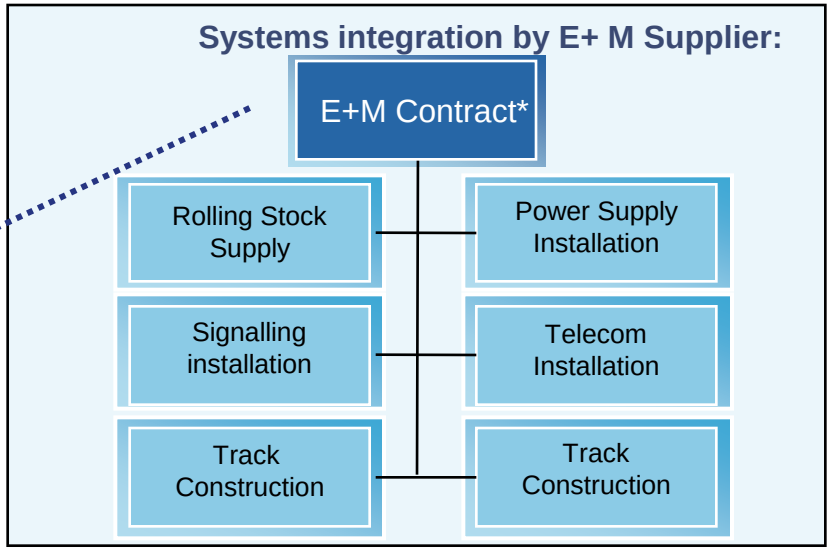
Unique issues

In addition to the general complexity of Privately Financed deals, Urban & Light Rail Projects have their own unique issues:

- Traffic and revenue forecasting are complex due to existing competing modes of transport (mainly cars and busses) and lack of historic records.
- The technical requirements of Urban & Light Rail Systems require a wide range of experience and therefore a variety of companies is needed to build the system. These include:
  - Civil Engineers
  - Rolling Stock manufacturers
  - System (E+M) Supplier
  - Railway (or Bus) operators
- Due to the nature of the business of these companies, their attitude to risk may not be complementary. Skilled commercial structuring and a good knowledge of the industry is required to manage the project.
- One of the key issues that will have to be addressed is managing interface risks and system integration.

Complexity of deals



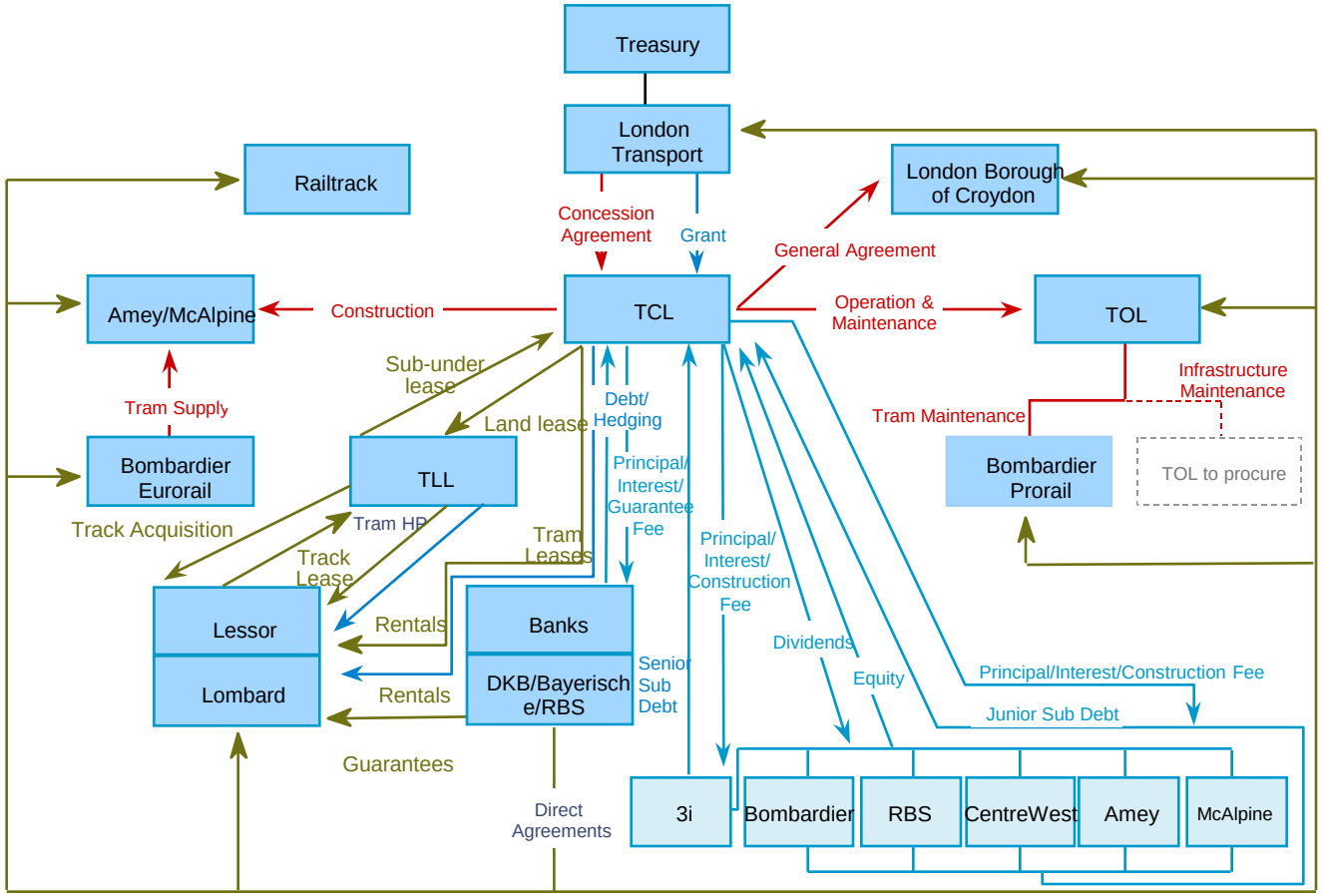


Lenders tend to prefer the “EPC” approach as the SPV is left with just one interface regarding the construction of the project. However, this means that the Sponsor will have to take joint and several obligations for the successful execution of the construction and therefore the penalties attached to them. This usually creates some difficulties for the sponsors, as the businesses of construction (civil engineering) and E+M supply have different risk profiles and mitigation strategies.

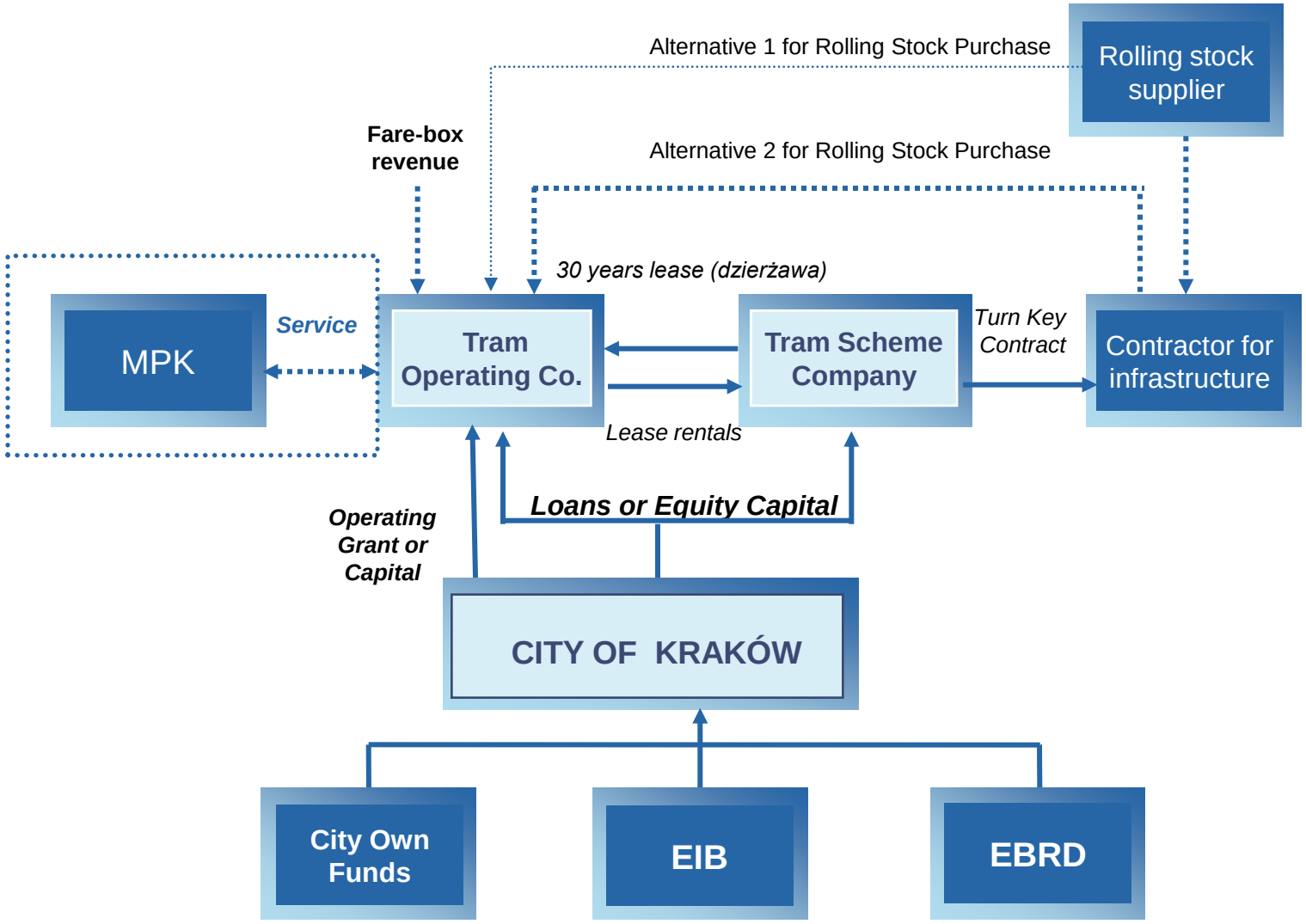
Having one supplier (and therefore one contract) for the E+M supply will again make the commercial framework easier to understand, and reduces the interfaces to two between the EPC, the E+M and Construction contract. The system integration risk is allocated to the E+M supplier who should be best placed to manage and mitigate it. The downside for this approach and a concern for the lenders is the pricing transparency for single components. However, this can be overcome through appropriated due-diligence through technical consultant.

Urban & Light Rail Projects – Complexity of deals
Croydon Tramlink

A successful example of managing systems integration with a single component supply structure:



Urban & Light Rail Projects – Complexity of deals
Krakow Tram



PPPs in a System-Wide Analysis

- **PPPs can play a role in both existing and new systems**
- **The critical question is can segments of the system be structured to attract private participation with real risk sharing**
- **This requires**
  - **Defining segments or operations in a manner to assign effective responsibility to a private partner**
  - **Identifying and allocating revenue streams for private participants (farebox, development rights, concession fees, other streams, availability payments…..)**
  - **Structuring private participation to trade revenue streams for delivery responsibility**
  - **Appropriate enforcement and control mechanisms**

- **PPPs have proven a resilient and effective means of developing and delivering transit infrastructure around the world, The US may represent one of the best markets for perfecting and advancing this model**