steer davies gleave

Flying High: Urban cable cars to move around cities

Lucia Manzi

Milan, 28 October 2013

Introduction

- ✓ Why Steer Davies Gleave and Urban Cable Cars?
  - ✓ Steer Davies Gleave is the No.1 independent consultancy working worldwide across the transport sector.
  - ✓ Urban Cable Cars are a form of Mass Transport

Contents of this Presentation

- ✓ Set your needs and objectives
- ✓ Every need has a different solution
- ✓ Some Examples

London Cable Car - UK

Steer Davies Gleave
An Introduction

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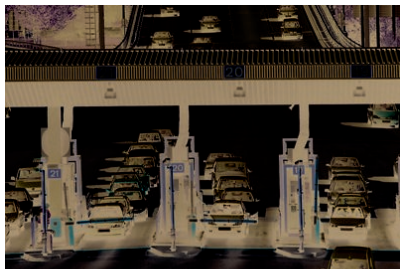
Why Steer Davies Gleave?



- ✓ An employee-owned, independent company **founded in 1978**.
- ✓ 350 staff employed in **16 offices around the world**.
- ✓ An award-winning business with an annual turnover of over **€50 million**.
- ✓ Delivered projects for clients in over **50 countries** around the world.
- ✓ Our **independence** means that we offer truly unbiased and objective advice.
- ✓ Our clients include government, operators, financiers, regulators, developers, international agencies and other interest groups.
- ✓ We have extensive experience in feasibility studies, demand forecasting and technical due diligence for transport infrastructure concessions and business case preparation as well as in the **development of transport strategies to support tourism and regional development**.

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Urban Cable Car

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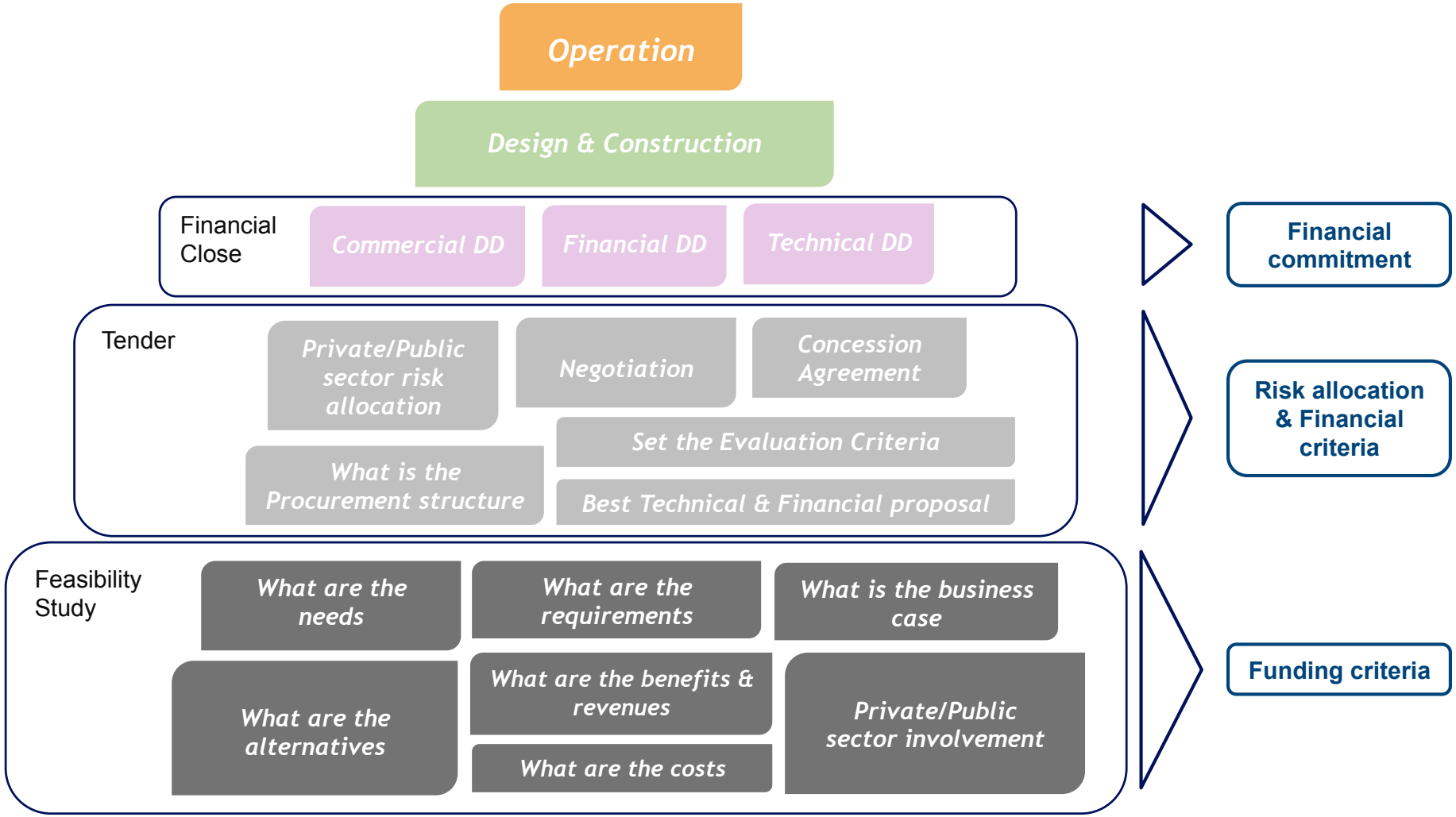
	Public Transport	Touristic Attraction
What are the requirements?	Improve accessibility Support economic disadvantaged areas or populations Reduce congestion and reduce travel time Improve transport environmental sustainability	Sightseeing Something unique
What is needed?	Reliability / Capacity Higher Frequency in peak hours 18/20h service for 365 days Integration with other PT networks and the rest of the transport network (train stations, parking areas, etc.)	Comfort / Design Higher frequency during the holiday period Limited operating period
How much is the public willing to pay?	USERS: a limited amount similar to other PT networks STATE/GRANTOR: to cover the majority of the cost	USERS: higher willingness to pay STATE/GRANTOR: to cover a lower share of the cost OTHER CATEGORIES (e.g. local shops, hotels, etc.): can cover some of the cost
Why a Cable Car?	Physical constraints Low Capex / Opex Low emissions	Physical constraints Low Capex / Opex Low emissions


Operation
Design & Construction
Financial Close
Commercial DD
Financial DD
Technical DD
Financial commitment
Tender
Private/Public sector risk allocation
Negotiation
Concession Agreement
Set the Evaluation Criteria
What is the Procurement structure
Best Technical & Financial proposal
Risk allocation & Financial criteria
Feasibility Study
What are the needs
What are the requirements
What is the business case
What are the alternatives
What are the benefits & revenues
What are the costs
Private/Public sector involvement
Funding criteria

PPP with increasing level of Private Sector responsibility

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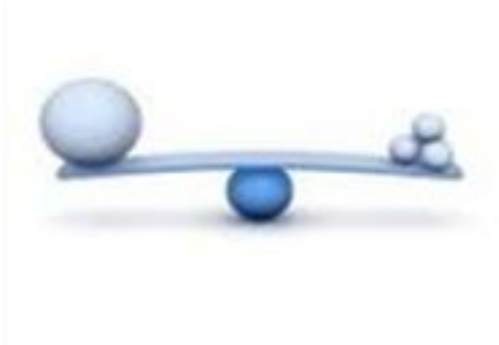
Type	Conventional Procurement Model Design-Bid-Build	Design and Build	Design, Build, Maintain	Design, Build, Maintain + Separate Operating Contract	Design, Build, Equip, Maintain	Design, Build, Operate, Maintain	Design, Build, Finance, Operate, Maintain
	DBB	DB	DBM	DBM+O	DBM+Equip	DBOM	DBFO
Design	Private Engineer	Private Eng/ Constructor	Private Eng/ Constructor	Private Eng/ Constructor	Private Consortium	Private Consortium	Private Consortium
Build	Private Constructor						
Equip	Rolling stock supplier	Rolling stock supplier	Rolling stock supplier	Rolling stock supplier			
Maintenance	Public	Public	Private Eng/ Constructor	Private Eng/ Constructor			
Operation	Public	Public	Public	Private Operator	Public		
Finance	Public	Public	Public	Public	Public	Public	
Ownership	Public	Public	Public	Public	Public	Public	Public

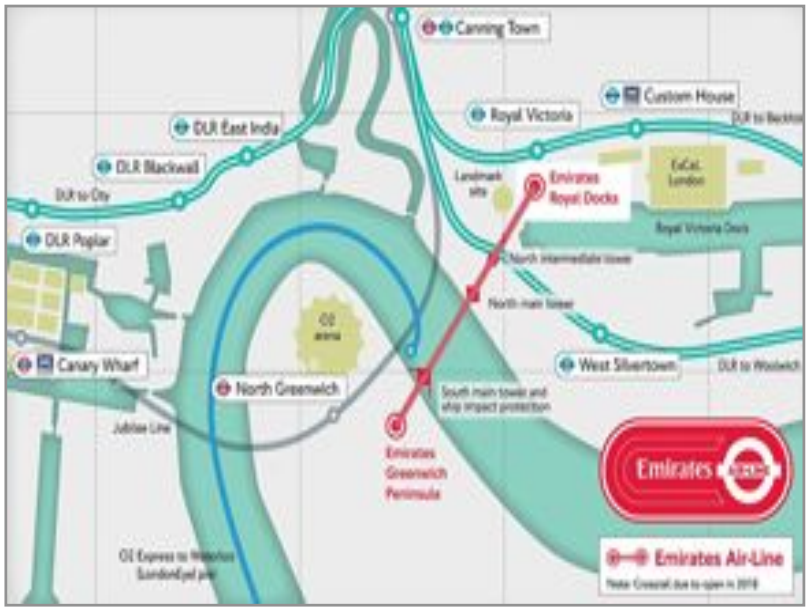
PPP is not a solution for every project and cannot be only considered to avoid budget limitations



In a good PPP project there is an equilibrium between who pays and who benefits

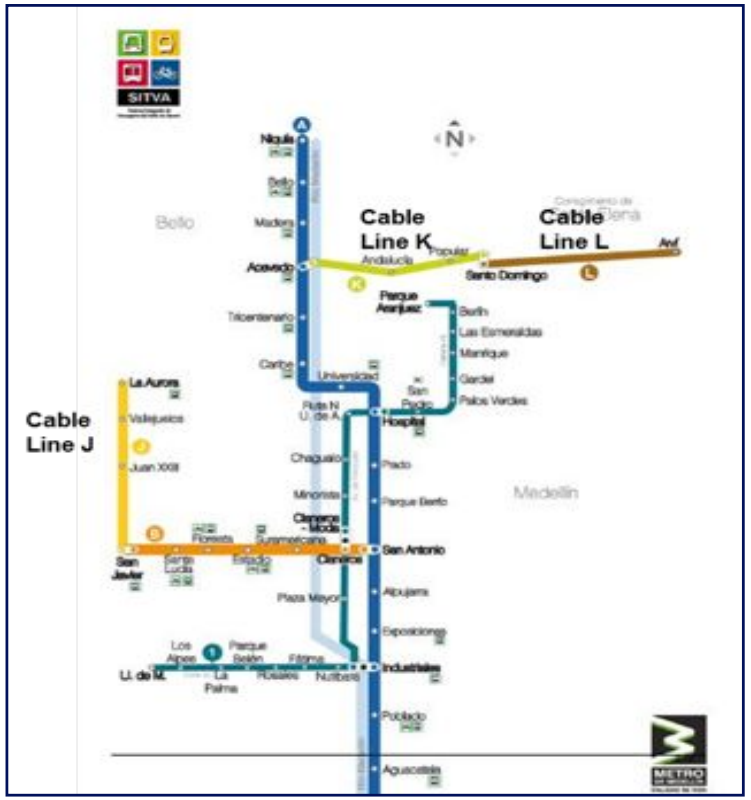
- Built to improve River Thames crossing between Tower Bridge and Dartford Crossing
- Physical Constraints at Greenwich Peninsula/Jubilee Line
- Prequalification launched in 2010, opened 2012 after 14 months of construction
- The project has been a success in terms of **tourist traffic** at peak times but it's only attracting a limited number of local passengers due to its location and costs

Length	*1,000 m*
Commercial Speed	*6 m/s*
Hourly Capacity	*2,500 passengers/hour / direction*
Annual Demand	• *Max demand including Olympics = 2.38m journeys/year* • *Post Olympic annual demand= 1.70m /year*
Sources of finance	• *Paid for by TfL (from Rail budget)* • *European Regional Development Fund = £8m grant bid* • *10 year sponsorship signed with Emirates = £36m in staged payments*
Revenues Risk	*Transport for London (TfL)*



- First city in the world to use skilift technology in an urban environment as a means of public transportation to respond to the needs of densely populated high gradient, low income urban areas
- Since starting operations in 2004, carries 30,000 people daily
- Both lines have had positive impacts on their surrounding area and decreased travel time for many. Medellín is currently planning two more cable car lines.
- Increased number of potential users for Metro line

	Line K	Line J	Line L
Launch date	*2004*	*2008*	*1010*
Length	*2,072 m*	*2,782 m*	*4,469 m*
Commercial Speed	*5 m/s*	*5 m/s*	*6 m/s*
Hourly Capacity	*3,000 pphpd*	*3,000 pphpd*	*1200 pphpd*
Total Cost	*US$ 24 million*	*US$ 47 million*	*US$ 21 million*
Sources of finance	• *Municipality: 55%* • *Metro: 45%*	• *Municipality: 73%* • *Metro: 27%*	• *Municipality: 38%* • *Metro: 34%* • *Provincial Government: 17%* • *Ministry of Transport: 9%* • *Other: 2%*
Fare Integrated with Metro	*Yes*	*Yes*	*No*



- The Cable Car of Gaia, built by a consortium composed of Etermar and Telef, began in March 2009 and came into operation two years later, in April 2011
- The cable car is mainly a touristic attraction
- Total capital costs of €10 M
- Return fares of €8, one way €5
- Camara Municipal (City Hall) may rescue the concession after 10 years, having to pay a compensation of 2,2 milions (€) to the Consortium.

Length	*600 m*
Commercial Speed	*2.5 m/s*
Hourly Capacity	*900 passengers/hour /direction*
Annual Demand	*In the first 6 months the cable car carried 125,000 pax*
Sources of finance	*The costs of construction were entirely covered by the Consortium*
Revenues Risk	*Etermar e Telef (Consortium)*

- What makes cable car schemes work in a urban context is their **integration** with the rest of the transport network, particularly – but not exclusively – public transport services.
- There is no “one size fits all” scheme: the needs behind the introduction of the scheme and the existing feature of the transport system already in place are key aspects that determine the structure of the most appropriate solution.
- The sooner the basic elements of a sounding feasibility study – including needs, benefits, technical requirements, estimated costs and revenues of the preferred solution identified among alternative schemes – are clarified, the smoother will be the process that will lead to the realisation of the scheme.
- If a PPP scheme is adopted, the **appropriate balance** between the different needs has to be found.

EQUILIBRIUM

AND INTEGRATION

IS WHAT WILL MAKE

CABLE CAR FLYING HIGH

IN URBAN CONTEXT!

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