THE CASE FOR URBAN RAIL SYSTEMS

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Nicosia, 15th May 2018
Established in 2007
Original 10 Countries (New MS)

Multi-Sector Expert Support
Transport, Energy, Environment

Partnership Structure
European Commission, European Investment Bank

Regional Offices
Luxembourg, Vienna, Warsaw, Bucharest, Sofia
How do we Engage?

- **Major Project**: Direct support to Managing Authority/Central Ministry and Project Team
- **Project Packages**: Direct support to Managing Authority/Central Ministry and Project Teams
- **Horizontal Actions**: Technical Guidance, Policy Development, Management Systems, Programme Support
- **Informal Support**: Workshops, Consultations
Services

Comprehensive support to projects

Support for strategic planning and to solve sectorial issues

• Upstream involvement
• Hands-on approach
• Proximity to beneficiaries

Terms of Reference for Preparation
Methodological guidance to the beneficiary
Support to review of project deliverables (guidance notes)
Final review of project (completion notes)
Independent Quality Review

Knowledge sharing and capacity building
Urban Rail

OVERVIEW OF PRESENTATION

- Negative Feedback and Escape Velocity
  Early Investment to achieve success

- The Role of Railway
  Functional and Social Objectives

- The Main Considerations for Urban Railway Systems
  Capacity, Design Solutions, Development Impact, Financial Feasibility

- Thoughts for the Future
Urban Growth and NEGATIVE FEEDBACK

Change in population of 10 largest UK cities. (1981=100)

Source: Centre for Cities, ONS
Urban Growth and NEGATIVE FEEDBACK

Source: Bus Industry Confederation, US
Urban Growth and NEGATIVE FEEDBACK

...results suggest that, by and large, the smaller, less dense, safer, amenity-rich cities with high levels of GDP per capita are growing fastest. When focusing on national, EU and non-EU population growth, we moreover find that nationals are attracted to the less dense, amenity-rich, more productive cities; that EU non-nationals are concentrated in cities with high levels of human capital; and that non-EU population growth is determined by climate and by employment structure...

University of Utrecht, November 2006
Urban Growth and
NEGATIVE FEEDBACK

**Proactive or Reactive Investments**
Why are Cities so attractive to citizens

**What are we seeking from investment in a city**
Pump Priming?
Urban Railway Systems
ROLE OF MODERN RAILWAYS
Urban Railway Systems

ROLE OF MODERN RAILWAYS

- **Productive Travel**
  Mainly Regional or Intercity: Vehicle Constant

- **Mass Transit**
  High Capacity System on Major Corridors (e.g. metro)

- **Quality of Life**
  Limiting the Impact on external environment
Urban Railway Systems
SYSTEM VARIABLES

- Technology and Cost
- Design
- Impact
- Bankability
Planning Urban Railways

KEY CONSIDERATIONS

Technology
Persons per hour per direction per corridor
Planning Urban Railways

KEY CONSIDERATIONS

Design: Utilitarian vs Embraced
Effectiveness of the design solution

Integration, Attraction, Access and Effectiveness
Planning Urban Railways

KEY CONSIDERATIONS

**Economic Impact**
Direct and indirect Impacts

*Social, Environmental : Methodology*
Planning Urban Railways

KEY CONSIDERATIONS

Development Impact
Value-Added: Capturing Personal value and Social Value

<table>
<thead>
<tr>
<th>Supertram Corridors</th>
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<tbody>
<tr>
<td>Major retail services</td>
<td>+127%</td>
</tr>
<tr>
<td>Major office developments</td>
<td>+31%</td>
</tr>
<tr>
<td>Minor office developments</td>
<td>-24%</td>
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<tr>
<td>Household planning applications</td>
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<tr>
<td>Major industry/warehousing</td>
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<tr>
<td>Major other development</td>
<td>-13%</td>
</tr>
<tr>
<td>Minor other development</td>
<td>-6%</td>
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</tbody>
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Table 2.1
Financial Considerations
Bankability and Affordability

Planning Urban Railways
KEY CONSIDERATIONS

COSTS

BENEFITS
Planning Urban Railways

KEY CONSIDERATIONS

Financial Considerations
Bankability and Affordability

Costs vs. Benefits

Regular Bus
BRT Single lane
Light Rail
Heavy Rail (e.g., Hong Kong)

COSTS

BENEFITS
Planning Urban Railways

KEY CONSIDERATIONS

Financial Considerations
Bankability and Affordability

Key Considerations:
- Financial Considerations
  - Bankability and Affordability

Diagram:
- Regular Bus
- BRT Single lane
- Light Rail
- Heavy Rail (e.g., Hong Kong)

Costs vs. Benefits Graph:
- COSTS increase from left to right
- BENEFITS increase from bottom to top

Graph showing the trade-off between costs and benefits for different urban railway options.
System Definition
Should solution be driven only by passenger demand?

Impact Assessment
How to include Value Capture as a consideration (equity)

Transport Policy
What role should be played in preparing the path for Urban Rail Systems

Bankability/Affordability
Benefit of a continuous assessment through scheme development
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