OUT OF FARE - BOX FINANCIAL MECHANISMS: SOLUTIONS AND LESSONS LEARNT

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FUNDAMENTAL FEATURES REGARDING URBAN PUBLIC TRANSPORT AND URBAN TRANSPORT

What is at stake is not only ensuring a better revenue for public transport operators – it is to find out financial mechanisms ensuring an equilibrium of urban transport activity at the scale of the city (and a profitability for public transport operators).
Urban public transport is not a final consumption but:

- an intermediate mean for accessing essential urban activities
- a contribution to the competitiveness of the city in a global market
- the unique travel mode for several categories of population beyond walking or private modes
- a sustainable alternative to private cars in congested areas
- a backbone for city development over time
Urban rail is recognized as the most efficient transport mean for a dense multimillion inhabitant city when properly coordinated with other transport modes and urban policies.

Rail transport generates value for citizens, business and public authorities. Part of the incremental land value created by public transport can be captured for the development of local infrastructures and services through Land Value Capture mechanisms.
Rail transport is very specific in terms of economic cost of production:

- very high initial infrastructure investment cost and very long lifetime
- low marginal cost
- marginal cost lower than the average cost until the design infrastructure capacity is reached
- high marginal cost of network upgrade
Initial approach to urban rail transport:

- careful design of new urban rail lines or systems - difficult task involving huge data collection and many studies
- political and social acceptance of rail projects (at city level and locally – before, during and after construction)
- public support for the creation of the infrastructure
- proper coordination with overall urban transport and mobility policy and other global urban policies
Decision-making support for public authorities covers:

- A sound estimate of the “external effects” produced by a rail project in comparison with transport alternatives – a wider approach than only “added value”

- A proper identification and assessment of all means allowing to get the highest value for money for all citizens (customers or tax payers) – this is also a rail operator issue

(“external costs” are economic costs which are not given a monetary value in the market)
KEY GUIDELINES FOR DECISION-MAKERS REGARDING URBAN RAIL FINANCING

- Carefully allocate all economic costs of urban transport among economic agents including “indirect beneficiaries”:
  - “internalization of external costs”
  - “earmarked taxation” in favor of urban rail

- Alleviate urban rail investment and reduce operation costs (authorities)
- Reduce operation costs and take the best advantage of urban rail assets (rail operator)
ALLOCATE ALL ECONOMIC COSTS OF URBAN TRANSPORT AMONG ECONOMIC AGENTS

Get the “right prices” and proper “internalization of external effects” is very challenging:

- economic costs are difficult to assess
- internalization of external effects has always and foremost to take into account the local situation
- governance requires a balanced involvement of the various levels of administration
INTERNALIZATION OF EXTERNAL COSTS AND EARMARKED TAXATION

External effects:
• produced by the transport modes – positive or negative, they increase with city size and density
• impact directly or indirectly various categories of economic agents (using or not the urban transport system)

Overall objectives of internalisation of external effects:
• to build up coherent fiscal frameworks using diversified, acceptable, easy to implement and as much as possible perennial funding sources
• to induce suitable changes in urban mobility behavior (reason for earmarked taxation)
WHICH EFFECTS CAN BE INTERNALIZED AND WHICH MEASURES CAN ACHIEVE IT?

POSITIVE EXTERNAL EFFECTS for indirect beneficiaries and measure:

- Car users – travelling faster when they shift to rail - Fuel tax and car and parking related taxation, parking policy
- Employers – getting easier access to the employment market improved productivity of the personal – Employers’ tax, land use policy
- Retailers – having more consumers and a larger turnover - Sales tax
- Land owners (individual or companies) and promoters – rising the cost of property or price of dwelling nearby stations- Property tax, added value tax, air rights, land use policy…
- Citizens – better quality of life – Income tax, property tax, local residence tax
WHICH EFFECTS CAN BE INTERNALIZED AND WHICH MEASURES CAN ACHIEVE IT?

NEGATIVE EFFECTS (internalization through polluter-pay principle and incentive taxation) and measure 1/2

- Car users - creating congestion -
  - Toll systems, car ownership and car use taxation
  - Parking regulation, parking taxation
  - Traffic and parking fines
  - Priorities for public transport over general traffic
- Car users - generating accidents –
  - Excise tax on alcohols, insurance taxation
- Car users - creating pollution –
  - Fuel tax, pollution regulation policies
WHICH EFFECTS CAN BE INTERNALIZED AND WHICH MEASURES CAN ACHIEVE IT?

NEGATIVE EFFECTS (internalization through polluter-pay principle and incentive taxation) and measure 2/2

• Employers and some public administrations - working hours and holiday periods creating peak jams -
  Employees’ partial reimbursement of public transport fares
• Land owners and promoters – higher cost of housing and offices, urban split, longer travel distance between home and work place, dependence on motorized and especially private transport modes –
  Property tax, added value tax, land use regulation
• Public transport project developers – if rail projects not properly designed and implemented
  Avoided through studies and involvement of all parties
The road toll in Oslo was introduced as early as 1990, aiming to increase funding for transportation projects in the region.

The new financing projects in greater Oslo (2012-2027) are designed to improve road and public transport investments.

The toll ring will be the main source of financing:

- The total costs are estimated at 7bn €, with 5.3bn € generated by the road toll.
- In 2011 around 255 million euros was collected to transport projects in the region.
- Around 60% of the income from the road toll is reserved for improving public transport.
Workplace Parking Levies originated in Australia (Sydney, Perth and Melbourne).

In Nottingham it was passed ‘with the aim to offer realistic alternatives to the use of private cars by delivering high quality sustainable public transport’

**Benefiters:**

- 2 Nottingham Tram Routes, totalling 17km, will open in 2014, with WPL meeting 34% of the cost.
- the Nottingham railway station hub redevelopment project – due for completion 2014,
- the 'Link' bus network (60 City Council owned buses) and 'green' bus trials using ethanol, hybrid, electric power.
EMPLOYERS AND BUSINESSES

Since 1973, the tax Versement Transport was levied on the total gross salaries of all employees of companies of more than nine employees.

- The rate is established through pre-defined criteria (e.g. population).
- It ranges from 2.7% in Paris to 0.9% in localities with fewer than 100,000 inhabitants.

In 2010 this tax financed nearly 40% of the operational cost for the public transport network in Ile-de-France.
The **2013 Big Move strategy**, is a 25-year integrated mobility plan. The infrastructure changes expected have been estimated at $16 billion CAD worth of transit expansion.

Out of 27 mechanisms, 4 revenue tools were selected which are expected to raise 2bn CAD annually:

1. Harmonized sales tax,
2. Fuel tax,
3. Business parking levy and
4. Development charges levies

The selected sample of tools would provide GTHA with a stable funding package.
ALLEVIATE COSTS AND TAKE THE BEST ADVANTAGE OF URBAN RAIL ASSETS

Assets devolved and expenditure to be covered are very different from one operating company/network to another:

• comparison between networks is difficult
• expenditure usually covers:
  • at a minimum operation and maintenance costs
  • in some cases, specific charges related to the pension scheme or to the reimbursement of loans
  • possibly amortizing or renewal of rolling stock, equipment and sometimes infrastructure
  • taxes on expenditure

Cost reduction: a managerial issue - apart from taxation regime
COVERAGE RATE FARE AND OTHER REVENUES

Coverage by fare revenues

Coverage by public subsidies and other revenues

EMTA 2012
## COMPARING CITIES AND SYSTEMS

### Table 1 – Illustrative description between different definitions

<table>
<thead>
<tr>
<th></th>
<th>MCD (UITP)</th>
<th>Comet Nova Metro</th>
<th>Cuta (Cad)</th>
<th>VDV (DE)</th>
<th>Shenzhen China</th>
<th>Russia</th>
<th>ESA95 (EU)</th>
<th>ESA2010 IPSAS</th>
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<td>Farebox</td>
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<td>Social fare compensations</td>
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<td>Other public contributions</td>
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<td>Other trsp. related revenues</td>
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<td><strong>Costs</strong></td>
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<td></td>
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<td>Operational costs</td>
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<td>Yes</td>
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<td>Depreciation of vehicles and other operat. assets</td>
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<td>No</td>
<td>Partly</td>
<td>No</td>
<td>Yes</td>
<td>Partly</td>
<td>Yes</td>
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<tr>
<td>Infrastructure costs (tracks, stops, access fees, etc.)</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>Partly</td>
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<td>Yes</td>
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INCREASE RESOURCES AND TAKE THE BEST ADVANTAGE OF URBAN RAIL ASSETS

Factors influencing out of the fare-box revenue of the rail operator:

• assets of the rail operator
• scope of activities
• quality of the management
• urban public transport market institutional organization
• public service requirements compensations
• taxation regime

Objective: take the best advantage of assets through activities connected to these assets
INCREASE RESOURCES AND TAKE THE BEST ADVANTAGE OF URBAN RAIL ASSETS

Potential activities/resources connected to rail company assets:

• Tunnels: optic fiber
• Stations:
  • commercial/office space and/or residential units (property development/management)
  • shopping malls (renting/managing)
  • cooperation with other modes (multimodal nodes)
  • commercial services (data center)
  • advertisement (walls, panels, digital screens…)
  • selling brand (station name)
• Traction power stations: potential feeders for electro-mobility
• Workshops: integrated in multiple activities building
• Workshop and garages areas: power energy from solar cells
• Rolling stock: advertisement, touristic services, special events…
FUNDING BREAKDOWN

Expenditure

- Renewal/new infrastructure
- Enhanced accessibility
- Quality requirements
- Higher demand,
  Better quality of service

Funding

- Tight public finances
- Lower fares
  and/or
  Lack of optimisation of
  fare revenues
COMMERCIAL REVENUES

Ancillary businesses have significant revenue potential in some sectors

<table>
<thead>
<tr>
<th>Sector</th>
<th>Examples for ancillary businesses</th>
<th>Revenue potential</th>
</tr>
</thead>
<tbody>
<tr>
<td>Airports</td>
<td>Retail, food &amp; beverage, internet, banking/foreign exchange, advertising, fueling, ground handling, aircraft catering, events</td>
<td>20-50%</td>
</tr>
<tr>
<td>Ports</td>
<td>Ship maintenance and repair, container leasing, tugging, intermodal transport, export-import services, warehousing, packaging, economic zones</td>
<td>10-20%</td>
</tr>
<tr>
<td>Motorways</td>
<td>Petrol stations, restaurants, shopping, e-tolling card, freight centres, parking, road cleaning for close municipal roads</td>
<td>0-10%</td>
</tr>
<tr>
<td>Urban rail</td>
<td>Restaurants, shopping, intermodal offers (e.g. bicycles, car rental), real estate for offices, residential and retail</td>
<td>10-40%</td>
</tr>
<tr>
<td>Electricity</td>
<td>Gas cross-selling, energy-saving solutions, decentralized energy generation, demand response management, CO₂ certificate management, smart home, smart meter, e-mobility</td>
<td>0-10%</td>
</tr>
<tr>
<td>Education</td>
<td>Student accommodation, canteen and café, parking, shopping, kindergarten, sports facilities</td>
<td>0-15%</td>
</tr>
<tr>
<td>Hospitals</td>
<td>Restaurants, shopping, over-the-counter medicine, spas, health centres, geriatric care, parking</td>
<td>0-15%</td>
</tr>
</tbody>
</table>

Source: Strategic Infrastructures: Steps to prepare and accelerate Public-Private Partnerships, May, 2013, Cowie: World Economic Forum

Providing means to increase both revenues and margins based on assets and know how.

Commercial Revenues:

- Covers between 5-7% of revenues (EU) and 20-25% in Asia
- Emerging branding and commercial strategies
- Undervalue of assets and long term impact may affect the initial investments to promote commercial revenues
## Estimated number of passengers
(Thousands per working day)

<table>
<thead>
<tr>
<th>Location</th>
<th>Estimated Passengers</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>T-Centralen</strong></td>
<td>250</td>
</tr>
<tr>
<td><strong>Slussen</strong></td>
<td>141</td>
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<tr>
<td><strong>Fridhemsplan</strong></td>
<td>79</td>
</tr>
<tr>
<td><strong>Gullmarsplan</strong></td>
<td>77</td>
</tr>
<tr>
<td><strong>Copenhagen airport</strong></td>
<td>64</td>
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<tr>
<td><strong>Liljeholmen</strong></td>
<td>53</td>
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<tr>
<td><strong>Stockholm airport</strong></td>
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<tr>
<td><strong>Tekniska högskolan</strong></td>
<td>50</td>
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<tr>
<td><strong>Helsinki airport</strong></td>
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<tr>
<td><strong>Alvik</strong></td>
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<tr>
<td><strong>Ropsten</strong></td>
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<tr>
<td><strong>Danderyds sjukhus</strong></td>
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</tr>
<tr>
<td><strong>Sundbyberg</strong></td>
<td>26</td>
</tr>
<tr>
<td><strong>Hornstull</strong></td>
<td>25</td>
</tr>
<tr>
<td><strong>Brommaplan</strong></td>
<td>25</td>
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<tr>
<td><strong>Vällingby</strong></td>
<td>20</td>
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<tr>
<td><strong>Älvsjö</strong></td>
<td>20</td>
</tr>
<tr>
<td><strong>Gothenburg airport</strong></td>
<td>14</td>
</tr>
</tbody>
</table>

MTR Stockholm 2015
Digital ads in Hong Kong

Copenhaguen city bus advert

Pepsi ad in London (Jun 2013)
RETAIL
HOW MUCH IS YOUR NAME WORTH?

Emirates air line cable cars
London

Citi bike in New York

Metro Station ‘Vodafone Sol’ in Madrid
VALUE-ADDED SERVICES - METRO SANTIAGO

BiciMetro stores more than 37,000 bicycles per year

ATMs in all stations

Over 120 vending machines

Over 16,000 m² in shops and commercial areas

Advertising

Mobile phone coverage in the network and apps development
SERVICES TO CITIZENS – METRO SANTIAGO

Cultural/musical events in Metro facilities

Involving the community in the city culture

Free WiFi zone in 32 stations

Metro Arte permanently offers 34 public-art projects (5,800 m²) distributed along the network

BiblioMetro lends an average of 480,000 books by free per year

Charity Events for Christmas and Teleton (a local foundation for the Handicapped)
INTEGRATED TRANSPORT SYSTEM – METRO SANTIAGO
NON-FARE INCOMES 2015 – METRO SANTIAGO

Total Non-Fare Incomes (2015) : MM US$88,32

- Sale Channels; $57,56; 65%
- Others; $1,84; 2%
- Services and Communications; $12,82; 15%
- Advertising; $6,07; 7%
- Retail; $7,18; 8%
- Transport Hub Administration; $2,85; 3%
Identified opportunities to grow non-fare incomes from 1.9bn GBP to 4.5bn GBP (2.6bn EUR to 6.2bn EUR) over the next 10 years.

**Objective:** reinvesting commercial assets while reducing public funding (grants and loans).

**Activities envisioned:**
- Property partnership to generate 2.7bn GBP creating 9,000 residential units next 10 years
- Enhance commercial and retail activities
- Develop digital hub (Old street)
CONCLUSION ON OUT OF THE FARE-BOX MECHANISMS

- Objective is not only improving the financial results of the rail operating company but more globally to support the public transport activity
- Urban rail has a much higher positive balance of “external effects” than any other motorized urban transport mode – this legitimates earmarked taxation
- Rail company assets afford numerous opportunities for additional resources
CONCLUSION ON OUT OF THE FARE-BOX MECHANISMS

High level challenges:

- develop a trans- institutional short-mid-long term holistic vision of sustainable urban mobility with urban rail as a backbone
- implement this vision through:
  - proper integration of transport and land use
  - proper coordination between institutional levels
- define a coherent fiscal framework providing sufficient resources over time beyond the fare-box revenue
- support rail companies in developing their activities
- (apply a fare policy gradually increasing the fare-box revenue)
OUT OF THE FARE-BOX MECHANISMS

Thank you for your attention

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