

URBAN TRANSPORT FINANCING

Raising issues and making proposals

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AFD and urban transport

- Annual commitments in transport sector: 12 to 15% of total AFD financial commitments
- Of which about 50% for urban transport
- Examples: Algiers and Tunis suburban railway shuttles; Cairo, Istanbul and Bangalore underground metros; Hanoi, Tunis, Rabat LRTs; Amman, Curitiba, Lagos BRTs; institutional dialogue and training (Marseilles Center for Mediterranean Integration; involvement in LUTP WB program)
- English summary of AFD transport strategy: download .pdf from www.afd.fr/home/projets_afd/infrastructures_energie/Transport then click on “Transport sectoral intervention framework – May 2009”

A reference handbook

- ***Who pays what for urban transport? Handbook of good practices,***
AFD / CODATU / French Ministry of Transport (2009)
- .pdf version will be forwarded to participants (please provide your E-mail addresses)

Concept : Role of pricing

- **Cost recovery:**
 - “private” costs: OPEX and CAPEX incl. financial costs, for rolling stock, infrastructure and associated fixed equipment, overhead costs
 - “social” costs: negative externalities: congestion, noise, pollution, GHG, lack of safety (to the extent not covered through insurance premiums)
- **Balancing supply and demand :**
 - Finance assets and HR fitting to demand (peak hour)
 - Cut and/or spread peak traffic
 - Pay for a service delivered or for a technical production (vehicles-km)
 - Social redistribution / cross-subsidies

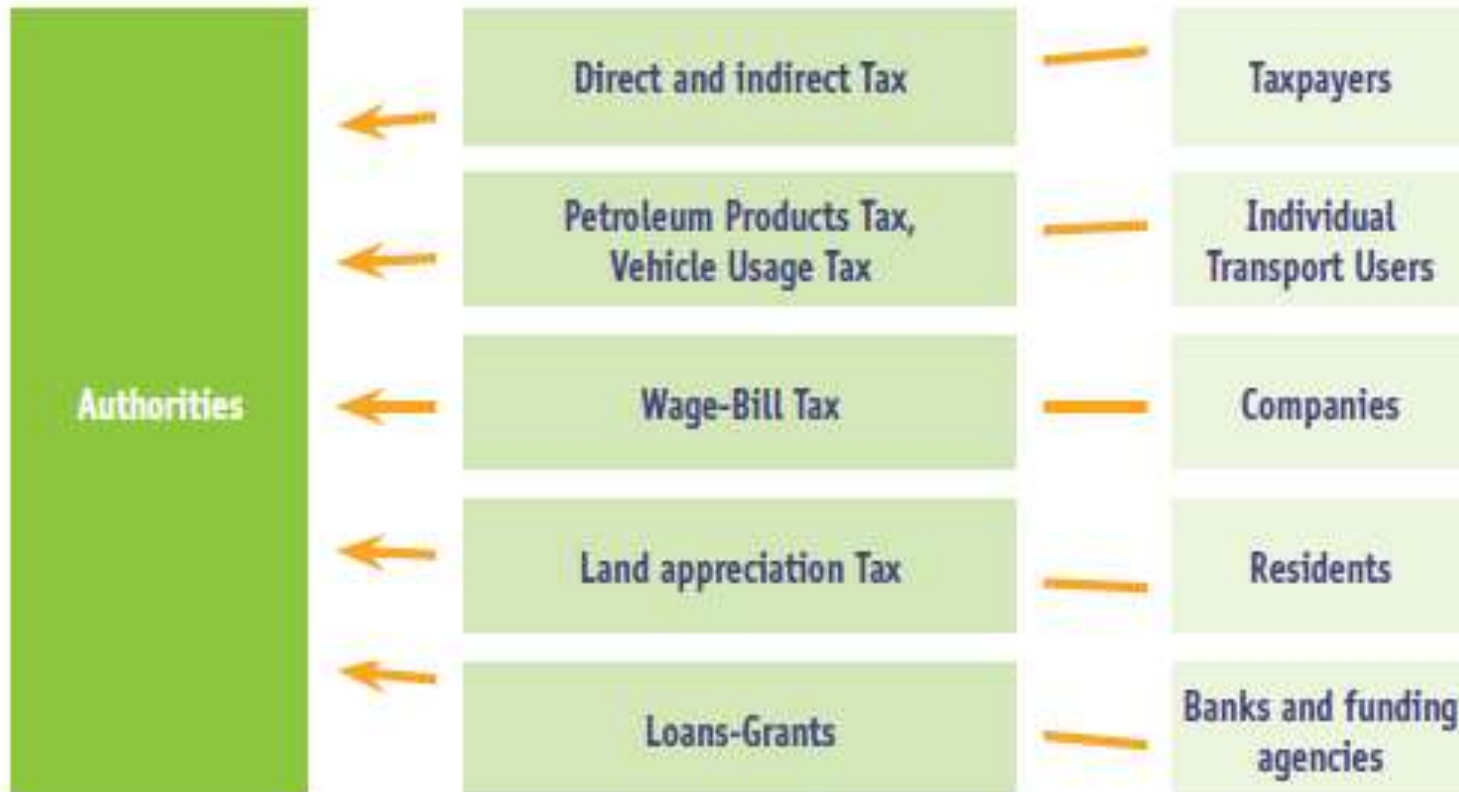
Who can pay for UT?

- Public authorities such as
 - State, region, municipalities
- Direct beneficiaries such as
 - UT users,
 - private car users
- Indirect beneficiaries such as
 - employers
 - Business and local residents

Additional question : [how much does it cost ?](#)

Source of public funding

Figure 4 : Diagram of funding for public transport



Integrated transport policy, pricing and ticketing

- Enhancing intermodality (between public transport modes + park and ride) through:
 - Integrated ticketing (common-use tickets and passes)
 - Setting fares on similar basis (lower fares-higher volumes)
 - Cross-subsidization between operators
- Usual scheme: a Metropolitan Transport Authority (called “urban transport organizing authority) collects users fees and pays public transport operators according to vehicles-km produced, with positive or negative incentives related to level of service or to ridership volume

What kind of financial balance to reach from users fees?

- Pricing socially acceptable (elasticity DDe)
- Costs to be considered from users fees? Capex, Opex
- Market costs or social costs (i. e. with externalities taxation)?
- Fare policy : low fare, flat fare, what dose of fare equalization according to trip length?
- Many other variants...

Optimizing pricing

- Social constraints: affordable public transport
- Incentives for the service provider → performances/productivity
- Incentives for the consumer, e. g. towards efficient modal shift → taxes, tolling
- Impact on land use → land value capture, urban sprawl
- Budget sustainability
- Transparency, predictability

Some classic means for indirect earmarked financing

In addition to users fees dedicated to public transport



- Employment tax based on wage bill ("*versement transport*" [in France](#))
- Specific fuel levy for public transport investment (USA)
- Taxing real estate
- Commercial revenues in / around terminals: rentals or sales of offices or shops plus variable fee on generated income
- Granting the transport operator, around stations, with free land it will develop for renting or selling (new cities or urban restructuring)
- Advertisement on vehicles and in stations



Which rationale for public subsidies?

- Social purpose: improving access for low-income citizens and/or inhabitants dwelling far from job areas
- Unwanted impact: under-pricing long trips promotes urban sprawl
- Financing positive externalities of public transport compared with private cars (less congestion, less pollution, less GHG...)
- What proper strategy: taxing negative externalities of private cars and/or subsidizing public transport for its positive externalities?

Some fact findings... or concerns?

- In many developed countries, very low cost coverage of public urban transport services. Is such a “financial collectivization” really sustainable and justified? (“regressive” but not “progressive” pricing) 
- Risk of jeopardizing service improvements should the taxpayer cannot follow
- Better financial performance and more sustainable models in Latin America cities (subsidies often limited to CAPEX) 
- Unsustainable METRORAIL business model: income does not cover the wage bill ⇔ low service quality...

Pricing and financing policies: the right choiceS?

- No single optimum but a range of tailor-made solutions
- Taking into account (i) policy objectives, (ii) lessons of experience (good practices, sound management principles, e. g. “price signal” and need for incentives) and (iii) constraints: legal and contractual framework, social background, physical obstacles, historical legacies, budgets, transaction costs...

How to cope with urban congestion through pricing?

- Taxing private vehicles on- and off-street parking
- Road pricing on corridors (motorways, big bridges or tunnels) or area tolls covering CBDs (London, Oslo, Singapore...)
- Careful of demand-to-price elasticity when tolling daily trips!
- Prerequisites to successful implementation: political consensus, availability of convenient public transport alternatives, in-depth preliminary public debate



Mitigating climate change impact of urban transport

- Short to medium term: encouraging environmental-friendly vehicles and fuels, public transport (MRT / LRT/BRT/busses) and non motorized transport (NMT: bike, walking) *vs* private cars
- Medium to long term: changing land use (i. e. increasing compactness / density and mixed use in areas or along transit corridors around stations) for reducing volume (passengers-km) of commuting needs

How to mitigate this impact through pricing?

- Apart from physical tools (master plans for land use and transport networks, investment in public transport and NMT facilities) and regulatory tools (land use, parking and traffic regulations)
- Financial / pricing tools:
 - Differential taxation of vehicles and fuels, according to their environmental impact (national rather than municipal level) . [Ecotax](#)
 - Carbon tax?
 - Urban road infrastructure and parking charges

The nexus between financing / pricing and legal arrangements

- The consistent scheme: a Metropolitan Transport Authority is responsible for (i) delivering urban public transport services or (better) contracting with operators (public or private concessions or franchises), incl. setting fares; and (ii) providing investment and/or operation subsidies (if any) from the proceeds of a dedicated fund
- RSA Metros and Land Transport Act enforcement: need for progressively taking over the design and monitoring of METRORAIL commuter services ?

**Thank you for your attention
Any questions?**

How much does a transport system cost?

On the basis of international comparisons of cities in developing countries, the funding of a metropolitan area's urban modes of transport requires between 1% and 2% of its GDP to cover spending on urban road investments, public transport investments and operating needs.

Examples:

- Teheran's transport plan (2005/2006) recommends 1.2% of the municipality's GDP to be invested in public transport between 2005 and 2016.
- In Greater Cairo, the Master Plan for Transport puts forward a public transport investment of 1.7% of GDP for the period between 2002 and 2022.
- In Belgrade, public transport investment stood at around 1.04% of the metropolitan area's GDP for 1997 to 2001.

Source: MEEDDAT. CERTU. Stratégie de mobilité durable dans les villes des pays en développement. (Sustainable mobility strategy in cities in developing countries.) Systra (2008).



Cost recovery : diverse situations

In France, contributions from users only cover 25% of the operating costs of the public transport systems. The contribution rate varies according to the size of the systems: from 21% in systems with fewer than 100,000 inhabitants to 33% in those with over 300,000 inhabitants

In Istanbul the coverage rate for the bus system operated by the firm IETT is 64%. This falls to only 41% when amortization and provisions for equipment replacement are included. ULASIM AS, a metro and tram line operator, covers 124% of its operating costs through its revenues.

In Ho Chi Minh City, public subsidies cover around 45% of the system's operating costs (all public, private and cooperative bus companies).



CURITIBA: a multimodal management of public transportation, without public subsidies

In Curitiba, fares cover operating and maintenance costs of the Integrated Transport Network (RIT), comprises both classic and rapid buses (BRT), uses 28 private operators and runs in 13 of the 26 towns that constitute the Metropolitan Region of Curitiba.

Their activity is coordinated by a transit authority (URBS), which is owned by Curitiba municipality.

This authority approves lines, collects the revenue and redistributes it among the operators. Discounted fares given to the elderly and students are not borne by public funding. Their cost is spread over all of the users who pay the full fare (increased by 16%). However, the cost of the fare remains average to low compared with fares in Brazilian cities (2.20 reais i.e. €0.80).

Approximately 38% of journeys are made on the transport system that benefits from Vale Transporte, a form of financial assistance paid by employers to their employees when the cost of transportation exceeds 6% of their salary.

URBS has implemented a reduced fare (almost 50%) for everyone on Sundays, when the shops are open.



French "*Versement Transport,*" or VT

- introduced in 1971 for public and private companies >9 employees in the Ile-de-France region.
- purpose to provide necessary funding to extend and improve public transport services in the Paris area, which at the time was experiencing rapid economic growth.
- then gradually extended to all metropolitan areas with a transit authority.
- VT = a percentage of a company's total payroll costs,
- collected by Social Security and transferred to the transit authority.
- Max :in Paris and the neighbouring Hauts-de-Seine county = 2.6% and 1.7% for the other inner ring suburbs, and 1.4% for the outer suburbs;
- the rest of France: max 1.75% for towns that have dedicated public transport corridors; 1% if >100,000p and 0.55% <100,000.



Increasing revenues through value capture

Concept is common in Australia (known as “Value Increment Financing” or VIF) and in the United States (known as “Tax Increment Financing” or TIF).

Optimal use of the urban space near transport infrastructures is promoted to capitalise on the tax income generated from the land. The State lends landowners the equivalent of the estimated land value gain created by the new infrastructure, at a low interest rate and for over 10 years.

New constructions generate new tax revenues which are attributed to transport, and the higher population density leads to more users of the public transport infrastructure. This model is socially acceptable because it isn't viewed as an additional tax.

Method used in US cities such as St. Louis, San Francisco, San Diego and Denver, and is often called Transit-Oriented-Development (TOD).

It has succeeded in increasing population density in the vicinity of large underground stations and railway stations by attracting residential, commercial and service-oriented investments, and has thus decreased car use without having to ban it.



Variable fares

- In Santiago, Chile, there is an off-peak fare on Saturday and Sunday which also includes a 10% discount for the metro. A survey showed that a modal transfer of 4% had been achieved.
- In Curitiba, a special fare has been introduced on Sundays at one real (€0.38) instead of 2.2 reais on work days to encourage leisure travel the poorest groups who do not receive any assistance from employers on Sundays.
- In Rennes, Ganéo is a system which favours occasional travellers who decide to use the service at off-peak times: it gives a 10% reduction during the week and 20% on Sundays and official holidays.
- In Washington, D.C. there are off-peak fares on Metrorail (between \$1.35 and \$2.35 depending on the distance travelled). Metrobus gives reductions to those with SmarTrip cards.



Ecotaxes

- “polluter pays” principle
- designed to offset the costs borne by a municipality to scrap vehicles and the nuisances caused by pollution.

Since 2005 in Japan a recycling tax which is levied when the vehicle is purchased, paid to the “Japanese centre for the promotion of car recycling.”

In Europe, no tax of this kind currently exists.

In 2007 in France, a bonus-malus system was introduced to discourage the purchase of polluting vehicles. Victim of its success

No tax directly linked to pollution



Infrastructure and road charges

- **Tolls for road infrastructures**

Charges are levied on urban road infrastructures primarily to generate funds for extending and improving current networks. Only users who are prepared to pay for a gain in time and/or convenience are charged.

In other instances, the user has no choice other than to pay the toll.

- **Congestion charging**

Congestion charging is designed to reduce the number of vehicles travelling in urban zones by charging users to enter the designated zones.

- encouraging a modal shift towards public transport;
- discouraging motorists from using their vehicles at certain times, or from taking certain routes.



Results of Singapore's experience

Singapore pioneer in introducing congestion charging back in 1975, primarily to tackle traffic congestion in the CBD by levying a tax on vehicles with less than 4 passengers that travelled CBD during peak hours.

From the 1990's, introduced very restrictive policy on use of personal cars :

- obligation to buy a licence when purchasing a new vehicle,
- annual tax for road repairs and maintenance,
- - urban road toll on city-bound high speed roads at peak hours. Motorists to display a tax disc on the windscreen of their vehicles.
- In 1995, the Land Transport Authority was created, responsible for streamlining all transport policies.

In 1998 it implemented urban cordon charging variable price (peak)

By 2003, traffic congestion reduced by 55-60% in CBD

70% of the citizens believed it was fair to tax vehicles



Results of London's experience

City's transit authority, Transport for London (TfL), manages policies covering the entire transport spectrum, from road traffic to public transport.

Two stages: in 2003 -22 square km, in 2007 extended to 40 square km. daily charge of £8 to travel within the Zone has been paid.

Zone's residents get 90% reduction if they buy a monthly or annual pass.

Objectives for 2010 a 15% decrease in road traffic and 20-30% decrease in traffic congestion and by 2020, modal shift of 20,000 p towards UPT.

In 2004, goals largely accomplished : decreased traffic by 15%; congestion decreased by 35% in the zone; 14,000 users have switched to public transport.



Congestion charging in London and the public transport funding scheme

Objective of London's congestion charging scheme was to generate net cash flow for public transport by imposing mandatory charging for at least the next 10 years. The objective was to generate €180 million per year.

This objective was not reached for two key reasons:

- the cost of operating the scheme turned out to be very high, at 50% of gross revenues;
- the scheme was a victim of its own success - the modal shift resulted in less congestion charges being collected, even though the expansion of the zone in 2007 increased daily income from €106,000 to €167,000 despite the fact that 40,000 more residents were eligible for a 90% discount 24.

The financial results, however, are worth noting. For the financial year 2007-2008, gross revenues amounted to approximately €300 million and operating costs totalled €146 million. The €154 million additional net revenues that TfL recorded were allocated to improvements of Greater London buses.

