

Cluster 6/Module 2 (C6/M2): Financing Urban Transport Services.

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Objectives

- Understand the huge financing needs of the operations phase
- Understand the nature of financing required
- Understand the possible methods of financing
- Understand the implications of different fare policies
- Get an awareness of the strategies adopted around the world

LUTP Financing Urban Transport Services (C6/M2) 2

In the previous module we looked at the approaches to financing urban transport particularly during the project preparation and construction phase. In this module we will look at approaches to financing the operations and maintenance phase of a project. Our objective will be to:

- Appreciate that the operations phase needs a large share of the total funds required over the project cycle
- Understand the nature of the financing required
- Understand the possible methods of financing this phase
- Become aware of some of the strategies adopted around the world, and
- Understand the implications of different fare policies



Opening Exercise

Financing Parking Lot Operating Costs



Problem

- **Financing operations of new parking facility**
- **Constraints**
 - **No dedicated funds for facility operations**
 - **No parking fees charged elsewhere (but allowed here)**

Assignment

- **What are financing options?**
- **What information is needed to get an estimate of funding that could be raised from other sources?**



This exercise is designed to get you to start thinking about strategies for financing the operations of urban transport projects. This is a common issue for many rapidly-growing cities that have made or plan to make major infrastructure improvements.

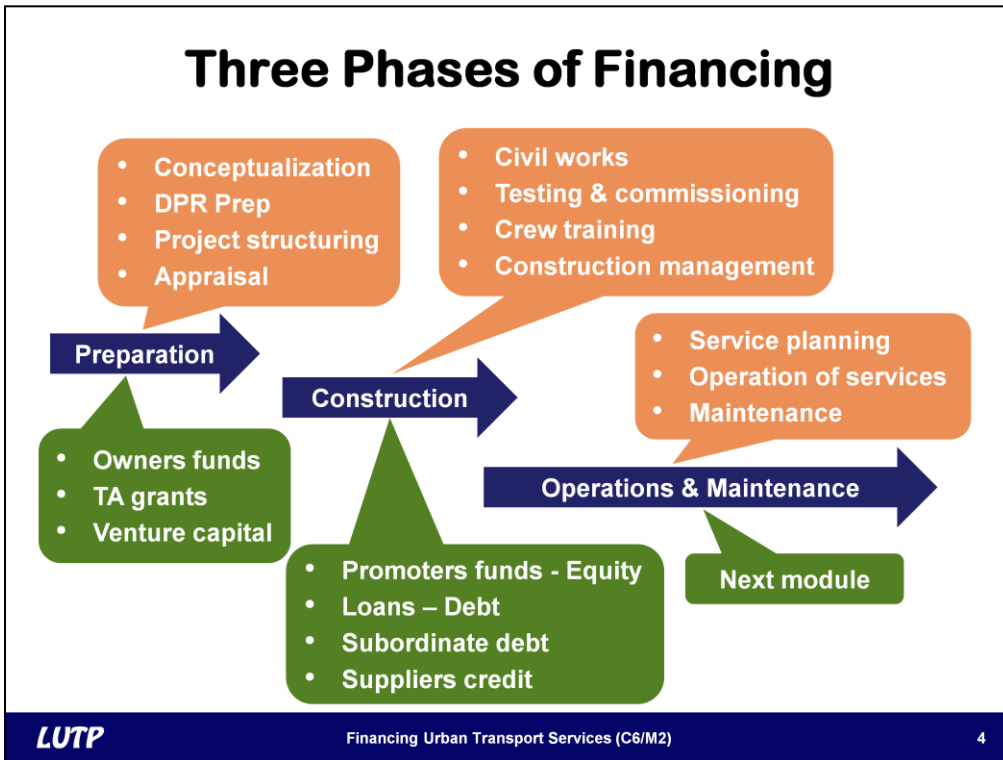
As the person in charge of transport facilities in your city, you have been asked to get a new parking facility built near a large shopping mall. Your worry is that since there is no parking fee charged anywhere in the city, you will have a problem finding resources to meet the cost of maintaining the parking lot.

While you have been allowed to charge a fee for the use of this facility, you are not sure how many people will be willing to use it, if a payment is required. You are thinking of alternate sources you could use to pay for the operations costs of this parking facility.

Please answer the following questions:

- What would your options be?
- What would you like to find out to get an idea of the amounts you could raise from other sources?

Take about 5 minutes to do this exercise.



If we revisit the diagram we saw in the previous module, we can see the ground we will cover in this module.

Operations Phase

- **Financing needed to meet cost of salaries, fuel, maintenance, etc., for the provision of services**
- **Financing needs are high, but spread over the lifetime of the project – can be 100 years or more in some cases – hence not lumpy**
- **Risk levels are relatively low, as preparation and construction phases are over**
- **Risks generally associated with uncertainty in demand levels and operational costs**

As we saw in the previous module, the operations and maintenance (O&M) phase of a project is usually the phase that requires the most money. The financial requirements of this phase are also spread also over a much longer period of time than in the construction phase. In some cases, such as metro rail projects, this could go to 100 years or longer. Thus, even though the financing needs are high, they are spread over the lifetime of the project.

Funds are needed for paying the salaries of the operating crew and for the fuel consumed in operating the services. For public transport systems these are the two largest items of expenditure. Funds are also needed for the repair and upkeep of the system. These requirements are not lumpy, as in the construction phase, but are more evenly spaced out. There are some requirements for capital replacements as well. These can get lumpy in some cases, and loan funds can be secured for such large capital replacement expenses.

Most projects also earn some revenues during this phase and the financing needed from external sources is largely the amount needed to bridge the gap between the operating costs and the revenues. In some cases the revenues can meet the operating costs, but in others it does not do so and additional financing is required to meet the operating costs.

The risk levels are generally low during the operations phase as the project is complete and the risks associated with the preparation and construction phases are over. The only risks at this stage relate to the extent of demand on the system, the cost and quality of the operations, and unforeseen risks associated with any other business.



Cost of Operations Phase

- **Primarily financed from user fees**
- **However, user fees not possible in some cases**
- **In others, user fees can not cover all costs due to various “public good” concerns**
- **Political sensitivity – affordability issues**
- **Therefore, supplementing required**

The first effort for financing the O&M phase is through user fees. People who use the services provided by the project are expected to pay a fee for such usage. Thus, people using buses or metro-rail systems would pay a fare and those using parking facilities would pay a parking fee. However, there are certain services for which user fees are generally not levied in urban areas. For instance, there is generally no fee charged for the use of roads, footpaths, or cycle tracks in a city.

In many cases the user fees are not adequate to meet the operating costs and, therefore, need to be supplemented using other financing mechanisms. Often user fees are not enough when the service has a strong public good value and costs need to be shared with non users as well. Often, affordability is a major concern with some services and so fees tend to be lower than the cost of providing such services. For example, it is important that public transport fares are low as these services are generally used by the poorer sections of society, who are unable to afford personal vehicles. The social consequences of unaffordable fares could be serious.

Often, public transport fares are politically sensitive and the political fall-out of a fare increase can be very damaging. This can also be a cause of user fees not being adequate to meet the cost of operations. The question then is, how does one meet the cost of operations if the user fees are unable to meet the costs?



Impact of Fare Policies

- **High fares for public transport have an adverse impact on possible access to employment - poor are the worst affected as they have no alternative**
- **High public transport fares also make competing modes more attractive**
- **However, high fares make it possible to ensure better services with less subsidy from government**
- **Important question is – are users the only beneficiaries of public transport?**

Before we discuss methods of bridging gaps in revenue, let's look at some fundamental issues relating to setting user fees or fares.

A key question is this: to what extent should the cost of operations be met from user fees? Should the full cost (namely the operating cost and the capital cost) be met from user fees? Or, should it be only the operating cost with or without a certain level of profit? Or should the user fees add up to some value that is less than the operating costs? A decision on this will depend on the specific service and also the specific situation in each city. It will vary from city to city. For example, public transport has important affordability concerns and so the income levels of the customer population are important to consider. Greater use of public transport also has positive environmental and energy efficiency dimensions and therefore justifies lower cost of use. As against this, parking uses up high cost urban land and promotes personal motor vehicle use. Therefore, it is often argued that parking should be charged on a full cost recovery basis. However, there could be different justifications for different parking locations and user fee policies may differ from location to location.

Thus, user fees need to be determined through a complex consideration of public good value, affordability issues, equity issues, and political sensitivities.

Impact of Parking Fee Policies

- **High parking fees make public transport more attractive, but have adverse implications vis-à-vis an influential section of society**
- **However, it becomes possible to ensure better parking facilities**
- **Key question is – what do we want parking fees for? To recover costs or deter use of personal vehicles?**

Let's look a little more at what the impact of public transport fares could be. High fares could mean that public transport is unaffordable to the poor and would limit their opportunities to seek employment. It would constrain the labor market and make cost of production high. The poor would be forced to make very damaging compromises, such as whether to live in unhygienic surroundings that negatively impact their health, or to deny nutrition and education to their children. Affordable fares are extremely important for those who cannot afford personal vehicles.

High fares also make competing modes of transportation more attractive. Those who can afford low cost personal vehicles (such as motor cycles) may not like to shift to public transport.

Conversely, high fares help to keep up the quality of services and ensure better vehicles. The services are more attractive, which may cause those using personal vehicles to shift to public transport. A difficult choice is often required between designing services that are affordable versus services that are higher in quality yet more expensive. This is a challenge that policy makers are often faced with.

Another issue to consider– are users the only beneficiaries of public transport? Do non-users benefit in any way? If non-users also benefit, can they be asked to share the costs? Perhaps levies on non-users may be used to pay for some part of the O&M costs.



Basic Questions

1. What share must users pay towards the operating costs?
2. Where should the remaining resources come from?

Let's now look at the impact of parking fees.

High parking fees can make the use of public transport more attractive and deter people from using personal vehicles. However, public transport must be available as an alternative. A high parking fee, without supporting public transport, is not fair or justifiable. It may even lead to parking in unauthorized areas and increased enforcement costs.

High parking fees help ensure good quality parking, but can become a sensitive political issue when an influential section of society is impacted. While economics can justify high fees, politics might not permit them. These are realities that may be difficult to ignore.

Reconciliation Needed

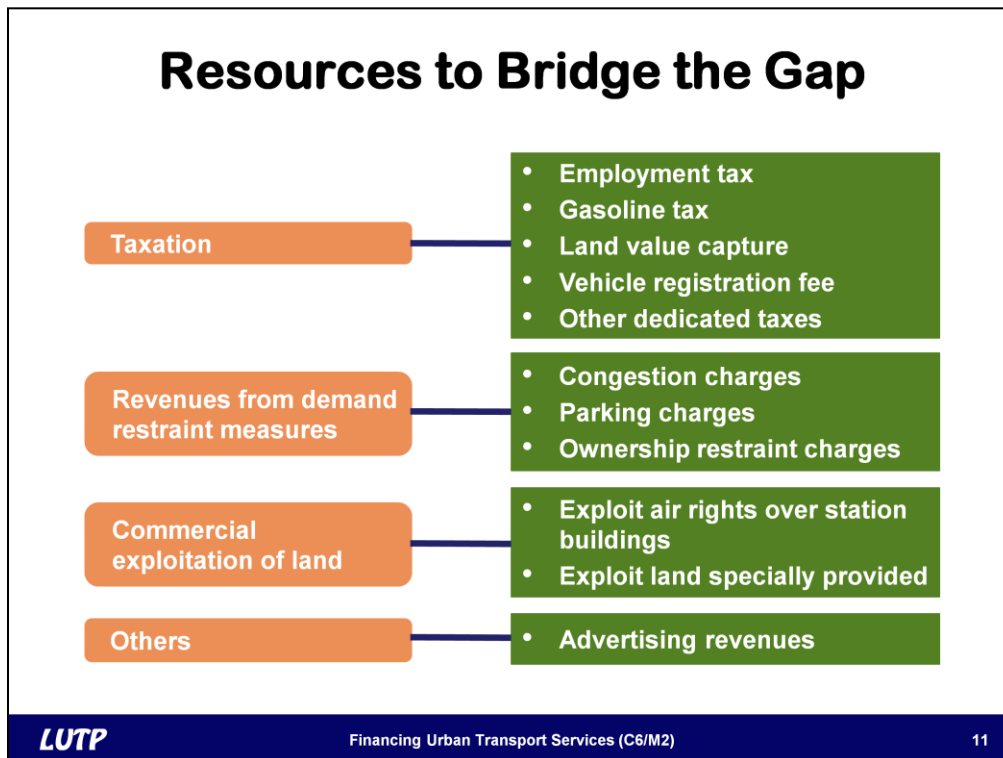
- Operating cost is a technical issue
- Fare is a public policy issue

So, the two main questions that need to be answered in any situation are:

1. What share of the operating costs should users pay, and
2. Who should pay the remaining amounts – or where should the balance requirements come from

In this context, and as highlighted earlier, we see that user fees are a public policy choice whereas operating costs are determined on the basis of the technology chosen. These need to be reconciled.

Let's now look at the options available to meet the revenue gap between operating cost and revenues from user fees.



Additional resources are usually raised to meet the operating costs, through four different methods:

1. **Taxes** – these are generally taxes which are dedicated to meeting the cost of transport infrastructure or services. Employment tax, gasoline tax (or fuel tax), Land value capture (or betterment levy), vehicle registration tax, etc are some examples of such dedicated taxes.
2. **Revenues from demand restraint measures** – these are revenues earned from the fees that are levied for some of the facilities, generally to discourage demand. A congestion tax is often levied for the use of roads in core city areas or to travel during peak demand periods. High parking fees are levied to discourage the use of personal motor vehicles. The rights to buy a new vehicle can also require a payment. We will see specific examples in later slides.
3. **Commercial exploitation of property** – transport systems often own prime land within the city. This land can be commercially exploited to earn significant revenues. Use of bus terminals to build commercial space or use of air rights over several transport facilities to build rentable property are very promising sources of revenue for meeting transport costs. Unfortunately, they have not been tapped adequately in most cities.
4. **Additional sources** – advertising and naming rights often earn significant revenues for transport infrastructure. Public transport stations and terminals are good advertisement spaces, as are public transport vehicles. These could earn revenue. The right to name a bus station or a bus stop could also be a source of revenue.

Now let's look at some of these more specifically.

Employment Tax

- **“Versement Transport” or Transport tax - about one third of the revenues used to finance public transport in the Paris region and in France**
- **Every company employing more than 9 people needs to pay a tax – share of the wage bill – towards costs of public transport**
- **Rates vary from 1.4% to 2.6% of wage bill**
- **Raised almost 3 Billion Euro in 2008**

France uses a tax known as “Versement Transport” (VT) or Transport Tax, to finance transport infrastructure and services. This is a tax on employment, created in 1971, and is a percentage of the wage bill of any employer of 9 or more persons. Anyone employing 9 or more persons is required to pay a percentage of the wage bill as this tax. The rate varies from 1.4% to 2.6% of the wage bill.

The Paris region was able to raise Euro 3 Billion from this tax in 2008. 35% of the costs of public transport in the Paris region were met from these funds. Fares covered only about 37% of the costs.



Tax on Fuel

- In the US, a tax of 18 cents is levied on every gallon of gasoline sold in the country.
- This has build an annual program of \$40 Billion out of which about \$10Billion goes for public transport

Fuel taxes have been used extensively in the US. A tax of 18 cents on every gallon of gasoline has helped raise about \$40 billion each year, \$10 billion of which is currently used towards capital investments in public transport. The rest goes into highway construction and maintenance.



Betterment Levy

- This is a tax that the state collects on a plot of land that its actions have in some way made 'better'
- Investments in public transport help "better" the property close to public transport systems
- A share of enhanced value can be used towards financing public transport
- Used extensively in Colombia

Betterment levy or land value capture is a way of recovering some portion of the betterment costs of any land from those land owners who benefit from such betterment. Typically, investments in mass transport lead to increased land values as such locations become easy to access. However, the increase in value has been possible only on account of the investment. The rationale of this levy, therefore, is that some portion of the increased value should contribute towards the investment.

This has been used extensively in Colombia.



Tax on Vehicles

- **Most cities levy a tax on vehicle registration**
- **In most cases this goes towards meeting the costs of providing the infrastructure for vehicle use**
- **In some cases a high registration fee is used as a deterrent for ownership of vehicles**
- **In others a high fee is used as a source for financing transport infrastructure**
- **Singapore also auctions the right to buy a car – known as “Certificate of Entitlement” (COE)**

A vehicle registration fee is generally charged in most countries. However, Singapore also levies a very high additional registration fee that is calculated as a percentage of the open market value of the vehicle. This is in the order of 110% of the open market value of the vehicle.

This is primarily a demand restraint measure that seeks to discourage people from owning personal motor vehicles.

Singapore also has a system of auctioning the right to buy a vehicle, known as the “Certificate of Entitlement” (COE) Scheme. A person needs to have a COE to be able to buy a vehicle. The COE has to be purchased in an auction conducted twice a month, and requires fairly significant payments.



Demand Restraint Measures

- **Congestion tax**
 - Tax on entry to core city areas (London), or
 - Tax on use of high demand corridors during peak periods (Singapore – ERP)
- **Tolls**
 - San Francisco collected \$150 million in 2007, through tolling the use of bridges
- **High parking charges**
 - Recovering full cost of parking
 - \$200 million in San Francisco
 - 8 million euros in Nantes

Congestion tax in London is yet another demand restraint measure that seeks to persuade travelers to use public transport to go to the core city areas. If they use personal vehicles they are required to pay this congestion tax of £8 per trip.

This brought in an income of £312 million during 2009/2010, though more than half of this was spent on operating the tolling system.

Singapore too has a similar system, known as Electronic Road Pricing (ERP) that not only requires a fee for using certain parts of the city, but the fee also varies depending on the time of day. Peak travel times are charged higher than off peak times, persuading travelers to not only limit their travel to such areas but also limit their travel during peak demand periods.

Tolling the use of bridges brought in \$150 million to San Francisco in 2007 and parking fees earned that city \$200 million that same year.

Commercial Exploitation of Property

- Using air rights over station buildings, terminals, other facilities
- Using land specifically provided for development
- Build and sell property
 - Generally used to meet capital costs
- Build and rent property
 - Generally used to meet annual operating costs
- The Hongkong metro earned HK\$3.55 billion from commercial exploitation of property in 2009

Commercial exploitation of property can be a very useful source of income to finance urban transport. Usually the property owned by a transit facility is commercially used and the income from such commercial use becomes additional revenue. This could be either by way of new facilities built and auctioned, or even such facilities being given in rent.

A good example of this is the Hong Kong metro which earned HK\$3.55 billion from such revenues in 2009.



Summary



**Who pays for public transport –
user or society as a whole - is a
matter of public policy**

NOT

One of recovering costs

Thus, there are several options for raising resources for urban transport services. All of these costs do not have to come out of fares. In fact an important public question is – What share of the costs should the users pay and what share should be borne by non-user beneficiaries? The decision on this should not be based just on the need to recover costs, but should be determined on the consideration of larger public policy issues.