

Cluster 6/Module 1 (C6/M1): Financing Urban Transport Investments.

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The World Bank



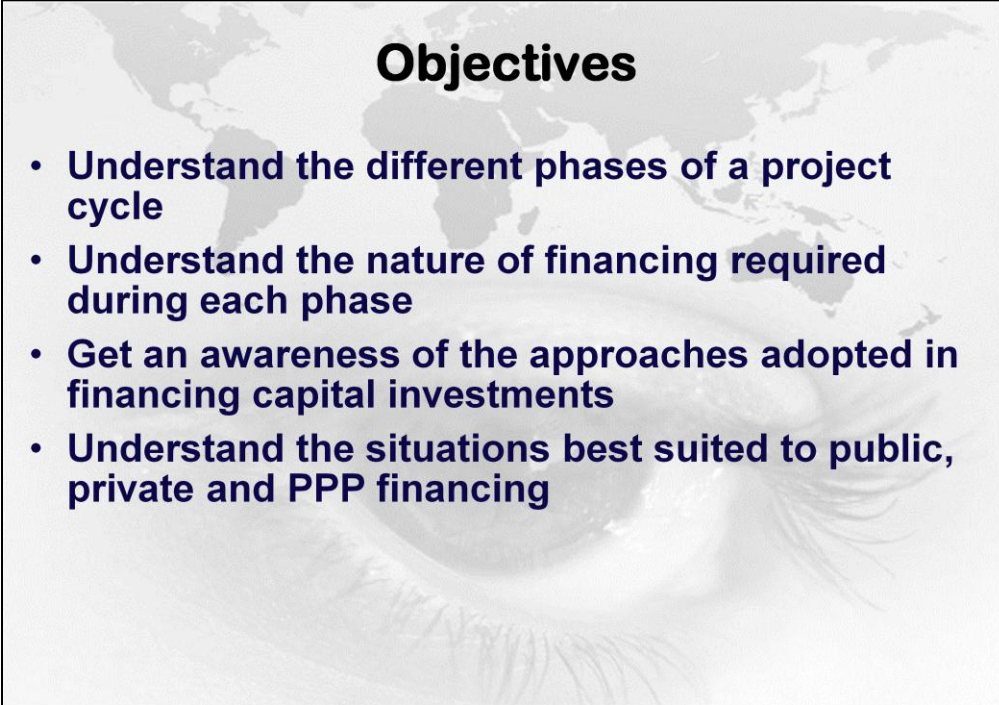
Australian Government
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Energy Sector Management Assistance Program



PUBLIC-PRIVATE INFRASTRUCTURE ADVISORY FACILITY



Objectives

- Understand the different phases of a project cycle
- Understand the nature of financing required during each phase
- Get an awareness of the approaches adopted in financing capital investments
- Understand the situations best suited to public, private and PPP financing

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In this module we will try to understand the different phases of a project cycle and the financing required for each phase. We will get an understanding of the approaches adopted in financing capital investments. We will also try to understand the situations in which public financing, private financing, and public private partnership (PPP) financing are best used.



Opening Exercise Financing BRT System



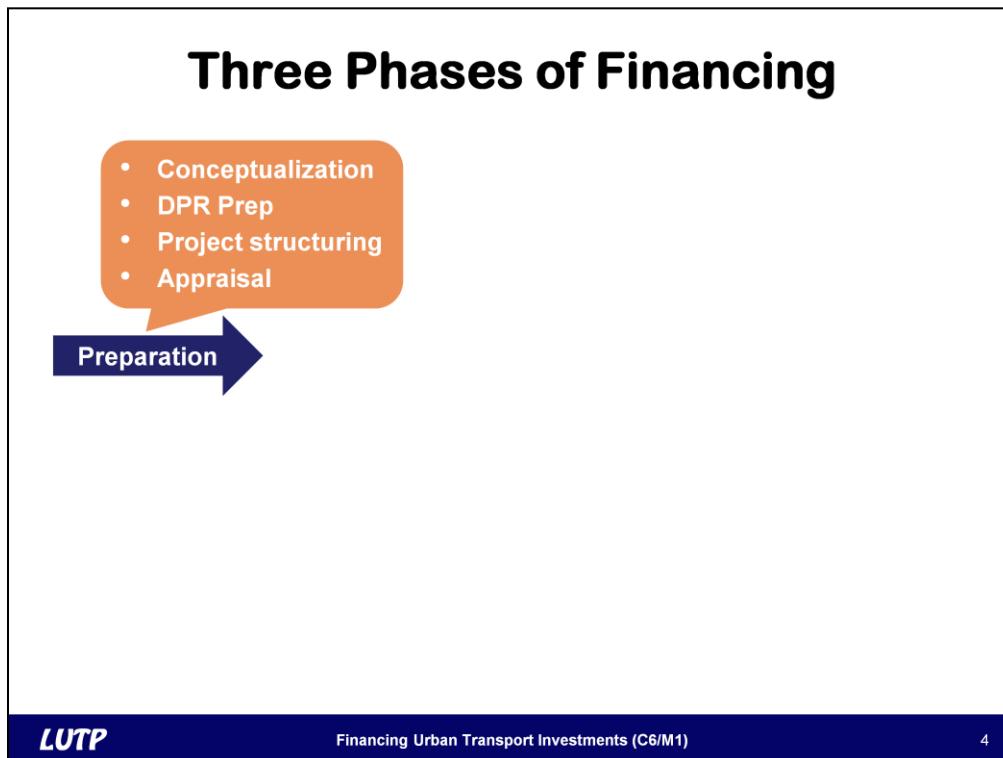
Problem

- There is a strong demand for a new Bus Rapid Transit (BRT) system in your city. You are able to meet only about 30% of the estimated cost.

Assignment

- How would you go about finding the rest of the money to meet the capital cost? What options do you have?





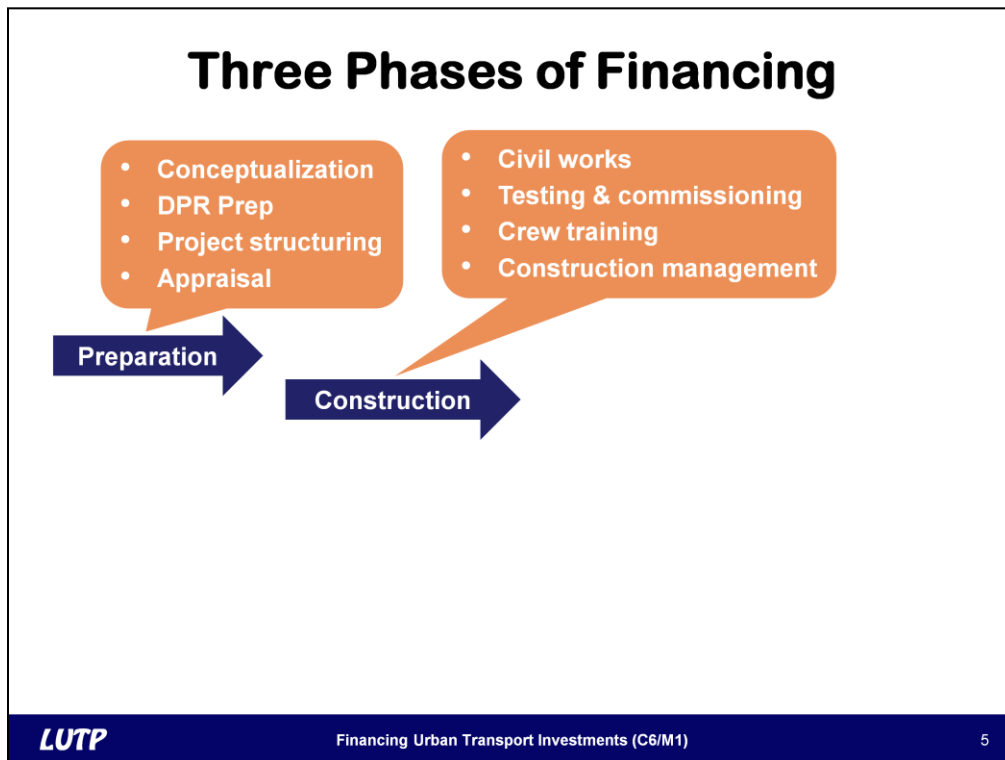
The first phase of a project cycle is known as the preparation phase. Usually the preparation phase covers the conceptualization of a project, preparation of requisite project reports, structuring of a project, and its appraisal. During this phase:

- a project idea is developed
- needed surveys are carried out
- specifics of location and potential beneficiaries are defined
- evaluation of different options and technologies are completed and appropriate choices made
- technical feasibility and financial viability are studied
- social and environmental impacts are assessed
- land requirements and procurement methods are determined
- decisions regarding project financing and loan procurement are made
- actions connected with setting up new legal entities are undertaken
- agreements with regard to any PPP arrangements are completed

In short, the preparation phase includes all of the actions required before physical construction can begin.

The duration of this phase can be quite uncertain. For large projects, this phase can last decades. Smaller projects can be much quicker in the preparation phase. However, many things may lengthen this phase. For example, in the case of land acquisition, any kind of controversy relating to ownership or compensation or resettlement can extend the timeline of the project by months, if not years.

Often, even after protracted preparation projects get dropped. PPP projects may not go through for want of private interest or inability of the potential partners to reach agreement.



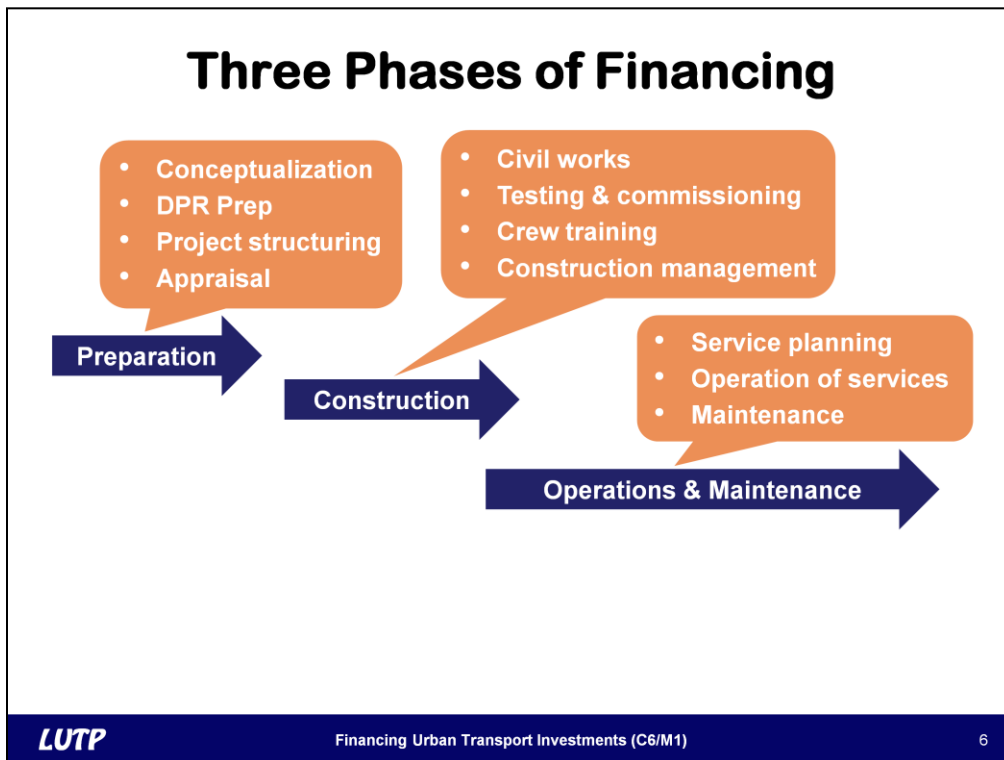
The second phase of the project cycle is known as the construction phase. This phase involves all actions relating to the physical construction of facilities, up until the time that a project is ready for operations. Thus, all civil works connected with a project occur during this phase. This phase includes:

- testing of facilities and training crew
- procurement of equipment
- construction contracts
- monitoring progress
- managing a range of contractors

Ensuring all components are considered and resolved is the main focus of this phase. Good project management capabilities are an important requirement for this phase.

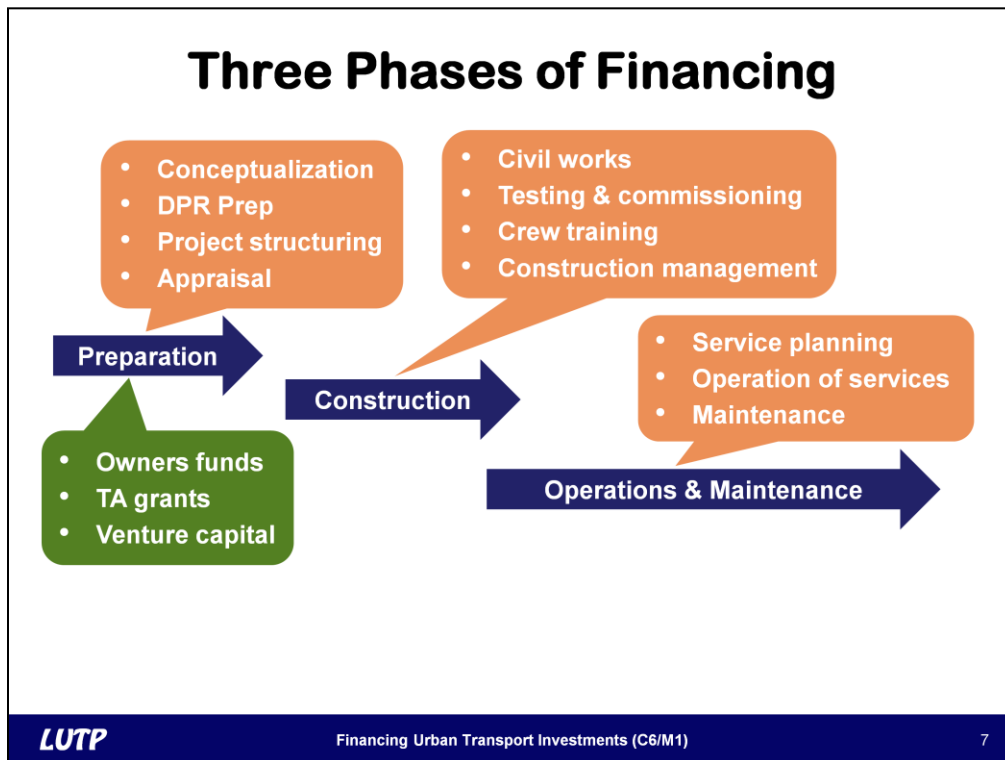
In short, all activities between the preparation phase and commencement of commercial operations are a part of the construction phase.

This phase has a more definite duration, usually linked to the nature of the project. Delays may occur if the preparation stage is ill conceived or if the project management team is unprepared, and when unforeseen events occur. Sometimes, litigation causes delays, such as disagreements with contractors, etc. Despite such uncertainties, the duration of this phase is far better defined than that of the preparation phase.



Finally, the third phase involves operations and maintenance. It is during this phase that a project starts formal operations and begins to render the services for which it was built.

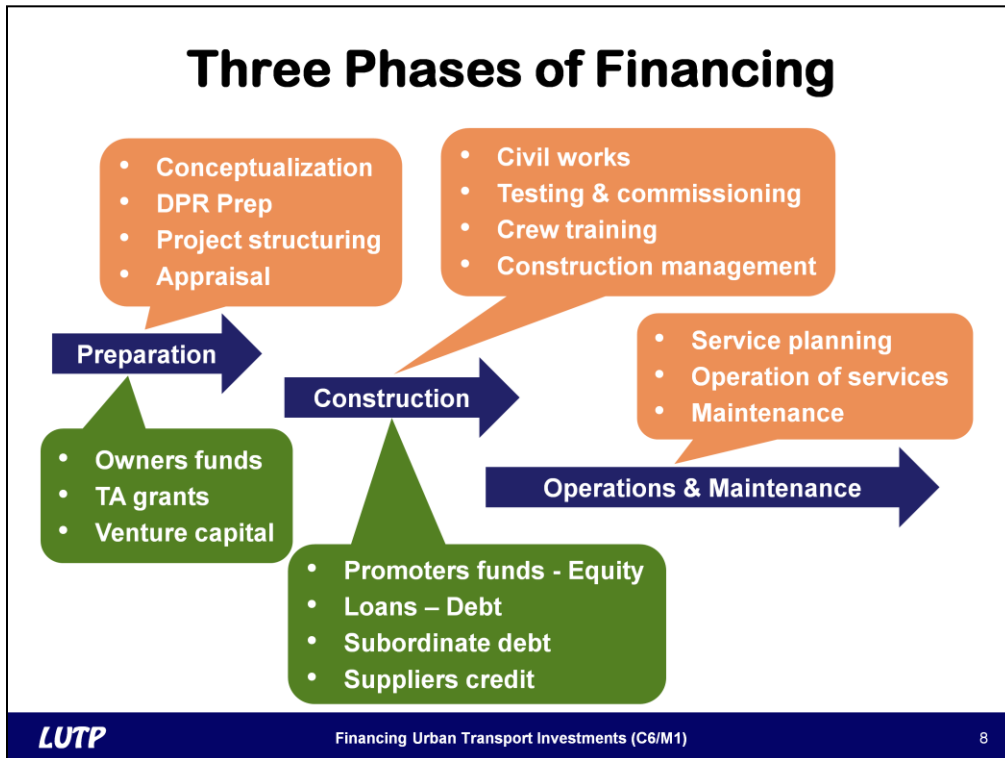
Let us now look at the nature of financing required for each of these phases.



In the preparation phase the financial needs are generally small as the only costs are the costs of conceptualization, project preparation, and structuring. These needs generally involve some amount of consultancy services and are usually only a fraction of the total project costs. Even though the financial needs are small, the risk elements are high because there is no assurance that a project will be found viable and acceptable. Because the duration of this phase is also uncertain, the risks are further enhanced.

Due to the high risk, many lending institutions are reluctant to offer funds for this phase. However, the relatively low financial needs allows most promoters to meet the costs from their own resources. Some donors provide technical assistance grants for project preparation, especially if the projects have a high public good value. Funds for potentially profitable projects may also be available from venture capital sources.

The resources for the preparation phase of public sector projects generally come out of the public budget.



Now we move to the construction phase, which is the phase which requires a high level of financing over a relatively short period of time. No revenues are earned during this period and financial needs tend to be large and in lump sum. However, the level of risk during this phase is lower as the decision to proceed with the project has usually been made at this time.

It is for this reason that the construction phase of the project is generally financed through a combination of loans and promoters funds, otherwise known as debt and equity. A debt-equity ratio of 3:1 is usually accepted for infrastructure projects. This means that 75 % of the cost could come out of debt whereas 25% must come out of equity.

Debt

- **Paid back, with an agreed rate of interest**
- **Comes from**
 - **Financial institutions**
 - **Multilateral Development Banks (World Bank, ADB, etc.)**
 - **Foreign Governments (JICA, AFD, etc.)**
 - **National / Provincial / Local Government**
 - **Suppliers credit**
 - **Advance payment from buyers**

Debt could come from financial institutions such as infrastructure financing companies, multilateral development banks, international agencies, or even the government. There are a host of possibilities and the source generally depends on the nature of the project. Highly profitable projects, where the risk of the loans being returned is low, will find financing from commercial banks and financial institutions. Projects requiring longer term funds, typically infrastructure projects, will find resources from infrastructure financing institutions that exist in several countries. Projects with very high public good value will find resources from multi-lateral development banks or the government.

Subordinate debt – or debt that needs to be paid only after all the other debt is repaid--is also a source of loan funds. It is often offered by the promoter (e.g., the government), to cover the cost of some components, like the cost of land. Sometimes, suppliers offer credit and this can also serve the purpose of debt funds. Sometimes, future beneficiaries offer advance payments (generally used for housing schemes). This is yet another form of debt fund.

Equity

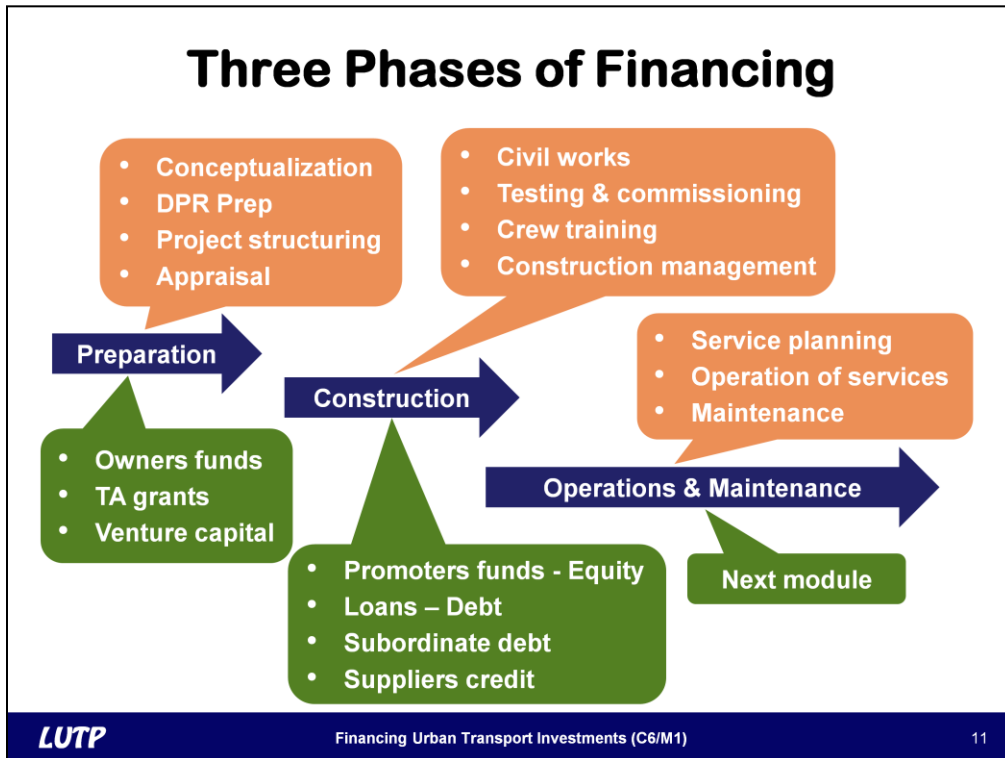
- **Not repayable like debt**
- **Equity holders expect to earn from annual dividend and increase in the value of the assets**
- **Equity contributed by**
 - **Main promoters**
 - **Other Shareholders**

Equity comes from the promoter and is not repayable, unlike debt. Promoters could be one or many. PPP arrangements could involve several promoters including public sector and private sector promoters. Public limited companies can have thousands of promoters, with some lead owners and several small shareholders.

Often new companies are set up to own and operate new projects and they have several shareholders. All these shareholders contribute to the equity of the company.

Contributors to the equity of the company are not looking for their money to be paid back with interest. Instead, they are expecting to earn much higher returns, either by way of annual dividends and/or through an increase in the value of their shareholding.

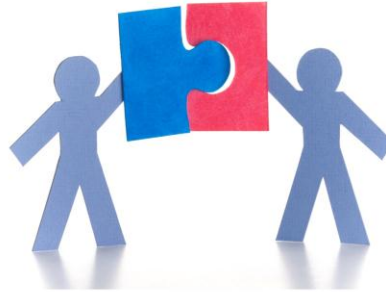
If the company does well, returns can be very high. However, if it performs poorly, there could be no returns. Thus, there is risk and equity holders must be willing to take that risk. The return to equity holders is different than the return to debt holders. Debt holders are entitled to be repaid unless the company goes bankrupt, while equity holders are only paid when the company makes a profit.



The operations and maintenance phase also requires large amounts of funding, often much higher than that of the construction phase. However, this requirement is spread over several years and the annual needs are low. We will cover further details on the approaches to financing this phase in the next module.

Ownership

- **Public sector**
- **Public Private Partnership**
- **Private sector**



Let us now look at the possible ownership patterns for such capital projects. These could either be owned entirely in the public sector or entirely in the private sector. There are also options for various shades of public-private partnerships.

Let us now look at some examples of each category of ownership.

Some Examples Public Ownership

- Most metro rail projects around the world are financed from the public budget
- City roads and flyovers
- Footpaths and cycle tracks



Most metro-rail projects around the world are financed from the public budget, with a component of debt which is also repaid from project revenues and the public budget. Similarly, roads and flyovers are generally funded from the public budget and are owned by the public sector. Footpaths and bicycle tracks also fall under public sector ownership being funded by the public budget.

Examples of Private Ownership

- Several small parking facilities
- Bus services in most cities
- Gurgaon metro (near Delhi)
- People mover systems at amusement parks
- Some public transit terminals

With regard to private ownership, small parking facilities as well as bus services in many cities are privately owned. A metro-rail system being built in Gurgaon, a suburb of Delhi, India, is primarily owned by the private sector, as it provides connectivity to a metro-rail station from several commercial buildings and complexes built by the same promoter. Several people mover systems, especially at amusement parks, have private ownership. Some public transit terminals are also financed and owned by the private sector.



Some Examples of PPP

- **Bus operations in BRT projects with infrastructure provided by Government**
- **Some metro rail projects – Manila, Bangkok, Kuala Lumpur, Mumbai**
- **Several parking projects**
- **Public Transit Terminals**
- **Fare collection systems for public transit**

With regard to examples of PPP financing and ownership, most bus operations in BRT projects are owned by the private sector with the infrastructure being provided by the government. Light rail systems in Manila, Bangkok, and Kuala Lumpur have come up as PPP arrangements, as has a metro-rail system in Mumbai. Several large parking projects have a PPP structure, as do a number of large public transit terminals. Many cities have also adopted a PPP arrangement for collection of fares or for the installation and managements of Intelligent Transportation Systems (ITS).

Public vs Private Ownership

	High Public Good Value	Low Public Good Value
High Profitability	PPP	Private
Low Profitability	Public	

In deciding the best approach for ownership and financing, we need to recognize that there are two major dimensions to any infrastructure project. One is the extent of public good value that it offers, and second is the extent of profitability that is possible. As a general rule, projects with high profitability but low public good value are best owned and financed in the private sector. On the contrary, projects with low profitability but high public good value are best financed by the public sector. Projects with both high profitability and high public good value are eminent candidates for a PPP arrangement.

Can you think of examples that have low public good value and low profitability? Who would finance such projects?

Summary



- **Discussed the nature of financing required during each phase of a project cycle**
- **Described approaches for financing capital investments**
- **Identified situations best suited to public, private and PPP financing**

In this module, we discussed the different phases of a project cycle and the financing required for each phase.

We then described different approaches for financing capital investments. These included both public and private approaches.

We then identified the characteristics of situations in which public financing, private financing, and public private partnership (PPP) financing are best used.