

Block 2: Foundations of managing urban infrastructure systems

3. The main dimensions for urban infrastructure managers

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In this session you will learn about the 5 main dimensions that urban infrastructure managers have to think about so as to ensure high quality performance of urban infrastructures, namely:

- The technical dimension
- The economic dimension
- The environmental dimension
- The social dimension
- The jurisdictional dimensions

The technical dimension

- Managing the interconnection between different infrastructures in the same sector across jurisdictions (e.g., water and wastewater pipes)
- Managing the interoperability between services and infrastructures (e.g., transport)
- Managing the limited capacities of the different infrastructures (e.g., roads, metro tracks)
- Managing an entire infrastructure system (e.g. urban energy system)
- Managing the links/interfaces between the different infrastructure systems (e.g., energy and transport, energy and communications)

The economic dimension

- Managing infrastructures in the most efficient way (e.g., electricity grid, water pipes)
- Managing for profitability, including business development and innovation (e.g., taxis, waste)
- Managing the public subsidies (e.g., public transport: buses, trains)

The environmental dimension

- Managing infrastructures in the least polluting way, given the state of technology (e.g. Public buses)
- Developing infrastructures with minimal environmental impact (e.g. roads), ideally zero environmental footprint
 - Reducing GHG emissions
 - Reducing the heavy material pollutants
 - Closed urban metabolism

The social dimension

- Providing infrastructures services in socially equitable ways (tariffs, accessibility) (e.g., drinking water)
- Providing affordable infrastructure services (e.g., public transport)
- Developing infrastructures without discriminating against poor people (e.g., landfills in poor areas)

- Operating and Developing infrastructures across jurisdictions:
 - political challenges
 - legal challenges
- Transparency (and non-corruption) in the attribution of infrastructure contracts (building, operations) (e.g., water, bus, taxi concessions)
- Accountability to customers, investors and political authorities (e.g., contract fulfillment in public transport)

Conclusion

- In this session, we have presented the 5 dimensions urban infrastructure managers have to consider in their activities
- The next session will present the main schools of thought that can be applied to the management of large urban infrastructure systems