

## Lecture-10:

# Nature of Urban Problems: Land Use, Housing, Urban Transportation, Urban Environment and Urban Poverty.

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# **NATURE OF URBAN PROBLEMS: URBAN TRANSPORTATION, URBAN ENVIRONMENT AND URBAN POVERTY.**

# TOPICS TO BE COVERED BY THIS PRESENTATION

- Urban Transportation Problems
- Mitigating Congestion
- Urban Environment
- Challenges of Urban Environment
- Urban Poverty
- Poverty and inequality in cities

# URBAN TRANSPORTATION PROBLEMS

- Cities are complex spatial structures that are supported by transport systems. The larger the city, the greater its complexity and the potential for disruptions, particularly when this complexity is not effectively managed.
- The most important transport problems are often related to urban areas and take place when transport systems, for a variety of reasons, cannot satisfy the numerous requirements of urban mobility. Nature of these problems vary from larger cities to small towns.
- Situation is still satisfactory in case of small and medium towns and in some large cities but severe in larger cities. Problems are as follows:
  - Traffic congestion and parking difficulties
  - Longer commuting
  - Public transport inadequacy
  - Difficulties for non-motorized transport.

# URBAN TRANSPORTATION PROBLEMS

- Loss of public space
  - High maintenance costs
  - Environmental impacts and energy consumption
  - Accidents and safety
  - Land consumption
  - Freight distribution
  - Traffic mismanagement.
  - Poor transportation and infrastructure planning
  - Transport system not fully integrated
  - Poor air quality due to higher vehicular emissions
  - Automobile dependency
- The Urban Transit Challenge

# URBAN TRANSPORTATION PROBLEMS

## ○ Traffic Congestion and Parking Difficulties

- Congestion is one of the most prevalent transport problems in large urban agglomerations. It is linked with motorization and the diffusion of the automobile, which has increased the demand for transport infrastructures.
- Since vehicles spend the majority of the time parked, motorization has expanded the demand for parking space, which has created space consumption problems specially in CBD areas;
- Congestion and parking are also interrelated since **looking for a parking space (called "cruising") creates additional delays and impairs local circulation.**
- In central areas of large cities cruising may account for more than 10% of the local circulation as drivers can spend 20 minutes looking for a parking spot.
- This practice is often judged more economically effective than using a paying off-street parking facility as the time spent looking for a free (or low cost) parking space as compensated by the **monetary savings.**

# URBAN TRANSPORTATION PROBLEMS

## ○ Longer Commuting

- On par with congestion people are spending an increasing amount of time commuting between their residence and workplace.
- An important factor behind this trend is related to residential affordability as housing located further away from central areas (where most of the employment remains) is more affordable.
- Therefore, commuters are **trading time for housing affordability**. However, long commuting is linked with several social problems, such as **isolation, as well as poorer health (obesity)**.



## ○ Public Transport Inadequacy

- There are very limited Public Transport System in urban areas. Bangladesh Road Transport Corporation (BRTC) is no more subsidized as it became private in 1993. Now, 90% of this corporation is in private sector and 10% in government sector.
- They are doing profits, but there is no data on the amount of profit.
- It is required more public transport against private transport to bring balance in transport system.

# URBAN TRANSPORTATION PROBLEMS

## ○ Difficulties for non-motorized transport

- These difficulties are either the outcome of intense traffic, where the mobility of pedestrians, bicycles and vehicles is impaired, but also because of a blatant lack of consideration for pedestrians and bicycles in the physical design of infrastructures and facilities.
- In Urban areas, both motorized and non-motorized vehicles occupy the same streets at the same time. Their speed is different and that is why it creates congestion on that particular street.
- Most of the rickshaw “pullers,” or drivers, do not have any training and they are not even aware of the traffic rules and regulations.

# URBAN TRANSPORTATION PROBLEMS

## ○ Loss of Public Space

- The majority of roads are publicly owned and free of access. Increased traffic has adverse impacts on public activities which once crowded the streets such as markets, agoras, parades and processions, games, and community interactions.
- **Traffic flows influence the life and interactions of residents and their usage of street space.** More traffic impedes social interactions and street activities. **People tend to walk and cycle less when traffic is high.**

# URBAN TRANSPORTATION PROBLEMS

## ○ High Maintenance Costs

- Cities with an aging of their transport infrastructure are facing growing maintenance costs as well as pressures to upgrade to more modern infrastructure.
- In addition to the involved **costs, maintenance and repair activities create circulation disruptions.** Delayed maintenance is rather common since it conveys the benefit of keeping current costs low, but at the expense of higher future costs and on some occasion the risk of infrastructure failure.
- The more extensive the road and highway network, the higher the maintenance cost and the financial burden.

# URBAN TRANSPORTATION PROBLEMS

## ○ Environmental Impacts and Energy Consumption

- Pollution, including noise, generated by circulation has become a **serious impediment to the quality of life and even the health of urban populations.**
- Further, energy consumption by urban transportation has dramatically increased and so the dependency on petroleum. Yet, peak oil considerations are increasingly linked with peak mobility expectations where **high energy prices incite a shift towards more efficient and sustainable forms of urban** transportation, namely public transit.

# URBAN TRANSPORTATION PROBLEMS

## ○ Accidents and safety

- Growing traffic in urban areas is linked with a growing number of accidents and fatalities.
- **Accidents account for a significant share of non-recurring delays. As traffic increases, people feel less safe to use the streets.**

## ○ Land Consumption

- The territorial imprint of transportation is significant, particularly for the automobile.
- In Dhaka City, there **are only 1286 km of road which is nearly 6 percent of overall the city area**. This smaller amount of road is not properly arranged and functioned at all. On the other hand, there have so many geometric and regulatory deficiencies

## ○ Freight Distribution

- Globalization and the materialization of the economy have resulted in **growing quantities of freight moving within cities**. As freight traffic commonly shares infrastructures with the circulation of passengers, the mobility of freight in urban areas has become increasingly problematic.
- City logistics strategies can be established to mitigate the variety of challenges faced by urban freight distribution.



## ○ Traffic mismanagement.

- Insufficient number of traffic police and traffic signals, flaws in traffic markings, violation of traffic rules and regulations etc. can also be cited as some of the main reasons for traffic congestion in this city. Following points are discussed here under traffic mismanagement system
- Violation of traffic rules and regulations
- Improper implementation of traffic rules
- Encroachment of roads and sidewalks
- Unplanned road design
- Lack of integration among regulatory authorities

## ○ **Poor Transportation and Infrastructure Planning**

- Unplanned growth of the city
- Improper and inadequate public transport system
- The presence of road and rail line on the same ground level
- Inadequate parking facilities

## ○ Transport System Not Fully Integrated

- Non integrated transport system : **road, rail and water are act separately and on is developing but other deteriorating.**
- Thus although rail and water transport is generally more efficient than road transport because of their higher energy efficiency and better labor productivity, this fact by itself cannot ensure greater use of these modes. In most of the cases **they alone cannot provide door-to-door services.**

# URBAN TRANSPORTATION PROBLEMS

- **Poor Air Quality Due to Higher Vehicular Emissions**
  - Around 1000 MT of pollutants are pumped into the environment every day in Dhaka, of which 70% comes from vehicles, followed by industrial units, garbage and other biomass burning by the slum dwellers and burning of coal and wood by the large number of brick fields in and around the city.

# URBAN TRANSPORTATION PROBLEMS

## ○ Automobile Dependency

- Automobile use is obviously related to a variety of advantages such as on **demand mobility, comfort, status, speed, and convenience**. These advantages jointly illustrate why automobile ownership continues to grow worldwide, especially in urban areas. When given the choice and the opportunity, most individuals will prefer using an automobile.
- Two major factors contributing to automobile dependency are: **Underpricing and consumer choices**. Most road infrastructures are subsidized as they are considered a public service. Consequently, drivers do not bear the full cost of automobile use. Single home ownership also reinforces automobile dependency.
- **Planning and investment practices**. Planning and the ensuing allocation of public funds aim towards **improving road and parking facilities in an ongoing attempt to avoid congestion..** In many cases, zoning regulations impose minimum standards of road and parking services and de facto impose a regulated automobile dependency.

# MITIGATING CONGESTION

- **In automobile dependent cities, a few measures can help alleviate congestion to some extent:**
  - **Integrated Traffic Management**
  - **Traffic signal synchronization.** Tuning the traffic signals to the time and direction of traffic flows. This is particularly effective if the signals can be adjusted on an hourly basis to reflect changes in commuting patterns.
  - **Incident management.** Making sure that vehicles involved in accidents or mechanical failures are removed as quickly as possible from the road. Since accident on average account between 20 and 30% of all the causes of congestion, this strategy is particularly important.
  - **Car Ownership Restrictions.** Several cities and countries (e.g. Singapore) have quotas in the number of license plates that can be issued or require high licensing fees. To purchase a vehicle an individual thus must first secure through an auction a license.

# MITIGATING CONGESTION

- **Carpooling.** Concerns two issues. The first and most common is an individual providing ridership to people (often co-workers) having a similar origin, destination and commuting time. Two or more vehicle trips can thus be combined into one. The second involves a pool of vehicles (mostly cars, but also bicycles) that can be leased for short durations when mobility is required. Adequate measures must be taken so that supply and demand are effectively matched.
- **HOV Lanes.** High Occupancy Vehicle (HOV) lanes insure that vehicles with 2 or more passengers (buses, taxis, vans, carpool, etc.) have exclusive access to a less congested lane, particularly during peak hours.
- **Congestion Pricing.** A variety of measures aimed at imposing charges on specific segments or regions of the transport system, mainly as a toll. The charges can also change during the day to reflect congestion levels so that drivers are incited to consider other time periods or other modes.

# MITIGATING CONGESTION

- **Parking management.** Removing parking or free parking spaces can be an effective dissuasion tool since it reduces cruising and enables those willing to pay to access an area (e.g. for a short shopping stop).
- **Public transit.** Offering alternatives to driving that can significantly improve efficiency, notably if it circulates on its own infrastructure (subway, light rail, buses on reserved lanes, etc.) and is well integrated within a city's development plans. However, public transit has its own set of issues (see next section).
- **Non-motorized transportation.** Since the great majority of urban trips are over short distances, non-motorized modes, particularly walking and cycling, have an important roll to play in supporting urban mobility. The provision of adequate infrastructure, such as sidewalks, is often a low priority as non-motorized transportation is often perceived as not modern in spite of the important role it needs to assume in urban areas.

All these measures only partially address the issue of congestion, as they alleviate, but do not solve the problem. Fundamentally, congestion remains a failure at reconciling mobility demands and acute supply constraints.



# URBAN ENVIRONMENT

- Megacities, secondary, small growing towns and coastal urban centres of Bangladesh are subjected to climate change, environmental hazards and disaster risks.
- Effects of climate change, environmental degradation and disaster further threaten the lives, livelihoods, assets, environmental quality and economic gains of city dwellers particularly the urban poor.
- Policy and planning are not adequately responsive to the dynamic interrelations and the combined impacts of climate change, environment and disaster risk (CCED) in the different sectors, socio-economic strata of population, and hazard specific geographical areas.

# URBAN ENVIRONMENT

- Bangladesh's cities are ill-equipped to absorb population influx as a result of outdated, ineffective, and poorly implemented urban planning. Only the four largest cities of Bangladesh have development authorities responsible for the city planning, and these plans have been poorly implemented due to a lack of political will and institutional capacity

# CHALLENGES OF URBAN ENVIRONMENT

- The coastal belt of Bangladesh, particularly the coastal city areas are already vulnerable to a series of human induced and climate change related hazards.
- The incident of saline water intrusion, water-logging, rural-urban migration due hydro-metereological hazards, such as cyclones, storm surges, is now a concern to policy makers and academics.
- Bangladesh as whole is vulnerable to climate change, but as a region the coastal belt of Bangladesh is the most vulnerable part of the country
- To address the spatial characteristics of coastal dynamics and cope with the long-term effect of climate change, the policy guideline and institutional setting of the country should give priority consideration to coast and coastal cities as a different entity.

# URBAN ENVIRONMENT AND CLIMATE CHANGE

- Massive investment in basic services is needed to improve the sustainability in decentralized urban development
- The energy efficiency of transport system should be addressed and monitored. Energy efficient building designs and building materials should be promoted to reduce greenhouse gas emission.
- Solid waste can be used as a resource, as demonstrated in many cities
- Need more capital spending on urban infrastructure.
- Give priority to better urban planning and management of urban development, improvements to environmental management & better environmental governance

# URBAN POVERTY

- Urban poverty is a multidimensional phenomenon. The urban poor live with many deprivations. Their daily challenges may include:
  - limited access to employment opportunities and income,
  - inadequate and insecure housing and services,
  - violent and unhealthy environments,
  - little or no social protection mechanisms, and
  - limited access to adequate health and education opportunities.
- For the first time in history more than half the world's people live in cities. **Over 90 percent** of urban growth is occurring in the developing world, adding an estimated 70 million new residents to urban areas each year. During the next two decades, the urban population of the world's two poorest regions—South Asia and Sub-Saharan Africa—is expected to double.

# POVERTY AND INEQUALITY IN CITIES

- Governments should continue to invest in slum upgrading and low-cost housing, and to upscale pilot projects into national programs
- Governments should review urban land policies to make residential land more accessible and affordable to low and middle-income households
- Local authorities should avoid unlawful evictions which destroy the social fabric of poor neighborhoods. Slum eradication, where necessary, should be combined with fair relocation and compensation schemes
- People's process of housing and slum improvement should be encouraged by all levels of government through training, financial incentives and legal recognition.
- Government should take necessary steps to ensure safe water supply and to ensure improved sanitation for all residence, and monitor progress on a regular basis.

# WHAT WE HAVE COVERED....

- Urban Transportation Problems
- Mitigating Congestion
- Urban Environment
- Challenges of Urban Environment
- Urban Poverty
- Poverty and inequality in cities

# WHAT WE LEARNT

- Understanding of the urban transportation problems, Urban environment and urban poverty in context of Bangladesh.



Thanking YOU

# What Next?

## Lecture 11:

The Urban Public Sector: Urban Fiscal Problems, Methods of Financing Urban Government Expenditures.