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This module reviews the socio-economic dimensions relevant for the urban transport sector. We will focus on the context of economic development and poverty reduction in developing countries.

In particular, the module’s objectives are to:

- Present the main socio-economic dimensions relevant for urban transport
- Identify the main stakeholders whose needs and transport constraints should be considered in planning and providing urban transport
- Review the factors to consider for ensuring an accessible and inclusive provision of urban transport
Socio-economic characteristics influence travel demand, as well as users’ ability to access resources, opportunities, and activities in the economic, social, and health sectors. Contributing socio-economic characteristics include:

- Household size
- Household structure
- Income level
- Fare levels

Socio-economic considerations to make transport accessible and inclusive are generally not given significant focus in transport planning, design, construction, and implementation in developing countries. This can create greater challenges for vulnerable groups to benefit from economic development and to come out of poverty.
Lack of access to urban transport can lead to four types of exclusion, which tend to reinforce each other: spatial, temporal, personal, and economic:

- **Spatial exclusion** usually occurs in low(er)-density areas where public transport operation is not financially viable, or in urban peripheral areas where services are less frequent or demand for services is often higher than supply.
- **Temporal exclusion** refers to the problems faced by travelers mainly late at night or very early in the morning and often at weekends when service is nonexistent or infrequent.
- **Personal exclusion** is based on individual characteristics such as gender, age, ethnic background and religion, illness or disability that may constrain people’s mobility and access to transport, whether private, public, or non-motorized forms such as walking and cycling.
- **Economic exclusion** refers to the inability of people to pay for transport costs.
In many developing countries, low income groups that are excluded face similar challenges: walking is often the only option available, followed by informal transport services and non-Motorized forms of Transport (NMTs). The travel environment for pedestrians and non-motorized transport can be unsafe, declining, or non-existent.

This trend is particularly unfavorable for the urban poor as they are typically “captive riders”, meaning that they cannot afford an alternative and are often dependent on public transit for access to employment or dependent on walking as their main mode of transport to meet their daily needs. Likewise, car-dependent systems isolate the young, the elderly, many women, and anyone who does not drive or have access to a car.
There is a growing amount of literature and evidence regarding women and their use of transport. This evidence shows that gender issues must be considered in urban transport planning.

Often women and men have different social and economic roles and activities, regarding household and caretaking responsibilities. For women, transport provides access to various resources and opportunities, such as employment, childcare, education, health and political processes. Social factors such as status, residential location and type of livelihood also play a role.

As a result of their differences, women and men also have different trip patterns and mobility constraints, resulting in gender differences in mode of transport used as well as travel patterns in relation to trip purpose, frequency, and distance of travel.
Walking remains the predominant mode of travel for many women in developing countries as other transport modes are often not available because they are either too expensive or located inconveniently and far away.

In urban areas, women’s essential trips are dispersed in time and location. Whether in urban or rural areas, women tend to make more complex and more trips than men.

Women tend to have access to fewer transport choices, thereby limiting the number and purposes of trips they make. In particular, women tend to have lesser access to private motorized modes of transport and must rely more on public transportation for their mobility. In addition, high costs of private transport forces the poor, especially women, to wait for publicly operated bus services.

Most urban transport systems are not designed to respond to women’s needs to combine multiple trips, many at off-peak hours and off the main transport routes.

Cultural acceptance, personal safety and the avoidance of harassment are also major concerns for women in relation to accessing and using transport. Women who have difficulty in accessing transportation often travel longer or use more inconvenient and physically exhausting modes of transport, thereby spending more time traveling. This results in in women carrying a greater transport burden than men. Sexual harassment can discourage women from traveling, particularly at night.
This graph helps illustrate the fact that women rely on public transport to attend a broader range of activities. It also shows that while men and women who work outside the home tend to travel longer distances to their workplaces, most women generally make trips to places that are clustered in their neighborhoods and districts.

Many activities typically undertaken by women (including childcare, household management, informal sector employment, and so on) require them to make more frequent and shorter trips than are required of men. They make more trips at off-peak hours and more trips that are off the main routes, and engage in more complicated multileg trips, all of which tend to make their movements relatively expensive for public transport to provide, trips. Therefore, trips become more highly priced or more poorly supplied.

The graph shows that men’s destinations (across income levels) are concentrated mainly around the workplace, followed by visits to friends and family and school. On the other hand, women’s key destinations are market and visits to family and relatives, which they make at significantly higher percentages than the men of their corresponding income levels. Trips to the market are outstandingly frequent for women across income levels, but women of lower income go to markets in greater numbers. Women’s trips to the health center (hospitals and clinics) are also more frequent than men’s.
A recent review of Brazil's household expenditure survey for 2002-2003 offers insight into the transportation spending habits of both women and men.

In urban areas, the data shows that men tend to spend more resources on items related to private modes of transport (such as gas, toll, carwash etc). In comparison, women tend to spend more on average on public transport modes (such as buses, both formal and informal, the metro, and intermediate modes of transport such as taxis). The results showed that 65% of all women used public buses during the week whereas public buses were used by only 42% of men.
Men's and women's differing demands for public transportation result in very different patterns. Women’s transportation needs are more spread throughout the day than those of men.

The graph shows four disaggregated groups, comparing socioeconomic levels by gender. It also compares males vs. females across socioeconomic levels. The comparison by gender at each socioeconomic level shows that upper income males use more transport than women before the hour of nine in the morning, and after seven in the evening. Between nine in the morning and seven in the evening, women tend to travel more than men.

In fact, women’s trips between 9am and 6pm, exceed those of men for all socioeconomic levels. Men’s travel tends to be concentrated during the peak hours of the morning and evening.
Across countries, evidence shows that cultural factors can significantly constrain women’s abilities to use public transport and non-motorized modes of transport such as bicycles.

Personal safety is an issue of concern for women using public transport, especially after dark, which may force them to depend on more expensive alternatives. Residing in a peripheral location may be particularly damaging to women’s employment potential as they are even more likely to lack access to reliable transportation.

A study regarding transport services and its gender aspects in Lima (Peru) shows that women’s valuation of attributes of transport services and infrastructure is different from that of men. Women rank the attribute “social safety” much higher than men. Both men and women assign a very high priority to road safety (#2) but assign quite different rankings to personal security (#1 for women vs. #5 for men). For women, personal security includes not only the risk of theft, but also the risk of being sexually harassed or molested while on the public transport unit.

Comfort is another area where differences arise. Women link comfort to the idea of traveling seated and to the ease with which they can travel with children or packages. Finally, men stress the importance of speed and the need for organization (schedules, routes and stops) that will help them reach their destination more quickly.
There are a number of measures that can improve women’s safe access to urban transport:

- Since women travel mostly on foot, the pedestrian environment should be safe and accessible.
- Times and frequency of operation of buses and taxis should be reviewed to help women access specific destinations such as markets, educational and employment facilities, administration offices and services.
- Affordable service options should be provided during off-peak hours and to allow for multi-chain trips.
- When designing public transport fleet and facilities, women’s concerns about personal security risks at transportation facilities should be considered. The safety of parking lots, buses, and bus stops is essential to women’s travel, and often affects the way women decide to travel.
- Promoting adequate intermediate and non-motorized modes of transport can also help meet women’s travel needs.

Women-only subway cars, buses, and train cars have been introduced in many countries, including Japan, Brazil, Egypt, Mexico, India, Belarus, and the Philippines. These modes of transport are useful in helping to combat sexual harassment. Public transport options that are “Women’s Only” can be a step toward making public transport safer—however, it does not fix everything.

Providing separate access to public transport usually implies greater costs, and may not be applicable to the full continuum of transport services. Separation of men and women in public transport can also be seen as a throwback in the fight for women’s equal access to public transportation. There can also be increased risk for women who ride in mixed cars or an increased perception of risk for a woman traveling alone in women-only cars.
Inclusive transport planning must also focus on measures to include people who are elderly or who have disability.

Almost everyone will face temporary or permanent disability at some point in life; those who live to old age will experience increasing difficulties in functioning, which often leads disability. Global prevalence of disability is 15%, higher than previous WHO estimates. Disability is any decrease in functioning, which means that every person can potentially be disabled during their lifetime. The first ever World Report on Disability (2011), produced jointly by WHO and the World Bank, suggests that disability affects more than one billion people in the world today.

The UN Convention on the Rights of Persons with Disabilities (CRPD) brings new momentum to reducing barriers in the transport environment. Entered into force in May 2008, the Convention is an international benchmark and binding Human Right treaty. Governments must develop guidelines to make public facilities and services accessible (article 9 (2) (a)). The CRPD also serves as a tool for engaging country counterparts in inclusive development policies and projects, particularly for those countries that have signed or ratified the CRPD. Obligations of the CRPD stipulate that members who have ratified the Convention must progressively adapt their laws and regulations to the principles of the CRPD. Countries must submit their first report to the UN two years after ratification, and every four years thereafter.
There are many examples in today’s urban environment of barriers that limit accessibility for people who are disabled, elderly, or have limited mobility.

In transport systems, these barriers are often found in infrastructure, vehicle design, and information provided to passengers. Examples include inaccessible and unsafe road crossings and bus stops, lack of accessible sidewalks, and physical obstacles. Some of these examples are represented by pictures on the slides.
Mobility and access requirements for people with disabilities should be understood in the wider context of providing barrier-free transport systems for all.

There is a continuum of interventions available for making transport accessible to all users, ranging from upgrading the pedestrian infrastructure (e.g. the improvements of footbridges and inclusion of Universal Design in all new projects) to interventions that focus on major commute corridors with highest volume of travelers, local neighborhoods, and service access near corridors.

In many situations low cost improvements such as curb insets at street corners, ramps to public buildings, and larger letters on bus destination signs can bring disproportionate benefits. Most interesting are those interventions which bring benefits to all passengers, creating a “win-win” opportunity for other groups including women, children, and the elderly.
Examples of good practice for making urban transport accessible can be found in both developed and developing countries.

This slide show examples of good practice for:

- Mitigating the gap from platform to bus
- Well-designed grab bars and handles to assist people who are less mobile
- Large brightly colored signage to help people who are partially sighted
- The provision of curb cuts to make road crossing easier for people in wheelchairs
- Tactile strips on station platforms to assist people who are blind
- Designing sidewalks to meet broad user needs, as well as the removal of obstacles

“Enabling transport for persons with reduced mobility” should take place across all components of the travel chain—including the pedestrian environment, buildings, and public transport. One way to begin is with ‘service routes.’ A city might phase in accessible services in stages to make the public transport system increasingly more inclusive. Options include:

- Phasing in tools such as accessible ramps
- Using lift-equipped vans or small buses to connect key points within the existing public transport system (including medical facilities, day centers, care homes etc)
- Developing a fully accessible travel chain from door to door
Inclusive design elements can be incorporated to serve the universal needs of all passengers, including the needs of people with disability.

Bus Rapid Transit Systems (BRTs) in Brazil, Columbia, Ecuador, Mexico, Chile, Indonesia, Tanzania, and China are good examples of these opportunities.

Specific features that can be added through the flexibility of BRTs include:

- Use of station platform heights that are aligned to the bus height
- Gentle ramps
- Precision docking
- Fare cards for passengers with special needs
- Accessible turnstiles
- Traveler information that meets the needs of passengers with vision and hearing disabilities
- Vehicle interior configuration, including non-skid flooring, priority seating, contrasting color, and handrails
Integrating social dimensions in urban transport to benefit all users requires that three main aspects are considered:

1. The affordability of transport modes. Can users afford to use the systems in terms of fare costs and other direct costs; and which costs are prohibitive in terms of preventing them from using certain modes?

2. Transport Accessibility: Can users access the infrastructure available? Can users rely on them when needed?

3. Quality and personal security: Are the public services and facilities of quality? Can people safely use them?
A critical aspect for improving accessibility of urban transport across socio-economic groups rests in assessing user needs.

Acquiring conclusive data on the preferences, needs, and habits of users and non-users can help understand trip chain requirements for designing fully accessible transport systems. It can also provide demand-driven service delivery.

Travel surveys must collect data beyond that of origin and destination to include data on all users’ needs such as:

- Data on groups that do not travel (seeking to understand the factors that explain why these groups do not travel)
- User’s willingness to pay for better transport
- Mode shares at various levels of service to reflect mode splits and bottlenecks

Also, the impact of transport systems should be measured in terms of accessibility and on the mobility of urban residents and their related access to labor markets, economic opportunities, and access to services.
Stakeholder consultations at various phases of a project cycle play an important role in generating knowledge about user groups and their socio-economic constraints.

Focus group discussions and interviews in the context of the Liaoning urban transport project in China revealed that most men and women walk, use bicycles or public transport, and do not own motorized vehicles. The discussions also showed that most men and women use transport for their livelihoods, not for social visits, entertainment, going to school, or traveling to health centers/hospitals.

The needs expressed by local people, particularly women, changed the initial project design towards improvement of secondary roads, traffic management, sidewalks and crossings, public transport services, and street lights.

Key transport issues for local people were poor secondary road pavement and drainage, poor sidewalk and road facilities, lack of separation between the motor vehicle and non-motorized vehicle users of the road, and the lack of street lighting and signage. Women were even more dissatisfied with the transportation system than men. Of particular concern to the women were issues of safety and security including poor lighting, long waits for buses due to infrequent service, and lack of pedestrian walkways and crossings.

The figure above reports the female dissatisfaction level with the current transport system.
The growing needs of urban travel in a rapidly motorizing context in many developing countries suggest the elaboration of mobility solutions that need to be multi-dimensional and sectoral in nature. As such, new tools and measures will be needed for assessing the needs and constraints of urban travel and are of paramount importance.

Maps and aerial photographs provide an important, low-cost, efficient tool for assessing effects on access. They allow identification of specific origins and destinations, barriers, and potential bottlenecks.

The map featured here (City of Montreal, Canada) is an example of a map used as an innovative tool for assessing accessibility in urban areas through accessibility measures. These measures were developed to monitor the impacts of different urban infrastructure projects as well as to examine how alternatives for land use and transport policy affect accessibility to jobs. The map also showcases the use of GIS and Remote Sensing techniques for urban development modelling, analyses, and assessment.
Socio-economic considerations are not generally given high enough importance in urban transport planning.

Focus is instead on ‘formal’ travel needs, such as journeys to work, which tends to reduce opportunities for other groups such as women, children, people who are elderly, and people with disability.

Analysis of informal and non-work trips is relevant for determining access of all users to off-peak activities, services such as health and education, shopping, location of facilities/services, off-peak availability of public transport services, and issues of road safety and security.

Addressing these issues often leads to changes in perception of the problems, as well as the need to engender and make changes in project design.

Improving sidewalks and street crossings should be an early priority to enhance mobility. Over time, all new construction should be based on designs that incorporate accommodations for persons with disabilities.

Ensuring greater accessibility, with easier and safer transport, especially in and around low-income settlements can benefit the poor, women, the elderly, and the disabled and will be accompanied by greater mobility.