# Data Requirement and Availability

## TO MEASURE INDICATORS DEVELOPED FOR LCMP

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IIT Delhi

# Overview of Indicators developed

1. **Mobility and accessibility- Modal shares**
2. **Mobility and accessibility- Travel time**
3. **Mobility and accessibility- Trip length**
4. **Mobility and accessibility- land use parameters**
5. **Infrastructure quality, ease and comfort**
6. **Safety**
7. **Security**
8. **Affordability**
9. **Environmental impacts-Emissions, Fuel consumption**
10. **Environmental Impacts-land resource depletion**
11. **Health Hazards**
12. **Economic Indicators**

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# Measuring indicators requires Detailed HH surveys and Modelling exercise

- All modes
  - pedestrians,
  - bicycles,
  - public transport (bus formal),
  - public transport (tempos),
  - para-transit (cycle rickshaw),
  - para-transit (auto),
  - motorized two wheeler and
  - cars

- Across all sections of society
  - Slum dwellers,
  - Within the slums, of households living in katcha housing
  - Recent migrants to the city and temporary migrants to the city
  - Households living in relocated sites
  - SC households
  - Minority groups
  - street vendors etc.
  - Where required the data should also be disaggregated by sex.

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# City profile

| Data required | Description | LCMP | CMP |
|---|---|---|---|
| Location | Geographical location | Y | Y |
| | **Climatic condition** | Y | |
| Land area | Total land area | Y | Y |
| | **Growth pattern (Municipal corporation- Master plans)** | Y | |
| | **Identification of notified areas (Master plans)** | Y | |
| Regional linkages | | Y | Y |
| Demography | Population growth trend | Y | Y |
| | Number and size of HH | Y | Y |
| | **Age-sex pyramid (census)** | Y | |
| Socio-economic data | **Population by social group* (census/NSSO)** | Y | |
| | Population by income/expenditure at zone | Y | Y |
| | Vehicle ownership by social group | Y | Y |

- Climatic condition
  - To build climate adaptive measures
- Growth pattern in previous years
  - To determine distribution of activities in BAU and alternative scenarios
- Identification of notified areas
  - These are the restricted areas where the urban dynamics of distribution of activities does not occur
- Age-sex pyramid
  - This determine number and type of trips likely to occur (education, work, etc.)
- Population by social group
  - This factor is important for inclusive planning in cities

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# City structure

| Data required | Description | LCMP | CMP |
|---|---|---|---|
| Land use pattern | Map | Y | Y |
| Population density | Disaggregated at the level of study | Y | Y |
| **Mix intensity** | **Determined by job-housing ratio or balance in a zone or level of study** | Y | |
| Land consumption by land use | | Y | Y |

- Mix intensity
  - It is an important component of urban form having impact on
    - trip length,
    - number of trips and
    - thereby mode choice.
    - Data sources- Housing (Census) and Jobs (ITO/NSSO)

# Transport Network Inventory - Pedestrians

## Along Road

| Name of road | Width of footpath (m) | | From | To | Length (km) | Encroachment/ other barriers | Pavement condition | Lighting | | Clear marking | Segregation tools to separate footpath from MV lane | Barrier free design |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | L | R | | | | | | Left | Right | | | |
| | | | | | | Parking/ vendors/trees/ light poles/ other services | Rated | y/n | y/n | Direction/property/ zebra crossing/ intersect... | kerbs/ green belt/ fences/ etc. | Access at entry/ guiding tiles/ audible |

## At Intersection

| Name of intersection | Type of intersection | Type of crossing | Signalized | Pedestrian accentuated signal | Traffic calming tools | Crossing distance | Barrier free access |
|---|---|---|---|---|---|---|---|
| | At grade/ flyover/ clover leaf, etc. | Level/ raised/ grade separated | y/n | y/n | Rumble strips/ speed breakers | | guiding tiles/ audible pedestrian crossing |

# Transport Network Inventory – NMV

| Along Road | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Name of road | Width of NMV lane (m) | | From | To | Length (km) | Encroachment | Pavement condition | Lighting | | Clear marking | Segregation tools to separate NMV lane from other modes |
| | L | R | | | | | | L | R | | |
| | | | | | | Parking/ vendors | Rated | y/n | y/n | Direction/ property/ intersection | In existing CMP from footpath only |

| At Intersection | | | | | | | |
|---|---|---|---|---|---|---|---|
| Name of intersection | Type of intersection | Type of crossing | Signalized | NMV accentuated signal | Traffic calming tools | Crossing distance | Other facilities |