Pahunch!

Equitable Accessibility for Low-income settlements

India’s Low-Income Urban Settlements
How livable, inclusive and accessible are they?
According to URDPFI guidelines,

1. Location of a settlement contributes to growth and functionality of settlements.

2. Planning (Transport systems & mobility) should enable people living in all areas to use advantages of the city and its facilities.

3. ‘Accessibility’ is the dominant factor that influences growth and functionality of urban settlements

There are multiple other standards and policies that advocate for inclusive and equitable accessibility in urban areas. SDG, NMSH Parameters, NUTP 2006, TOD Policy, SLB for Transport etc. which have been considered in the study.
Hierarchy of Spatial Accessibility

**Intra-neighborhood access**
- To access road, to home, shop, to office, to park, to shop etc. etc.

**Access to Mobility options**
- To plan a bus network
- To plan a metro network

What is this accessibility re we talking about today!

Thematic areas and Indicators of Accessibility
We visited 16 residential areas mostly located in two districts of South Delhi, to examine the accessibility parameters in Delhi.

As per 8 revenue land categories, only 1/3rd of Delhi’s population lives in 29% planned standard settlements (MPD 2021).

Complex mix of existing low-income residential areas of Delhi

Source: Economic Survey of Delhi 2019-20, MPD 2021, revenue Department of Delhi, Circle rates
Organic Unplanned low-income settlements are mostly built up (avg. 89% built-up)

Low-income Planned settlements have relatively better built-up to open space ratio (avg. 77% built-up)

Planned settlements conform to most MPD norms and have a balanced built-up ratio (avg. 63% built-up)
Built form, degree of compliance with standards, legality, land ownership, land price, population density highlights three characteristically different areas

<table>
<thead>
<tr>
<th>Income Group</th>
<th>Low-income areas A</th>
<th>Low-income areas B</th>
<th>High-income areas</th>
<th>Source</th>
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<tbody>
<tr>
<td>Settlement structure</td>
<td>Unplanned</td>
<td>Somewhat planned</td>
<td>Planned</td>
<td>GIS, MPD gazette notifications</td>
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<td>Compliance with standards</td>
<td>-</td>
<td>As per MPD norms for sub standard areas and LIG/EWS areas</td>
<td>As per MPD Norms</td>
<td>Economic Survey of Delhi 2019-20, MPD 2021</td>
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<tr>
<td>Formal recognition under ambit of MPD</td>
<td>Formal</td>
<td>Formal</td>
<td>Formal</td>
<td>MPD 2021, amendments, MPD gazette notifications of DDA</td>
</tr>
<tr>
<td>Land ownership</td>
<td>yes</td>
<td>Yes</td>
<td>yes</td>
<td>Economic Survey of Delhi 2019-20</td>
</tr>
<tr>
<td>Cost of land</td>
<td>land value of Rs 23,280 per sqm</td>
<td>land value Rs 70,080 to Rs 23,280 per sqm</td>
<td>land value Rs 70,080 to Rs 46,200 per sqm</td>
<td>Revenue Department of Delhi, Circle rates</td>
</tr>
</tbody>
</table>
5 key findings from our on-ground assessment
Differences in Area level Equity - Low-income areas have higher built-up but other areas have high share of qualitative spaces

Within Kalkaji District

- Low-income areas as Jawaharlal Nehru camp, Govindpuri, and Tughlakabad Extension had 1.4 to 1.2 times more built-up inhabiting 2 to 3 times more people per unit space compared to its counterpart.

- On other hand planned settlements like Greater Kailash I and CR park had more qualitative open spaces as park, playground and more area on roads

<table>
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<th>Low-income settlements</th>
<th>Other settlements</th>
<th>Standard (MBBL 2016, URDPFI, MPD 2021)</th>
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</table>
| Population Density (pph)| 700-1400               | 300-400          | 900 pph for sub-standard areas
|                         |                        |                  | Rest – 300-400 pph                    |
| % area on roads         | 4%- 12%                | 19%-24%          | URDPFI - 25-35%                       |
| % area on open spaces   | 1%- 11%                | 11%-24%          | MPD 2021 – 20- 30%                    |

Multiple source: Census, DUAC reports, revenue Department Delhi, Electoral list of Delhi
Differences in Built form with Kalkaji District

Low Income Areas
City wide Connectivity of settlements

- **Existing Delhi Metro network** with access distance of 800 mts.

- **Delhi Bus network** with walkable distance of 400 mts.

Settlements and their connectivity with Arterial roads
Lack of direct access to functional arterial roads

These areas didn’t have a direct access road connecting the settlement to arterial road and for areas that had, either it was blocked or diverted to facilitate through traffic

1. The low-income areas Jawaharlal Nehru camp, Govindpuri, and Tughlakabad Extension do not have direct connectivity and adequate last mile connectivity to arterial road and transit network. Often they have to be dependent on multiple modes

2. For Sangam Vihar area, with 1.5 million people generating over est. 2 million daily trips. It was observed that
   • Despite an access road, the traffic to and from the area is diverted and blocked.
   • In this case one is forced to take a U turn 1 km ahead. This not only increased their distance in commuting, but also induces more physical effort in a trip and renders access to other public transport mode options difficult.
Mobility pattern indicates more physical effort in a trip

Modal Split

- **In Delhi,** 39% of daily trips are on walk and cycle, 47% trips are within 6 km (Census 2011)
- **But for Delhi’s urban poor,** 77% of commute on foot, 60% trips are within 4 km and 80% within 6 km

PT network

**Most low-income settlements do not have a direct connectivity by formal public transport network**

Commuting to major locations via public transport was assessed for the settlements. It was found that despite being located within same neighborhood, for low-income areas

- walk time in a trip increases by 1.2 to 1.8
- increase in transfer – commuting from most area involves more than one mode
- increase in trip cost, by 1.5 to 3.5 times higher

While distance is not the issue, the increase in walk time, and trip cost definitely is.
Within Kalkaji District

- while Greater Kailash and CR park can access metro station closer to neighborhood, Low-income areas like Jawaharlal Nehru camp, Govindpuri, and Tughlakabad Extension are dependent on three modes and two transfer with Grameen seva, E-rickshaw and then reach metro

- In this case the metro stations are beyond mobility network of IPT that connects these areas.

- And in case a person chooses to use buses, the service remains insufficient and at times involves intra-mode transfers. It was also observed that the frequency of buses for one route crossing these areas can vary from 10 minutes to over 40 minutes.

It was also found that it also adds to trip cost. At times it was also found that to skip transfers and extra cost people tend to walk a significant distance to access formal public transport, this increases the amount of walk time

If commuting by public transport is Rs 800-1000 per month, and if he/she considers an IPT as a connecting mode an additional expenditure of Rs 1000 increases.
Most settlement don’t have access to intra-neighborhood amenities within standard

MPD 2021 guidelines and URDPFI together prescribes 11 intra-neighborhood amenities essential for a neighborhood with significant population size beyond 5000. It was found that

- Low-income areas have access to barely 50% intra-neighborhood amenities within recommended access standards and had to be dependent on motorized modes to the access rest

- While planned settlements had access to most within prescribed standards, the rest could be accessed by an intermediate mode of transport

- Most of the areas like Tughlakabad extension, Poothkalan, Zamrudpur, JLN Camp, Govindpuri lacked etc. lacked park, playground and open spaces.

- People living in Tughlakabad Extension have to access primary healthcare and local market area only in Govindpuri and other areas like Tughlakabad Village didn’t have access to formal security or local police booth.

Settlement structure too amplifies disparity in access

- Absence of prescribed intra-neighborhood amenities
  - Forced dependent on mobility services to access basic amenities
  - And lack of equitable infrastructure interface will further add to the apathy
  - More walk
  - More trip cost
  - More physical effort

Access to intra-neighborhood amenities within prescribed access distance

- Low-Income settlements
  - Within recommended standards: 50%
  - Can be accessed with intermediary mobility: 31%
  - Should be accessed with motorized modes: 24%

- Other Settlements
  - Within recommended standards: 70%
  - Can be accessed with intermediary mobility: 30%
Poor infrastructure interface within all settlements

Local inner street network

Access road to settlements

Though all areas fell short of meeting adequate street infrastructure, it is the low-income areas that is impacted more from lack of it

Neighborhood street network

• It was observed that the actual road width in these areas ranged from 1 to 4 metres.

• Areas like tughlakabad extension and Poothkalan have local street network of width not more than 1.5 metres average.

• Additionally, these are broken, have manholes, sometimes unpaved, has electric poles etc. etc. And wherever there is a bit available width, it is encroached with parked vehicles.

• It was also found that a considerable length of road within Sangam vihar area, Tughlakabad Village was unpaved leading to more water clogging, mud and broken roads.

These factors not only create inconvenience but hampers walkability, cycling on which 77 %of urban poor are dependent on. Moreover, the structure of roads in itself eliminates penetration by Rickshaw or IPT modes making commuting more difficult in these areas.
Despite all shortcomings these streets are life of community living too

Social life on local street network

• Ironically this also indicates that these areas lack access to social and recreation facilities within neighborhood. And the nearest available facility is far or is costl

Market on streets major roads

• Due to lack of local market area, absence of open space & lack of access to other open spaces, the weekly market is set up along the major access road causing obstruction and bottleneck

• This also aligns with the fact of lack of unbuilt open space, parks and playgrounds unlike other residential areas
Leaving you with few questions here

How walkable are these?
Can one cycle without hesitance?
Are these streets universally accessible?
Will you feel safe to walk at night?
Can a rickshaw come close to your residence?
Can a auto enter these lanes?
Is Bus/Metro easily accessible?

Even if two of your answers are NO, we need to do more about improving access within these areas and inform policy reforms.

Thank you
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