Action on Transport Urban Infrastructure in Relation to COVID-19 in India

January 20, 2021
Since the outbreak of the COVID-19 pandemic, there has been significant changes in the urban mobility trends observed by different cities and countries.

Various survey and polls were conducted during the lockdown period to understand the impact of COVID-19 on road users’ choices and behavior and future trends in urban transportation.

It is foreseen that the evolution of urban mobility trends will depend on the pre-COVID-19 situation of each city and country and on policies and measures that will be adopted and promoted within these regions.
Overview of the Mobility Trends (Pre-Covid)

**Share of different transport modes used by respondents pre COVID-19 (work trips)**

- **High usage of private cars** (23% of respondents using their own cars for work trips)
- **Public transport** was well represented (metro 25% and bus services 9%, respectively)
- The **intermediate public transport (IPT) modes**, such as private taxis and auto rickshaws constituted about 15% of the sample
A radical shift in mode choice is perceived post-pandemic

- 65% respondents said, there would be no change in their choice.
- Only 9% responded that their choice would be altered by the crisis.
- The rest of the sample (26%) responded with maybe

Overall, the results suggest that the transportation demand could be significantly altered with almost 35% of the sample potentially switching to different modes.
Mobility Trends (Post-Covid 19)

- About **36% of metro users** said, they would **switch to other options**

- Most respondents, who wished to switch, **preferred to use private cars and two-wheelers**

- **Substitution of metro services with intermediate public transport**, such as auto rickshaws and taxis was also evident

---

**Mode Share Post COVID 19**

Stated post-COVID-19 modal choice of initial metro users (work trips)

The Energy and Resources Institute (TERI)
Mobility Trends (Post-Covid 19)

- **41% of initial bus users** stated that they would shift to other modes.
- The most common change was a **shift towards private vehicles and intermediate public transport**.
- Additionally, some bus users stated, they would **shift to non-motorized modes such as cycling and walking**.

Mode Share Post COVID 19

Stated post-COVID-19 modal choice of initial bus users (work trips)
The largest decrease in modal share of metro services (9%) followed by buses (4%), and local trains (1%)

The decrease in these modes is compensated by a significant increase in the private modes of travel

Female respondents indicate a shift from public transport to private/shared mobility options
Sample Characteristics and Modal Shift

All initial public transport users, who planned to switch to NMT, travelled less than 10 km to reach their workplace.

A significant number of respondents shifting to personal vehicles and IPT also travelled less than 10 km.

Distance to work and post-COVID-19 modal choice of initial public transport users

The Energy and Resources Institute (TERI)
People shifting to private vehicles included both high- and lower-income respondents;

lower-income respondents mostly opted for two-wheelers.

Household income and post-COVID-19 modal choice of initial public transport users
Age and mode choice of initial public transport users in the post-COVID-19 scenario
Indian e-commerce market is expected to more than double from the current USD 32.7 billion to USD 71.9 billion in 2022 (ET Retail.com, 2019).

Need for sustainable urban freight transportation.

Change in use of online grocery shopping services in the post-COVID-19 scenario.
Most respondents (84%) said they ordered food online before the COVID-19 crisis.

On average, people ordered food twice in a week or eight times in a month.

However, only 27% continued to order food online during the lockdown.

Change in use of online food delivery services in the post-COVID-19 scenario.
Behavioral and Attitudinal Trends

• The most significant change in behavior:
  
  • **Working remotely from office (non-essential services)**
  
  • **People favor ways that guarantee adequate physical distancing**, such as walking, cycling or the use of private cars, while there was a drop in the use of PT and shared transport
  
  • **Use of bicycles**, as evidenced by the boom in purchases in the lockdown and post-lockdown phases, has been chosen by citizens
  
  • **Online shopping continues to grow**
  
  • **Increasing consciousness** among citizens about pollution
## Public Transport

### Impact

- About 36% of initial metro users and 41% of initial bus users said, they would **switch to other options** (TERI).

- Compliance with social distancing will require a **drastically reduced public transport service**. In London, estimates suggest a **reduction of 85% in the capacity of the underground and on buses, by 88%**. *(PwC)*

- The distancing measures to prevent new infections afterwards, caused **reductions in vehicle capacity up to 25-50%** and therefore **revenue losses in terms of ticketing** *(European Parliament’s Committee on Transport and Tourism)*

### Challenges

- **Entails high perceived risk of contagion** given the physical proximity of its users.

- **Struggle to regain market shares** in terms of users even after restrictive measures are relaxed.

- The restrictive measures and the negative perception of the **potential risk associated with the use of PT entails serious losses** for PT companies.

### Opportunities

- Various studies suggest that, if preventive measures are in place, the **risk of contagion on PT is very low** and PT vehicles are **potentially safer than other enclosed spaces**.

- According to YouGov survey, more than **80% of PT users are willing** to regain previous PT habits if the right precautions are in place.

- Public and transport authorities should take a leap in quality to **ensure a safe and comfortable experience** for their passengers.
Impact, Challenges & Opportunities for different Passenger Transport Modes and Freight

Cycling / Walking / NMT

**IMPACT**

When in need of moving, people *favor ways that guarantee adequate physical distancing*, such as walking, cycling or the use of NMT

Substitution of metro services with intermediate public transport, such as auto rickshaws and taxis and bus users to non-motorized modes such as cycling and walking is evident. (TERI)

**CHALLENGES**

- The *infrastructure* dedicated to these modes is not adequate
- Many streets in the city *do not provide enough space for safe physical distancing* for pedestrians and cyclists
- Safety of cyclists is also a concern

**OPPORTUNITIES & MEASURES**

- Wider footpaths offering more space for people to move

- *Stricter speed limits* (20 or 30 km/h) can permanently support the establishment of residential areas and streets in which *priority is given to pedestrians and cyclists*

- A shift is expected *towards NMT* from both initial PT and Private mode users when the distance travelled for commuting is less
**Impact, Challenges & Opportunities for different Passenger Transport Modes and Freight**

### Shared Mobility Services

**IMPACT**

The risk of contagion due to the contact of different users with the same surfaces discouraged the use of shared mobility services.

**CHALLENGES**

- Poor multi-modal and local **transport integration**
- Higher perceived **risk of contagion**

**OPPORTUNITIES & MEASURES**

- Strengthening multimodal and complementary integration with PT, (green) shared mobility service markets could increase its share
- Careful integration into the local transport
- Organised integration through new forms of PPPs: Subsidies, etc. for the operators who adhere to the scheme
- Local authorities may promote user-oriented subsidies, such as **paying part of the price of bike share trips** to the users, rather than providing company-based support
**Impact, Challenges & Opportunities for different Passenger Transport Modes and Freight**

**Freight & Logistics**

<table>
<thead>
<tr>
<th>IMPACT</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Fragmentation in loads and trips</strong> is accentuated by the recent <strong>expansion of e-commerce and instant deliveries</strong> and further accelerated by the COVID-19 lockdown, contributing to</td>
</tr>
<tr>
<td>• an <strong>increase in the number of deliveries</strong> and in terms of environmental impact, and</td>
</tr>
<tr>
<td>• <strong>adding new types of modes</strong> (cargo-bikes, scooters) for freight movements</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>CHALLENGES</th>
</tr>
</thead>
<tbody>
<tr>
<td>The sector is <strong>struggling to manage excess demand</strong> due to lack of workforce, assets and resources</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>OPPORTUNITIES &amp; MEASURES</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Local authorities could <strong>consider encouraging rationalization and optimization of delivery, vehicles utilized, collection times and spaces in cities</strong></td>
</tr>
<tr>
<td>• <strong>Technological and Organizational Innovations</strong>: Greater integration of supply chain, with significant benefits in last mile logistics services</td>
</tr>
<tr>
<td>• <strong>Digitalisation</strong> can support the further development of <strong>“contactless” delivery of goods and services</strong> to final consumers</td>
</tr>
</tbody>
</table>
Thank you


Sharif Qamar
Centre for Sustainable Mobility, TERI
Sharif.Qamar@teri.res.in