Mobility strategies for air quality management

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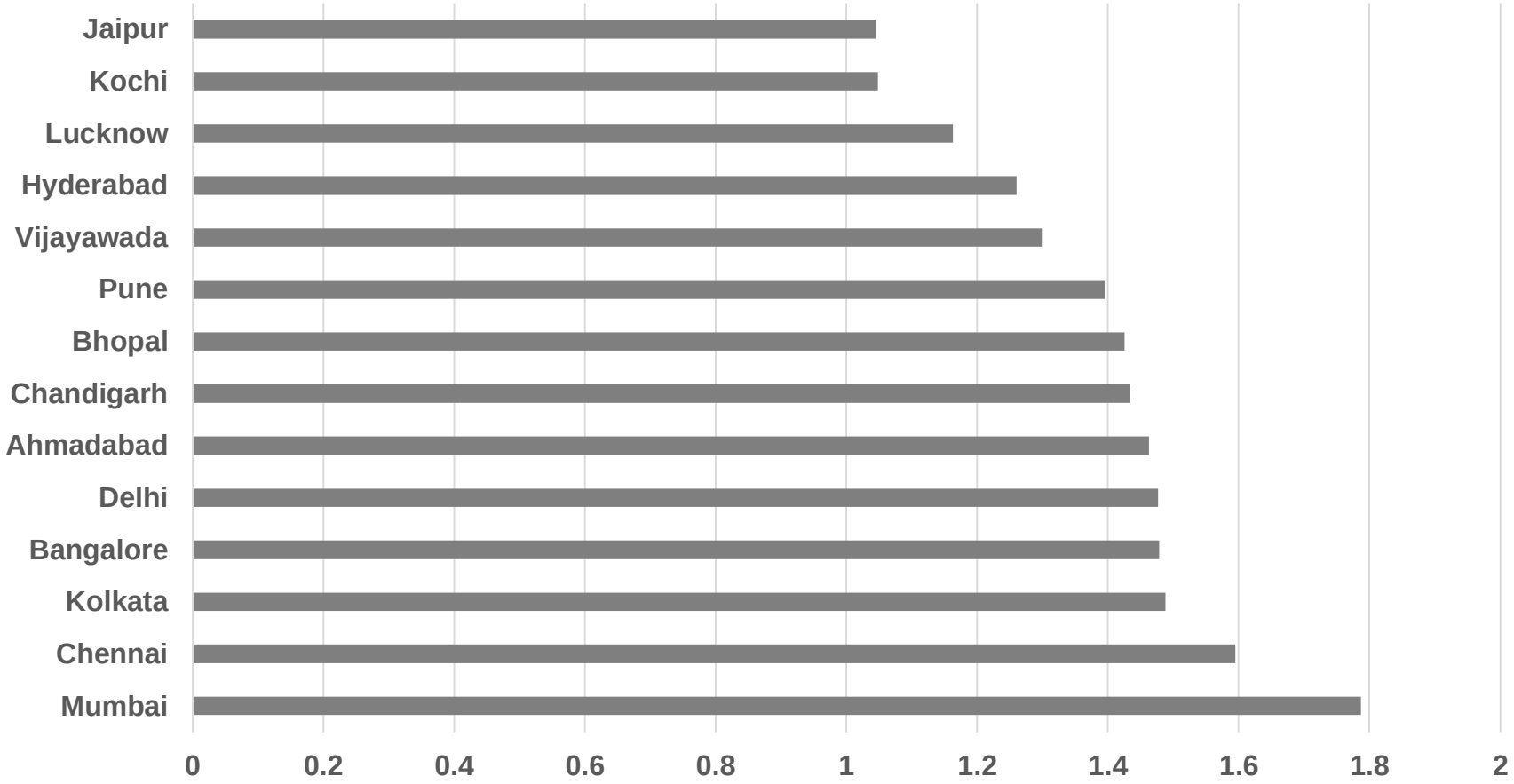
Vijayawada. 11th June, 2019

Mobility interventions for reducing air pollution

- **Population and travel demand cannot be controlled/ managed. “Trips” in cities will continue to increase.**

Travel demand will continue to increase as cities grow

Per capita trip rate in cities



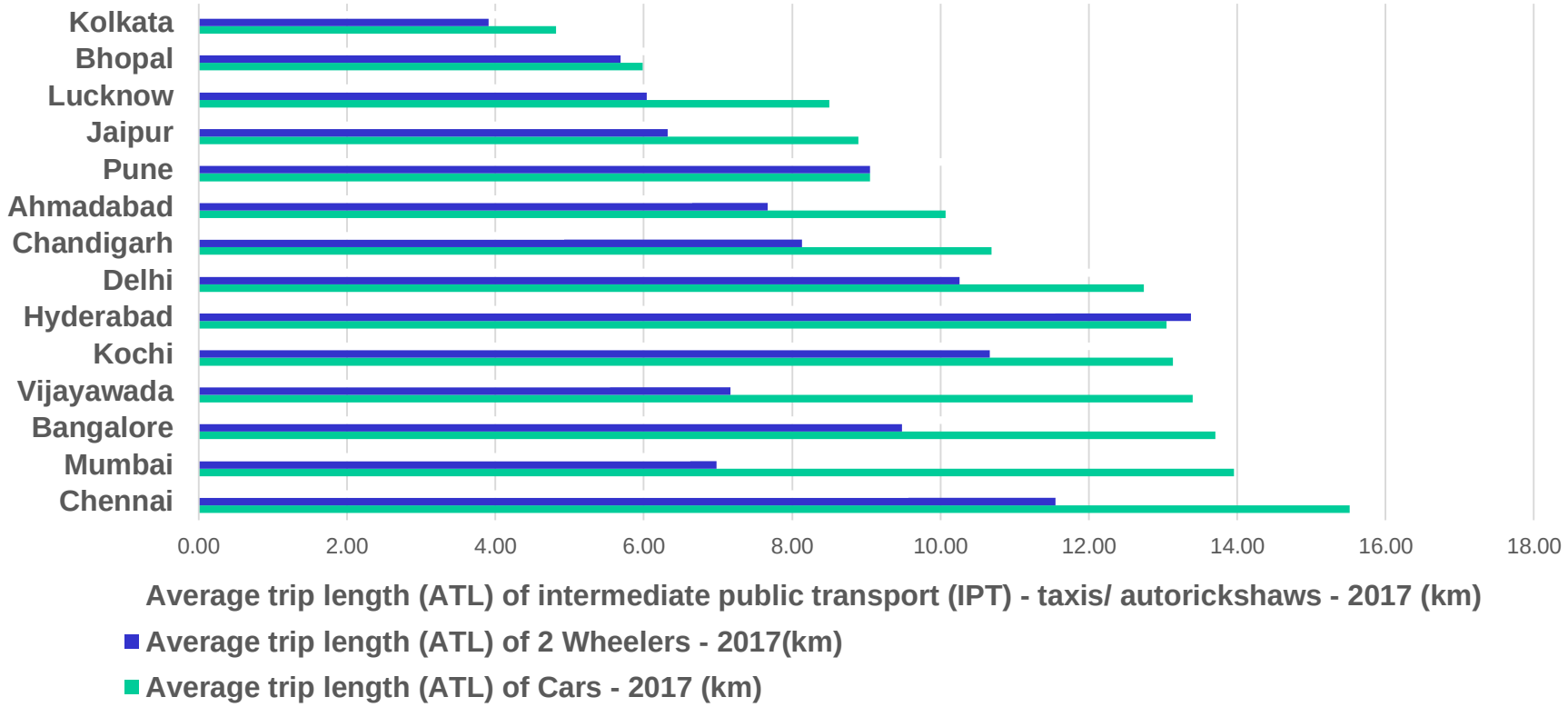
Source: CSE Compilation

Mobility interventions for reducing air pollution

- **Population and travel demand cannot be controlled/ managed. “Trips” in cities will continue to increase.**
- **Nature of trips can be controlled: “how long they are” - by urban planning and design. Shorter the trips, the better off the city is.**

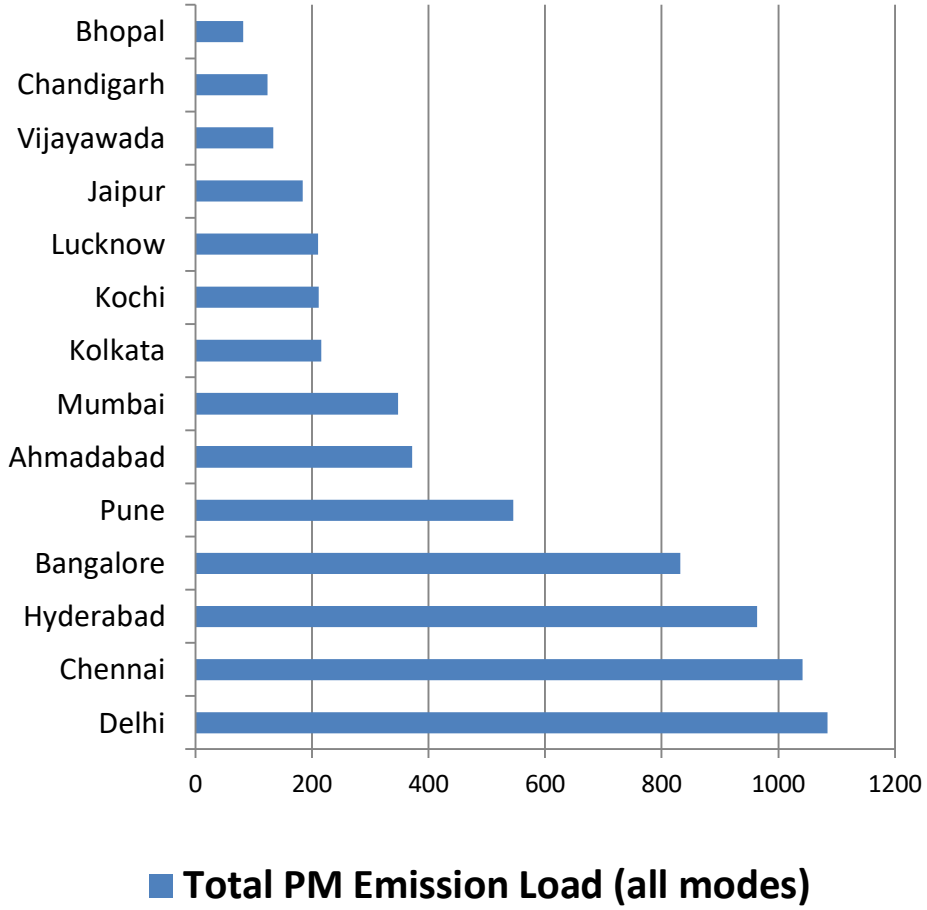
But trip lengths can be controlled – create Compact cities

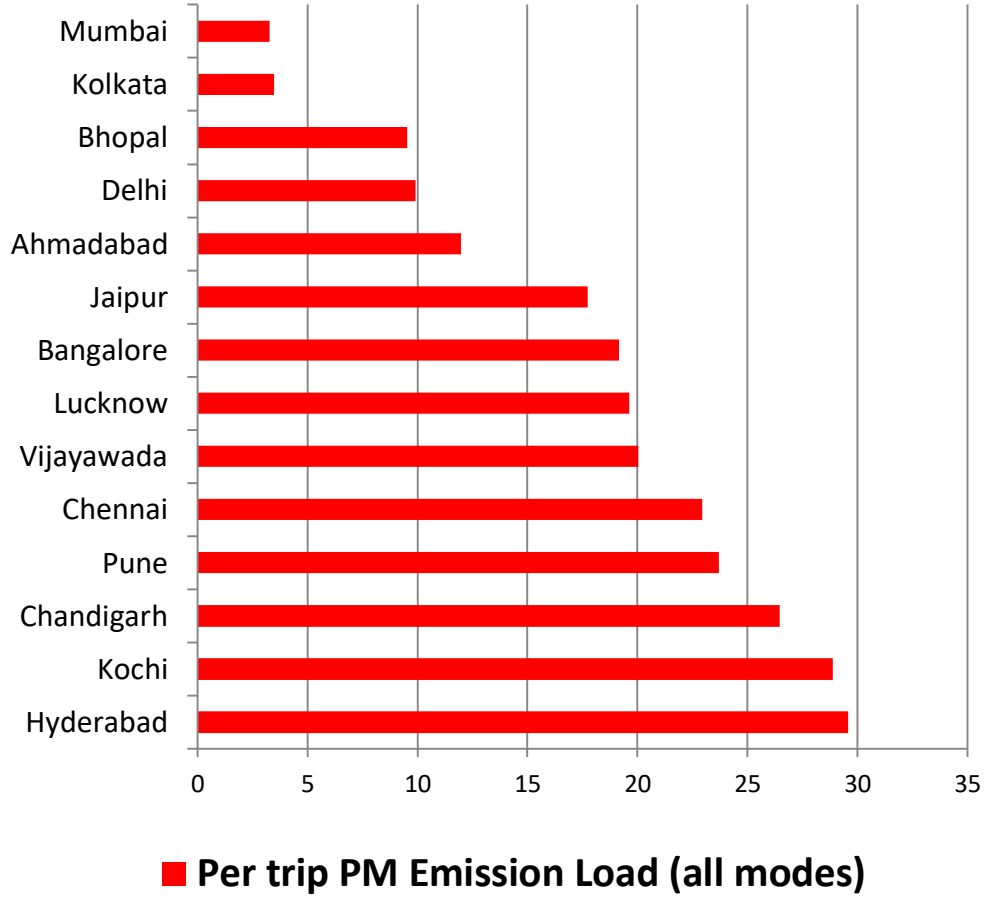
Average trip lengths in cities



Source: CSE Compilation

Total Vs Per trip PM emissions



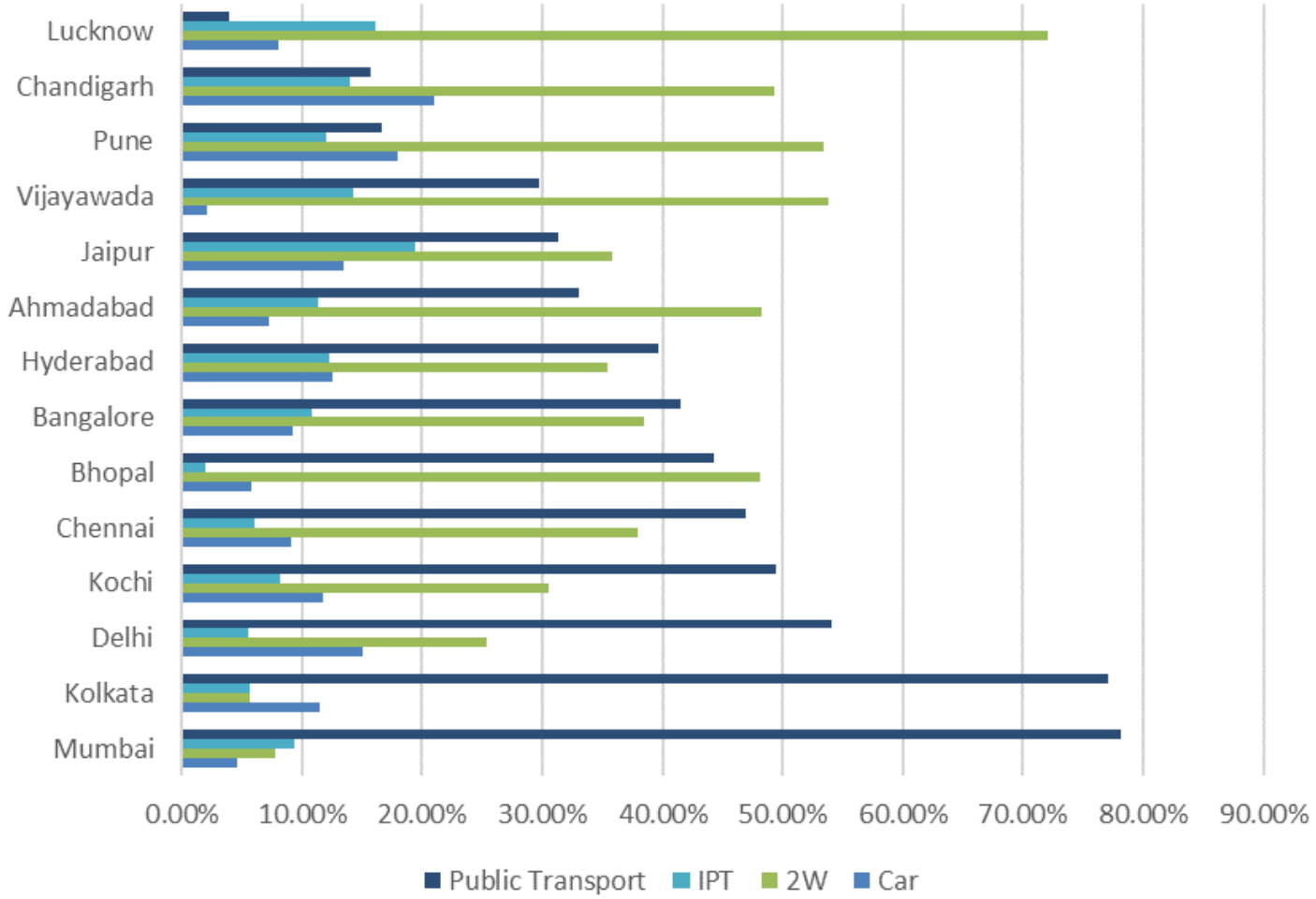


Mobility interventions for reducing air pollution

- **Population and travel demand cannot be controlled/ managed. “Trips” in cities will continue to increase.**
- **Nature of trips can be controlled: “how long they are” - by urban planning and design. Shorter the trips, the better off the city is.**
- **Type of trips can be managed: the more the share of public transport and non-motorised modes (walking, cycling), lesser the air pollution.**

Mode shares can be improved: promote public transport, walking and cycling

Mode shares in cities



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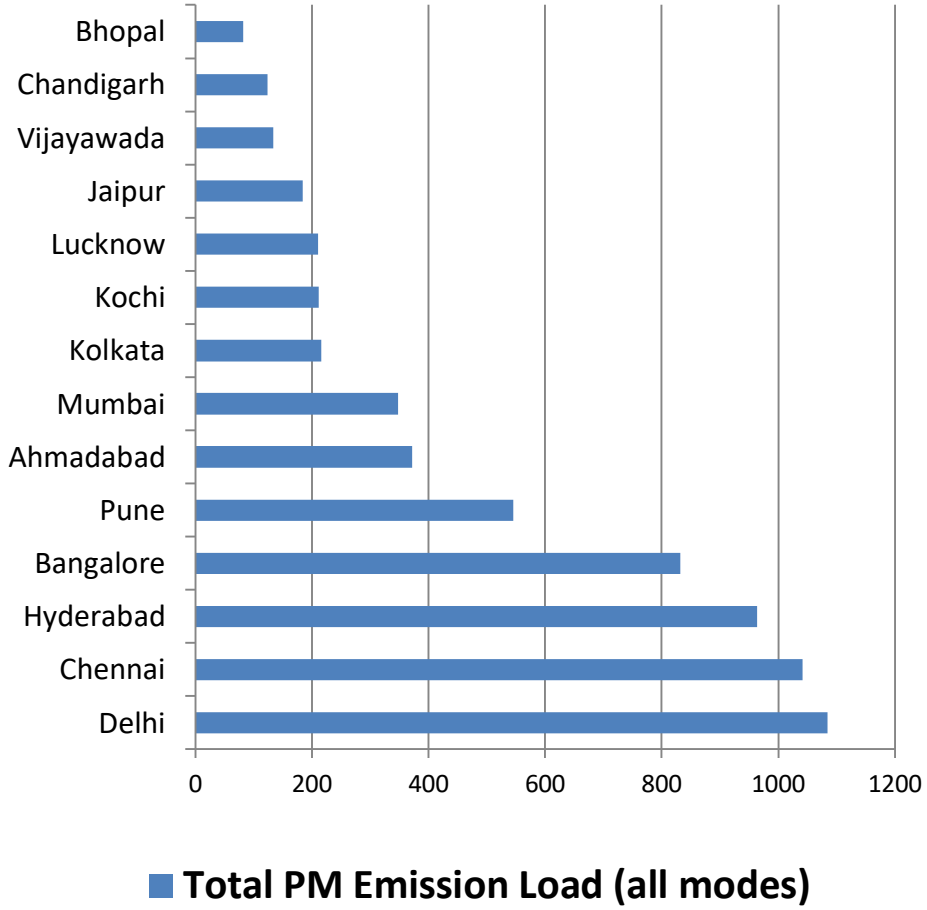
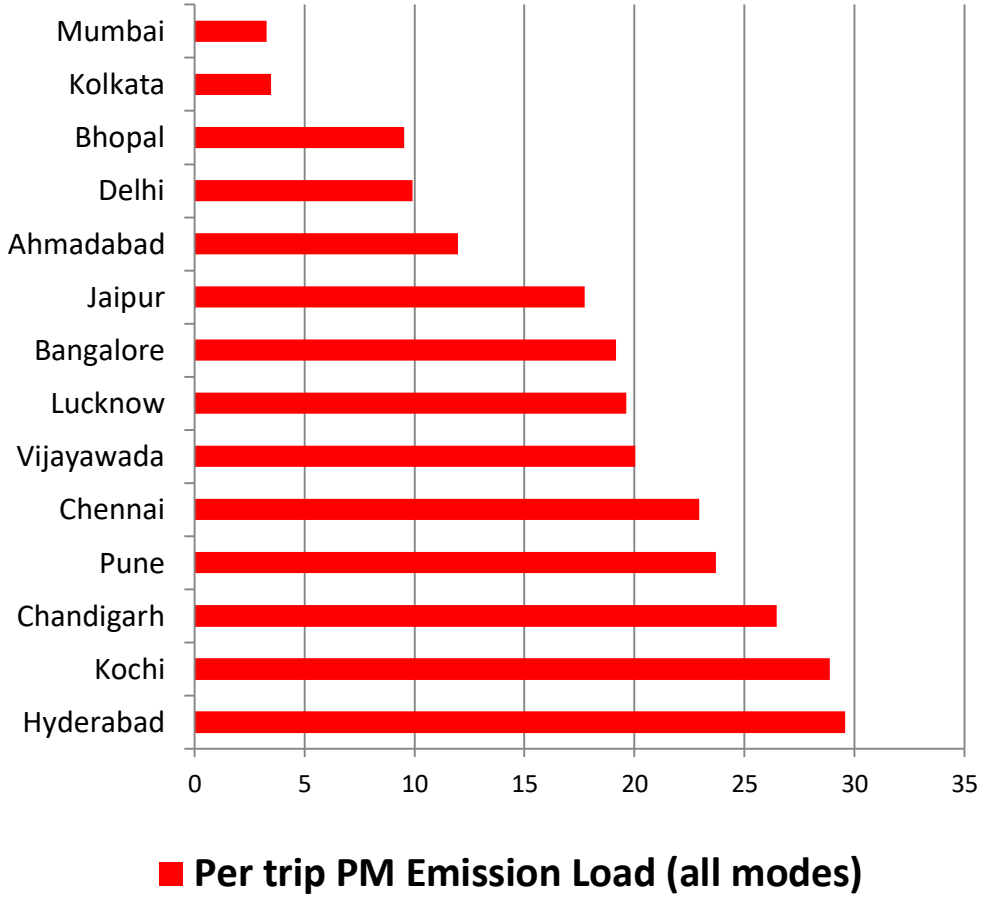
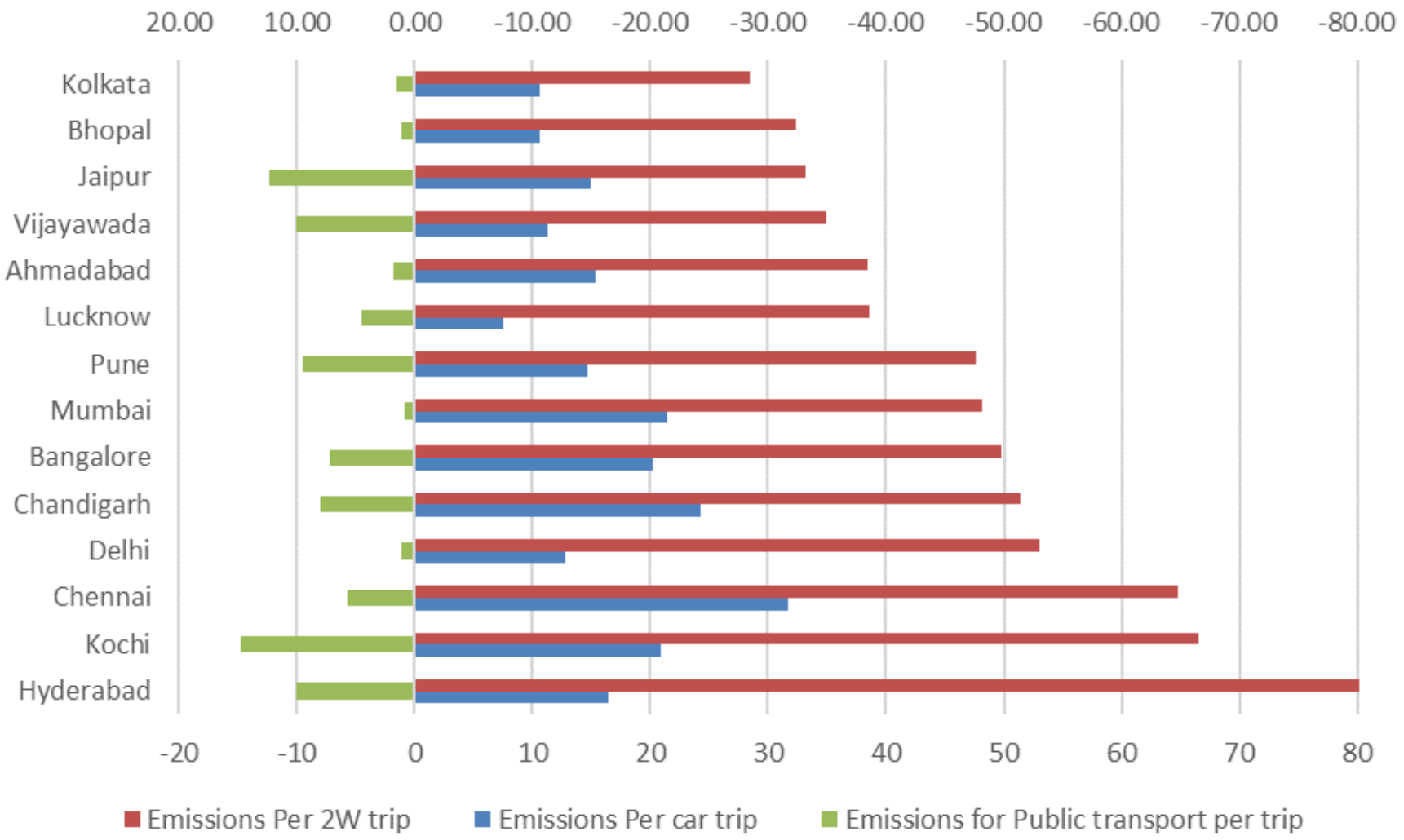




Mobility interventions for reducing air pollution

- **Population and travel demand cannot be controlled/ managed. “Trips” in cities will continue to increase.**
- **Nature of trips can be influenced: how long they are, by urban planning and design. Shorter the trips, the better off the city is.**
- **Type of trips can be managed: the more the share of public transport and non-motorised modes (walking, cycling), lesser the air pollution.**
- **Hence the imperative to develop public transport systems, provide for non-motorized transport and reduce private vehicle usage.**

Per trip emissions



Fundamentals of mobility strategies controlling air pollutant emissions from motor vehicles

- Improve modal share with public transport and para transit & multi-modal integration; Transition to electric mobility
- Walking and cycling strategy with feeder systems for last mile connectivity
- Link with urban planning and design to reduce travel needs and distances
- Restraint measures for personal vehicles usage – (parking policy, road and congestion pricing, low emissions zones, tax measures etc)

Public transport and multi-modal integration

Introduce a city bus system of appropriate fleet size and desirable bus type

GPS tracking

ETVMs for fare collection

Develop passenger information system

Implement electric bus programme

Multi-modal integration – physical integration, and fare integration

The costs of NOT modernizing public transport

- In absence of Passenger Information System and low frequency, waiting time at bus stops can go up to 10-15 minutes.
- For a city like Delhi with 45 lakh users using the bus system everyday, this means almost 50 crore hours wasted every year.
- Monetarily, this translates into a loss of about Rs. 2500 crores (350 million USD) per year. This is the cost to the economy.
- Mysuru's ITS system costed less than Rs. 30 crores (4 million USD)

Smaller cities: Public transport and multi-modal integration

Reorganise intermediate public transport (IPT) – autos, shuttle, taxis

Link electric vehicle programme with IPT

Bus system for longer trunk routes

High street density with well designed pavements and cycling facilities and adequate protection for the pedestrians and cyclists for safe access

Non-motorised public transport and last mile connectivity

Implement zonal plan for developing NMT network

Adopt and implement street design guidelines

Compact city development

City Master Plan to promote compact urban form to contain urban sprawl, and reduce distances and emissions.

Promote planned mixed use development

Parking Policy: A Roadmap

Parking policy as a travel demand management

Implement parking area management plan to

Identify and demarcate legal parking areas;

Penalise illegal parking;

Introduce variable parking pricing;

Promote shared, priced and public parking

Prevent parking encroachment in green areas etc

Parking revenue for local area development

IT based parking area management and reform of contractual agreement

Effectively priced parking can make a difference

No meters

Meters

Prices quadrupled

Grosvenor square, London

Source: TRL in ITDP (2011): Europe‘s Parking U-Turn

NMT promotion also requires Parking Policy

To sum up…

Important to reduce trip lengths and improve modal share of public transport and non-motorized transport

Reducing trip lengths possible through compact city design, mixed use and paying attention to walking and cycling facilities

Improving modal share possible by expanding and modernizing public transport system and ensuring integration of all modes

Reducing private vehicle usage through parking management critical to ensure the success of other measures

Thank you

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