Managing Mumbai’s Traffic Congestion

A study by:

ITDP India Programme
How do Mumbaikars travel?

51% walk or cycle
30% use public transport
19% travel by private vehicles & taxis

3X growth in no. of vehicles in the last 15 years

2001: 0.8 million
2016: 2.27 million

0.86 million are cars alone!

90% stuck in congestion everyday
Mumbai: The most congested city in the world
An hour lost of every Mumbaikar’s life everyday

Source: TomTom 2019
- 90% of Mumbaikars are stuck in traffic at peak hours
- 40-50% lose personal time
- 750 deaths every year because of pollution
- City loses ₹ 3600 crores ($485 million) annually in productivity and fuel loss

Source: ITDP Findings
19% of people consume 82% of road space

Private cars, motorised two-wheelers, taxis and auto rickshaw only serve 19% of people trips

Source: CMP for Greater Mumbai, 2016
55% of traffic in peak hours crawls at less than 20 kmph (12.4 miles/hr)

Most Congested:
1. Entire island city
2. Western suburbs (particularly SV road and WEH)

Source: TomTom, google speed data and CMP speed data
How congested is Mumbai and what should be done?

Managing congestion for few hours on weekdays will improve speeds significantly.

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How can congestion be reduced?

**Avoid**
unnecessary trips

**Shift**
to sustainable modes of transport through congestion pricing, parking management, vehicle quota etc

**Improve**
Public transport, street design
What is congestion pricing?

Congestion pricing is a tool to decongest roads that are otherwise clogged with traffic. By charging a fee that is sufficient to deter some, roads get decongested and the speed of travel improves significantly for those willing to pay.
Congestion pricing study in Mumbai

Engaged with citizens of Mumbai, public agencies, civil society organization, and technology experts

Prepared a detailed report to implement congestion pricing in Mumbai.

Only Mumbai and Bangalore created a guidance document on congestion pricing in India.
Congestion pricing study in Mumbai

Consulted with experts on Congestion Pricing internationally.

Conducted user survey in different parts of Mumbai
75% of Mumbaikars support congestion pricing

27% of car users & 18% of two-wheeler users willing to shift to public transport

Source: Road Pricing to Decongest Mumbai. ITDP India. 2020
Reduce traffic with congestion pricing

With an increase in congestion charge, traffic can be reduced.

The charge should be just enough to operate traffic at an optimum speed—no more, no less.

Source: Road Pricing to Decongest Mumbai. ITDP India. 2020
Higher the traffic, higher the charge

Two-wheelers can be charged ₹25-50 ($0.3-0.7)

Cars, taxis and autos can be charged ₹50-75 ($0.7-1)

Source: Road Pricing to Decongest Mumbai. ITDP India. 2020
Congestion Pricing in Mumbai: 1) Island City  2) WEH

Island City: 7 gantry points

WEH: 6 gantry points

Legend
- MCGM Boundary
- Roads
- Waterbody
- Forests
- Congestion Area Cordon Line
- Entry/Exit Point
- Traffic Speed (kmph) from 7 to 8 pm
  - Less than 10
  - 10 - 20
  - 20 - 30
  - 30 - 40
  - 40 - 50
  - More than 50
Benefits of congestion pricing

- Reduce traffic, Improve speed
  - 18% drop in total traffic volume entering congestion pricing zone

- Better air

- More public transport trips
  - Traffic speed on urban roads maintained at around 20 - 30 kmph

- Funds for a better city
  - 22% drop in traffic volume on priced roads

Experience of other cities

18% drop in total traffic volume entering congestion pricing zone

Traffic speed on urban roads maintained at around 20 - 30 kmph

22% drop in traffic volume on priced roads
Experience of other cities

Reduce traffic, Improve speed
18% drop in total traffic volume entering congestion pricing zone

Traffic speed on urban roads maintained at around 20 - 30 kmph

Better air
12% reduction in NOx and PM10 levels in the congestion pricing zone

CO2 emissions in the entire metropolitan area reduced by 2-3%

More public transport trips

Funds for a better city

Reduce traffic, Improve speed

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**Better air**
- 12% reduction in NOx and PM10 levels in the congestion pricing zone
- CO2 emissions in the entire metropolitan area reduced by 2-3%

**More public transport trips**
- 38% increase in bus patronage
- 60% drop in trip cancellation due to traffic congestion
- -5% increase in public transport ridership
- Better punctuality, reliability with overall improvement in traffic speed.

**Funds for a better city**
- Improvised traffic speed also improved bus speed and reliability

Experience of other cities

- **London**
- **Singapore**
- **Stockholm**
Experience of other cities

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**Funds for a better city**
- >80% of revenue dedicated for improvements in public transportation, road safety, walking and cycling and improvement of roads and bridges
- Revenue generated from congestion pricing is pooled in with other sources of revenue of the public exchequer for allocation in the annual budgets.

Experience of other cities
Congestion pricing can cut pollution by 15 to 20%.

Reduction in emissions:
- CO: -19%
- PM: -20%
- NOx: -14%
- HC + NOx: -15%

Source: Road Pricing to Decongest Mumbai. ITDP India. 2020
Save more than ₹ 3600 cr ($485 million) through fuel savings, productivity increase and health cost savings.

Source: Road Pricing to Decongest Mumbai. ITDP India. 2020
Mumbai is constructing 192 km of metro network. To manage congestion, city needs to additionally provide:

1,100 km of healthy streets &
6,000 more buses

Source: ITDP Findings
40% of sustainable transport cost can be covered through congestion pricing.

Revenue of ₹155 billion ($2.2 billion) can be generated from congestion pricing till 2035.

Source: Road Pricing to Decongest Mumbai. ITDP India. 2020
Thank you

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