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

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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

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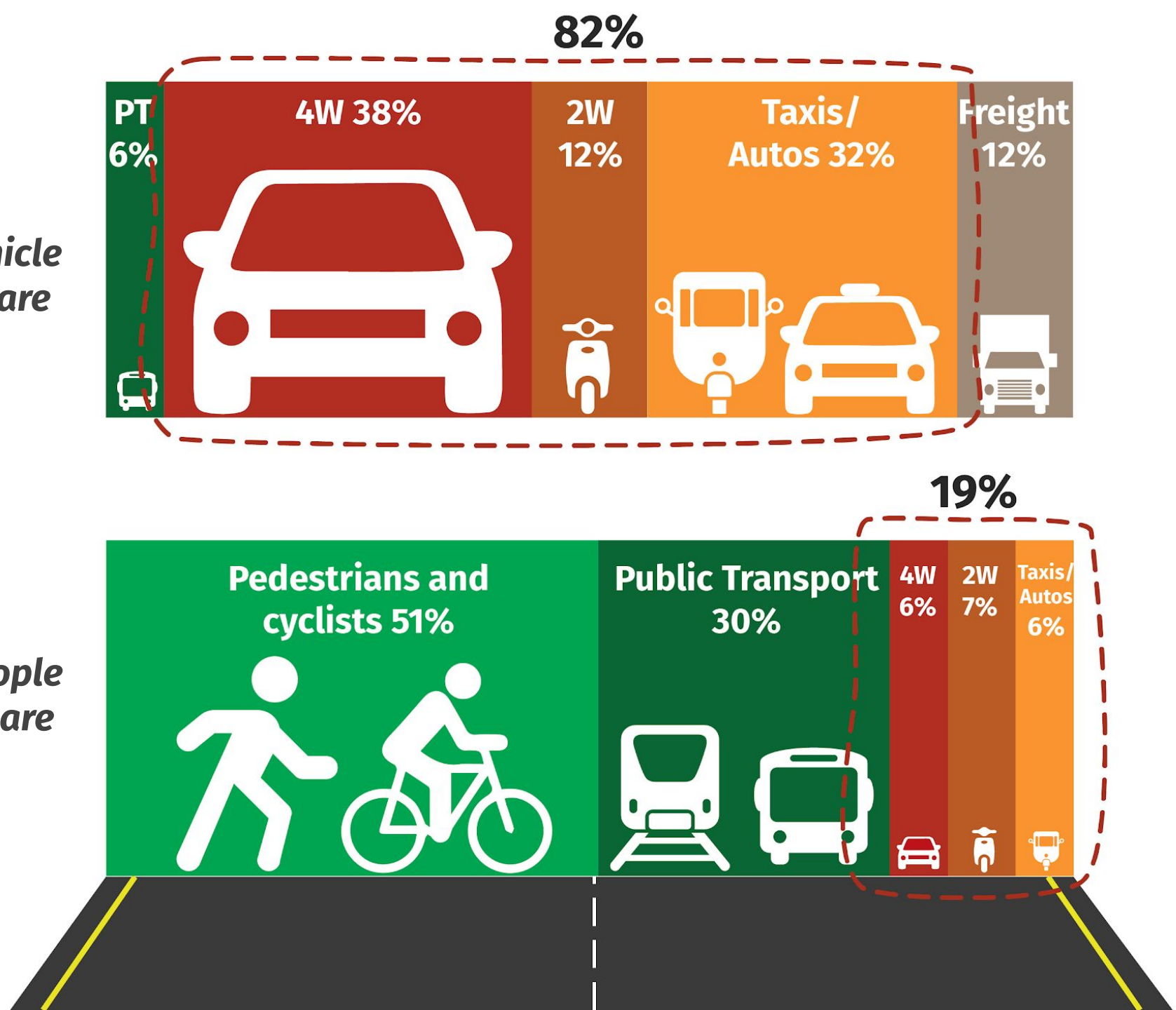
19% of people consume 82% of road space

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



Source: CMP for Greater Mumbai, 2016

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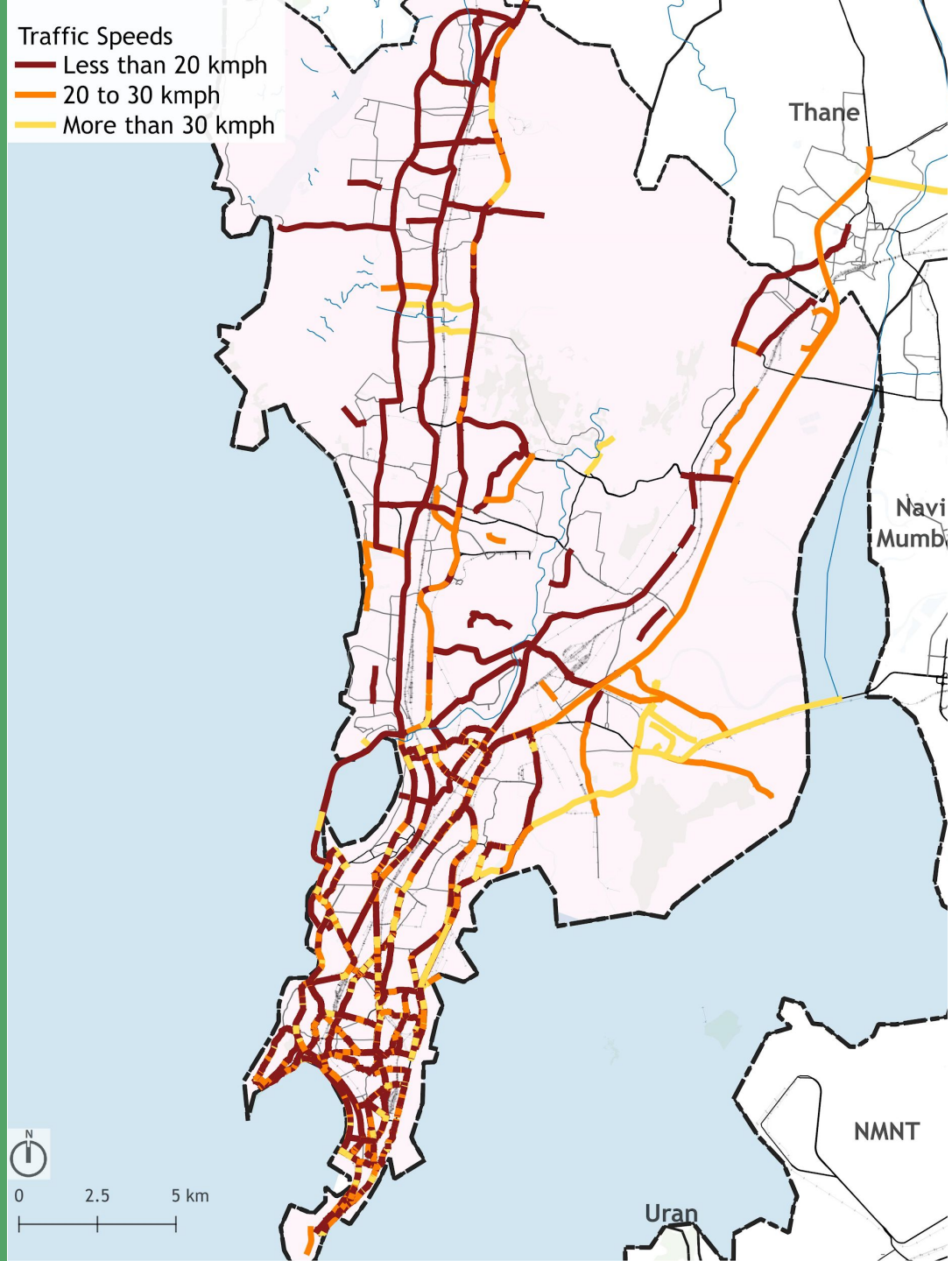
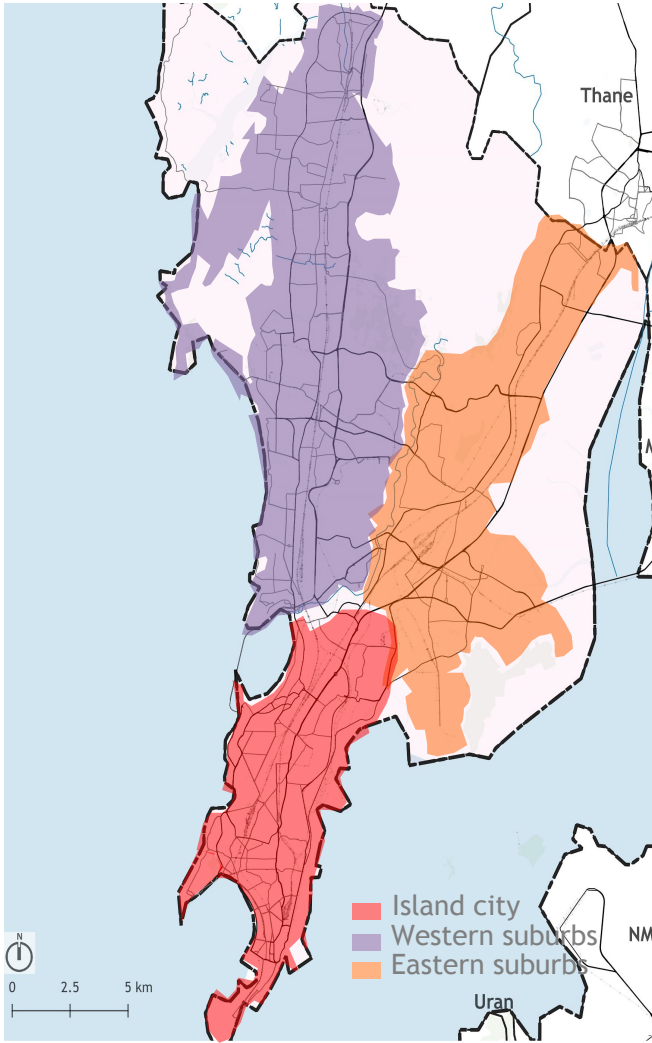
55% of traffic in peak hours crawls at less than 20 kmph (12.4 miles/hr)

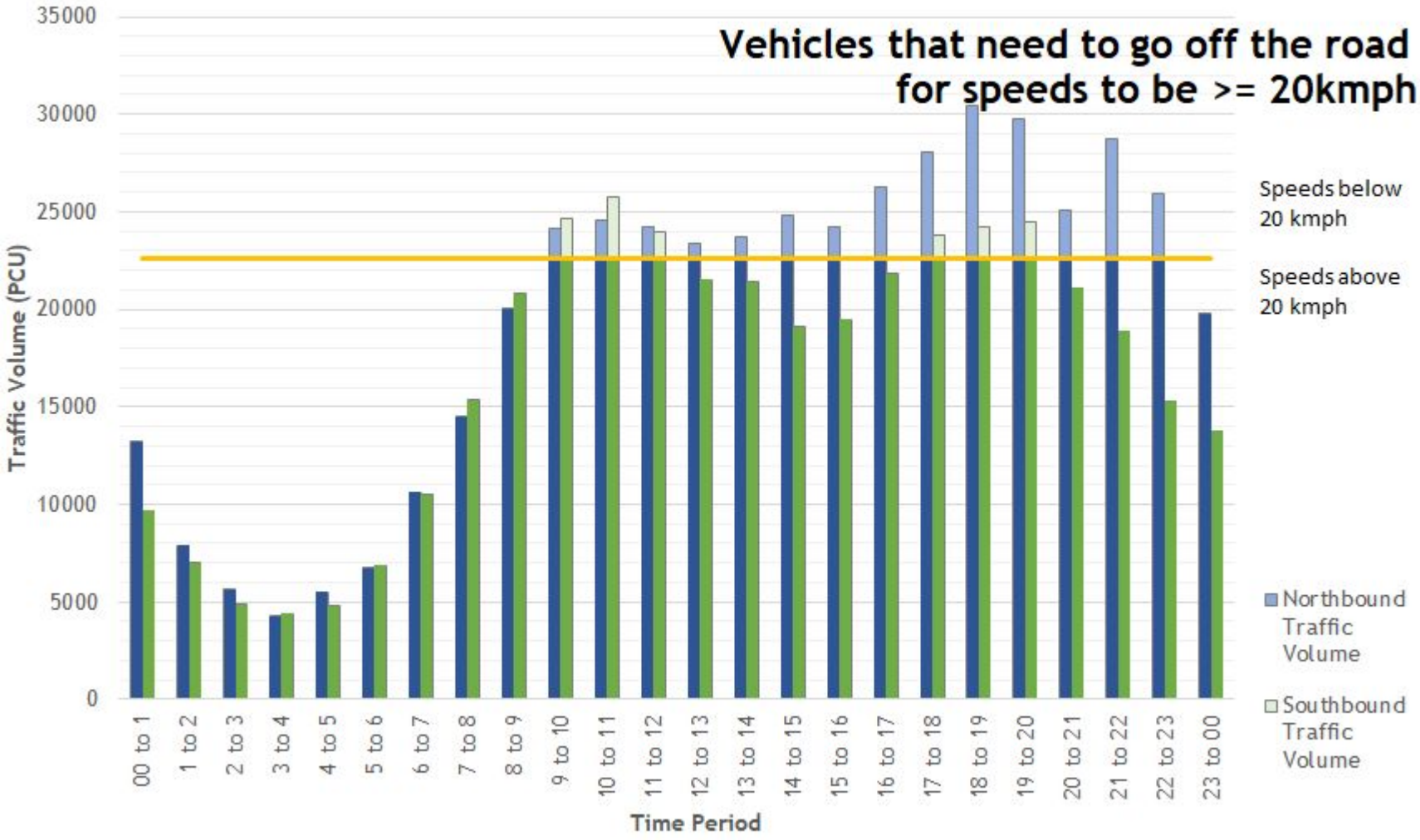
Most Congested:
1. Entire island city
2. Western suburbs (particularly SV road and WEH)

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

Only 17% of overall vehicular traffic on WEH and just 3% in the island city needs to be reduced

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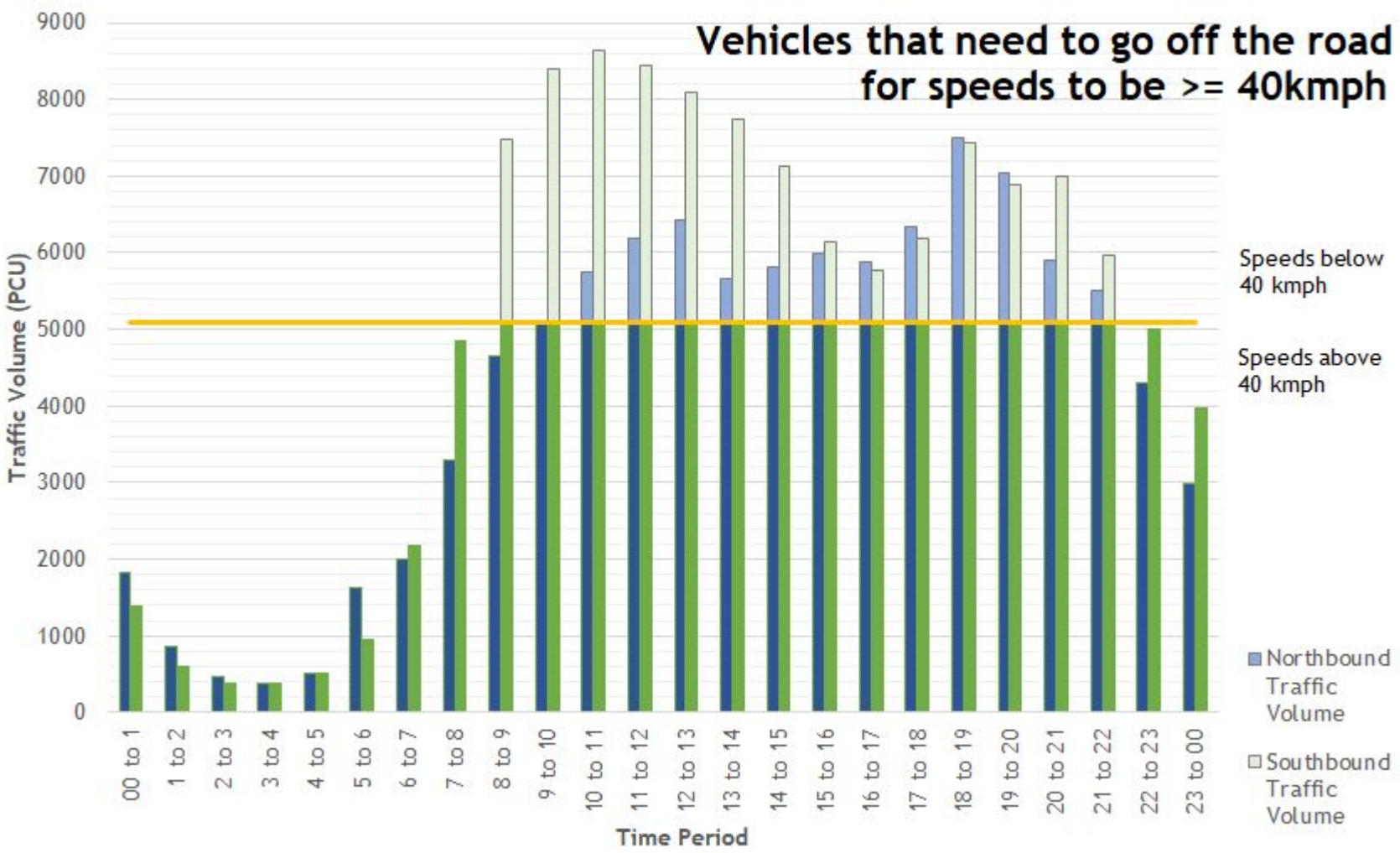

Managing congestion for few hours on weekdays will improve speeds significantly

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How can congestion be reduced?

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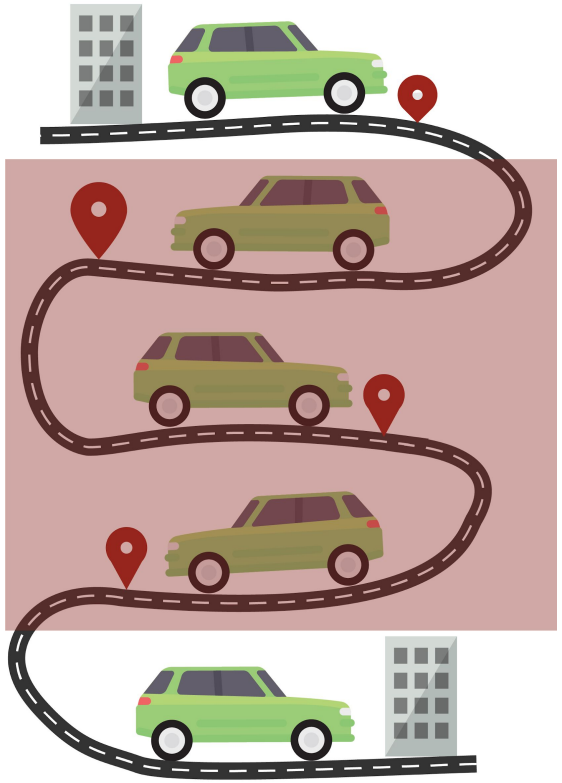
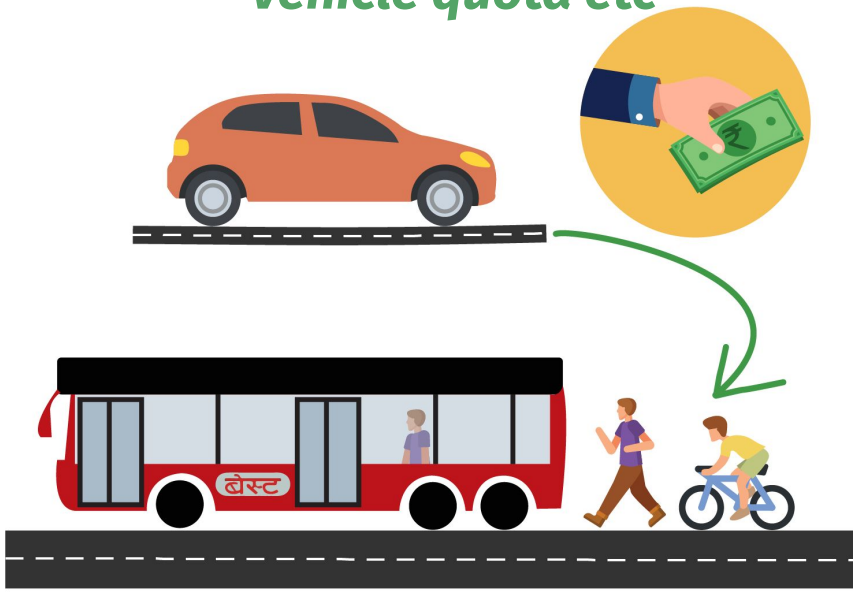
Avoid

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?

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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

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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

Roundtable Meeting with Government Officials

Workshop with External Experts

Focused Group Discussions in different part of Mumbai

Roundtable meeting with technology experts

Congestion pricing study in Mumbai

ITDP India Programme

Consulted with experts on Congestion Pricing internationally.

Conducted user survey in different parts of Mumbai

75% of Mumbaikars support congestion pricing

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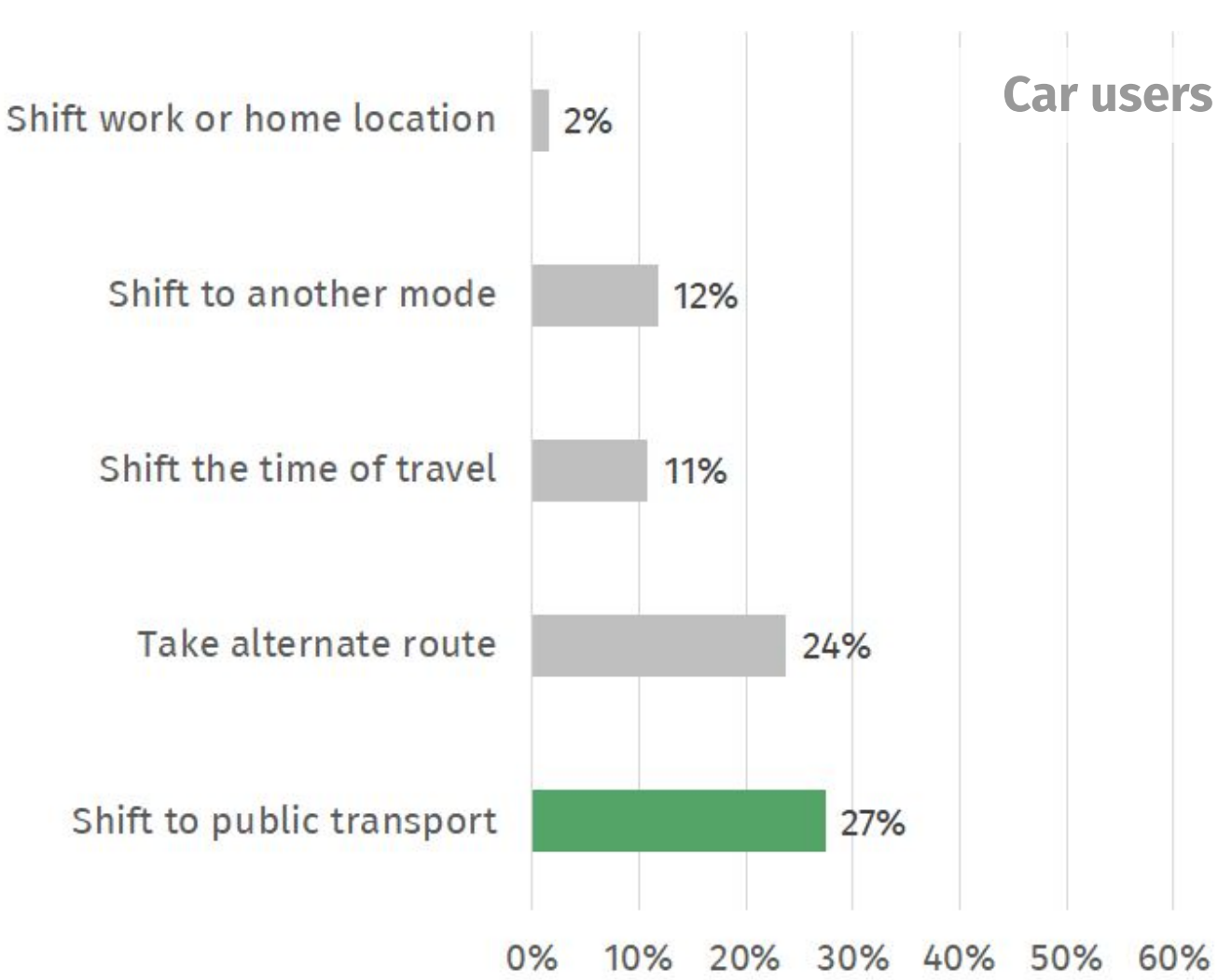
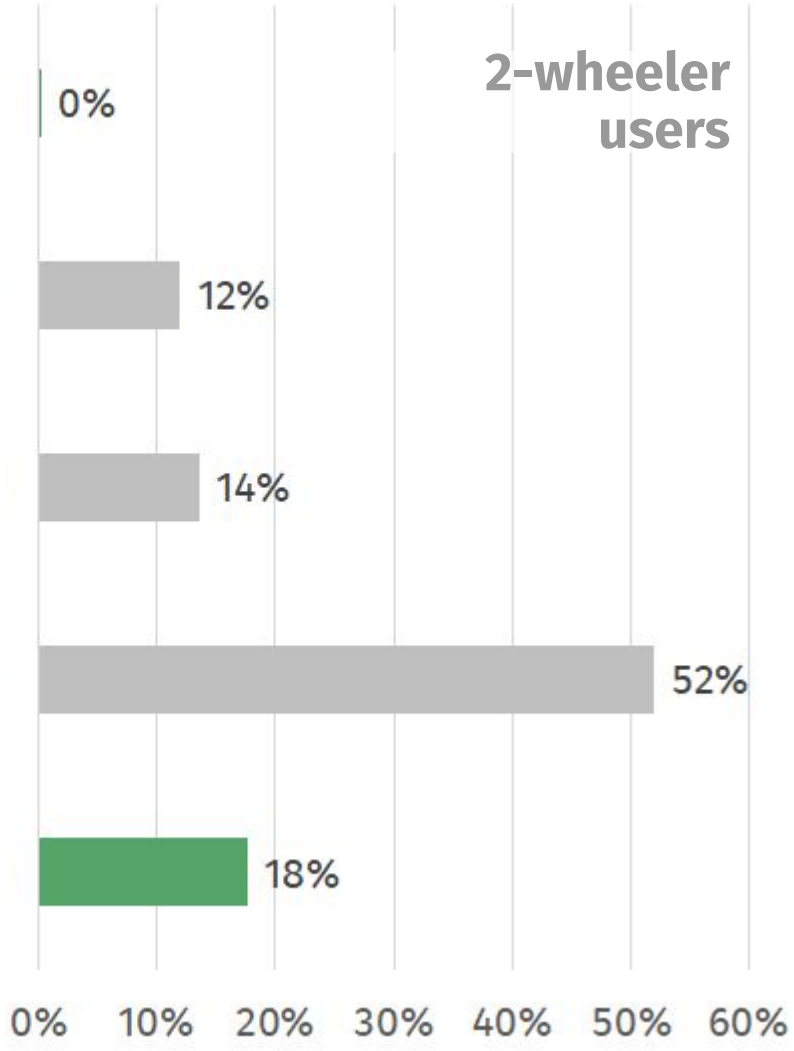
27% of car users & 18% of two-wheeler users willing to shift to public transport

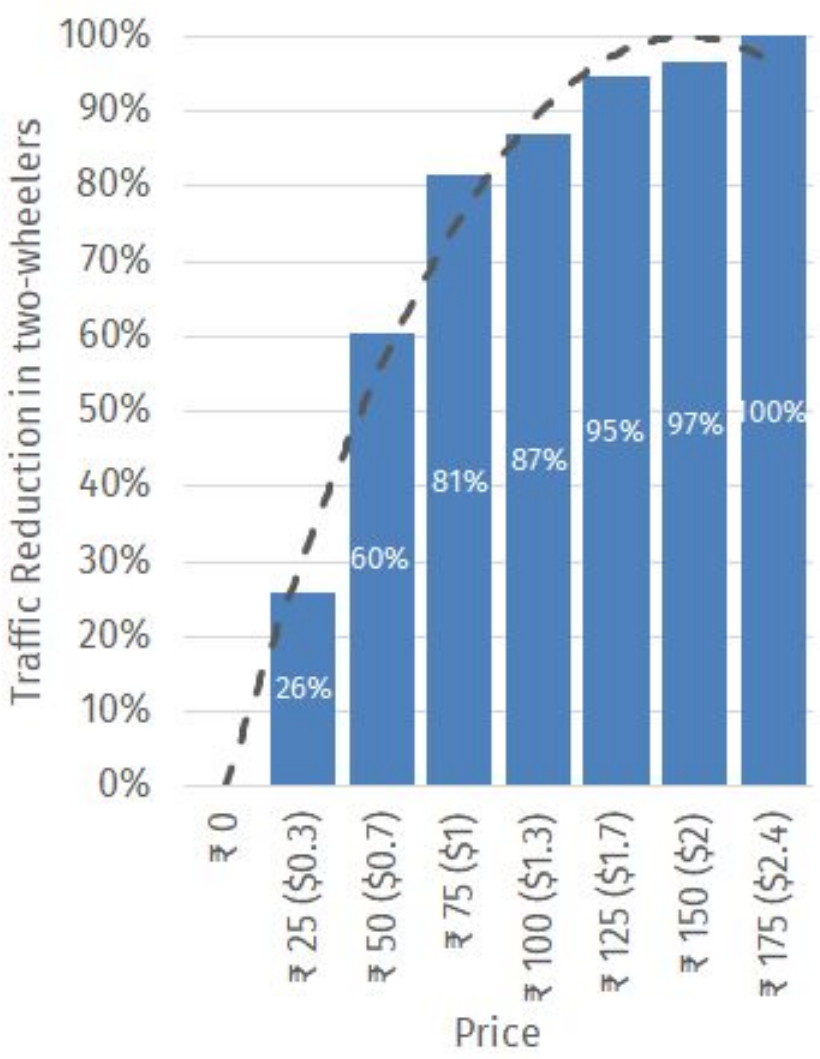




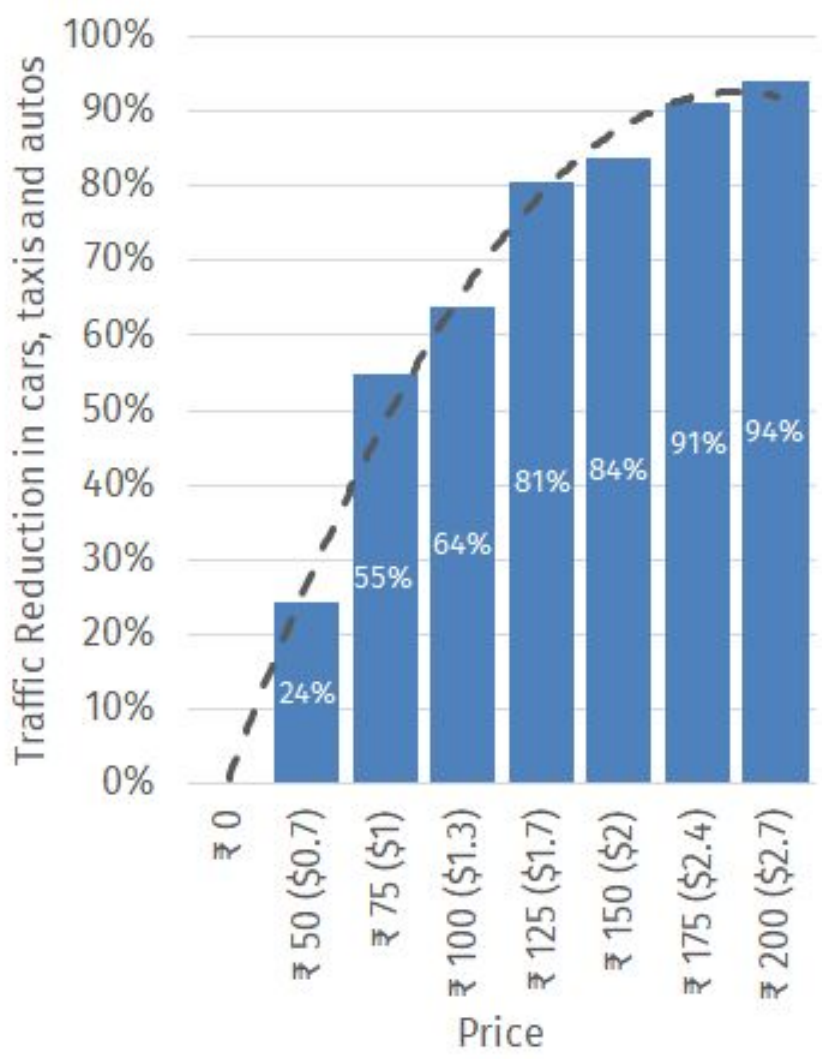
Source: *Road Pricing to Decongest Mumbai. ITDP India. 2020*

Reduce traffic with congestion pricing

Two-wheelers



Cars/Taxis/Autos



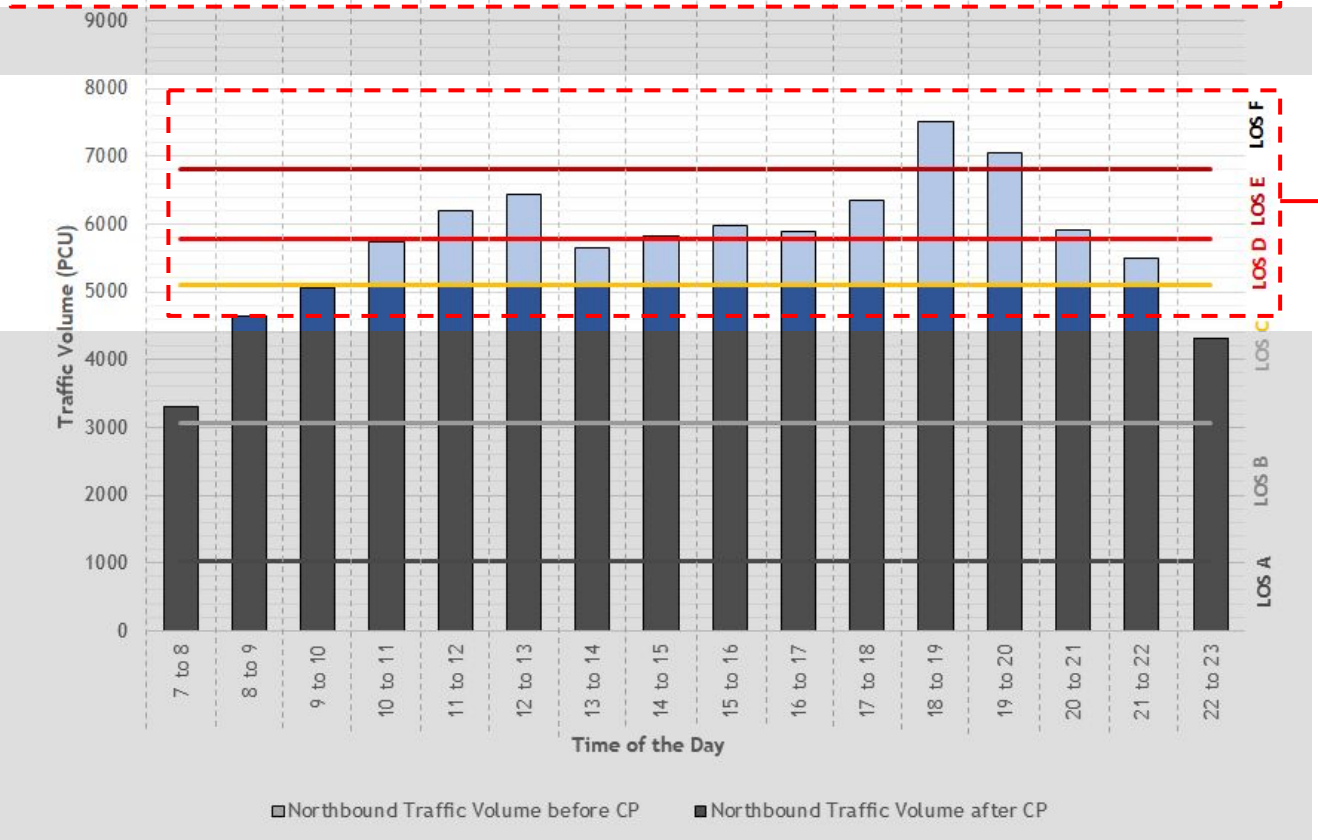
With an increase in congestion charge, traffic can be reduced.

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

Traffic reduction to achieve LOS C	0%	0%	0%	11%	18%	21%	10%	12%	15%	13%	20%	32%	28%	14%	7%	0%
Congestion Charge: 2-wheeler	₹ 0	₹ 0	₹ 0	₹ 25	₹ 25	₹ 25	₹ 25	₹ 25	₹ 25	₹ 10	₹ 25	₹ 40	₹ 40	₹ 25	₹ 10	₹ 0
Congestion Charge: Cars/Taxis	₹ 0	₹ 0	₹ 0	₹ 50	₹ 50	₹ 50	₹ 50	₹ 50	₹ 50	₹ 25	₹ 50	₹ 65	₹ 65	₹ 50	₹ 25	₹ 0
Congestion Charge: LCV	₹ 0	₹ 0	₹ 0	₹ 100	₹ 100	₹ 100	₹ 100	₹ 100	₹ 100	₹ 50	₹ 100	₹ 130	₹ 130	₹ 100	₹ 50	₹ 0



PCU reduction required to operate at optimum speed in Mumbai

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

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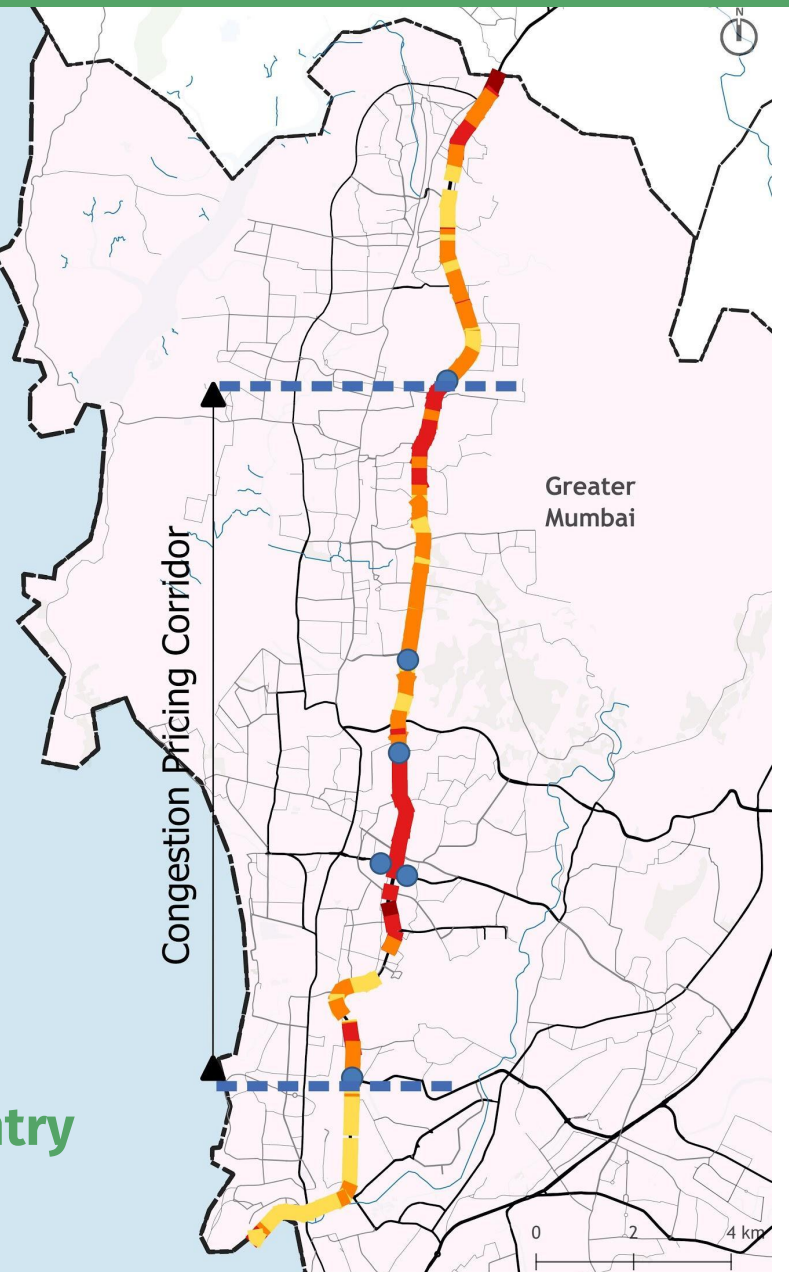
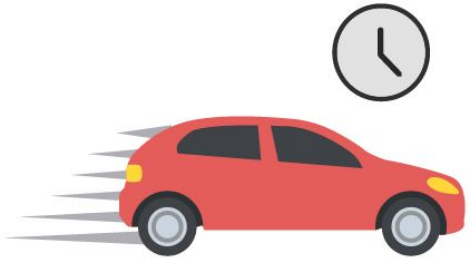
Island City: 7 gantry points



WEH: 6 gantry points

Experience of other cities

Reduce traffic, Improve speed



LONDON

18% drop in total traffic volume entering congestion pricing zone

Singapore

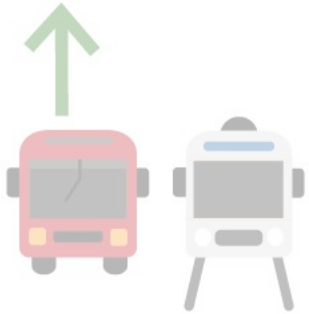
Traffic speed on urban roads maintained at around **20 - 30 kmph**

Stockholm

22% drop in traffic volume on priced roads

Better air

More public transport trips



Funds for a better city

Experience of other cities

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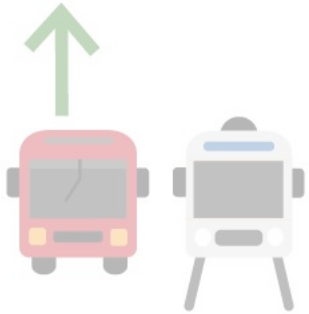
Reduce traffic, Improve speed

Better air

More public transport trips



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

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

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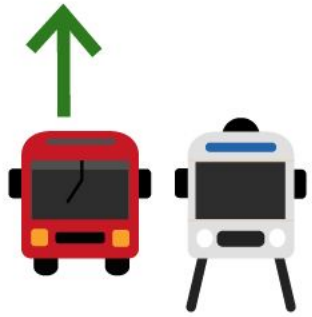
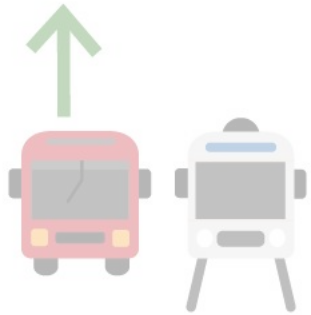
22% drop in traffic volume on priced roads

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

Experience of other cities

	Reduce traffic, Improve speed	Better air	More public transport trips	Funds for a better city
				
LONDON	18% drop in total traffic volume entering congestion pricing zone	12% reduction in NOx and PM10 levels in the congestion pricing zone	- **38%** increase in bus patronage - **60%** drop in trip cancellation due to traffic congestion	
Singapore	Traffic speed on urban roads maintained at around 20 - 30 kmph		Improved traffic speed also improved bus speed and reliability	
Stockholm	22% drop in traffic volume on priced roads	CO_2 emissions in the entire metropolitan area reduced by 2-3%	- **5%** increase in public transport ridership - Better punctuality, reliability with overall improvement in traffic speed.	

Experience of other cities

	Reduce traffic, Improve speed	Better air	More public transport trips	Funds for a better city
				
LONDON	18% drop in total traffic volume entering congestion pricing zone	12% reduction in NOx and PM10 levels in the congestion pricing zone	- 38% increase in bus patronage - 60% drop in bus trip cancellation due to traffic congestion	>80% of revenue dedicated for improvements in public transportation, road safety, walking and cycling and improvement of roads and bridges
Singapore	Traffic speed on urban roads maintained at around 20 - 30 kmph		Improved traffic speed also improved bus speed and reliability	Revenue generated from congestion pricing is pooled in with other sources of revenue of the public exchequer for allocation in the annual budgets.
Stockholm	22% drop in traffic volume on priced roads	CO2 emissions in the entire metropolitan area reduced by 2-3%	- 5% increase in public transport ridership - Better punctuality, reliability with overall improvement in traffic speed.	

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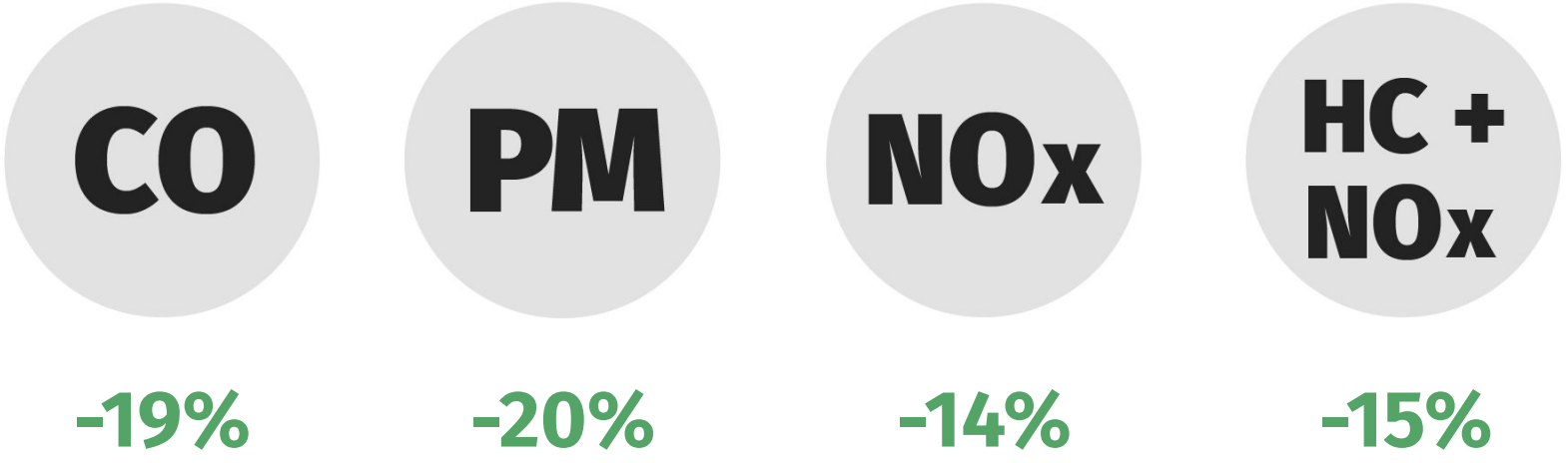
Reduction in emissions



Congestion pricing can cut pollution by

15 to 20%

Source: *Road Pricing to Decongest Mumbai. ITDP India. 2020*

Health cost savings

Fuel savings

Productivity increase

Save more than ₹ 3600 cr ($485 million)

through fuel savings, productivity increase 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

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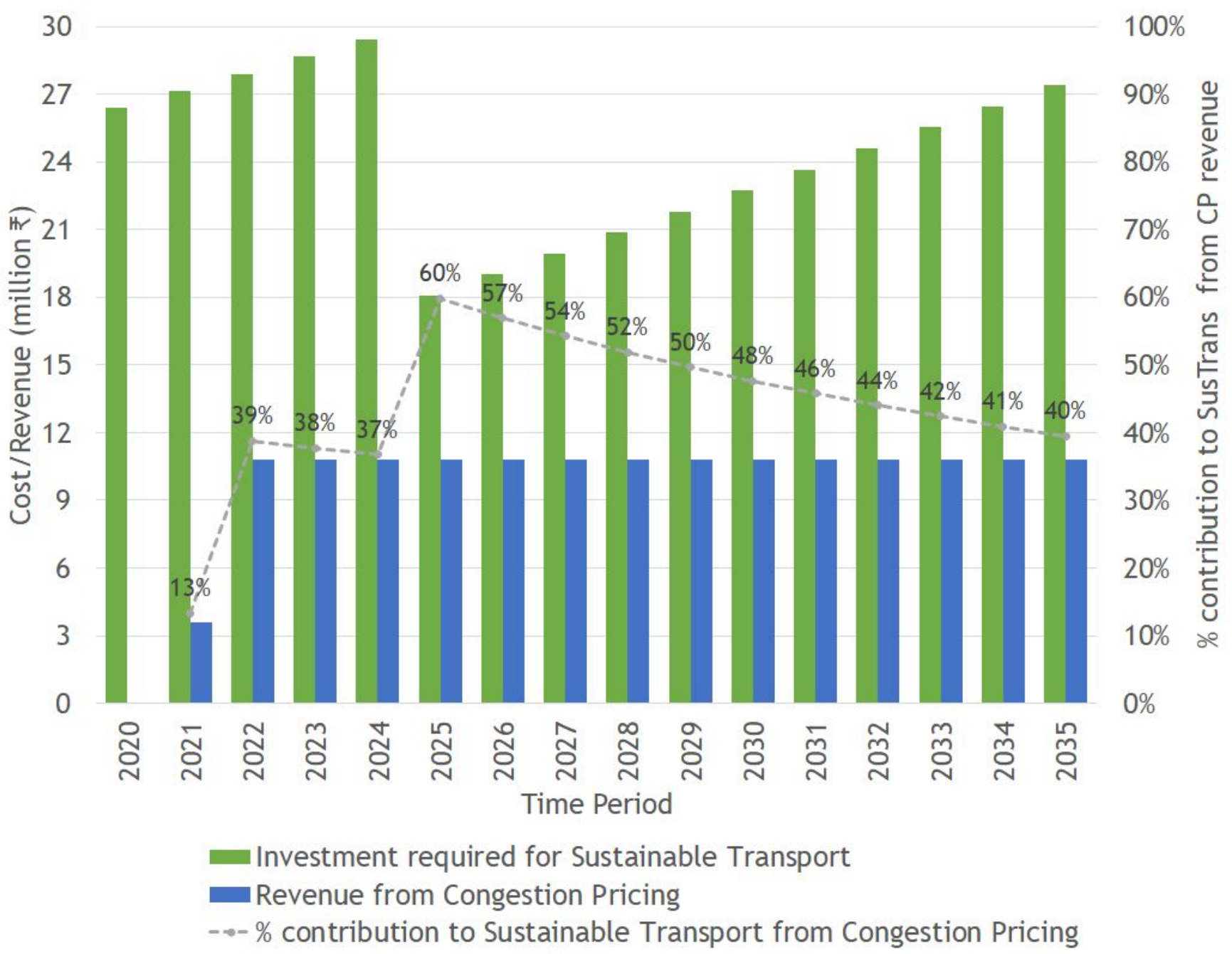
40% of sustainable transport cost

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*

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Thank you

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