



## INDIA CYCLES4CHANGE & STREETS4PEOPLE CHALLENGE

SEASON 2 | WORKSHOP 1 | 2022.04.04

Presentation by:

**StudioPOD**  
PEOPLE ORIENTED DESIGN



# “People Oriented Design”

Since 2013, POD has worked relentlessly to push the boundaries of urban design in the global context. We have worked in India and the UAE on projects including urban planning, urban design, transport planning, campus planning, landscape urbanism and streetscapes.

We have now completed 50 projects globally and have now set up an office in the USA as well.

# OUR EXPERIENCE: 50+ DIVERSE PROJECTS



Strategic Planning

~ 32,500 acres



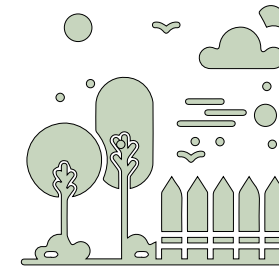
Detailed Master Planning

~ 6,500 acres



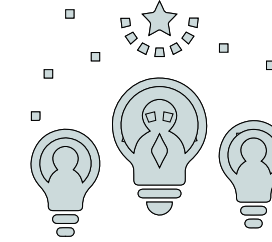
Transport Planning

~ 200 km



Landscape Urbanism

~ 55 acres



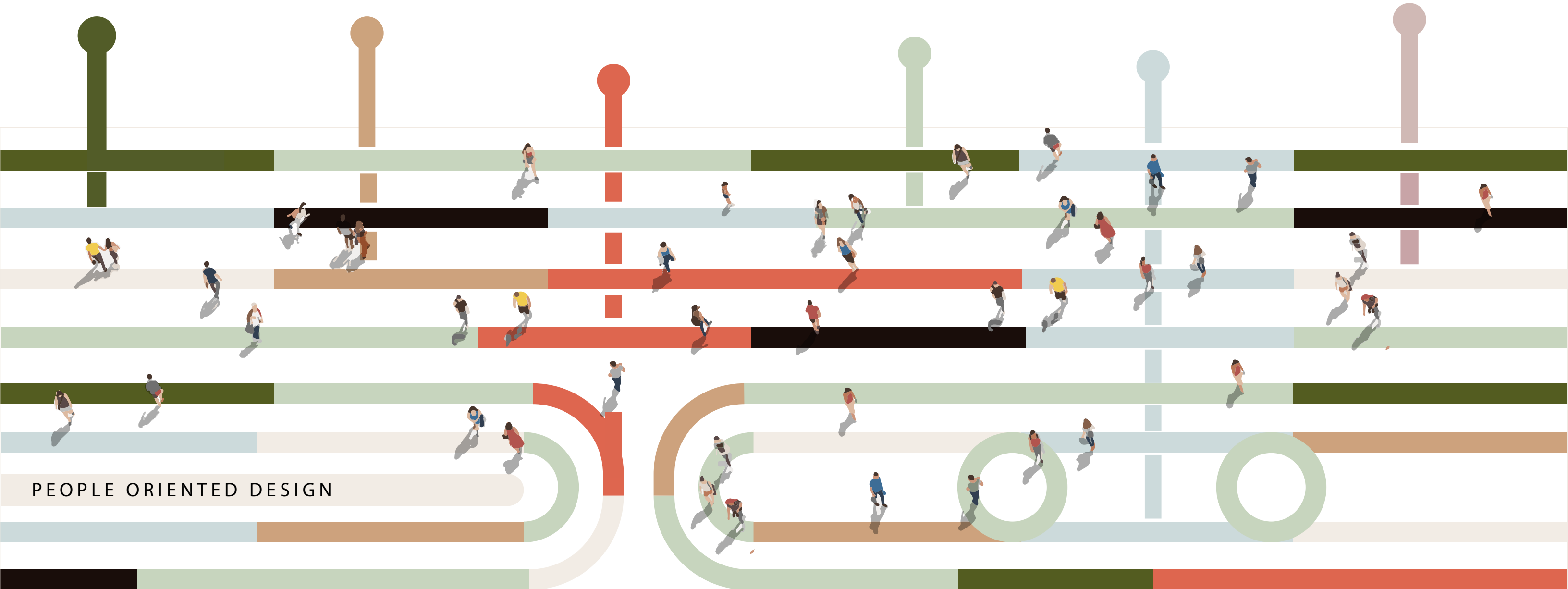
Toolkits & Feasibility Study

~ 25,225 acres



Initiatives & Competitions

~ 500 lives



PEOPLE ORIENTED DESIGN

# Streets are public spaces

“Streets typically represent the largest area of public space a city has; streets and footpaths typically represent 30-40% percent of the city’s land area. Streets are also the most used public spaces; they are not only conduits for the movement of people but are a significant element of the city’s public realm”

# STREET DESIGN PRINCIPLES



**Equitably distributed ROW**



**Pedestrians friendly intersections**



**Street furniture, signage, and wayfinding**



**Promote non-motorised mobility options**



**Place making and activities for all**



**Celebration of local art and craft**

# PRESENTATION OUTLINE

## 1. TACTICAL URBANISM TRIALS

Case Study of Karla Phata Intersection on Mumbai-Pune Old Highway

## 2. VISION FOR TRANSFORMING STREETS OF MUMBAI

Case Study of One Green Mile: Senapati Bapat Marg, Lower Parel, Mumbai



PEOPLE ORIENTED DESIGN

# TACTICAL URBANISM TRIAL

Case Study of Karla Phata Intersection on Mumbai-Pune Old Highway



Name of project	Tactical Urbanism trial to increase road safety at Karla Phata on the NH-48
Client /Owner or sponsoring authority	<b>SaveLife</b> Foundation
Project Timeline	<b>2020- January 2021</b>
Project Area/ Length	<b>6000 SQ.M</b>
Scope of work	<b>Tactical Urbanism</b> trial to increase road safety, Detailed design to addressed the traffic and <b>geometry challenges of the junction</b> , Tender Drawings, GFC & BOQ, Site execution, <b>Post implementation impact analysis.</b>
Consultant Team	<b>StudioPOD Design Private Limited   Urban Design Lead</b> Sustainancy Team   Traffic Consultants Dronitech   Drone documentation

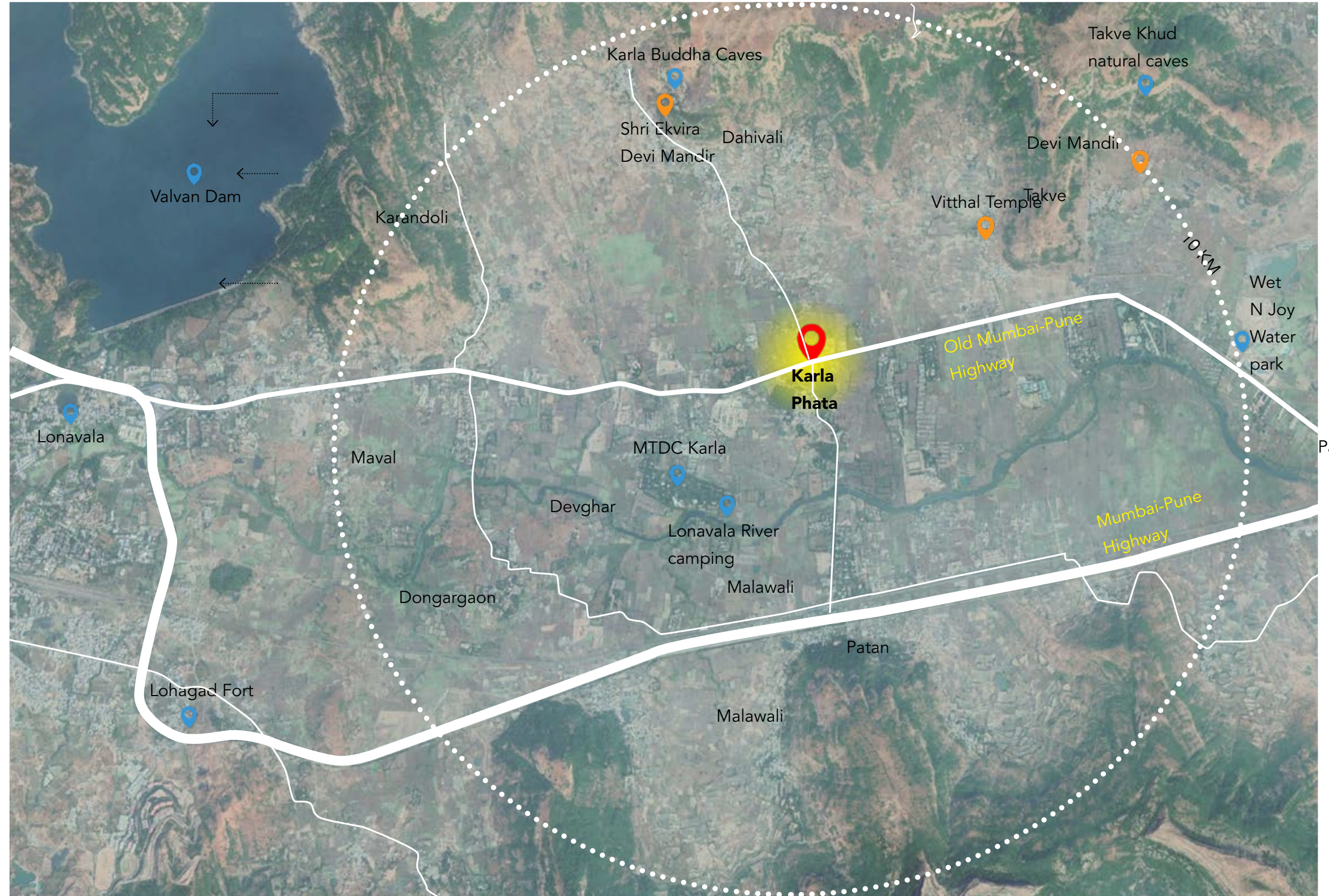
# SITE CONTEXT & UNDERSTANDING

From 2018 - 2020

**18**  
Accidents

**17**  
Fatalities

**23**  
Injured





# IMPLEMENTATION PROCESS



## SURVEYS & INTERVIEWS

- 3 DAY TRAFFIC + PEDESTRIAN SURVEY
- USER EXPERIENCE SURVEY
- CASE STUDIES
- BEST PRACTICE RESEARCH

## PRE-TRIAL ANALYSIS & TU DESIGN

- DESIGN OPTIONS
- MATERIAL SELECTION
- TENDER DOCUMENTATION
- COSTING (BOQ)

## TACTICAL URBANISM TRIALS

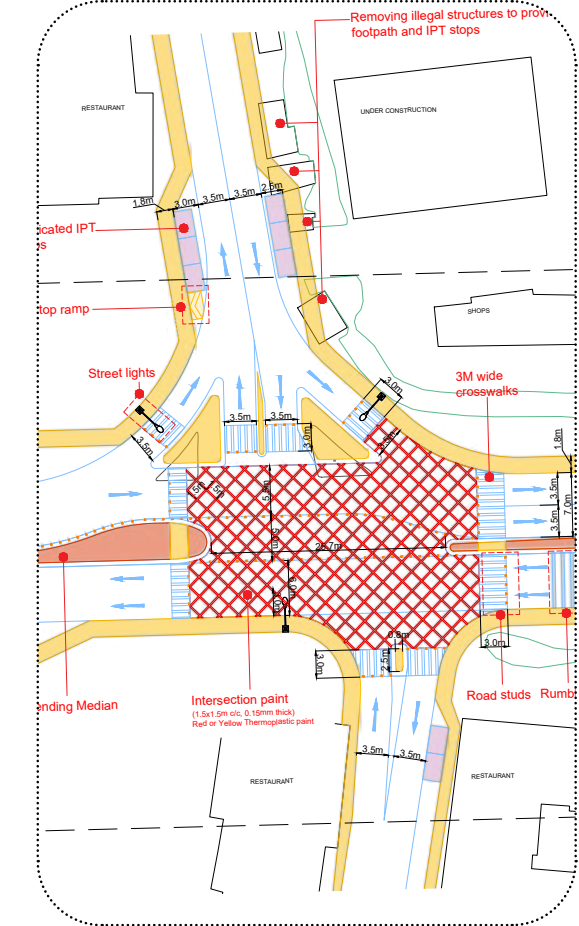
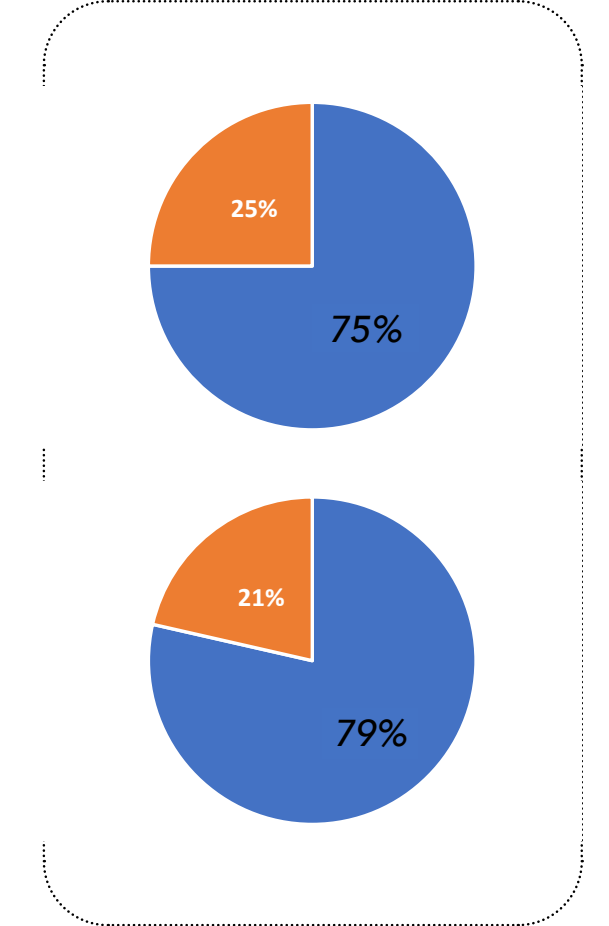
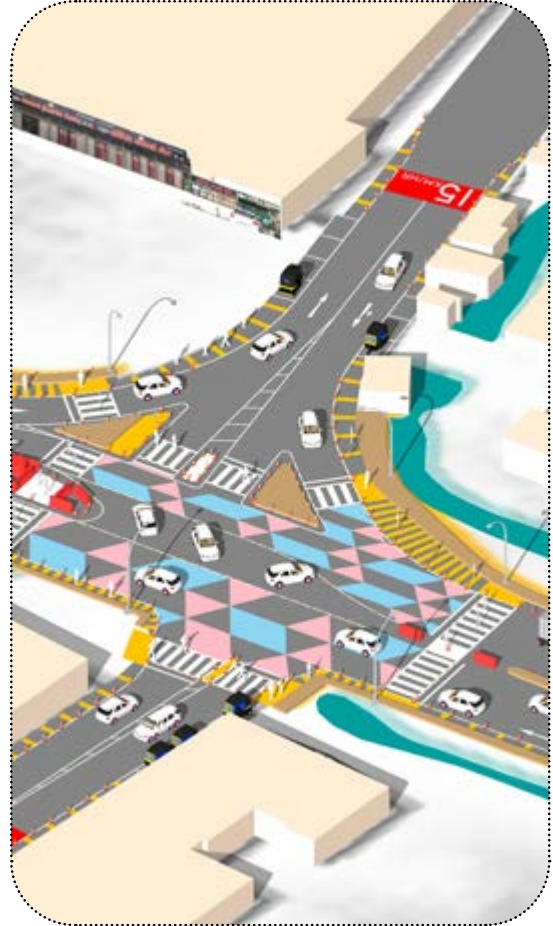
- SITE PREPARATION
- IMPLEMENTATION WITH PAINTING, BARRICADES AND CONES

## POST-TRIAL ANALYSIS

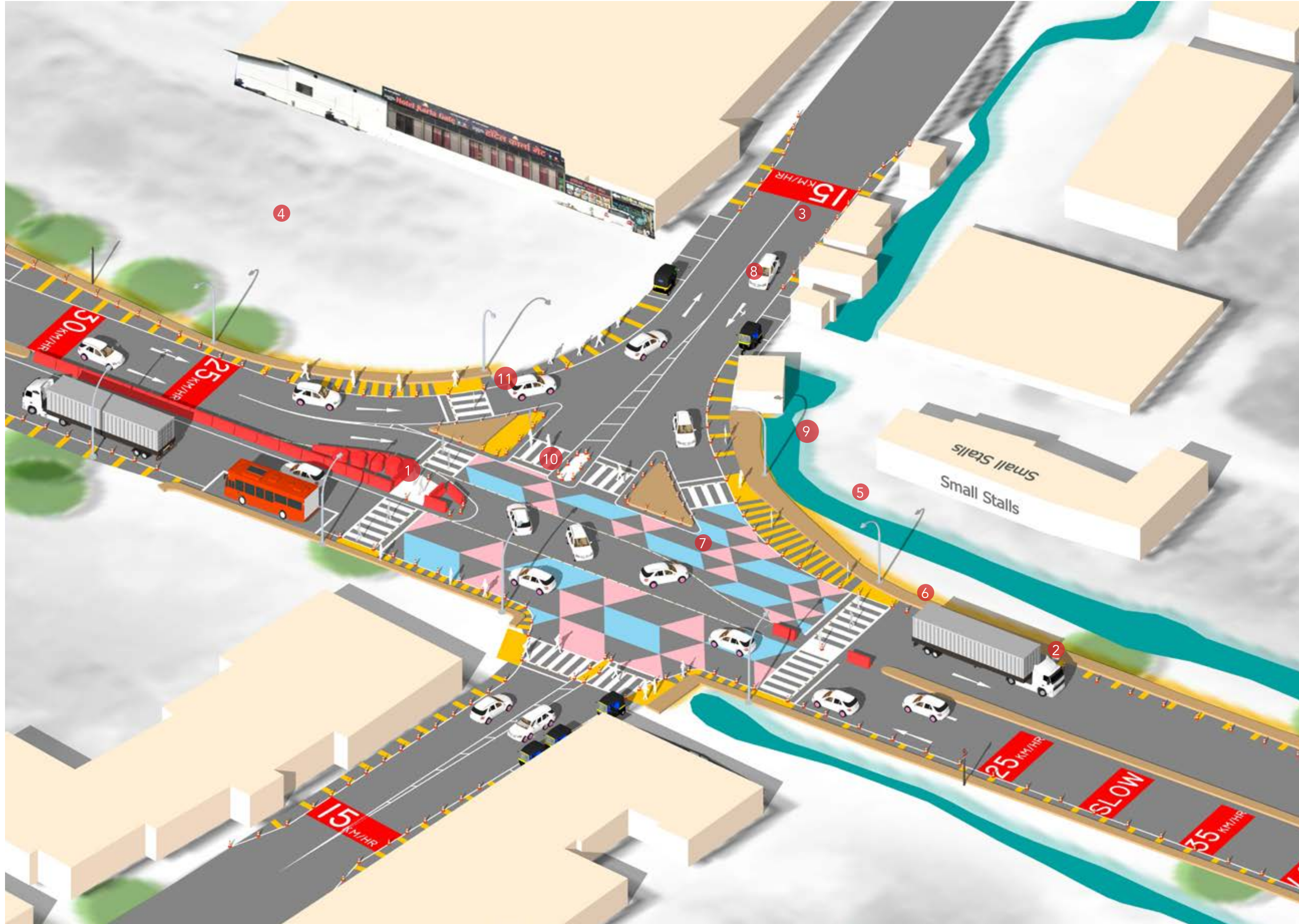
- POST TRIAL ANALYSIS
- TRIAL LEARNINGS

## FINAL RECOMMENDATION

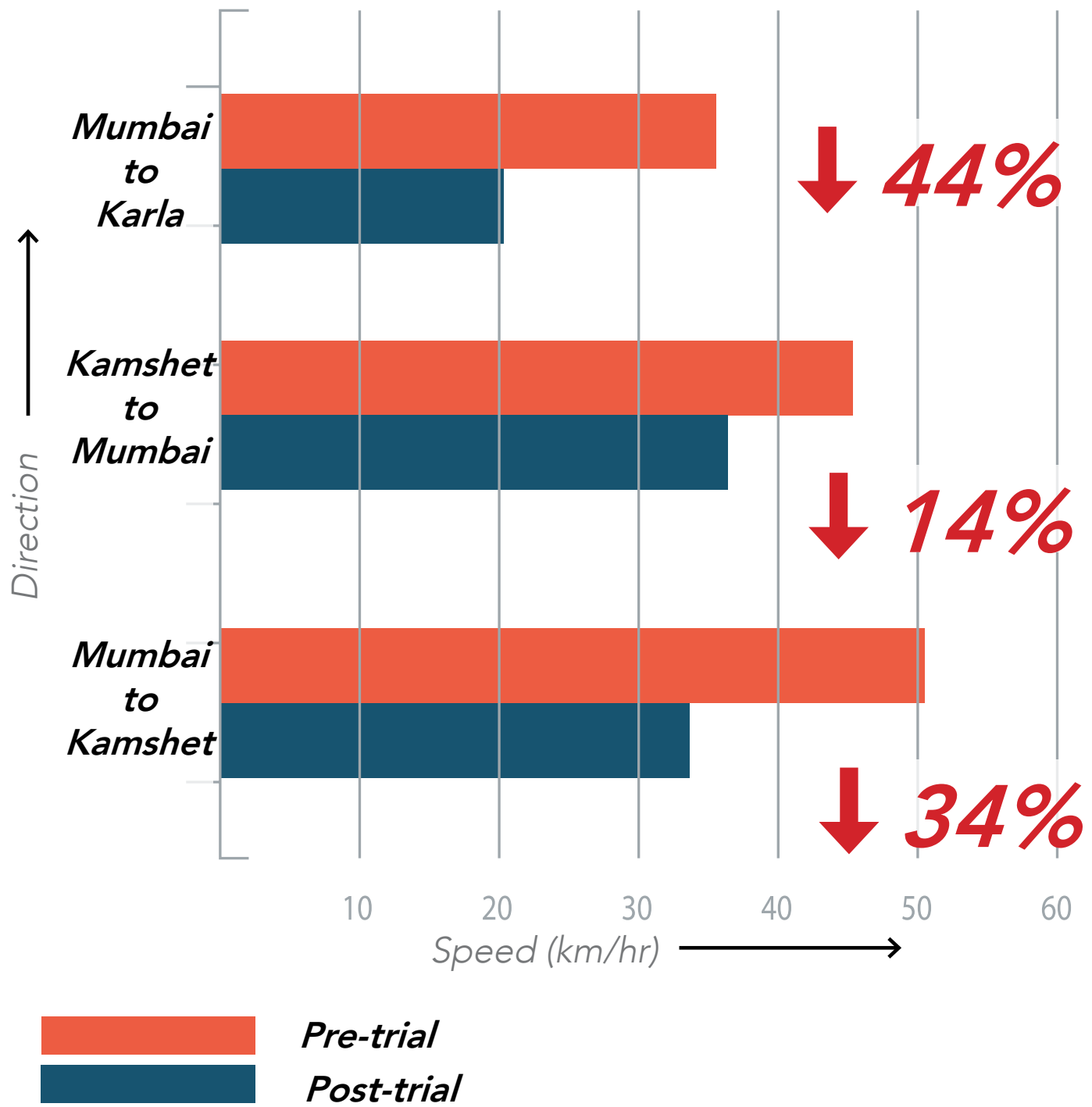
- PERMANENT DESIGN RECOMMENDATION



# PROPOSED INTERVENTION



- 1 Proposed Bus Bay
- 2 Speed limits marked on road with help of synthetic enamel paint
- 3 IPT stops
- 4 Proposed Signages
- 5 Traffic cones at 2m c/c
- 6 Proposed barricades to prevent jay-walking
- 7 Intersection marked with help of synthetic enamel paint
- 8 Shoulder Space created after road geometry correction
- 9 Proposed pedestrian crossing
- 10 Waiting space created for pedestrians using traffic cones in the middle of the road
- 11 Proposed water filled barricades for altered road geometry



*Geometry correction and carriageway width reduction in the Mumbai to Pune direction = 24% reduction in speed.*



Fig 7.2: Picture highlights horizontal speed limit markings

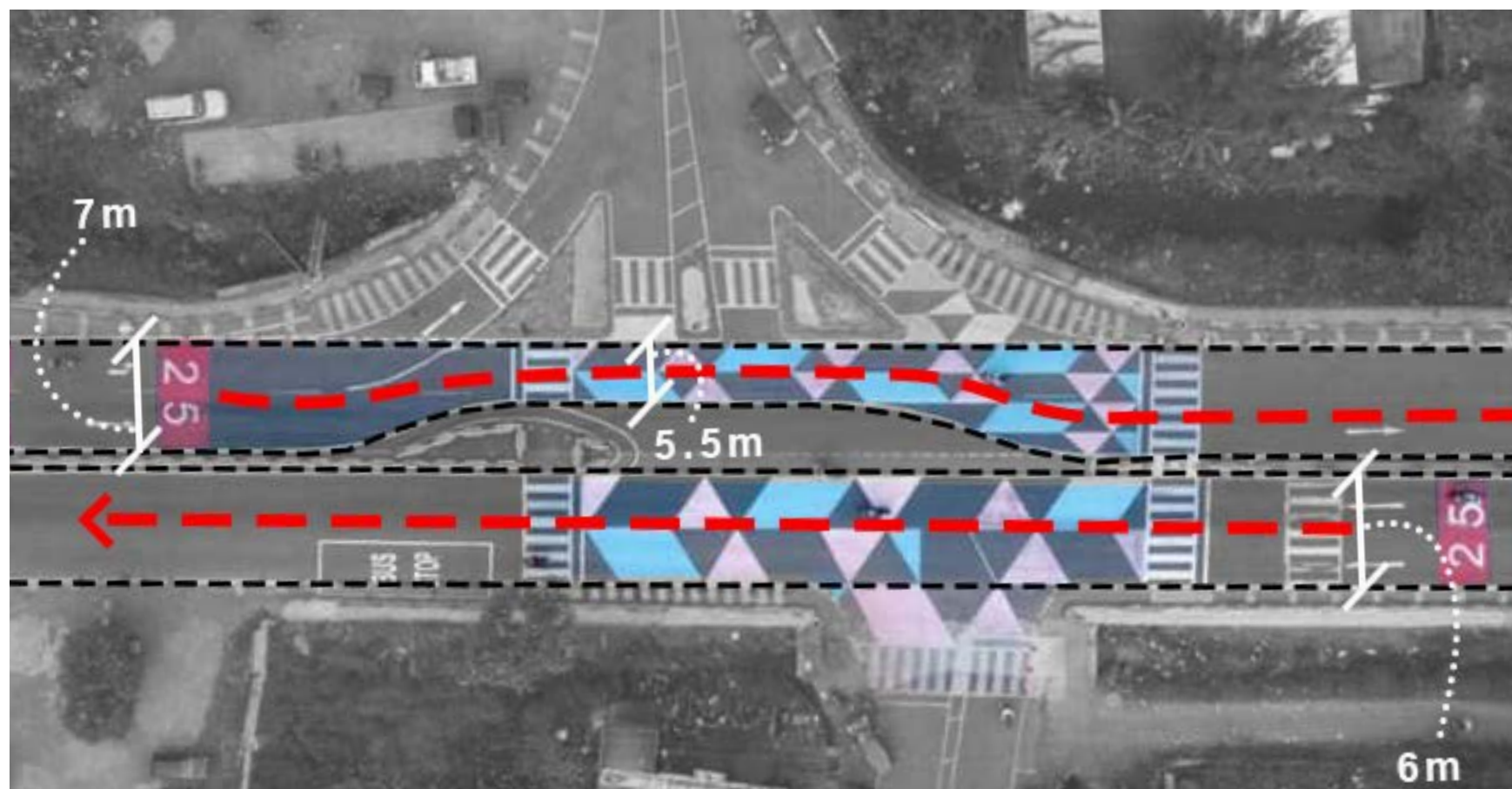


Fig 7.1: Image showing vehicular route

# Creating safer public realm and pedestrian crossing

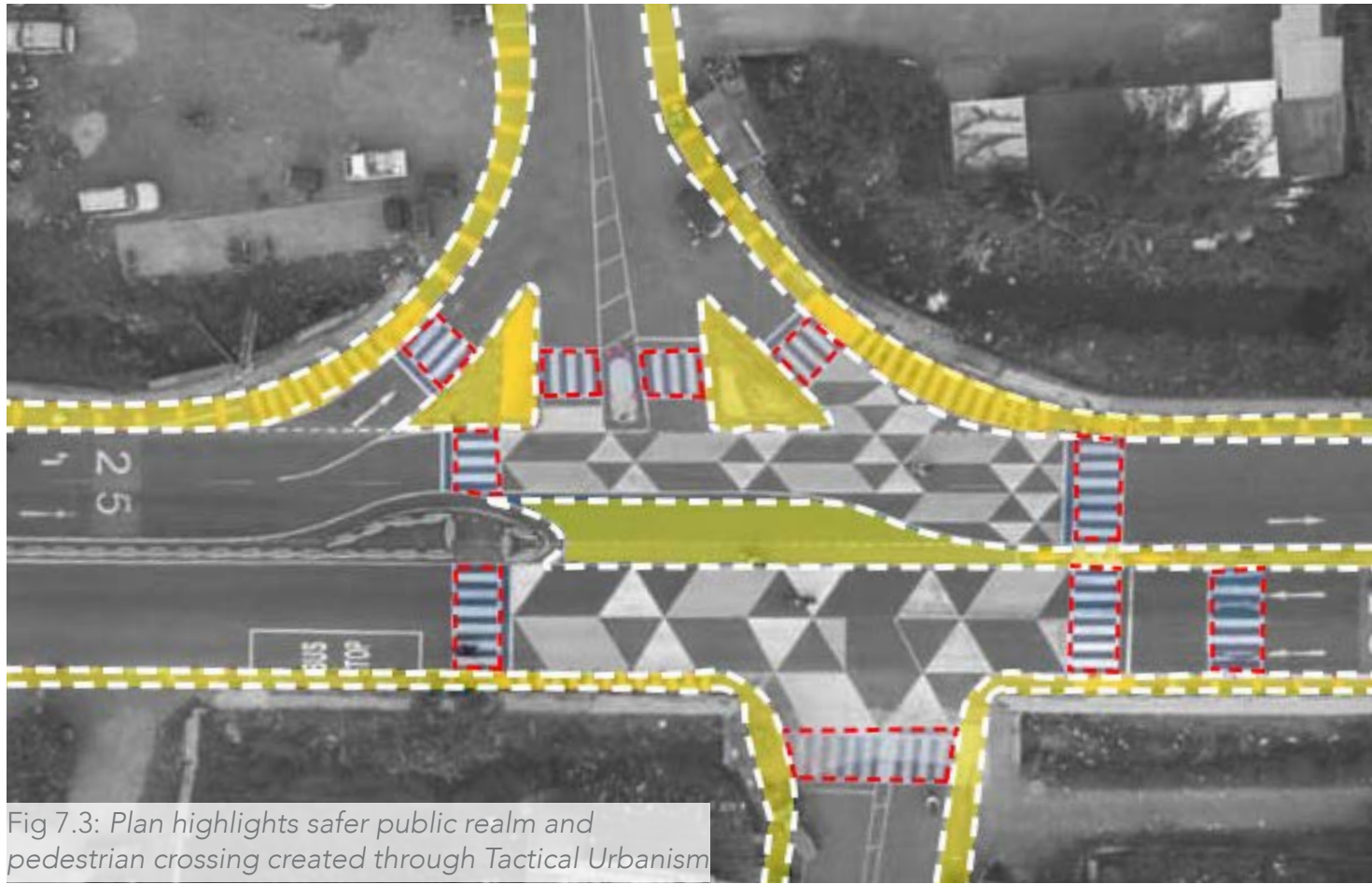


Fig 7.3: Plan highlights safer public realm and pedestrian crossing created through Tactical Urbanism



Fig 7.5: Picture highlights safer footpath created for pedestrians

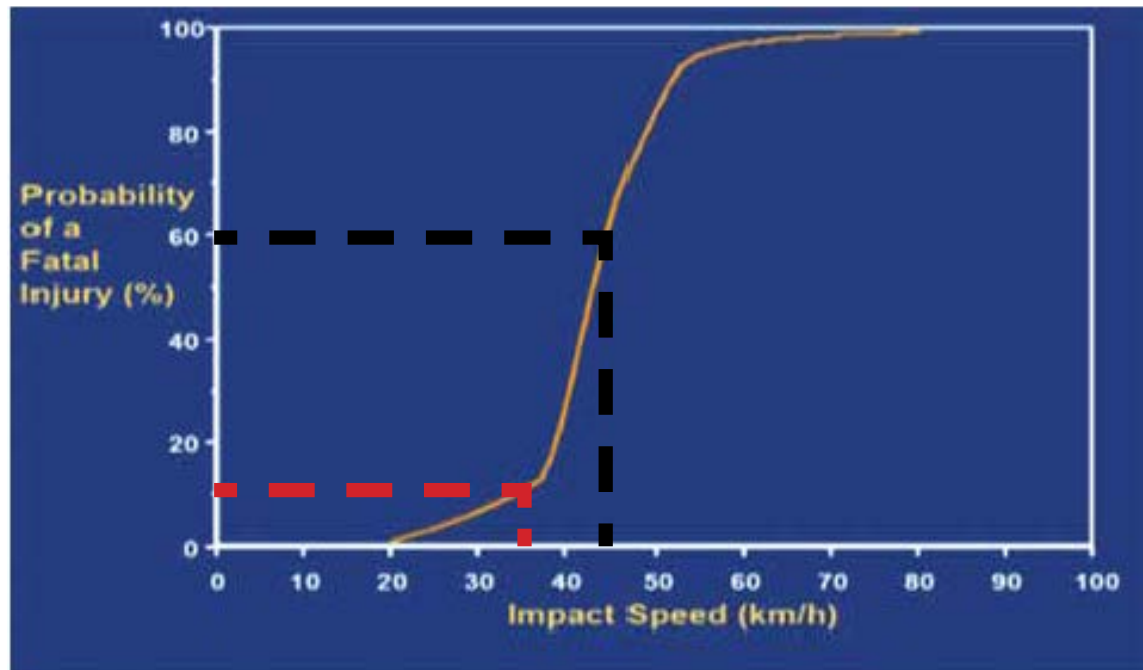


Fig 7.4: Probability of fatal injury of the pedestrian by the speed of the car on impact

Legend  Pre-trial 45 km/hr  
 Post-trial 35 km/hr

Refuge area : 148.1 Sq.m.  
 Pedestrian refuge area : 36.76 Sq.m.  
 Vehicular refuge area : 111.34 Sq.m.

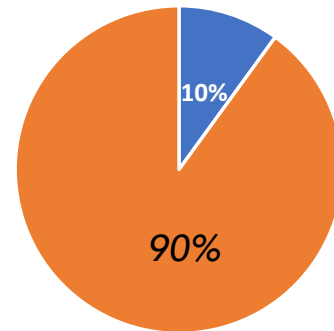
383% increase in total refuge area

As a result of road geometry correction 35% reduction in speed of vehicles travelling in that direction.

# Pre-Trial - Pedestrians

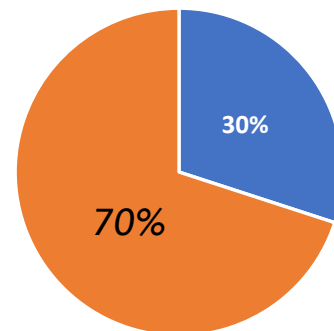
1. Do you feel safe while crossing the junction?

90% people say they do not feel safe while crossing the junction. High speed on the highway is the biggest threat



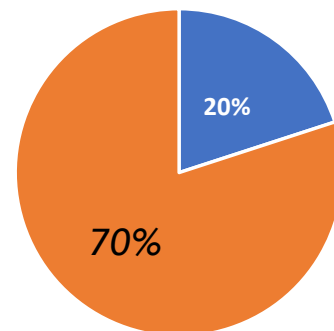
2. Do you feel the junction design is convenient for merging traffic?

70% people say the junction design is not safe for merging traffic.



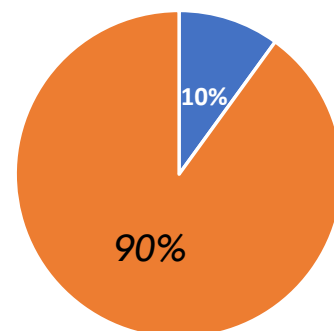
3. Do you use the existing footpath?

70% people do not use footpath due to its poor condition.



4. Do you feel safe using the junction at night?

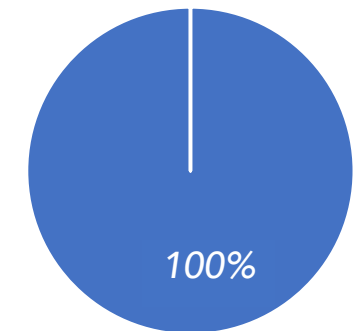
90% people say they do not feel safe using the junction at night as there is no lighting provision.



# Post-Trial - Pedestrians

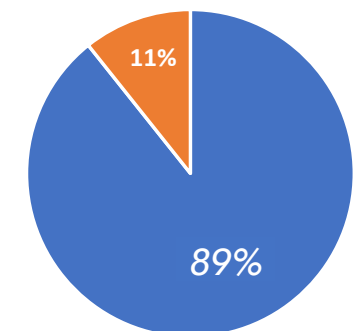
1. Do you feel safe while crossing the junction?

100% people say feel very safe while crossing the junction after intervention.



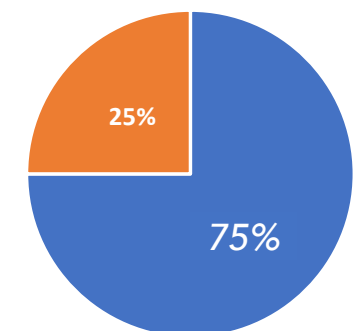
2. Are vehicles slowing down near crossing?

89% people say the intervention has helped in slowing the vehicles approaching the intersection



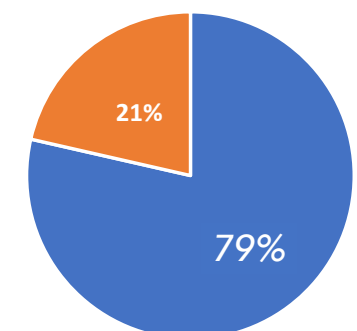
3. Do you use the existing footpath?

75% people have started using footpath now.

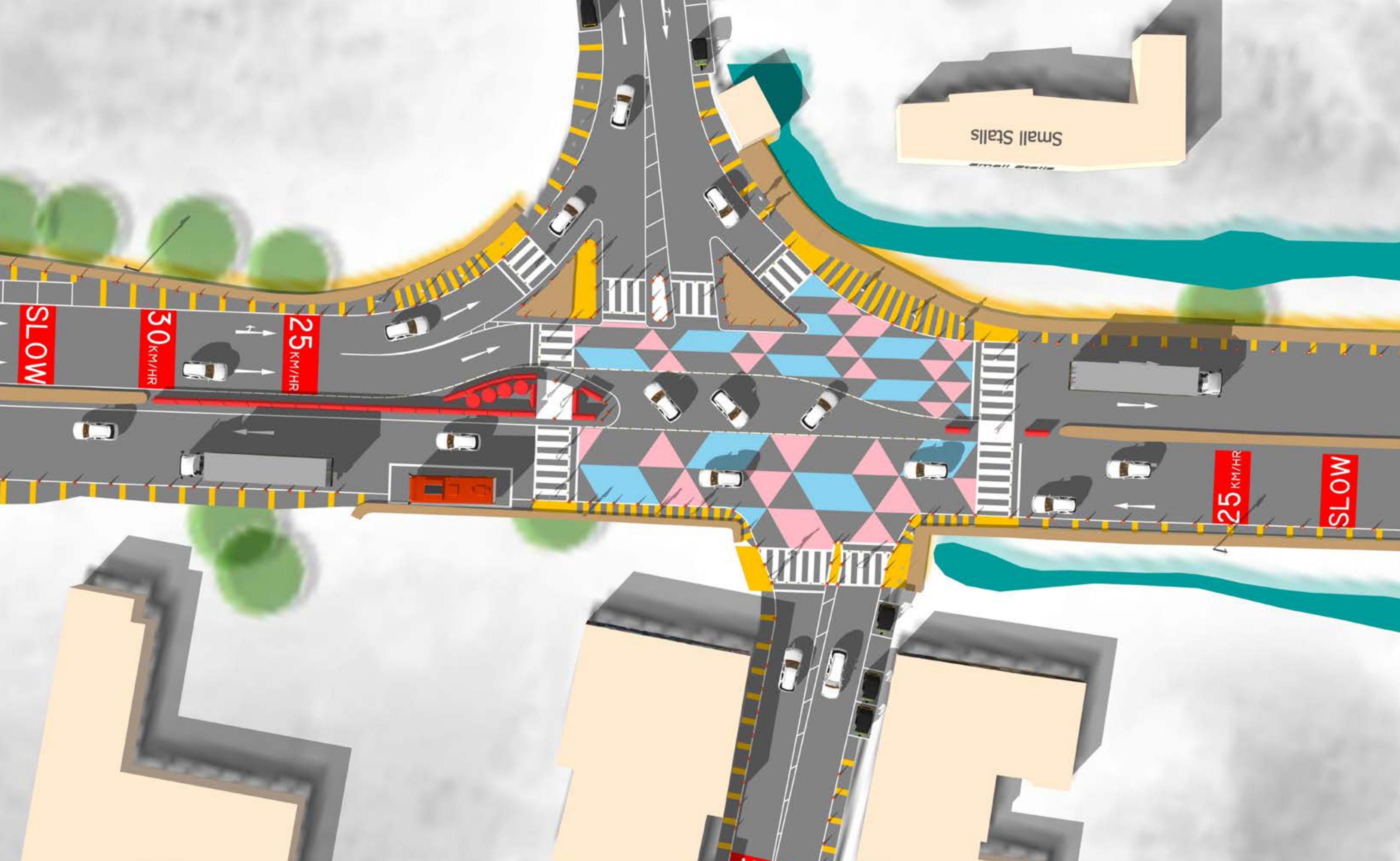


4. Do you feel safe crossing the junction at night?

79% people say they have started feeling safe using the junction at night.



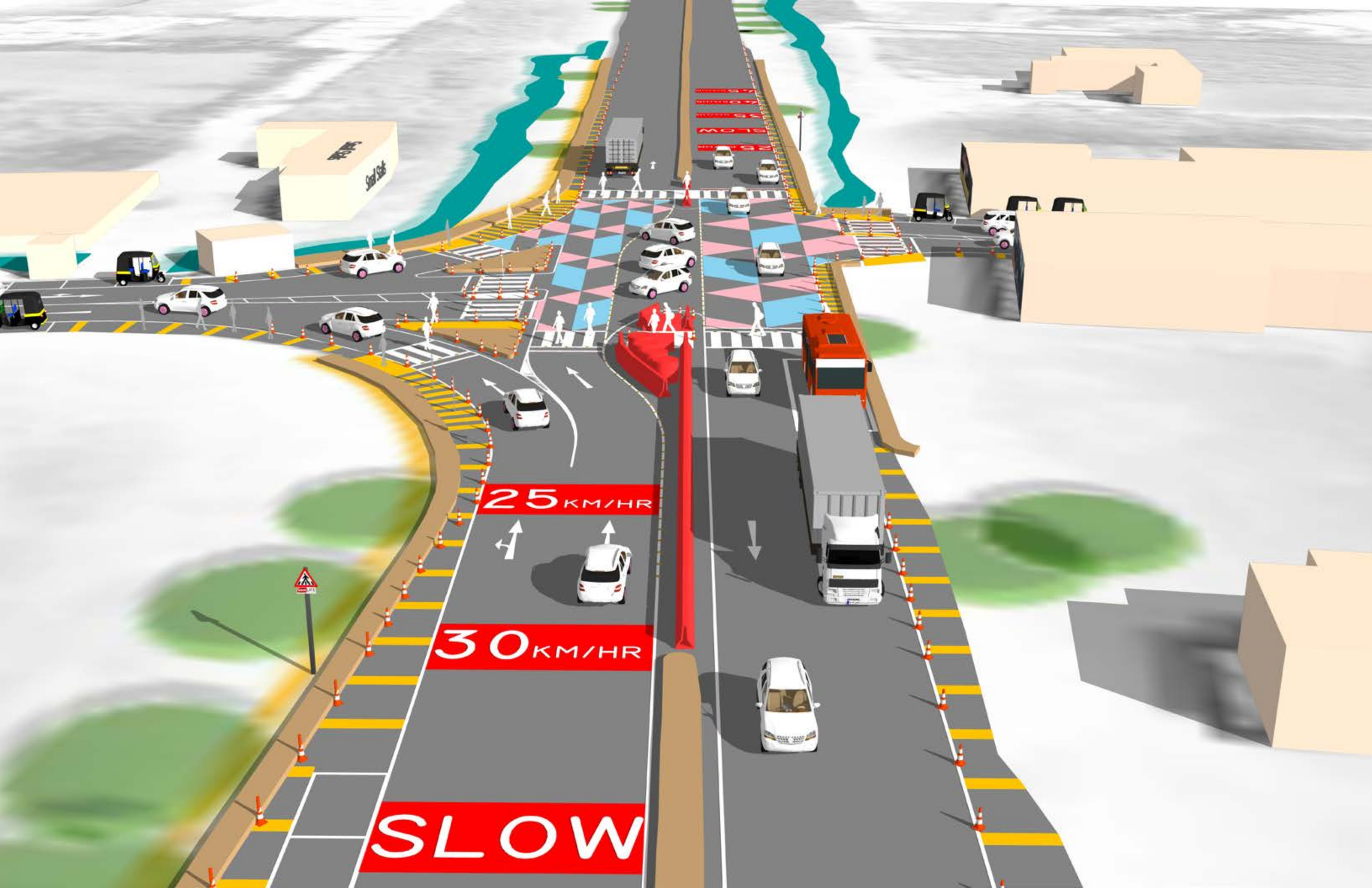












25 KM/HR

30 KM/HR

SLOW





**Pre  
Trial**

Mumbai to Ekvira  
devi road: 40 km/hr

**Post  
Trial**

Mumbai to Ekvira  
devi road: 26 km/hr

**हॉटेल कार्फा गेट**  
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COME ENJOY THE ALTERNATIVE TASTE OF INDIA!  
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• स्पेशल मटकी मिसल

**ORIGINAL LONAVALA CHIKKI**

**ॐ काई यान शोध**  
हॉटेल अमृतवेल प्युअर व्हेज

**हॉटेल अमृतवेल प्युअर व्हेज**







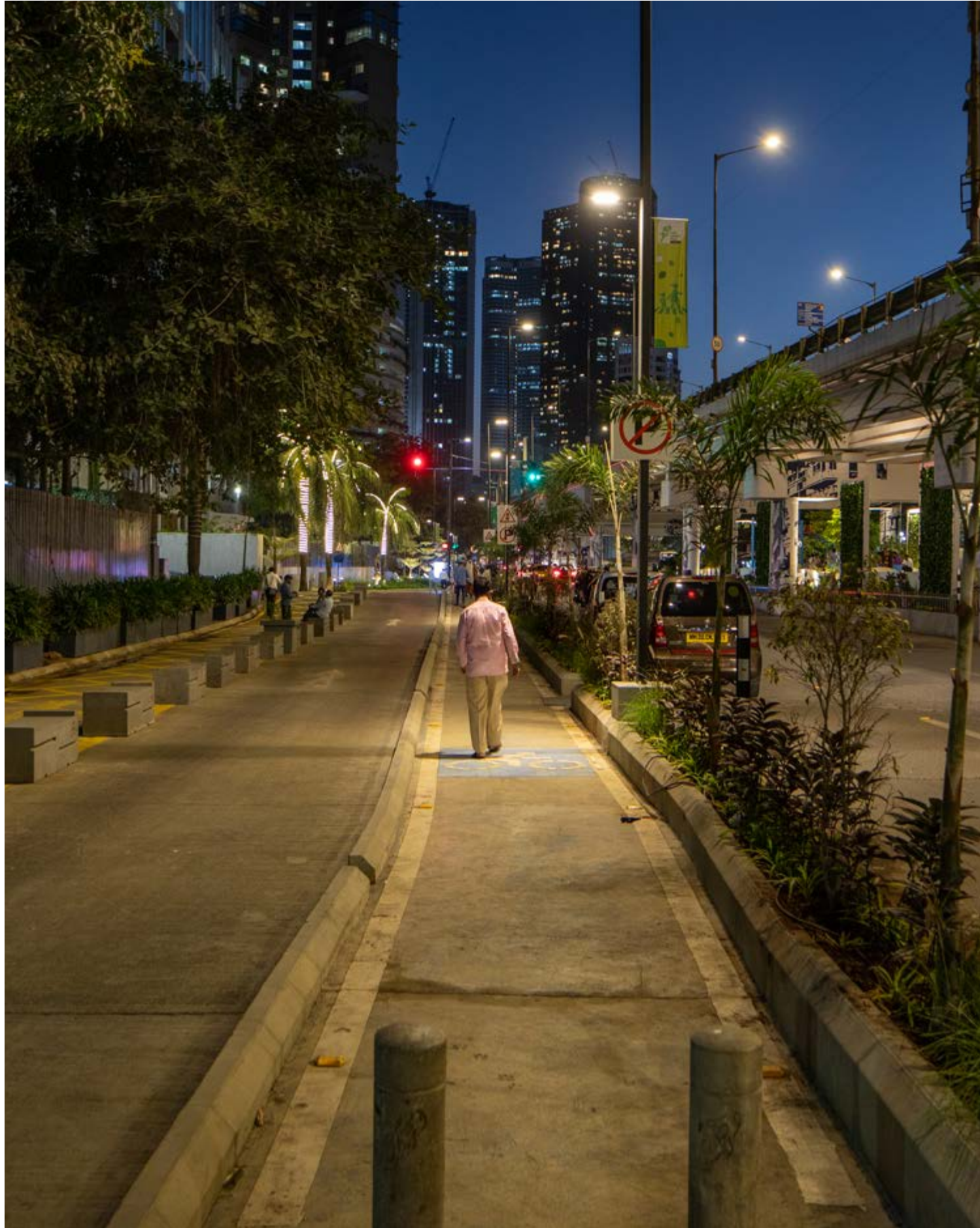
## 2. VISION FOR TRANSFORMING STREETS OF MUMBAI

Case Study of One Green Mile: Senapati Bapat Marg, Lower Parel, Mumbai

- (i) Site Context & Understanding
- (ii) Implementation Process
- (iii) Concept Design
- (iv) Tactical Urbanism Trials
- (v) Implementation
- (vi) Key Takeaways



# ONE GREEN MILE, SENAPATI BAPAT MARG, MUMBAI



Name of project	<b>One Green Mile, Senapati Bapat Marg, Mumbai</b>
Client /Owner or sponsoring authority	<b>Nucleus Office Parks Municipal Corporation of Greater Mumbai (MCGM)</b>
Project Timeline	Mar 2020 - January 2022
Project Area/ Length	1.8 km
Scope of Work	<ul style="list-style-type: none"> <li>• Concept Design, Detailed design and preparation of tender &amp; GFC drawings and BOQ (<b>Design of NMT &amp; Cycle Track Infrastructure, Street Furniture Design, Transport Planning &amp; Signal Design</b>)</li> <li>• Co-ordination with MCGM, Traffic Police &amp; other authorities</li> <li>• Implementation supervision</li> </ul>
Consultant Team	<ul style="list-style-type: none"> <li>• <b>StudioPOD Design Pvt Limited - Urban Design Lead</b></li> <li>• AMS Consultants &amp; Enviroscape - Landscape</li> <li>• Sustainancy Consultancy - Traffic Simulation</li> <li>• Lighting Concepts - Lighting Design</li> <li>• JW Consultants - Structural</li> <li>• Arkk Consulting - MEP</li> <li>• St+Art - Public Art</li> <li>• MVRDV - Underflyover Collaborator</li> <li>• Turner Construction Company - PMC</li> </ul>

## **Public - Private Collaboration**

+

## **Design + Engineering + Expertise:**

*A multi-disciplinary effort showcases how collaboration, process and dialogue of different expertise is important*



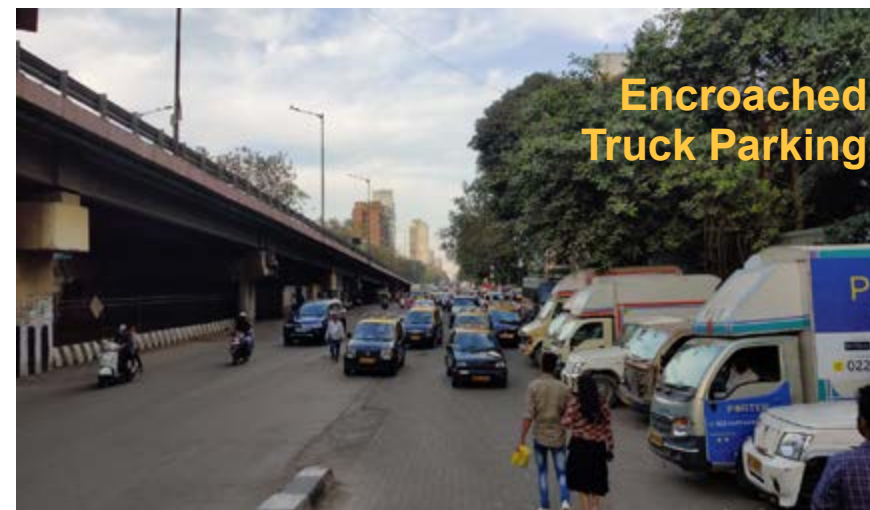
# SENAPATI BAPAT MARG CONTEXT



# PEDESTRIAN AND VEHICULAR MOVEMENT CHALLENGES

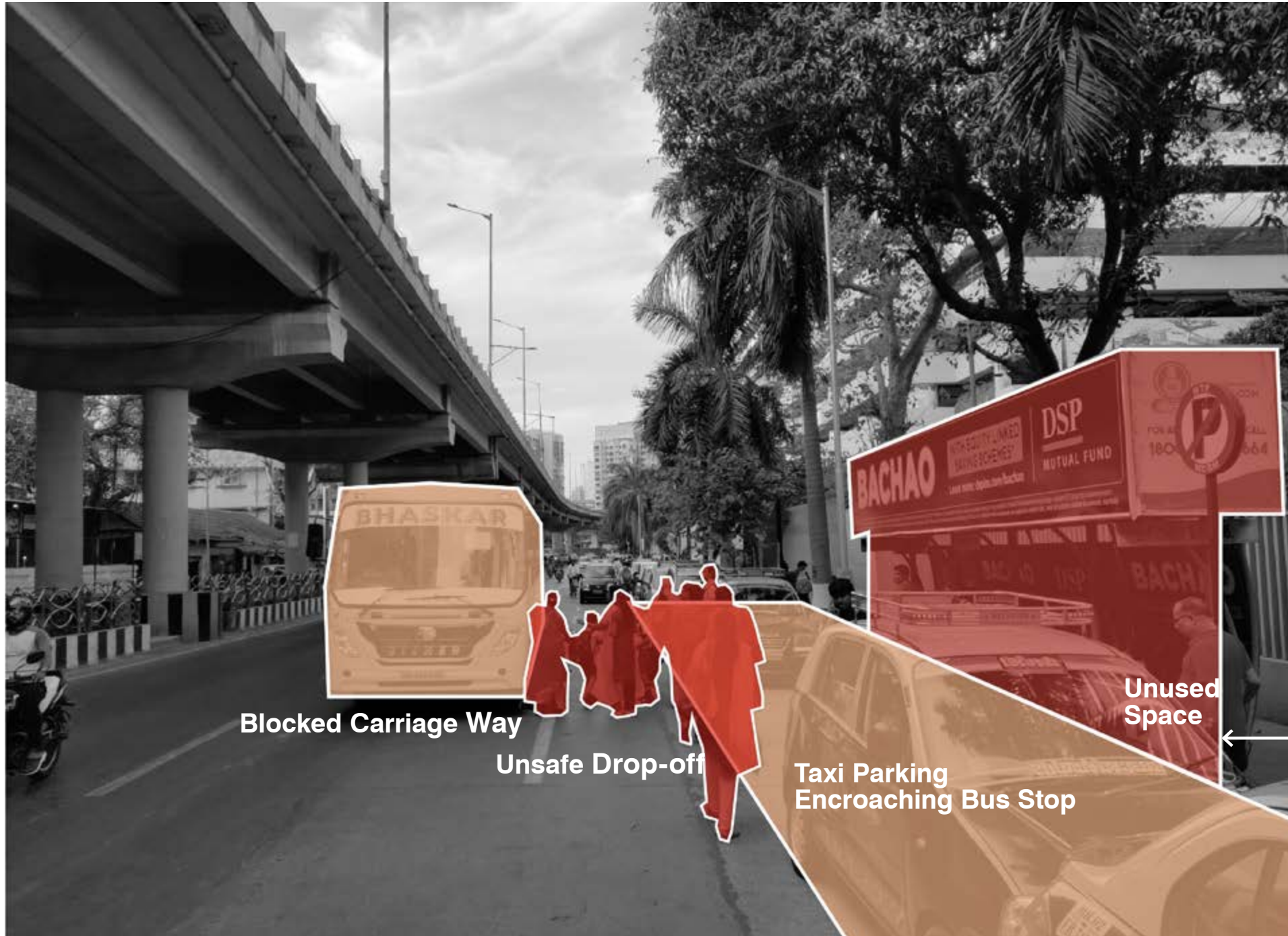


Conflict of traffic at the entry/exit of OIC and under the flyover.



Shoulder occupied by illegal parking

# PEDESTRIAN AND VEHICULAR MOVEMENT CHALLENGES



# UNDERUTILIZED AND NEGLECTED UNDERFLYOVER SPACES



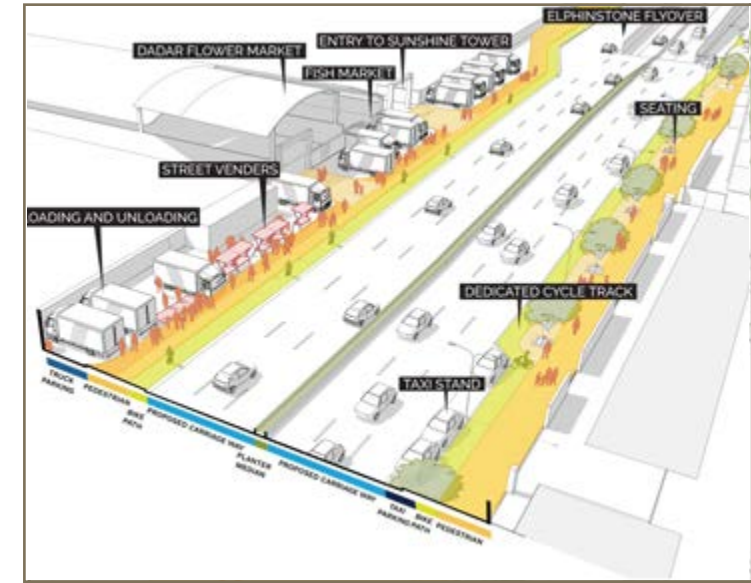
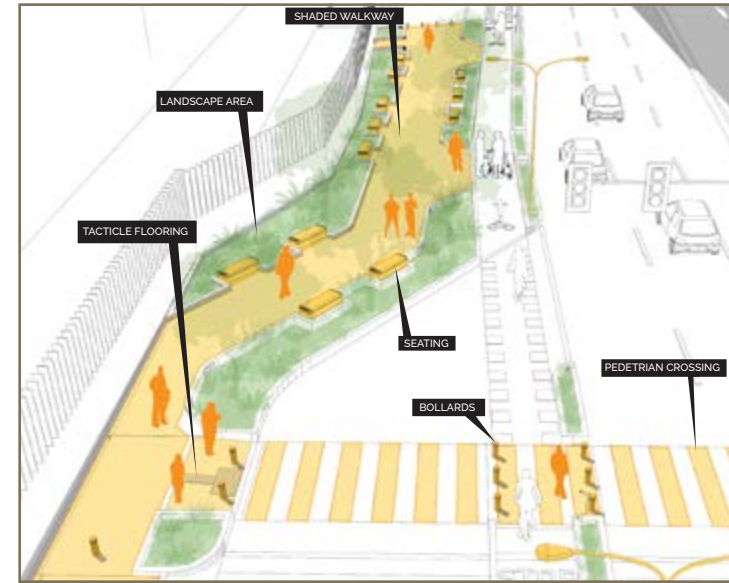
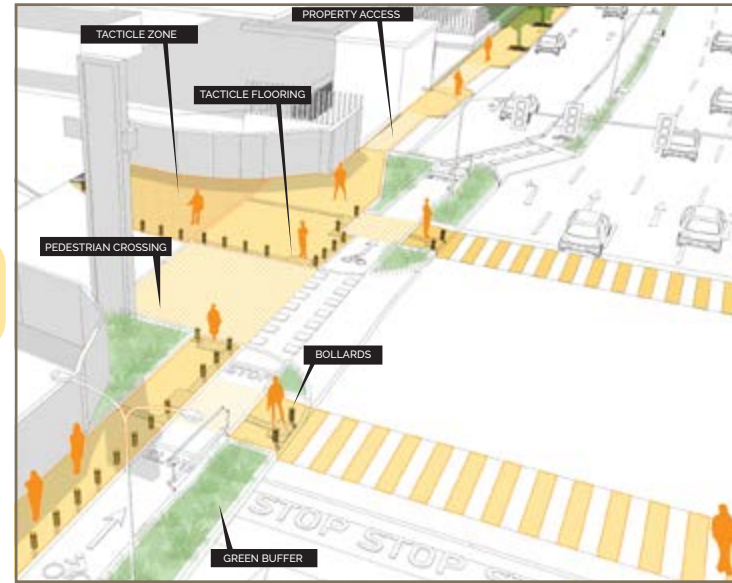
# DEVELOPMENT VISION

STATE-OF-THE-ART STREETScape  
THAT WILL SERVE AS A MODEL FOR  
STREET DESIGN IN MUMBAI.

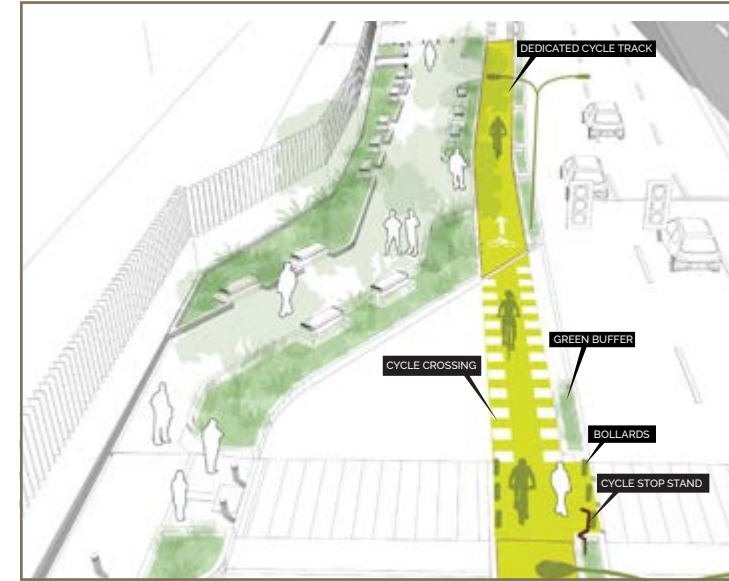
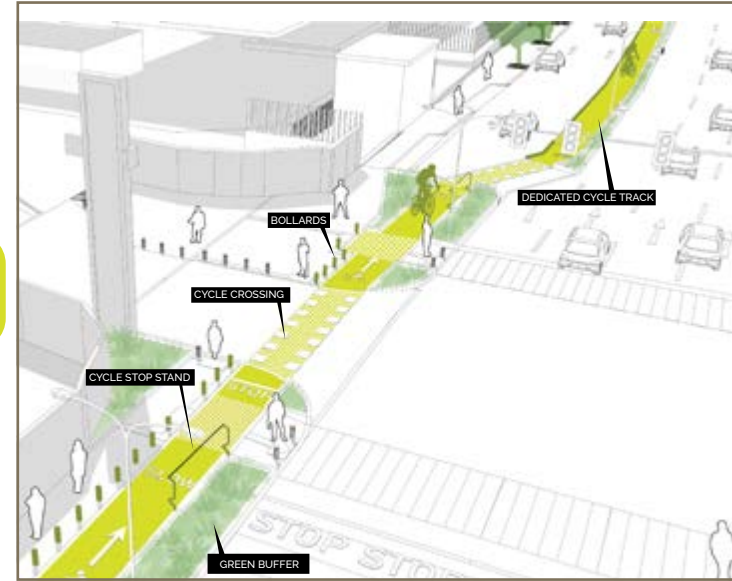


# CREATE A COMPLETE STREET THAT ADDRESS NEEDS OF ALL USERS

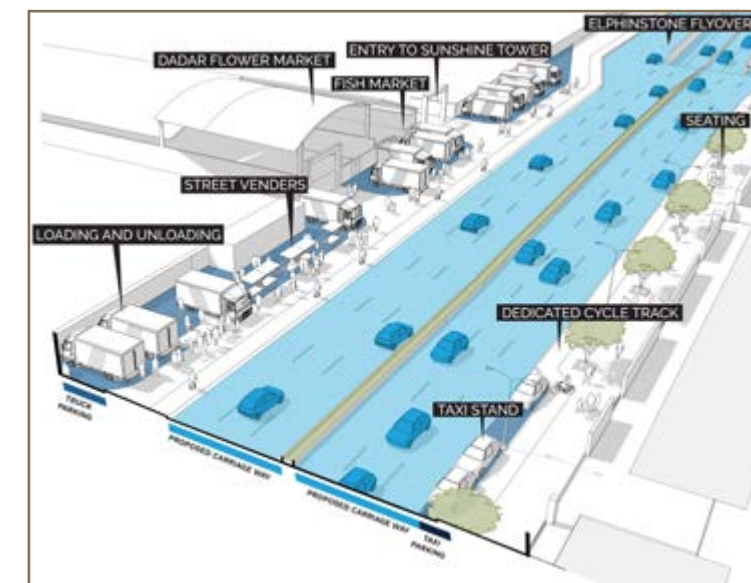
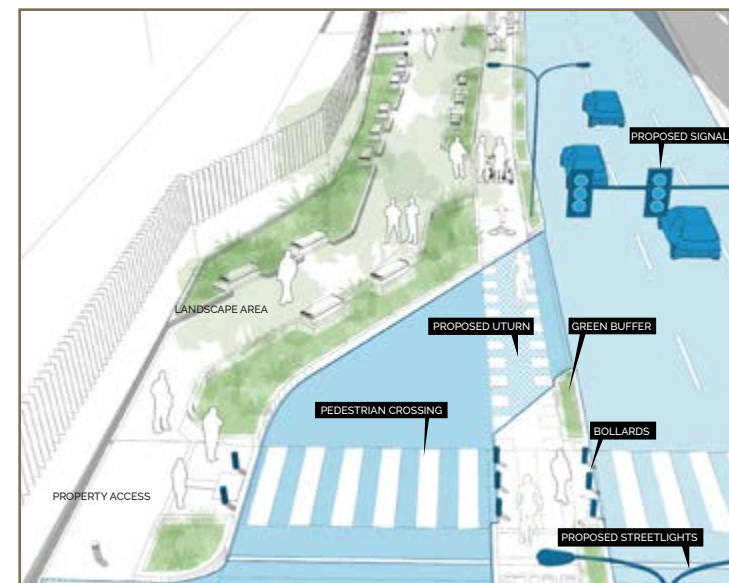
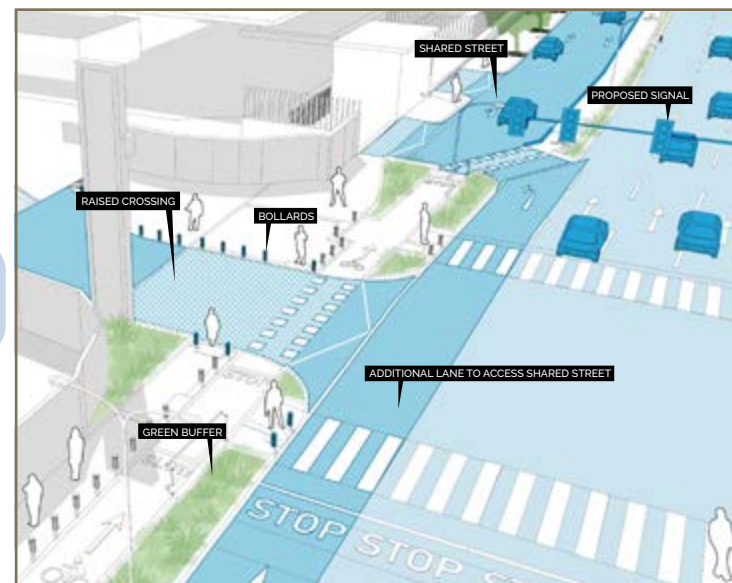
## 1 Safe pedestrian crossings and public realm



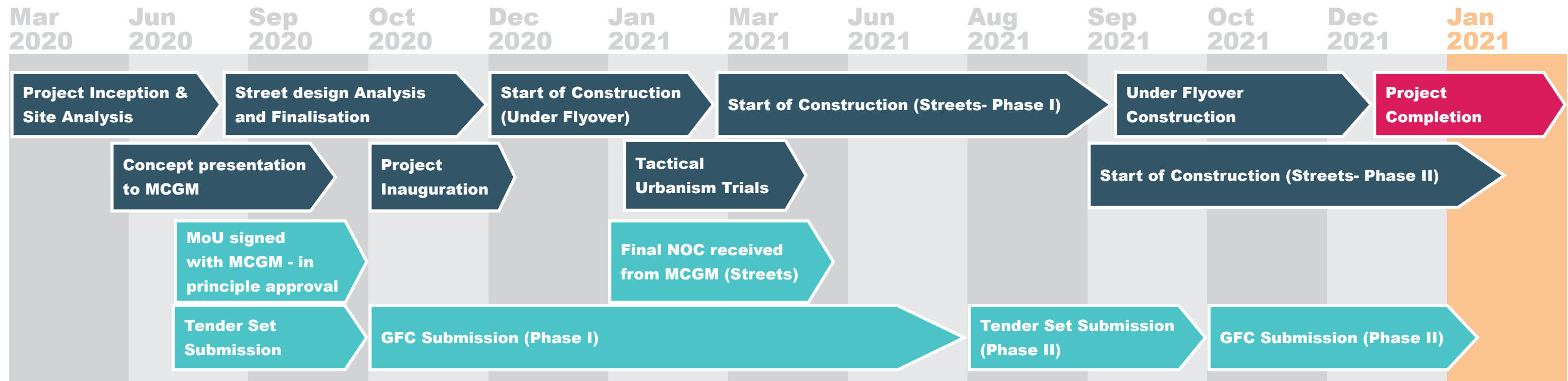
## 2 Seamlessly integrated NMT infrastructure



## 3 Streamlining vehicular movement



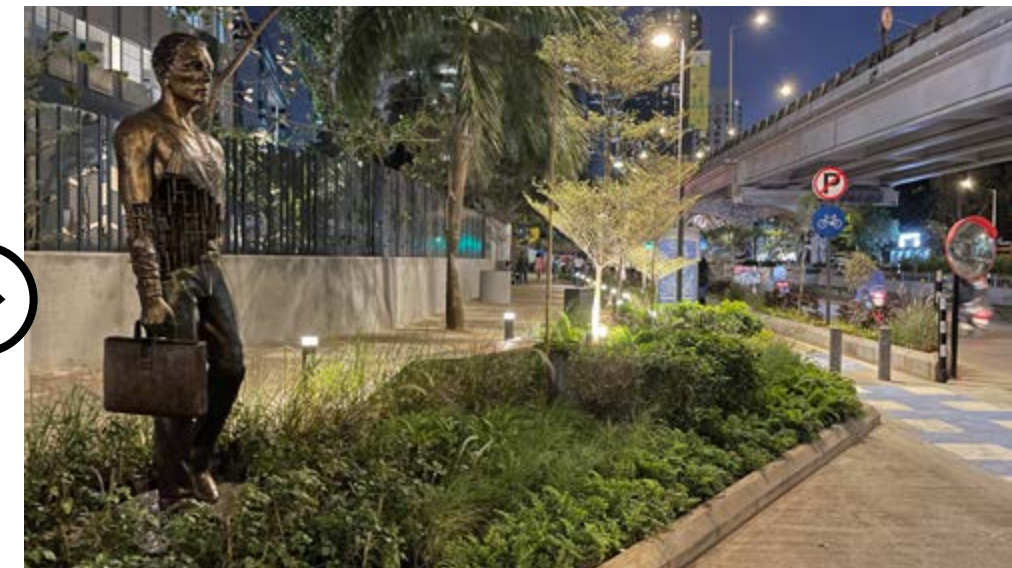
# CREATE A TIME BOUND IMPLEMENTATION PLAN IN COORDINATION WITH ALL STAKEHOLDERS



## 1. Analysis and Design

## 2. Tactical Urbanism Trials

## 3. Final Implementation



# CONDUCT PRE-IMPLEMENTATION TOPOGRAPHIC AND TRAFFIC SURVEYS

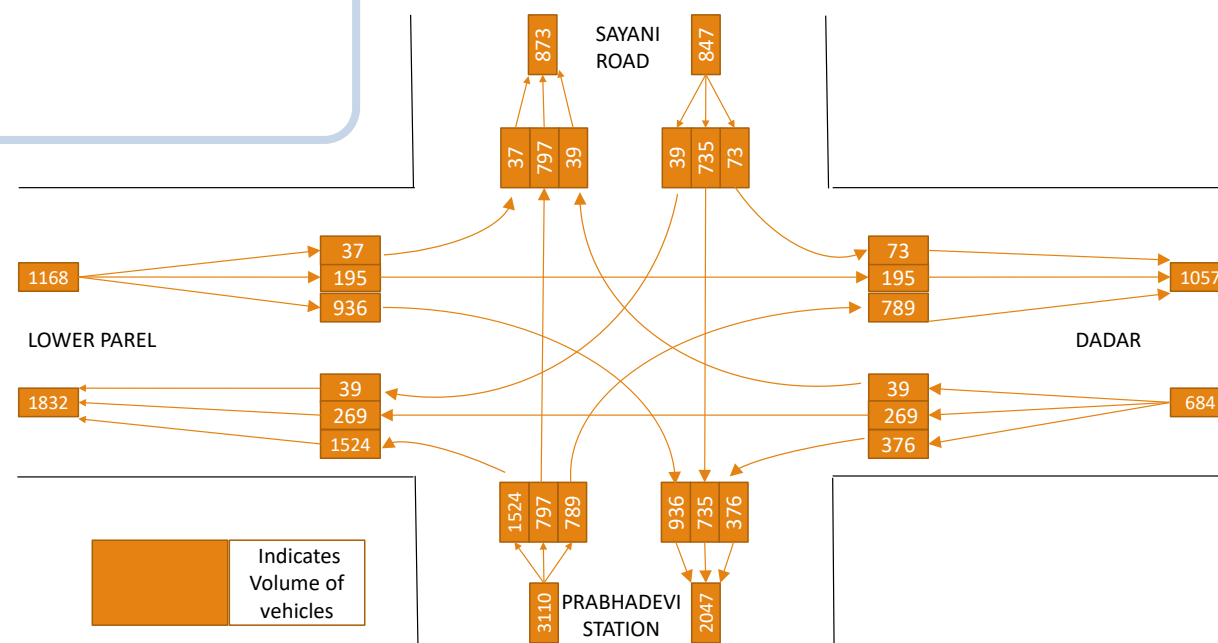
## 1. Topographic Survey including:

- Complete ROW
- Physical structures & utilities
- Landscape & street furniture

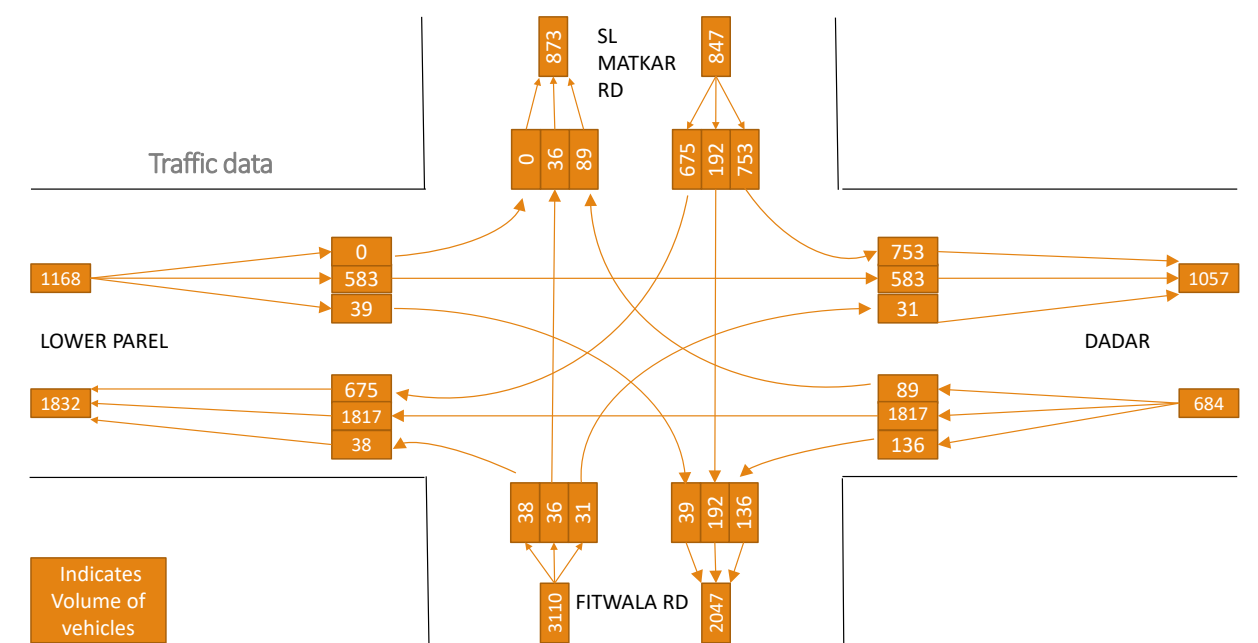


## 2. Traffic Survey including:

- 24 hour vehicle counts
- Turning movement counts
- Mode split
- Signal timings



4. Elphinstone Bridge Junction



5. Fitwala Rd Junction



# PROOF OF CONCEPT THROUGH TACTICAL URBANISM TRIALS

- Based on the concept design, prepare plans for **installing bollards, cones and other temporary traffic control devices**
- **Coordinate with the MCGM and Traffic Police** for the placement of traffic control devices
- Ensure adequate deployment of **Traffic Police officers and wardens** at the start of the study
- **Detailed evaluation** of the trials including:
  - Vehicular movement pattern and speeds
  - Queue lengths
  - Use of re-claimed pedestrian spaces
  - Pedestrian and vehicular safety indicators
- Adjust turning radii and public realm as per site conditions.
- Based on the trials update the concept designs and prepare tender/GFC drawings



Creating of public realm using paint and bollards

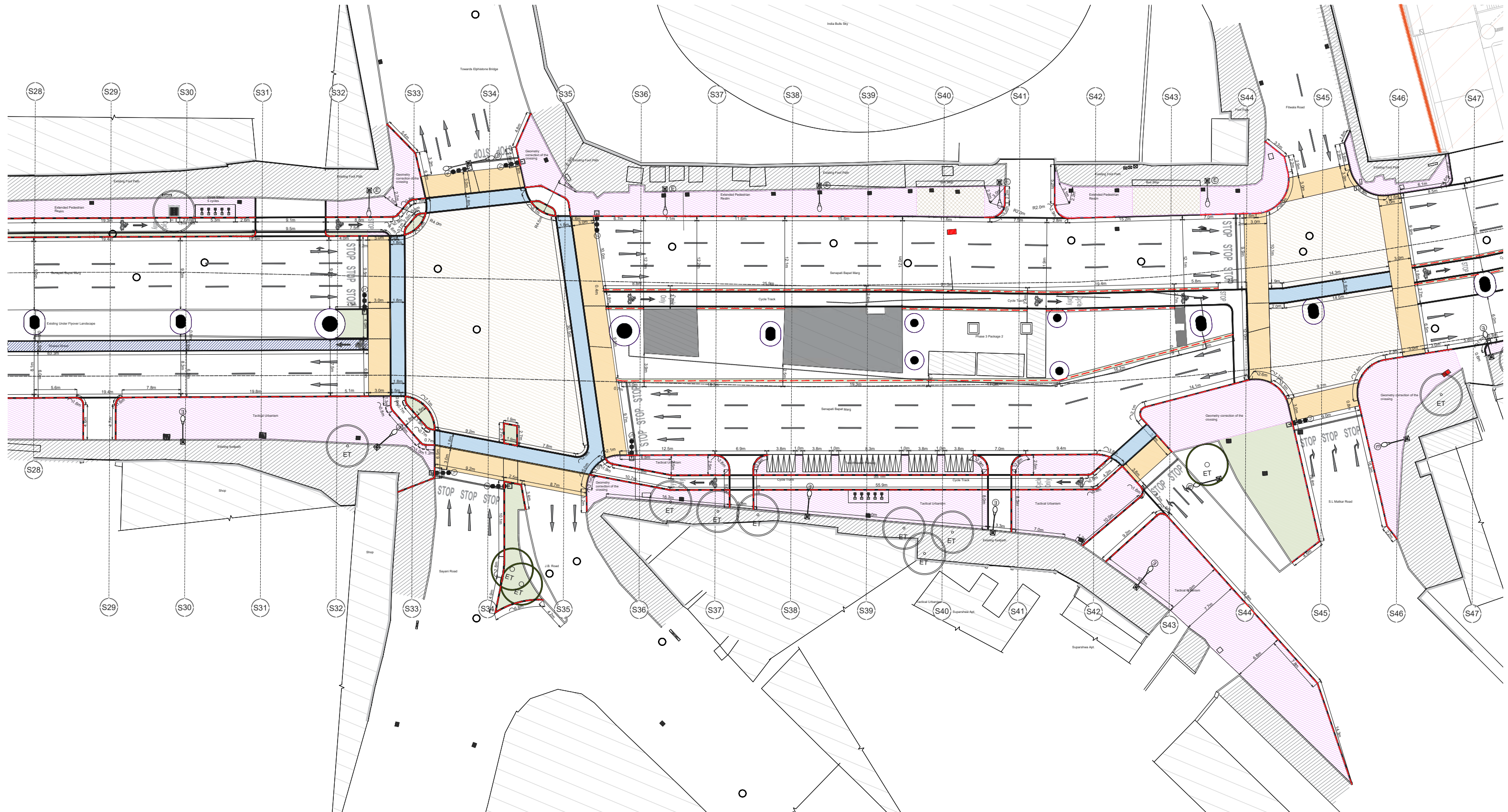


Modifying turning radius & streamlining



Adjustment of bollards during trial

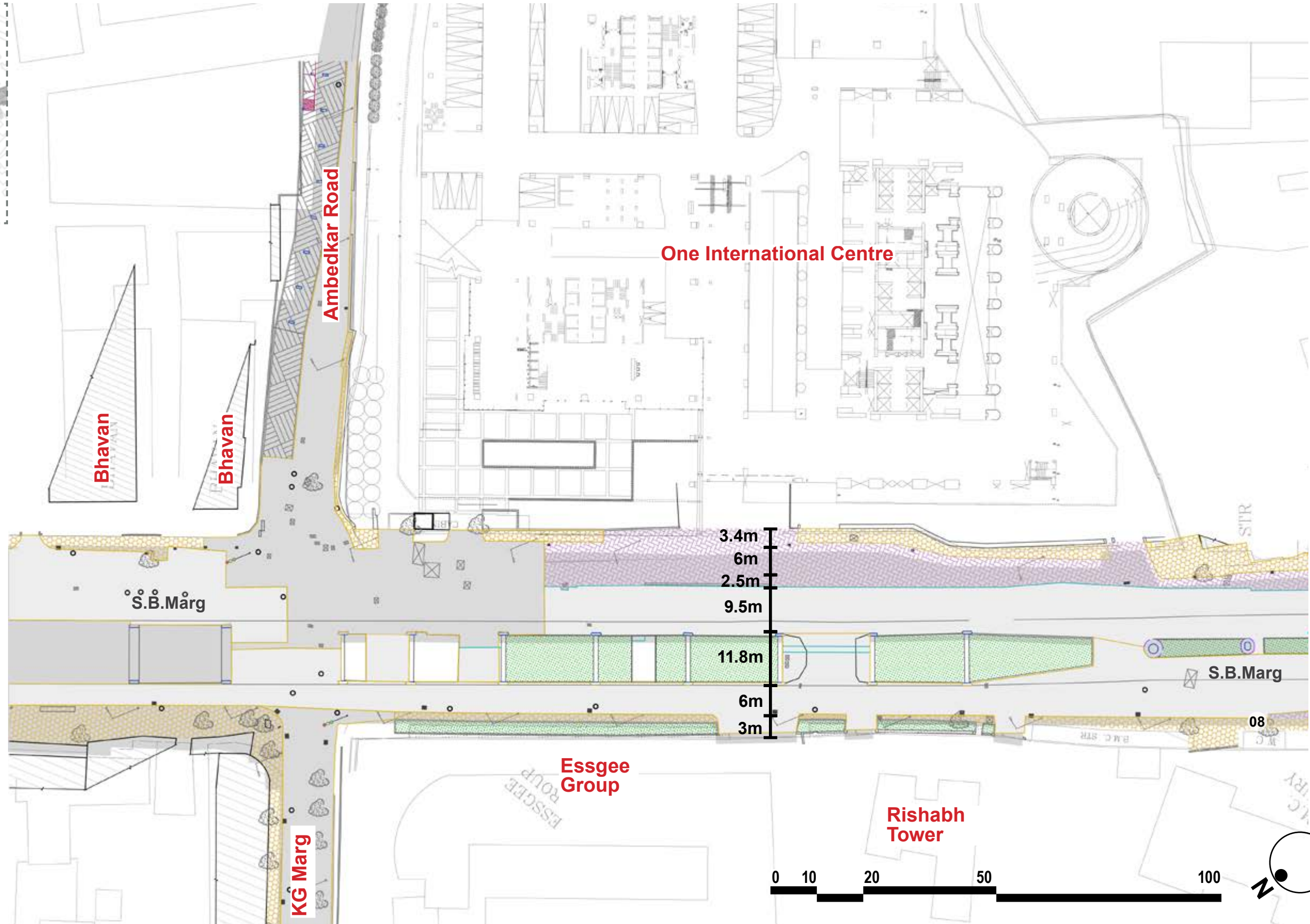
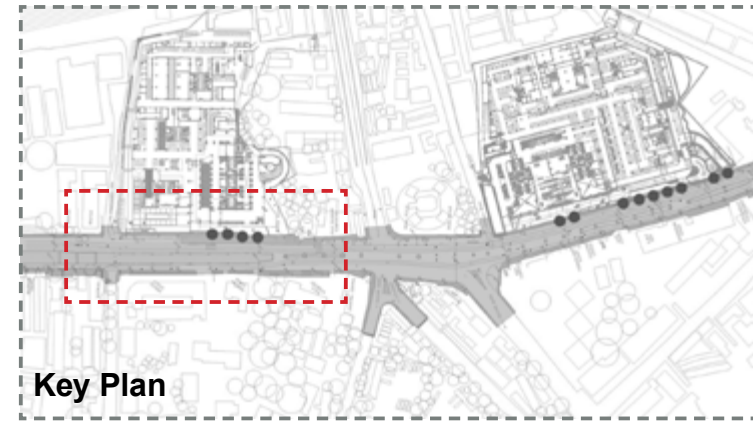
# PROOF OF CONCEPT THROUGH TACTICAL URBANISM TRIALS



# TACTICAL TRIALS IMPLEMENTATION IMAGE



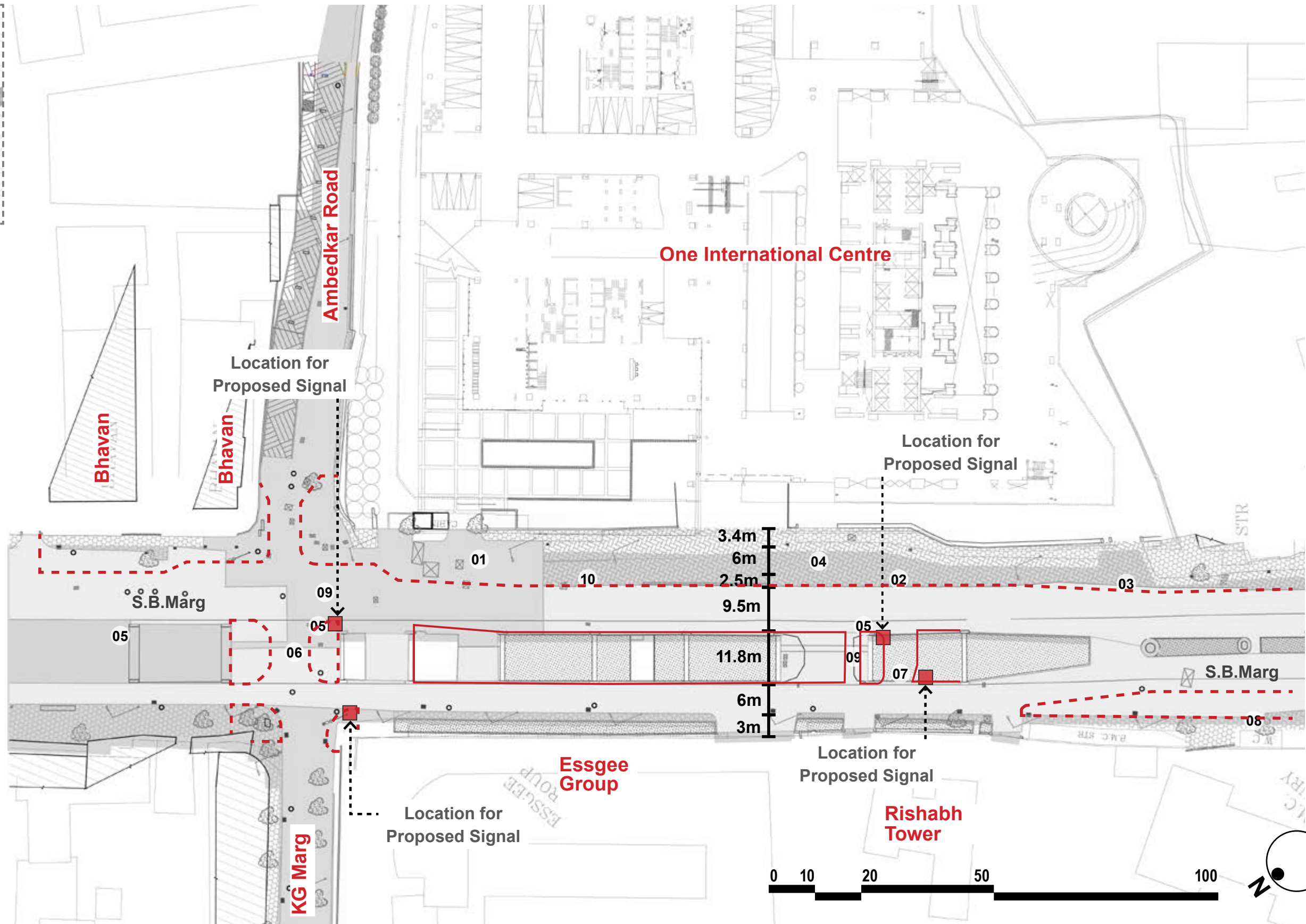
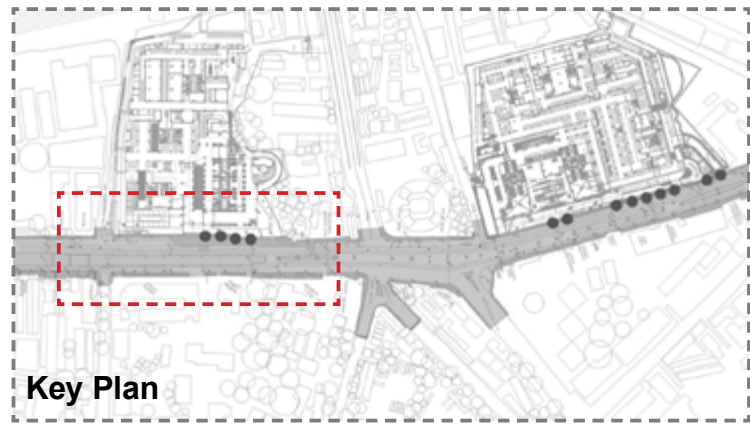
# PHASE 1- EXISTING PLAN



- Existing Footpath
- Existing Carriageway
- Under Flyover Space

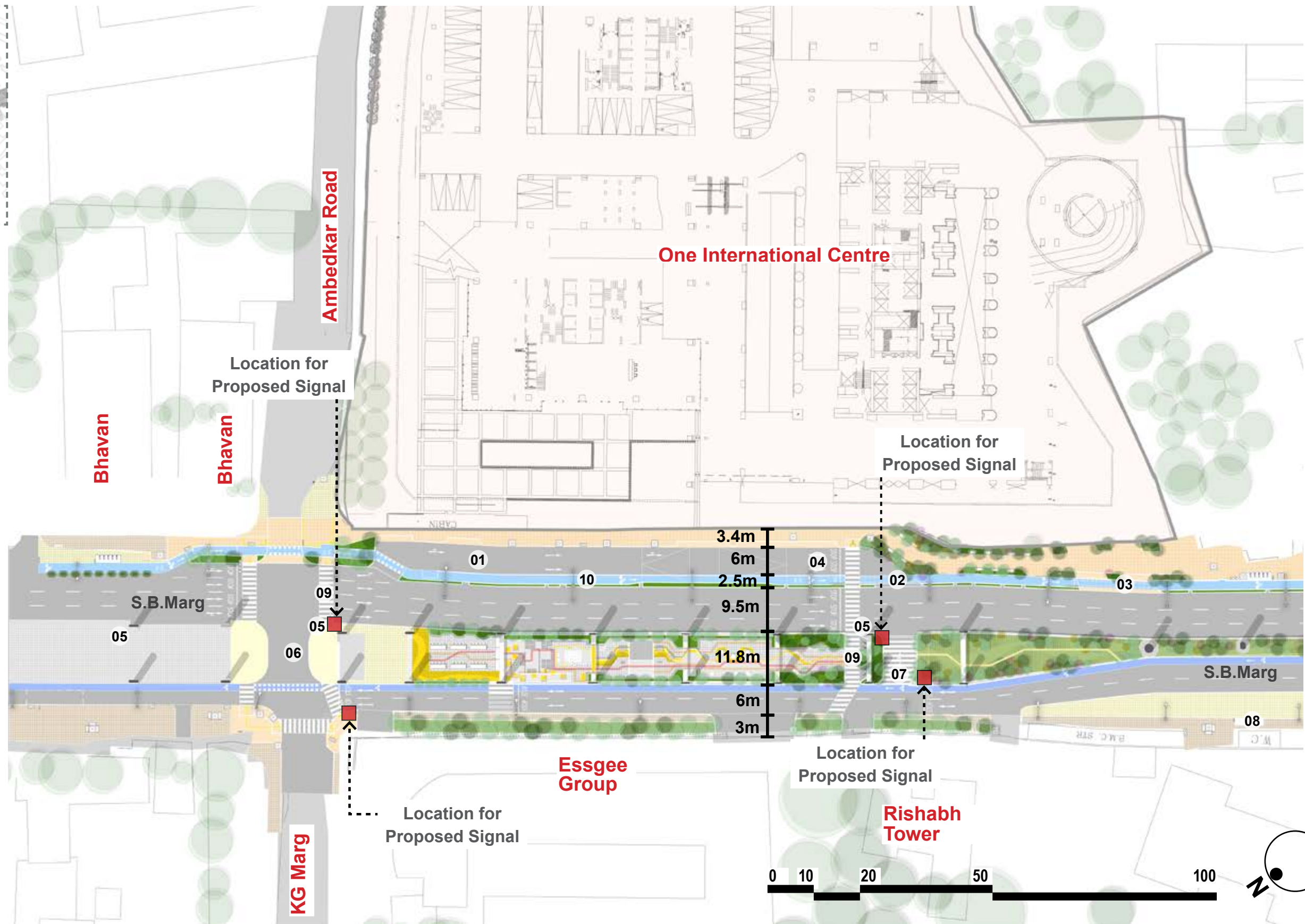
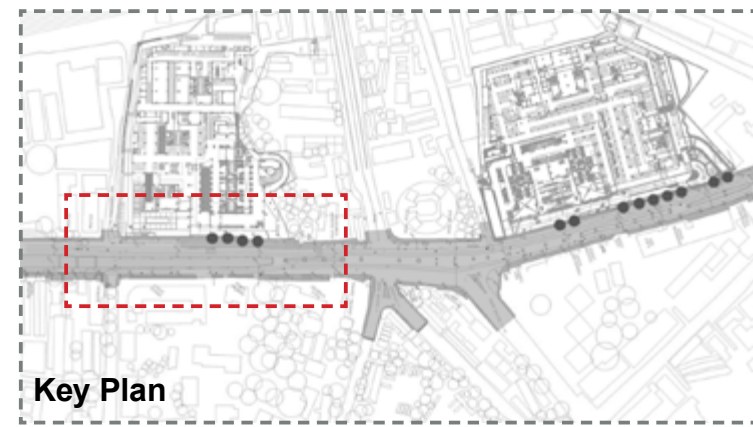


# PHASE 1- DESIGN INTENT



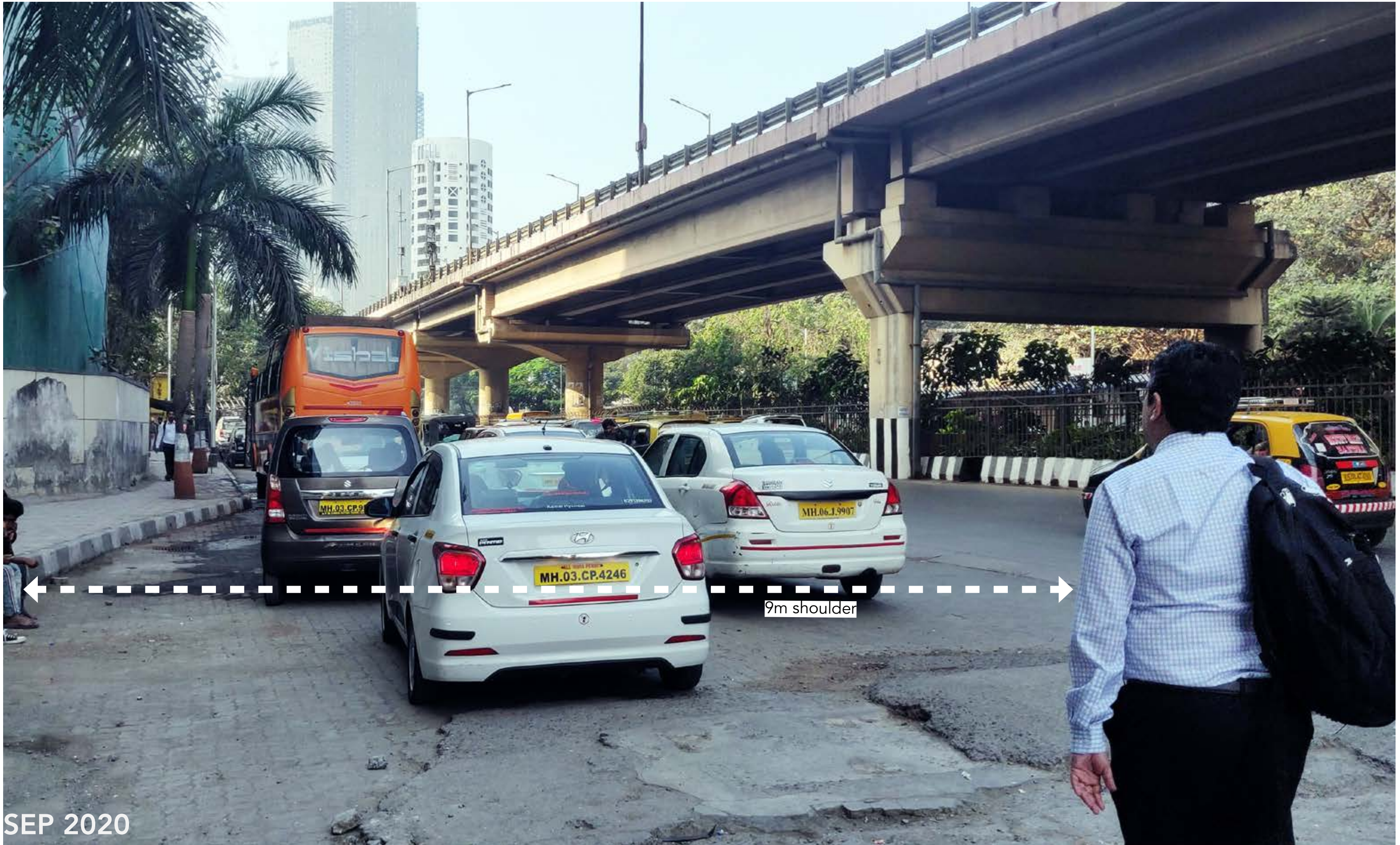
- - - Proposed Extension of Pedestrian Realm
- Under Flyover Space Upgradation

# PHASE 1- PROPOSED DESIGN



- Proposed Cycle Track
- Proposed Footpath
- Tactical Urbanism for corrected road widths
- Carriageway
- Proposed Greens
- Repair of Existing Footpath
- Shared Street

# TRANSFORMATION FROM A VEHICULAR DOMINATED STREET



SEP 2020

# TO A COMPLETE STREET



Footpath

Landscape

Cycle track

JAN 2022



# TRANSFORMATION FROM ENCROACHED PARKING SPACES



SEP 2020

# TO A PEOPLE-FRIENDLY STREET



# TO A PEOPLE-FRIENDLY STREET



# TRANSFORMATION FROM DISCONTINUOUS AND BROKEN FOOTPATHS



SEP 2020

# TO CONTIGUOUS WALKING SPACE AND AN INCLUSIVE PUBLIC REALM



JAN 2022

# TRANSFORMATION FROM NARROW FOOTPATHS TO WIDER PUBLIC REALM



# TRANSFORMATION OF UNDERUTILIZED UNDERFLYOVER SPACES



SEP 2020

# TO A TRULY PUBLIC SPACE FOR ALL AGES



JAN 2022





# SPACE FOR KIDS



# TRANSFORMATION FROM UNDERUTILIZED SPACES



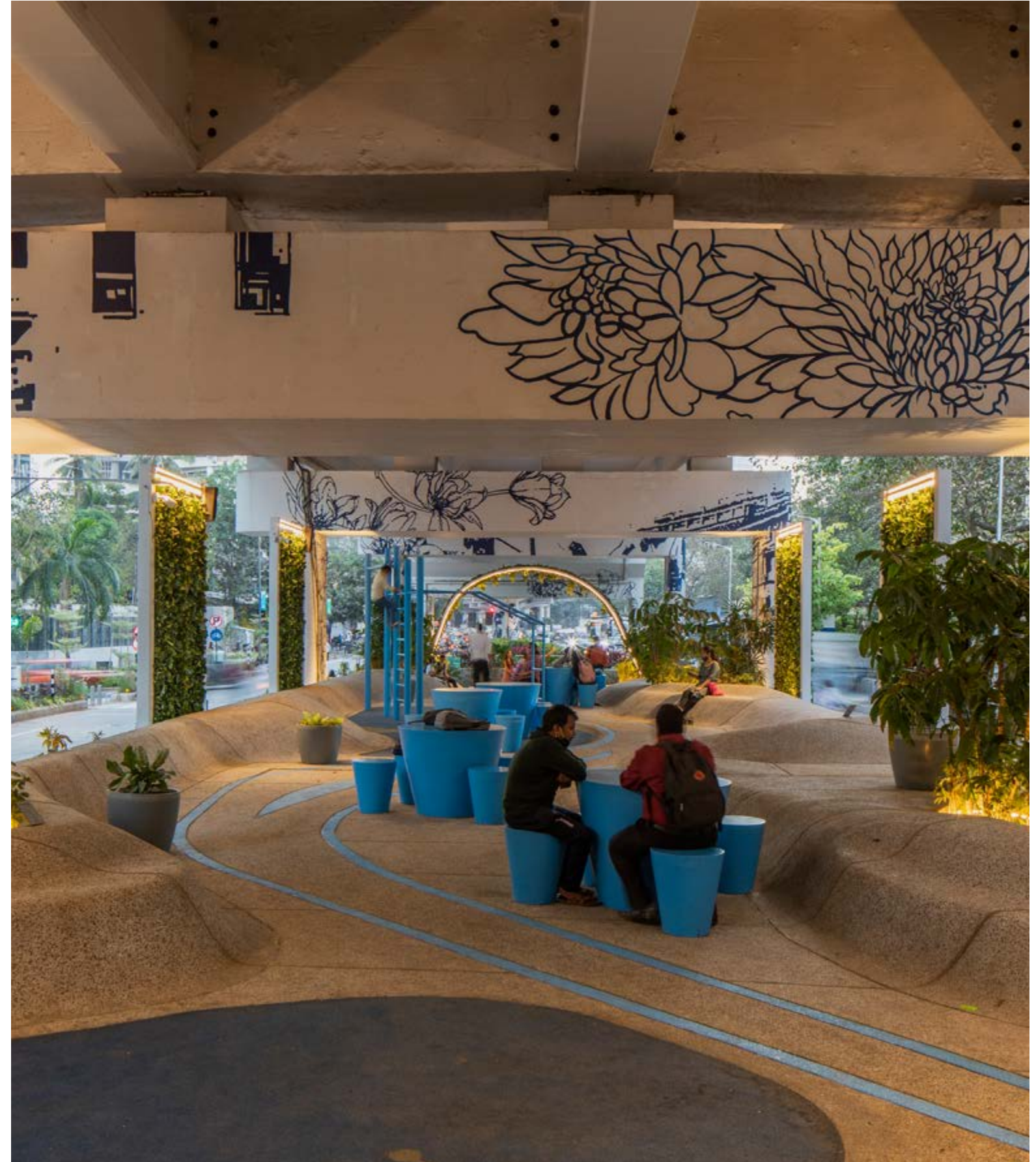
# TO A VIBRANT PEOPLE'S PLACE



# PUBLIC ART, DESIGN AND PEOPLE



Vachanalay



Seating area

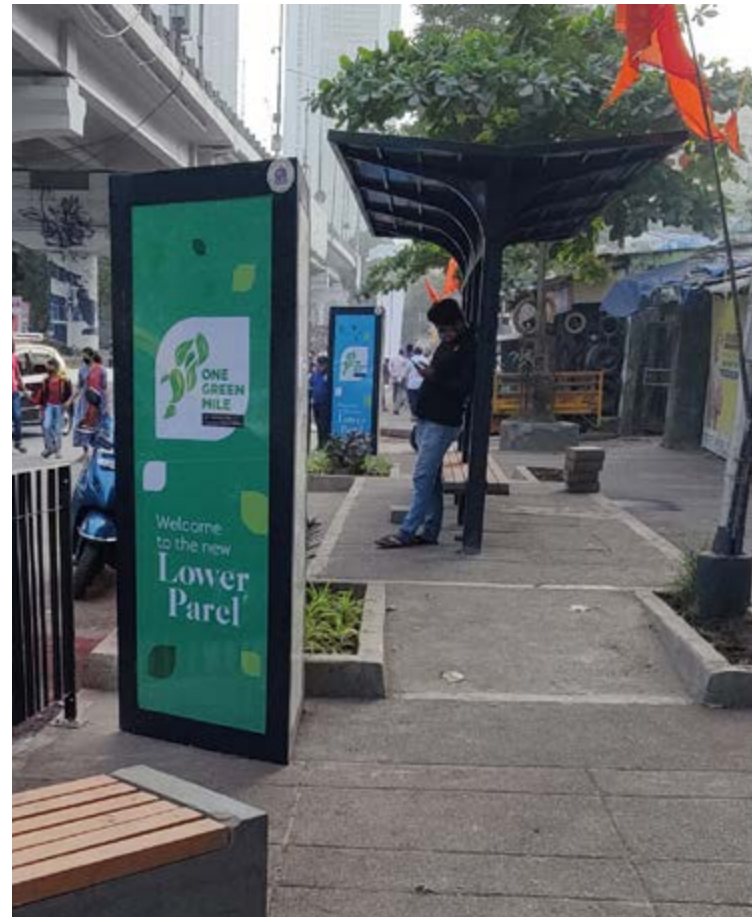
# PUBLIC ART, DESIGN AND PEOPLE



# NEW OPEN BUS-STOPS

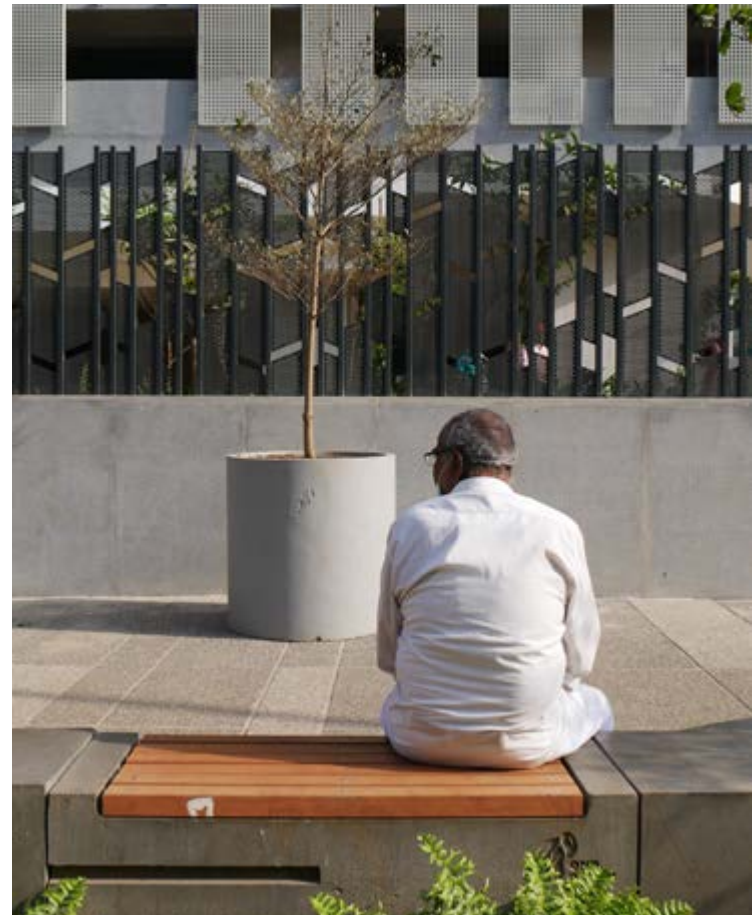


# WAY-FINDING AND SIGNAGE

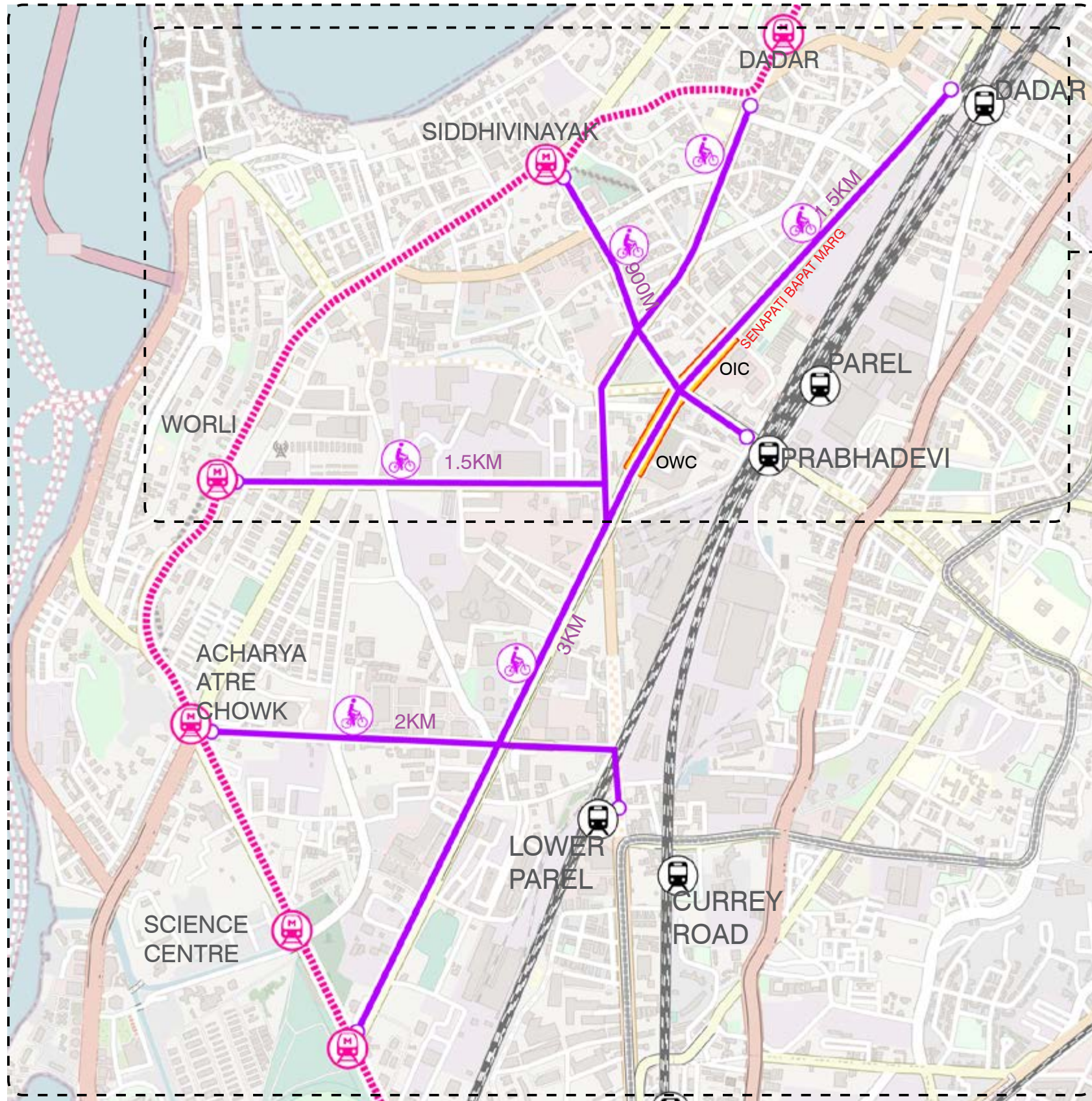




# A STREET FOR ITS PEOPLE



# ONW GREEN MILE - PART OF A LARGER NETWORK



Cycling track in the immediate context of intervention site. The network will connect Parel Station, Dadar Station and the upcoming Metro Station.

The extended cycling network can connect Lower Parel Station and 3 other Metro station while the overall network distance can be upto 10kms. This will ensure seamless movement all along S.B.Marg and make it a complete street for Mumbai.

## KEY TAKEAWAYS

**2.3** acres

**9,500** sqm

*Reclaimed public space  
for walking, cycling, plazas, landscape*

**2,000** sqm

*Optimization of underutilized spaces:  
of urban park and plaza below the flyover*

**120** trees

*trees in one km stretch*



701, Oracle Point, 7th Floor  
3 Gurunank Road  
Bandra West  
Mumbai - 400050  
Phone: (+91) 9833201666

[www.studiopod.in](http://www.studiopod.in)

**THANK YOU**