



सत्यमेव जयते
GOVERNMENT OF INDIA
MINISTRY OF HOUSING AND URBAN AFFAIRS




MULTIMODAL INTEGRATION PLANNING



**BEST PRACTICES, WHAT MMI
BRINGS TO THE PROJECT
AN OVERVIEW**

OBJECTIVES OF MMI PLANNING

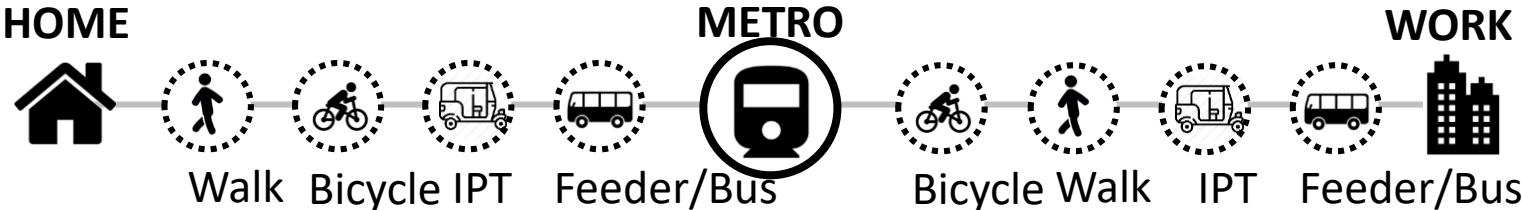
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- Ensure fast, safe and efficient overall access to the Metro Stations by all means of public, shared and non-motorized transport (first priority) and private, motorized transport (second priority).
 - Ensure smooth traffic flow (both metro and non-metro) in the immediate catchment
 - Provide safe first and last mile connectivity/ access and egress to the Metro Stations for non-motorized transport (“NMT”)
 - Reflect gender specific and Differently Abled’ requirements and solutions for the commuters & propose various facilities for the same.
 - Provide physical integration of the metro system with other transport modes
 - Provide an attractive, adapted and safe station surrounding and street design for NMT users
 - Provide E-Mobility Options and Other Infrastructure Facilities

METRO + COMPONENTS CONSIDERED IN MMI PLANNING

METRO+ PROPOSALS INCLUDES OVERALL MULTI-MODAL INTEGRATION INVOLVING THE FOLLOWING ASPECTS/PARAMETERS:

- I. STATION AREA DEVELOPMENT**
- II. FOOT OVER BRIDGES/AT-GRADE CONNECTIVITY**
- III. MULTI-MODAL INTEGRATION**
- IV. E-MOBILITY INFRASTRUCTURE DEVELOPMENT**
- V. INFRASTRUCTURE WITHIN ROW – MMI STATIONS**
- VI. IDENTIFICATION OF QUICK-WIN ACTIONS**
- VII. OTHER MISCELLANEOUS SUCH AS FEEDER CONNECTIVITY, ETC.**

WHY MULTIMODAL INTEGRATION?



Seamless first and last mile connectivity



Improves infrastructure
increases
Transport share

city and
Public



Emission reduction and
reduces usage of private
vehicular

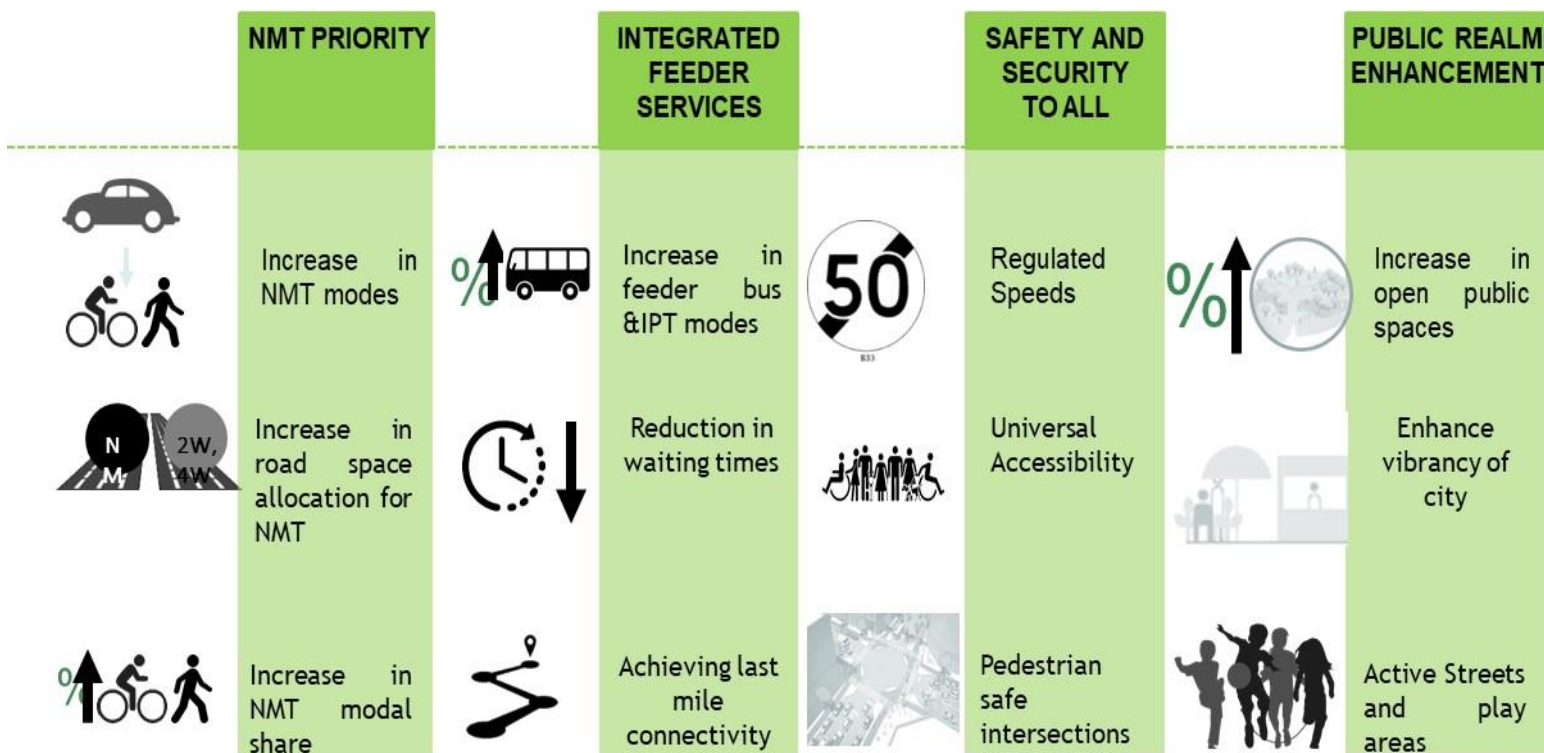


Improves ridership and
accessibility



Reduces congestions
and save travel time

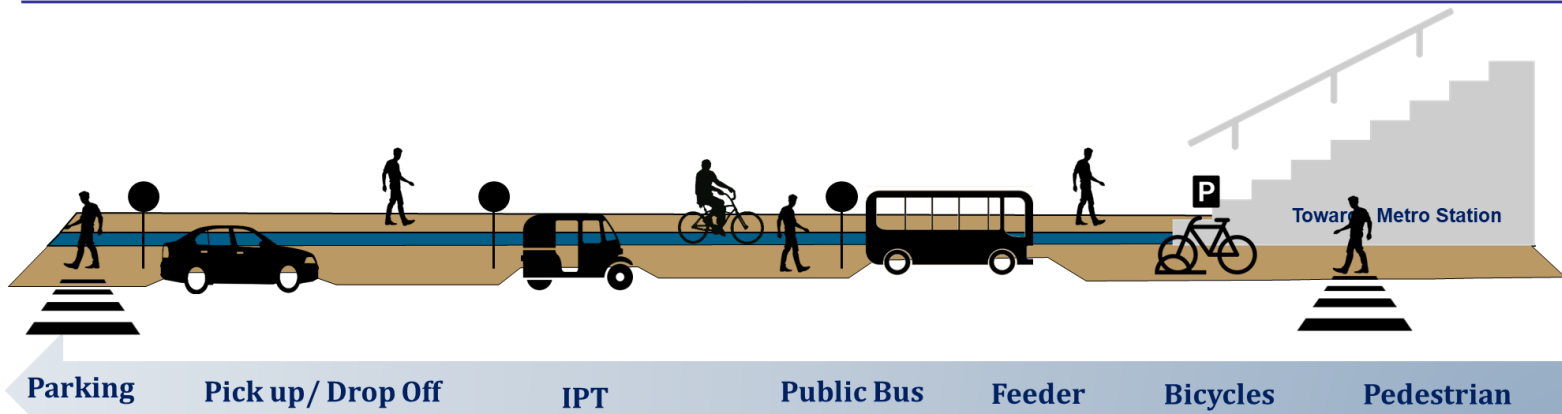
BENEFITS AND OUTCOMES OF MMI



EASE OF ACCESSIBILITY AND DISPERSAL TO PUBLIC TRANSIT ENHANCES RIDERSHIP, REDUCES USAGE OF PRIVATE VEHICLES ON THE ROAD FURTHER REDUCES CONGESTION AND POLLUTION - Benefit to Commuters, Benefit to Operator, Benefit to City

LEVELS OF PRIORITY IN MULTIMODAL INTEGRATION

Mode	Access Length (m)
NMT Access	< 50 M
PT Stop	< 100 M
Drop off	< 150 M
Personalized Parking	< 250 M
Walking (Main Mode)	Up to 500 M



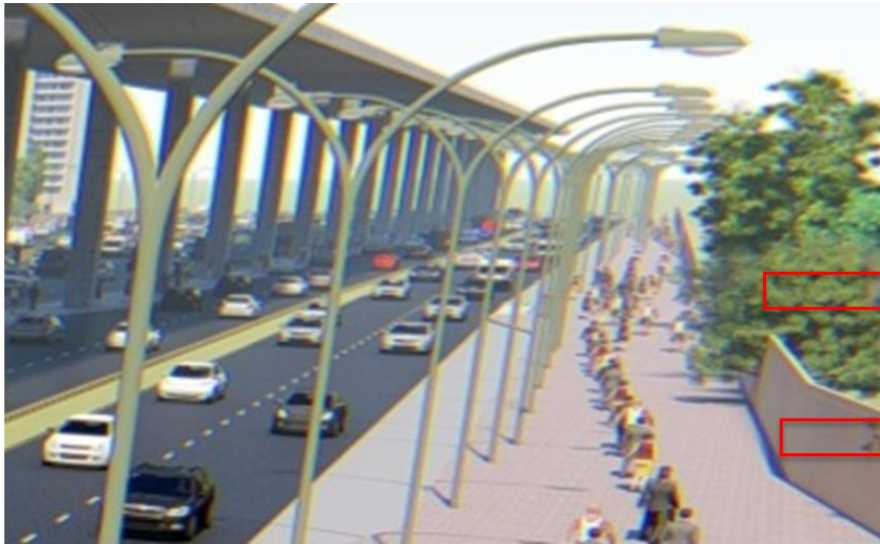
The diagram illustrates the levels of priority in multimodal integration, showing a sequence of modes from left to right: Parking, Pick up/Drop Off, IPT, Public Bus, Feeder, Bicycles, and Pedestrian. The diagram is divided into seven sections, each with a corresponding mode label below it. The modes are represented by icons: a car for Parking, a pedestrian for Pick up/Drop Off, an auto-rickshaw for IPT, a bus for Public Bus, a pedestrian for Feeder, a bicycle for Bicycles, and a staircase leading to a Metro Station for Pedestrian. The text 'Toward Metro Station' is written near the staircase.

UMTC'S EXPERIENCE OF MMI PROJECTS

Views -proposals of Multi Modal Integration facilities in Metro Station precincts by UMTC



PLACEMAKING: PRECINCT DESIGN IDEAS



Existing Wall Along
Nesco IT Park &
Exhibition Centre



Green Wall / Screen along Stone Wall along Nesco & Bombay Exhibition Centre can be proposed for enhanced visual experience in the pedestrian zone

PLACEMAKING : PRECINCT DESIGN IDEAS

Existing



Existing Situation : Non-interactive Spaces

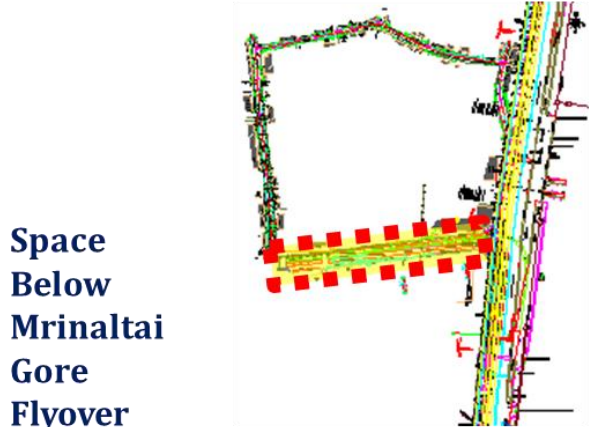
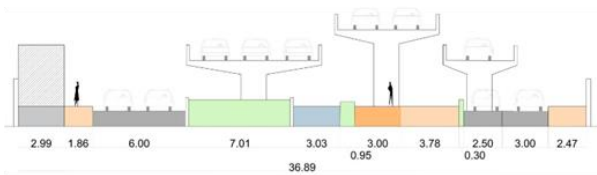
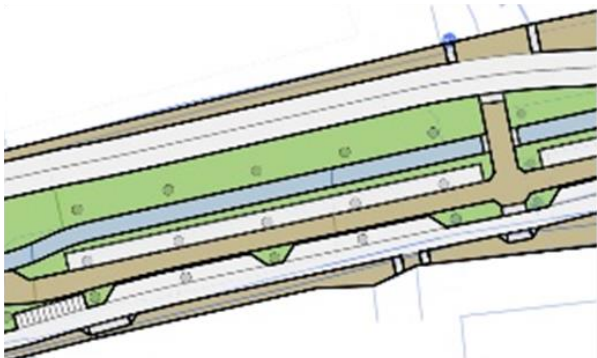


Vendors and pedestrians occupying carriageway

Proposals

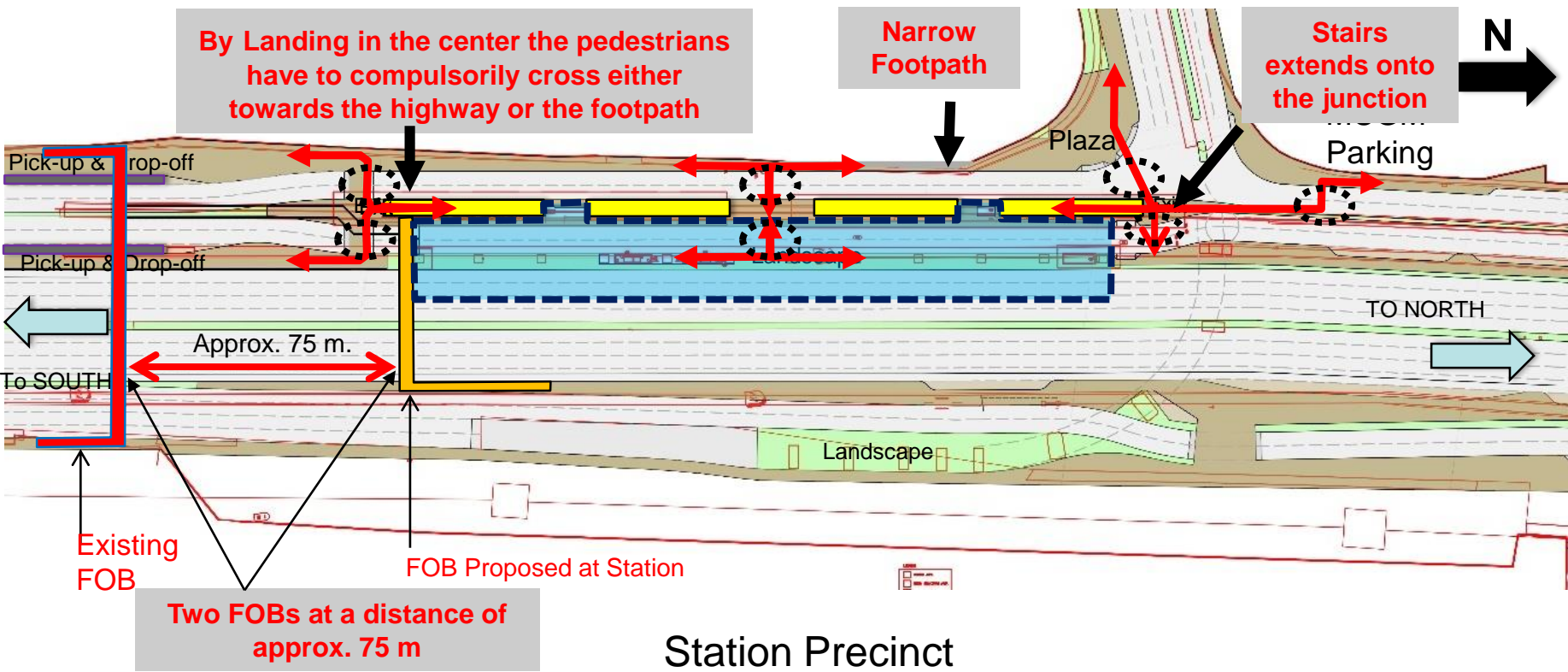


Existing Landscape pockets can be used for accommodating Kiosks (food & beverages) and creating spaces for users from surround IT Parks/ Offices

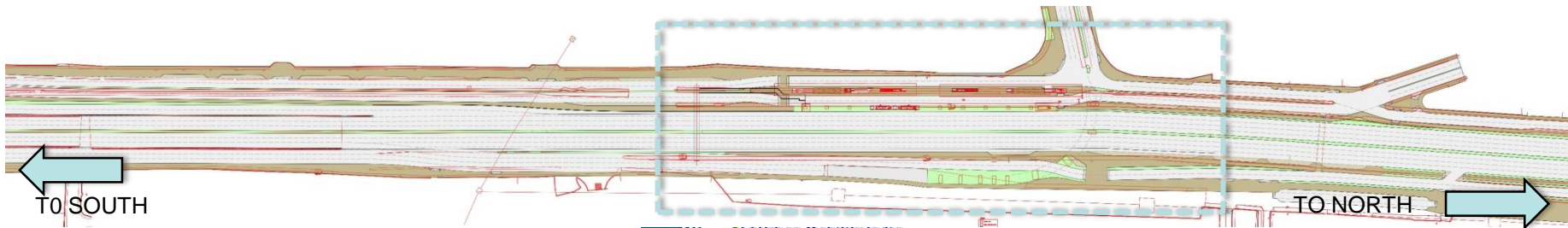


Space Below Mrinaltai Gore Flyover

MMI PROPOSAL FOR STATION AREA (PRECINCT DESIGN) STATION PLAN (WITH EXISTING ENTRY STRUCTURES)

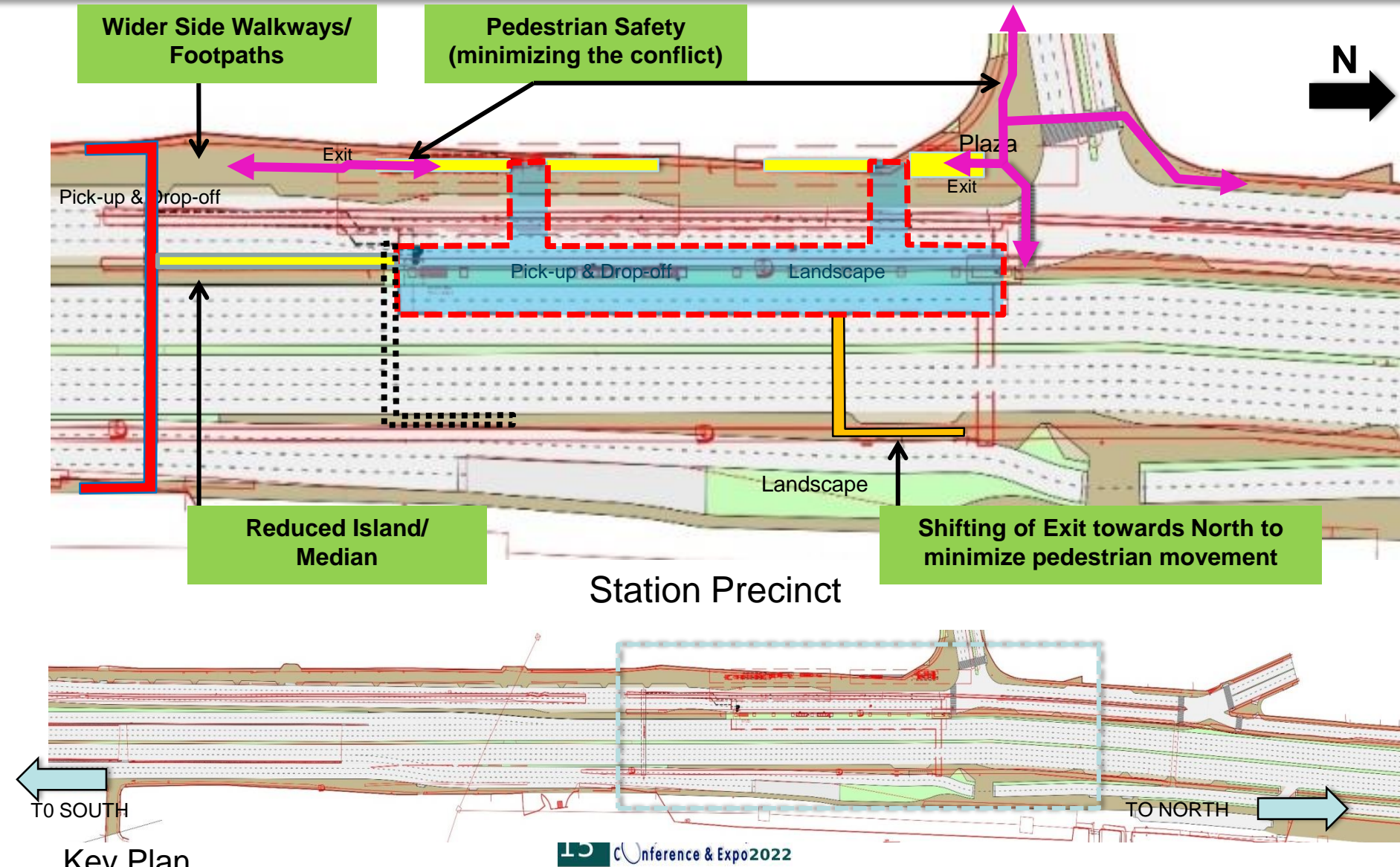


Station Precinct

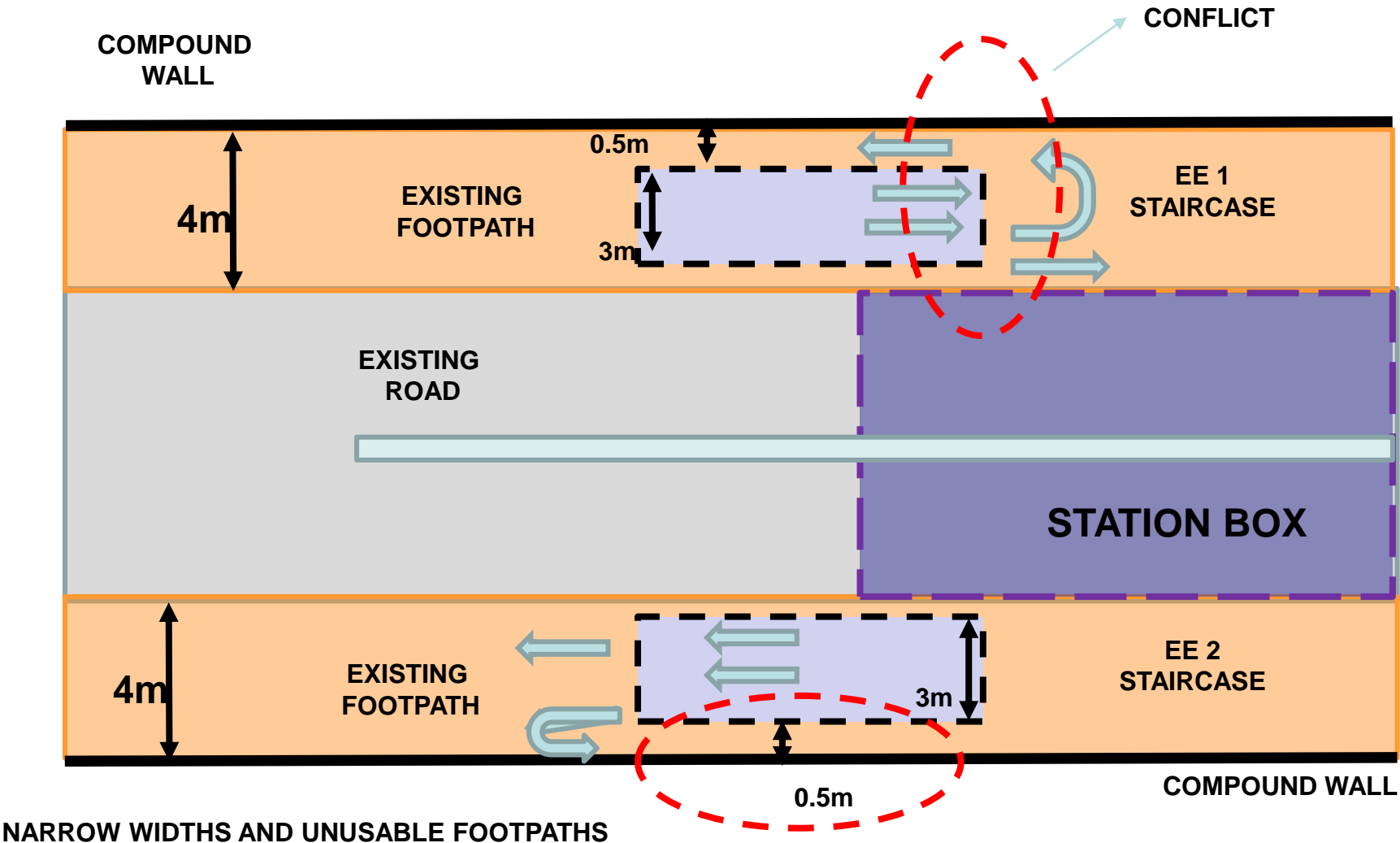


Key Plan

MMI PROPOSAL FOR STATION AREA (PRECINCT DESIGN) WITH SUGEESTED CHANEGES TO ENTRY STRUCTURES



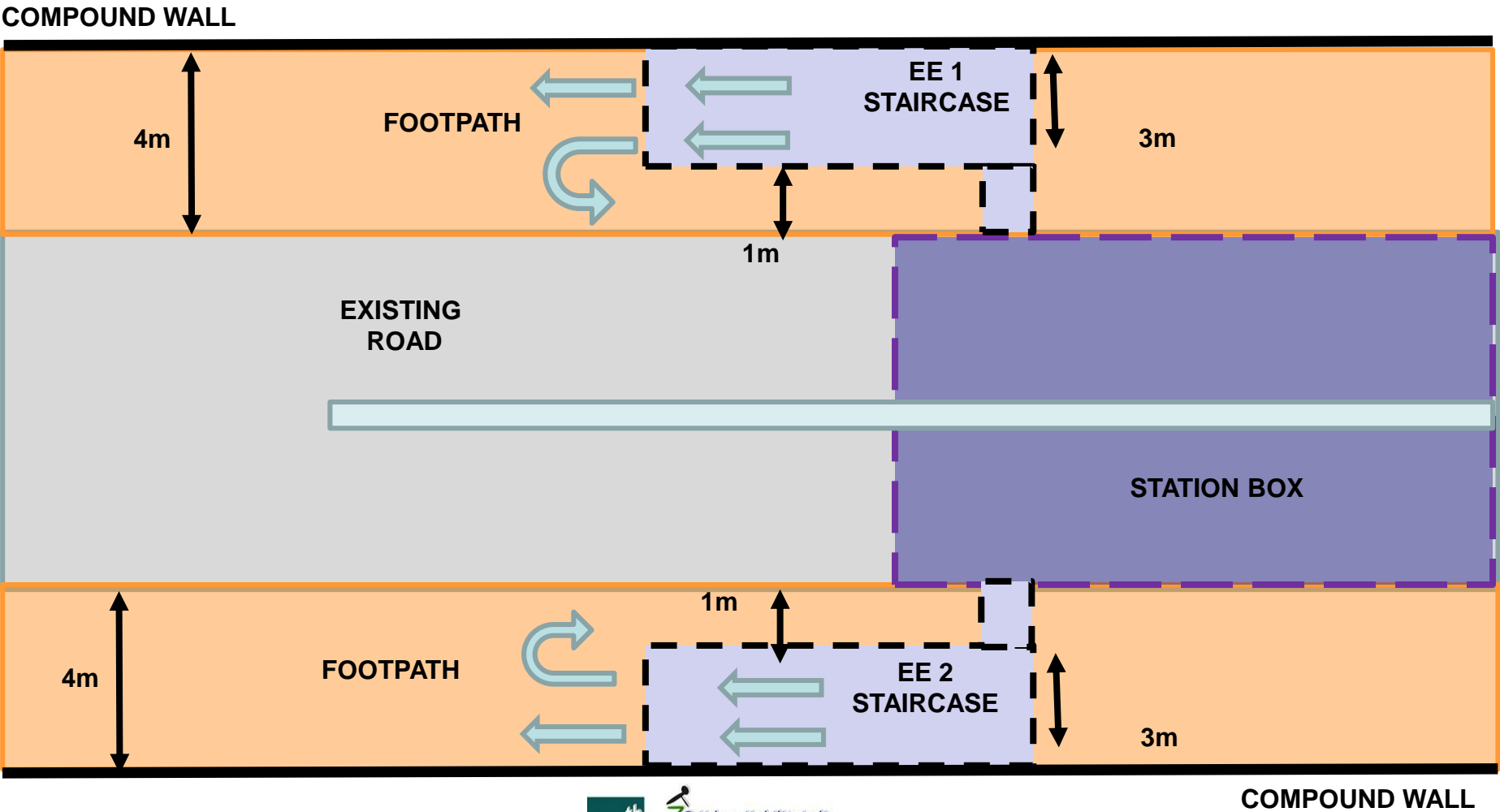
COMMUTER DISPERSAL AT ROAD LEVEL (EXISTING PROPOSALS)



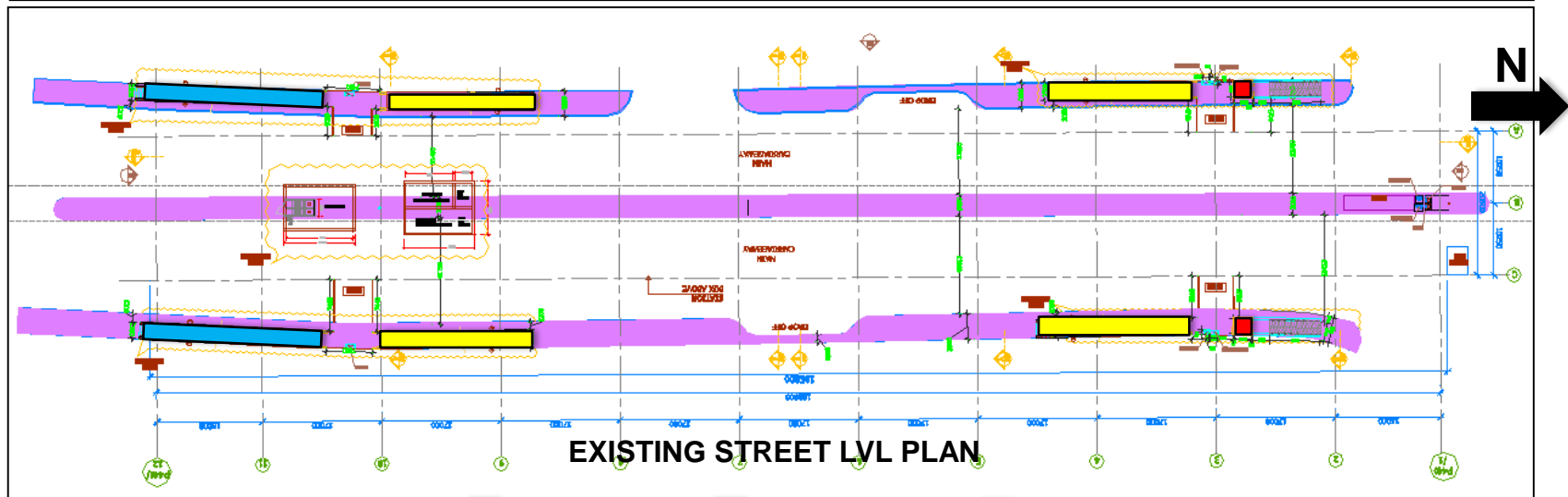
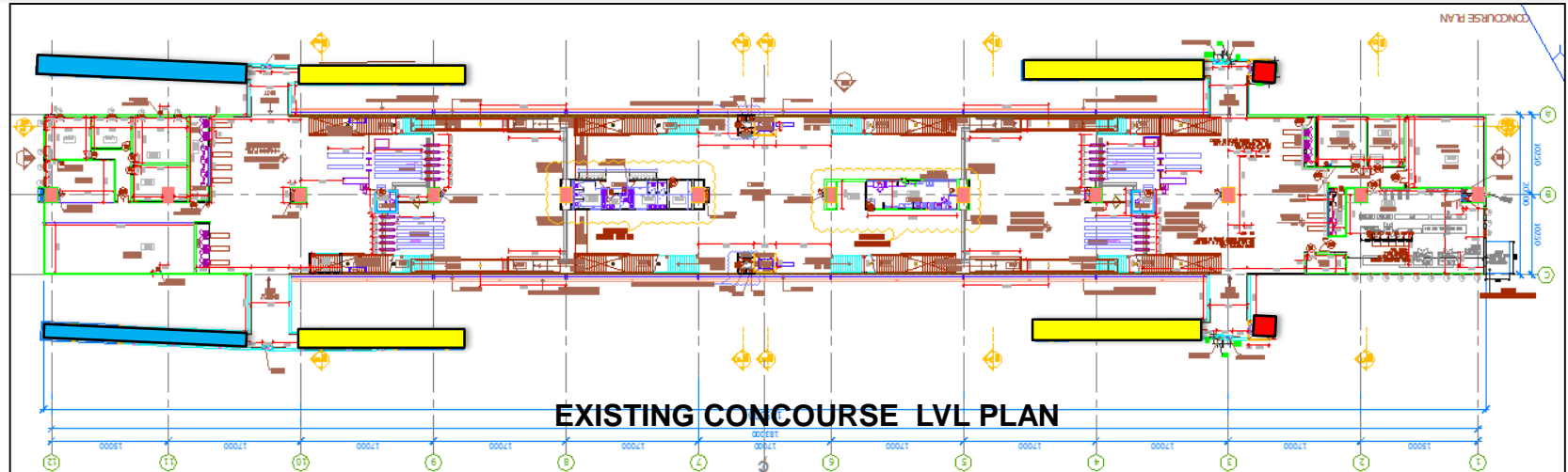
NARROW WIDTHS AND UNUSABLE FOOTPATHS

COMMUTER DISPERSAL AT ROAD LEVEL (SUGGESTED)

COMMUTER DISPERSAL IS USUALLY AWAY FROM THE STATION BOX



STATION ENTRY/ EXIT DESIGN (EXISTING PROPOSAL)

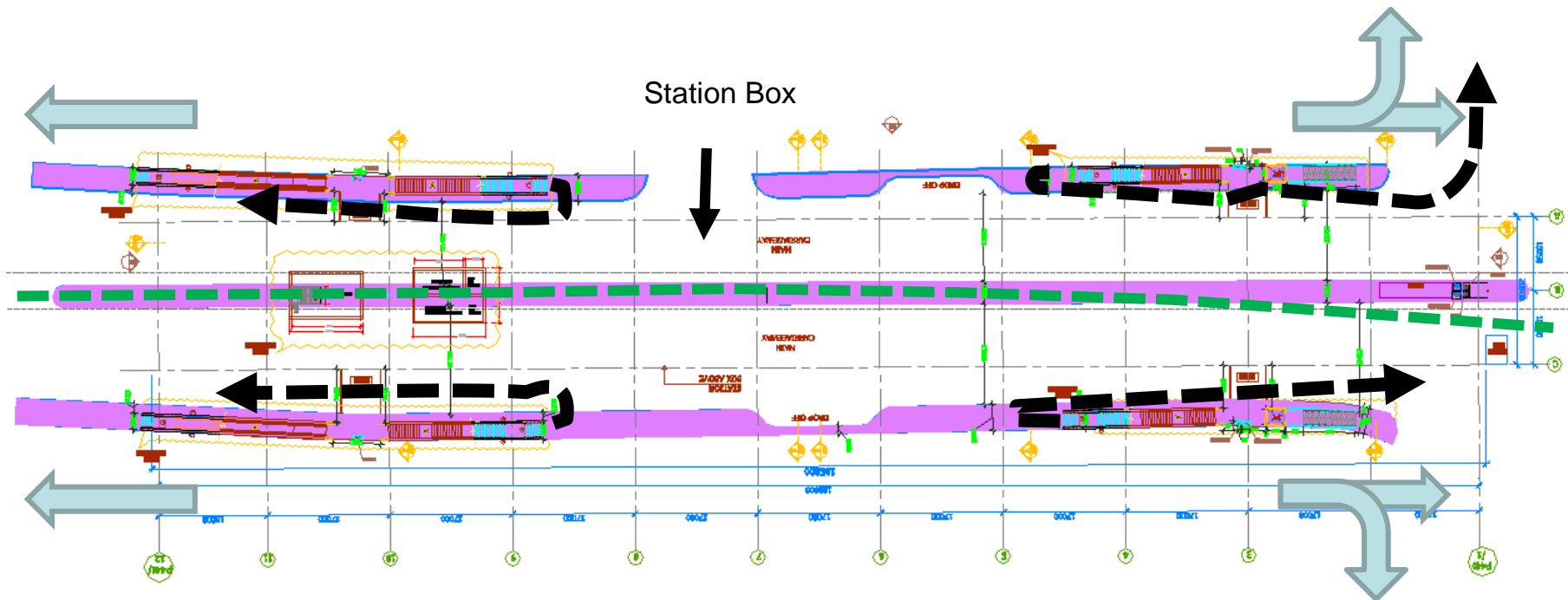


 Elevator  Escalator  Staircase

COMMUTER DISPERSAL AT ENTRY/ EXIT (EXISTING PROPOSAL)

- All the passengers need to take U turn after alighting from station
- Hence, the need to modify orientation of escalator and staircase for better pedestrian flow at peak hours

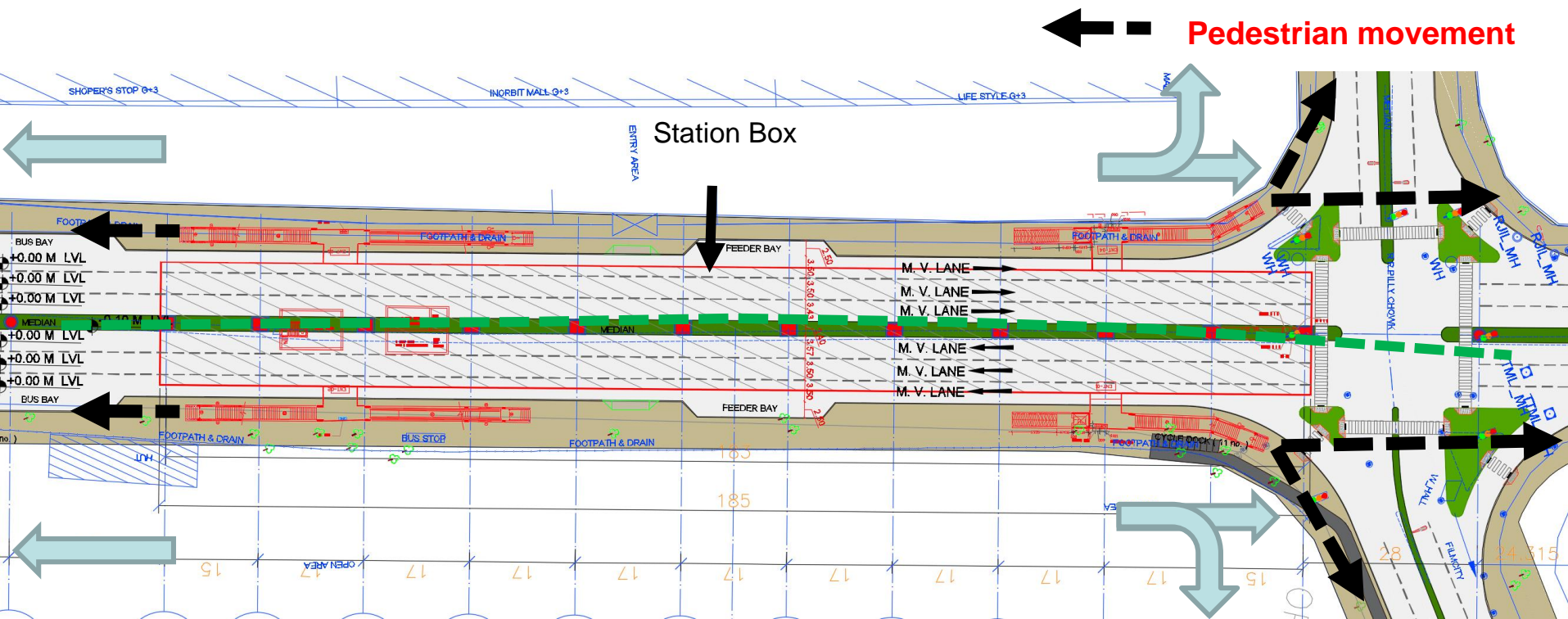
← Pedestrian movement



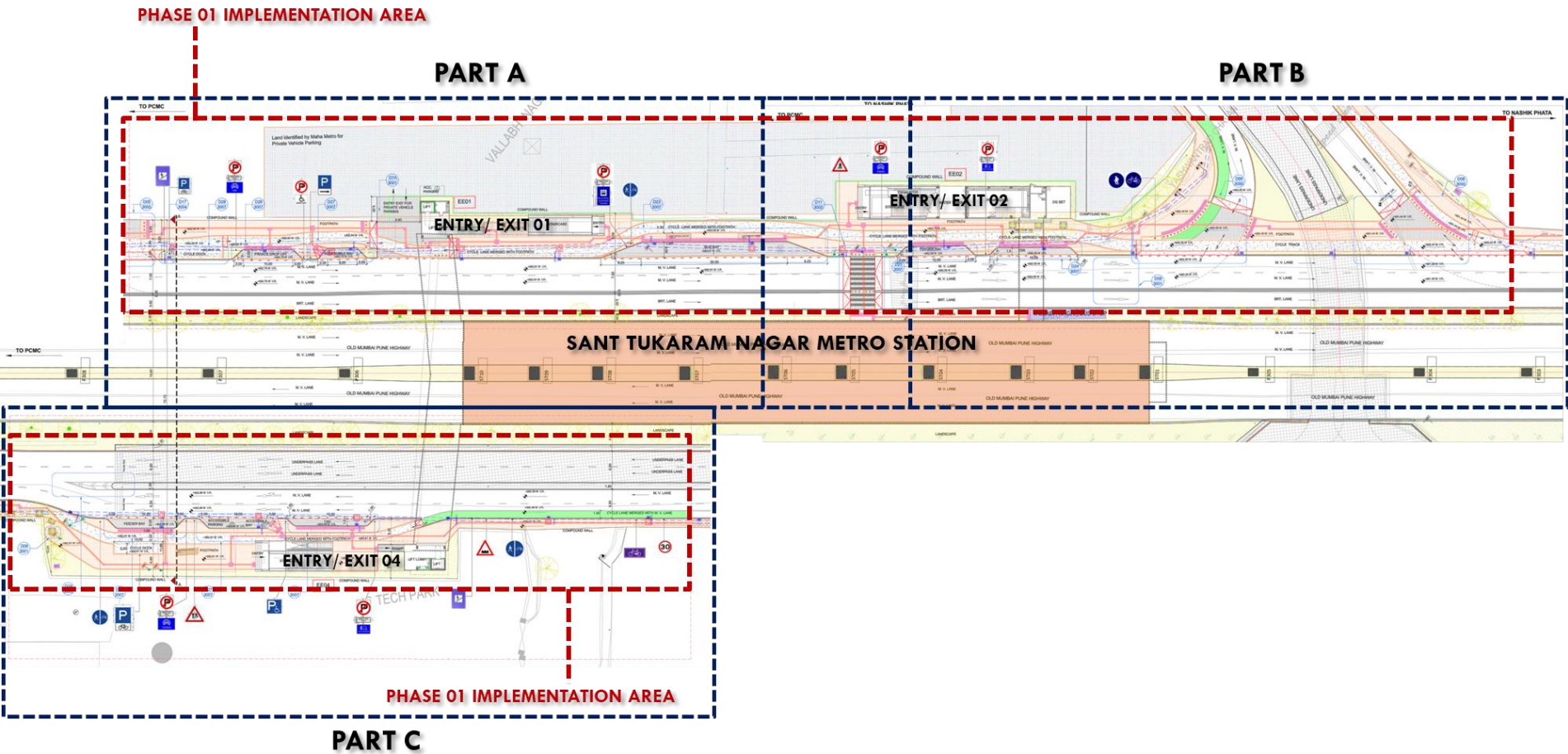
Existing Station Precinct

COMMUTER DISPERSAL AT ENTRY/ EXIT (AFTER INPUTS FROM MMI TEAM)

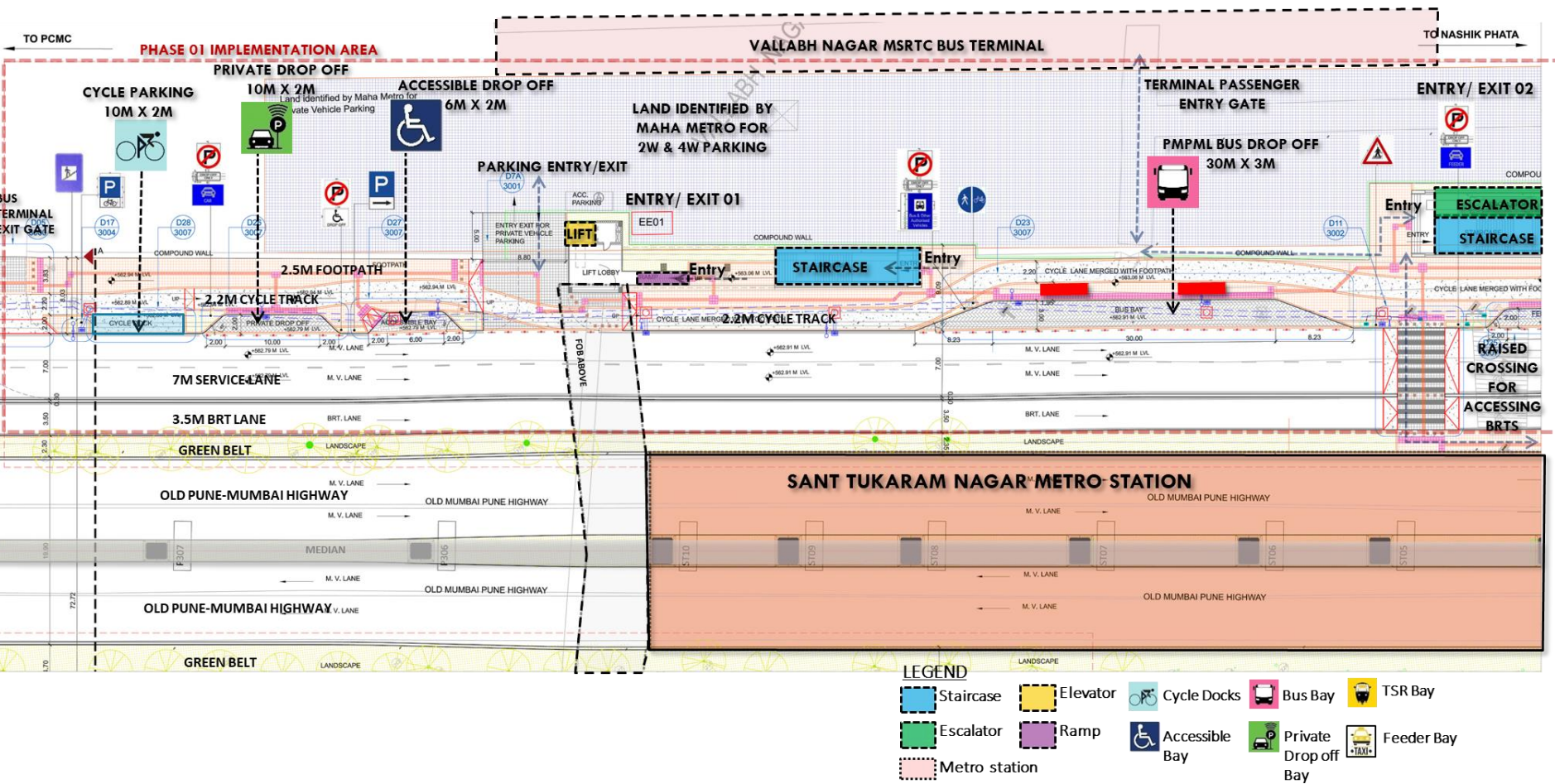
By Changing the orientation of the staircase, the passengers can disperse in the desired direction efficiently during peak hours, without a U-turn, thus, reducing conflicts



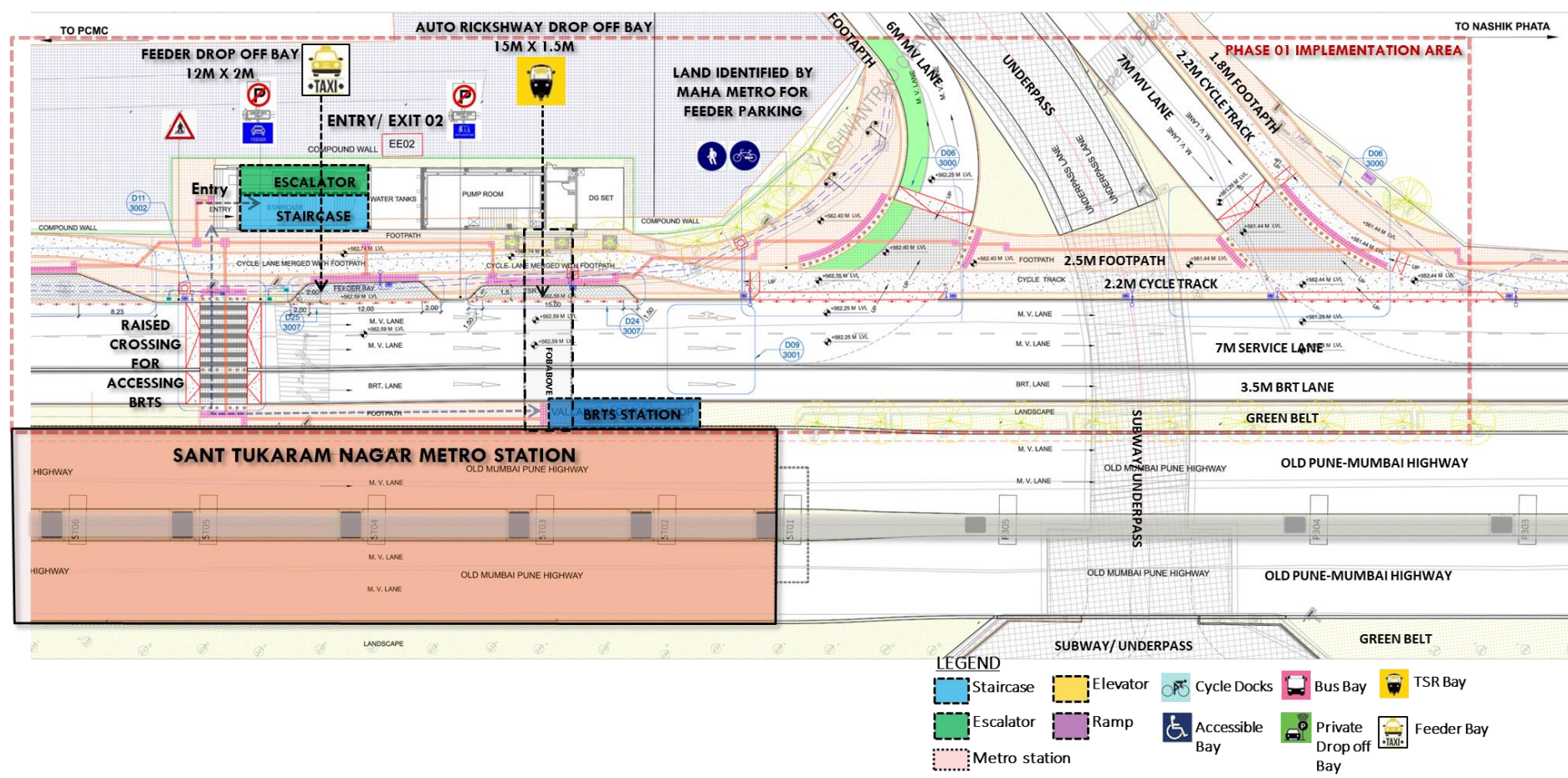
METRO STATION – MASTER PLAN



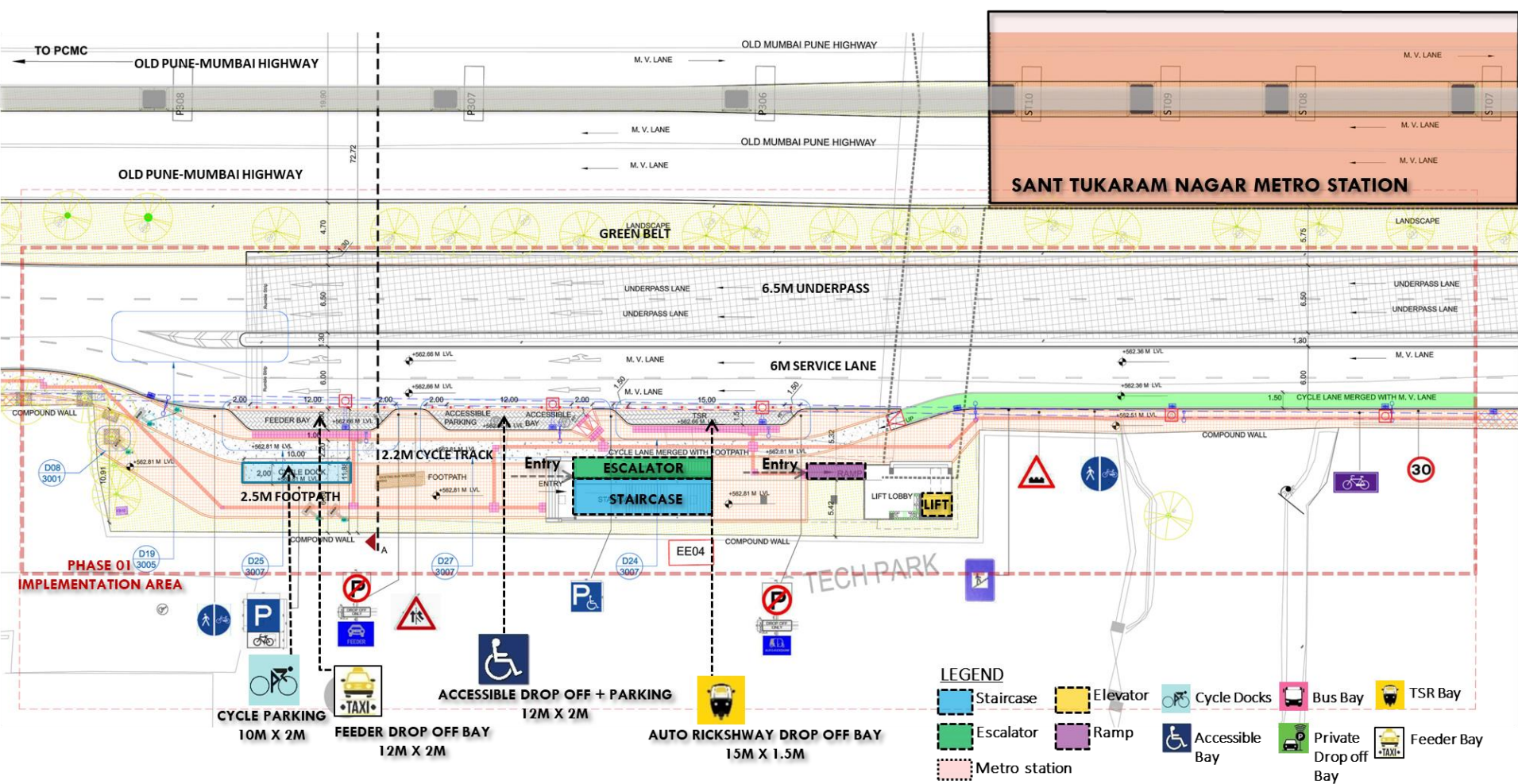
METRO STATION – PART A



METRO STATION – PART B



METRO STATION – PART C



METRO STATION – MMI IMPLEMENTATION



CONSTRUCTION OF CYCLE TRACK

FOOTPATH, CYCLE TRACK AND DROP OFF BAYS



METRO STATION – MMI IMPLEMENTATION



METRO STATION – MMI IMPLEMENTATION



METRO STATION – MMI IMPLEMENTATION



METRO STATION – MMI IMPLEMENTATION

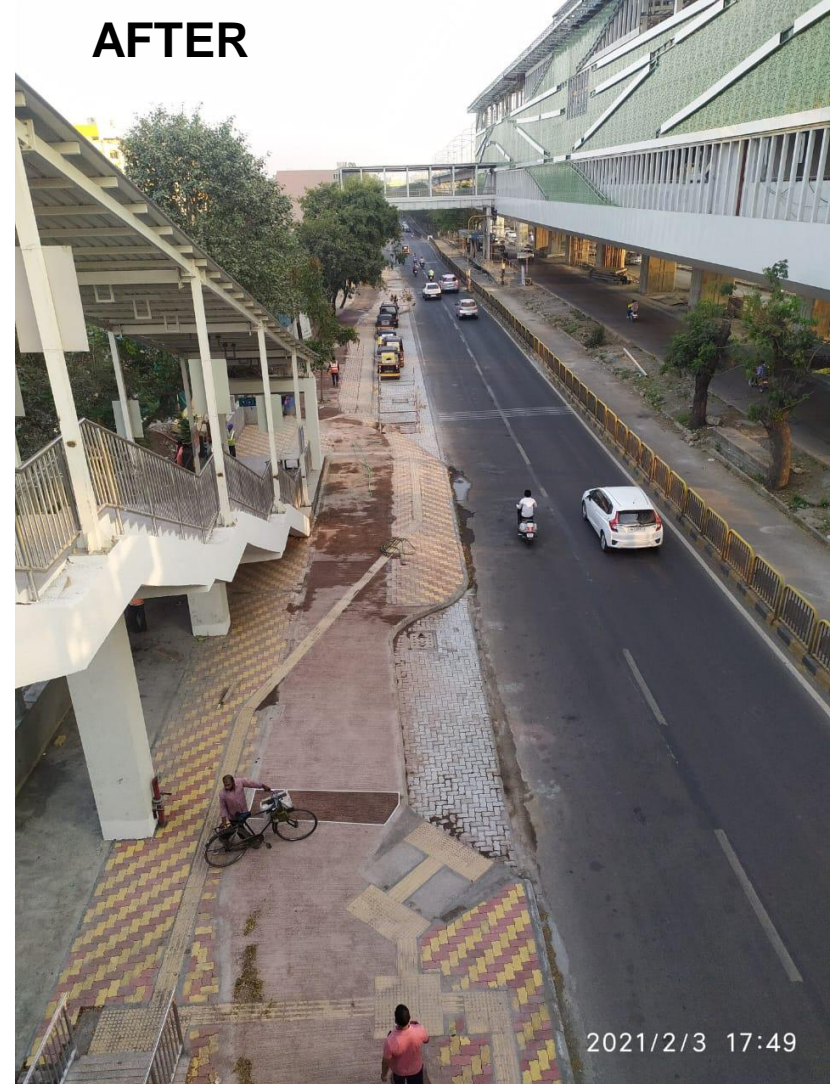


METRO STATION – BEFORE & AFTER

BEFORE



AFTER



THANK YOU