



INNER RING ROAD- PART B

From Moti Bagh Crossing to Mayapuri

JANUARY 2016

Prepared By:

OASIS
DESIGNS INC.

For :

PUBLIC WORKS DEPARTMENTS, DELHI

RING ROAD PART B

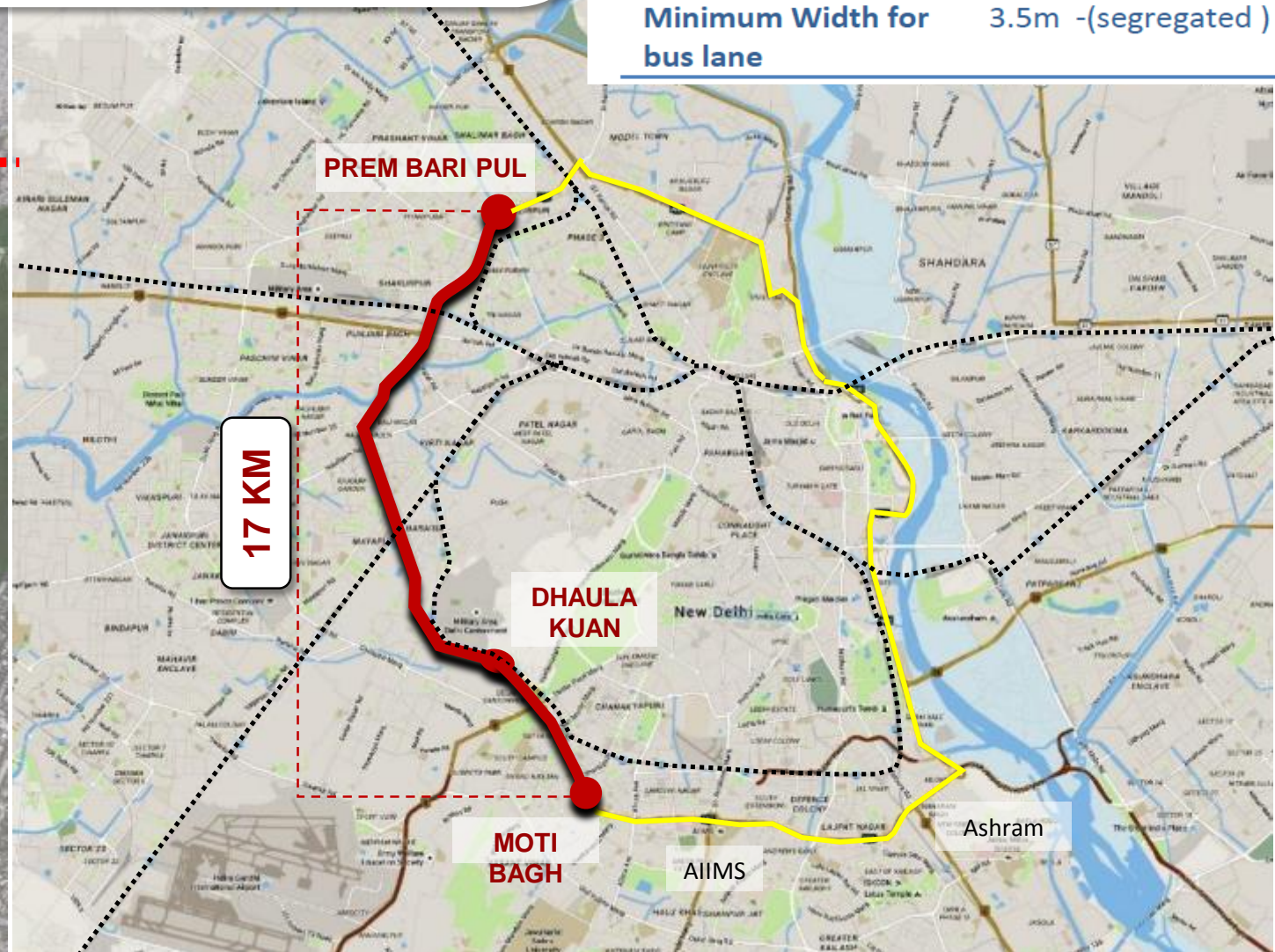
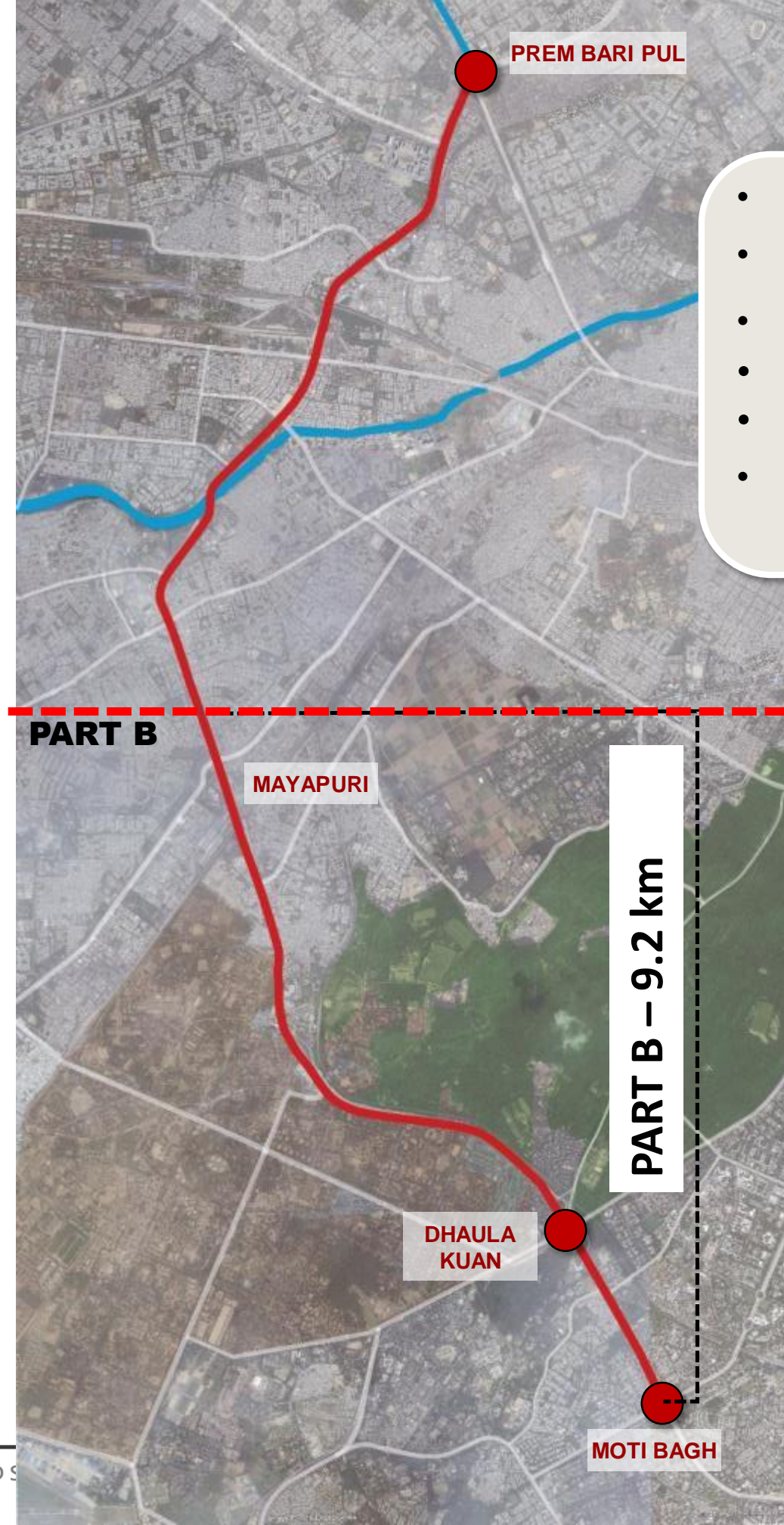
From Mayapuri till Motibagh Junction

SCOPE

As per MOUD guidelines:

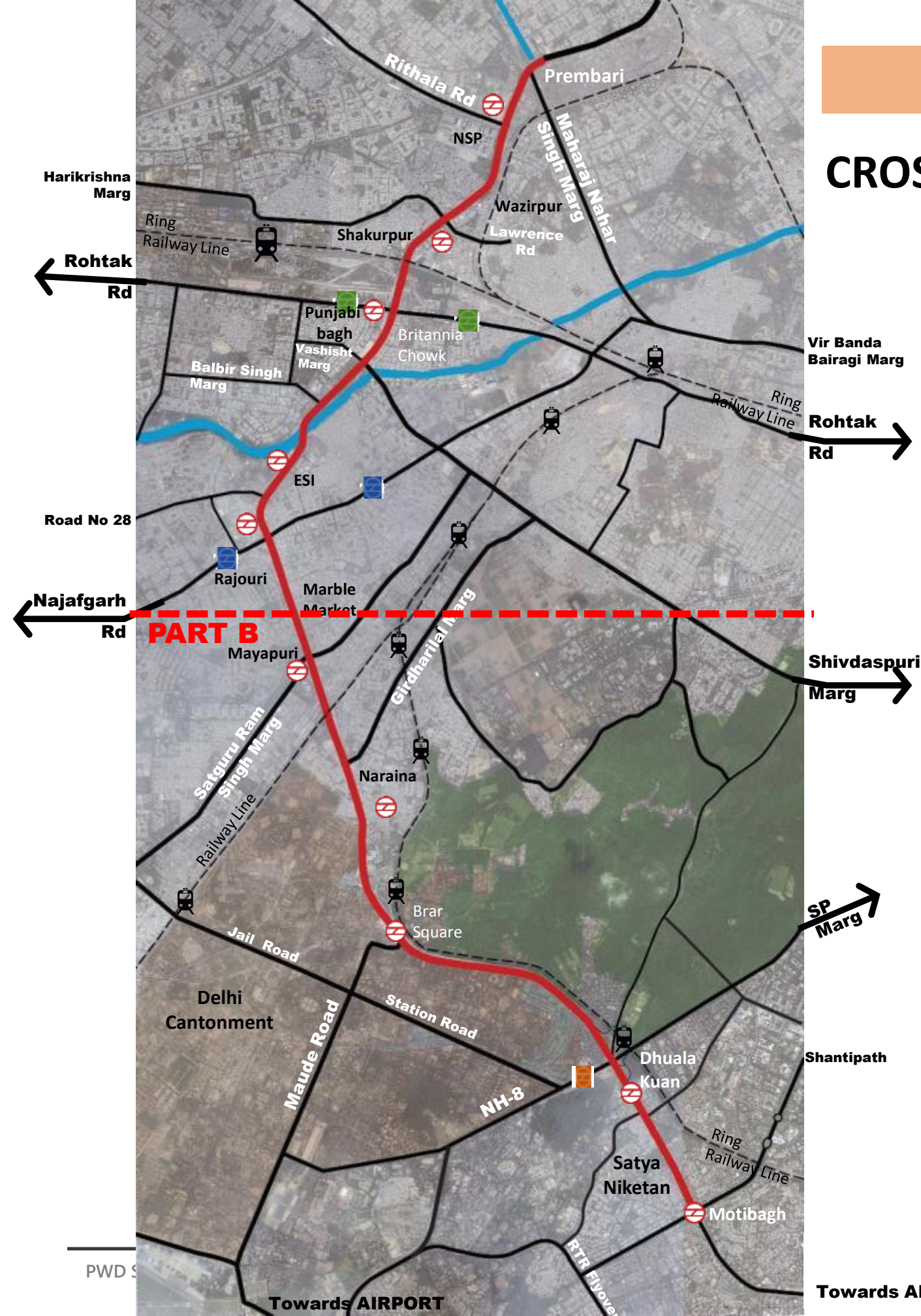
Arterial Roads	
Carriageway	
Criteria	50 km/h
ROW	50m – 80m
Horizontal curve	30m or more
Gradient	2%
Number of lanes	Minimum 6 lanes divided (using a raised median);
Minimum Width for car lane	3.0 to 3.5m width each
Minimum Width for bus lane	3.5m -(segregated)

- RING ROAD **ARTERIAL ROAD**
- LENGTH – **17 KM**
- ROW – **60 MTS** (Approx.)
- **10 FLYOVER**
- **10 METRO STATION-PH 3**
- DESIGN SPEED **50 KM /HOUR**



NETWORK PLAN

CROSS ROAD FOR MAJOR CITY-LEVEL ROADS



SIGNAL FREE CORRIDOR TO **ENSURE SMOOTH THOROUGH TRAFFIC MOVEMENT**

10 EXISTING FLYOVERS ON THE ROAD

THOROUGH TRAFFIC
OVER THE FLYOVER



ACTIVITIES UNDER THE FLYOVER



BUS STOPS

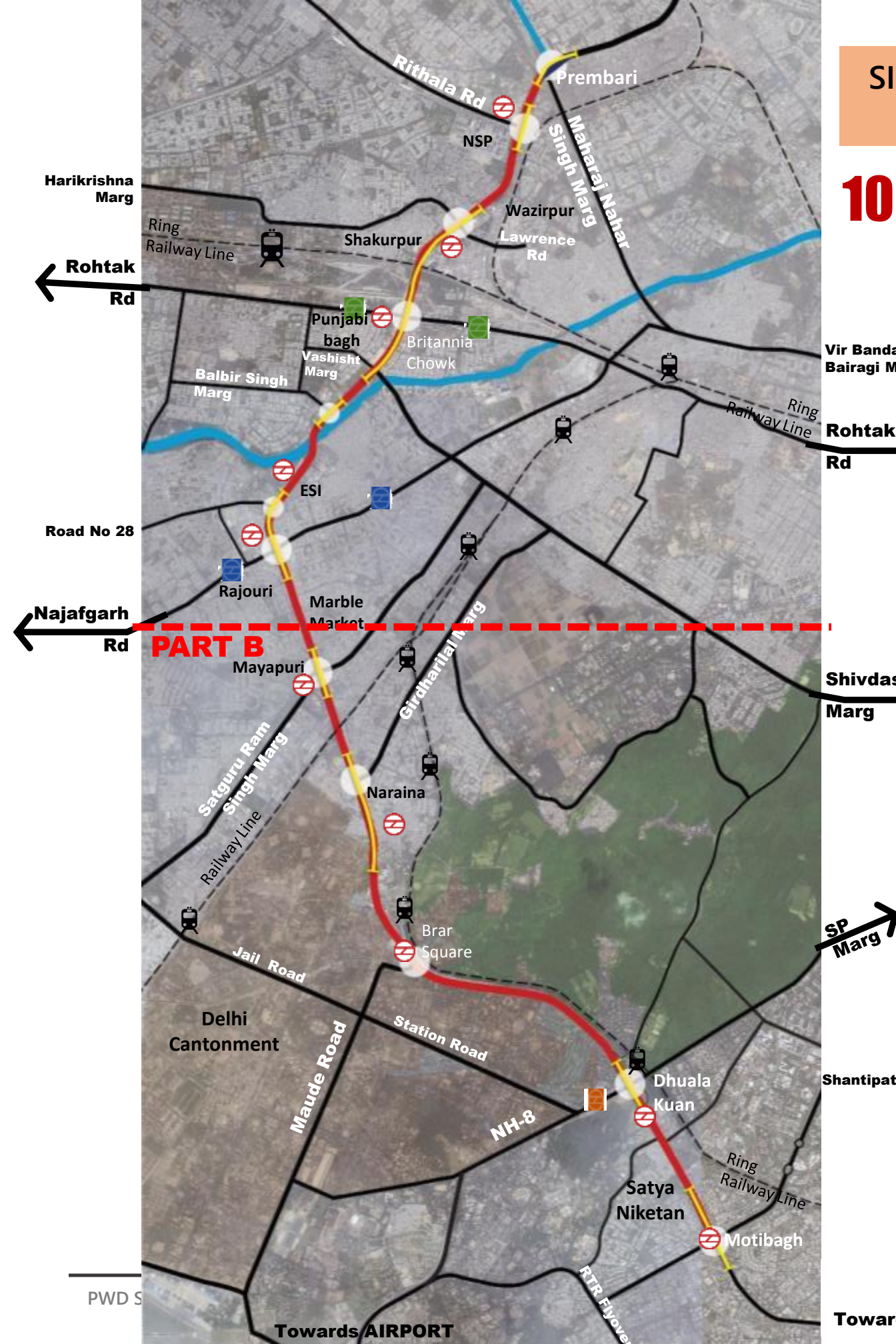


MMI



VENDORS

OASIS
DESIGNS INC.



Towards AIIMS

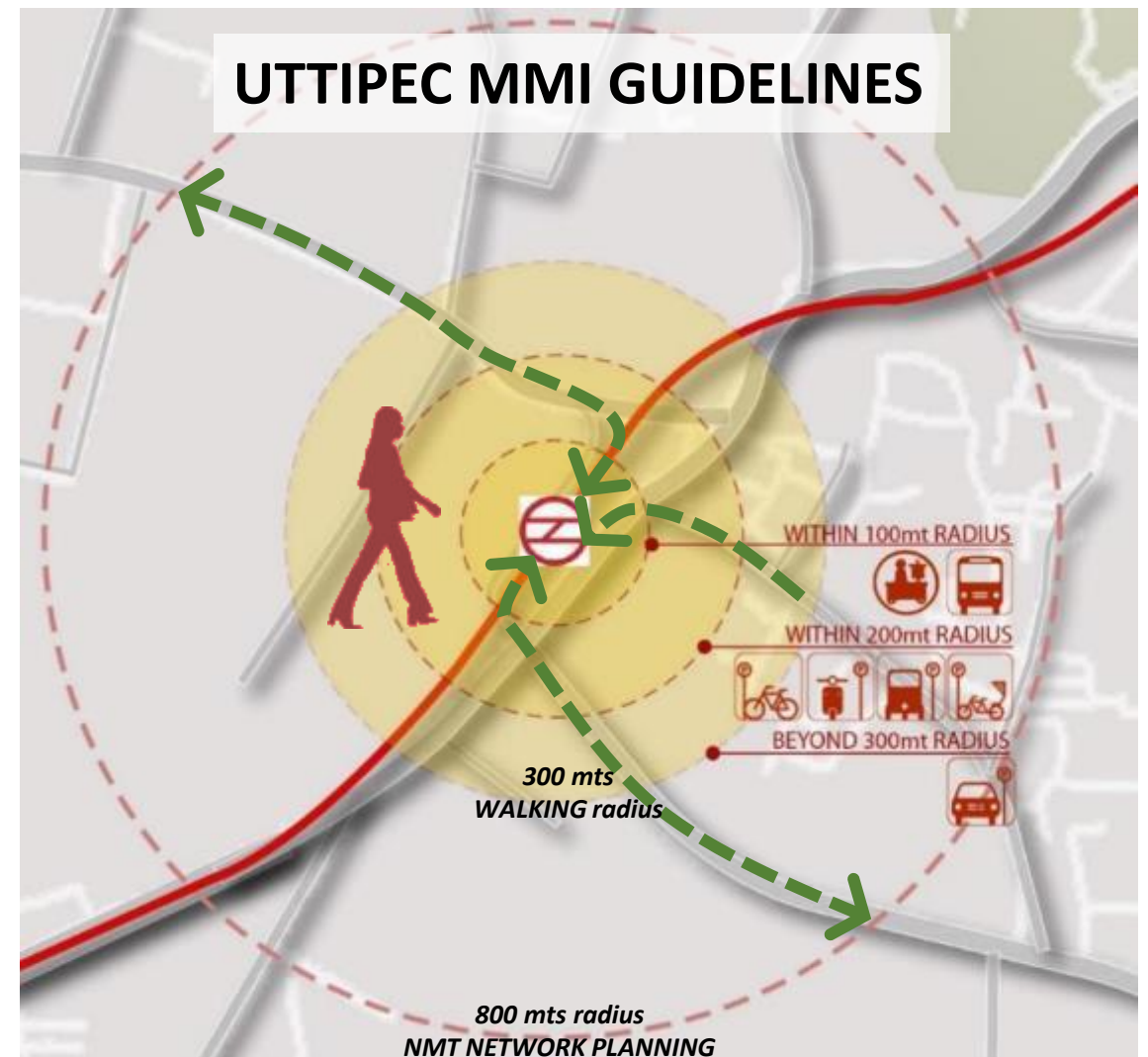
PUBLIC TRANSIT – PHASE 3 METRO STATION

**TOTAL 10 METRO STATIONS ALONG THE ROAD
OUT OF WHICH
3 ARE INTERCHANGE STATIONS**

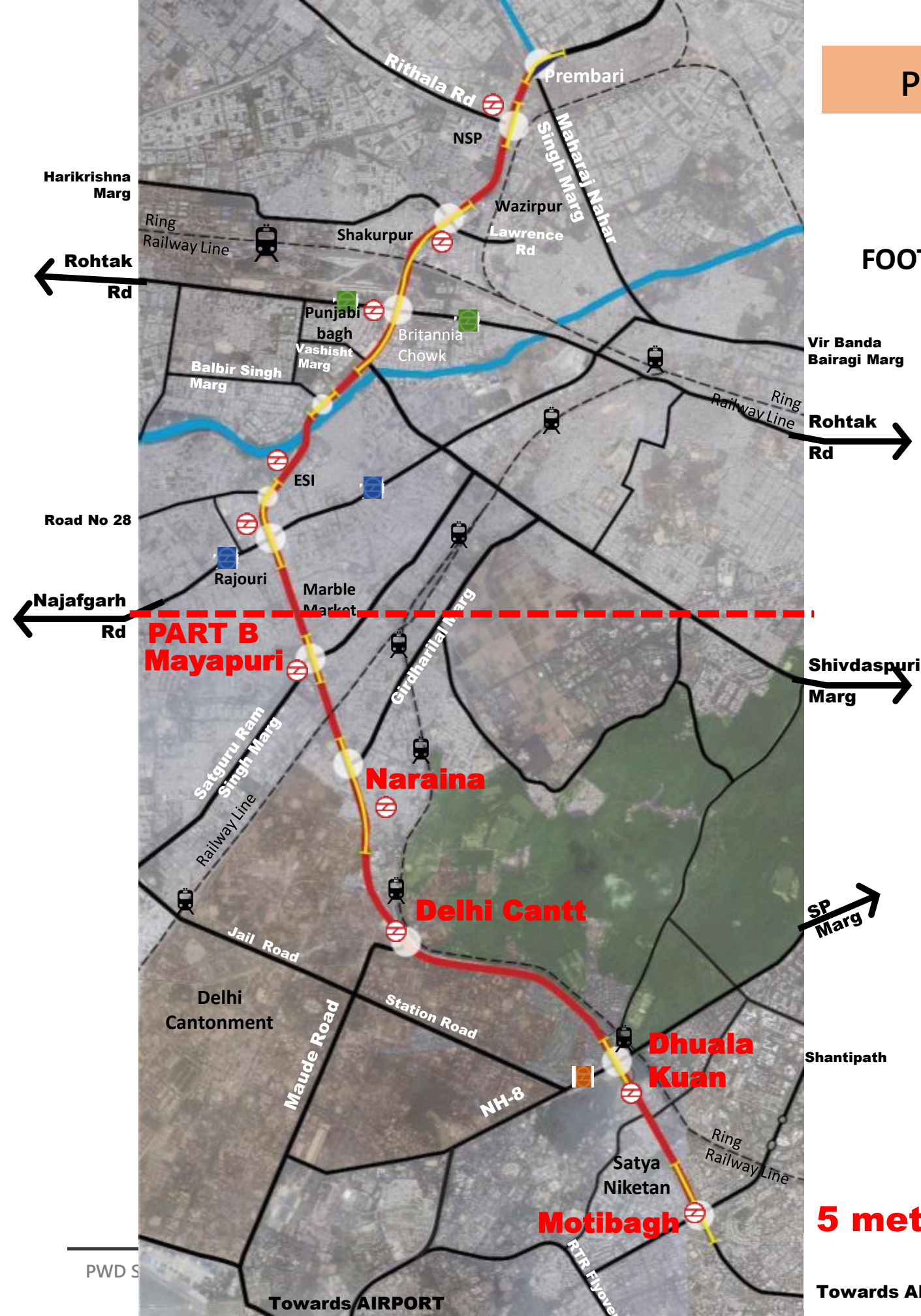
FOOTFALL OF EACH STATION MAYBE OVER 20000 PPL PER DAY

- 1st & LAST MILE CONNECTIVITY
- PEDESTRIAN PRIORTORISED PLANNING
- CYCLING FACILITIES
- ORGANISED INTERMEDIATE PUBLIC TRANSPORT (IPT) PARKING
- INTEGRATION WITH OTHER PUBLIC TRANSITS LIKE BUS STOPS...ETC.

UTTIPEC MMI GUIDELINES



5 metro stations in Part B



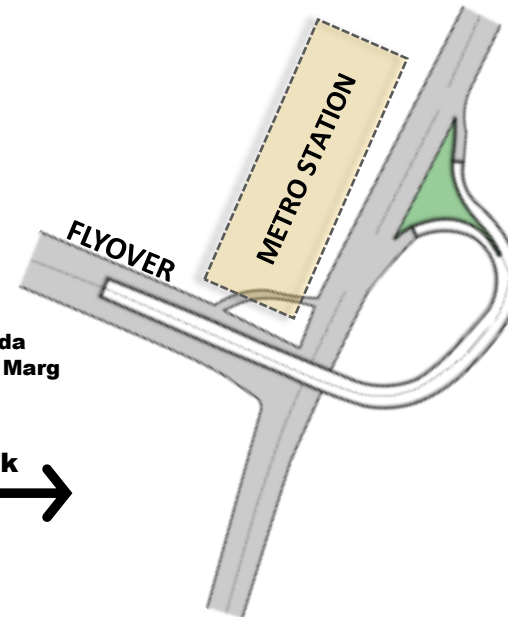
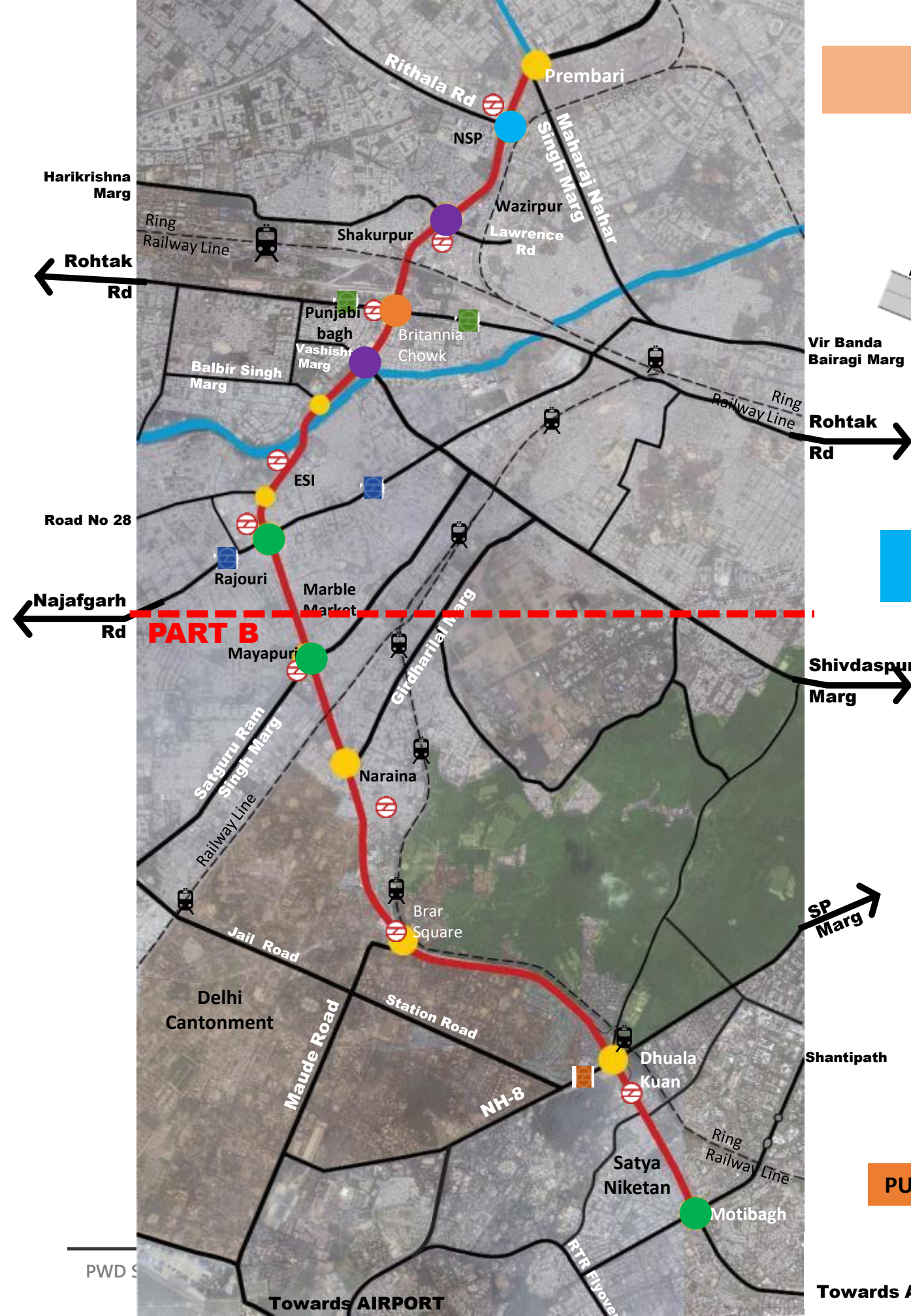
EXISTING CONDITION @ Dhaula Kuan South campus station



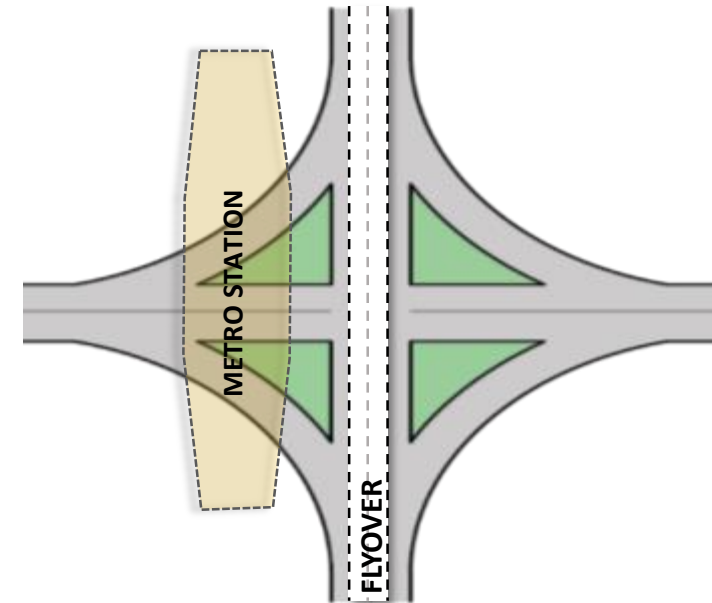
Proposed @ Dhaula Kuan South campus station



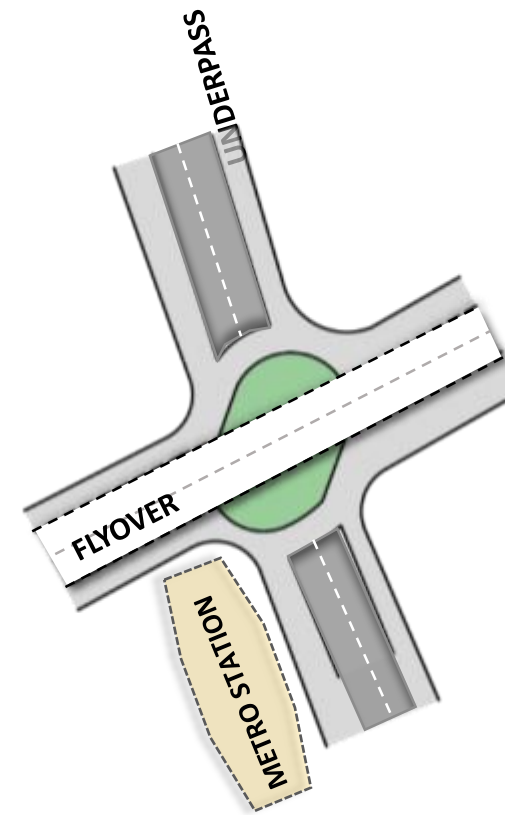
MAJOR JUNCTIONS & METRO STATIONS



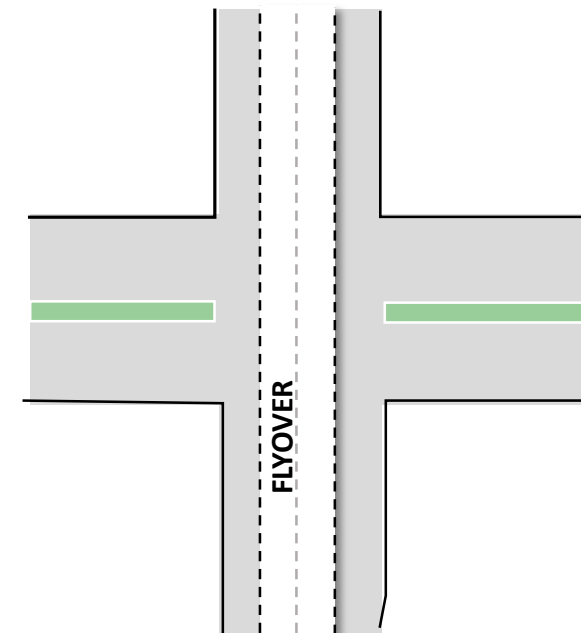
WAZIRPUR JUNCTION WITH NSP METRO



JUNCTION WITH SLIP ROAD AND METRO



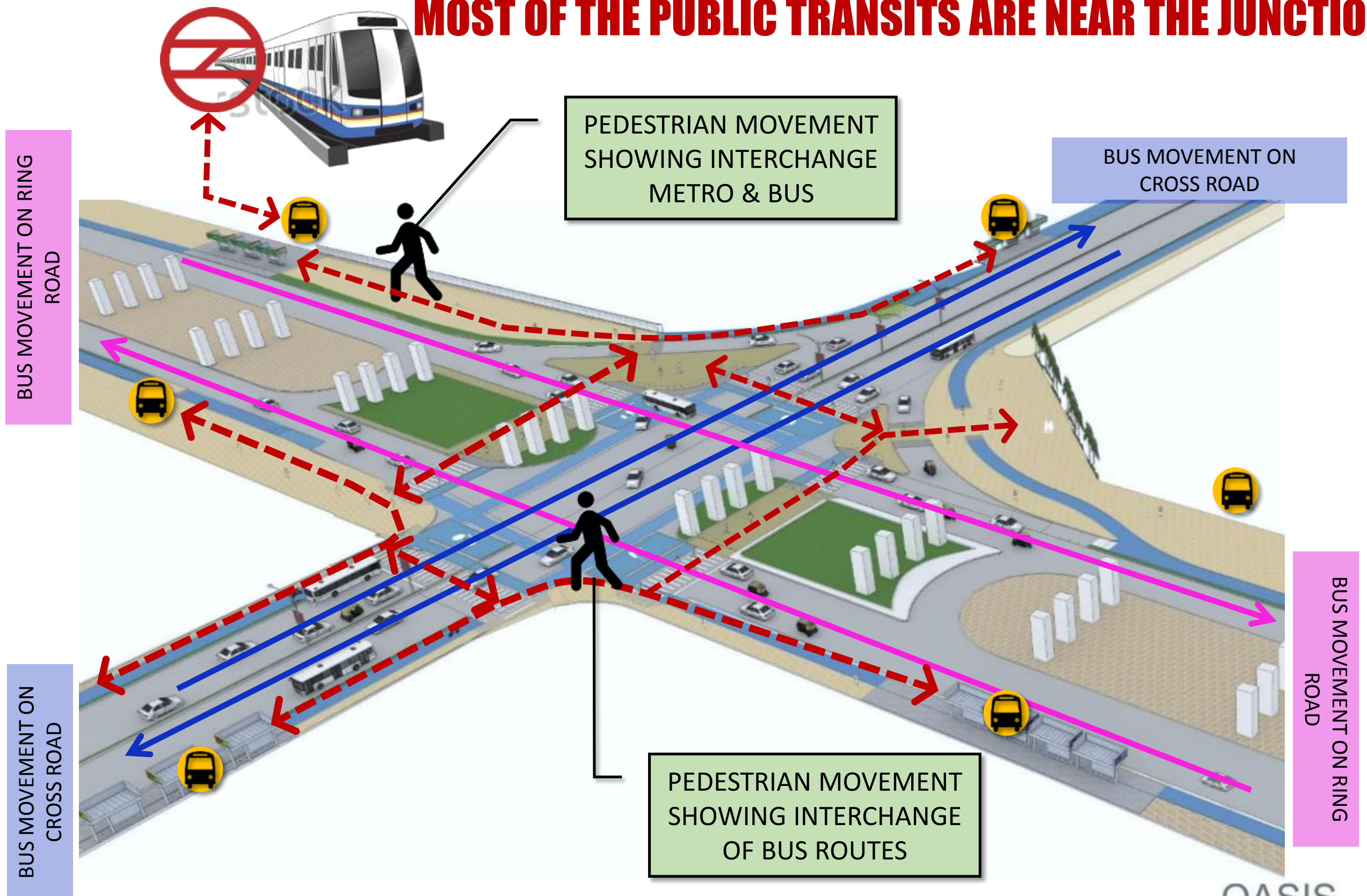
PUNJABI BAGH JUNCTION WITH METRO



TYPICAL SIGNALIZED CROSS JUNCTION

JUNCTION ACTS AS INTERCHANGE FOR PEDESTRIANS USING MASS TRANSITS

MOST OF THE PUBLIC TRANSITS ARE NEAR THE JUNCTION

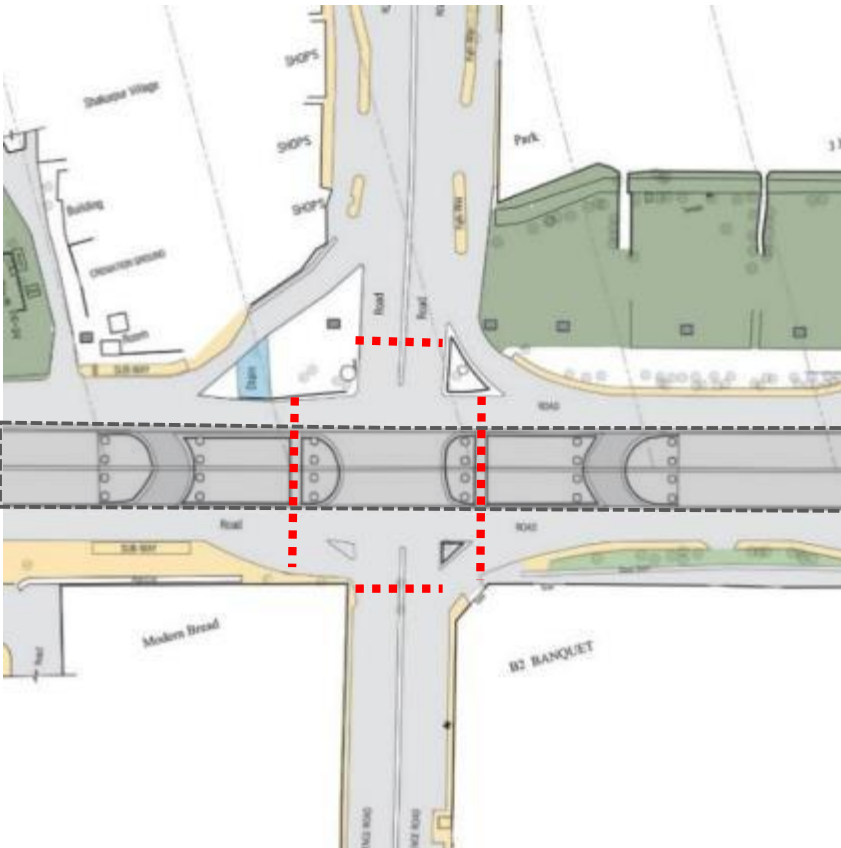


JUNCTION MADE CYCLE & PEDESTRIAN FRIENDLY

SAFE PEDESTRIAN & CYCLIST MOVEMENT AT JUNCTION

BRITANNIA CHOWK

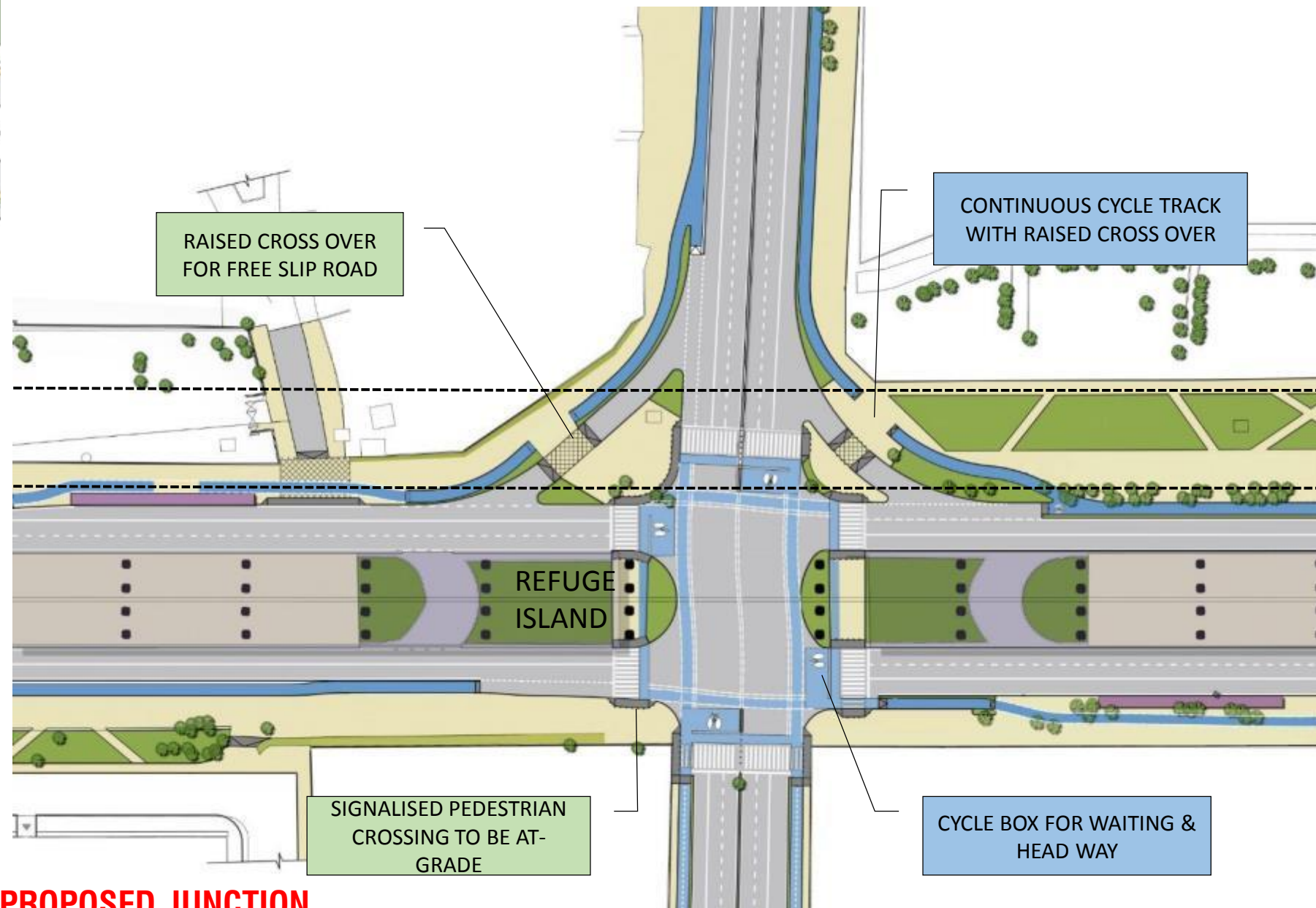
ENSURING TRAFFIC CALMING MEASURES



EXISTING JUNCTION

EXISTING – discontinuous, unclear and unsafe crossings – landing directly on the road

no segregated cycle track- cyclists move with the vehicular traffic- unsafe



PROPOSED JUNCTION

CROSS SECTION -RATIONALISATION

Traffic lanes **WIDTH NOT CONSTANT** -creating **BOTTLENECKS** instead of streamlining traffic



EXISTING SITUATION –

- **TRAFFIC LANE**- 4 Lane– speed limit 60km/hr
- **FOOTPATH** - runs along the building profile,
- **REMAINING AREA** - Tar space and thus increasing the lane width leading to people parking, stopping and creating confusion when merging into the actual lanes.



EXTRA TAR SPACE ON ROAD



CONSTRICTED SPACE ON ROAD

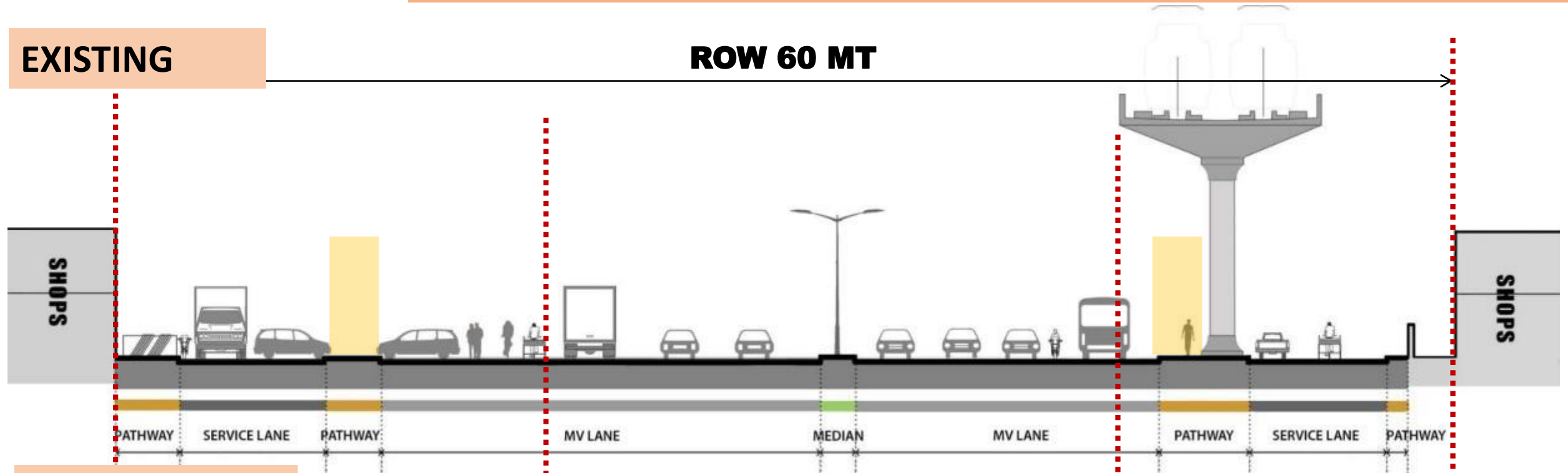
MAINTAINING THE SAME NUMBER OF MV LANES BY OPTIMISING LANE WIDTHS

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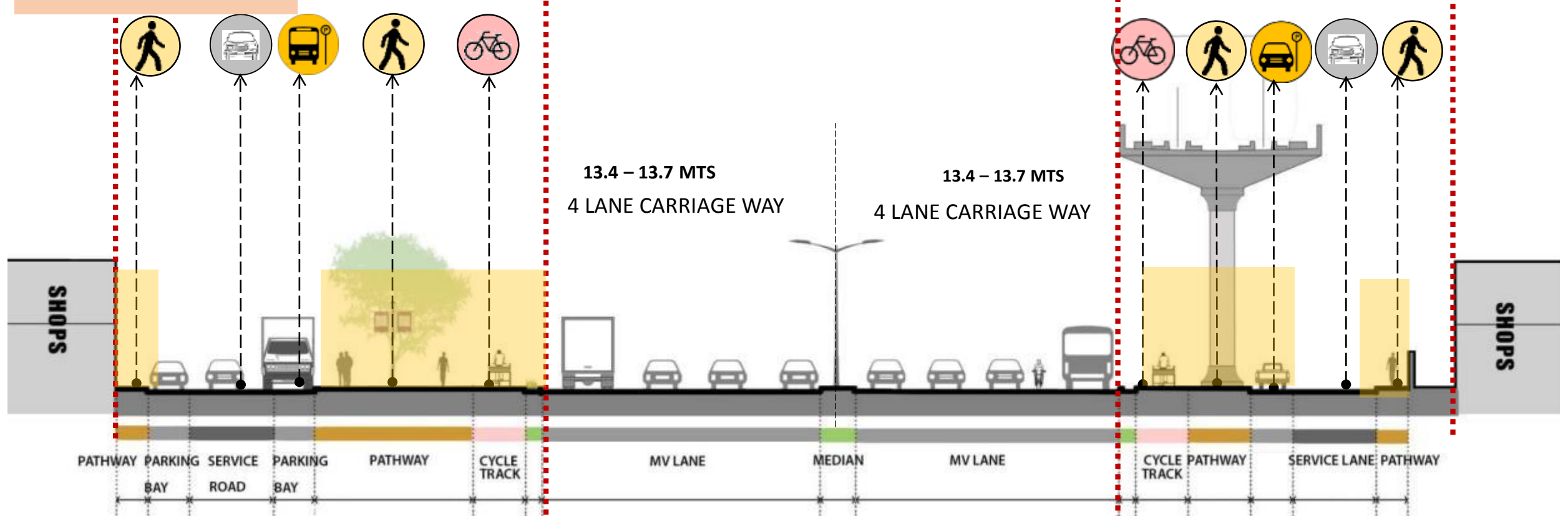
TYPICAL SECTION _ Equitable Distribution of Road Space

EXISTING

ROW 60 MT



PROPOSED

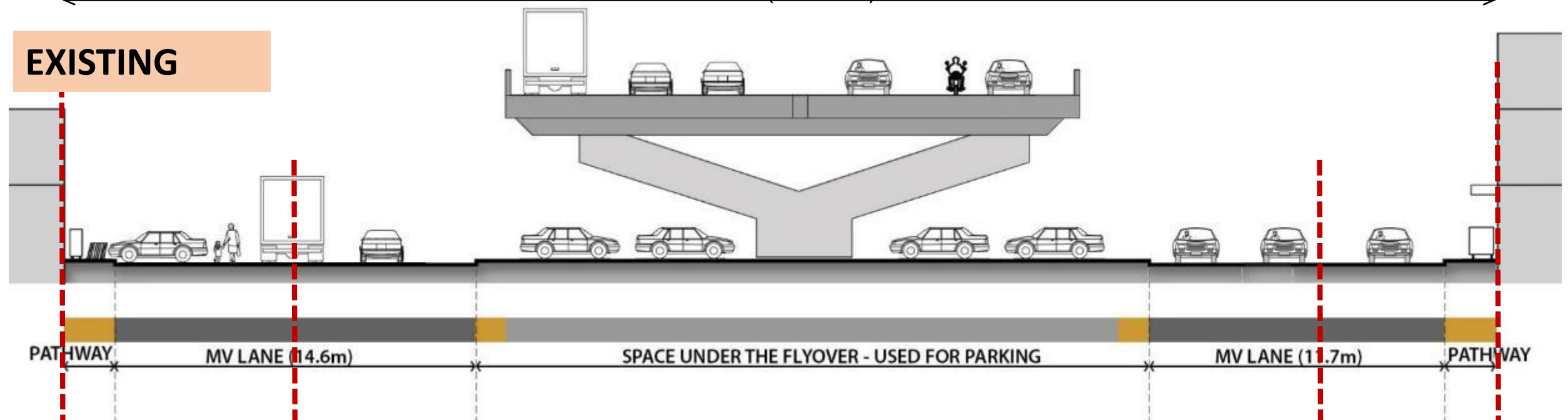


PROPOSED SECTION

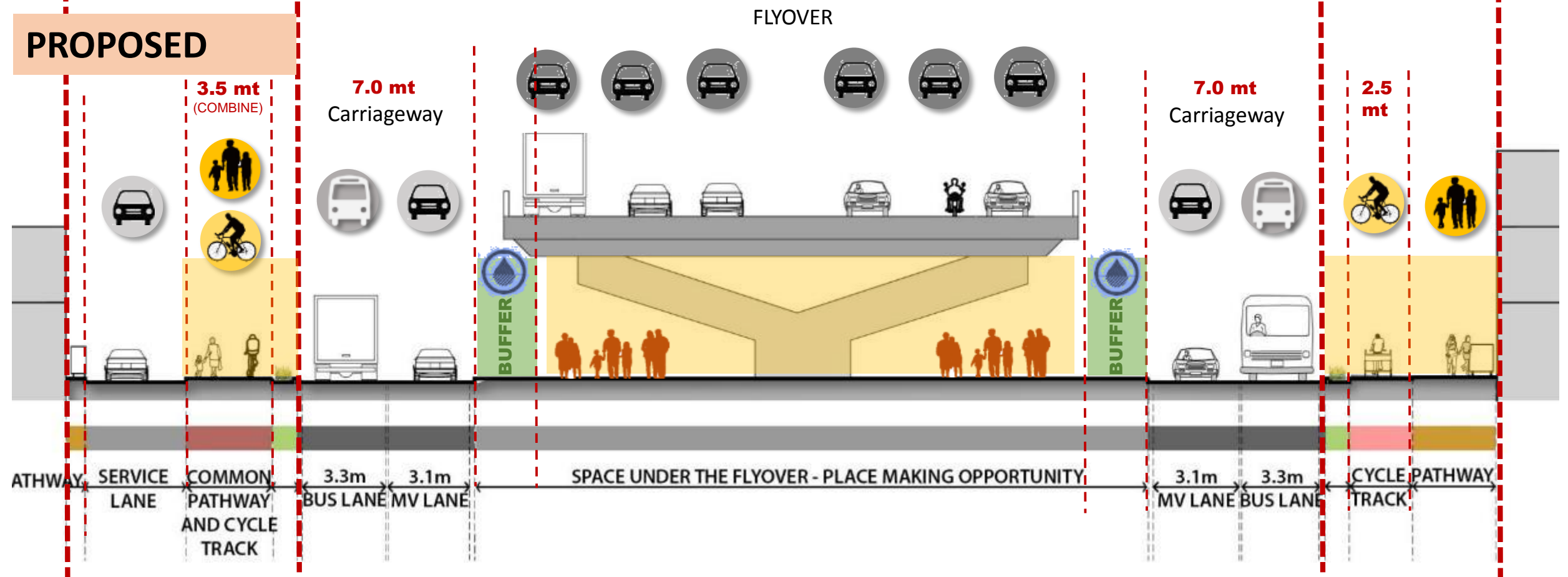
TYPICAL SECTION _ Equitable Distribution of Road Space with FLYOVER

ROW (56.7m)

EXISTING



PROPOSED



MAYAPURI INTERSECTION Ring Road

Mayapuri Junction

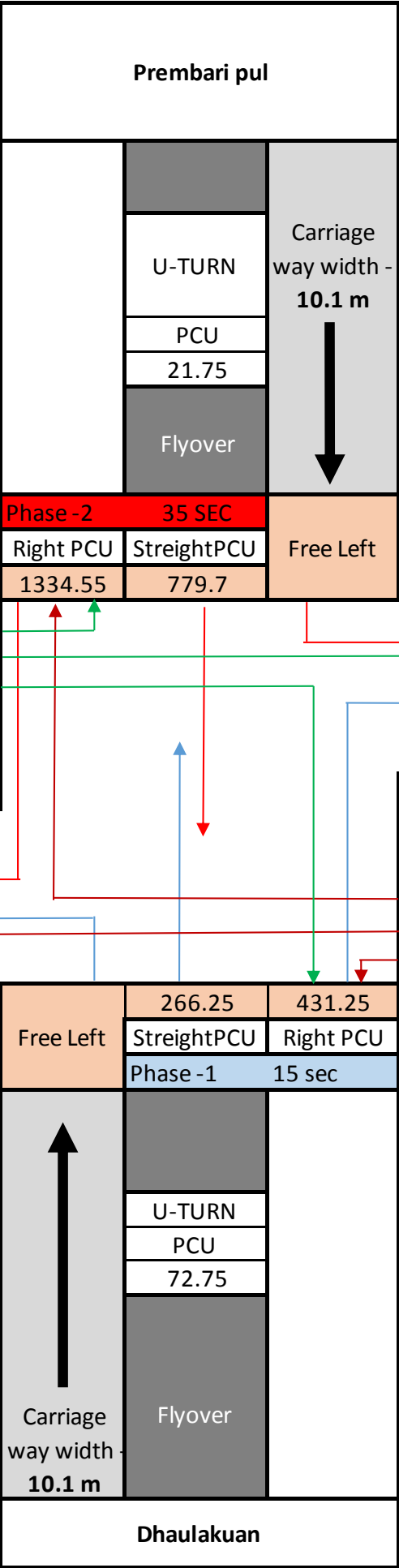
Signal Cycle Length	In sec
Phase 1	15
Phase 2	35
Phase 3	100
Phase 4	30
Total Cycle Length in Sec	180

Left	PCU	125.4
Streight	PCU	2753.85
4059.75	52.8	4112.55
Right PCU	U-turn PCU	Phase -3
Carriage way Width - 13.3m		100 Sec
Mayapuri		

As in the existing condition no dedicated U- turn is provided, hence the U- turn traffic has been added in the right turning traffic movement.

Analytical Considerations

IRC – 106 – 1990 recommends 1200 PCU per lane (LOS A ay 50 km/h)
ASVV Recommends 2000 PCU per lane.



TRAFFIC COUNT ANALYSIS

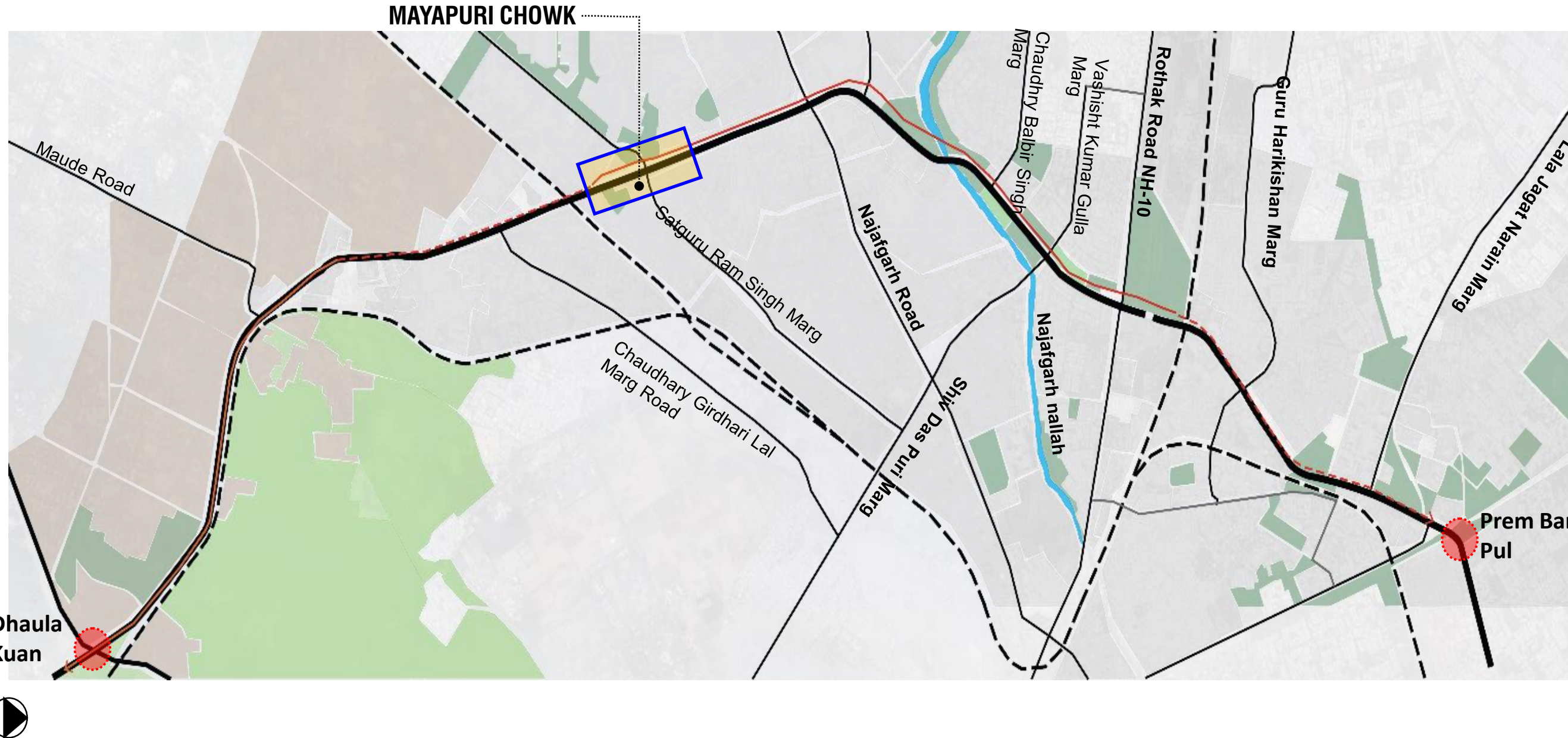
Lane Requirement					
Arms	Carriage width(m)	Demand in PCU/hr	Capacity in PCU/hr	Required Number of lanes	Proposed Number of lanes
From Dhaulakuan	10.1	698	836	1	3
From Prembari	10.1	2114	2132	2	3
From Mayapuri	13.3	6992	7015	4	4
From Kirtinagar	12.6	1456	2272	2	4
Design Considerations					
*PCU Considered For Peak hour Demand					
*Per lane Capacity 2000 PCU per lane					

As in the existing condition no dedicated U- turn is provided, hence the U- turn traffic has been added in the right turning traffic movement

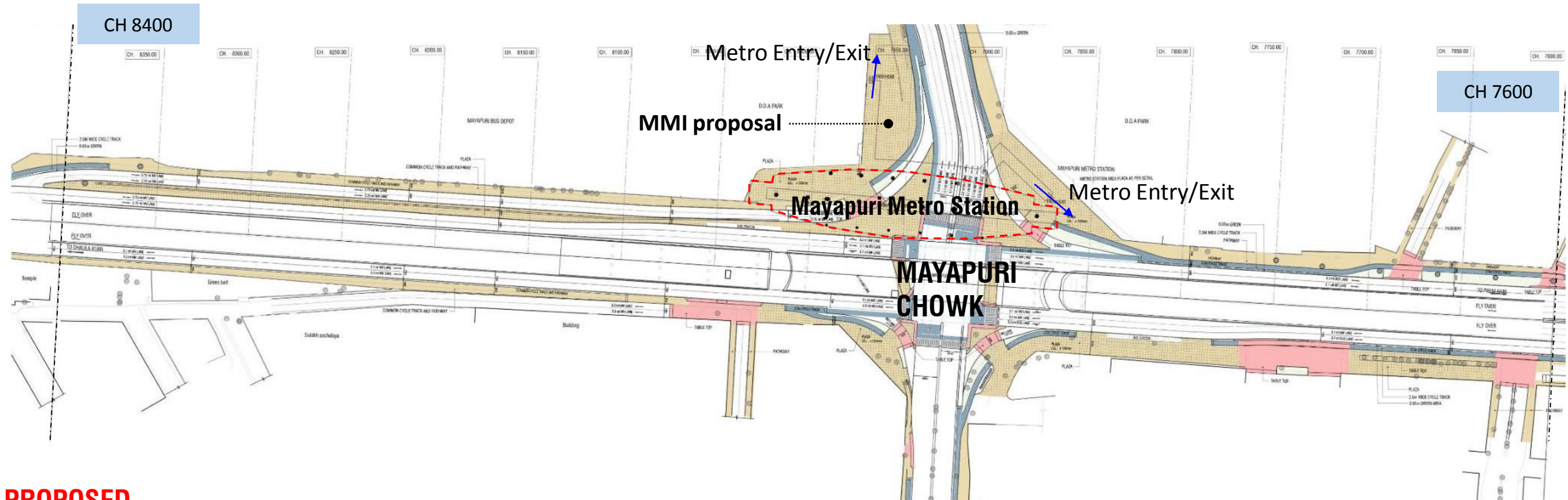
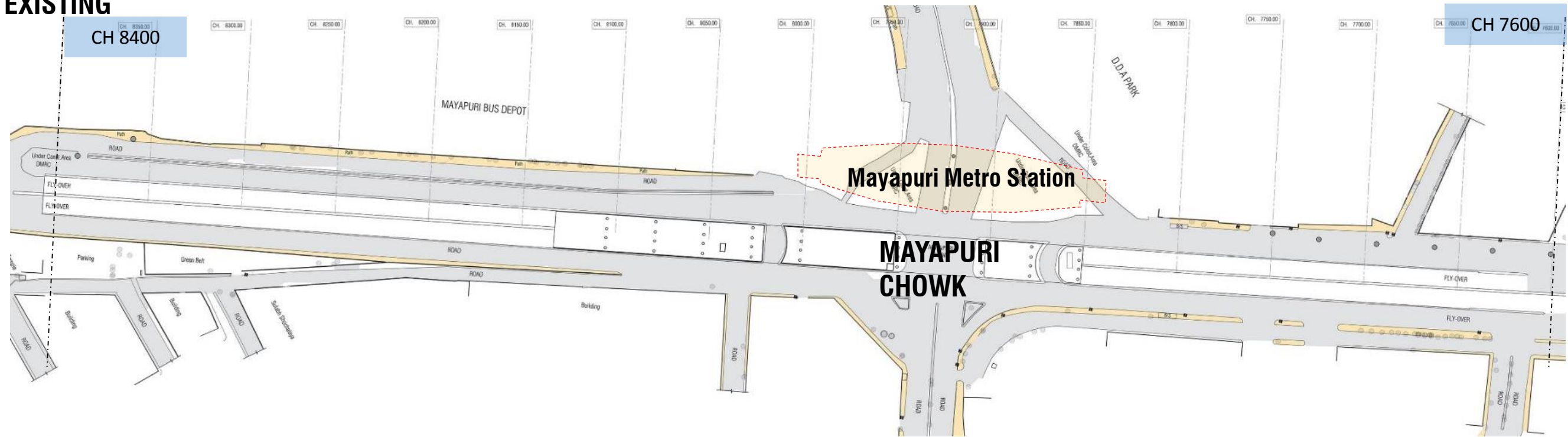
The maximum traffic is observed is on the arm : from Mayapur – 6992PCU/hr

Being arterial road , One lane can cater up to 2000 PCU so as per the existing demand 4 lanes are recommended for this arm.

Rest all the arms have PCU/hr ranging between 800 PCU/hr to 2500 PCU/hr.
The lane requirement calculations for these are presented in the table above.

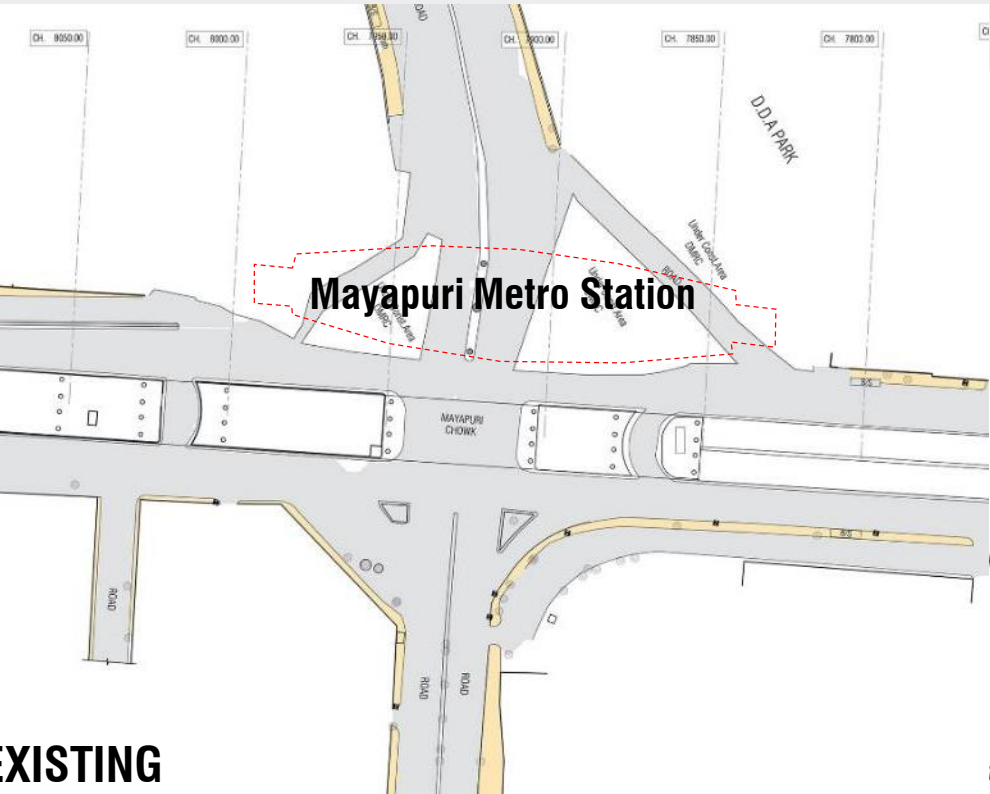


EXISTING

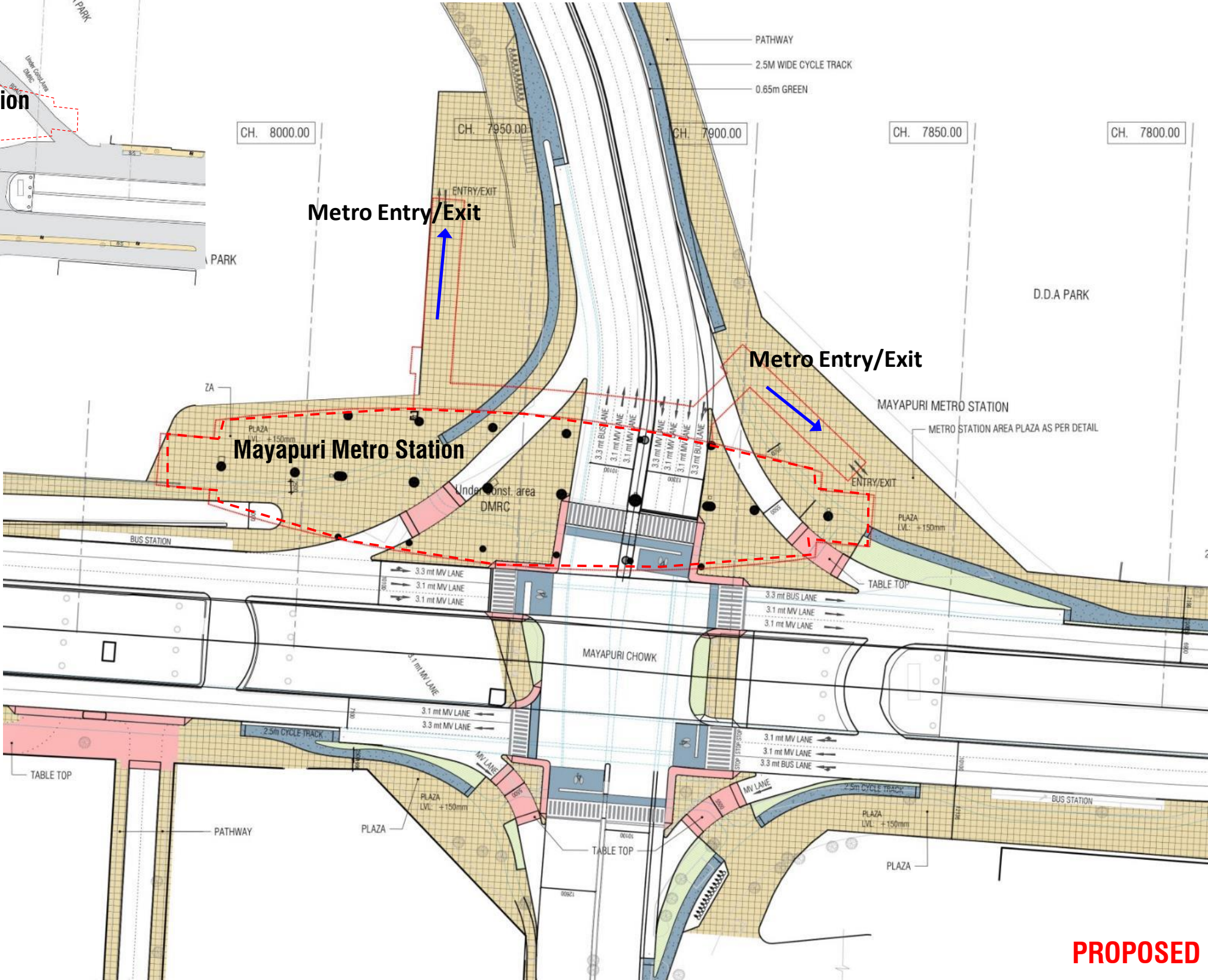


PROPOSED

MAYAPURI CHOWK



EXISTING



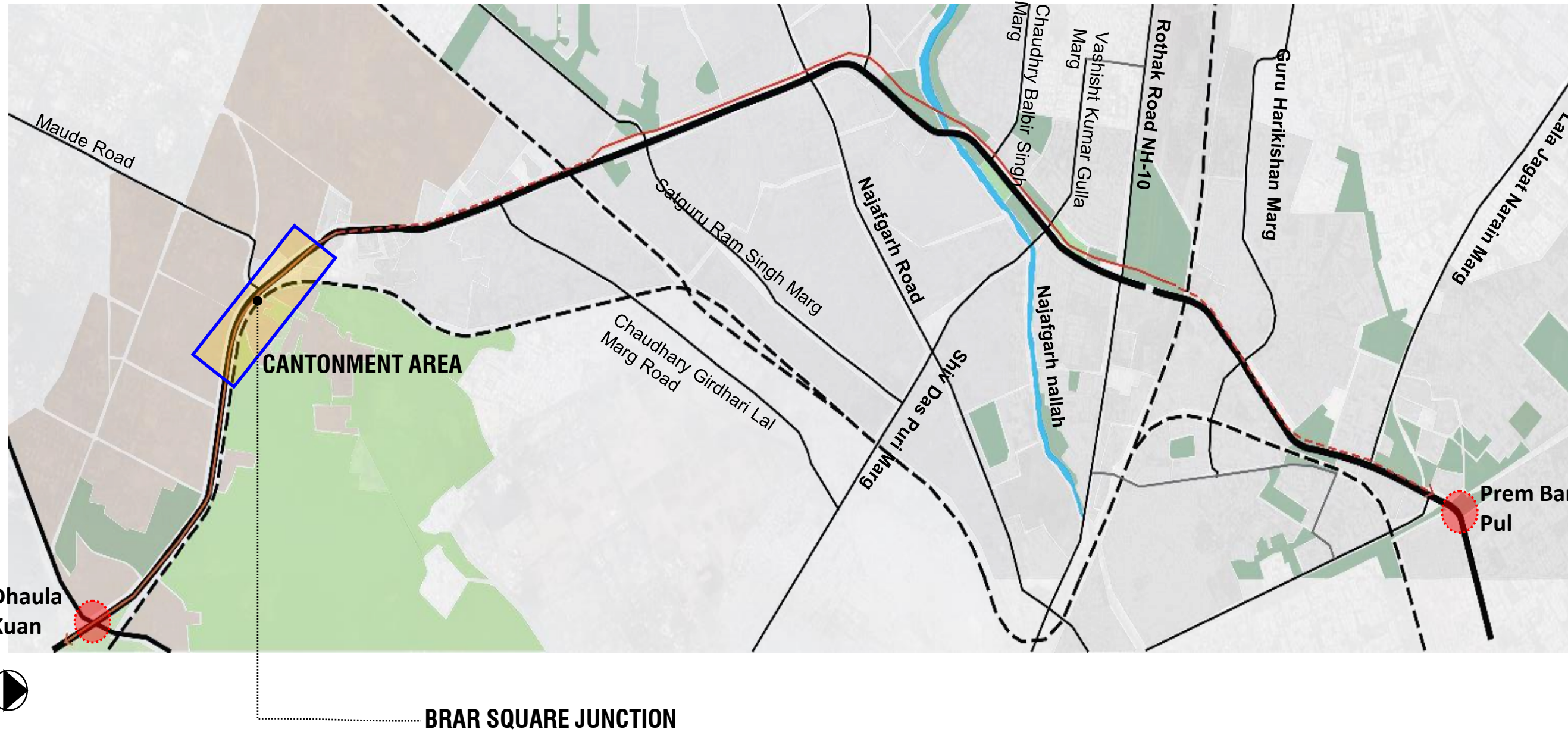
PROPOSED



Safe Pedestrian Crossing

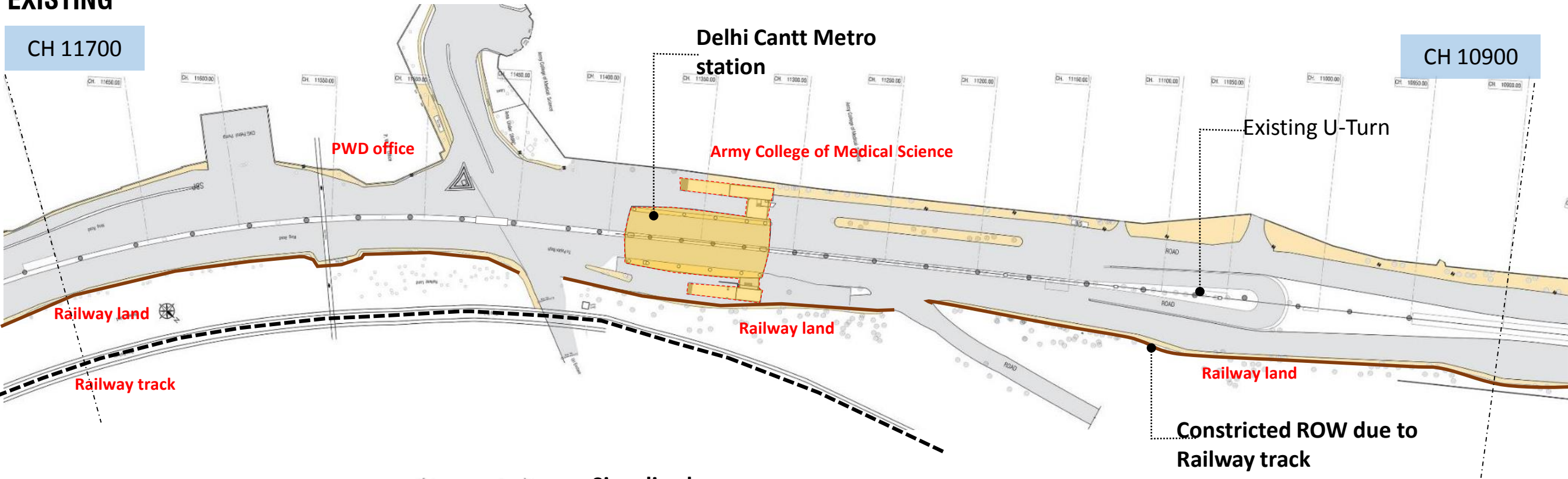


Proper Infrastructure For Cyclists

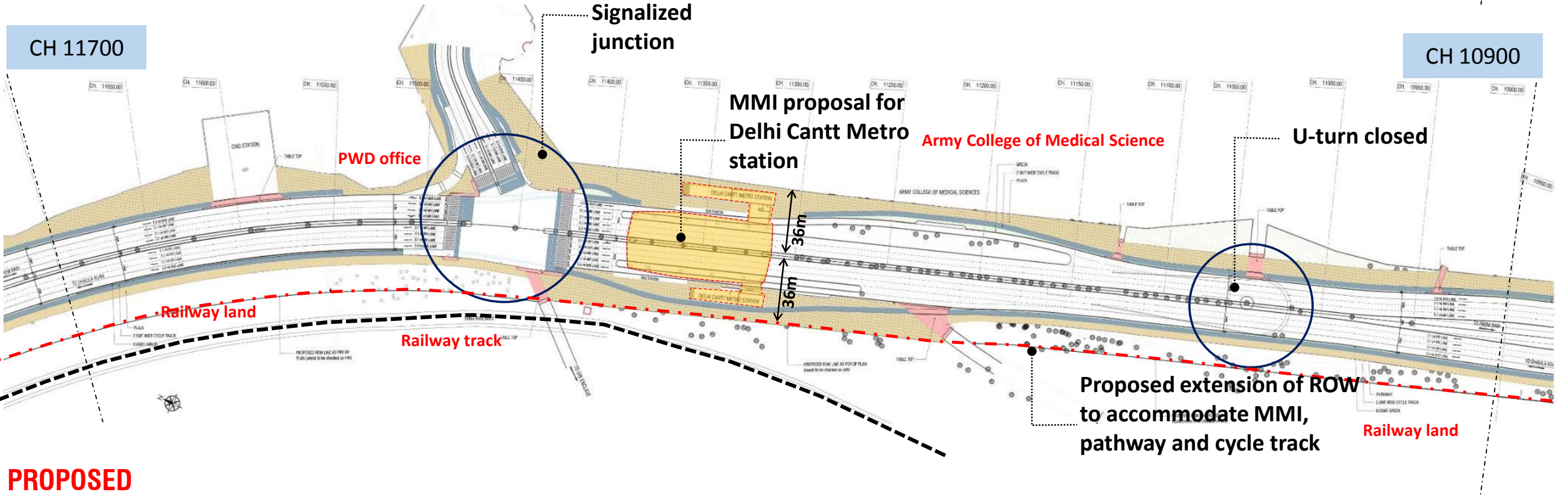


BRAR SQUARE JUNCTION

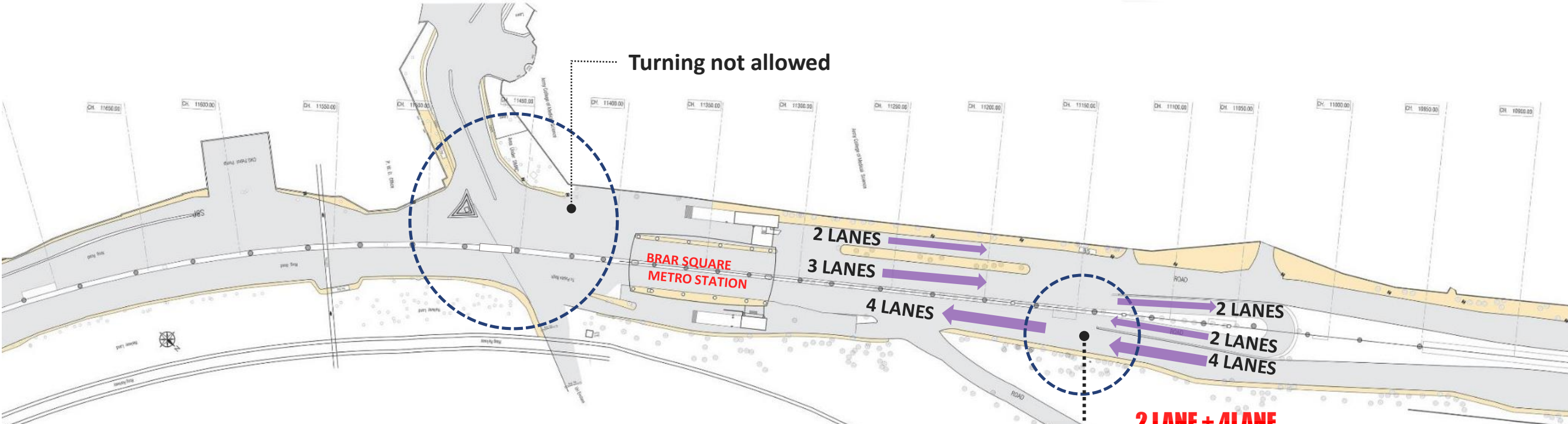
EXISTING



PROPOSED

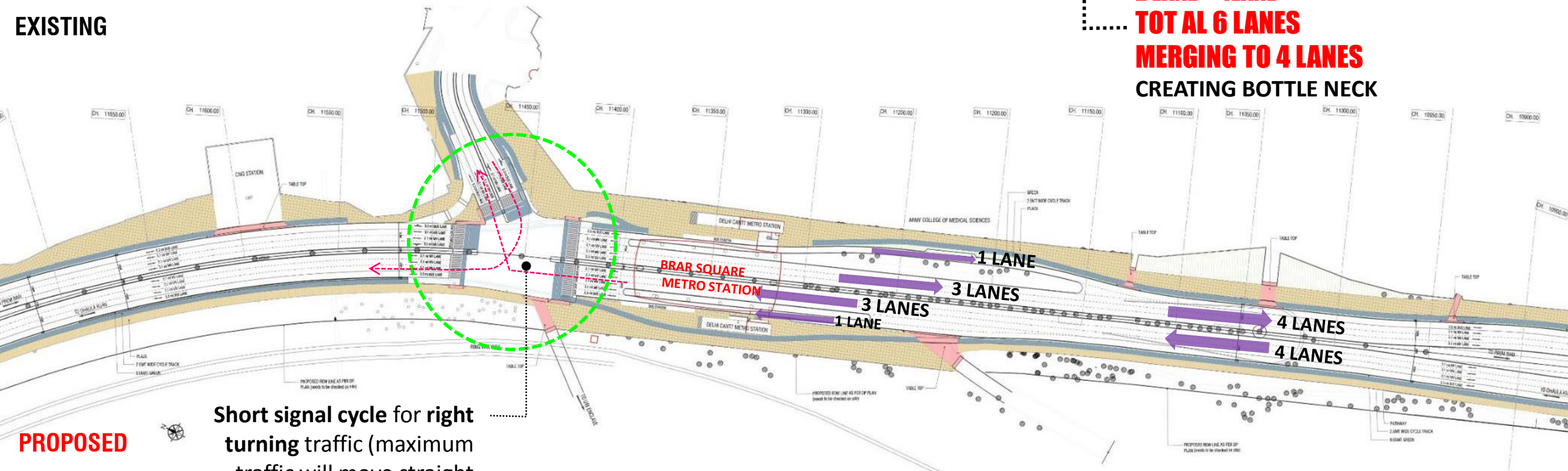


CLOSURE OF THE U-TURN ON NARAINA SIDE



EXISTING

**2 LANE + 4 LANE
TOTAL 6 LANES
MERGING TO 4 LANES
CREATING BOTTLE NECK**



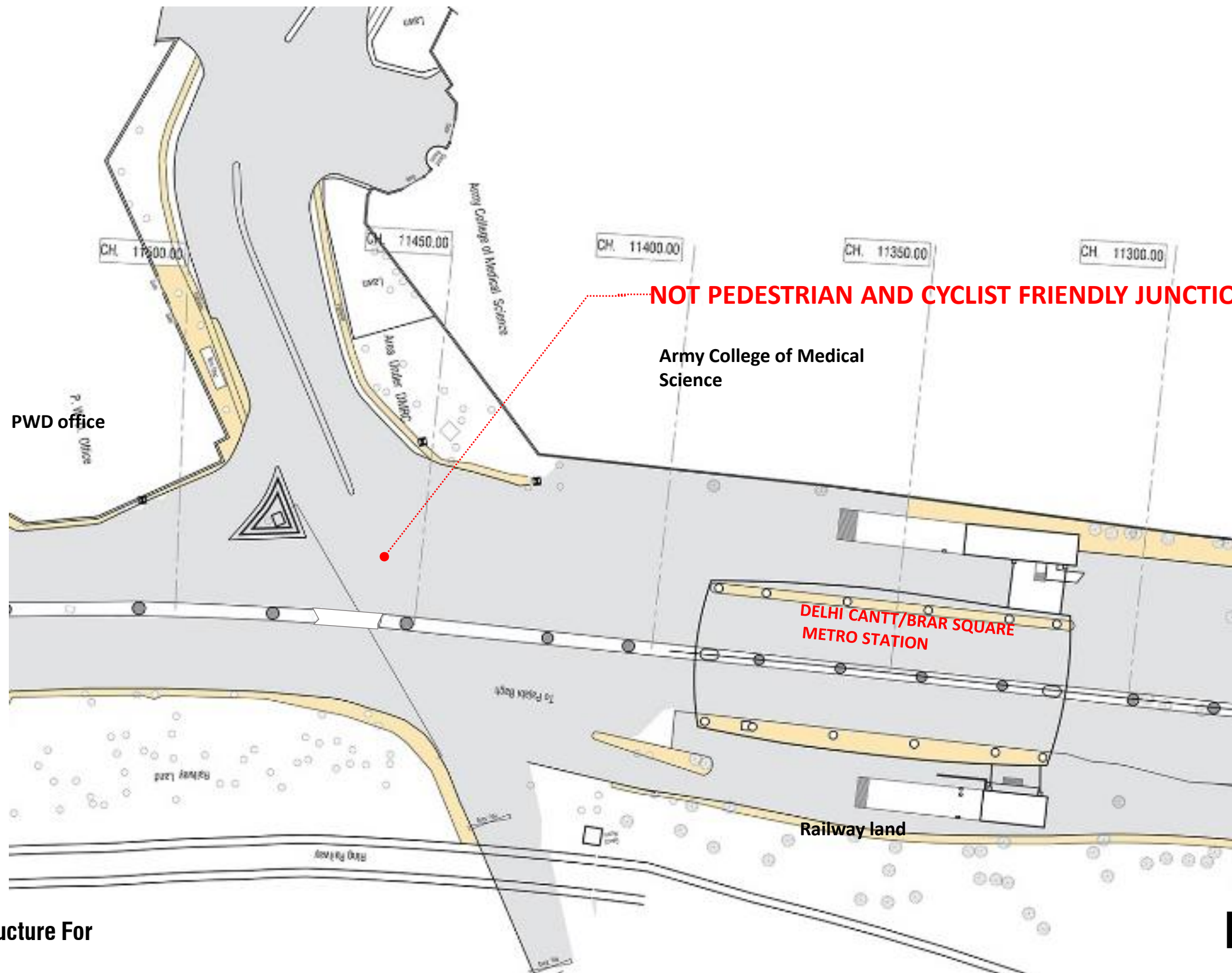
PROPOSED

**Short signal cycle for right
turning traffic (maximum
traffic will move straight
and use the next U-turn)**

BRAR SQUARE METRO STATION

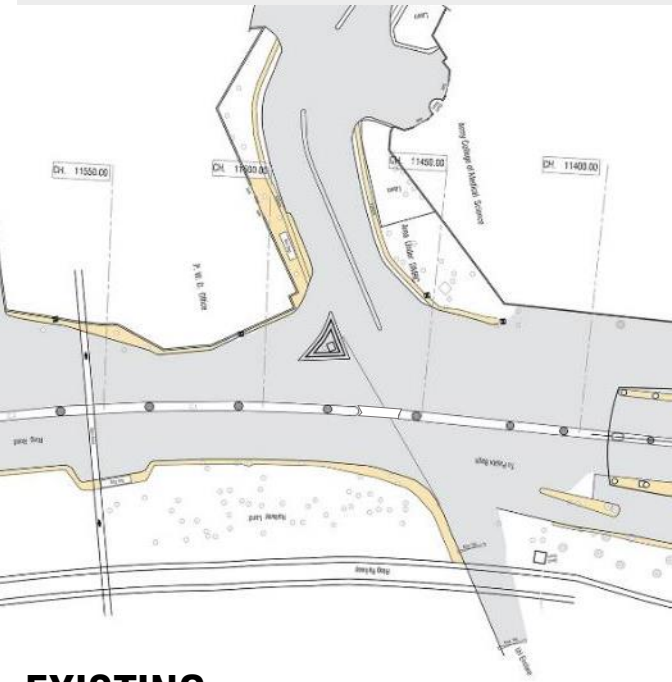


BRAR SQUARE JUNCTION

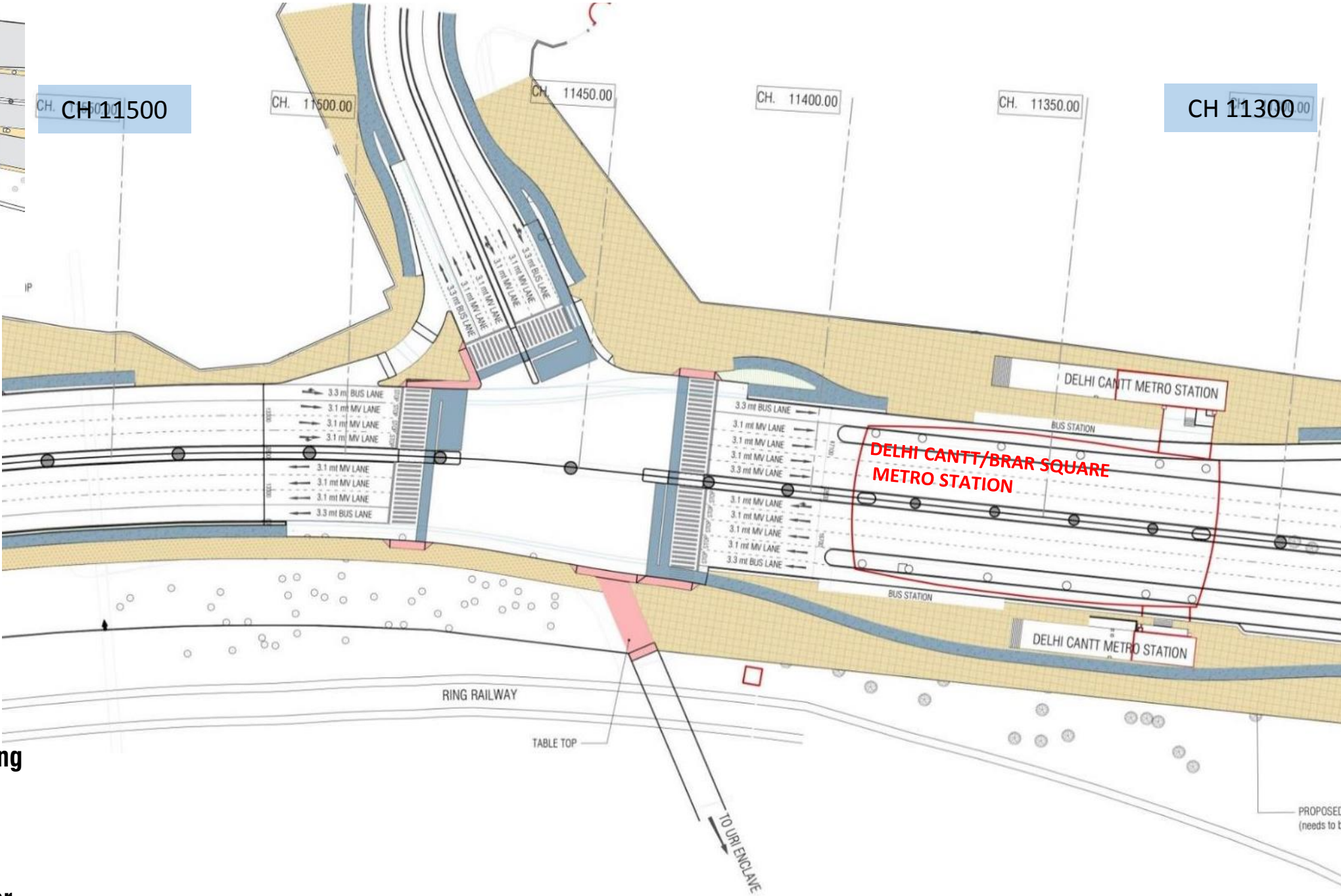


EXISTING

BRAR SQUARE JUNCTION



EXISTING



PROPOSED

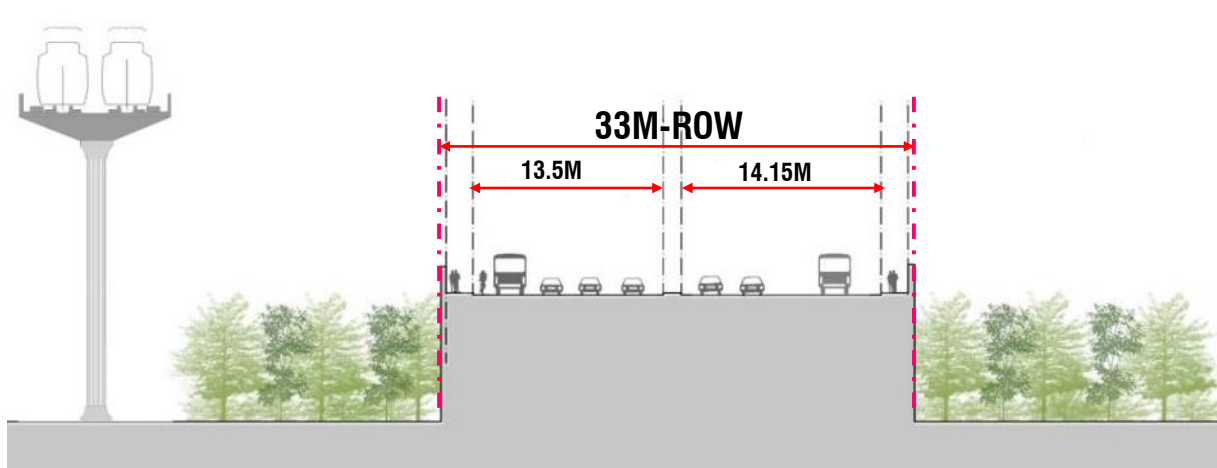
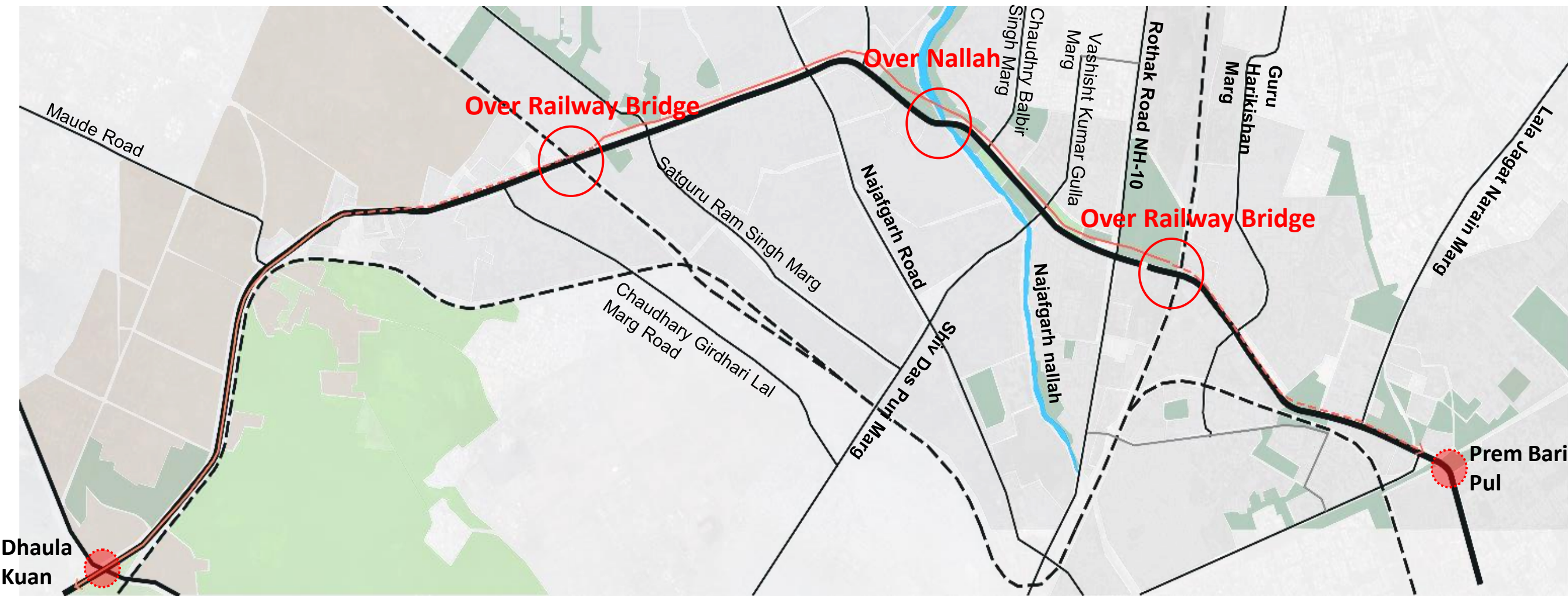


Safe Pedestrian Crossing

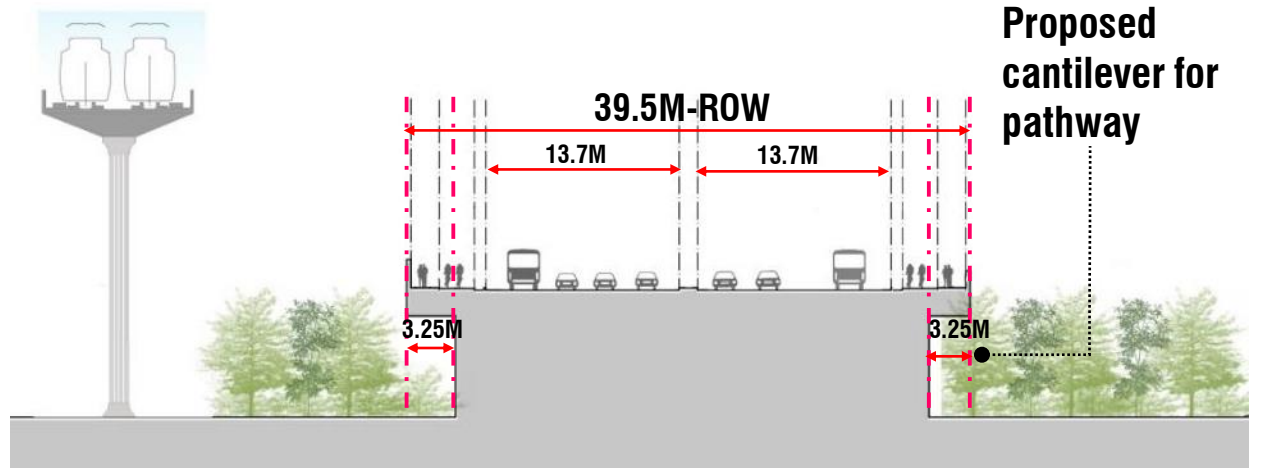


Proper Infrastructure For Cyclists

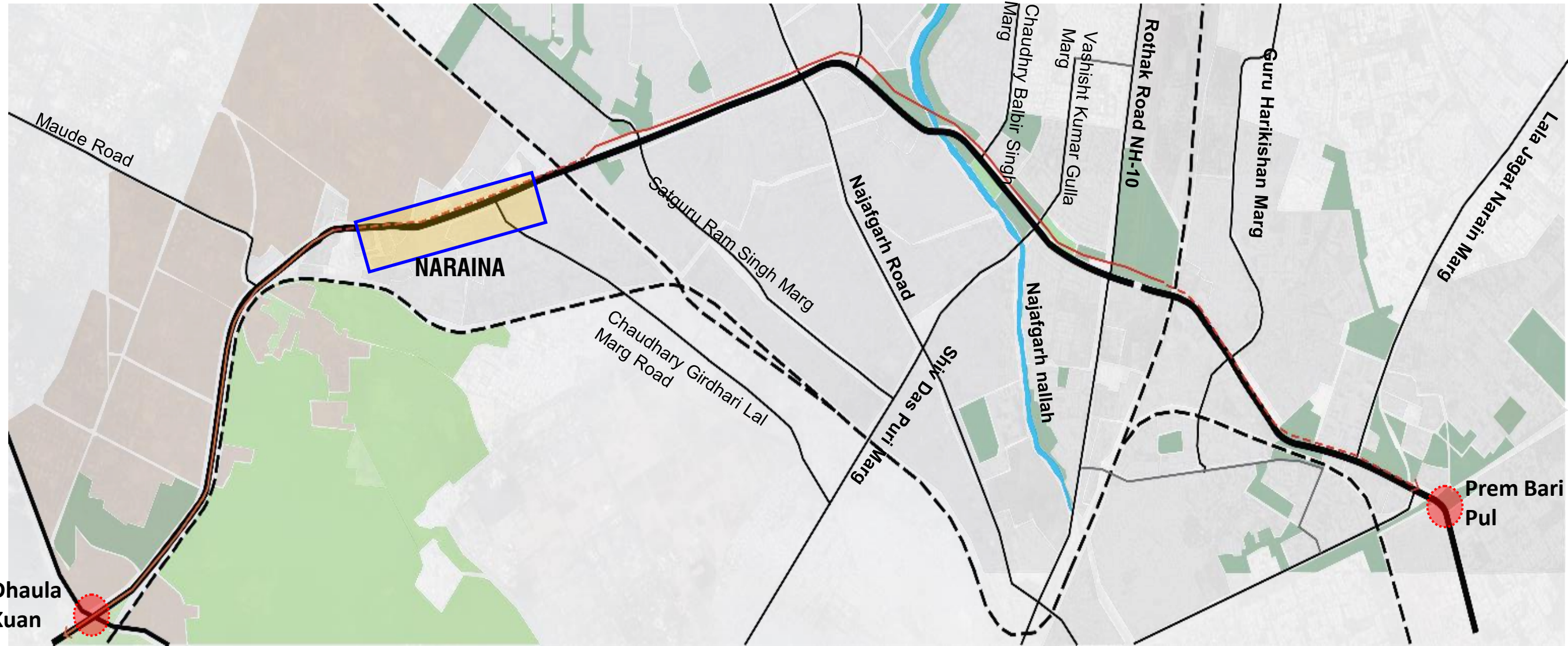
CONSTRICTED ROW



EXISTING

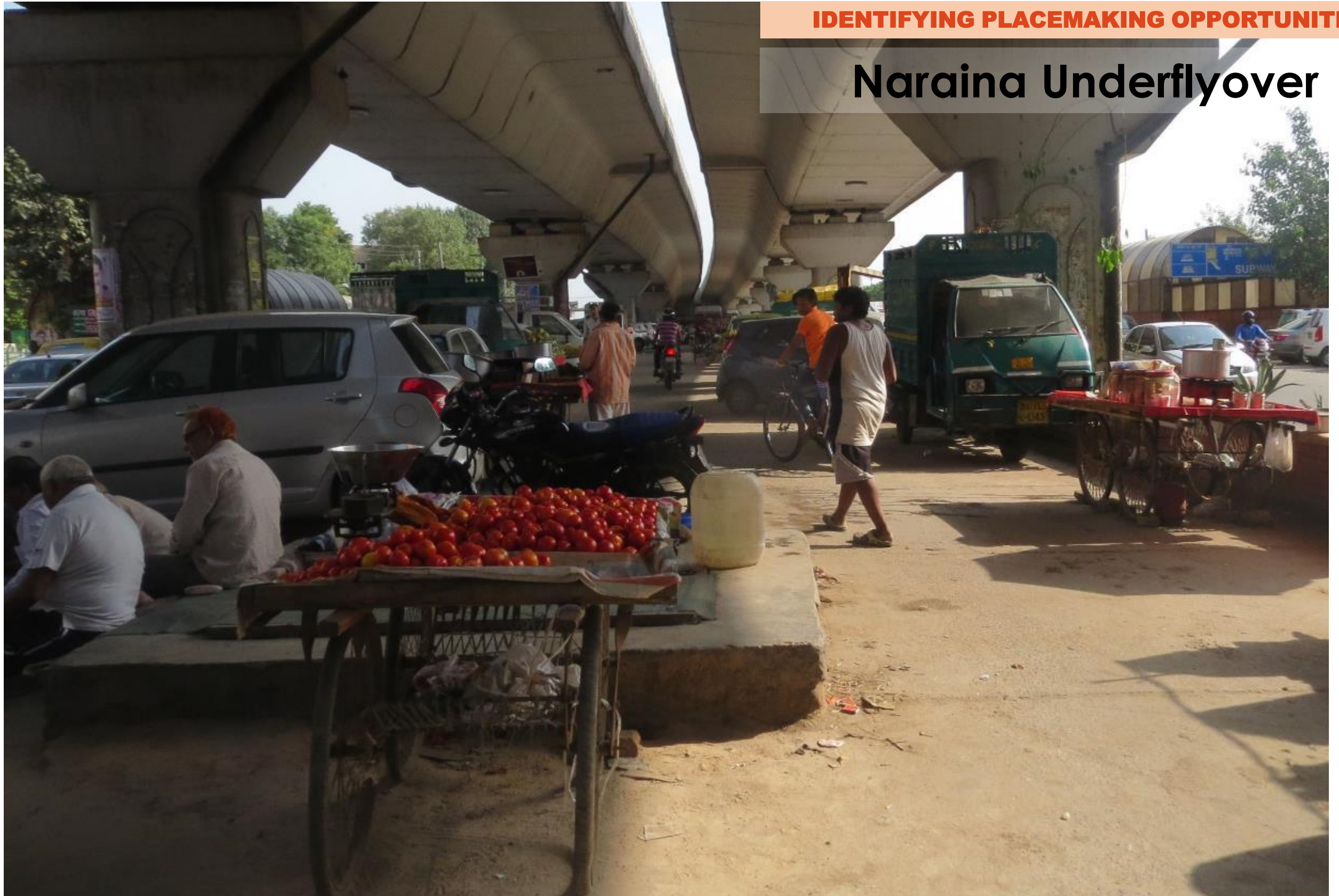


PROPOSED



IDENTIFYING PLACEMAKING OPPORTUNITIES

Naraina Underflyover



Naraina Underflyover



MIXED USE AREA_NARAINA



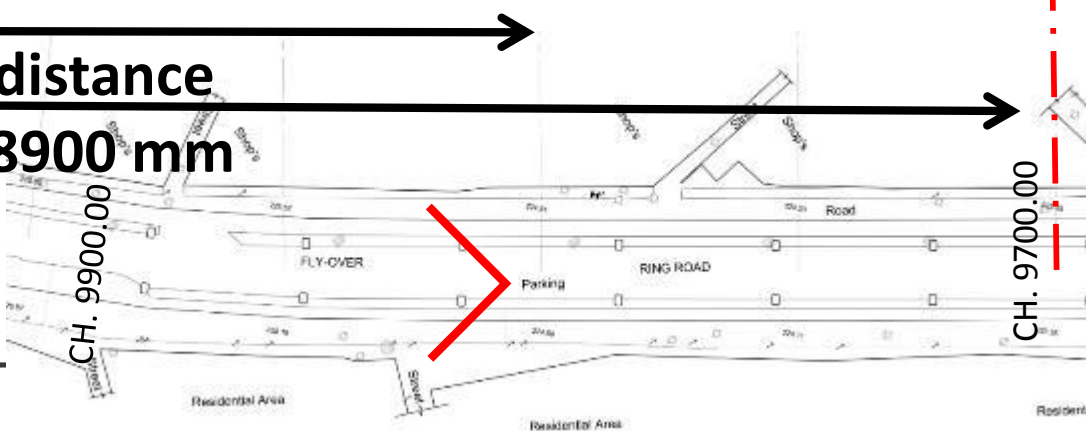
Naraina – UNDERFLYOVER EXISTING ACTIVITY

Distance under flyover
13500 mm

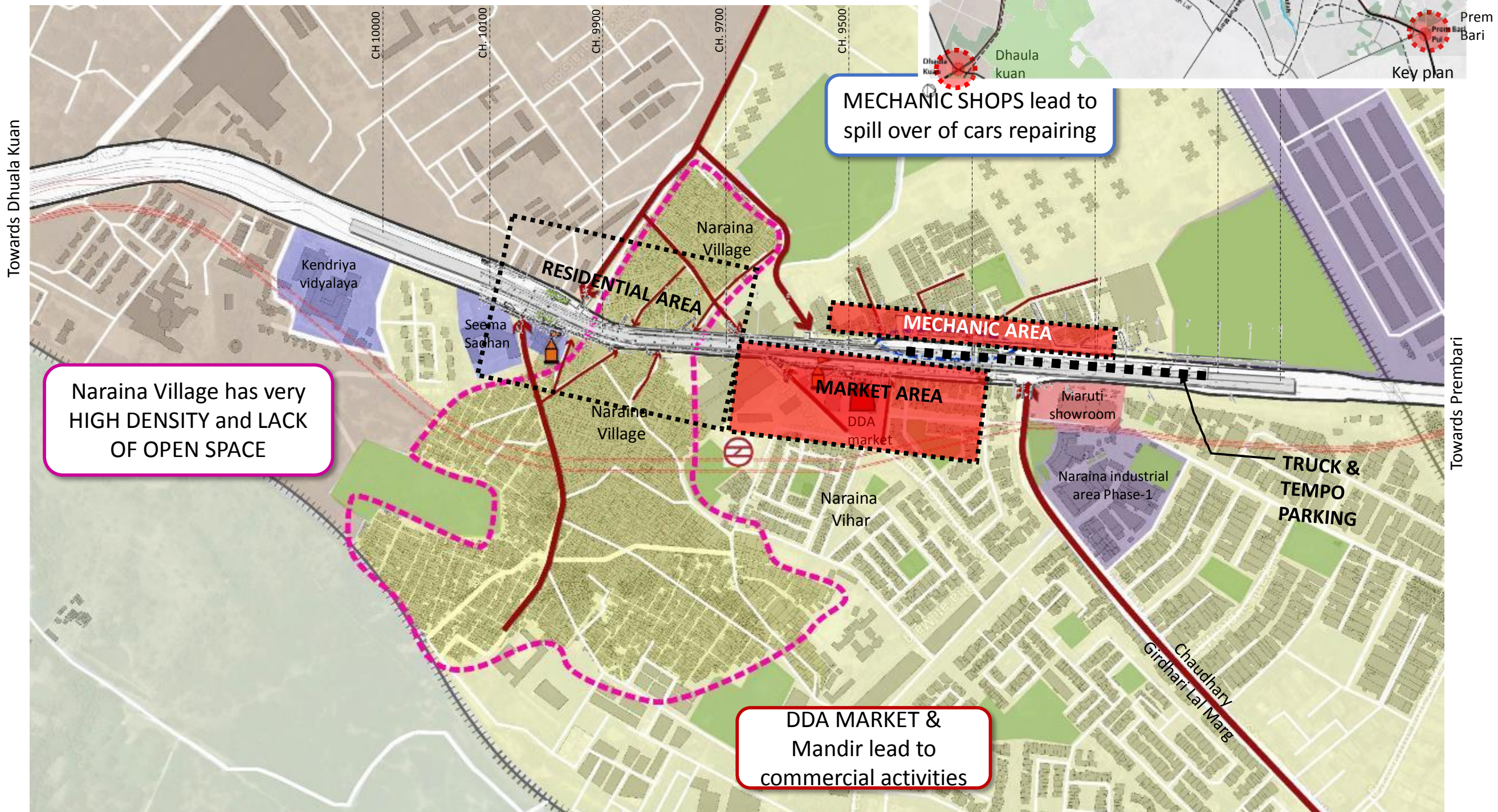


4500 mm

Column to column distance
Min 8500 mm Max 8900 mm

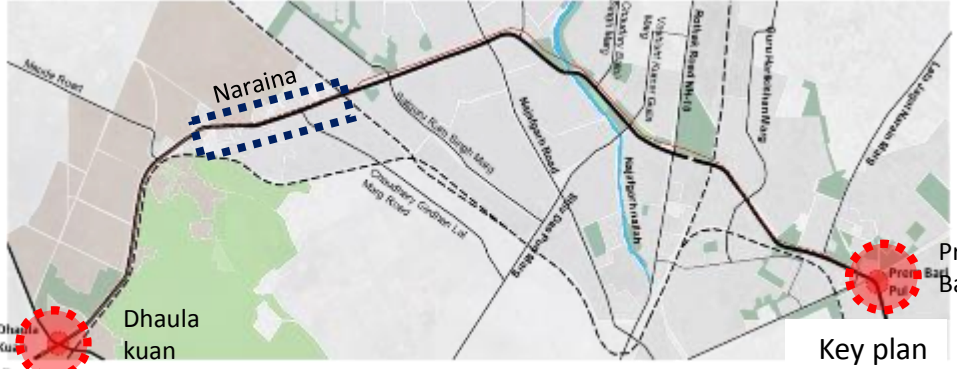


CONTEXTUAL LANDUSE



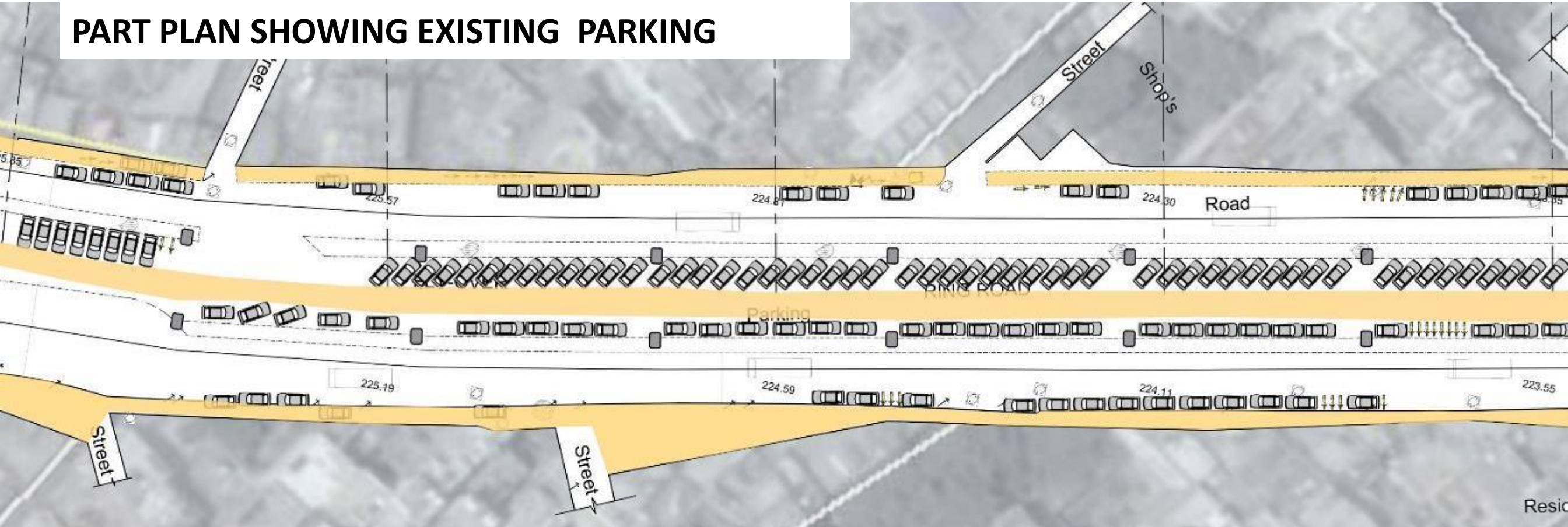
PARKING MANAGEMENT STRATEGY

NARAINA- EXISTING PARKING

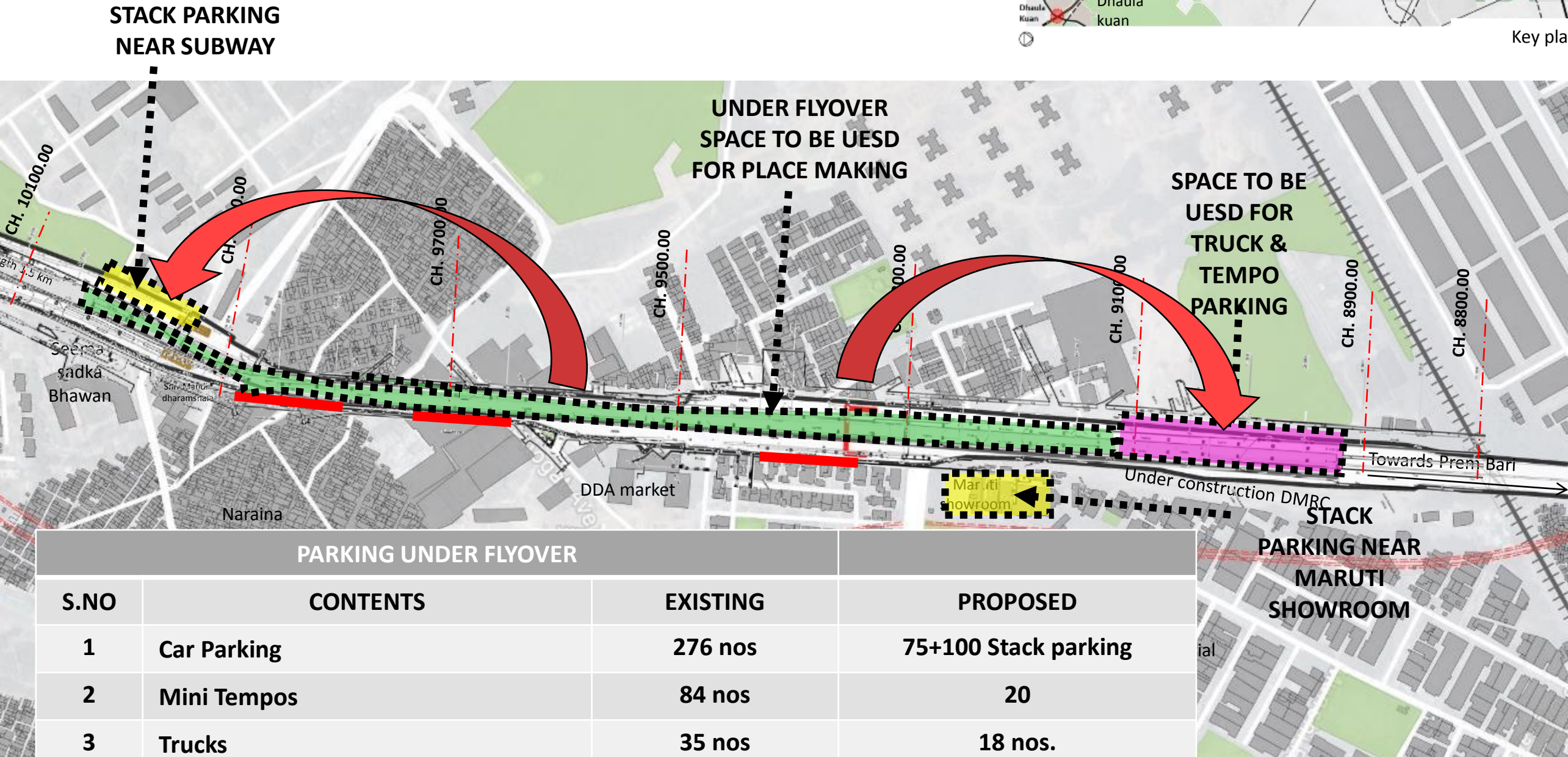
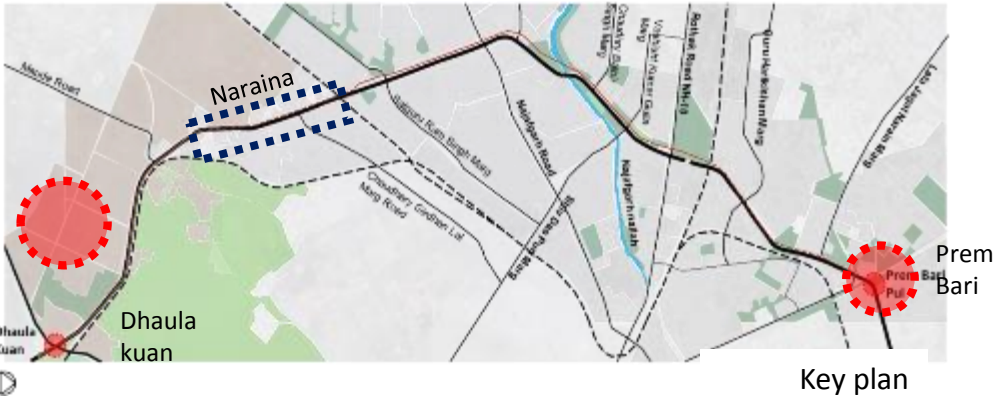


PARKING UNDER FLYOVER		
S.NO	CONTENTS	EXISTING
1	Car Parking	276 nos
2	Mini Tempos	84 nos
3	Trucks	35 nos
4	Autos	5 nos
5	Passenger Rickshaw	18 nos
6	Goods Rickshaw	33 nos
7	Two wheeler Parking	33 nos

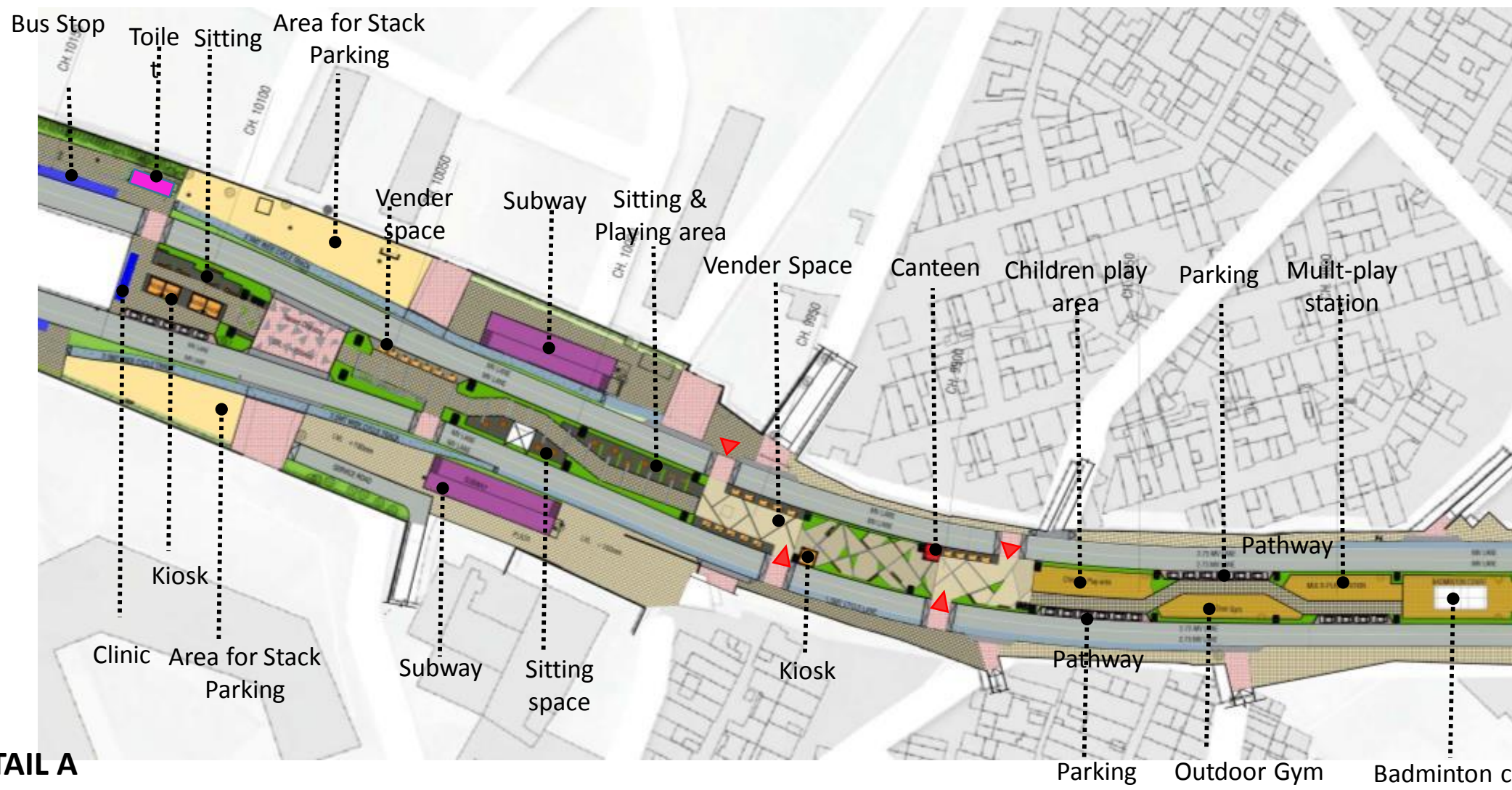
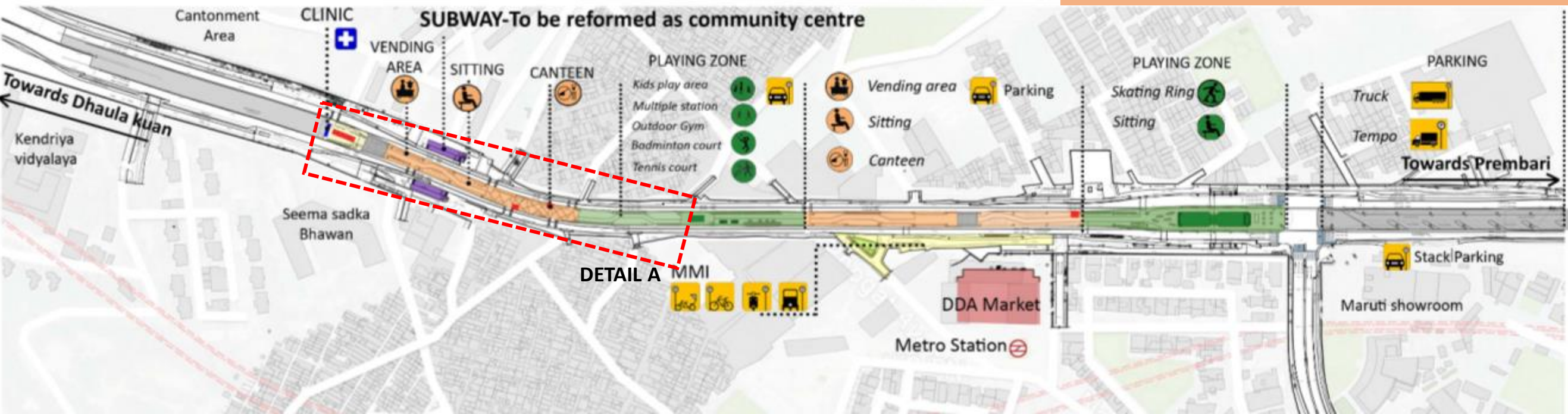
PART PLAN SHOWING EXISTING PARKING



NARAINA- PROPOSED PARKING STRATEGY



PARKING UNDER FLYOVER			
S.NO	CONTENTS	EXISTING	PROPOSED
1	Car Parking	276 nos	75+100 Stack parking
2	Mini Tempos	84 nos	20
3	Trucks	35 nos	18 nos.
4	Autos	5 nos	15
5	Passenger Rickshaw	18 nos	
6	Goods Rickshaw	33 nos	
7	Two wheeler Parking	33 nos	



DETAIL A

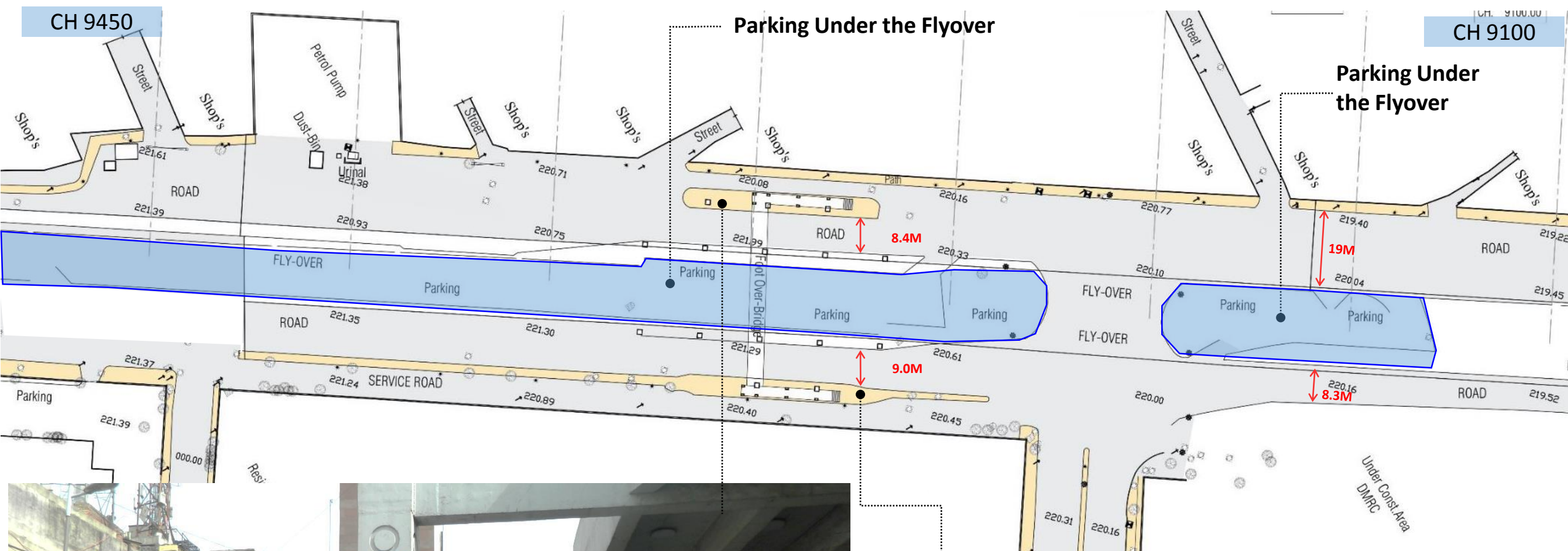


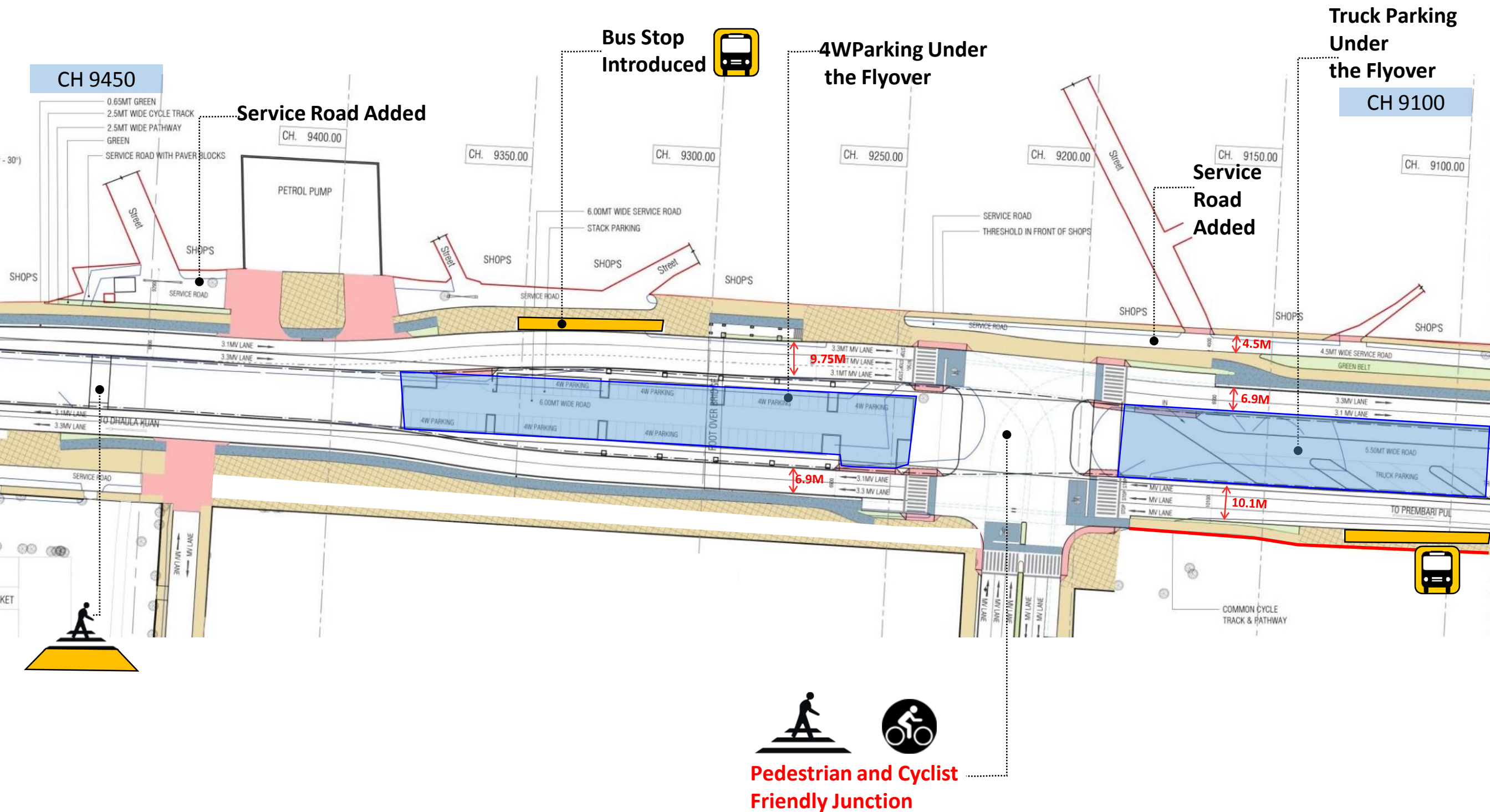


VIEW OF PLAZA UNDER FLYOVER

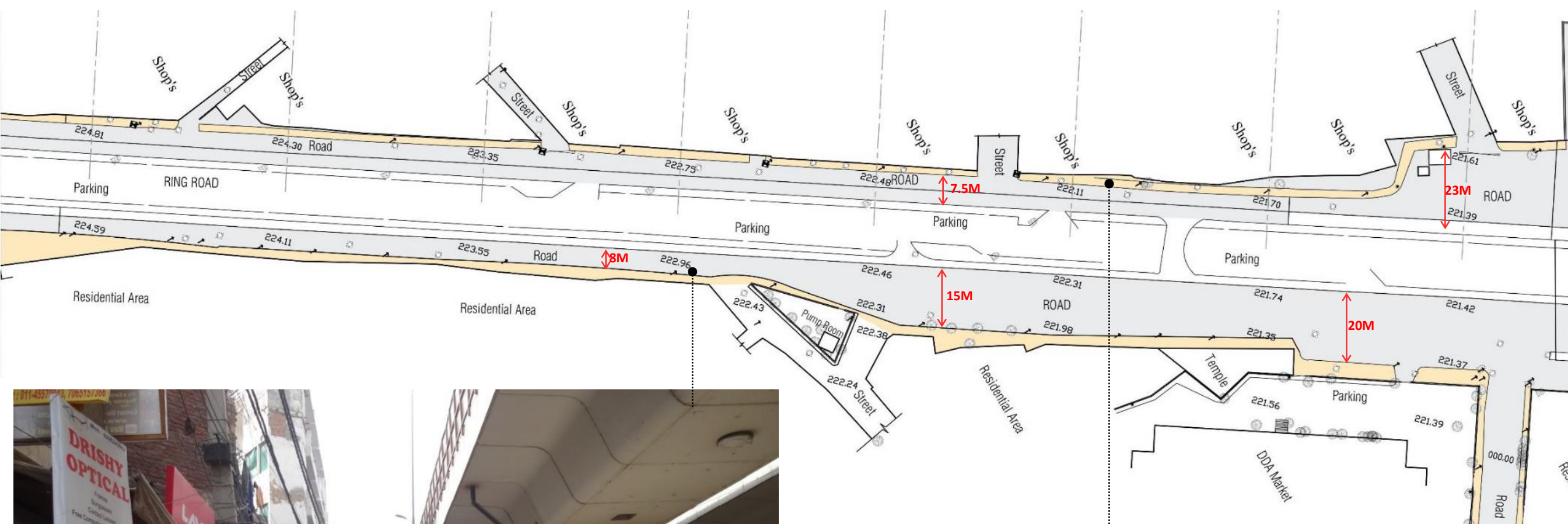


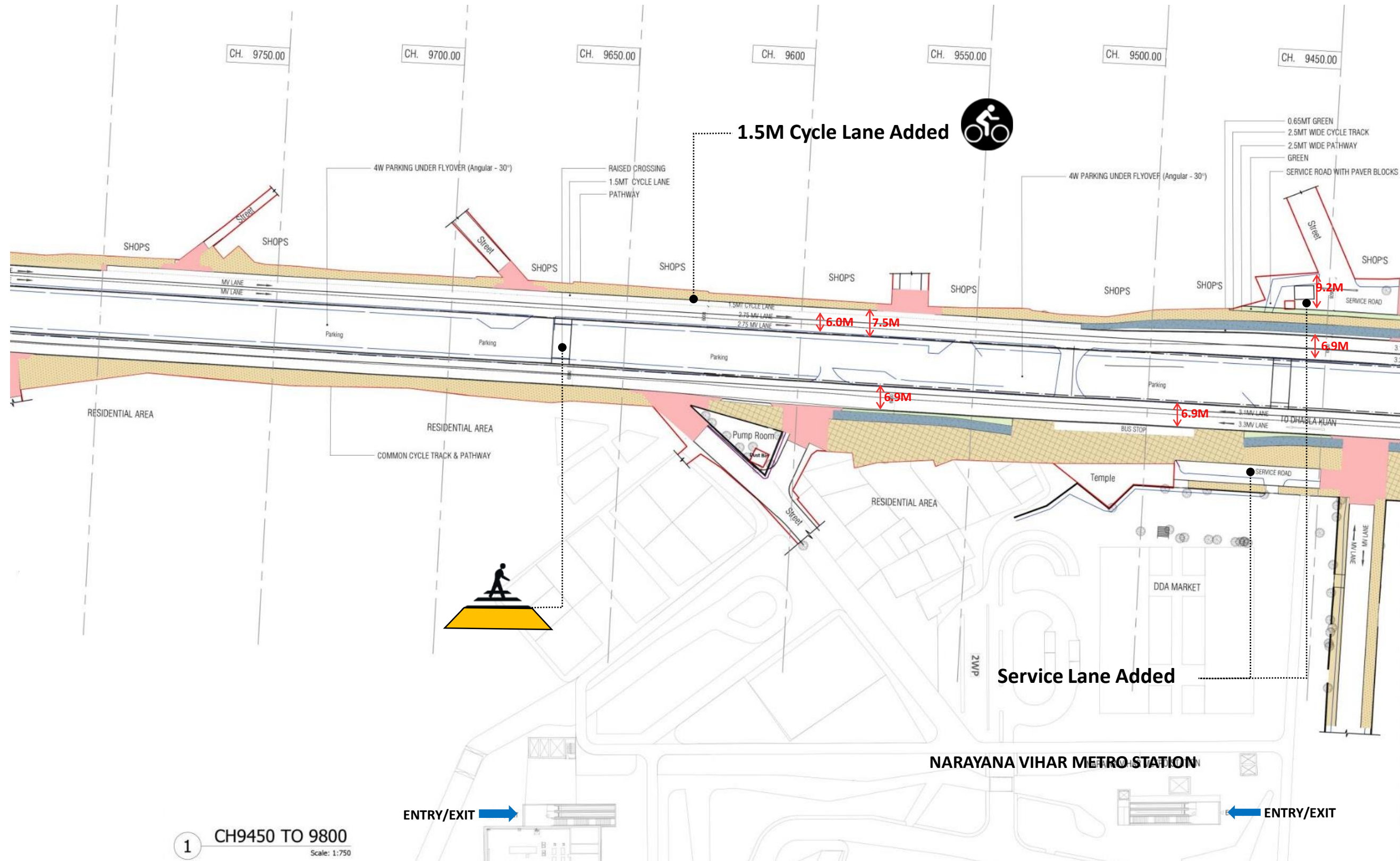
EXISTING





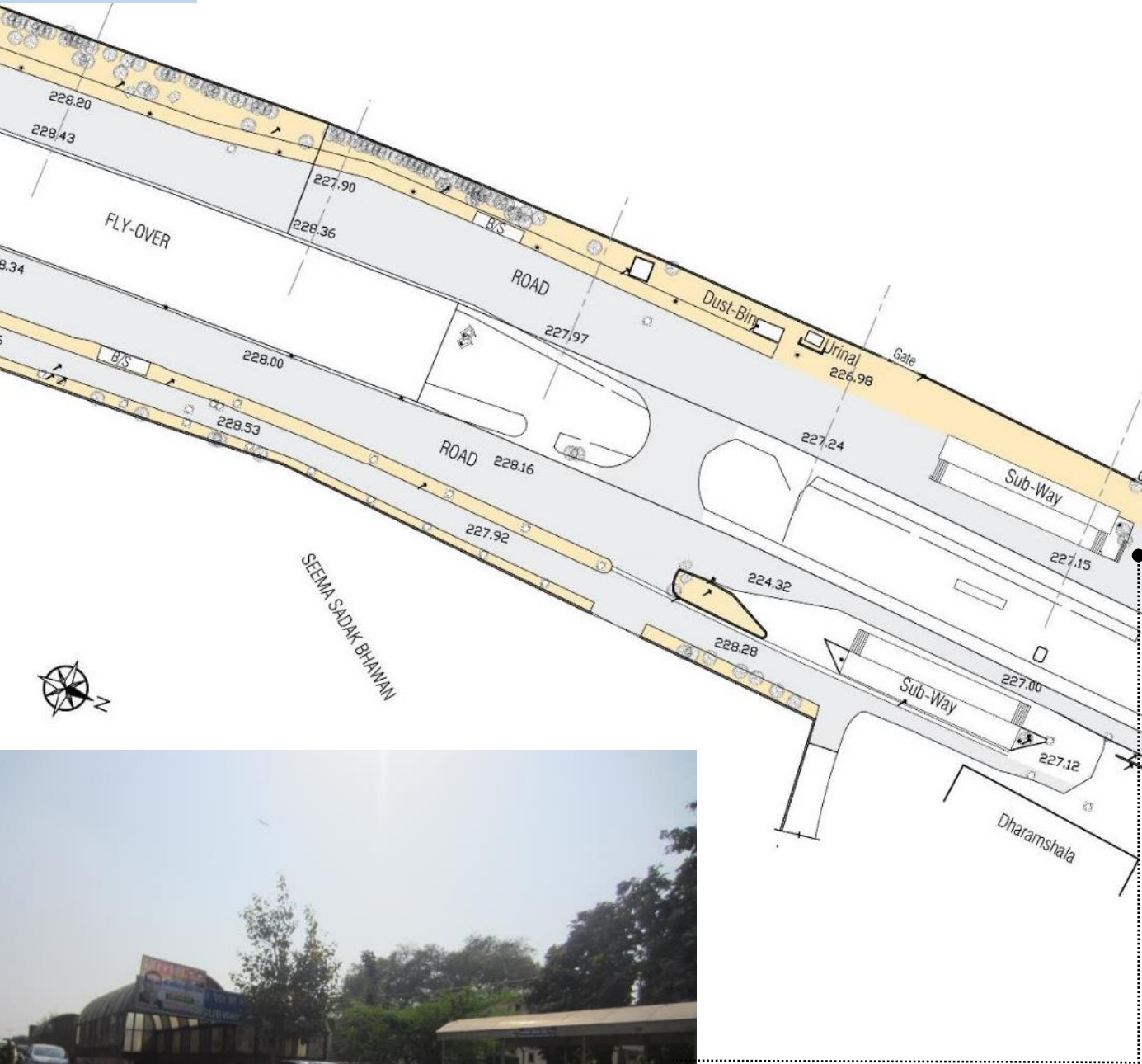
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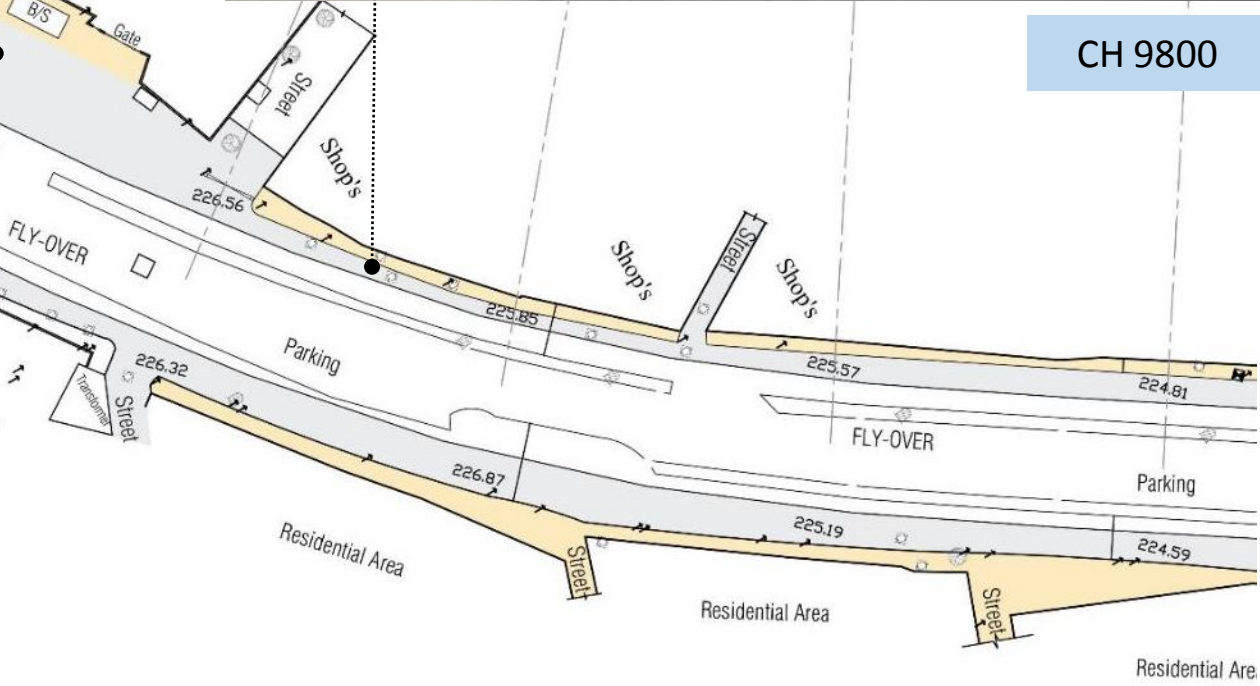


EXISTING CONDITION

CH 10200

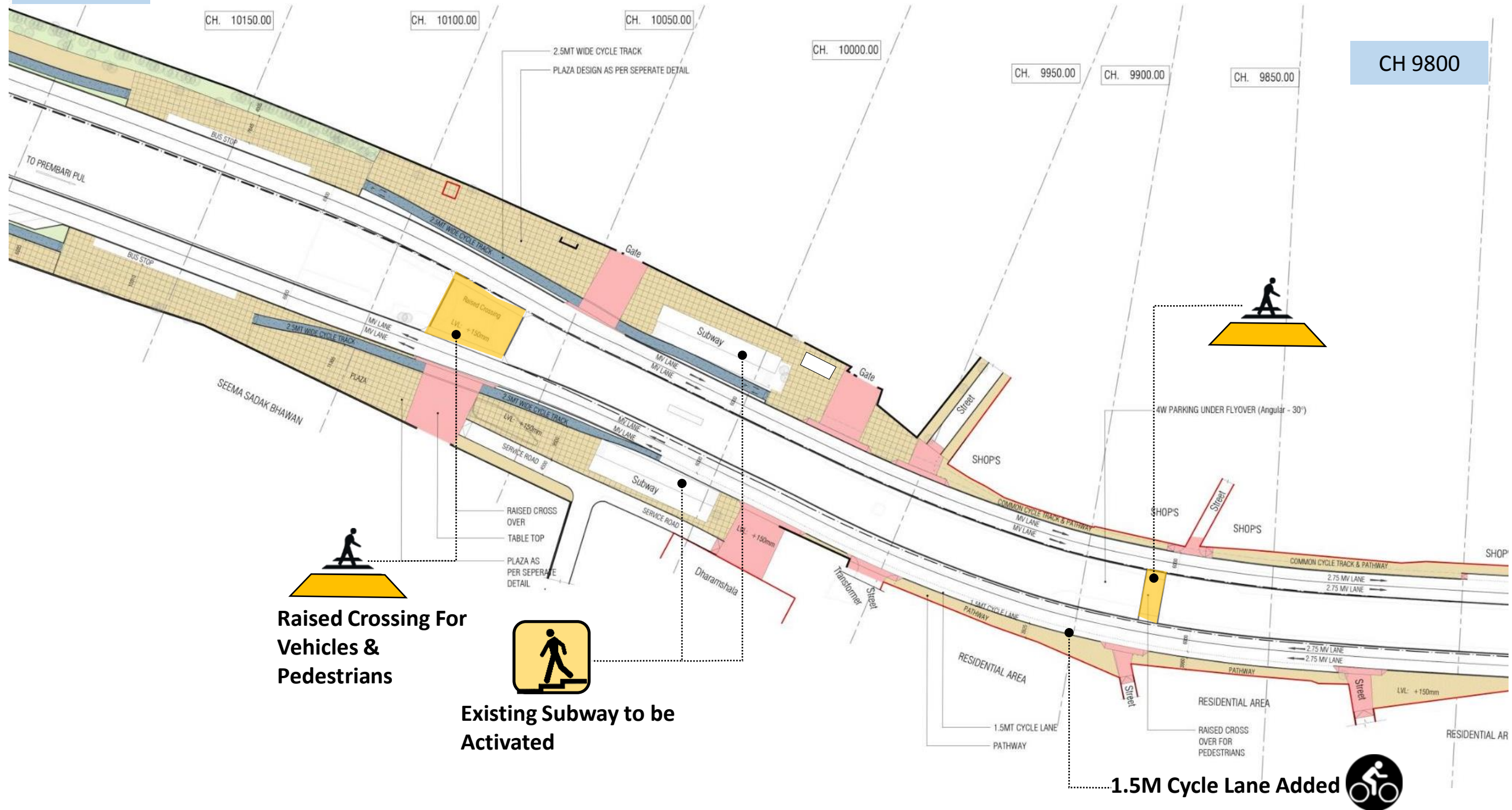


CH 9800



CH 10200

CH 9800

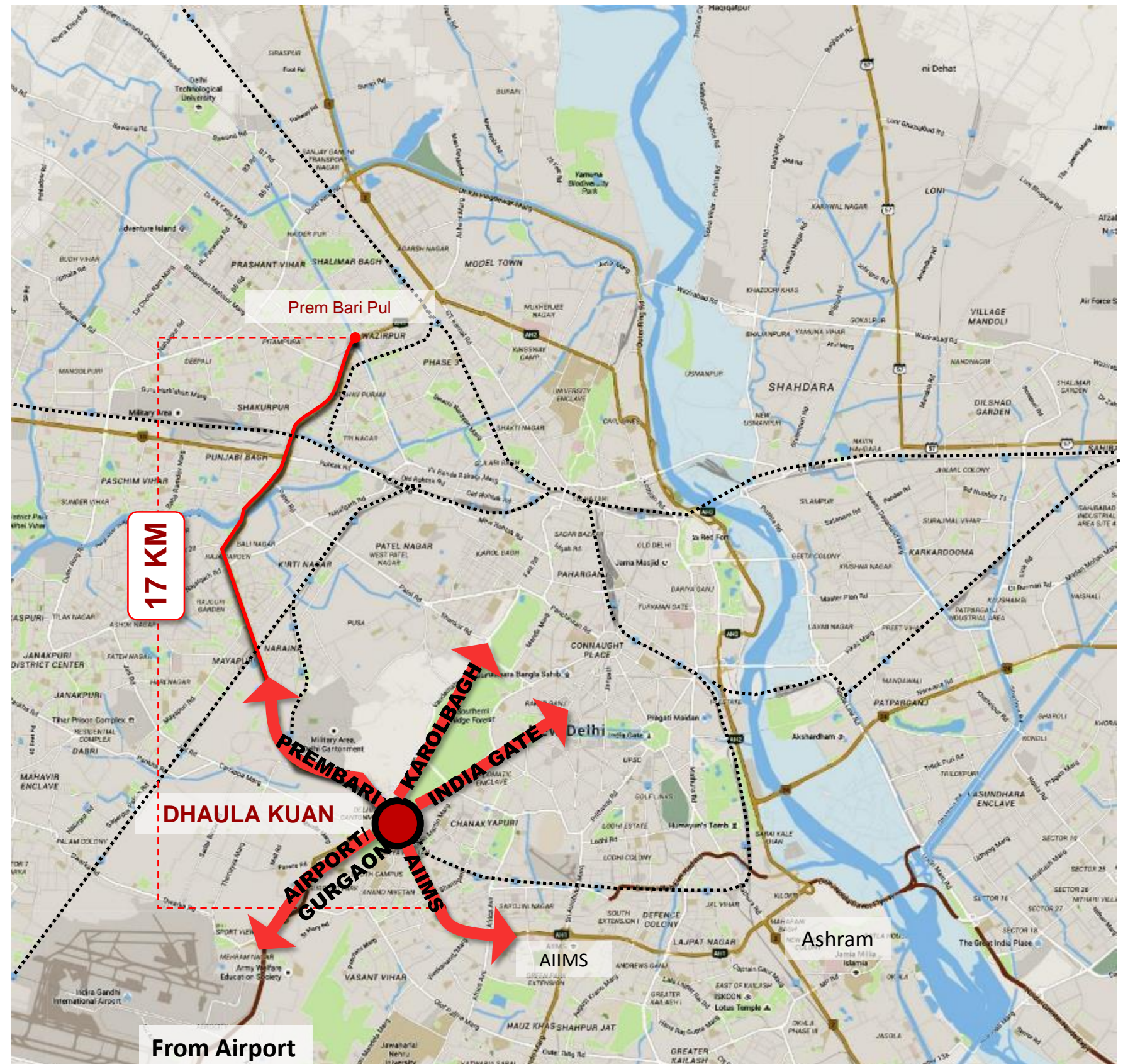


IDENTIFYING PLACEMAKING OPPORTUNITIES

Dhuala Kuan

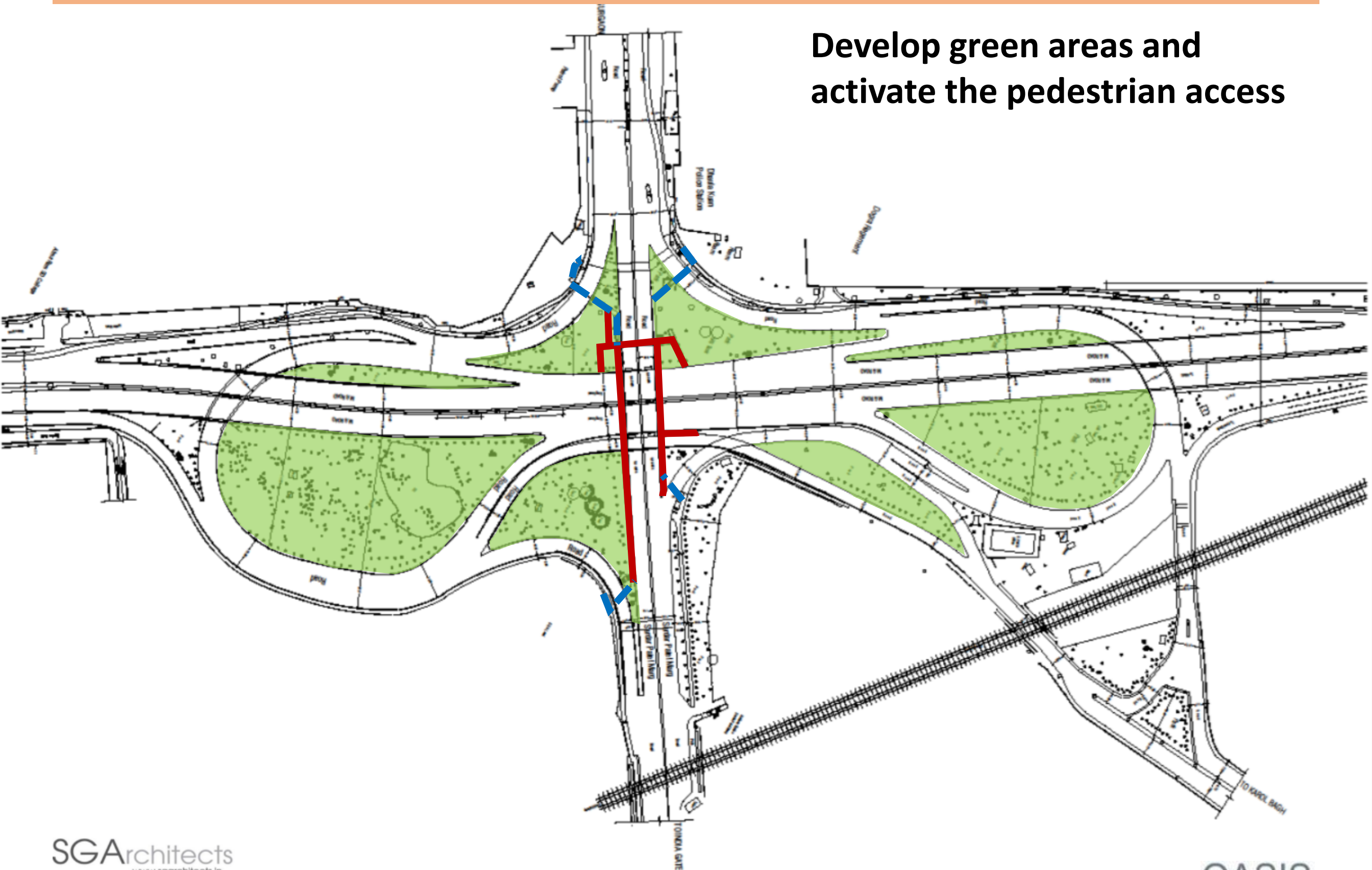


- Approach from **AIRPORT & INDIA GATE**
- Acts as a **MULTIMODAL INTERCHANGE NODE**

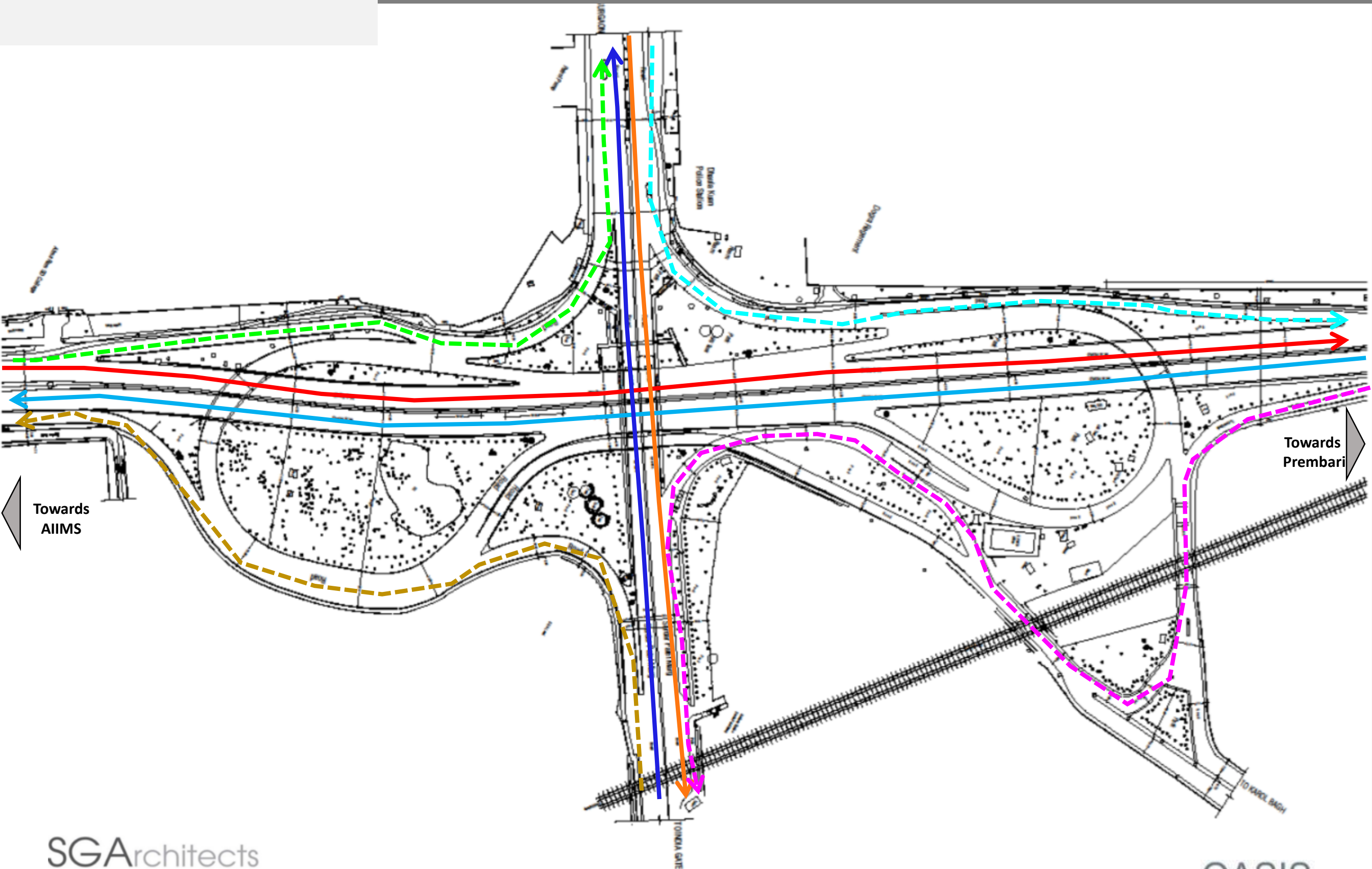


DHUALA KUAN

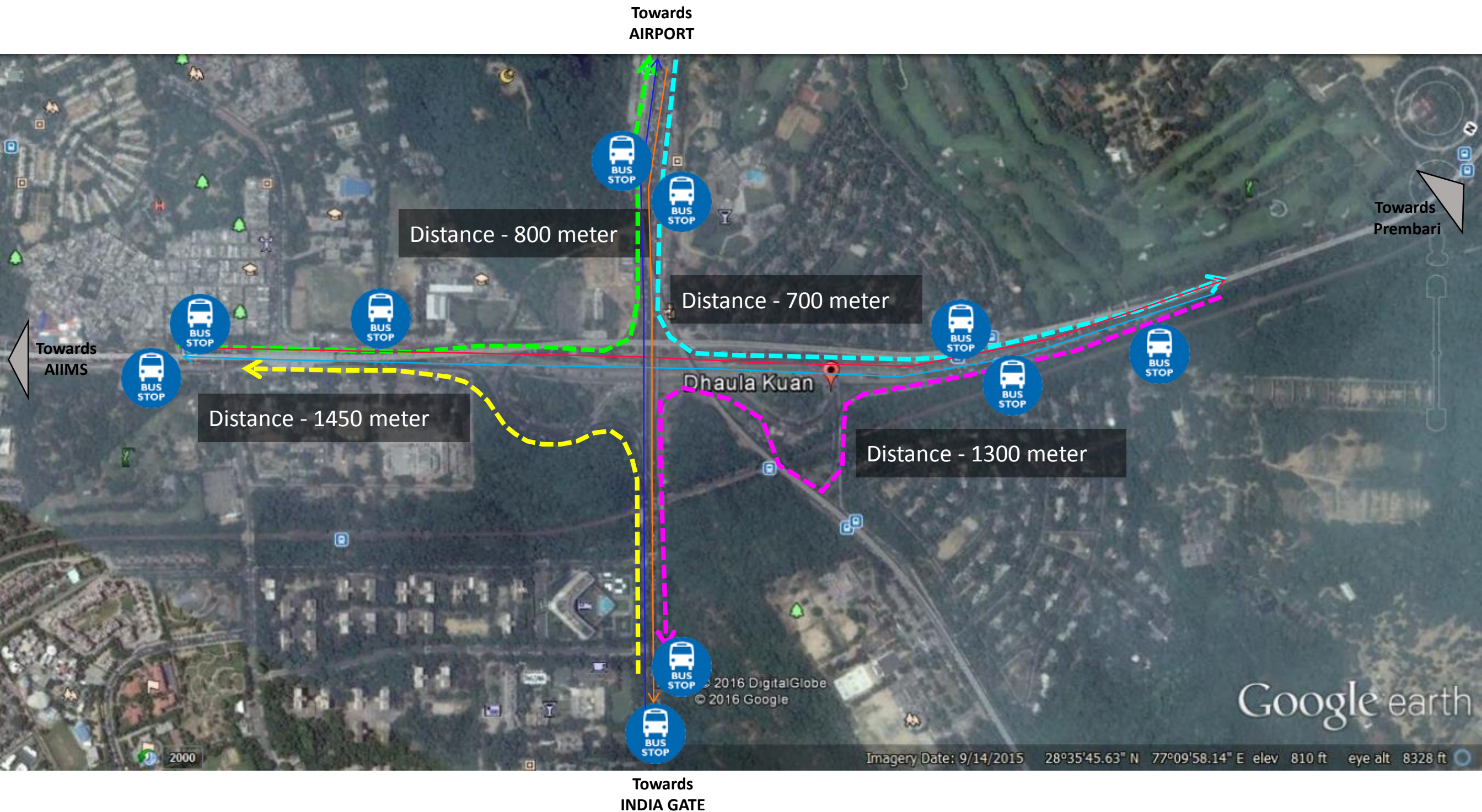
Develop green areas and
activate the pedestrian access

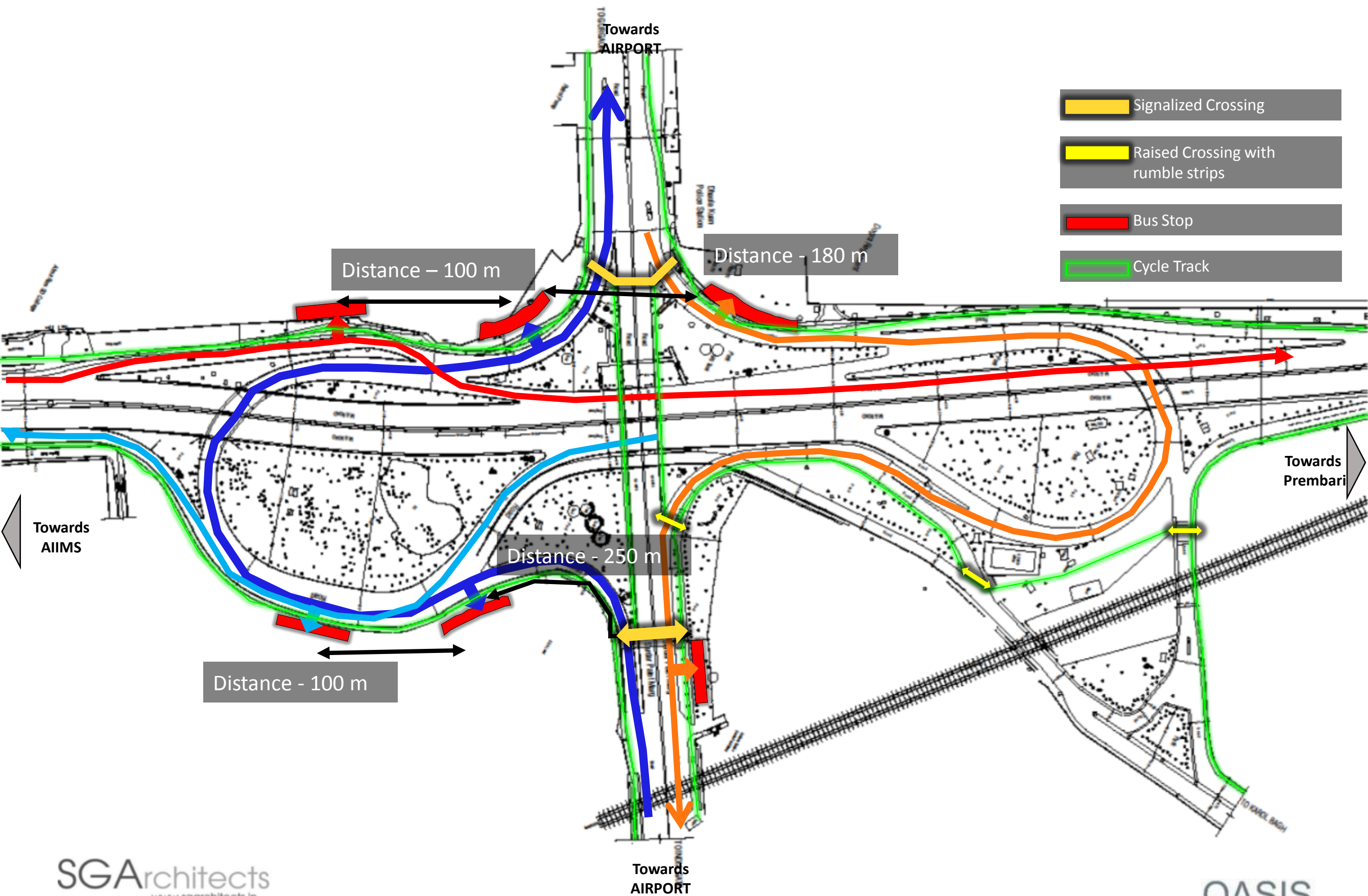


Existing bus movement in present scenario



Distances between interchange bus stops in present scenario





CONSULTANTS

LEAD CONSULTANTS – OASIS DESIGNS INC

SUB CONSULTANTS

- **TRANSPORT PLANNER – SGA ARCHITECTS**

THANK YOU

OASIS
DESIGNS INC.