

# M{A}P

Malleswaram  
Accessibility  
Project

ಮಲ್ಲೇಶ್ವರಂ ಪ್ರಯೇಶನಾಧ್ಯತಾ ಯೋಜನೆ



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## NMT DESIGN PROPOSAL

JULY, 2013



**DIRECTORATE OF URBAN LAND TRANSPORT**

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# INTRODUCTION

• **Malleshwaram Accessibility Project** is an initiative taken up by Karnataka State Government's [Directorate of Urban Land Transport](#) with the idea of transforming Malleshwaram from a locality with traffic-congested commuter streets into one that is more environmentally and culturally-conscious as well as pedestrian and bicycle-friendly.

**AIM:** Creation of “Awareness” among the community regarding their neighbourhood and preparation of a Neighbourhood Accessibility Plan that places importance on sustainable transport modes as cycling, walking and Public Transportation.

## OBJECTIVES

- ❖ Take a stock of the existing environment for non-motorized transport and to assess the problems faced by the local people especially the elderly, children and disabled in making use of the available infrastructure
- ❖ To develop an agreed set of actions in consultation with the community to resolve identified issues.
- ❖ To improve the desirability of public transport usage.
- ❖ To improve the functionality of footpaths and other pedestrian routes for users of these routes.

The process of this project has been captured through video, textual and photos, available @ [www.yourmap.in](http://www.yourmap.in).



Bangalore Map

Malleswaram Map

{Source: BDA Master Plan, 2015 }

**M{A}P Study Area:**

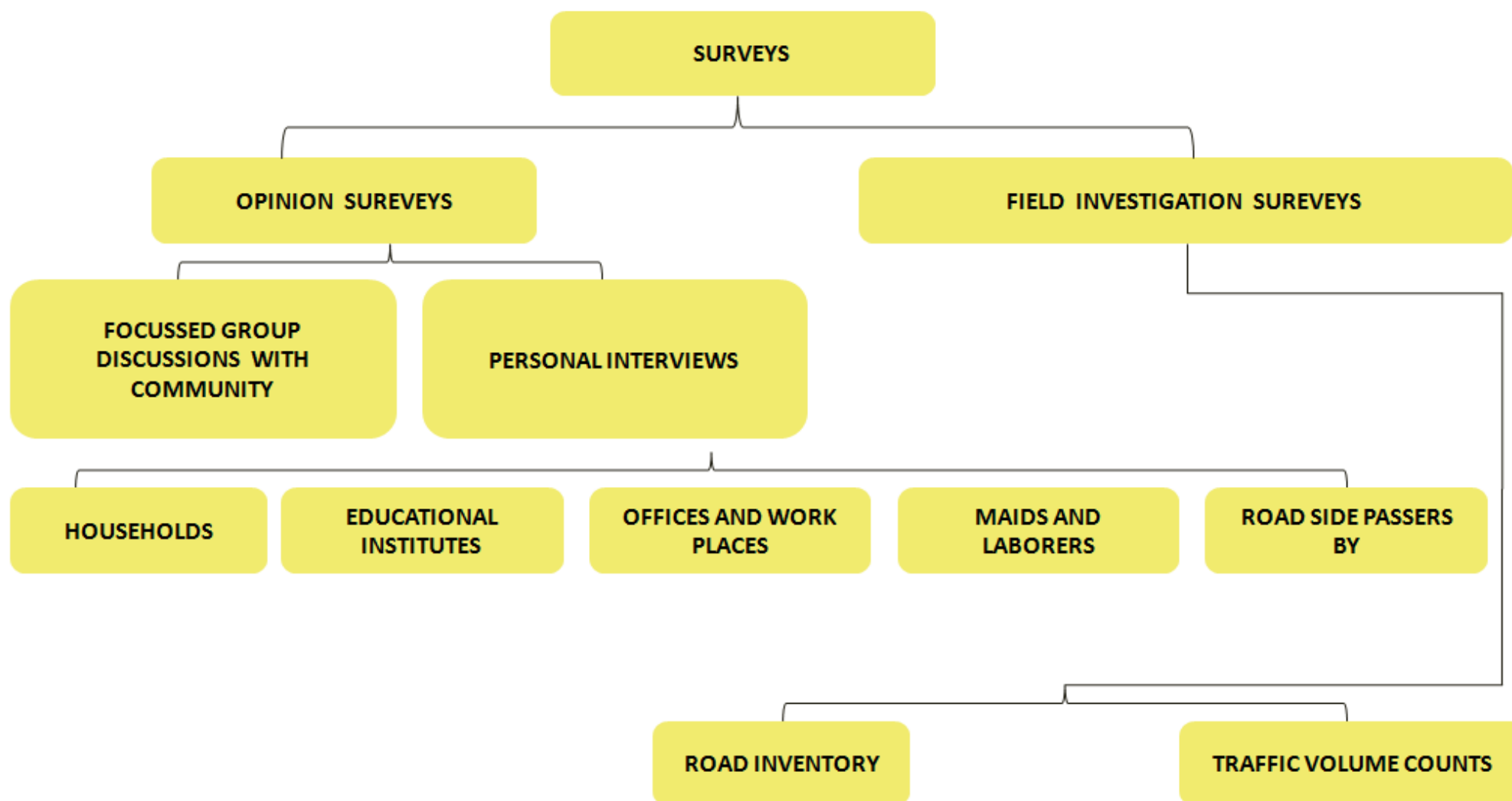
- Area : 1.7sq km
- Boundaries:
  - North: 18<sup>th</sup> Cross Road
  - East : Sampige Road
  - South : 5<sup>th</sup> Cross Road or Mahakavi Kuvempu Road
  - West : Railway Line
- Land use
  - Residential : 70%
  - Commercial : 15%
  - Recreational : 3%
  - Institutional : 10%

- Malleswaram is one of the oldest Residential Neighbourhoods located in the east of the city of Bangalore.
- Malleswaram houses many important temples and many places of historical importance.
- The neighbourhood underwent many changes with respect to the kind of activities, heavy commercialization, people etc. resulting in crowded and noisy streets.
- Most of the Malleswaram residents have been staying here for more than a decade or two and have seen the changes that have affected the neighbourhood over the years.
- There is a good community cohesion among the people through various community welfare associations and activists.
- Malleswaram also houses important educational institutions with highly enthusiastic student groups.

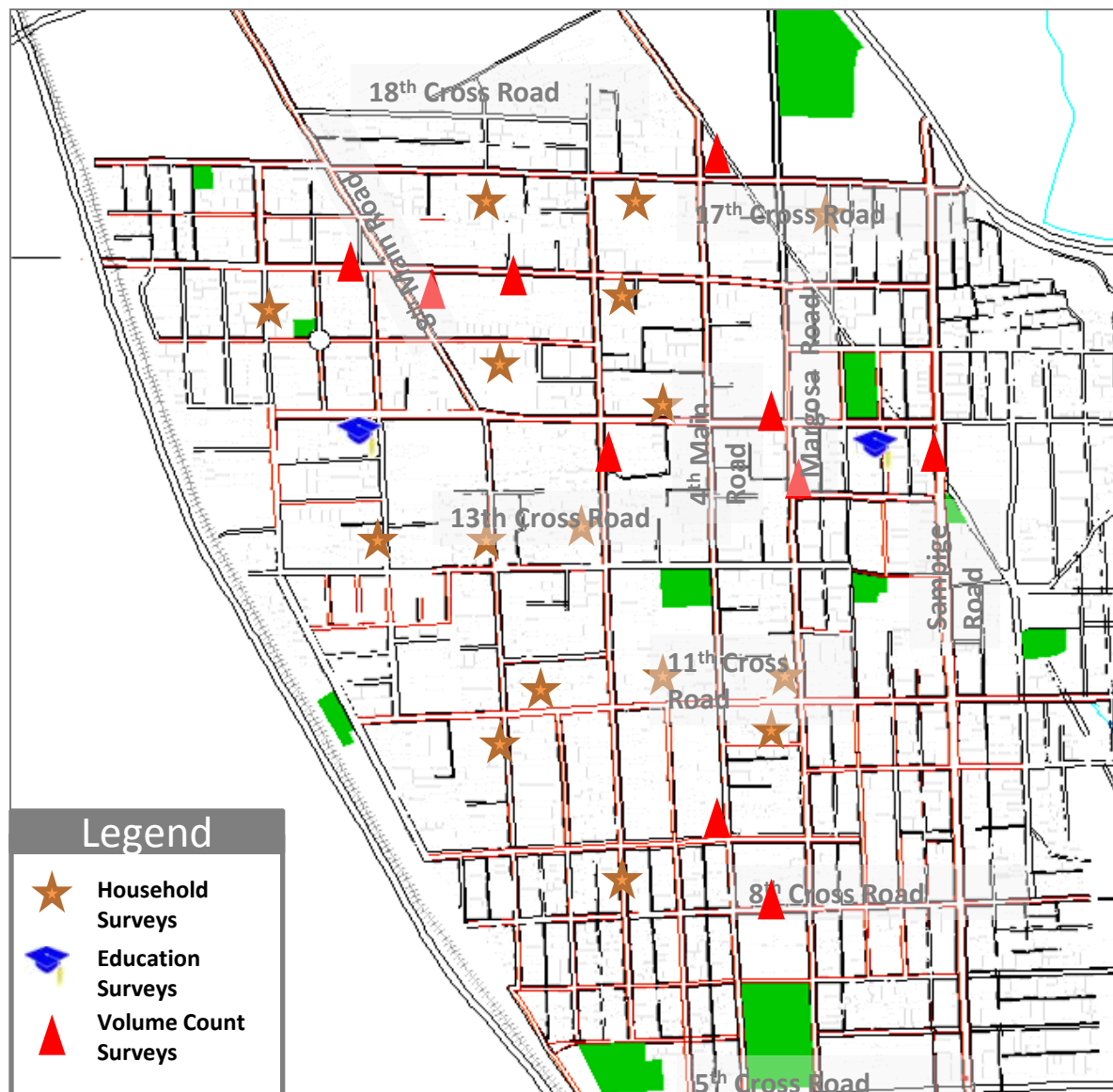
{ Source: M{A}P Survey, 2012 }

## **SURVEYS & COMMUNITY ENGAGEMENT FLOW**

The following are the various kinds of surveys conducted for the study. These surveys include both opinion surveys from the community and also the field surveys. The kinds of surveys under each category is shown in the chart below:



# >> SURVEY LOCATIONS



## OPINION SURVEY DETAILS

### Household Survey

- No. of Households Interviewed : 712
- No. of People who participated : 2200

### Educational Institutes Survey

- No. of Students Interviewed : 449
  - Participating Institutions : 3
- MES, MLA, St. Peters Seminary

### Office Interview Survey

- No. of Officers Interviewed : 148

### Maids & Laborers Survey

- No. of Laborers Interviewed : 200

### Road Side Interview Survey

- No. of People Interviewed : 414

**TOTAL : 1,923**

## OPINION SURVEY

### 1. HOUSEHOLD SURVEYS

#### • NMT

- Average trip length of 39% of residents is < 3km. (Can shift to NMT)
- Poor Sidewalks + encroachment

#### • Public Transport

- Increased walking time (5-10min)

### 2. STUDENTS SURVEYS

#### • NMT

- 81% can ride cycles (poor pavement conditions + Poor NMT infrastructure)
- NMT infrastructure such as pelican signals & table top crossing were suggested.

#### • Public Transport

- Insufficient Passenger Service Time.
- Directness of service.

### 3. OFFICE SURVEYS

#### • NMT

- Average trip length > 5km
- Crossing facilities to be drastically improved (Margosa, Sampige, 5<sup>th</sup> Cross, etc).

#### • Public Transport

- Directness of service.

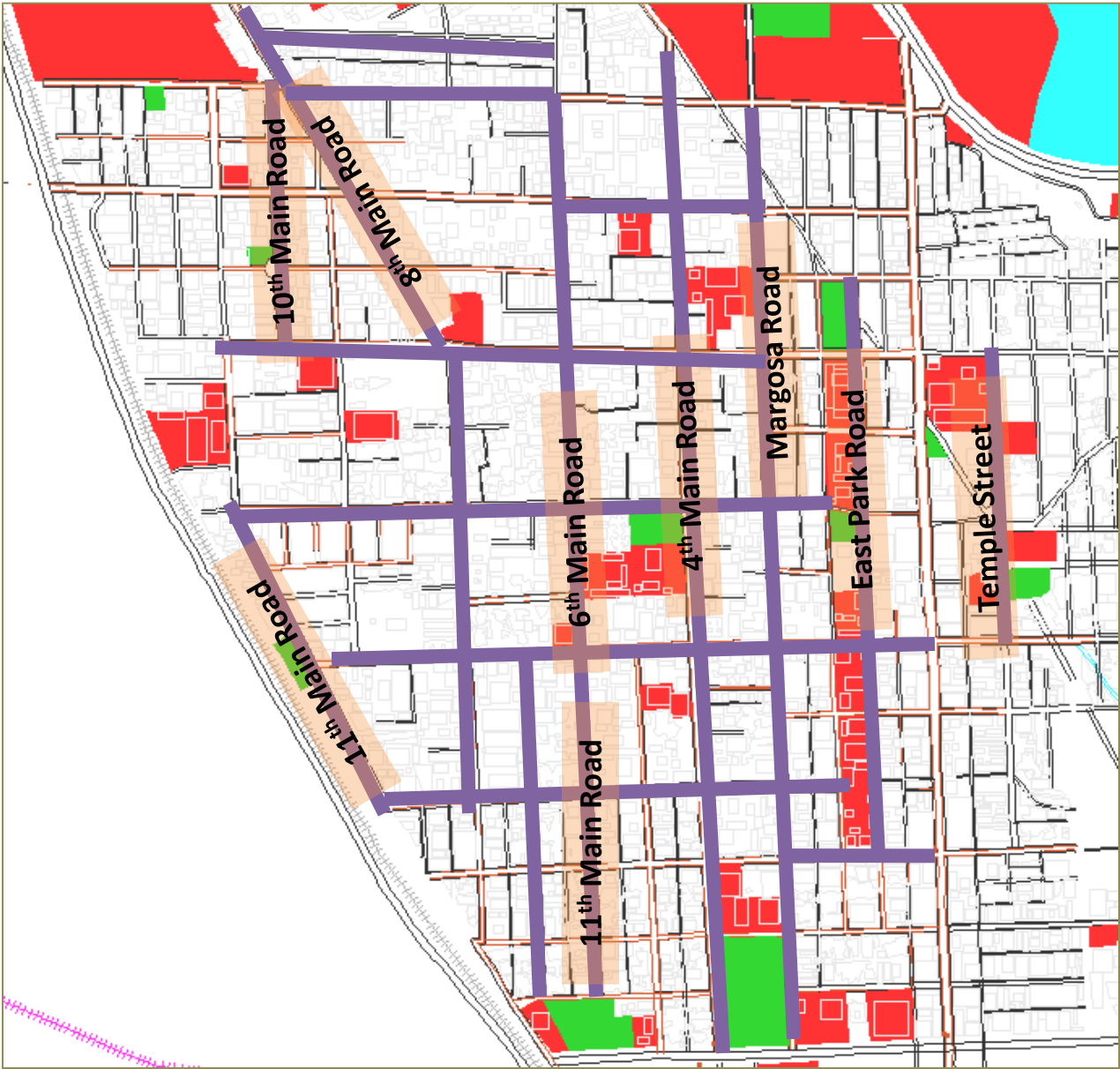
### 4. MAIDS & LABOURES

#### • NMT

- Majority mode share is green transport.
- Walk & cycle share is high compared to their share to opt public transport.



>> PREFERRED STREETS FOR WALKING IN MALLESWARAM

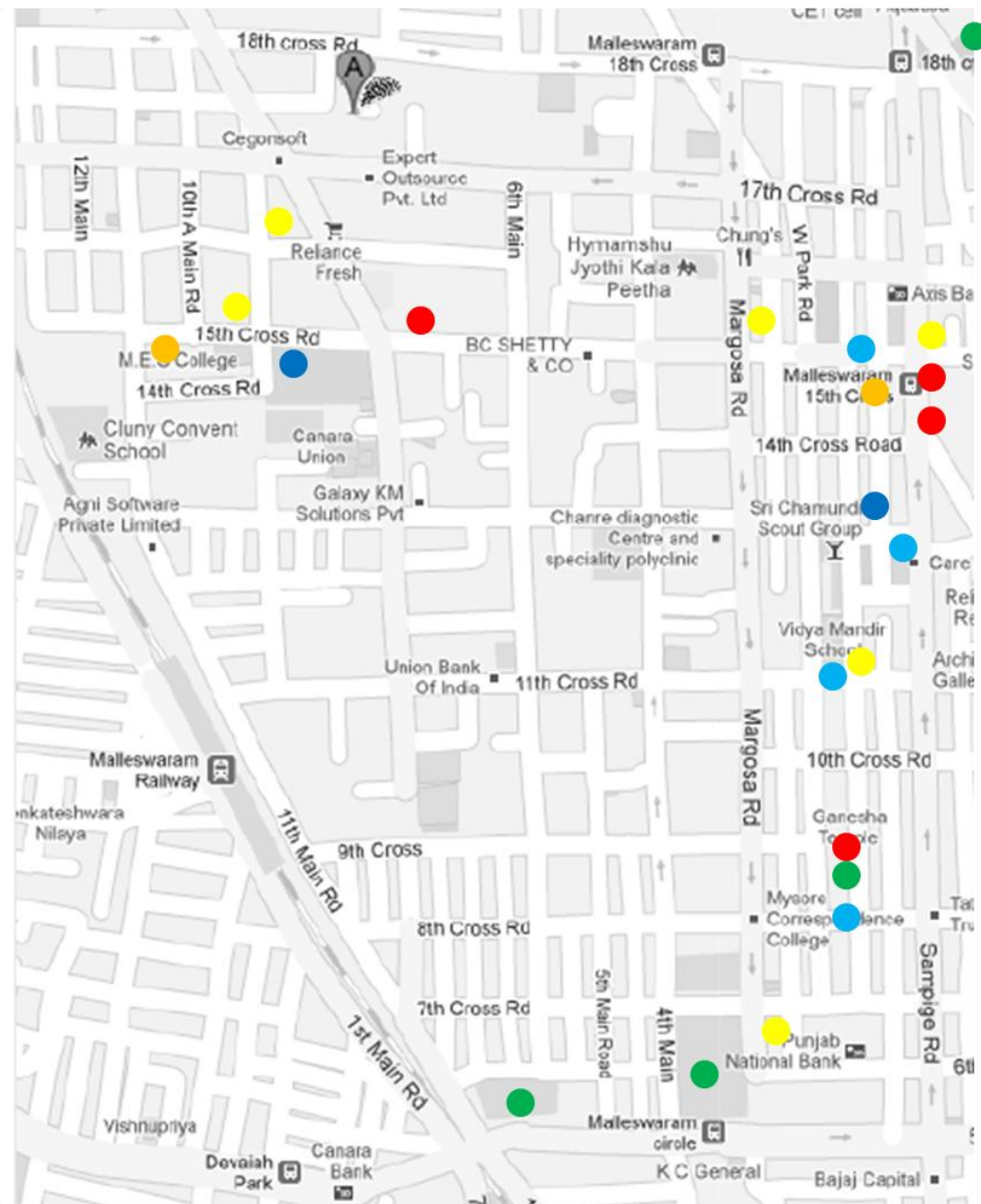


The neighbourhood were asked to mark the streets on which they would prefer to walk / cycle in Malleshwaram. The following streets as shown in the map and as listed in the table below:

4th Main - wide and less traffic
6th Main - wide and less traffic
11th main
11th Cross
8th Cross
18th Cross good road
15th Cross (4m15c), peaceful, good pavements
13th Cross - wide road, good for cycling, safe, peaceful
10th Main - quite and peaceful, broad foot paths
12th Cross - peaceful, lot of trees
17th Cross (12m17c), calm at night
Sampige Road
Margosa Road - less traffic in the evening, important to provide separate paths for cycling and walking
5th Main
Inner Roads
East Park Road
Railway Parallel Road
Temple Streets 11th cross to Railway station
19th Cross, less traffic, garden
Govt. PU College Road
From Ganesh Temple to Sankey Tank
All MVM Streets
8th main - broad foot paths
9th Cross
Gayatri Devi Park Extension
7th Main



# >> PREFERRED SOCIO-CULTURAL HUBS IN MALLESWARAM



## Malleswaram Socio Cultural Spots

As identified by the local community as part of the MAP project



### Religious

Kadu Malleswara, Kanniga Parameshwari, Chitrapur Matha, Ganesha Temple, Sai Baba Temple



### Food joints

Sai Ram Chats, Adigas, Asha Sweets, Hallimane, Veena Idly Stores, Maiya's, CTR, CCD



### Cultural

CV Raman house, Seva Sadan, Canara Union, Chowdaiah Memorial Hall



### Recreational

Sankey tank and park, 18<sup>th</sup> cross ground, Ananya and all parks



### Bazaars:

8<sup>th</sup> cross, 11<sup>th</sup> cross, 13<sup>th</sup> cross, 15<sup>th</sup> cross, Mantri Mall, Big Bazaar



### Institutional

MES, MLA, IISc, Seva Sadan

## What do people value most about Malleswaram?

- Historical, cultural and traditional quarter of the city
- Heart of Bangalore
- Its people, environment and accessibility

## >> IDENTIFICATION OF PEDESTRIAN AND CYCLE FRIENDLY ROUTES



### LEGEND

- Highly Congested Streets
- Moderately Congested Streets
- Calm Streets

Malleshwaram streets were classified into 3 categories reflecting the volume of traffic they carry. These are:

- Highly Congested Streets
- Moderately Congested Streets and
- Calm Streets

The cycle lanes are proposed to be laid on the calm streets and the moderately congested streets.

The foot path widths range from 1m to 3m on the heavily congested streets. The focus will be laid on designing a better pedestrian pathway along these streets.

The final network proposal would be an amalgamation of the “preferred streets” by the community and the identified calm and moderately congested streets.



# NMT Network Proposal

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# DESIGN ELEMENTS



Dedicated Cycle Lane

**1. Cycle Lane/Bikeway** : Selection of bicycle facility is dependent on factors like : Traffic flow, Width right of way, Land use pattern , etc. Two Route options adopted for the study are:

- **Shared Cycle Lane**
- **Dedicated Cycle Lane**

**2. Traffic Calming**: is a Traffic Management Technique intended to slow or reduce motor-vehicle traffic in order to improve the living conditions for residents as well as to improve safety for pedestrians and cyclists. The traffic calming adopted are :

**Kerb Extension** : A curb extension is an angled narrowing of the roadway and a widening of the sidewalk

**Raised Pedestrian Crossing**: is a raised intersection crossing facility that acts as a speed breaker to the motorist

**3. Parking Management**: The following parking management techniques are adopted:

$\leq 7.5\text{m wide} + \text{Bus Route} = \text{No parking.}$

$\leq 7.5\text{ m wide} + \text{No Bus Route} = \text{Parking of 2.5 m on either one side.}$



Shared Cycle Lane

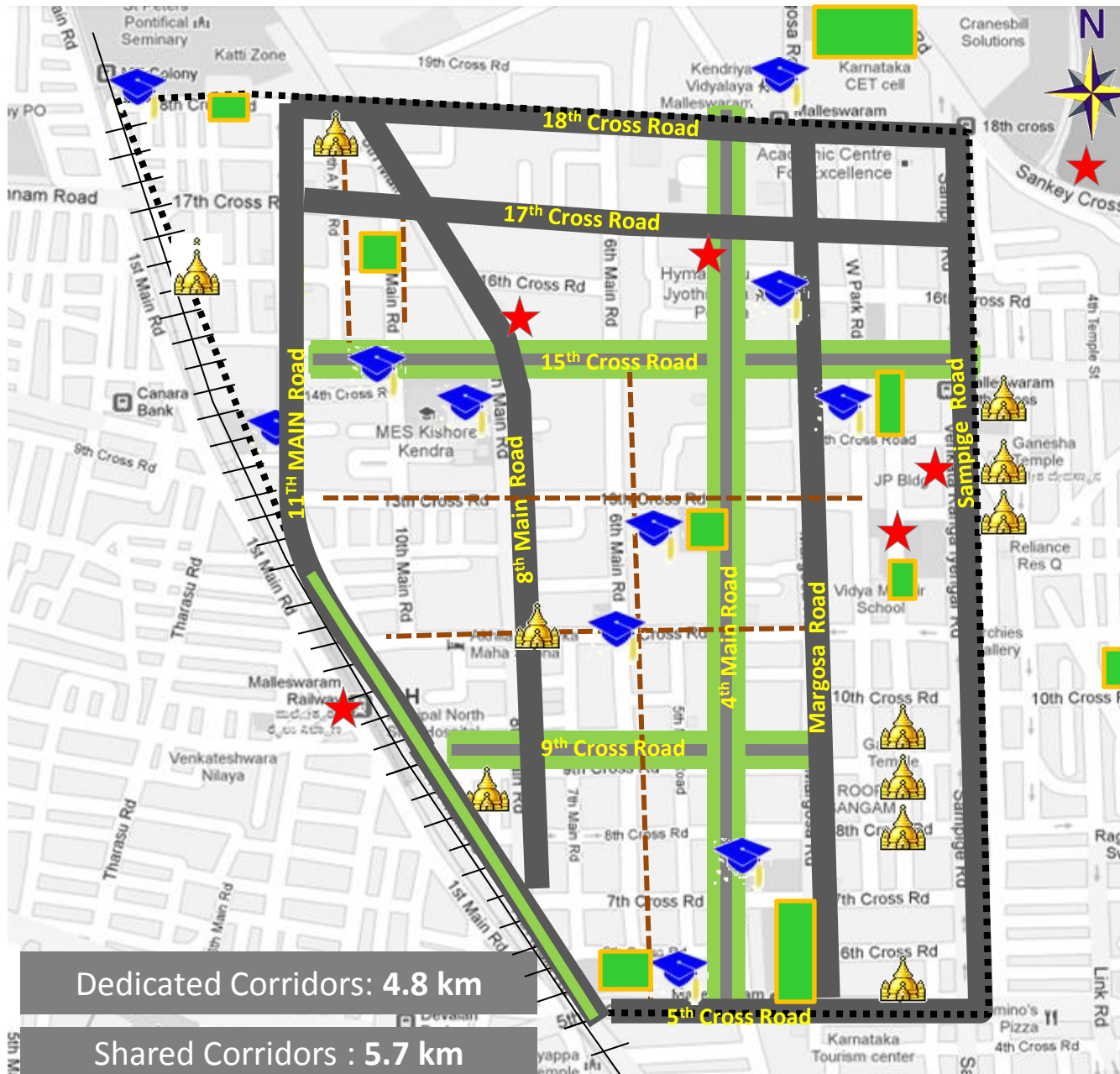


**4. Sidewalks/ Footpath** : A common observation along the streets of Malleshwaram is that the sidewalks are non uniform/dilapidated with broken joints along the tree line. In order to ensure pedestrian safety along these corridors the following measures are adopted:

- ❖ Footpath of minimum 1.5-2 m wide on either side
- \* Bus route with bus stop = 3 m wide footpath\*
- ❖ Ramps- access to property
- ❖ Tree line treatment
- ❖ Street Furniture



# MALLESHWARAM NMT NETWORK PROPOSAL



## >> NMT Network

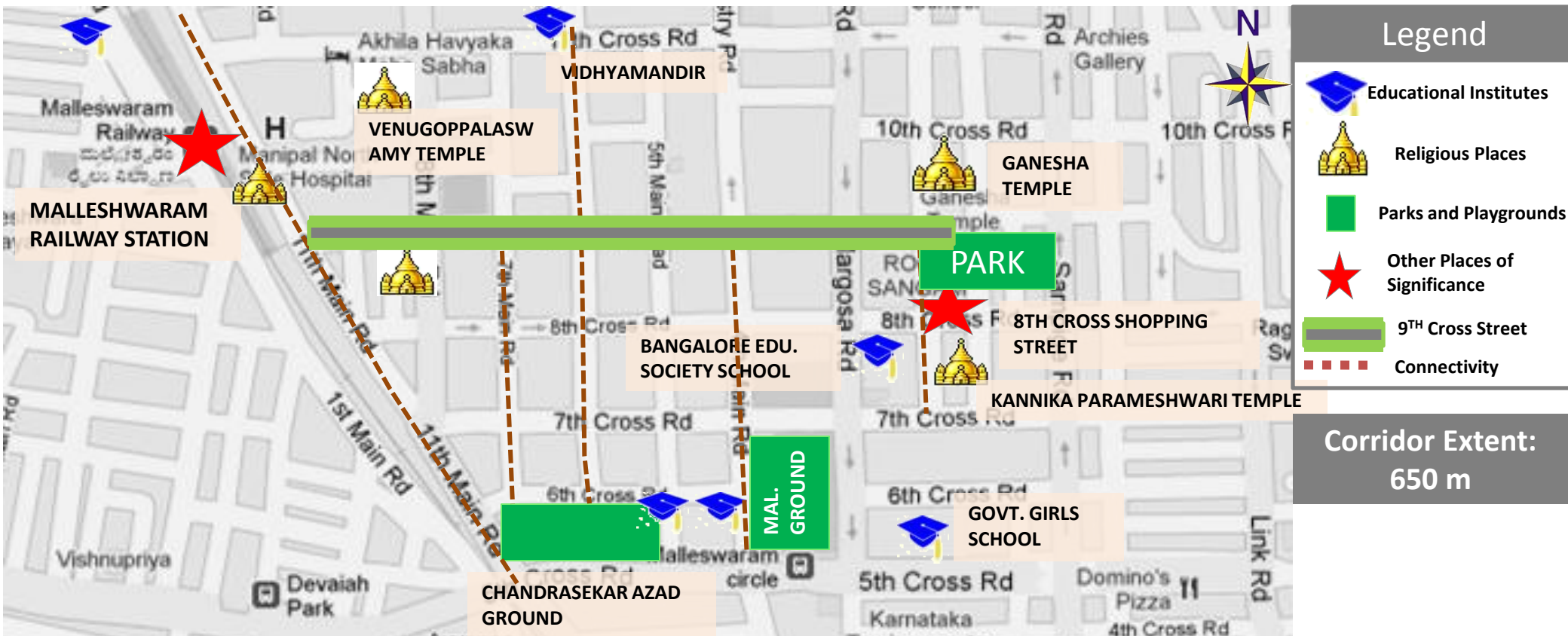
>>> The Places of Significance are located in the radius of less than **400m** from the NMT corridor and are well connected through identified safe streets.

### Legend

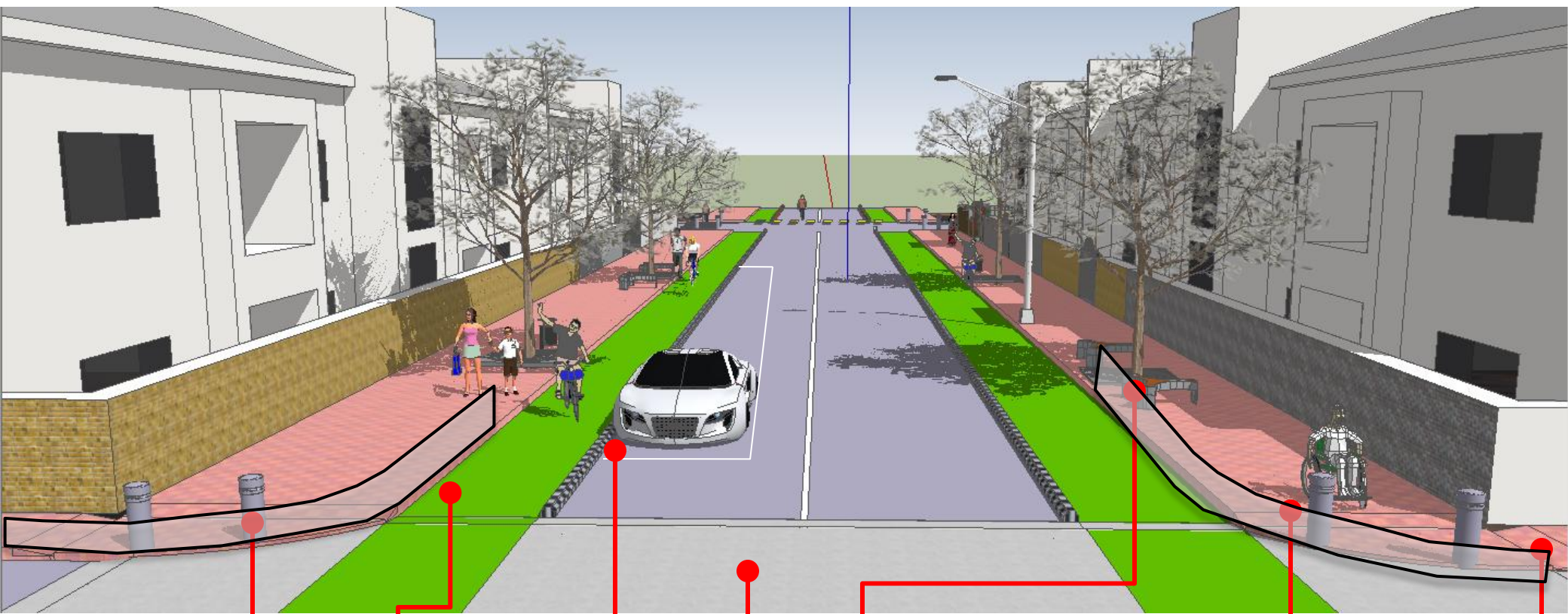
- ..... Study Area Boundary
- Dedicated Cycle Lanes - **LOS < F**
- Shared Cycle Lanes - **LOS: F**
- - - - - Connectivity through safe streets
- Educational Institutes
- Religious Places
- Railway
- Parks and Playgrounds
- Other Places of Significance



>>Dedicated NMT lane on 9<sup>th</sup> Cross Road Design Proposal



>> 9<sup>th</sup> Cross Proposal Concept Illustration



1.5 m Cycle Lane

Pedestrian Railings  
to be replaced by  
Vehicle Obstructing  
Bollards

Car Parking – 2.4 m

Table Top Crossing

Seating Spaces and  
Garbage Bin Placement  
on Footpath;  
Tree Treatment.

Disabled Friendly  
Ramps

15 cm high, well  
paved Footpath




# 11<sup>th</sup> Main Road Design Proposal

## >> 11<sup>th</sup> Main as an Important Route

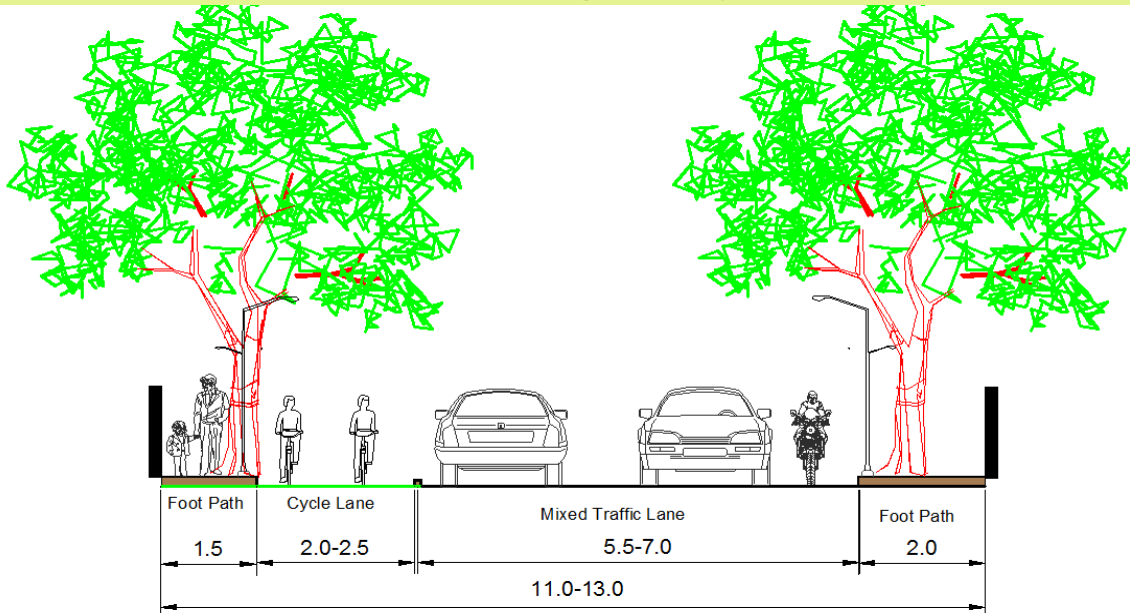


### Legend

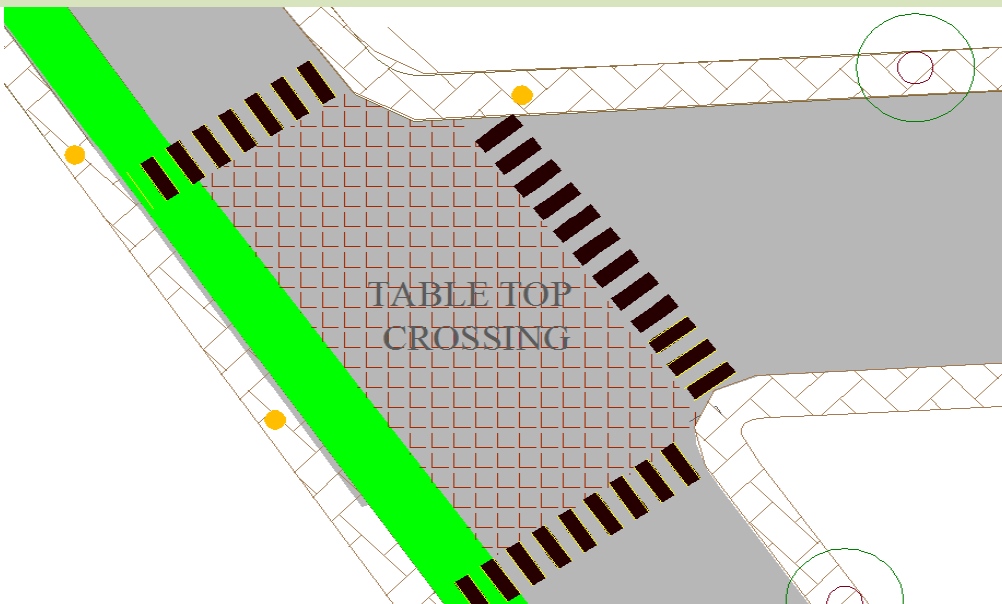
-  Educational Institutes
-  Religious Places
-  Parks and Playgrounds
-  Other Places of Significance
-  11<sup>TH</sup> Main Street
-  Connectivity
-  Dedicated Cycle Streets

**Corridor Extent:**  
1280 m

# 11<sup>th</sup> Main Road Design Proposal



**PROPOSED TYPICAL CROSS SECTION**



**PROPOSED PLAN**

## SALIENT FEATURES - EXISTING

Right of Way	:	<b>13m</b>
Carriage Way Width	:	<b>6-10 m</b>
Footpath Width	:	<b>1.0-2.5 m</b>
Cycle Lane	:	<b>2.0-2.5m – Contra flow</b>
Road Way Hierarchy	:	<b>Secondary Collector Street</b>

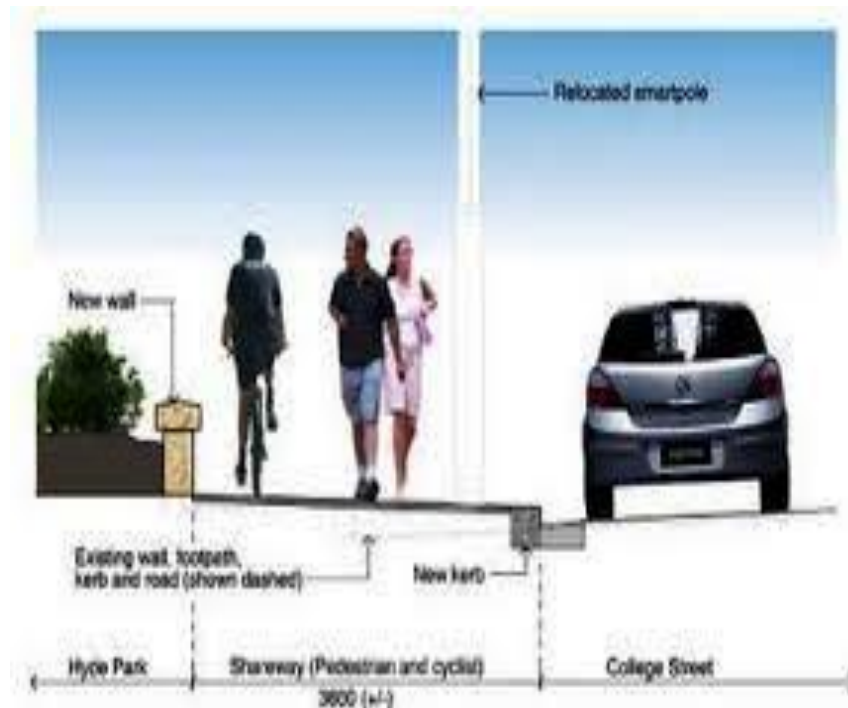
## SALIENT FEATURES – NMT PROPOSAL

Carriage Way Width	:	<b>5.5-7.0 m</b>
Cycle Track Width	:	<b>2.0-2.5 Contra flow</b>
Parking Management:		<ul style="list-style-type: none"> <li>• No Parking</li> <li>• Drop off Zones</li> </ul>
Mixed Traffic Lane	:	<b>5.5-7.0 m</b> (6.5 - 8.2m with parking)
No. of Lanes	:	<b>2</b> (Lane width: 3.25-5.2m)
Footpath width (LHS)	:	<b>1.5 m</b>
(RHS)	:	<b>2.0 m</b>
Junction Treatment	:	<b>Table Top Crossing</b>
Cycle Track Barrier	:	<b>Provision of Mountable Kerb</b> (10 cm X 10 cm)
Cycle + Pedestrian Lane:		<b>LHS- 120m</b> <b>2.5 m of NMT Lane</b>

## >> NMT lane on 11<sup>th</sup> Main

### Concept of creating a NMT only lane = 2.5m on 11<sup>th</sup> Main

- Currently the existing footpath of 2m has been encroached by street vendors, forcing the pedestrians to walk on road.
- Thus in addition to the 2 m wide dedicated NMT, a NMT lane of 2.5m has been suggested on 11<sup>th</sup> Main between 9<sup>th</sup> Cross and 11<sup>th</sup> Cross (i.e adjacent to the Malleshwaram Railway Station) .
- An allocation a 2 m wide hawker zone with a 2.5m NMT lane (to be used both by pedestrians and cyclist ) has been suggested.



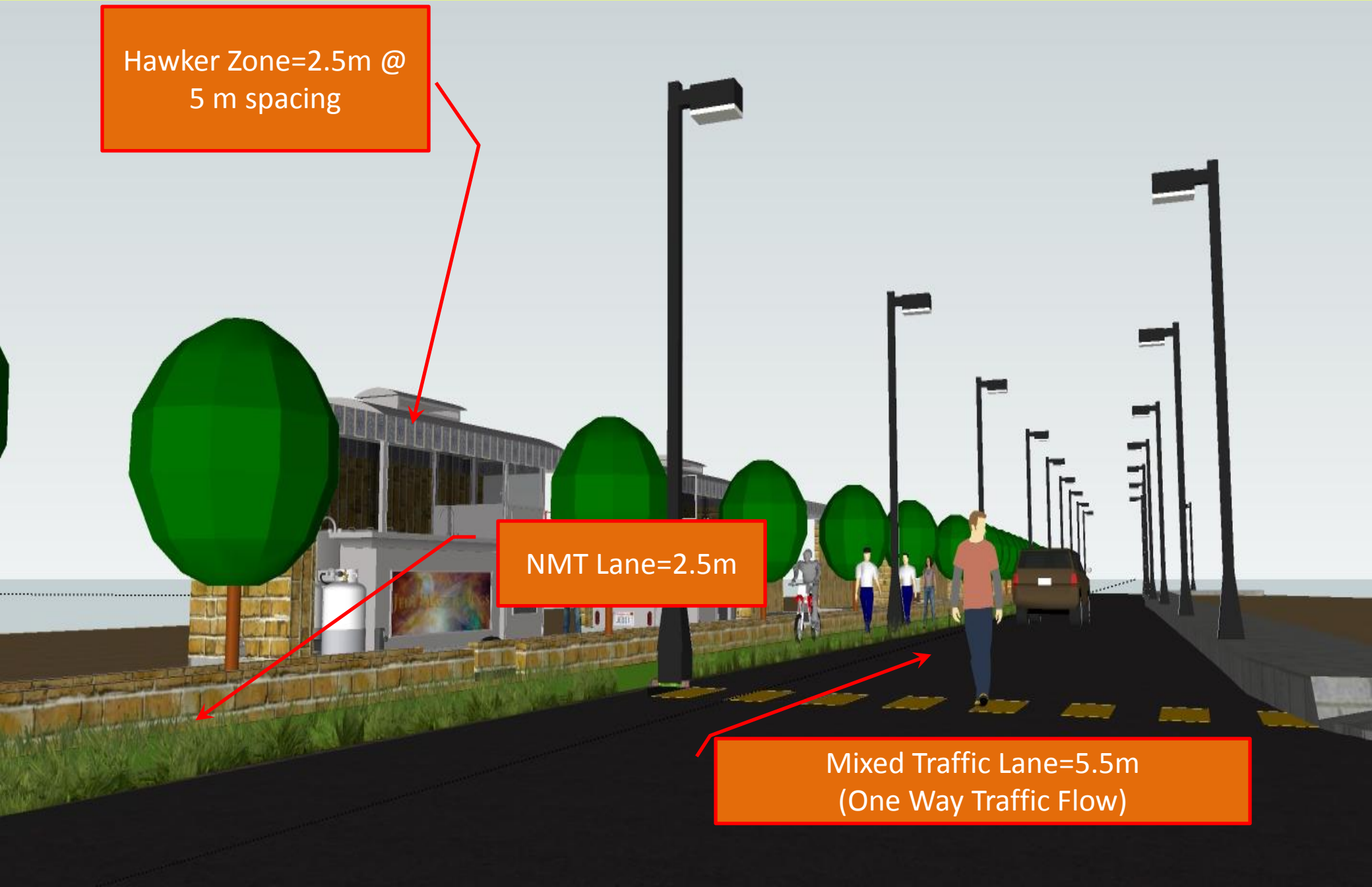


## >> NMT lane on 11<sup>th</sup> Main

Hawker Zone=2.5m @  
5 m spacing

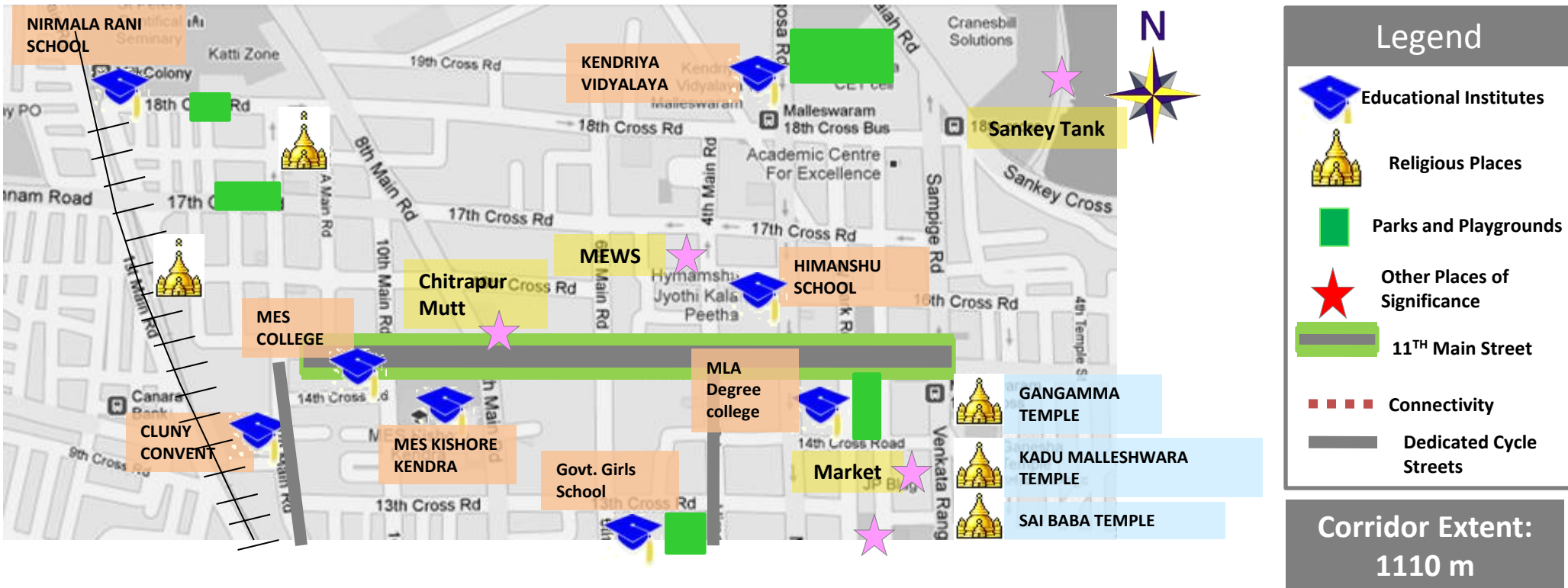
NMT Lane=2.5m

Mixed Traffic Lane=5.5m  
(One Way Traffic Flow)



# 15<sup>th</sup> Cross Road Design Proposal

## >> 15<sup>th</sup> Cross as an Important Route



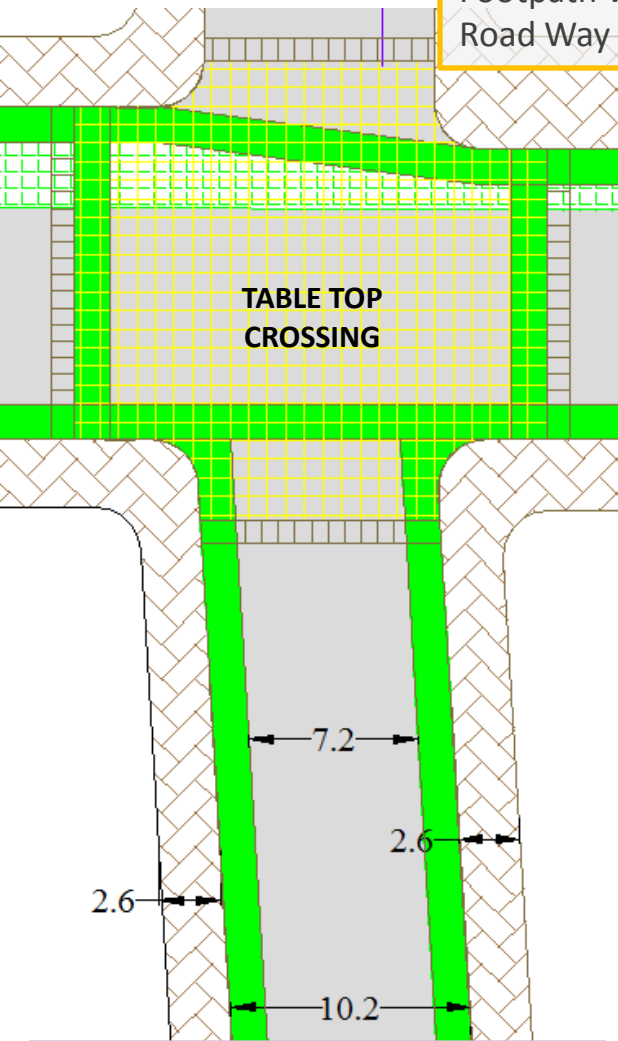
# 4<sup>th</sup> Main Road Design Proposal

## SALIENT FEATURES - EXISTING

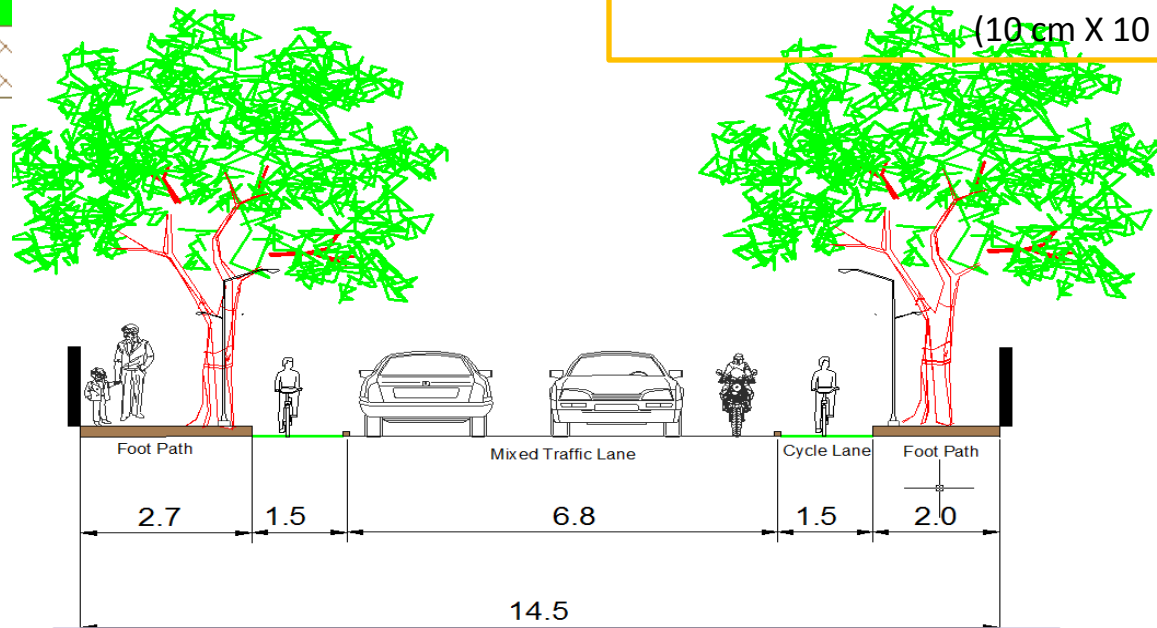
Right of Way : 12.5 - 15m  
Carriage Way Width : 8 - 11 m  
Footpath Width : 2.5 – 3.0 m  
Road Way Hierarchy : Secondary Collector Street

## SALIENT FEATURES – NMT PROPOSAL

Carriage Way Width : 8-10 m  
Cycle Track Width : 1.5m on both sides  
Parking Management: Parking prohibited  
Mixed Traffic Lane : 6.5 – 7.2m  
No. of Lanes : 2 (Lane width: 3.25-5.2m)  
Footpath width : 2.5 – 3 m  
Junction Treatment : Provision of Table Top Crossing  
Cycle Track Barrier : Provision of Mountable Kerb (10 cm X 10 cm)



PROPOSED PLAN



PROPOSED TYPICAL CROSS SECTION



# Section Specific Interventions

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## >> 5<sup>th</sup> Cross Bus Bay Proposal

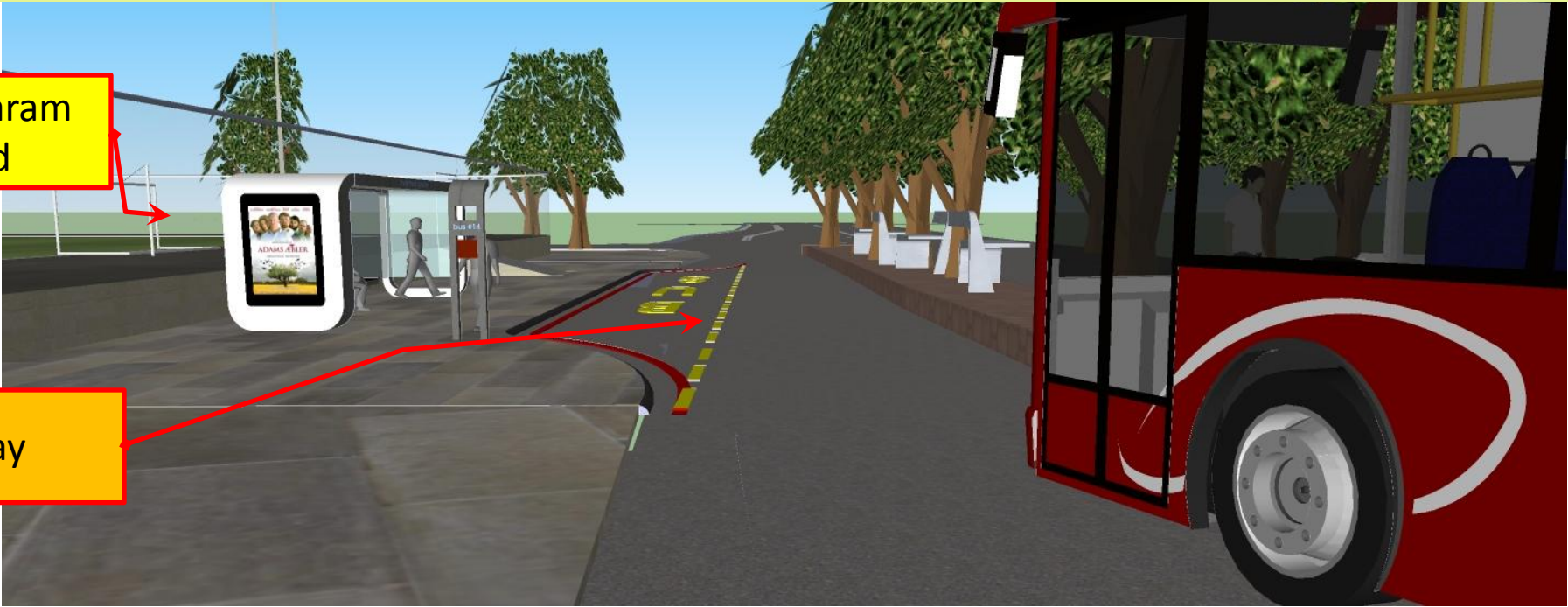


>> Bus Stop with Bus + Railway Schedule Time table

>>5<sup>th</sup> Cross Bus Bay Proposal-A Concept Plan

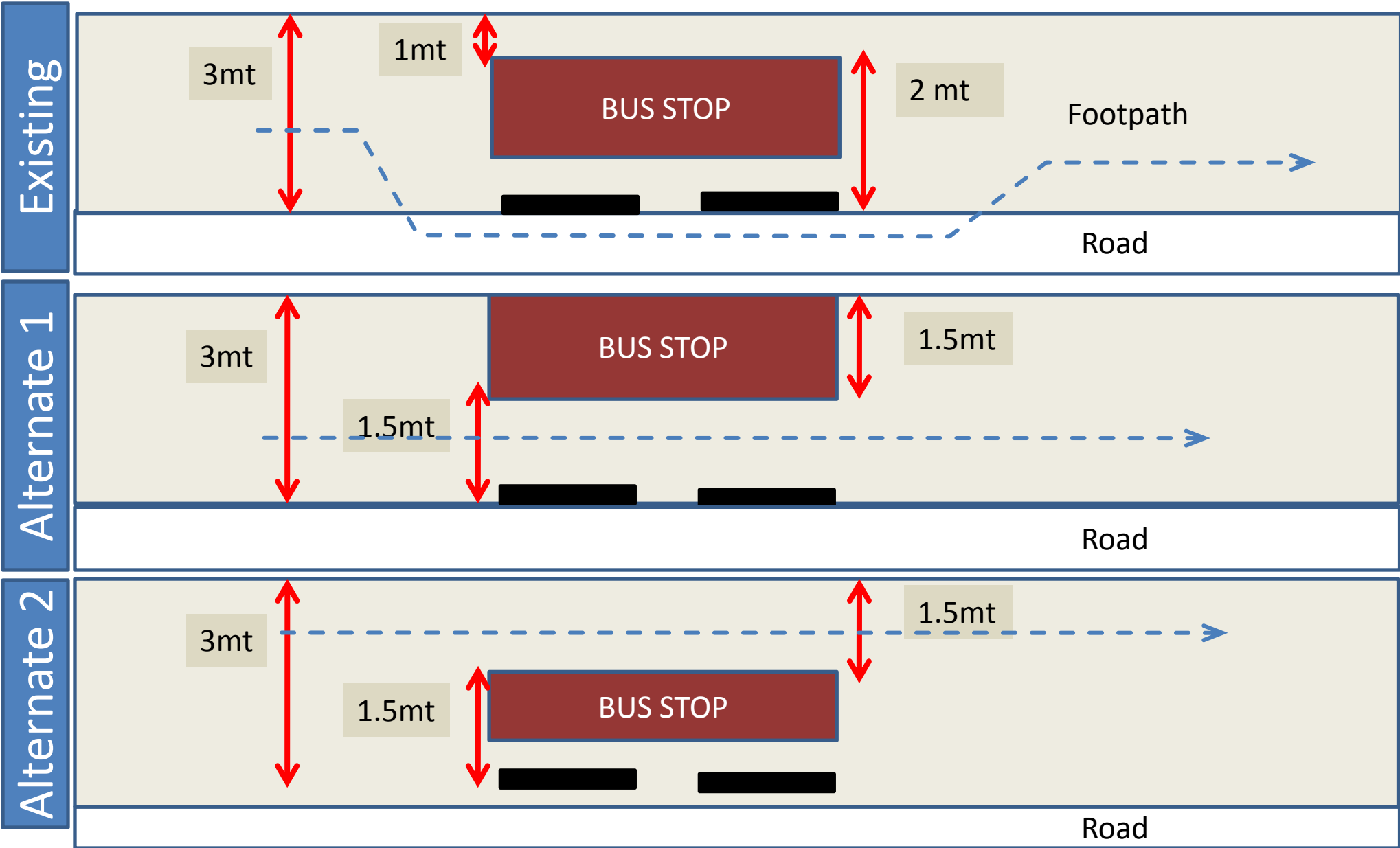
Malleshwaram  
Ground

Bus Bay



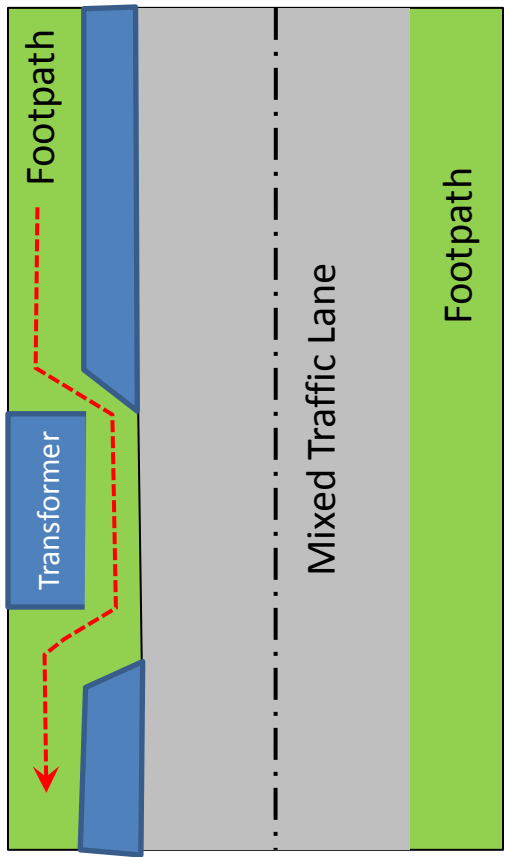
Mixed Traffic  
Lane

>> BMTC Bus Shelters on footpaths

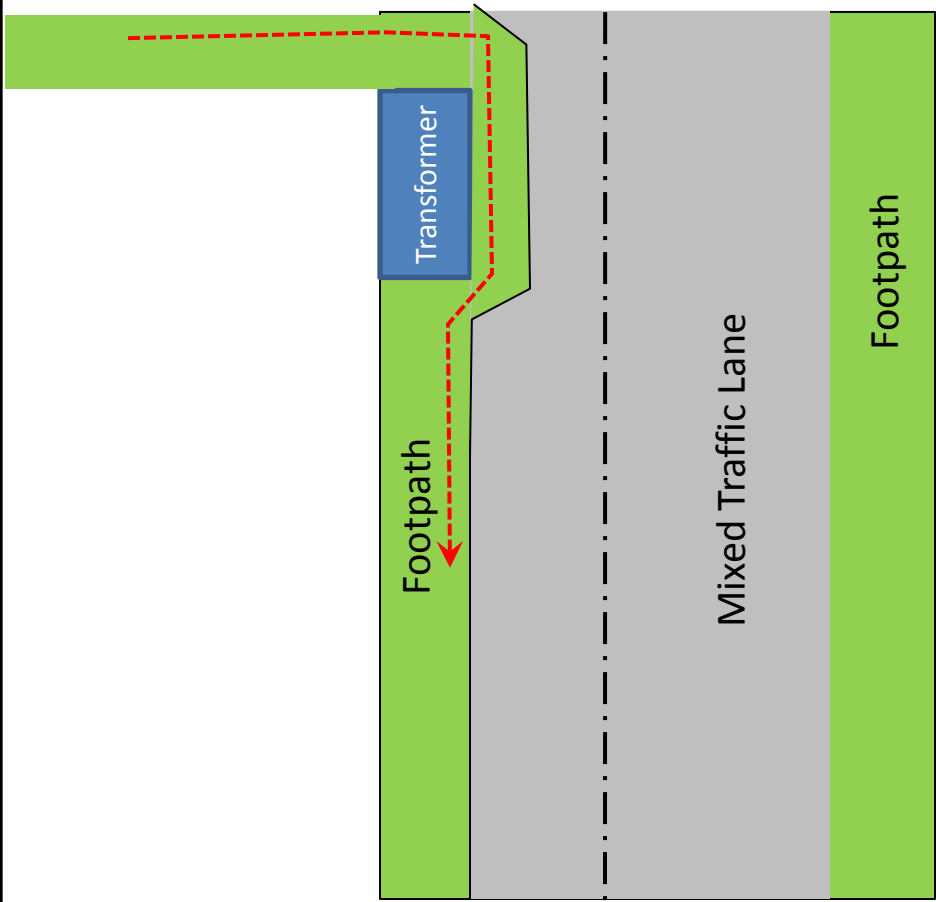


# BESCOM Transformers

BESCOM transformers have also been observed as major encroachments in the Malleshwaram study area. These transformers were seen to encroach the entire walkway width of the footpath. Thus as an alternative, two set of proposals have been suggested.



**Alternate 1:** If the transformer is located at the mid-block with parking facilities provided parallel to the footpath alignment, then the portion of the encroached footpath will be bulged out to provide at least a walkway width of 1m before the pedestrians traverse onto the existing footpath alignment.



**Alternate 2:** If the transformer is located at intersection: the traffic calming measure of Kerb extension has suggested. This curb extension will enable sufficient walkway to the pedestrians as well as act as a speed breaker reducing the vehicular speed at the intersections.



# Tree line Treatment

- Another main cause as to why footpath slabs are raised or broken is due to tree roots either from street or from the trees within private property which are near the boundary line which have grown abruptly cutting through the surface and providing a discontinuous surface of the walkway.
- As a solution, it is suggested to fill up the tree bark up to the footpath surface with a suitable porous materials so as to ensure that the tree line is in sync with the footpath platform, thus providing a uniform and safe walkway to the pedestrians.

*Existing Scenario*



*Proposed Scenario*

