

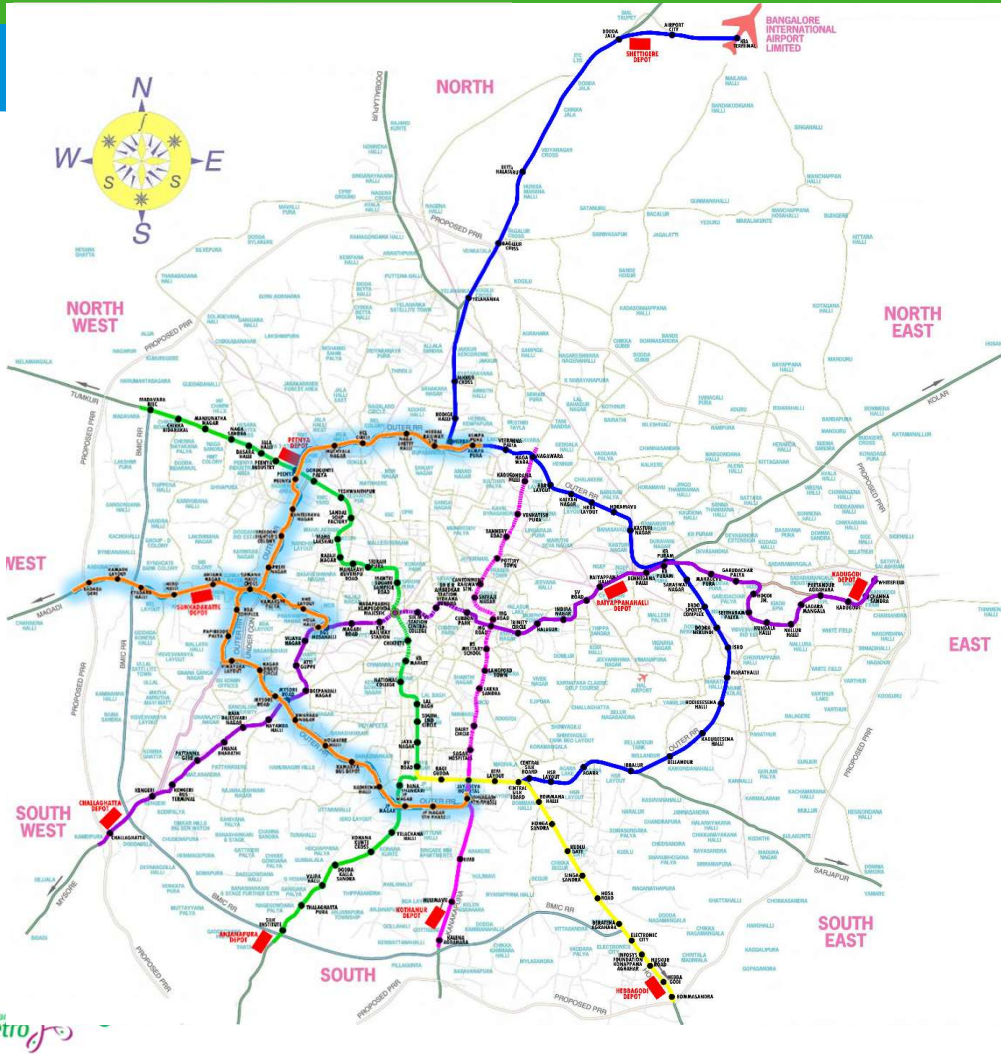
# Presentation on Environmental Stakeholder Meeting for BMRCL Phase 3 Project

September 2025



Bangalore Metro Rail Corporation  
Ltd.

# Namma Metro Phase-3



## Phase – 3

### 3.1 Sanction and Scope:

- Phase-3 of the Metro Project was sanctioned by the Government of India on 13.09.2024.
- Phase-3 includes a total length of 44.65 km with an estimated cost of ₹15,611 Cr.
- It consists of following two corridors:
  - a) **Corridor-1:** J.P. Nagar 4<sup>th</sup> Phase to Kempapura- 32.15 Km length with 22 stations
  - b) **Corridor-2:** Hosahalli to Kadabagere - 12.50 Km length with 9 stations.

**Total Metro Rail Network with Phase-3 will be 220.20 Km.**

## PHASE-3 DOUBLE DECKER

- GoK advised BMRCL to construct this phase as Double decker with elevated 4-lane road at level-1 and Metro at level-2.
- Additional cost to construct elevated flyover in Double Decker is Rs.8916 Cr.
- The proposal is under active consideration of GoK.

### Current Status:

- Detailed Design Consultancy (DDC) contracts have been awarded.
- Land acquisition for the Metro and Elevated flyover (Double Decker) is in progress.
- Trees to be removed are identified and in the process of approval.
- Utilities coming in the way are identified and for shifting of the same is in process.
- Planned expenditure for FY 2025-26: ₹2,153 Cr. (Land)
- Double decker for full length of Metro without demolition of existing flyovers excluding Delmia Circle flyover is accepted by BBMP

### Double Decker for full length of Metro without demolition of existing flyovers

#### Length of Double Decker:

- |                                        |                    |
|----------------------------------------|--------------------|
| • Corridor-1: Length of Double Decker  | = 29.20 Km.        |
| • Corridor-2: Length of Double Decker  | = 11.45 Km.        |
| • <b>Total length of Double Decker</b> | <b>= 40.65 Km.</b> |

#### Additional Cost of Double Decker including Up and Down Ramps over sanctioned Metro cost:

- |                     |                         |
|---------------------|-------------------------|
| • Corridor-1 cost   | = Rs.6474.00 Cr.        |
| • Corridor-2 cost   | = Rs.2442.27 Cr.        |
| • <b>Total cost</b> | <b>= Rs.8916.27 Cr.</b> |

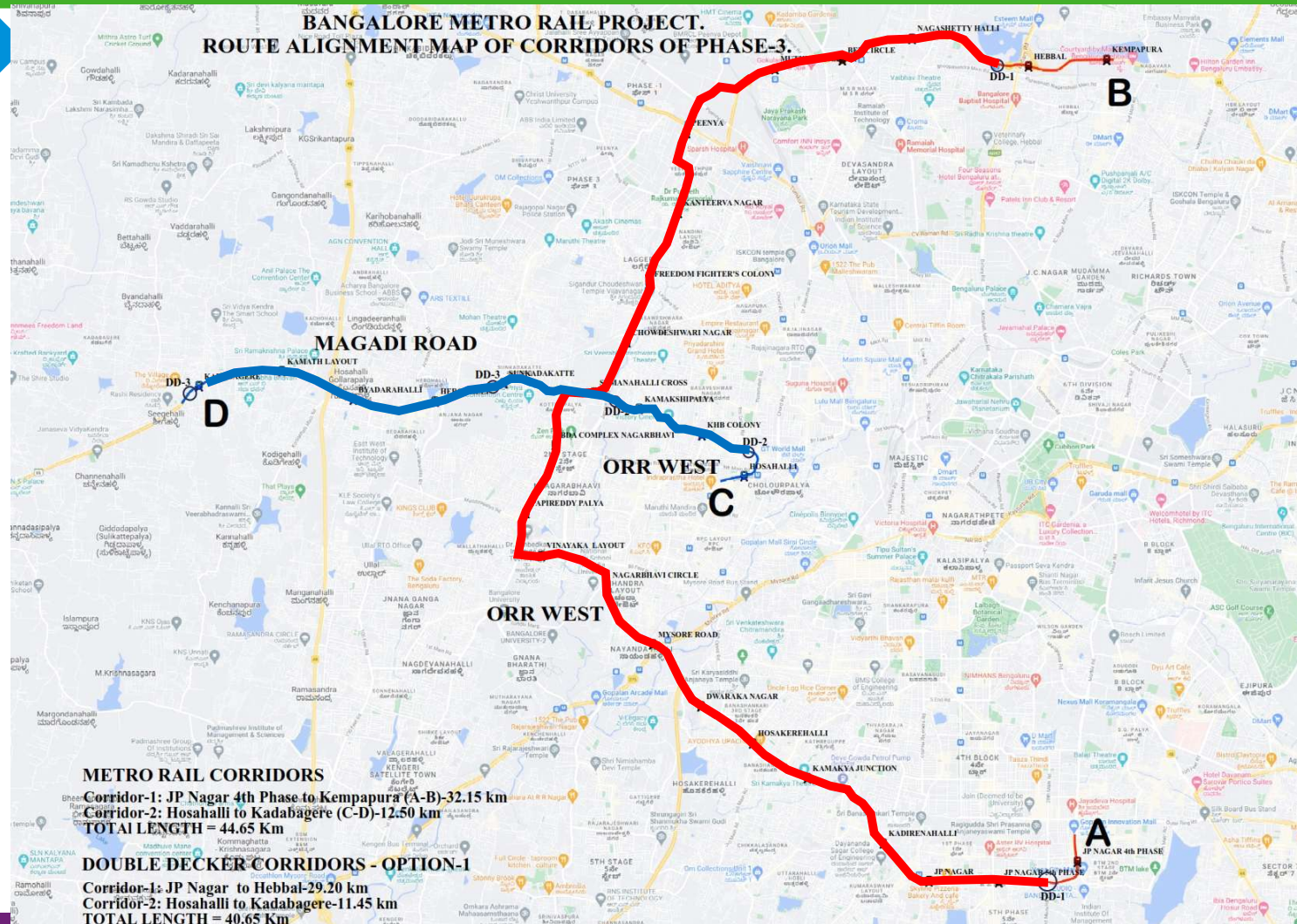








# PHASE-3 DOUBLE DECKER MAP





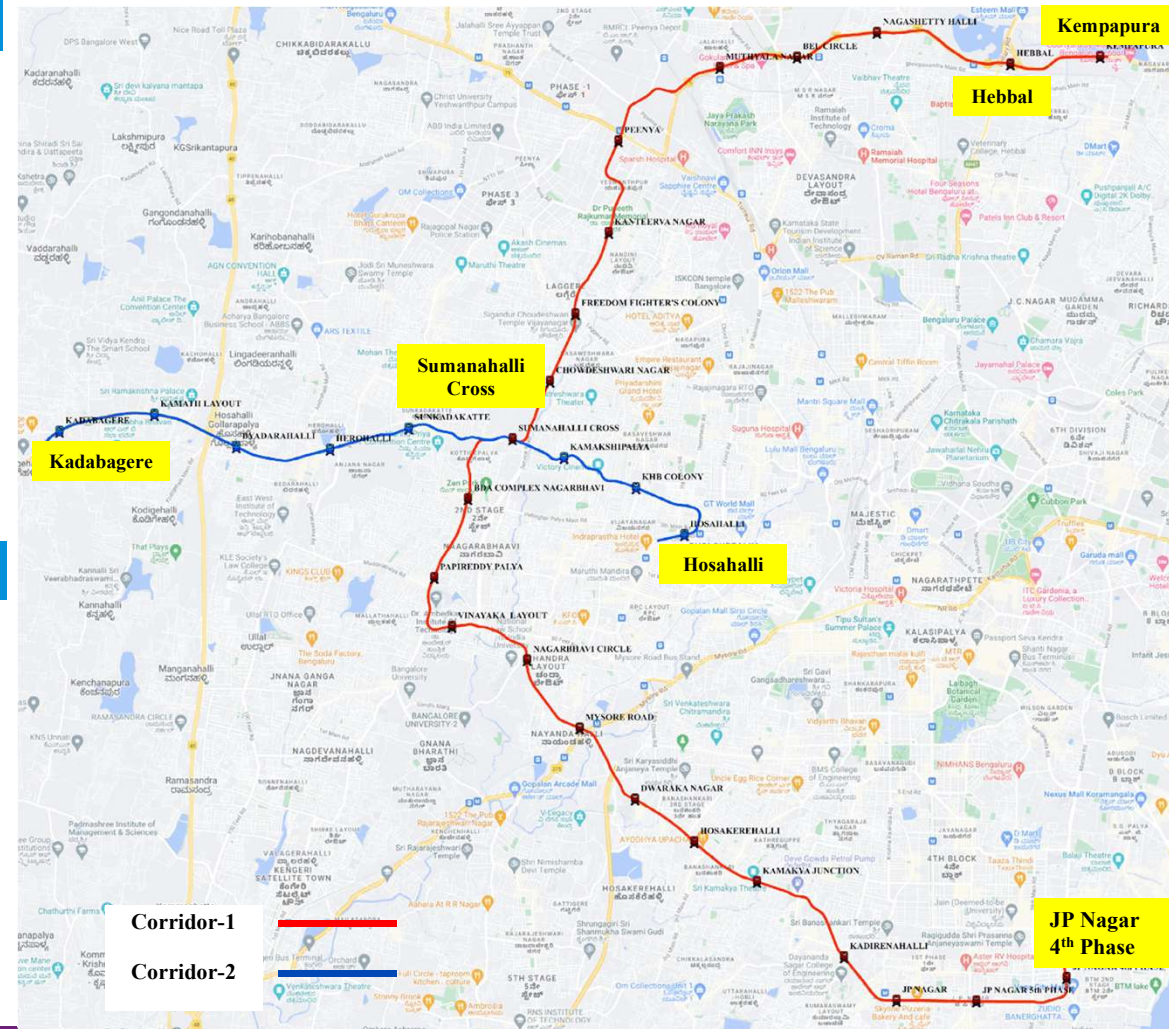
# PHASE-3 STATIONS

## Corridor-1: JP Nagar 4<sup>th</sup> Phase to Kempapura (ORR West):

Sl.No	Station	Sl.No	Station
1	JP Nagar 4 <sup>th</sup> Phase	12	BDA Complex Nagarbhavi
2	JP Nagar 5 <sup>th</sup> Phase	13	Sumanahalli Cross
3	JP Nagar	14	Chowdeshwari Nagar
4	Kadirenahalli	15	Freedom Fighter's colony
5	Kamakya Junction	16	Kanteerava Nagar
6	Hosakerehalli	17	Peenya
7	Dwaraka Nagar	18	Muthyala Nagar
8	Mysore Road	19	BEL Circle
9	Nagarbhavi Circle	20	Nagashettyhalli
10	Vinayaka Layout	21	Hebbal Railway Station
11	Papireddypalya	22	Kempapura

## Corridor-2: Hosahalli to Kadabagere (via Magadi Road):

Sl.No.	Station
1	Hosahalli
2	KHB colony
3	Kamakshipalya
4	Sumanahalli Cross
5	Sunkadakatte
6	Herohalli
7	Byadarahalli
8	Kamath Layout
9	Kadabagere

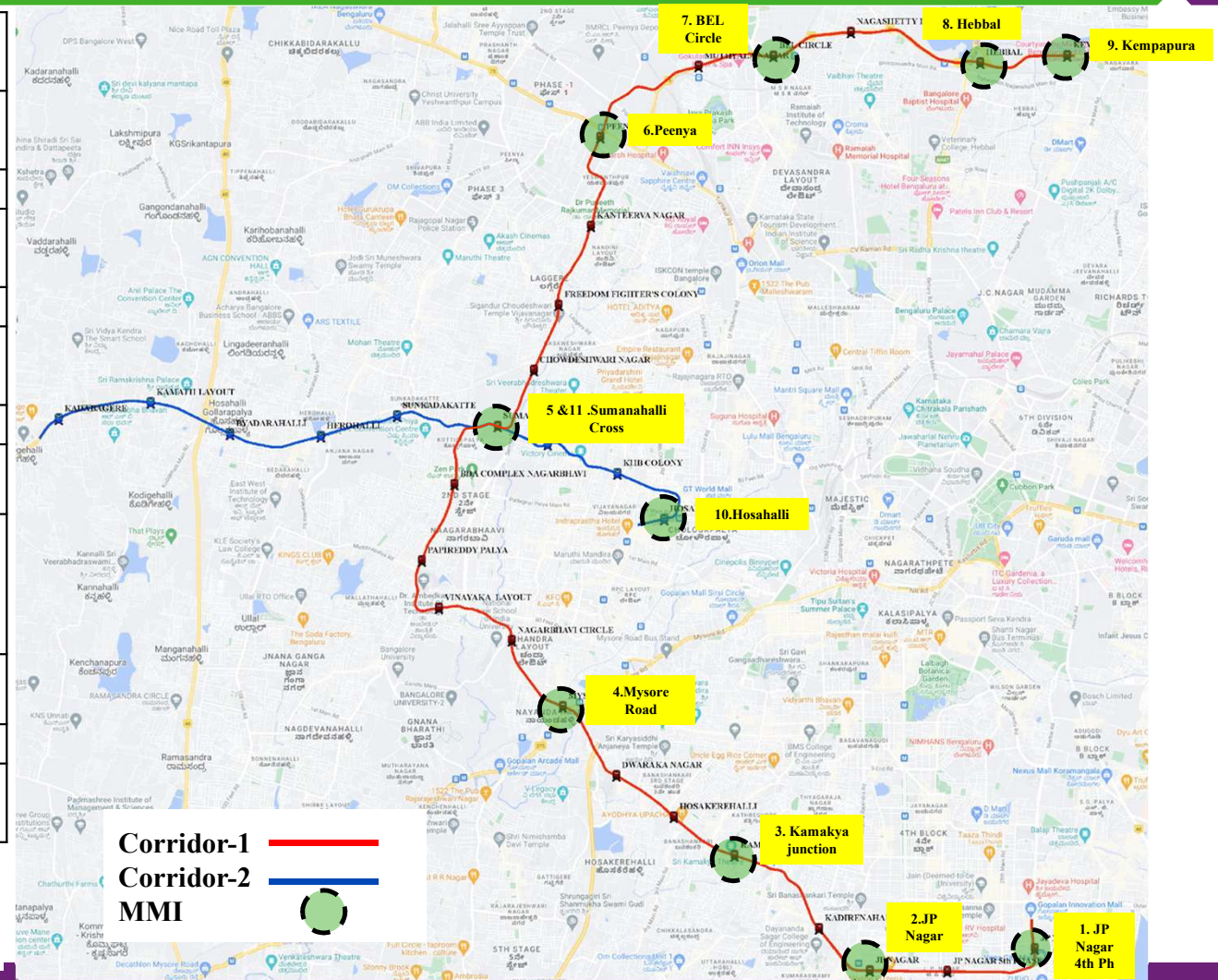




# MULTI-MODAL INTEGRATION

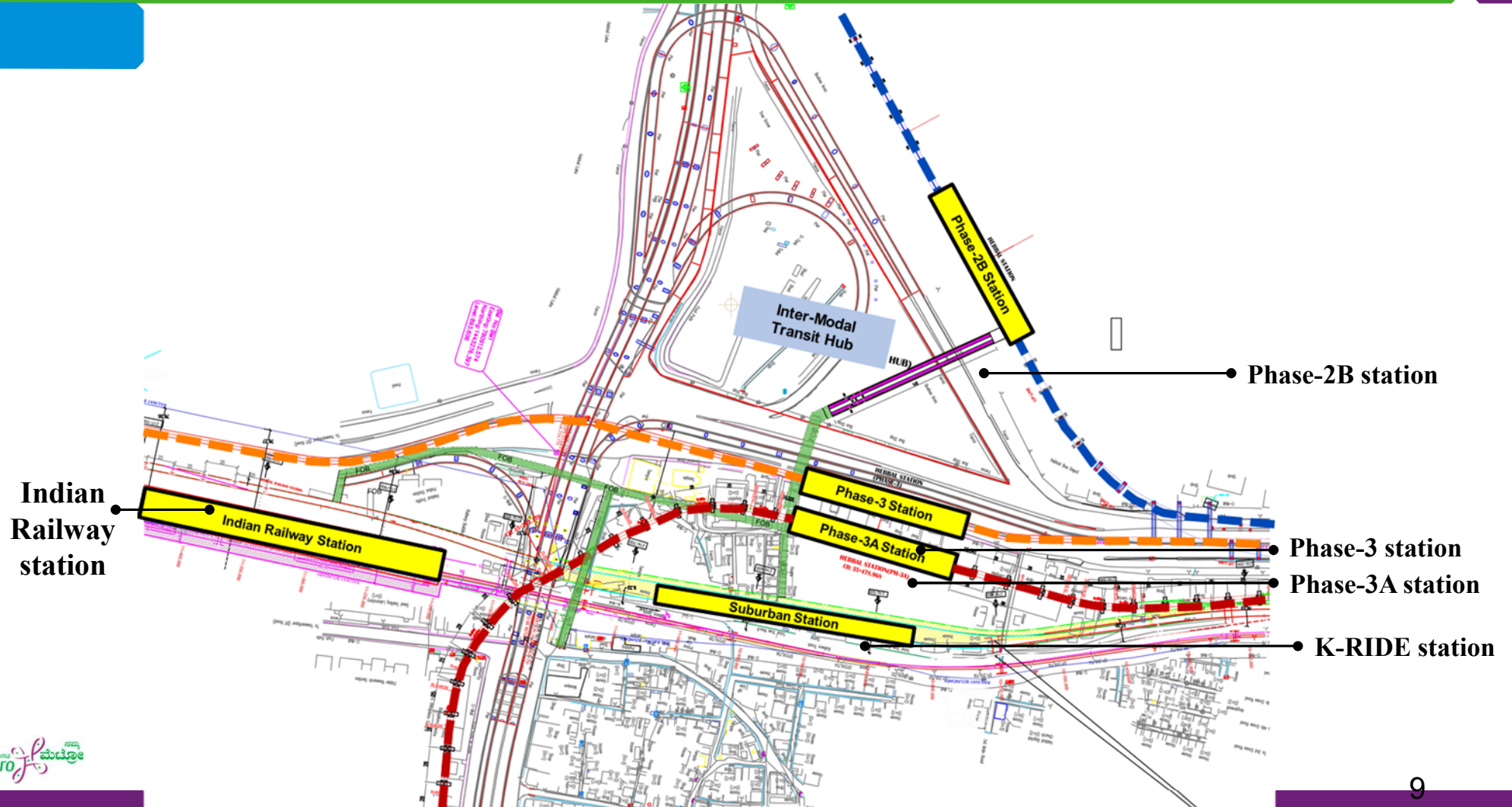
Sl. No	Station	Mode
1	JP Nagar 4 <sup>th</sup> Phase	Metro (Ph-2)-Metro (Ph-3)
2	JP Nagar	Metro (Ph-1)-Metro (Ph-3)
3	Kamakya Junction	Metro-BMTC Bus Terminal
4	Mysore Road	Metro (Ph-1)-Metro (Ph-3)
5	Sumanahalli Cross	Metro-Metro (Common station one above the other)
6	Peenya	Metro (Ph-1)-Metro (Ph-3)
7	BEL Circle	Metro-Railway & Suburban
8	Hebbal Railway Station	Metro (Ph-2B)-Metro(Ph-3)-Metro (Ph-3A)-Railway & Suburban-BMTC Bus Terminal
9	Kempapura	Metro (Ph-2B)-Metro (Ph-3)
10	Hosahalli	Metro (Ph-1)-Metro (Ph-3)
11	Sumanahalli Cross	Metro-Metro (Common station one above the other)

All the stations are proposed with Bus bays, Pick-up and drop-off zones, parking at important stations, wide footpaths etc.



# Multi Modal Integration at Hebbal Station:

PHASE-3A WITH PHASE-3, PHASE-2B AND K-RIDE SUBURBAN STATION AND IMTH



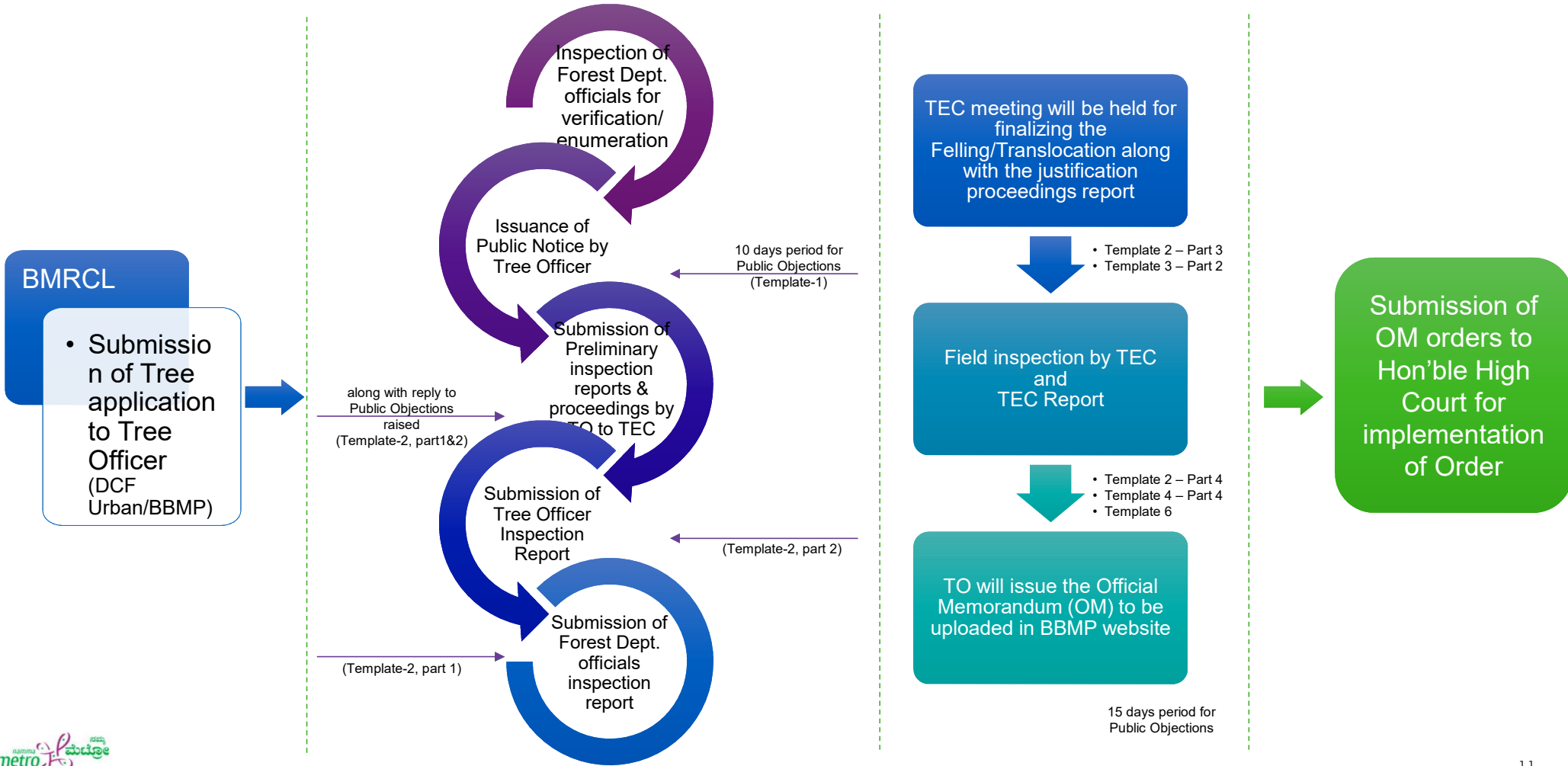
# QR ಕೋಡ್ - BMRCL ಪಾಲುದಾರರ ಸಭೆಯ ವಿವರಗಳು





# Tree Clearance Procedure

as per Memorandum of Procedure (MoP) by TEC



# Translocation & Maintenance of Trees

## Receptor Location for Translocation of Trees

- Location for translocation of Trees is **identified jointly by Tree Officer and BMRCL**.
- If **nearby location is not found suitable**, the tree will be translocated to the suitable location by testing the soil.

## Appointing Expert Agencies for Translocation

- Expert Agencies** will be appointed through bidding process
- Extensive meetings will be conducted with the expert agencies along with the BBMP, Forest Dept. etc. for **project site preparation, supporting facilities required, various management plans to be adopted including watering, monitoring mechanism etc.**

## Payment Mechanism

after transplantation – 50%  
after 60 days – 20%  
after 18 months\* – 20%  
after 36 months\* – 10%

\*Payment will be done only in case of the tree survives. Similar payment procedure will be followed separately for Maintenance cost.



Root Trimming



Crown Pruning & Cleaning



Root Ball preparation



Lifting & Handling

## Procedure to be followed at Tree Standing Site

Root Ball preparation



Crown Pruning and Cleaning



Lifting and handling

## Procedure to be followed at Receptor location

Preparation of Pit & application of FYM



Planting the Tree



Post planting care

# Compensatory Plantation in Lieu of Felling of Trees

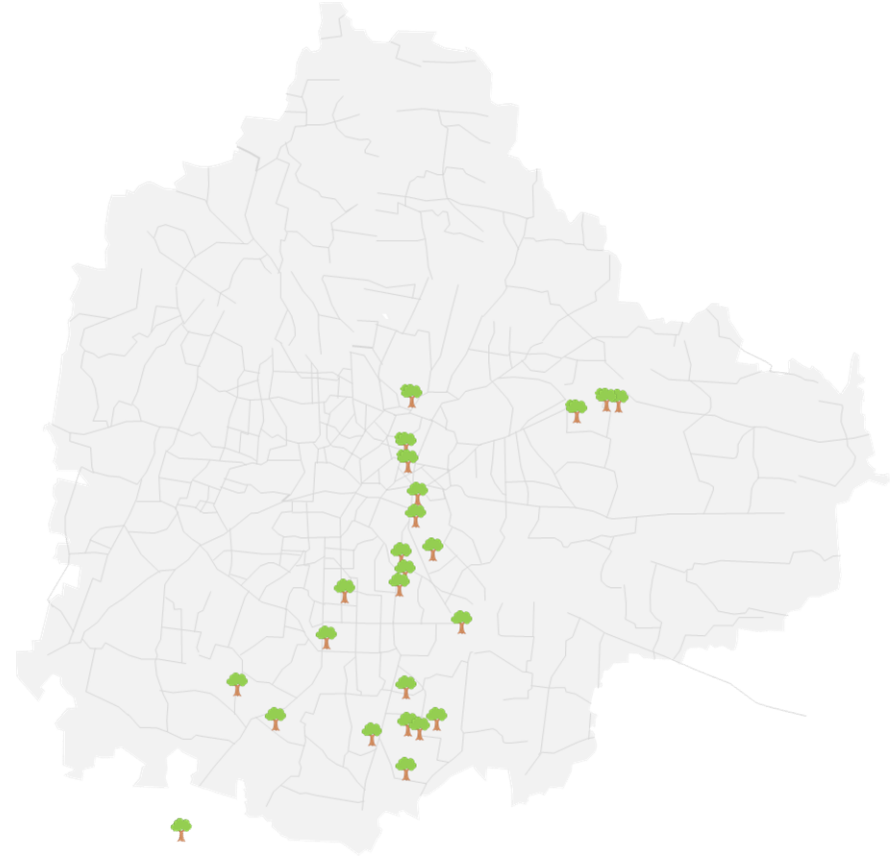
- **BMRCL identifies the Site for the Compensatory Plantation** co-ordination with DCF-BBMP/DCF-Urban division.
- Compensatory plantation in lieu of felling of trees is being undertaken by BMRCL at a ratio **1:10, i.e. for 01 tree felled / translocated, 10 saplings are planted**
- The compensatory plantation is **maintained for 3 years** after planting the sapling.
- Compensatory plantation is carried through Expert agencies in the field.



for every **1** tree that  
is required to be  
felled



**10** saplings  
to be planted



Map showing the compensatory plantation areas for Phase-2



# Species of Compensatory Plants

SI NO	Tree Species Name	Category
1	Tamarind	Fruit
2	Jackfruit	Fruit
3	Indian Almond	Fruit
4	Indian Fig Tree	Fruit
5	Goosseberry Tree (Phyllanthuscidus )	Fruit
6	Hole dasavala	Flower
7	Hole matti	Wood
8	Kadamba mara	Flower & Wood
9	Mahogany	Wood
10	chompaka mara	Flower

SI NO	Tree Species Name	Category
11	Ala	Wood & Fruit
12	Arali mara	Wood & Fruit
13	Atti mara	Wood & Fruit
14	Basari mara	Wood
15	Narale mara	Fruit
16	Neem	Wood
17	Honge	Wood
18	Tare	Wood
19	Red Tamarend	wood
20	Wild Mango	fruit
21	Sihi Hunase	wood

# Location of Translocated Trees

Sl No	Translocated trees location
1	Benniganahalli tank bund area
2	KR Puram Metro station (Along lowry school compound)
3	Lowry School area
4	Kadugodi Depot Area
5	Bangalore Co operative Union limited Premises KMF Bengaluru
6	National Dairy Reseach Institute ,Bengaluru
7	Parade ground MG Road ,Bengaluru
8	Old Military Dairy Farm ,Hebbal
9	Biotechnolgy Centre ,Dept of Horticulture ,Hulimavu opposite to meenakshi mall ,Bannerghatta road
10	Corps of Military Police & School Bengaluru(CMP)

Sl No	Translocated trees location
11	Devikarani estate (kanakapura road)
12	Along the boundary wall of KR Puram metro station ,adjacent to Lowry school compound
13	CMP Ibblur
14	Kadugodi Depot Area
15	CMP Centre training area HSR1st Sector ,27th cross iblur bengaluru
16	Bagamane Tech park Bhoganhalli lake area Thubarahalli lake area Nallurahalli lake area
17	Hi-Tec Defence and Aero space park Phase-1 (KIADB), Huvinayakanahalli, Bengaluru
18	KIADB Land (Park 3 and open space), Huvinayakanahalli

# Location of Relief Plantings

Sl No	Compensatory Plantation location		Sl No	Compensatory Plantation location	
1	ASC North (Training area), Ibluru	<b>21,604</b>	13	Jayaprakash Narayan youth training centre (Sports Campus), Vidyanagar	<b>18,340</b>
2	CMP (Training), Neelasandra		14	Aerospace Park SEZ Hardware park naer Auto liv	
3	CMP (Training area), Ibluru		15	Hardware park naer Auto liv	
4	ASC North (Training area), Ibluru		16	Hardware park naer Auto liv	
5	ASC North (Training area) & CMP (Training area), Ibluru		17	Hardware park naer Auto liv	
6	Nadaprabhu Kempegowda Layout	<b>38,590</b>	18	Aerospace Near Amada company	<b>14,940</b>
7	Nadaprabhu Kempegowda Layout		19	Aerospace Park near amazon	
8	Old military dairy farm Hebbal, Bengaluru		20	Kanaminike, BDA Layout	
9	Hi-Tec Defence and Aero space park Phase-1 (KIADB), Huvinayakanahalli, Bengaluru		21	KIADB 2nd phase Naganayakanahalli	
10	Nadaprabhu Kempegowda Layout		22	Hardware park near post office	
11	Aerospace Park marenhalli		23	Hardware Park 4 KIADB	
12	Aerospace Park B.D.halli				
			<b>Total</b>		<b>93,474</b>



# Environment Impacts and Mitigation Measures

Sl. No	Activity	Mitigation Measures
1	Tree Cutting	<ul style="list-style-type: none"> <li>• Transplantation/felling of trees will be taken up according to the recommendations/ directions of the Tree Expert Committee (TEC) re- constituted by Government of Karnataka, as per the orders of Honorable High Court of Karnataka dated 20 August 2020.</li> <li>• The Environmental Specialist of DE and the Contractor shall carry out joint field verification to ascertain the possibilities of saving trees and trees to be removed shall be marked with paint.</li> <li>• Transplantation of trees shall be taken up on priority suiting to the tree species, age, size, and health condition of the tree.</li> <li>• Compensatory plantation shall be taken up at the rate of ten trees or as per the direction of TEC or Forest Department.</li> <li>• Compensatory plantation taken up will be monitored regularly for their survival for 3 years from BMRCL. Vegetation with girth size of over 30 cm shall only be considered as trees and shall be compensated.</li> <li>• The tree saplings which do not survive during the first year after replanting will be compensated immediately.</li> </ul>
2	Tree Plantation	<ul style="list-style-type: none"> <li>• The survival rates and success of the transplanted and compensatory planted trees under metro project shall be monitored and ensured by State Forest Department on behalf of BMRCL.</li> <li>• The tree saplings which do not survive during the first year after replanting shall be compensated immediately.</li> </ul>
3	Ambient Air	<ul style="list-style-type: none"> <li>• Precaution shall be taken to reduce the level of dust from construction plants and construction sites involving earthwork by sprinkling of water. Water sprinkling will be carried out at regular interval, mutually decided by the contractor and BMRCL</li> </ul>

# Environment Impacts and Mitigation Measures

Sl.No	Activity	Mitigation Measures
4	Ambient Noise levels	<ul style="list-style-type: none"> <li>Noise generated by these activities will be less. However, 3 m high barricade of GI sheet will be erected around the construction site which will effectively reduce transmission of noise to the receptors.</li> <li>Noise and vibration control and monitoring stipulated in the SHE manual shall be followed and project limits shall be observed.</li> <li>Heavily loaded trucks shall be routed away from residential roads or roads with fewer houses</li> <li>Vibratory rollers and packers shall be avoided near sensitive areas.</li> </ul>
5	Surface Water Quality	<ul style="list-style-type: none"> <li>Contractor shall construct silt fencing around the stockpiles at the construction sites including ancillary sites close to water bodies.</li> <li>Contractor shall ensure that construction materials containing fine particles are stored in an enclosure such that sediment-laden water does not drain into nearby watercourses. Small dikes and garlanding drains shall be constructed along the periphery of the raw materials yard and boundary shall be constructed.</li> </ul>
6	Ground Water Quality	<ul style="list-style-type: none"> <li>Groundwater from Central Ground Water Authority designated safe areas shall be used after procuring permissions from concerned authorities.</li> <li>Water can be harvested and made to percolate into the recharge pits (as a compensatory measure) should be practiced</li> </ul>
7	Soil	<ul style="list-style-type: none"> <li>Debris generated from piling or other construction activities shall be disposed such that it does not flow into nearby surface water bodies or agricultural land in the area.</li> </ul>

# Construction Safety Best Practices of BMRCL

Building Safely, Working Smartly

Government of  
Karnataka





# Public Awareness & strict enforcement of traffic rules



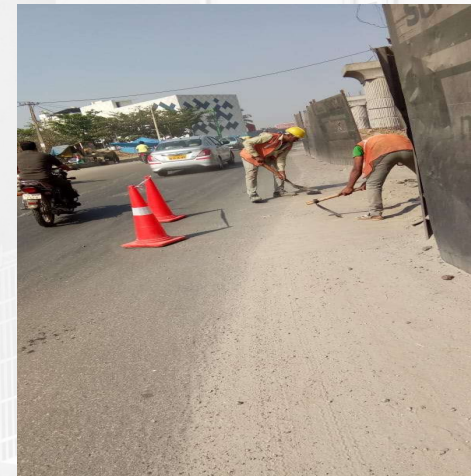


# Water Sprinkling & wheel wash practice at construction areas to suppress the dust





# Removal of Muck deposited near the barricades & Road side







**NEW TRAFFIC DIVERSIONS IN SHIVAJI  
NAGAR FOR METRO WORK EXPLAINED**



# Traffic Diversion / Management

- ❖ All construction workers will be provided with high visibility jackets with reflective tapes at most of viaduct and station works or either above or under right-of-way.
- ❖ Provide safe and clearly marked lanes for guiding road users.
- ❖ Provide safe and clearly marked buffer and work zones
- ❖ The primary traffic control devices used in work zones shall include signs, delineators, barricades, cones, pylons, pavement markings and flashing lights.



# Raising of screens and barricades during construction to mitigate the disturbance to public





# Compensatory Afforestation by BMRCL



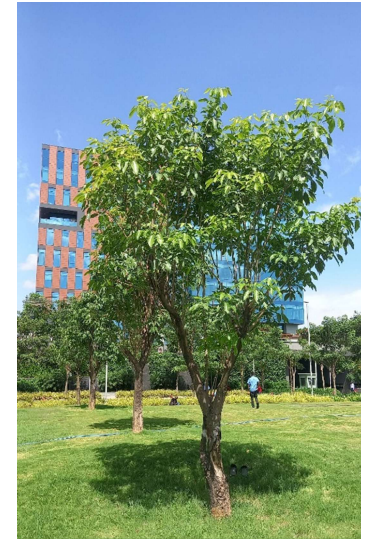


# Compensatory Afforestation by BMRCL





# Tree Translocation by BMRCL





# Tree Translocation by BMRCL



# Regualr Training & Compliance

01



Safety Training Programs

02



Certifications

03



Regulatory Compliance

04



Ongoing Education





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