Project Inauguration - Ahmedabad Metro Rail Project Phase-II

1. Project Brief:

- Ahmedabad Metro Rail Project Rail Phase-II extends the North-South Metro Corridor of Ahmedabad Metro Phase I.
- The mainline is an extension of APMC to Motera line and extends to Mahatma Mandir, while the branch line starts at GNLU and ends at GIFT city.
- The total length of the rail line is 28.2 km, comprising 22.8 km of Mainline and 5.4 km of Branch Line. There are 20 stations on the Mainline and 2 stations on the Branch Line.
- The total cost of the project is Rs. 5384.17 Cr.

2. Project Inauguration Details:

- Hon'ble Prime Minister of India, Shri Narendra Modi will flag off the 20.8 km long corridor of Ahmedabad Metro Rail Project Phase-II from Sector-1 Station on September 16, 2024 which has been successfully completed under the guidance of Hon'ble Chief Minister of Gujarat, Shri Bhupendra Patel.

- 20.8 km long corridor and 8 stations of this project are going to be dedicated in the service of people. This includes opening of 15.4 km viaduct from Motera to Sector 1 and 6 stations (GNLU, Raysan, Randesan, Dholakuva Circle, Infocity and Sector 1) and 5.4 km Gift city link line along with 2 stations (PDEU & Gift City). The cost of this is 3,284 Cr.

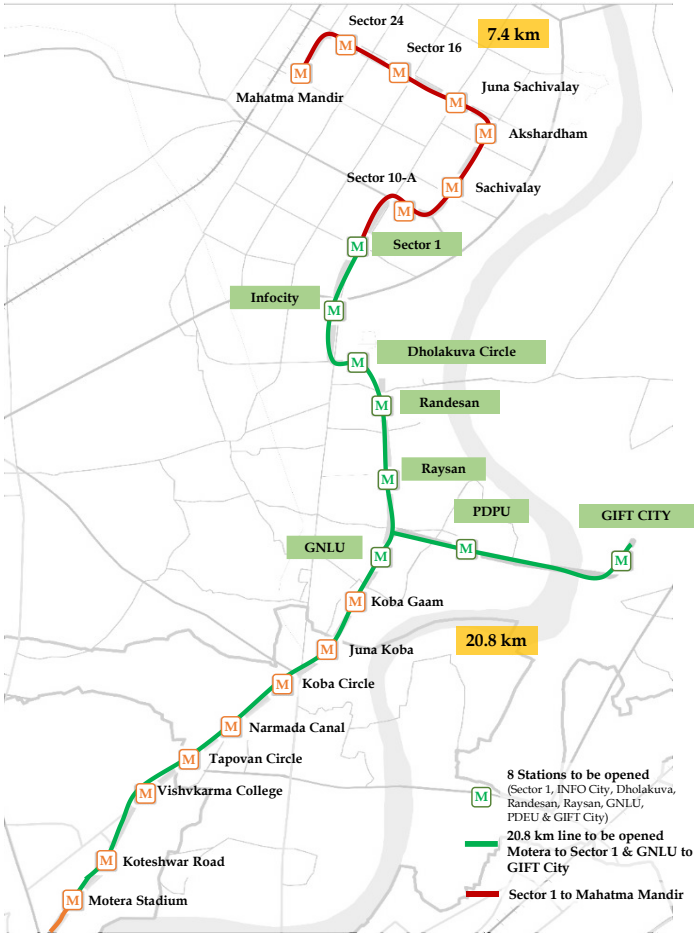
- Ahmedabad Metro Phase II will be a boon to the daily commuters between the twin cities of Ahmedabad and Gandhinagar, fulfilling their dreams of a safe, efficient and environment friendly means of transport between the twin cities.

- The project is a massive infrastructure project involving viaduct & Special bridges, elevated station buildings, ballast less rail tracks and modern Rolling Stock, Signalling, Telecom, AFC, Traction/ Third Rail, Lifts, Escalators, E&M, Fire Fighting Security Equipment, Entry/Exit structures and Teams for Operation of Trains & Stations all integrated for seamless automatic train operations.

- All stations are designed with proper ramps, lifts, tactile (warning and directional) etc. as per relevant norms, for safe and comfortable travel of all passenger, including the differently abled.

- Every station has 140 mtr. length, 20.5 mtr. Width, 20-25 m height and 5340 Sqm built up area including entry exit.

- Each station has 2 Entry/Exits for easy accessibility of the passengers and has provision of 4 lifts & 4 escalators.



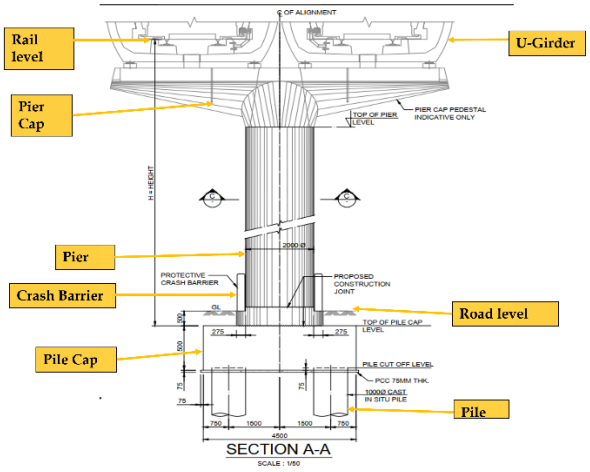
Ahmedabad Metro Rail Project Phase-II Map

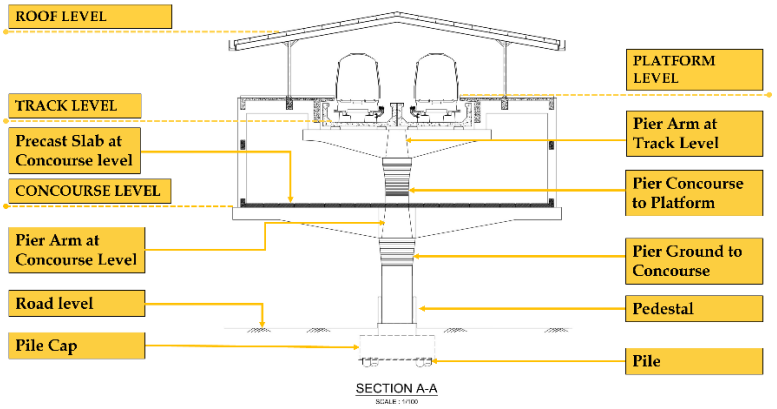
- During the construction phase, about 5000 persons direct and 10000 indirect manpower are employed for project design and execution. Further, during operations stage, it will provide employment to around 1500 personnel.

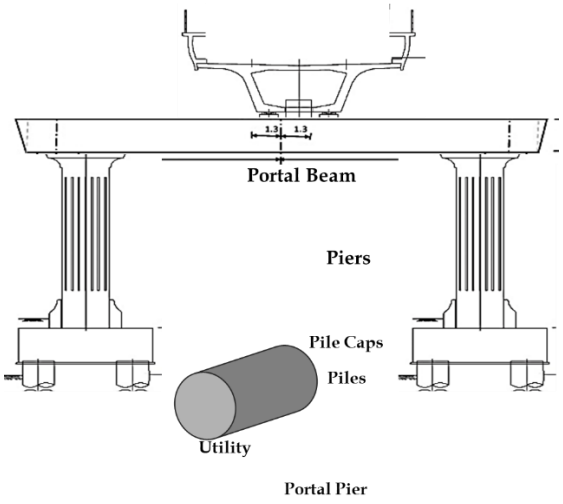
3. Salient Features of the Project:

3.1 Various stages of Construction Work

1. Soil Investigation/Verification
2. Design Performance by DDC
3. Utility Identification (water supply line, gas line, sewer/drainage line, power line, storm water line etc.)







Portal Pier

4. Utility Shifting
5. Pile Foundation
6. Pile Cap
7. Pier
8. Pier Cap
9. Bearings
10. Girders (Box Girder, I Girder and Steel Girder)
11. Deck Slab
12. Parapet
13. Track/ Rail

14. Third Rail
15. Signalling
16. Telecom
17. AFC

Station Features

The station design takes weather, lighting and ventilation in consideration. The stations have 3 Levels, namely, street/road level below, concourse level above the road level and platform level to the top.

Concourse Level

Paid and unpaid area are separated at the station concourse.
Passengers buy tickets from unpaid area and enter the paid area, from where they can go to platform and board the train. Ticket office, system rooms, stations control room, toilets are constructed on the concourse level.

Facilities like Emergency Telephone, Public address System (PAS), Passengers Information Display System (PIDS) etc. are provided for the safety of passengers.

Facility for Differently Abled

There is special ramp and wheelchair facility for the differently abled. Apart from that, tactile flooring, low height ticket counter, braille call button and handrail in lift and restroom facilities have been provided as per National Building Code (NBC) guidelines.

3.3 Major Construction Work

The Metro Stations has been designed and constructed with state of the art, precast pre-stressed superstructure supported on a single row of pier on the road median which not only reduces the road occupancy during construction but also improves the speed & quality of construction.

The viaduct also has been designed and constructed with special techniques using precast pier arms and precast U-Girders to ensure least road occupancy & better quality & speed.

3.3.1 Major Structure:

- **Extra Dose Bridge:**

  The 303m-long cable-stay extra-dosed bridge over Narmada Canal connecting Ahmedabad to Gandhinagar with a central span of 145 m, is an engineering feat, being the longest extra-dosed cable-stay bridge on metro in India.

- **Sabarmati Bridge**

  This 960 m long bridge across the Sabarmati river (23 spans, 41.8 m) built using latest auto launching technique, links Gandhinagar and Ahmedabad to GIFT City.

- **Special Spans**

  At Tapovan Circle & Koba Circle,

  The use of 4 nos. of 46-meter steel composite girder spans at Tapovan Circle and Koba Circle has significantly improved construction efficiency and minimized disruption to traffic, in the following ways:

  - Reduced construction time: Parallel working helped accelerate the project timeline.
  - Minimal traffic disruption: The road remained open without the need for closure or diversion, maintaining smooth traffic flow.
  - Improved visibility: The clear line of sight at these key traffic rotaries enhanced vehicle safety and navigation.

  At the CH-0 circle,
  Two 47-meter steel composite girders were employed to minimize disruption for National Highway road users. The installation was carried out concurrently to reduce interference with traffic. These composite girders were selected due to their ability to cover long spans efficiently, allowing for quicker erection compared to traditional span methods.

3.4 Environmental Aspect

- Special emphasis is given to making it an environment-friendly & green corridor by providing horticulture work below the viaduct & station, Rainwater harvesting in stations wherever feasible, Natural light and air circulation in the station concourse & platform, etc.

3.5 Artwork at Stations

Artworks have been displayed at stations to showcase Gujarat's rich cultural heritage and social & environmental features.

3.6 Different Parts of System

- Automatic Fare Collection
- Train (Rolling Stock)
- Signalling
- Telecommunication
- Traction Power Supply
- Lifts
- Escalators
- Fire Fighting
- HVAC (Heat, Ventilation and Air Conditioning)
- E&M (Electrical & Mechanical)
- 180 kVA DG Sets
- 2x20 kVA UPS Battery

3.7 Traction Power Supply System

Electricity is the main source of energy for running the metro system.

Ahmedabad Phase- II receives electrical power at 132 kV level from the corresponding GSS (Grid Sub-station) of the power supply authority to RSS (Receiving Sub-stations). The 132 KV power supply at RSS is stepped down to 33 KV using oil cooled power transformers and then distributed through 33 KV cables through viaduct/tunnels to auxiliary and traction sub-stations, which are 750 V DC traction supply and 415V AC for auxiliary services.

The 750 V DC system uses a third rail system to power the train. The third rail is in 15m lengths, joined together by special splice joints.
DG sets and UPS Battery are arranged at each station.

3.8 Fare collection System

- Automatic Entry/Exit Gate
- Ticket Office Machine (TOM)
- Ticket Vending Machine (TVM)

- Recharge Card Machine (RCM)

3.9 Fare Details

Distance Range	Fare (Rs.)
0-2.5	5
2.5-7.5	10
7.5-12.5	15
12.5-17.5	20
17.5-22.5	25
22.5 – 30	30
30 - 37.5	35
Above 37.5	40

3.10 Other Facilities provided for passengers inside the train

- Passengers Emergency Alarms - 12 Nos
- Passenger Information System - 18 Nos
- Dynamic Route Map Display - 6 Nos
- Destination Indicators - 8 Nos
- Digital Route Map – 12 Nos
- Outside Speakers – 12 Nos
- Special Allocated Space for Differently-abled
- CCTV Camera – 20 Nos