







IMPORTANCE OF RESILIENCE IN MASS TRANSIT PROJECTS



A CASE STUDY BY HYDERABAD METRO RAIL PROJECT

Details of Presenter
Mr. KVB Reddy,
MD & CEO, LTMRHL

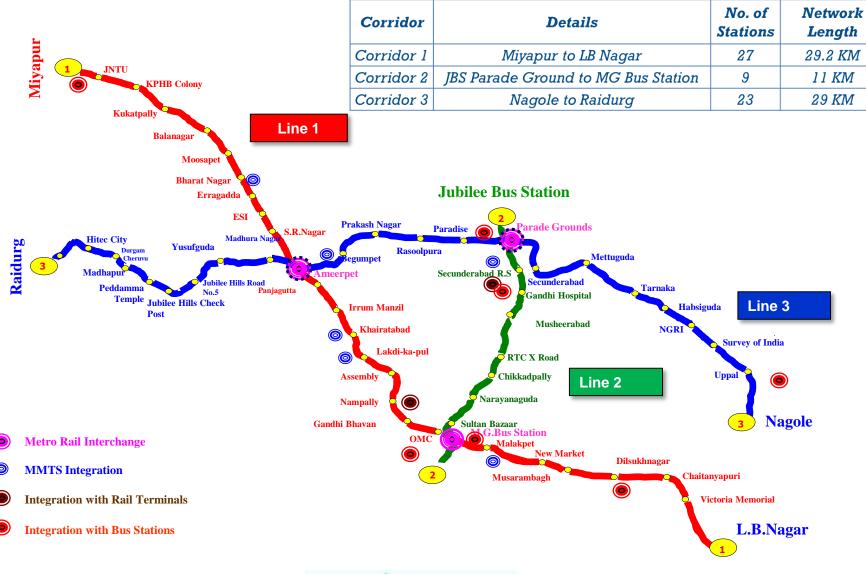


Project Brief & Salient Features of Hyderabad Metro

- ❖ Largest Metro Project in the World on PPP Format
- ❖ Design, Build, Finance, Operate & Transfer Model
- ❖ 100% shareholding by L&T Limited
- Scope of Govt.- Land, RoW, Utilities
- Cutting-Edge Solutions Construction & Technology
 - Pre-cast construction to suit urban fabric of Hyderabad city
 - Station on single pier Spine & Wing concept
 - Communication Based Train Control (CBTC) Technology
 - ➤ Light weight Modern Rolling Stock with regeneration features
 - > Designed for 90 sec. train frequency and 6 car train
 - Ballast-less track with Head Hardened Rails
 - Contactless RFID /QR based ticketing system
 - IoT based Asset Management System



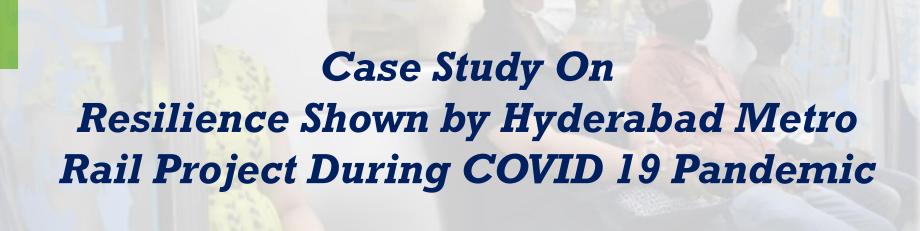
Hyderabad Metro Network





Resilience Features of Hyderabad Metro Rail

- Hyderabad Metro Rail is fully prepared for all kind of emergencies, e.g., Major fire, Train Accident, Terrorist Attacks, Unmanageable Crowd, Pandemic, Natural Calamities, Widespread Violence & Public Disturbance;
- * A Disaster Management Plan & SOPs are in place to tackle the emergencies;
- Regular & Surprise mock drills are being conducted frequently;
- * We have identified these emergencies as major risks, and accordingly we are monitoring/accessing the risk on regular basis;
- A Disaster Management Special Task Force is in place.



Preparedness during COVID Lockdown

- Regular asset maintenance as per schedule;
- Train test runs on regular basis;
- * Frequent trainings conducted for employees & frontline staffs;
- Safety & Security mock drills conducted;
- Worked on communication campaign for passengers;
- Studied Global Metros for post lockdown operations.



Restarting Metro Post COVID Lockdown

❖ System was kept live, we needed only 24 hrs – 48 hrs for start-up;

Enhanced the communication campaign for passengers;

* Worked on cleaning & sanitization process of Metro systems;

* All Govt. issued SoPs & Plans reviewed and implemented;

Mitigated all the risks for restarting the Metro system safely.

Risk Management





Risk Management

Misk Wallagelliell
Major O&M Risks identified were the safety of Health of Employees & Passengers – Fear of COVID19 spread
Situation was analysed and following measures/actions were taken for both: □ Thermal Screening at entry points for all
□ Masks & Social distancing were made mandatory
□ Staggered roaster planned & implemented for employees
 Contingency plan was made ready in case of wide spread of COVID19 amongst employees
□ Frequently educated employees & conducted webinars on COVID19 behaviours
□ All frontline employees were vaccinated on war footing basis as soon as the vaccination was released
All employee's vaccination records were monitored until we achieved 100% double dose vaccination.
□ Short loop operations for managing the crowd
Availability of Ambulance & medical assistance in case of emergency
☐ All the touch points inside the trains were cleaned & sanitized after completing each trip
All station touch points were cleaned & sanitized regularly.
□ Signages were provided around the stations for educating passengers related to COVID19 behaviors. 16 Covided around the stations for educating passengers related to Coviden Mobility India Inference & Expo 2023

Impact of COVID19





COVID Impact

- * The project & financial viability were badly affected.
- * All timelines were shifted due to nationwide lockdown.
- Global supply chain disruptions. Concern on timely available of critical spares.
- Stressed Fare Box Revenue.
- * COVID19 restrictions on operations e.g., limited no. of occupants allowed in train, crowd management at stations.
- * Post COVID underutilization of Railway System assets.
- Loss widened due to prolonged metro closure & post opening less ridership



Post COVID Lockdown Passenger Expectations



Staff wearing PPE



C&S – Stations & Trains



Able to perceive good social distancing



Contactless Ticketing
Options



Less Human Contact



Frequent Train
Service



Handling Emergency Services & Good Customer Experience



Last Mile Connectivity



Post COVID - Steps taken by LTMRHL to meet passenger's Expectation



Staff wearing PPE For handling emergencies



Ensured Less Human Contact



Regular C&S -**Stations & Trains**

Shorts loops were

operated for Frequent



Followed Social Distancing norms





Worked on Passenger Communication





Provided Contactless Ticketing e.g. QR **Ticketing**



Last Mile Connectivity provided to pax.



Special Initiatives Taken by Hyderabad Metro

- ❖ Formed a COVID Task Force (CTF) to monitor the COVID related cases;
- * Oxygen Cylinders & Generators were made available in the depots & major Metro Stations;
- Oxygen Generators were imported from Turkey;
- INR. 5 Cr. Worth of Masks were distributed through Government Health
 Agencies under the CSR activities;
- Tied up all the major hospitals for any emergency due to COVID.

Special Initiatives Taken by Hyderabad Metro – Record Your Travel

Unique Initiative - Record Your Metro Travel In TSavaari App

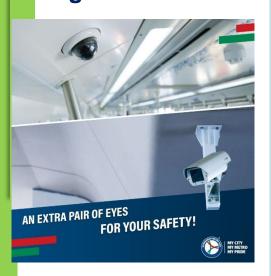






Special Initiatives Taken by Hyderabad Metro – Technology

cctv in stations & trains used as a surveillance tool for monitoring passenger movement and crowd management



Tsavaari app used by passengers as a tracking device for tracking next train & finding closest station (Journey Planner)



Ozone Based
Sanitization of Metro
Coaches for Passenger
Safety (An effective
tool)





Special Initiatives Taken by Hyderabad Metro – Appreciation to Passengers













We're keeping it clean to keep you moving.



Post COVID Lockdown Challenges

- * Creating a safe environment for Passengers & Employees.
- * Managing efficient metro operations with Govt. Guidelines & SOPs on COVID19 restrictions.
- No. of occupants inside the car restricted to max. 60 for Hyderabad Metro.
- * With increasing ridership trends, COVID19 restrictions on limited no. of occupant inside the car was difficult to maintain.
- * Maintaining the TRUST factor among passengers to use Metro frequently & bringing back the OLD passengers.
- * COVID19 restrictions on operations.
- New customer acquisition.



Challenge & Suggestion – Based on PPP Experience Challenges

- Non availability of CSR fund from Government.
- ❖ Major Challenge faced by LTMRHL being a private metro was the unavailability of support from the Government bodies, unlike all Govt. metros were supported during the emergency, as the entire P&L had taken a hit during the COVID19 pandemic.

Suggestion

* Govt. should create a separate fund such as "Reserve Funds" which is to be for use during emergency. All metros can utilize this Reserve Fund irrespective of being Government or Private run metros.





MY CITY MY METRO MY PRIDE

THANK YOU

