



MD's Corner



Dear Colleagues,

Best ever performance when conditions are the toughest and most challenging, is the hardest thing to achieve. But that is what has been precisely achieved by Maha Metro in Nagpur & Pune Metro Projects, in the month - March'21 and the year 2020-21 in terms of our physical & financial progress, despite the gravest challenges posed by COVID19 pandemic through the year. The following are the figures:

PROGRESS			PREVIOUS BEST		
Month	March '21	Rs. 685 Crores	Month	March '19	Rs. 669 Crores
Year	2020-21	Rs. 3303 Crores	Year	2018-19	Rs. 2894 Crores

The credit goes to dedication, discipline and delivery of each and every member of Team Maha Metro and the superb Team Work. No words can truly capture the exemplary bravery and sacrifice of all of you and your families in the trying circumstances in delivering the above performance.

I compliment and congratulate all of you and your families not only for this outstanding performance but coming out victorious in the fight with this pandemic.

A total of 819 of our team members were unfortunately affected by the pandemic, 418 of them have already overcome the challenge. However, 4 (Maha Metro-1, GC-1, Contractors-2) lost the battle despite best efforts. Our heartfelt condolences to their families. We are doing our best to share their grief.

We are extending all possible help and support, medical or otherwise to all members of Team Maha Metro. I am in constant touch with all field staff and officers continuously and request everyone to approach them or any of the Directors or myself immediately for any assistance required to fight this menace.

It is imperative, that we overcome this challenge as early as possible and rededicate ourselves to our tasks to achieve our goals and targets for completion of our projects to serve the nation.

Wish you and your families all the very best in every way.

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FOUR NEW STATIONS OPERATIONAL

Nagpur Metro opens Congress Nagar, Chhatrapati Nagar, Ujwal Nagar & Dharampeth College stations for Public

Four new Metro stations - three on Orange line and one on Aqua Line have started passenger services on 6th April 2021. With the opening of these 4 stations, all stations on the two lines are fully operational now. The four stations which have become operational are - Congress Nagar, Chhatrapati Nagar and Ujwal

Nagar on Reach-1 (Khapri to Sitabuldi Interchange section) of Orange Line and Dharampeth College on Reach-3 (Lokmanya Nagar to Sitabuldi Interchange section) of Aqua Line. **With this, the total number of stations catering to metro train commuters has gone up to 22.**

NEWLY OPENED NAGPUR METRO STATIONS FOR PUBLIC



• **Dharampeth College Metro Station** – Located on the Aqua Line, the station has been constructed on Aqua Theme. A number of educational institutes, industries, commercial establishments on Hingna Road will ensure a good ridership for this station. The station is constructed on an area of 5,427.03 sq. meter.

• **Congress Nagar Metro Station** – Built on an area of 8,100 sq. meter, located on Orange Line, this metro station connects commuters to Ajni Railway Station. Thus, passengers wanting to travel out of the city by train can de-board at Congress Nagar Metro Station. Similarly, those de-boarding at Ajni Railway Station can catch a metro train to reach their destination.



• **Chhatrapati Square Metro Station** – Located at Chhatrapati Square, this station is built on an area of 12,568 sq. meters. A bus stand adjacent to this metro station serves as a pick-up and drop point for commuters travelling out of Nagpur by road. This station caters to large residential areas like Chhatrapati Nagar, Narendra Nagar, Sneh Nagar and so on.

• **Ujwal Nagar Metro Station** – This metro station has been constructed on a piece of land measuring 8800 sq. meters. The station caters to the newly developed area of the city like Manish Nagar, Besa, Beltarodi. A huge chunk of the residents of these localities are employed in MIHAN and thus this station serves as an ideal location for travelling to or from MIHAN.



Arrival and departure facility has been provided from both the Northern and Southern sides of all the four metro stations. Metro trains services are now operational at these stations as per the scheduled timings between 8:00 am and 8:00 pm.

OVERCOMING CHALLENGES



Maha Metro uses Pandemic Period to its Advantage – Ten new stations started during Corona period

COVID-19 has played havoc across the whole world. It affected almost every sector adversely. But even as Novel Corona Virus continues to take a heavy toll, Maha Metro has used this period for the best of its advantage. Maha Metro constructed as many as 10 stations during the pandemic period and the resulting lockdown.

The construction of ten stations which was fully executed in this period includes five each on Aqua and Orange Lines. The Metro Stations on Aqua Line between Sitabuldi Interchange and Lokmanya Nagar include Shankar Nagar, Rachana Ring Road, Bansi Nagar, LAD Square and Dharampeth College. The Metro Stations on Orange Line between Sitabuldi Interchange and Khapri include Rahate Colony, Ajni Square, Congress Nagar, Chhatrapati Square and Ujwal Nagar. Thus, even during the lockdown period, Maha Metro maintained its pace of work and used this period to its maximum advantage and completed 10 metro stations.

The train services were suspended for a period of almost seven months during the last year due to the pandemic. However, after getting due permission, Maha Metro started construction work on these stations. Though it was easier said than done, the Metro officials, under the leadership of Dr. Brijesh Dixt stuck to their task and achieved this feat.

During the lockdown last year, a good number of workers had rushed to their native places. Given the pandemic condition it was not easy to get these workers back. Officials had to go to the native places of these workers and convince them to get back to work. Transportation had to be arranged for these workers to transport them back to Nagpur.



10-Stations opened during Pandemic

Those who chose to stay in Nagpur and those who returned back – all of them were properly taken care of. Lunch and dinner was always provided to the workforce; however this became all the more essential during the complete lockdown period. Regular checks were held and the needy were provided with medication.

The workforce was thus properly taken care of, which ensured results for Maha Metro. For full one year Maha Metro officials and in association of its workforce worked hard, at times overtime, to complete not just 10 stations, but also the multi-layer transportation system on Wardha Road. It was formally inaugurated on November 13, 2020.

Thus, the pandemic and the resulting lockdown didn't prove to be deterrent for Maha Metro. Instead the organization easily overcame all odds to script a success story.

Balanced Cantilever Bridge over Railway tracks – Another Structural Innovation by Maha-Metro



Maha-Metro, since Inception, has been setting up various benchmarks among the Metro Projects. The construction of Balanced Cantilever Bridge in Reach-4 section of East West corridor of Nagpur Metro Rail Project is going to be another remarkable achievement and a key feature in the construction of Nagpur Metro Rail Project.

The crossing of Metro Viaduct over the Indian Railway tracks was always a challenging task for Maha-Metro, considering the fact that Nagpur Junction is one of the busiest route on Central Railway. However, with due preparedness and commitment towards commissioning of Project in stipulated time-frame, Maha Metro, arrived with the optimum solution for crossing Metro Viaduct over the Indian Railway Crossing near Anand Talkies, Sitabuldi.

After detailed discussions with Railway Authorities, Consultants, Experts and after carrying out site inspection and feasibility survey, construction of Balance Cantilever Bridge is found to be the optimal solution in terms of construction, safety as well as cost. Under the guidance of MD/Maha-Metro and DP/Maha-Metro, the Reach-4 team comprising of Sh. Arun Kumar, ED/R-4, Sh. Sugato Sinha Roy, Dy. CPM/R-4 & other team members, went ahead with the job after effective planning.

Balanced Cantilever Bridge is also popularly known as Cantilever Construction Bridge (CLC

Bridge). The basic principle behind this method is to attach the segment in an alternate manner at opposite ends of Cantilever supported by piers. The segments are cast by using the Form traveler.

CLC Bridge of 231.2m long span is a part of Reach-4 Viaduct section, presently under construction across Anand Talkies Railway crossing situated between Sitabuldi & Cotton Market. The construction works are being carried out only in the Traffic Block hours granted as per the approved plan by Central Railway when the Train Movement is restricted.

Usually, the Traffic Block permitted by Railways is for maximum of 3 hours. The block is usually given during the night time when the schedule of Train movement is found to be lesser. Despite the fact that, Nagpur Junction is one of the busiest route in terms of Train movement, Maha Metro till date has been able to achieve 57% progress without causing any hindrance to the Railway traffic and by adhering to the safety guidelines.

The construction of CLC Bridge was started in May 2019 and is scheduled to be completed by October 2021 as per the planning and well within the time limit. The completion of CLC Bridge will be crucial in view of the commissioning of the Reach-4 section. Importantly, it will also be playing a key role in joining people from Old Nagpur to rest of the City.

Sunken Pit – Maintenance Depot on Viaduct

Over the years, Maha-Metro has overcome several challenges and in some instances Maha-Metro even went beyond and turned those adversities into opportunities for creating Innovations. One such challenge encountered by Pune Metro Team was to make arrangements for commissioning of Priority Section of Reach-1 even before completion of Range Hill Depot. It was this challenge which led to the conceptualization of creation of a Maintenance Depot on the Viaduct itself.

Maha-Metro has therefore constructed a Sunken Pit at PCMC end of Viaduct for carrying out all essential Maintenance activities. The facilities planned as a part of this arrangement are:

- Sunken pit of 32 meter for inspection, repair etc. of underframe equipment
- Tensile fabric roof which can cover full Rolling Stock
- Porta Cabin of size 15m x 3.5m for Maintenance staff's office and also as a Store facility
- Battery tractor (Shunter) for shunting the train in maintenance pit line area
- Four Mobile jacks for lifting one car of train
- Jib crane/Mobile crane for removal / installation of roof equipment
- Re-railing equipment for re-railing of the train
- Rail trolley for material movement
- Ladder for roof inspection
- Wheel Profile gauge for measurement of Wheel profile
- Mobile Lifting Table & Forklift for Removal & Installation of Underframe equipment
- Mobile Compressor for supply of Pressurised Air

Apart from the above-mentioned facilities &/or machines, a Spare Bogie will also be available at the viaduct. This spare Bogie will be used for replacement of defective

Bogie/Bogie equipment and the defective equipment will be transported to Vanaz Depot for further attention.

As of now, all the construction and MEP works related to Sunken Pit have been completed expect the installation of Tensile Fabric roof which will also be completed soon. The office for the maintenance staff and the store facility are also ready. All the major machineries like Shunter, Mobile jack, Re-railing equipment, Fork Lift, Spare Bogie etc. are available at the Sunken Pit. It is being expected that all the works related to Sunken Pit will finish by May 2021.



SUNKEN PIT



OFFICE & STORE FACILITY



BATTERY SHUNTER



MOBILE LIFTING JACK



FORK LIFT



SPARE BOGIE

PUNE METRO MMI UPDATE

Pune Metro gearing up for Commercial Operations with efficient Multi-modal Integration facilities

Pune Metro has embarked upon the mission of providing Seamless Green multi-modal integrated city transport solution to the citizens of Pune. Pune Metro has planned for facilities like dedicated infrastructure for pedestrians and cyclist with safe pathways, Footpaths & Cycle Tracks. Pune Metro has also planned for dedicated Bus-bays for Feeder Buses, Pick-up/Drop-off bays for auto-rickshaws, e-bikes, e-rickshaws, cabs, taxis and other private vehicles at the Street Levels closest to the entry-exit points of all stations for a seamless movement of the commuters. The said infrastructure is ready at Sant Tukaram Nagar station.

Pune Metro has plans for creating an efficient space for parking of the feeder vehicles along with the best of spaces for other private vehicles in the vicinity of selected Metro Stations. Pune Metro is also exploring to invite the 'best in class' service providers for installation, operations and maintenance of Electric Vehicle charging stations and Battery Swapping stations at the street levels.

Pune Metro is also signing up MoUs with various Feeder Service providers for the First & Last Mile Connectivity. MoUs have already been signed with 6 of them who shall provide the services with E-Bikes, E-Scooters, E-Auto and Feeder Buses and are in the process of having another dozen of such service providers on-board to provide similar services including e-Rickshaws & Car-Pooling.

Pune Metro is also working with PMPML for ensuring efficient First and Last Mile connectivity through PMPML's Feeder Buses. For the same, multiple Feeder routes have been identified for 30 Metro stations having an average route length of 6.9 Km. The Feeder routes have been designed in such a way that they connect all the major Residential,



Commercial, Educational Centers, IT Hubs, Industrial Zones and other landmarks & activity centers. Pune Metro is also working on an Integrated Seamless Smart Ticketing system with PMPML.

Pune Metro also have various smart initiatives in pipeline such as creation of an integrated Mobile App, integration with Airport & Railway stations, integration with inter-city & intra-state bus services, integration with Cool Cabs, Ola, Uber etc.

This efficient First & Last mile connectivity solution will change the very way local commutations happen in Pune. Commuters will experience seamless door-to-door "Green Mobility" and shall surely contribute to reducing the carbon footprint and make the city of Pune much Greener. Pune Metro is working on the best of Integrated Multimodal facilities to be the most preferred mode of city commutations and to enhance its ridership apart from increasing the Fare-Box Revenues as well as Non Fare-Box Revenues through Smart Innovative initiatives.

TUNNELING WORKS UPDATE

Pune Metro finishes Tunneling work under Mutha River in 3 weeks



Pune Metro is carrying out Tunneling works in its 6 Km long underground stretch between Range Hill and Swargate. The stretch consists of 5 Underground stations – Shivaji Nagar, Civil Court, Budhwar Peth, Mandai and Swargate. The tunneling work between Agriculture College (near Range Hill) and Civil Court is complete. The tunneling is currently under progress between Civil Court to Budhwarpeth stretch and between Mandai to Swargate stretch.

The tunneling work between the Civil Court to Budhwarpeth section also involves passing of tunnel under the Mutha river. The tunneling work under the river started in the beginning of April 2021 and was completed within a short span of 3 weeks. Prior to the tunneling work, soil investigation was carried out to study the engineering properties of the geology medium and to identify the difficulties that may arise during construction due to ground and other local condition. Maha Metro has mostly found uniform basalt rock in the underground stretch from Agriculture College ground to Swargate and the presence of rock was found even under the river. The presence of basalt rock indicated that no major hurdle will be faced during the tunneling work.

The total width of the river bed is 90 metres and out of that water is flowing along a 30-35 metre stretch. The remaining part of river bed is dry. The rail level is going upto 28 metres below the surface of the Mutha river, making it the lowest point on the complete Pune Metro route. The top of the tunnel will be 6 metres below the lowest point of the river. After that there is a 7 metres ridge of the tunnel.

Two Tunnel Boring Machines are being used to excavate 2 parallel tunnels, one for Up line and another for Down line. After crossing the river, the TBMs will now proceed towards Budhwarpeth/Kasbapeth Metro station site. The Metro lines are crossing the rivers in Pune at 4 locations. Of these 4 locations, the Civil Court – Budhwarpeth stretch is the only stretch where the tracks would be below the river. At the remaining 3 locations – Harris Bridge, RTO & Bund Garden – the Metro lines will cross the river on a viaduct.

After completion of tunnel, Pune have become the fourth city after Kolkata, Chennai and Mumbai where an underground Metro line crosses a river.

METRO PROJECT PROGRESS

NAGPUR METRO

SR. NO.	CORRIDOR	LENGTH	PROGRESS
1	Reach 1 (Khapri to Sitabuldi)	13.7 KM	100%
2	Reach 3 (Lokmanya Nagar to Sitabuldi)	11.0 KM	100%
3	Reach 4 (Prajaapati Sq to Sitabuldi)	8.32 KM	85%
4	Reach 2 (Automotive Sq to Sitabuldi)	7.21 KM	80%

PUNE METRO

SR. NO.	CORRIDOR	LENGTH	PROGRESS
1	Reach 1 (PCMC to Phugewadi (E))	7.0 KM	85%
2	Reach 1 (Phugewadi to Range Hills (E))	4.45 KM	54%
3	Reach 2 (Vanaz to Garware (E))	5.0 KM	80%
4	Reach 2 (Garware to Civil Court(E))	2.38 KM	50%
5	Reach 3 (Civil Court to Yerwada (E))	4.16 KM	68%
6	Reach 3 (Yerwada to Ramwadi(E))	4.21 KM	44%
7	Reach 4 (Range Hills to Civil Court (UG))	2.46 KM	48%
8	Reach 4 (Civil Court to Swargate (UG)) Corridor	3.62 KM	24%

METRO : NEW JOINEES

NAGPUR METRO



PRAKASH SALVE
AGM (STORES)
He is currently serving on deputation with Indian Railways.



KARTIK SUBHEDAR
MANAGER (SAFETY)
He was previously working with Systra (Maha Metro Consultant).



DHARMARAJ NAKOD
FIRE OFFICER
He is a retired Nagpur Municipal Corporation officer.



RAHUL JIDDEWAR
ASST. MANAGER (ROLLING STOCK)
He was previously working with a private firm.



VEER BHADRA MISHRA
SENIOR SECTION ENGINEER (O&M)
He was previously working with a private firm.

PUNE METRO



ABHILASH RATNAPARKHI
MANAGER (TRACK)
He was previously working with L&T.



ARWAZ KHAN
SR. SECTION ENGINEER (SIGNAL)
He was previously working with West Central Railways.



NITIN ATKAR
SR. SECTION ENGINEER (CIVIL)
He was previously working with General Consultant / EGIS India Consulting.



SHEKHAR MANJHI
SR. SECTION ENGINEER (SIGNAL)
He was previously working with Western Railway.



NIPUN GAJBHIYE
SR. SECTION ENGINEER (CIVIL/TRACK)
He was previously working with NBCC (India) Ltd.



MAHESHA N.P
SR. TECHNICIAN (SIGNAL)
He was previously working with DMRC.



SUMIT KUMAR
SR. STATION CONTROLLER / TRAIN OPERATOR
He was previously working with Kochi Metro Rail Corporation Ltd.



KRISHNA KUMAR SINGH
SR. STATION CONTROLLER / TRAIN OPERATOR
He was previously working with Kochi Metro Rail Corporation Ltd.



GAJANAN GAVAGE
SR. STATION CONTROLLER / TRAIN OPERATOR
He was previously working with Bangalore Metro Rail Corporation Ltd.



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He was previously working with Kochi Metro Rail Corporation Ltd.



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He was previously working with Bangalore Metro Rail Corporation Ltd.



RAVI BIRADAR
SR. ST. CONTROLLER TRAIN OPERATOR
He was previously working with Bangalore Metro Rail Corporation Ltd.



VARSHA C
SECTION ENGINEER (SIGNAL)
He was previously working with Kochi Metro Rail Corporation Ltd.



ANIKET NAIK
SECTION ENGINEER (TRACTION)
He was previously working with Kochi Metro Rail Corporation Ltd.



ANKIT MISHRA
OCC CONTROLLER
He was previously working with DMRC.



MUKESH KUMAR SINGH
OCC CONTROLLER
He was previously working with DMRC.



BHIMASHANKAR BIDAWE
JUNIOR ENGINEER (TELECOM)
He was previously working with DMRC.

Social Media Engagement

Citizens Love Maha Metro!

Social media engagement of Pune & Nagpur Metro far exceeds its other counterparts in the country. Pure testimony of 'Maazi Metro'



NAGPUR METRO

Average acquisition of FB followers per month **10,249**



6,28,778
LIKES



13,300
FOLLOWERS



1,531,840
VIEWS



14,800
FOLLOWERS



PUNE METRO

Average acquisition of FB followers per month **8,900**



5,98,484
LIKES



13,300
FOLLOWERS



1,828,419
VIEWS



24,100
FOLLOWERS