

# ACE UPDATE

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## DEVELOPMENTS FUELLING URBAN TRANSPORTATION



Developments fuelling urban transportation

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increased at a phenomenal rate during the last two decades, added CMRL.

### Efficient urban mass transport system

"Urban transport problems, like congestion and pollution seem to be similar everywhere. A critical examination of such issues is undertaken to propose metro rail as a suitable transport solution and due to high population densities, transport users favour metro rail construction," says Niraj Bhatia, Head – Strategy, Contracts and Procurement, Viiking Buildinfra Pvt Ltd.

According to MMRDA, cost, benefit and time of completion are the key considerations for proposing metro rail as a suitable solution.

### Technological fuel

#### Innovation

Innovation has always been at the heart of Delhi Metro Rail Corporation (DMRC) in planning and construction. The trains used by Delhi Metro in its phase - III expansion are equipped with unattended train operation mode, which enables the possibility of operations of trains without drivers. With this, Delhi metro has joined the pool of highly technologically advanced metro systems in the world. DMRC introduced the highly sophisticated 'Communication Based Train Control (CBTC)' system which enables headway improvement to about 90 seconds. Other effective innovations include the installation of automatic screen doors on platforms which help maintain better crowd management, says Dayal.

#### Phase-1 and Phase-2

In Chennai metro rail, phase-1 project, advanced signalling systems, trains with automatic train operation or supervision, ticketing through automatic fare collection using modern technologies, Gas insulated substation, advanced tunnelling mechanisms through TBMs, advanced safety mechanisms such as installation of tunnel ventilation system, VAC, platform screen doors, etc are provided, according to CMRL.

In phase-2, CMRL proposes to have driverless train (unattended train operation), CBTC signalling system for shorter headways and various other improvised advancements are planned, adds CMRL.

Technology has made life easier for passengers right from buying travel tickets through various platforms which are conventional or kiosk based to online app based, getting real time information on the arrivals, departures, delays, cancellations increases productivity and also train based broadband services are considered to have high potential for profits, according to Bhatia.

According to MMRDA, cost reduction in rolling stock and CBTC equipment, has upgraded the metro and railway industry.

### Existing and emerging trends in railways and metros

Metro rail network in the country is emerging as one of the best solutions for urban transportation. With the mass rapid transit system, corresponding measures and strategies can serve as a valuable reference for further development in our country, says Ar. SK Goel, Conarch Architects.



*An eco-friendly and comfortable mode of transport can carry a huge number of commuters from one point to another quickly.*

► Anuj Dayal, Executive Director, Corporate Communications, DMRC



*Notable planning is devoted to building state-of-the-art stations with modern amenities and facilities.*

► Vijay Kalantri, Chairman and Managing Director, Balaji Infra Projects Ltd



*Technology has made life easier for passenger's right from buying travel tickets to online app-based services.*

► Niraj Bhatia, Head – Strategy, Contracts and Procurement, Viiking Buildinfra Pvt Ltd



*Mass rapid transit system, corresponding measures and strategies can make way for further development.*

► Ar. SK Goel, Conarch Architects



*Public space planning has evolved and railway or metro stations are now being taken up as human-sensitive projects.*

► Ar. Prem Nath, Prem Nath and Associates

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*LED lighting move not only reduces over 10 per cent of the total energy consumed for its non-traction uses, but also saves over 240 million units of electricity.*

► *Roopesh Gupta, MD & CEO, P3 Architectural Solutions*



*Aesthetics in lighting at metros and railways can be done simply with good looking or well designed light fixtures.*

► *Ar. S.K. Goel, Conarch Architects*



*Good lighting can not only ensure how people behave but can also help make the area safe and secured – and that is the need of the hour.*

► *Ar. Prem Nath, Prem Nath And Associates*



*Designing lighting for public transport system carries lot of weight. Human comfort, aesthetics, functionality, branding and safety needs to be in consideration.*

► *Niraj Mehta, Principal Designer, NMD Interiors*



*Lighting at metro stations and railways can be made more aesthetically appealing by combining the use of natural as well as artificial lighting.*

► *Architect Surinder Bahga, Saakaar Foundation*



*Sustainability is a straight forward baseline to any good design solution.*

► *Ar. Kapil Desai, RK Associates*



*LEDs with proper illumination levels needs to be selected to reduce energy and maintenance requirements which in turn reduce the lifecycle costs.*

► *Ar. S.P. Anchuri, Chief Consultant, Anchuri & Anchuri*

safety needs to be in consideration, says Niraj Mehta, Principal Designer, NMD Interiors.

Main focus of the lighting is to create shadow less environment in the cabin as well as it makes compartment fresh and cheerful. These days' people travel a lot, so they expect fresh and homely environment while they travel, adds Mehta. One has seen a lot of evolution in light fitting designs from large bulky fittings to sleeker, minimalistic yet highly efficient fittings and fixtures – introduction of LED strip lights as highlighters, inculcation of colour changing mood lights in special areas, etc., too have emerged during last few years; so to say the lighting industry is evolving faster and getting better, says Nath.

**Sustainability**


Sustainability is a straight forward baseline to any good design solution, says Ar. Kapil Desai, RK Associates. Living room lighting trends saw warm and cozy ambience against indirect lights that are sure to set the perfect mood of the space.

Over heal art décor lighting fixtures will draw the unique focal point to any room. At eye level the right bulb will give your conversation at warm, ambient, glow fit for the luxurious time period, adds Desai.


Many of the metro stations in India and abroad have made it a point of using energy-efficient lighting systems of which natural light is becoming a part of it. LED, fluorescent tubes, electronic control gear (Ecg), high-intensity discharge lamps, automotive lamps, etc are some of the examples of lights which are helpful in saving the energy. If the lighting load is reduced from 17 to 10 per cent by the use of energy efficient light sources and control systems, the country will save 7000 MW, informs Bahga.

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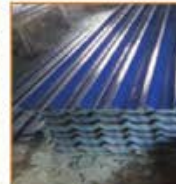
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