

Intermodal Hub at Koba Circle, Gujarat



**Ar. Gurpreet Shah, Principal Architect, Creative Group**

**U**rban congestion needs to be addressed by encouraging high quality and innovative energy-efficient public transport integrating it with other forms of paratransit, ensuring last mile connectivity; working on accessibility and service improvements.

The use of two or more modes of transport in an integrated manner, in a door-to-door transport chain, is intermodalism. It implies a coordinated, seamless, flexible and continuous flow where the objective is to develop a framework for an optimal integration of modes enabling efficient and cost-effective use of the transport system.

Intermodal transportation is used to take advantage of inherent economies and provide integrated services at a lower cost. Intermodality has become the need of the hour in this fast paced highly urbanized

## Intermodality & Last Mile Connectivity

### Creating Smart Walkable Spaces

world. Due to population numbers going through the roof, and subsequently the growing traffic, there is an increase in the imbalance in use of various modes of transport and infrastructure. From a socio-economic point of view, our society is showing signs of gross inefficiency and inadequacy when it comes to transport infrastructure.

Intermodal systems offer greater benefits in maximizing the potential of public transport systems, reducing energy consumption and emissions, lowering noise pollution, reducing traffic congestion, fixed departure schedules, and higher quality service standards. Intermodality infrastructure also includes measures to provide for stops or terminals that link multiple modes of transportation, park and ride facilities - for bicycles and private cars alike. Coherency between parking policies, public transport and other facilities encourage the use of alternative transport modes.

Last mile connectivity services enables commuters to easily plug in or transfer to

main line such as the railway or bus services at the start or at the end of their trips. They are significant because they complement rapid transit services by offering commuters the complete trip they require. Last mile connectivity is often synonymous with feeder services, but it implies much more than just that

- ease of availability of mode and options
- time and cost incurred in the last mile
- ease of changing between modes
- ease of walking/cycling to and from stops or stations. The provision of a pedestrian-friendly infrastructure on roads, leading to transit stops is of utmost importance, to enhance efficiency of rapid transportation schemes. By promoting the development of intermodal hubs and gateways, transport policies can be used to attract, manage or direct visitor flows to particular destinations, and facilitate change to eco-friendly transport options, which can help consolidate a destination's reputation as sustainable.

## Intermodal Hub at Chennai Airport



A view of the Metro station and the Airport behind

One such project is the Intermodal Hub at Chennai Airport, having the amalgamation of various transportation systems viz. Air Travel, National Highway, Suburban Railways and Metro Rail with the Metro Rail being the latest addition to this unique

Multi Modal Transportation Complex. The metro station at Chennai airport is the first-of-its-kind and has been planned right in front of the terminal buildings with its axis lying on the axis of the whole complex with the New Domestic & International

Terminals being layout at an equal distance from it, providing easy access to both of them. The building, subtle yet dynamic in form justifies its central location in the site without overpowering the Airport Terminals. The flow of the passengers from both the

Terminals is showcased by building's form consisting of two identical tubes ascending towards the central axis from both the sides and penetrating inside the biggest central tube. It ensures that both forms of mass transit are annealed to the urban context, accessible to all users, has undisrupted connectivity with other modes of transit with sufficient emphasis on the need of connectivity.



Chennai Airport



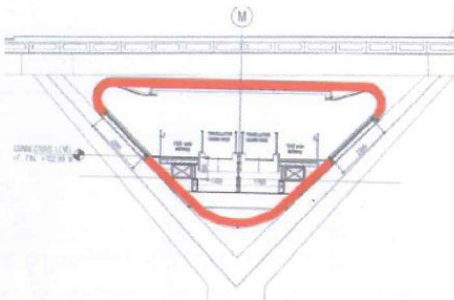
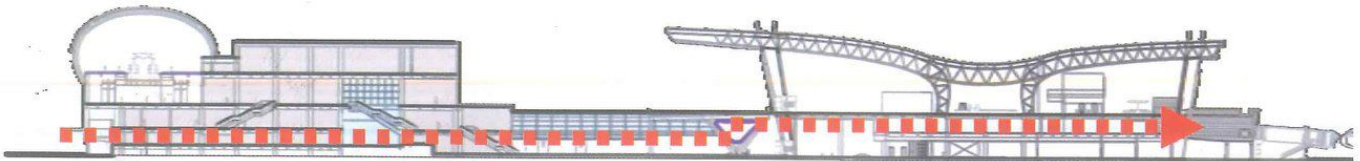
Entrance Canopy



*A built form should not be treated as a mass of brick and concrete, but as a living organism that breathes and is embodied with the organism*

**- Prof. (Ar.) Charanjit S Shah, Founding Principal, Creative Group**

## Proposed Intermodal Hub, Koba, Gujarat



Intermodal Hub at Koba, Gujarat, is another such project, a junction station, on the confluence of several important routes, establishing connectivity through the development of facilities such as pedestrian pathways, parking areas for four and two wheelers along with provision for other modes of paratransit. The multi modal transport hub was planned for Koba Circle Metro Station. The hub is accessible to all transport users and ensures proper integration and promotes economy by considering various transport parameters and traffic scenario. The station planning includes safe, efficient and smooth movement of passengers in and around

the proposed hubs across various modes of public transport, paratransit and private vehicle parking facility.

Due to its centrality, it was foreseen that that Koba Circle demanded attention at city-level master planning. By carefully planning and detailing each layer, Ar. Gurpreet S Shah has not only meticulously integrated each layer of city planning to the other but also at an environmental level, evolved a master plan which has its sustainability right in place. In today's society, there is an alarming growth in the use and number of private vehicles on the roads and foul the air choking the cities, it is high time that a holistic approach towards redefining

our cities is taken up; keeping in mind the planning, land use, public amenities and the infrastructure facilities particularly in terms of the transport network. The sole intention of this mass transit infrastructure project was to encourage people to come out of their cars and use other modes of public and paratransit by creating a smooth, accessible, approachable and walkable intermodal hub that offers comfort, relaxation and entertainment, thereby, making the user's experience an enjoyable one.

The Koba Circle sub city is also designed as a bicyclist-friendly city with bicyclist tracks running through the belt of commercial and residential development to the cultural and recreational hub and the Koba Circle metro terminal.

This makes the metro station accessible to the public through bicycles, with a separate parking zone for the cycles. The cyclist track passes through the underground subways at radial crossings to avoid any clash with the vehicular traffic. Principal Architect, Ar. Gurpreet Shah received the WA Award Cycle 17 in 2015 for this project.

## Intermodal Hub, Naya Raipur

This hub is the new rail link between Naya Raipur and Raipur with 5 Railway stations, with intermodality and Central Business District developing into District Centres along with last mile connectivity.

Creative Group, Delhi won the Global Design Competition and has wide vision to create Railway stations as mini District Centres and Intermodal Hubs so as to catapult various requirements of people for convenience, walkability, and sustainability.

The emphasis in this project was on creating simple and visually appealing stations modulated with steel framing. The project includes the design of 4 stations, the Naya Raipur station being the central hub providing effortless intra city and intercity connectivity bringing people from Raipur and Naya Raipur closer, whereas, the other 3 being suburban stations. Spread over an area of 40 acres, the Naya Raipur Station has



multiple platforms and similar thought process as the rest of the stations in terms of its design and structure.

To elevate the passenger experience, the design includes a public piazza at the centre of the west side development with informal shops, sitting spaces, green walkable streets and a water body to captivate the passenger as he moves along the station inculcating a sense of serenity and comfort by avoiding the harsh sun and letting the passenger interact with nature.



The spaces on the left and right side of the public piazza are dedicated to Central Business Districts and other mixed use developments using the elevated track mound. On the east side, recreational

nodes are designed in the form of green pockets which are open to the public to relax and interact, thus making the station complex a bilateral transit hub.

These projects bring to fore that how an amalgamation of simple yet intelligent ideas when articulated in a systematic order executed in a disciplined manner, can help achieve spaces that promote walkability and use of various modes of paratransit, without compromising on user experience.

## Intermodal Hub, Kashi



Designed at the confluence of metro, ropeway, railway, buses and vehicular movement, this hub is touted as a mini city on the Ghats of the Ganges, serving as a pylon for Kashi.

Changing the ideology of public transport experience, the master planning for this hub showcases the full potential of becoming a city-level paradigmatic centre by adding vibrancy to a typical station program by adding multiple layers of activity and upgrading station presence within the community. Land parcels along

the hub have been designed as various commercial, retail and hotel spaces. This attempts to make the hub an urban yet sustainable sub-city having all world-class amenities in and around it. The ongoing construction of the Varanasi terminal will have waterway, rail, metro, and road connectivity, and is set to emerge as a major logistics gateway connecting major parts of the region.

The hub has been designed with a view to preserve heritage, design buildings that are modern and inspired by the temple architecture it is surrounded by.

The design caters to bus depot, underground connection for jetty and depot station; cityside commercial developments including hotels overlooking the Ganges.



To conclude, the fast growing urbanization in most of our cities, it is essential to call for intermodality and last mile connectivity for convenience of public movement, so that the clash between the movement of vehicles and public be reduced to a minimum and creating healthy and green environment of the cities.

Creative Group is an internationally recognised Design Consultancy & Architecture Firm in Delhi, India. Established in 1970, the firm has since delivered award-winning architectural projects across Infrastructure, Aviation, Real Estate, Commercial, Institutional, Industrial and Corporate sectors.



L-R: Er. Prabhpreet S Shah (Executive Director), Prof. (Ar.) Charanjit S Shah (Founding Principal) and Ar. Gurpreet S Shah (Principal Architect).

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