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ANALYSIS**

TOPIC

**INTEGRATED AND SUSTAINABLE
MULTIMODAL TRANSPORT SYSTEMS
IN INDIAN CITIES**

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Context

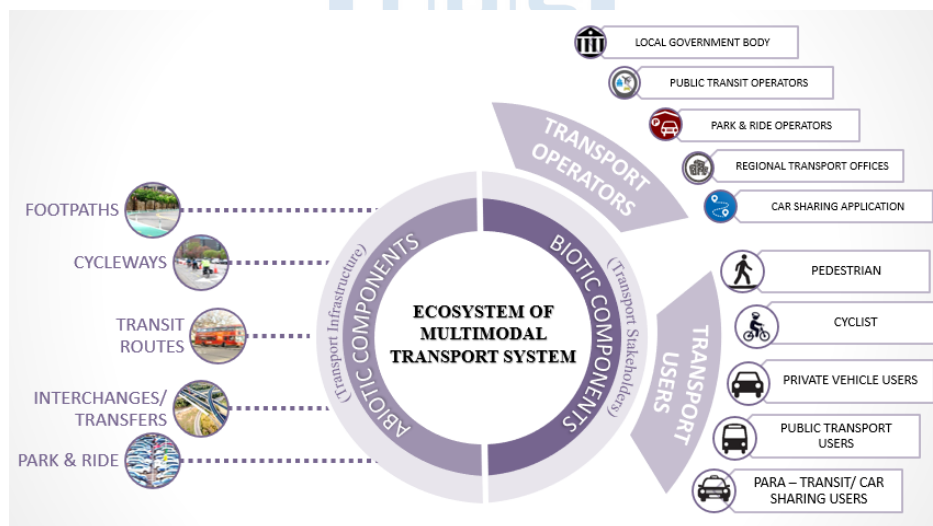
- There is a need for a holistic approach essential to overcoming the challenges associated with fragmented transport systems and building an integrated, user-centric, and sustainable multimodal transport system in Indian cities.

About the Multimodal Transport Systems

- In the rapidly urbanising landscape of India, the need for efficient and sustainable transport solutions has never been more critical.
- Multimodal transport refers to the **integration of various modes of transportation** — such as buses, trains, bicycles, and pedestrian pathways — into a cohesive network that **allows for seamless travel across different modes**.
- This approach not only enhances the efficiency of public transport but also promotes the use of sustainable modes of travel, reducing the dependency on private vehicles.

Key Components of Multimodal Transport Systems

- **Integrated Public Transport:** Seamless integration of buses, metros, and trains with unified ticketing systems and synchronised schedules.
- **Non-Motorized Transport (NMT):** Development of safe and accessible pedestrian pathways and cycling lanes to encourage walking and cycling.
- **Last-Mile Connectivity:** Solutions such as feeder buses, bike-sharing programs, and pedestrian-friendly infrastructure to bridge the gap between public transport stops and final destinations.
- **Smart Technology:** Use of real-time data, mobile apps, and digital payment systems to enhance the user experience and operational efficiency.



Current Scenario in India

- **Tier I and II cities have 33%** of their travel needs served by public transport, its share in **Tier III cities is only 4%**.
- Bus modal shares vary significantly, from as **low as 3% in Surat** to **43% in Bangalore**.
- According to **Urban Transport Policy Guidelines**, cities with populations of 1 million should have a public transit modal share of 40–45%, and those with populations of 5 million should have 75% of their mobility demand served by public transport.

Need/ Benefits of Multimodal Transport Systems

- **Reduced Traffic Congestion:** By providing efficient alternatives to private car usage, multimodal systems can significantly reduce traffic congestion in urban areas.
 - ♦ It leads to faster travel times and less stress for commuters.
 - ♦ It ensures safety, with fewer road accidents and the physical safety of women, children, and elderly people.
- **Environmental Sustainability:** Integrating eco-friendly modes of transport, such as electric buses and bicycles, helps reduce the carbon footprint of urban transportation.
 - ♦ Comfort, providing resilience against severe weather by shading, lighting, and sitting on sidewalks or bus stops and ensuring optimal functioning to reduce overcrowding;
 - ♦ Sustainability ensures that the environmental cost of one journey on the system in terms of carbon emissions and air pollution is less than that of the same trip taken in a private automobile.
 - ♦ It is crucial for combating air pollution and mitigating climate change.
- **Improved Accessibility:** Multimodal systems ensure that all parts of the city are accessible, including underserved areas.
 - ♦ It promotes social equity by providing reliable transport options for all residents, regardless of their socio-economic status.
 - ♦ Accessibility, with quick and easy movement between different modes of transport without encountering physical or systemic barriers and with fewer transfers;
- **Economic Efficiency:** Efficient transport systems can boost local economies by improving access to jobs, education, and other essential services.
 - ♦ These reduce the economic costs associated with traffic congestion and pollution.
 - ♦ Affordability, ensuring less monthly expenditure on transportation;

Challenges in Implementing Multimodal Transport Systems

- **Institutional Coordination:** The lack of coordination among various transport agencies and government bodies often leads to fragmented planning and execution. A unified vision and collaborative approach are essential for successful integration.
- **Financial Constraints:** Developing and maintaining multimodal transport infrastructure requires significant investment. Securing funding and ensuring financial sustainability are major hurdles.
- **Public Awareness and Acceptance:** Encouraging people to shift from private vehicles to public transport requires changing public perceptions and behaviours. Effective communication and awareness campaigns are necessary to highlight the benefits of multimodal systems.
- **Infrastructure Development:** Building the necessary infrastructure, such as dedicated bus lanes, cycling tracks, and pedestrian pathways, is a complex and time-consuming process. It requires careful planning and execution to ensure safety and efficiency.

Government Initiatives

- The Indian government has been proactive in promoting multimodal transport through various initiatives including the Smart Cities Mission, the Atal Mission for Rejuvenation and Urban Transformation (AMRUT), and the Green Urban Transport Scheme (GUTS), all aimed at promoting and enhancing public transport, among other objectives.
- The **PM Gati Shakti National Master Plan** aims to enhance multimodal connectivity by integrating infrastructure projects across different ministries. It is expected to streamline the movement of goods and people, thereby boosting economic growth and reducing travel time.
- The **National Urban Transport Policy (NUTP) in 2006**, the focus has shifted towards moving people rather than vehicles.

- For instance, **Hyderabad's Multi-Modal Transport System (MMTS)** has been a significant step towards integrating suburban rail services with other public transport modes.

Case Studies and Success Stories

- **Mumbai:** The expansion of the metro network and the development of **multi-modal transport hubs (MMTH)** are key strategies to improve urban mobility.
 - ♦ The proposed redesign of Chhatrapati Shivaji Maharaj Terminus into a multi-modal hub exemplifies how architectural innovation can support efficient urban transport.
- **Delhi:** The **Delhi Metro**, in conjunction with an extensive bus network and last-mile connectivity options like e-rickshaws, serves as a model for multimodal integration.
- **Ahmedabad:** The **Bus Rapid Transit System (BRTS)** in Ahmedabad has successfully integrated with other modes of transport, providing a reliable and efficient public transport option.

Conclusion and Way Forward

- Multimodal transport systems hold the key to transforming urban mobility in India. The need for integrated and sustainable multimodal transport systems in Indian cities is undeniable.
- By addressing the challenges of traffic congestion, environmental degradation, and inadequate public transport, these systems can pave the way for a more efficient, accessible, and eco-friendly urban future.
- Policymakers, urban planners, and citizens must collaborate to develop and implement these systems, ensuring that Indian cities remain vibrant and livable for generations to come.

Source: ORF



Mains Practice Question

[Q] How can Indian cities effectively address the growing challenges of urban mobility by implementing integrated and sustainable multimodal transport systems? Discuss the key strategies, potential benefits, and challenges associated with such initiatives.

