

A Critical Analysis of the Dismantling of BRTS Corridors in India

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ABSTRACT

Since the mid-2000s, Bus Rapid Transit Systems (BRTS) were championed as the panacea for India's urban mobility crisis. However, the last decade has witnessed a regressive trend: the physical dismantling of these corridors in major metropolitan hubs. This paper critically examines the planning failures, socio-political pressures, and flawed engineering designs that led to the decline of BRTS. Through a comparative analysis of failed corridors in Delhi and Indore, this research argues that dismantling BRTS is not a strategic solution to congestion but a surrender to car-centric urbanism that undermines the National Urban Transport Policy (NUTP) objectives of equity and sustainability.

1. INTRODUCTION

1.1 The Genesis of BRTS in India

The Bus Rapid Transit System (BRTS) was introduced under the Jawaharlal Nehru National Urban Renewal Mission (JNNURM) as a high-capacity, cost-effective alternative to expensive Rail-based Mass Rapid Transit Systems (MRTS). In a country where the majority of commuters are "captive riders" (those who have no choice but to use public transport), BRTS offered a promise of dignity, speed, and reliability. Unlike a standard bus service, BRTS was designed to emulate the "Metro" experience—utilizing dedicated lanes, off-board fare collection, and level boarding.

1.2 The Current Crisis: The Dismantling Trend

Despite initial successes, several Indian cities have begun the process of "de-corridorization." The 2016 dismantling of the Delhi BRT and the recent 2025-26 policy shifts in Indore signify a major retreat in sustainable planning. This trend is often justified by urban local bodies (ULBs) as a response to "extreme traffic congestion." However, from an urban planning perspective, this represents a fundamental misunderstanding of traffic evaporation and induced demand.

2. THEORETICAL FRAMEWORK & LITERATURE REVIEW

2.1 The Philosophy of "People over Vehicles"

The National Urban Transport Policy (NUTP) 2006 clearly states that urban planning should prioritize the movement of people rather than the movement of vehicles. A standard 12-meter bus occupying the space of three cars can carry 70–80 people, whereas those three cars typically carry fewer than five people. The theoretical justification for BRTS is rooted in **Space Efficiency**.

2.2 The Braess's Paradox and Induced Demand

In transport modeling, **Braess's Paradox** suggests that adding more road space for cars can actually slow down overall traffic. When a BRTS lane is dismantled to "give more space to cars," it triggers **Induced Demand**. The temporary reduction in travel time for cars encourages more people to switch from public transport to private vehicles, eventually filling the new space and returning the road to a state of gridlock, but now with a crippled public transport system.

3. CRITICAL PLANNING GAPS: WHY THE IMPLEMENTATION FAILED

3.1 The "Island" Planning Syndrome (Network Fragmentation)

One of the most significant technical failures in Indian BRTS planning is the lack of a comprehensive network. In Delhi, a 5.8 km stretch was built in a city with over 30,000 km of road network.

- **The Planning Flaw:** For a commuter, a 5 km "rapid" stretch is useless if the remaining 15 km of their journey is spent in unmanaged traffic.
- **Consequence:** Without a "Network Effect," the system fails to attract "choice riders" (car owners), leaving the system vulnerable to political attacks from the car-driving middle class.

3.2 Right-of-Way (ROW) Inconsistency

Urban planners often failed to account for the "accordion effect" of Indian streets.

- **The Bottleneck Problem:** A road might have a 60m ROW in one section, narrowing to 24m at a flyover or a historical junction.
- **The Failure:** Instead of maintaining the dedicated bus lane through these bottlenecks (which would force cars to wait, thereby incentivizing the bus), planners often "dissolved" the BRTS lane into mixed traffic. This nullified the time-saving advantage of the bus, as it got stuck in the same bottleneck as the cars.

4. DETAILED CASE STUDIES

4.1 The Delhi BRT: A Design Mismanagement

The Delhi corridor failed due to **Central Alignment** without safe access.

1. **Pedestrian Safety:** Planners placed the bus stations in the middle of the road but failed to provide signal-controlled crossings or frequent Foot Over Bridges (FOBs). This forced passengers to dodge high-speed car traffic to reach the bus.
2. **Signal Integration:** The system lacked **ITS (Intelligent Transport Systems)**. In a true BRTS, the signal turns green as the bus approaches. In Delhi, buses waited at signals for 4–5 minutes, leading to "bus bunching" and public ridicule.

4.2 The Indore iBus: The Conflict of Overlapping Modes

Indore's iBus was historically the most successful BRTS in India in terms of ridership per kilometer.

1. **The 2025 Shift:** The decision to dismantle parts of the corridor was driven by the construction of the Indore Metro.
2. **The Planning Error:** Instead of using the BRTS as a **feeder system** to the Metro, the Metro was planned directly on top of the BRTS corridor. This created "Transit Cannibalization," where two high-capacity systems competed for the same passengers on the same road, leading to the political argument that the BRTS lane was "redundant" and should be given back to cars.

5. THE SOCIO-ECONOMIC IMPACT OF DISMANTLING

5.1 Equity and the "Silent Majority"

Urban planning is a tool for social justice. BRTS users are often from lower-income brackets or the lower-middle class. When a corridor is dismantled, their commute time increases by 40–60%.

- **Economic Impact:** Increased commute time leads to lower productivity and higher household spending on transport.
- **The Gender Lens:** Women are statistically more likely to use public buses. Dismantling dedicated lanes makes the wait times unpredictable, affecting the safety and mobility of women in the city.

5.2 Environmental Regression

Removing a BRTS lane is a direct violation of India's **Nationally Determined Contributions (NDCs)** for climate change.

- **Emission Calculation:** A single bus in a dedicated lane operates at optimal fuel efficiency. In mixed traffic, the "stop-and-go" movement increases fuel consumption by 30% and significantly raises CO₂ and PM_{2.5} emissions at the street level.

6. TECHNICAL COMPARISON TABLE

Speed-Delay Study (iBus vs. Mixed Traffic)

The primary advantage of the BRTS is the segregation of lanes, which creates a significant "speed differential" between the iBus and private vehicles.

Mode / Section	Normal Speed (km/h)	Peak Hour Speed (km/h)	Delay Per KM (sec/km)
iBus (Dedicated Lane)	25 – 35	22 – 28	15 – 30
Mixed Traffic (AB Road)	20 – 25	10 – 15	120 – 180

Average Journey Time (11.5 km):

iBus: ~30–35 minutes (consistent).

Mixed Traffic: 50–70 minutes (highly variable).

Planning Feature	Ideal BRTS Requirement	Typical Indian "Dismantled" System
Lane Enforcement	Physical Barriers / Camera Fine	Open Lanes / Frequent Encroachment
Station Access	Level boarding & At-grade crossing	High-floor buses / Dangerous crossings
Signal Logic	Bus Priority (Transponders)	Fixed Timer (Same as cars)
Last Mile	Integrated Cycle/E-Rickshaw	No integration; walk in the sun/rain
Public Image	"Premium" Urban Mobility	"Service for those without cars"

7. RECOMMENDATIONS FOR THE FUTURE OF URBAN TRANSIT

7.1 The "Fix-It" Instead of "Delete-It" Policy

Before dismantling, ULBs should implement **Tactical Urbanism**. This includes using temporary plastic pylons to test signal changes and improving the frequency of buses to ensure the lane never "looks empty"—a common complaint from car drivers.

7.2 Unified Metropolitan Transport Authority (UMTA)

Every city must have a legally empowered UMTA to ensure that Metro and BRTS complement each other. The BRTS should act as the "Capillaries" to the Metro's "Arteries."

8. CONCLUSION

The dismantling of BRTS corridors in India is a cautionary tale of planning without political courage. It highlights a trend where the convenience of the car-owning elite is prioritized over the efficiency of mass transit. For urban planning students, the lesson is clear: **infrastructure alone is not a solution; it must be backed by strict enforcement, network connectivity, and a shift in the public narrative from "car-friendly" to "commuter-friendly."**

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