

**EE463 GLOBALIZATION AND INTERNATIONAL
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Evolution of Public Transportation in India since 2000s

Group 2

Editors

Jiratha	Machamnean	BE 6304640334
Panatchaporn	Panjawattanakul	BE 6304640888
Thanapun	Kaewboran	BE 6304641597
Thanawat	Rodnimit	BE 6304641605
Yanisa	Akaraphapada	BE 6304641886

FACULTY OF ECONOMICS THAMMASAT UNIVERSITY

Background

Public transportation in India has been a crucial component in providing accessible and affordable transportation to millions of people. The first public transportation system in India was established in Mumbai in 1874, with the introduction of horse-drawn trams. Over the years, public transportation has evolved and expanded, and today, it plays a vital role in the daily lives of millions of Indians. Public transportation in India includes various modes such as buses, trains, metros, trams, and other modes of transport and has a significant impact on the Indian economy and society. The motive was to increase mobility of people, goods and services, and improve standard of living. Among some of the crucial features of public transportation in India are (i) provides affordable mobility to elderly, disabled, and low-income families. It stimulates to promote social inclusion and reduce social inequality and accessible mode of transportation to millions of people who cannot afford private vehicles, (ii) reduces the number of private vehicles on the roads, leading to reduced traffic congestion, (iii) plays a vital role in reducing air pollution by providing an alternative to private vehicles, which are a major source of pollution, (iv) generates employment, which means creating new job opportunities in various sectors such as manufacturing, maintenance, and operation of public transport, and lastly, (v) improves mobility, especially for those who live in remote areas, by providing connectivity to various parts of the city or region.

Despite transporting 90% of passenger traffic and 65% of freight, India's roads are generally in poor condition. The Indian highway system is inadequate for the country's demands. Highways make up only 1.94 percent of India's total road network although carry an extraordinary 40 percent of all road traffic. This implies that not only do they suffer significant destruction, but transportation remains a significant economic barrier.

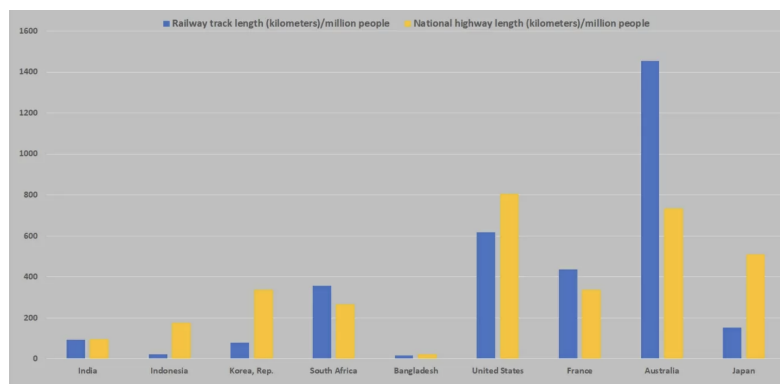


Fig.1 : Infrastructure length (kilometers)/ million people by country

Source: World Bank, Government agencies

India's urban population is exploding and placing an enormous strain on its cities;

consequently, approximately 10 million people migrate annually from rural to urban areas. Inadequate planning and optimization of intermodal freight in the transport infrastructure sector negatively impacts the competitiveness and productivity of the Indian economy.(Jagran J., 2015) Nonetheless, India's attempt to alleviate the issues by introduction of the National Urban Renewal Mission (NURM) has given the Central Government an opportunity at the right time to offer substantial financial support for developing urban transportation infrastructure. As a result, this presents a chance for a significant national strategy that would direct financial aid from the central government toward enhancing urban mobility.

This report which is categorized into four main parts seeks to analyze India's public transportation which is considered essential for urban development, equality, policy formulation, and financing. The first part of the report is the general background of India's public transportation with the issues and challenges. The second part discusses in detail the three main key issues in the inequality of transportation, an inadequate and outdated transportation system, and widening gap between increased demand for transportation and financing for public transportation and government's ability to supply adequate transportation services inequality and lack of access to adequate transportation services. The government policies aiming to address these challenges are discussed in the third part. The conclusion, which is the final part, provides a summary of the key findings and lessons learned from this report for a better understanding of public transportation in India.

We can say that India's public transportation has played a crucial role in the country's economic and social progress. As transportation is fundamental to nearly all economic activities, therefore, improving transportation infrastructure results in an improvement of other sectors, attracting investments and accelerating economic growth. It will approach economic growth, rapid urbanization, poverty reduction and income equality. Nonetheless, they have many significant issues that need recognition and efficient policy from the government.

Key Issues and Challenges

- *Inequality in transportation*

Since one-fourth of India's population are impoverished, the mobility issues of the poor are always of significant concern. Unfortunately, they are often dismissed by the government, including transportation policy, the majority of government programs respond to the concerns of the upper and middle classes. For example, most of the new funding from the national government is allocated to road expansions and improvements. Meanwhile, pedestrians and bikers, who represent the poorest sectors of the country's population, have received very less

consideration.

India's public transportation networks need significant modifications, but still the government's policies are inefficient. Due to the policies that most benefit the motorized elite, most small and medium-sized buses and trains are outdated, poorly constructed, insufficiently maintained, dangerously overcrowded, inefficient, and slow. There is also no traffic priority of any kind (lanes, signals, etc.) for buses, which get hopelessly stranded on crowded roadways in numerous large cities. Due to the slowness, unreliability, danger, and overcrowding of buses and trains, many middle-class passengers have shifted to automobiles, motorbikes, and scooters, further congesting roadways and increasing air pollution, noise, and safety issues.

Regretfully, most of India's urban poor cannot afford private motorized transport, and some cannot even pay the low charges on public transportation. However, people are compelled to walk or cycle, despite the terrible pollution, safety, and congestion issues. As Indian cities continue to expand, citizens who cannot afford motorized transportation will become more disadvantaged, further isolating them from job, recreational, educational, medical, and other essential destinations

Therefore, the existing enormous mobility and accessibility gaps in Indian society would likely worsen. Not only will the poor benefit the least from increasing motorization, but they will also carry a disproportionate share of its social and environmental costs: as traffic accidents, noisy, polluted neighborhoods, and displaced residents' homes to expanded roadways.

- *Demand and supply of road and public transportation*

Problems with road transportation 60% of all transportation in India occurs on the roads because it is the most common way of transportation. Despite this, problems of road transport in India are increasing drastically due to inadequate road infrastructure and parking facilities, the absence of dedicated bus lanes and integrated transport systems, and congestion. Inefficiencies such as underutilization of resources, high fuel consumption, and poor vehicle maintenance plague India's public transportation sector. Numerous public transportation services in India are of poor quality due to lack of adequate funding and investments in infrastructure and technology, as evidenced by overaged vehicles, insufficient infrastructure, and unreliable schedules.

Because the Indian roads are unsurfaced (42.65%) and are not suitable for use of vehicular traffic (*K.Raja*). All India data was reported at 1,519,234.000 km in 2019. This records a decrease from the previous number of 1,567,505.000 km for 2018 (*Fig.2*). The safety of passengers is a major concern, the poor maintenance of the roads aggravates the problem especially in the rainy season.

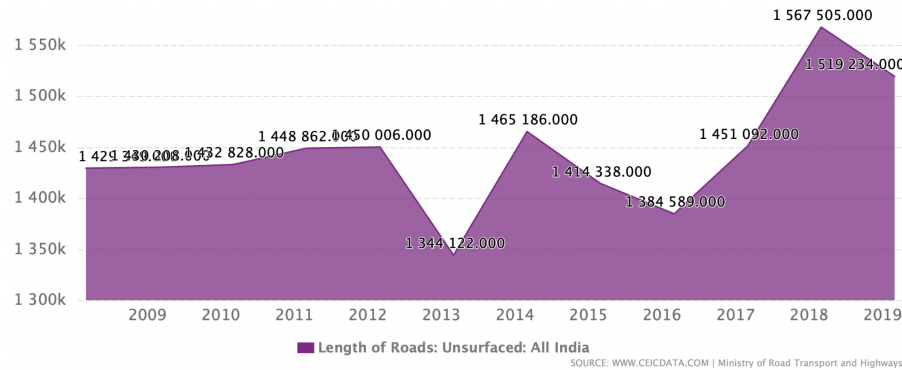


Fig.2 Length of Road: Unsufaced: All India

Source: CEICDATA

As mentioned by traffic reports generated by the world's developed countries, due to the less traffic in India, there is a greater demand for road use, which results in poor traffic management. As the growing population in cities, freight vehicles and travelers alike must spend a significant amount of time stuck in traffic. Over the majority of the day, significant traffic congestion has reduced the speed of most buses to between 6 and 10 kilometers per hour in several metropolitan cities in India (*Gakenheimer and Zegras, 2003*). Therefore, public transportation in India is insufficient to meet demand since India has a large population and an overabundance of traffic problems and solutions. Many cities have poor public transportation systems with limited coverage. Moreover, public transportation is not always accessible to individuals with disabilities, the elderly, or limited mobility.

- Financing for public transportation

According to, passenger revenues do not cover the full costs of operation and capital investment of public transport, government financial assistance necessary. As owner of Indian Railways, the Central Government must bear operating deficit remains after the substantial cross-subsidies from profitable freight services. In the past, the Central Government also bore most of the costs of capital investment, but in recent years, state governments have financed growing portions of these costs, especially for the expansions and improvements of suburban rail systems in Mumbai, Chennai, Kolkata, and Hyderabad. However, The government does not have enough ability to increase their revenue and policy to improve entire cities in india.

Significantly, no government level has any dedicated taxes whose proceeds would be automatically earmarked for public transport. Thus, financial support for public transport is tenuous, depending on annual budgetary appropriations. Lack of financing for public transportation in India is a crucial aspect of ensuring its effective implementation and operation. In addition, critical shortages of revenues at every government level, public transport must compete

each year with many other urgent needs for public funds. The willingness of the Central and state governments to fund public transport can vary substantially over time, making long-term planning very difficult.

Government Policies

- *Policies to address inequality in transportation*

According to the inequality in transportation accessibility, the Indian government has implemented several policies, for example, National Urban Transport Policy (NUTP) that aim of promoting sustainable and equitable mobility in urban areas and National Highway Development Project (NHDP) with an aim of upgrading, expanding, and improving road connectivity in many areas, to address and alleviates this issue by trying to improve different types of their public transportations, for instance, bus, train, and metro, in order to facilitate the convenience to the poor or low-income citizens to access the public transportation in urban areas and to make smooth interchange possible in terms of proximity and timing, in which leading to trips with the least amount of interruption possible

Nonetheless, one of the ineffective policies is the underinvestment in last-mile infrastructure including feeder buses, bike-sharing programs, and sidewalks has further compounded this issue. The collaboration between the many entities responsible for various transport modes is among the main issues, some of which may be privately-operated. This leaves the problem to the poor or low - income Indian citizens, particularly women and children, who frequently struggle to use public transportation or new modes of transportation like the metro or rapid transit system without these connections.

Thus, the effectiveness of this strategy is still far from success due to lack of interconnectivity between transportation modes. This poor integration is the outcome of an uncoordinated effort to integrate transportation across various forms of transportation. This could force people out of the system and onto more expensive or riskier forms of transportation by requiring them to make multiple transfers and pay multiple fares. To solve the problem of transportation inequality in Indian urban centers, a comprehensive and integrated approach to transportation planning is needed.

- *Policies to narrow the gap between demand and supply of road and public transportation*

In urban areas, buses are the most widely used and affordable form of transportation. In India, there are more than 1.6 million registered buses, and the public bus sector runs 170,000 buses per day However the rising demand for travel has not been met by bus service. There are

only 30,000 buses operating in the city, of which 3,500 are run in conjunction with a public-private partnership. All bus companies are making significant losses and lack funds for the capital investment needed to procure new vehicles and technology.

In order to speed up the construction of urgently needed infrastructure, the federal government established the National Urban Renewal Mission (NURM) in 2009 and set out on a huge effort to revitalize metropolitan regions. As the transportation system comprises physical infrastructure, vehicles, operations, and support facilities, it has aided in the development of new facilities, the development of public transportation, and the application of technology to more effectively traffic management. The NURM has also contributed to the implementation of the Intelligent Transport System (ITS) for the enhancement of public transportation by funding the purchase of new buses, the modernisation of current bus fleets, and investing in the building and improvement of these facilities to improve connectivity and decrease travel time and costs. The two parts of the program were separated, and it was finished in 2015. Bus Rapid Transit (BRT) systems cover a distance of about 222 km, with the remaining 282 km being built, and light rail transit (LRT) in major urban centers. In recent years, several cities, such as Delhi, Mumbai, Kolkata, and Bangalore, have introduced new metro rail networks in recent years in order to provide commuters a more efficient and faster form of transit.

This policy has helped reduce congestion and make commuting more comfortable and convenient for people living in urban areas. The evolving policies, however, fall short of meeting the population's escalating transportation needs. The lack of timing and proper policy planning leaves a knowledge gap on reaching the targeted goal. This is one of the reasons that it has little effect on easing the public transportation issues and that the number of private vehicles continues to rise. The issue of supply still does not meet the demand of road and public transportation usage and this problem still exists until nowadays.

- *Policy to solve the issue in financial support from government*

The government is the primary source of funding for public transportation in India and there are other sources of financing. For instance, the government of India provides funding for public transportation through various schemes and programs. The Ministry of Urban Development and the Ministry of Road Transport and Highways are responsible for providing financial assistance to state governments for the development and maintenance of public transportation infrastructure.

The government also encourages public-private partnerships (PPP) in the financing of public transportation projects. This involves the government partnering with private companies

to finance and operate public transportation systems. The private sector can contribute to the financing of public transportation through investments in infrastructure and equipment, and they can receive a share of the profits. External funding sources such as international organizations like the World Bank, Asian Development Bank, and other bilateral and multilateral organizations also provide funding for public transportation projects in India. These organizations provide loans, grants, and technical assistance for the development and implementation of public transportation systems.

Moreover, User charges such as fare revenues and tolls are also a significant source of financing for public transportation in India. Public transportation fares are usually set at subsidized rates to encourage more people to use it, but increasing fares could generate more revenue to support the operation and maintenance of public transportation systems.

Overall, the Indian government is committed to improving public transportation in the country and is taking a number of steps to support the development of efficient and effective public transportation systems.

Conclusion

Public transportation is one of India's most crucial issues that must be addressed since the 2000s. Since the inequality in transportation in India is a significant challenge that most Indians face due to most of their policies are support upper and middle classes, while its policies must be focus on improving the accessibility and affordability of public transportation, as well as measures to ensure the safety and comfort of all passengers, including women, the poor sectors, and people with disabilities. The supply of road and public transit has not kept pace with demand are one of the significant challenge that must be immediately improve due to underfunding and underinvestment in India's public transportation systems, which resulting in many concerns such as traffic congestion, safety concerns, inadequate road infrastructure, lack of parking, and bus lanes.

Nonetheless, the government recognizes these problems and is implementing a number of projects to enhance the nation's transportation infrastructure and services, such as the National Urban Renewal Mission (NURM) and the Intelligent Transport System (ITS). According to the government's lack of financial assistance, which has resulted in a gradual improvement of India's infrastructure, funding also has a significant effect on transportation. Yet, they subsidize public transit via a variety of plans and initiatives. Increasing subsidies and grants for public transportation and providing tax incentives to corporations that invest in public transit are two examples. All of these concerns pose serious challenges that the government should address, and government policy has propelled Indian public transit, resulting in a developed economy and a high standard of living for the country's population.

In our opinion, we can analyze many lessons learned from public transportation in India such as equality which is a fundamental value of human rights and essential to living in a fair and just society. Every individual desires to be treated fairly and equally to others regardless of their race, gender or socio-economic class. However, certain groups have been historically disadvantaged and oppressed, leading to a prevalence of inequality that persists today as we can see from the first issues. Supporting equality means recognizing and respecting the differences among people while also striving to ensure that all individuals have access to the same opportunities and receive the same treatment. So, governments need to ensure that all individuals, regardless of their social or economic class, are treated fairly and equitably by providing policies that support people in all societies. Lastly, public transportation in India can be a social experience, with commuters often chatting with one another and sharing stories during their journeys. Learning to connect with others in this way can help build a sense of community and belonging

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