

CITY FEATURES



Nashik is an ancient city in the northwest region of Maharashtra in India, situated on the banks of the Godavari river. The city is rapidly evolving on industrial, economic, political, social, and cultural fronts. Nashik has a unique identity of its own, owing to its mythological, historical, social, and cultural significance. The city is also a major commercial and political centre in the western region of Maharashtra. It is also famous as ‘Grape City’ for being a major trade centre of grapes cultivated in the area. The current growth in the city has led to the immediate need for a high-quality, sustainable, efficient and affordable public transport system for the citizens, in the future.



Population
1,486,053
 (2011)



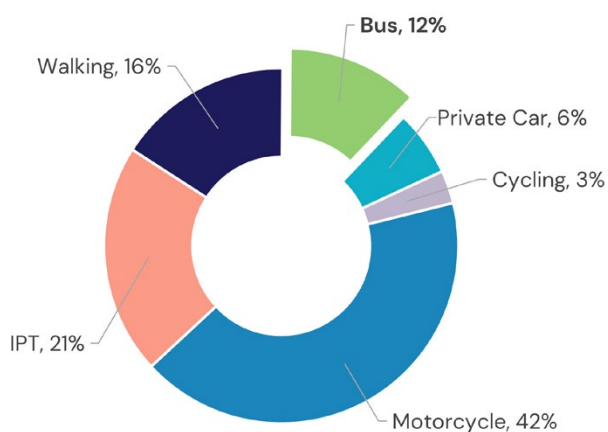
Land area
267 km²



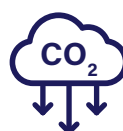
Average temperature
24.1 °C

TRANSPORT FEATURES

Modal Split¹



GHG Emission Levels¹



Total GHG emissions

From road transport

127,734 tCO_{2eq}

Air Pollutant Levels²



PM 2.5

40.06 µg/m³

NO₂

28.07 µg/m³

PM 10

64.34 µg/m³

SO₂

2.74 µg/m³

The city has a developed ring radial road network and major radials consisting of national or state highways that act as important mobility corridors. The need of public transport has been fulfilled by buses and Intermediate Public Transport (IPT) modes, which account for 12 and 21 percent of public transport, respectively. The city has registered about 7,32,008 vehicles till the year 2016. The two wheelers constitute the highest share of vehicles, that is 74.6% of the total, followed by a 12.3% share of four wheelers. The population growth and urban spread of the city also led to more private motorization and an increase in the number of private vehicles, resulting in an increase in greenhouse gas (GHG) emissions in the city.

¹ Comprehensive Traffic and Transportation Plan (CTTP) Nashik, 2017

² Central Pollution Control Board, New Delhi

BUS SYSTEMS OUTLOOK

Bus Trips Features



Number of bus trips

2016	2021
128,000	90,839



Average time
25 min



Average distance
216.2 km



Trips by gender

Men	Women
74%	26%

The daily average ridership of the city's bus service is around 90,000 out of which around 20,000 passengers are bus pass holders. Most bus travellers use the bus service to go to work or study. Women passengers are approximately 26 percent of the total daily passengers. The average trip length of passengers who travel by bus is 6.23 kilometers and the average bus takes about 25 minutes to complete one route. Tourists and local travellers usually travel to temples and ghats, a place at the edge of the river which is well connected through public transport and considered as the common origin and destination point in the city.

Fleet and Infrastructure



Number of buses
250

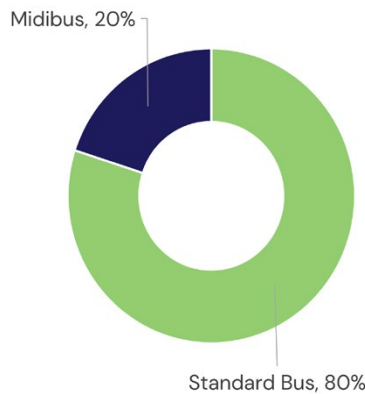


Number of routes
63

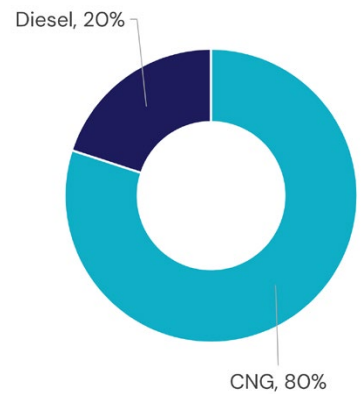


1392 bus stops
2 bus depots

Buses by fleet type



Buses by fuel type



Quality of Service

The city bus service covers almost all areas, including slums and low-income pockets in the city. It also connects the towns in the peripheral area upto a distance of 20 kilometers from the municipal limits. The average journey speed of the bus service is 20 km/h. The minimum fare starts from INR 10, thus, making it one of the cheapest options for transport in the city. The city transport provides bus passes and fare concessions of 50% for children between the age of 5-10 years, 75% for specially abled people and 50% for the helpers of the specially abled. The buses are mostly crowded during peak hours on almost all the routes. The bus service has reserved seats for women, handicapped, and elderly people. There is also a provision for keeping a wheelchair in the CNG bus.



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Existing Business Model³

A

Model A: Vertically integrated, private operator in BRT/integrated system

B

Model B: Divided responsibilities in BRT/integrated system

C

Model C: Large, more formal, private operator in traditional service

D

Model D: Small, informal, private operator in traditional service

E

Model E: Government-run system

B

Nashik Mahanagar Parivahan Mahamandal Limited (NMPML) is a special purpose vehicle (SPV) of Nashik Municipal Corporation (NMC) under which the CITILINC brand name has been established for the operation of public transport in the city. Nashik Municipal Corporation has procured 250 buses under the gross cost contract (GCC) model. The bus operator bears the cost of bus operation, bus maintenance, driver etc., while the NMC pays a fixed kilometers charge to the operator. Bus infrastructure such as bus depots, terminals, and bus shelters is provided by NMC. The stage carriage permit is in the name of NMPML. The amount received from the fare collection is used for payment of operators and gap funding is also provided by NMC.



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³ Based on Accelerating a market transition in Latin America: New business models for electric bus deployment, P4G, Zebra and Dalberg, 2020

OPPORTUNITIES AND CHALLENGES FOR ADOPTION OF E-BUS FLEETS



Opportunities

- In present times, the rates of CNG and diesel are on the higher side, which has considerably increased the per kilometer bus operation cost. It is evident from the recent e-bus tenders of different cities that the cost of operation of an electric bus is 15–20% lower than its CNG and diesel counterparts.
- The number of vehicles in the city has increased in the recent past and so has the level of pollution. E-buses will also help to reduce the pollution levels in the city.
- The city is expanding in all directions and it is necessary to increase the bus fleet size to provide better public transport connectivity. Hence, electric buses will be a viable solution in the long term.



Challenges

- The capital cost of electric buses is on the higher side, so the city has to rely on financial grants and subsidies provided by the government. The current subsidy granted by the government of India under FAME II is limited. Hence, it is a challenge for the city to procure electric buses.
- Due to a shortage of skilled manpower and a lack of awareness of the technical and operational components of electric buses, private operators continue to view the technology as risky. As a result, deploying electric buses is a challenge for the city.



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About the TUMI E-Bus Mission

Funded by the German Ministry for Economic Cooperation and Development (BMZ), a core group of organizations supports cities in their transition toward electric bus deployment. For more information please contact: tumi-network@iclei.org or visit <https://sustainablemobility.iclei.org/tumi/>