Ahmedabad, India

Partner city

Status of the project: Completed Sustainable Urban Mobility Plan

Basic Information

Urban area: 1,866 km^2

Population: 7,800,000 | Growth rate: 2.54%

Region capital city

GDP per capita: USD 2,771

Modal Share:

(Source: Metro DPR)

- Formal public transport: 11.4%
- Informal public transport: 6.1%
- Walking: 37.2%
- Cycling: 9.1%
- Private cars: 3.9%
- Private motorbikes or 2-wheelers: 25.9%
- Other: 6.3%

National GHG emissions per capita: 2.41 (tCO_2eq)

Exposure to climate change: MEDIUM

Context

Ahmedabad is one of Gujarat, India's oldest and most densely populated cities. As a hub for industries, including manufacturing, services, textiles, etc., Ahmedabad is experiencing rapid growth. The Greater Ahmedabad (GA) region is expected to grow from 8.1 million in 2011 to about 12.5 million in 2031. Major industrial developments in the city are being planned in areas like Viramgam, Changodar and Bechraji Special Investment Regions (SIRs) in western and southwestern parts of the Greater Ahmedabad area. To strengthen the growth in the city, another major employment node, GIFT City, is being planned between Ahmedabad and Gandhinagar as a major financial centre. While some industrial investments are also envisaged in Kadi, Kalol, and Mehmedabad, Sanand, Dehgam, Kheda, and Bavla are being developed as residential towns.[1]

All these planned developments will add another 1.75 million trips in the SUMP study area by 2031, a 15% increase from the current levels. Today, about 21% of the population is covered by the public transport system in Ahmedabad, whereby the mode share for public transport is about 11%, with around 900,000 passengers boarding on AMTS (Ahmedabad Municipal Transport Service) buses and 150,000 on BRTS. Ahmedabad has a compact city structure with poly-centric nodes and mixed land use throughout the city, concentrated along major roads. Trip patterns are dispersed, so the average trip length (5.5 km) is shorter than in comparably sized cities in India.

[1] Integrated Mobility Plan for Greater Ahmedabad Region, Vol. 1

Until 2007, urban transport was a state function and had systematically been taken care of in the city of Ahmedabad, especially in the old heritage city. Ahmedabad Municipal Transport Services (AMTS) comprises 201 routes covering 549 km of road. AMTS has a coverage area spread over 88% of the developed AMC area. According to AMTS data from 2012, it caters to 11% of trips within the city, i.e. 0.9 million passengers per day. The first closed system BRT in India was deployed in Ahmedabad in 2009 and is operated by Ahmedabad Janmarg Limited (AJL), a special purpose vehicle (SPV) formulated by Ahmedabad Municipal Corporation, Ahmedabad Urban Development Authority and the Government of Gujarat. The BRT system operates on 13 routes with a network length of 82 km and a daily ridership of 130,000 passengers with peak headways of 2.5 to 3 minutes.

Ahmedabad Municipal Corporation, the local counterpart, has the mandate and responsibility to finance bus transport infrastructure, which it can borrow from international finance sources for. The performance of bus services is monitored and evaluated periodically by the Municipal Corporation.

The local authority is willing to strengthen integrated land-use transport planning, aiming to address the lack of land for public spaces, public transport utilities or depots, and the absence of walking and cycling infrastructure. Other important challenges are promoting fare integration of public transport, last mile connectivity, reducing travel distance and time and adopting on-street design, management, and integration in Local Area Plans.

AFD, through the MobiliseYourCity India Program, supported Ahmedabad in developing a Sustainable Urban Mobility Plan and establishing an Urban Mobility Observatory. Technical assistance will contribute to institutional strengthening by building the capacity of local urban bodies on mobility issues and sustainable urban development.

Support from the Partnership

Technical Assistance: Sustainable Urban Mobility Plan (SUMP) and establishment of Urban Mobility Observatory in Nagpur, Kochi, and Ahmedabad

Funded by: European Union

Funding amount: EUR 900,000

Implemented by: AFD through the MobiliseYourCity India Project and supported by UMTC as a Project Implementation Unit

Local counterpart: Ahmedabad Municipal Corporation

Supported Activities:

1. Preparation of SUMP & creation of mobility observatory
2. Preparation of Handbook for Physical Planning of Transit Interchanges
3. Capacity Building activities for stakeholders in the city

Status of implementation

Project start: 2018 Q4

Project completion: 2023 Q4

Completed outputs:

- MobiliseDays (Feb. 2019)
- Inception phase and inception report delivered (Dec. 2021)
- Publication of the *General guidelines and Concept Plan for Transit Interchanges in Ahmedabad*
- Mobility diagnosis report, SUMP Vision and Goal Setting, Construction of Scenarios, Measures prioritisation, SUMP Action Plan and synthesis of SUMP Action Plan
- Capacity building: in-person workshops and online webinars

- Meetings of the local steering committee, SUMP task force, and other related instances
- Draft Mobility Observatory (online platform)
- Participatory process
- Finalised Mobility Observatory and MRV systems for Nagpur, Kochi, and Ahmedabad:

Finalised in 2023, the Urban Mobility Observatory[2] showcases the data collected during the technical assistance period, providing an overview of transport-related information in Ahmedabad. A set of 20 indicators has been defined and is presented through graphs and maps on an interactive website.

Core impact indicators baseline and projected impacts

Indicator	Baseline – 2022	Projected 2041 BAU	Projected 2041 SUMP scenario (proactive)	Impact 2030 (SUMP vs BAU)
Annual transport-related GHG emissions per capita (kg CO_2eq)	81 kg CO_2eq / capita	90 kg CO_2eq / capita	102 kg CO_2eq / capita	Data not yet available
Modal share Increase of the modal shares of trips by public transport (% of total trips)	Public Transport: 8%	Public Transport: 20%	Public Transport: 35%	Public Transport[3]: +15%
Access to public transport Proportion of the population living 500 meters or less from a public transport stop	21% (IMP 2031)	Data not yet available	Data not yet available	Data not yet available
Air pollution Mean urban air pollution of particulate matter (in µg $PM_{2.5}$) at road-based monitoring stations	33 µg/m³ of $PM_{2.5}$[4] as on date 13-02-2021	Data not yet available	Data not yet available	Data not yet available
Road safety Annual traffic fatalities in the urban area per 100,000 inhabitants	5 fatalities / 100,000 hab. (2019)	Data not yet available	Data not yet available	Data not yet available

Key measures and cost estimates

The following table highlights the most significant measures identified as part of technical assistance.

Measure
Strategic axis A: Assign clear responsibilities and funding for urban mobility
Strategic axis B: Plan for urban forms and land use that minimise travel distances
Strategic axis C: Mitigate growth of private vehicle use and encourage a modal shift from private vehicles to public transport
Strategic axis D: Develop an integrated public transport system
Strategic axis E: Develop complete streets and facilitate access to the integrated transport system
Strategic axis F: Improve efficiency and reduce externalities of the freight system
Strategic axis G: Promote energy efficiency and GHG emissions mitigation
Total cost of measures: Rs. 450.8 billion (EUR 5.02 billion) for investment and Rs. 1.58 billion (EUR 20 million) for operation until 2041

[2] The Ahmedabad Urban Mobility Observatory can be accessed via the following link: http://transitec.oslandia.io/sump/mobility-indicators/ahmedabad

[3] In the chosen scenario, GHG emissions per capita would increase due to population growth and an increase in passenger kilometres. However, the GHG emissions per passenger kilometre travelled per year would decrease.

[4] https://aqicn.org/station/

Insights from practice: key takeaways

Stakeholder collaboration enables sustainable urban mobility

Enhanced cooperation between entities engaged in urban mobility initiatives (municipal authorities, operators, etc.) could lead to more cohesive and efficient urban mobility solutions for Ahmedabad.

Highlights in the past year

AFD has supported the extension of the metro of Ahmedabad towards Gandhinagar since 2022.

In 2024, with the support of AFD, the Gujarat Metro Rail Corporation (GMRC) initiated efforts to enhance connectivity and accessibility through Multimodal Integration (MMI) at various stations in Phases I and II of the Ahmedabad Metro Rail Project. These efforts are designed to facilitate seamless transfers between different modes of transport, thereby improving the overall efficiency of the urban mobility network. It places significant emphasis on enhancing pedestrian accessibility and safety.

Updated in December 2024