

# *On the Right Track*





Ahmedabad, India

01 A typical street scene before the BRTS was built.

**F**aced with a congested road network clogged with highly polluting private transport, the Indian city of Ahmedabad launched a highly successful three-pronged strategy to develop a world-class transport system. This helped transform Ahmedabad into one of India's most liveable cities, for which it received a **LEE KUAN YEW WORLD CITY PRIZE Special Mention in 2012**.

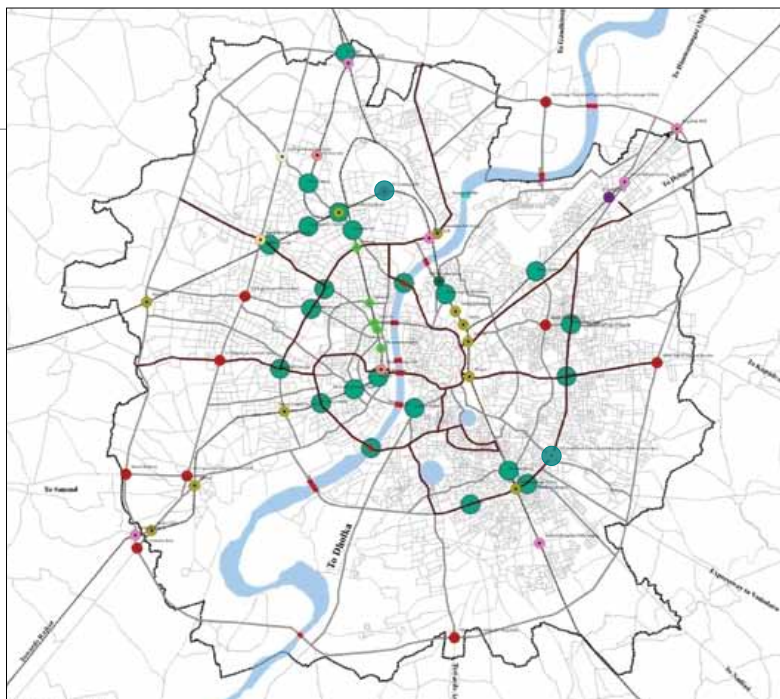
## The Challenge

Around 2001, Ahmedabad's transport system was a mess. Public transport was provided by the Ahmedabad Municipal Transport Service (AMTS), a subsidiary of Ahmedabad Municipal Corporation (AMC), the body supplying various services to residents. AMTS was in a bad shape financially, and AMC had to subsidise it annually. The shrinking AMTS fleet comprised only 500 buses, and most were over a decade old.

In this context, auto-rickshaws provided an alternate means of transport for many residents. However, this raised safety concerns as overloading was common. Auto-rickshaws also often used adulterated fuel, which contributed to high pollution. In 2003, Ahmedabad was ranked India's fourth most polluted city.

Ahmedabad is India's seventh largest city and Gujarat state's financial capital. With a booming economy and easily available loans, people have been shifting to private vehicles. In 2011, there were three million registered vehicles in this city of 6.5 million people. Fortunately, the city is compact: the average trip covers six kilometres and lasts 20 to 30 minutes. Nonetheless, Ahmedabad realised by 2001 that it faced a future of high car usage and consequent problems of congestion, sprawl, pollution and increased travel times.





Legend

- BRTS
- Rings and Radials
- Construction Completed in the last 5 years

**Transport Network in Ahmedabad**

## The Solution

Ahmedabad enjoyed a strong legacy of urban planning, and proactive leadership in both state and city governments. This led AMC to take a keen interest in addressing its challenges. We adopted a three-pronged strategy comprising planning interventions, technology, and improved public transport.

Ahmedabad has always taken the lead in preparing Development Plans for the city, and Town Planning Schemes for neighbourhoods. We decided to optimise the road network using provisions in the Development Plan. Traditionally, Ahmedabad has a ring and radial network. Our 2001 Plan identified additional rings, augmented by strong radials.

AMC also went beyond preparing a plan. Proposals were implemented in a fast-track mode with public participation and existing legislation. For example, the 76-kilometre-long outer ring road was built over two years, without needing land acquisition. Similarly, we prioritised proposals for new river bridges, rail over-bridges, and grade separated junctions. AMC built 22 new bridges from 2005 to 2011.

In 2001, India's Supreme Court ruled that Ahmedabad must switch to cleaner fuel technology. By 2005, we had 50,000 auto-rickshaws, of which 15,000 were over 10 years old. In a bold decision, we mandated the scrapping of all autos

01 The Ahmedabad BRTS.



01

registered prior to 1991, and asked their owners to buy modern autos. AMC helped them by working with the district administration and banks to enable easy procurement of loans. At the same time, we asked all autos registered after 1991 to convert to CNG. CNG kits were also provided at a reasonable cost.

We faced many challenges in implementing these initiatives. The scarcity of CNG filling stations hindered the conversion of auto-rickshaws to CNG, so we used public-private partnerships to create 45 CNG stations initially, which later expanded to over 75. We also tied up with banks to facilitate loans for CNG conversion.

Today, Ahmedabad's 60,000 CNG auto-rickshaws have ceased to be a source of pollution. During this time, AMC also implemented the Supreme Court guidelines for engine technology. Over the last decade, Ahmedabad first adopted Euro III norms and then Euro IV norms.

Bus ridership fell from its peak in 1981 to a low point in 2005 for several reasons; routes were introduced without proper studies; salaries became burdensome; and new buses were not added. When India's economy opened up in 1992, more people could buy private cars and motorcycles, which became more attractive than using old buses that often broke down.

- 01 A BRTS station.
- 02 People waiting at a BRTS station.

From 2005, AMTS augmented the bus fleet. We initially used a public-private partnership, where private operators operated CNG buses on fixed routes and were paid on a per-kilometre basis. AMTS staff performed conductor duties on these buses. We later purchased new buses, wholly operated by AMTS, through a grant from central and state governments. AMTS now carries over a million passengers daily, from 0.5 million in 2004. The fleet size is now close to 2,000, with 1,000 buses to be added over the next year. All new buses conform to Euro IV norms.

One of our most significant interventions has been the Bus Rapid Transit System (BRTS). We realised AMTS buses alone would be insufficient for our mobility needs. Ahmedabad needed high quality mass transit to wean people away from private vehicles. We wanted a fast, reliable and comfortable world-class system.

The initial feasibility study for a BRTS (since christened Janmarg) was conducted in 2005. A 90-kilometre network was identified by 2007, and the first corridor became operational in 2009. Designed as a closed BRTS, Janmarg has median bus stations, signal priority, level alighting and boarding, off-board ticketing, an Internet Traffic Monitoring System, and excellent customer service.

BRTS was an entirely new concept for residents, and many questions emerged over its planning and design. We made sure to present the idea in as many forums as possible to explain its rationale. Free rides were offered for all during a three-month trial period.

Janmarg is now Ahmedabad's lifeline. Over 50 kilometres are operational, and a fleet of 110 BRTS buses carry some 125,000 people daily. More corridors are under construction. By 2015, we expect to have a network of 135 kilometres and a ridership close to 600,000.

02



01 The BRTS features level boarding and alighting.

02 Other features include an off-board ticketing system, and bus arrival information displays.



01

## The Outcome

Today, Ahmedabad is considered India's most liveable city. Planning interventions have ensured that people enjoy congestion-free rides, alternate routes are always available and commuting time is minimal. We remain a 20-minute city. And from being one of India's worst polluted cities, Ahmedabad is now among its cleanest, ranked below the 50 most polluted cities. Many private vehicles are now converting to natural gas or CNG.

Janmarg is considered a model BRTS. City officials from India and other developing nations often visit us to understand our system, and Ahmedabad recently hosted a BRTS conference involving cities

from Asia and Latin America. Besides the system itself, Janmarg's communication strategy is acknowledged as a best practice. AMC and Janmarg have also won multiple awards, like the World Sustainable Transport Award and an award from the International Association of Public Transport for 'daring ambition'.

AMTS is now being integrated as a complementary and feeder service to Janmarg. Meanwhile, the construction of a 75-kilometre metro network linking Ahmedabad and Gandhinagar has been approved. To be completed by 2015, this marks a new chapter in Ahmedabad's transport story.



### Dr **Guruprasad Mohapatra**

is the Municipal Commissioner of Ahmedabad. He is a senior Indian Administrative Service officer, in the rank of the Principal Secretary to the Government of Gujarat. He had a long stint in development and regulatory administration as a District Development Officer in Surendranagar, and as the District Magistrate and Collector in the Junagadh and Rajkot districts. He was also involved in the comprehensive reforms in the power sector and restructuring of the erstwhile Gujarat Electricity Board into several commercial entities. He was the Managing Director of Gujarat Alkalies and Chemicals Ltd. and Gujarat Narmada Valley Fertilizers Company Limited. He worked as the Municipal Commissioner in Surat Municipal Corporation from 1999 to 2002. He was actively involved in converting Surat into a model of urban governance in India, with its thrust on solid waste management practices, quality infrastructure and financial management.

02

