15. TRANSPORT COMMAND AND CONTROL CENTRE – PUNE

"Faster decision-making in traffic management"

– Defined priority, as mentioned in the Smart City Proposal (SCP) of Pune

CONTEXT

Pune an IT hub of Maharashtra has a population of 5,057,709 and is the second largest city of the state. Mercer's Quality of living ranking of 2017, places Pune second amongst Indian cities. Pune has been continuously striving to enhance the quality of life of its citizens through smart and sustainable solutions.

Citizen mobility is a key issue in the city of Pune. Pune relies solely on buses for public transportation. The average number of buses per lakh population is only 37. Additionally, buses in Pune have significant issues with availability (25% fleet off-road most of the time) and reliability (84% routes have a waiting time of more than 20 minutes). As a result, the public transport trip share is only 18%. The city has also grown radially, with most new job opportunities in IT and manufacturing being created on its outskirts; this has increased the average trip length to 10 km. A significant rise in the number of private vehicles, lack of efficient public transportation options, and 30% of the bypass traffic going through the heart of the city, leads to massive traffic congestions in the city. The current average traffic speed in Pune is 18 km/h only.

THE INTERVENTION

Project description

A state of the art Transport Command and Control Centre for Traffic has been set-up at the Pune Mahanagar Parivahan Mahamandal Ltd. (PMPML) headquarter. The Transport Command and Control Centre captures the real time movement of buses in the city based on the GPS tracker, which is placed on the buses. The Transport Command and Control Centre has 4 servers and 20 computers, which is managed by 21 people on the ground. The key interventions of the project are:

- The central command control room to monitor driving quality and service levels
- Real-time tracking of 1,500+ buses (Vehicle Tracking System 'VTS') by installing GPS

- Vehicle health monitoring system (VMS) across ~1,080 buses with intelligent kits and back-end maintenance management system
- CCTV surveillance and panic buttons on 510 buses to improve security
- 'Public Information System (PIS)' comprising bus guides and LED screens depicting 'Expected Time of Arrival (ETA)' and other critical information across all 190 bus stops and in around 510 buses, along with mobile apps and website providing the real-time information
- In-bus information system and Wi-Fi in around 1,080 buses

The Transport Command and Control Centre is operational.

Key outputs/ outcomes

The emerging benefits of the project are:

- The vehicle tracking system is enabling PMPML to respond to incidents of over-speeding, harsh braking, skipping red lights, etc.
- Vehicle health monitoring is expected to improve fleet utilization, translating to a 4-5% increase in revenue and making PMPML healthier.
- The surveillance system will improve security of passengers and transport assets/ fleet, and ensure faster emergency response system.
- Using central command control room will ensure faster decision-making for traffic management, forecasting of traffic conditions & volume, and will help with future planning of transportation. Intelligent asset management will optimize investments and save 10-20% of the annual maintenance cost.

Impacts

The likely impacts of the project are:

- Increased modal share of public transport – owing to reliability of city busses
- Citizen convenience – once the data is provided on the open data portal people will be able to visualise where exactly the buses are.
- Increase control/ transparency of the bus movement for PMPML; which helps in managing its own fleet of buses as well as the operator run buses.

A snapshot of the operational Transport Command & Control Centre at PMPML

Support and mobilized resources

The project has an outlay of approximately INR 48 crore, and is being financed through convergence; Pune Mahanagar Parivahan Mahamandal Ltd. (PMPML) is funding the entire project.