

2. ADAPTIVE TRAFFIC SIGNAL CONTROL SYSTEM – BHUBANESWAR

“Reduce loss of human-hours through improved mobility”

– Part of Vision, as mentioned in Smart City Proposal (SCP) of Bhubaneswar

CONTEXT

Bhubaneswar is the capital of the Indian state of Odisha. It is the largest city in Odisha and is a centre of economic and religious importance in Eastern India. According to the 2011 census of India, Bhubaneswar had a population of 837,737. Bhubaneswar has emerged as one of the fast-growing, important trading and commercial hub in the state and Eastern India. The fast paced development of the city has started putting adverse pressure on the ease of mobility in the city.

Traffic Management has been identified as a key to enhance mobility of citizens in Bhubaneswar. Bhubaneswar has about 300 intersections of which at present, 23% of intersections are signalized for conducive traffic movements. However, the existing signalized intersections are not optimally utilized. This is causing vehicle accumulation, delays at intersections, and increased pollution at intersections.

THE INTERVENTION

Project description

To enhance the efficiency of the signalized intersections the city has proposed to have a coordinated traffic signal control system. This necessitates installation of Adaptive Traffic Signal Control System at signalized intersections in the city. In light of the above Bhubaneswar, has recently procured the requisite technology of traffic engineering named Composite Signal Control Strategy (CoSiCoSt) developed by C-DAC (Centre for Development of Advanced Computing) – a research and development organization under the Department of Electronics and Information Technology, Government of India. CoSiCoSt technology is an advanced control system capable to synchronize the traffic signal according to real time traffic conditions. The system gets input from sensors embedded in road and synchronizes the group of traffic signals accordingly. This signaling system is run on solar power and is planned to be upgraded with automatic number plate recognition, variable message

signs, surveillance camera for real-time emergency and incident management system. The system shall be integrated with other smart city modules in the Central Command Centre and provide real-time decision support. The Adaptive Traffic Signal Control System is part of the Intelligent City Operations and Management Centre under the Pan City Proposal.

Key outputs/ outcomes

Implementation for pilot intersection is currently underway. The Adaptive traffic signal control system is planned to be installed at 58 traffic signals, 14 pelican crossings and blinkers at five locations in the city. The project is leading to distribution of green phase (traffic signal) time equitably and faster response to traffic conditions & emergencies. The system also predicts traffic volumes and accordingly adjusts signal timings.

Impacts

The project will improve travel time reliability, reduce congestion, and related Green House Gas (GHG) emissions.

Support and mobilized resources

The project is funded through Smart City Funds with a financial outlay of INR 14.7 crore. The implementing agency for the project is Bhubaneswar Smart City Limited (BSCL).



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