

Chennai Public Bicycle Sharing System- Case Study

City: Chennai, India

Year of Implementation: 2018

Chennai is the fourth largest metropolis in India with a population of about 7.5 million spread over 426 sq.km. Like many rapidly growing cities, the vehicular traffic has increased by about 9% YoY over the last 2 decades. The public transport modal share has reduced to a meager 28% in the recent years. Chennai has adopted a very comprehensive strategy to augment public transport and also create the supporting NMT infrastructure.

Greater Chennai Corporation (GCC) is the first megacity in India to adopt the Non Motorized Transport (NMT) policy. Various NMT initiatives like construction of pedestrian friendly sidewalk, modernization of bus shelters for increasing the share of Public Transport, etc., have already been implemented. GCC and Chennai Smart City Limited (CSCL) are currently implementing the public bicycle sharing system(PBS) across the city. The cycle sharing project is planned and envisaged after detailed deliberations with various stakeholders and organizations like C40 Cities Climate Leadership Group and ITDP.

The PBS is expected to improve last mile connectivity and also reduce the dependence on motorised trips for shorter trips. The project has a ambitious plan of 5000 cycles across 275 parking areas in the city. This is currently the largest tendered public cycle sharing system in India as on 2018.

Approach & Technology

There would be a phased implementation of the PBS as a PAN city project. The first phase would include setting up of 25 stations with 250 cycles. The second phase would be an additional 250 cycles. Subsequently 1000 cycles will added at every phase. The fee for hiring a cycle would begin at a nominal rate of Rs 5 per hour and every additional half hour would imply another Rs 9. The users would also be able to avail a one-day pass, one-month pass and two-month pass based on their usage patterns. To improve the last mile connectivity the initial stations are planned within the access areas of Metro Rail stations in the city.

At the cycle stations, the cycles would be unlocked and geo-tagged based on the app of the user. The mobile application would contain features for user login, map with real time information of trip, list of available bikes at stations, providing feedback, reporting problem, recording user's trip history and personal profile.

A prototype cycle station and smart-bike are given below:



SmartBike

Smart bikes for smart cities



ALL COMPONENTS
ISO 4210 COMPLIANT



DOCKS DO NOT REQUIRE
FOUNDATION WORK



Salient Features of the Project

1. **Network of Stations:** All the cycle sharing stations would be listed on the app and the availability of the cycles would appear on the portal. This creates a viable network for users to switch to cycles from other modes as per their convenience.
2. **Anti-theft:** the cycles come in varying designs and sizes from the conventional, commercial cycles in the market that prevent theft. Further each cycle would be geo-tagged and able to be unlocked only via app or scanning by a reader on an authorised device.
3. **Real-time Monitoring:** Real-time monitoring of station occupancy enables the authorities to redistribute the supply of cycles based on demand. It allows the planning authorities to analyse patterns of users based on demography and location.
4. **Smart technology:** A smart card or smart key with reading devices at stations, immediately facilitates reading of charges, auto-deduction from apps and updating user profile. This enables a more digital and cashless economy.

Benefits of the Project

Some of the many expected benefits of the public bicycle share system are:

1. **Reduce traffic congestion:** Citizens shifting from modes of transport like cars, autos, and share autos for short distances, reduces the congestion on the roads and allows for smooth traffic. This PBS is currently expected to increase the modal share of NMT trips by 4% for trip lengths upto 2 kms.
2. **Improve last-mile connectivity:** Placing of Cycle Stations at viable locations like bus terminals, metro stations and local train stations would promote citizens to adopt public transport options owing to improved last-mile connectivity. Currently the only alternative is by walk or fossil fuel powered auto-rickshaw.
3. **Reduce pollution & Emissions:** Cycle is a non-polluting mode of commuting. It would vastly reduce the air pollution if persons shifted from using private vehicles for short distances. Additionally, carbon emissions which was otherwise the consequence of using fossil fuel powered vehicles would significantly come down.

4. **Promote tourism:** Short tourist circuits that can be accessed within a radius of few kilometres can be connected via a network of cycle stations. It allows visitors and residents to know the city from a closer angle.
5. **Improving public health:** Chennai is considered the Diabetic capital on India, which is highly correlated to the lack of physical activity. Cycling doubles up as an exercising option for those who are health conscious. It helps in burning calories over short distances and becomes a good source for daily fitness regimen.

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