City description

Ludhiana is the fastest growing city in the State of Punjab in northern India. It is the most populous city in the State that qualifies for a metropolitan character with a population of 1.6 million and it is also the largest city in the State in terms of area.

Ludhiana is the largest business and trade hub in Punjab and Asia’s biggest bicycle manufacturing hub. It is well known for its small scale industrial units, which produces machine parts, auto parts, hosiery and industrial goods. With strong industrial and manufacturing base, the city is set to be the economic powerhouse for the region.

Sustainable profile

According to the World Health Organization, Ludhiana is among the top 10 most polluted cities in India, which is a major health concern for its residents. The city has more than 1.6 million registered vehicles with an annual growth rate of 9.79%. It also has higher vehicle ownership (automobiles per 1,000 persons) than larger metropolitan cities like Mumbai, contributing to approximately 70% of the air pollution. Furthermore, the city is facing some major challenges in terms of road safety, competing use of road space, lack of public transport facilities as well as challenges related to poor governance.

Smart City Mission

Under the Smart City Mission, Ludhiana is envisioned to become more livable and sustainable by providing enhanced quality of life to its residents with less dependence on cars, reduced traffic congestion, better air quality and various modes of mobility. As part of the Smart City Proposal (SCP), Ludhiana identified area-based-development (ABD) strategies and proposed landscape improvements, mobility and transportation improvements as well as rehabilitation of infrastructure.

The Municipal Corporation also developed the City Development Plan (2007-2021), which analysed the traffic and road network and revealed that an integrated road development strategy is needed to solve the current conditions. It aimed to cut down the air pollution within the city.

According to a case study on low-carbon mobility plan (2013) in Ludhiana, effective policies should be enforced coupled with the latest technologies to bring about low carbon mobility to the city. Technological measures include: change in fuel used, vehicle technology, the introduction of electric vehicles and hybrid vehicles. In order to reduce energy consumption and CO2 emissions from road transport, other interventions include switching to clean fuels and shifting to public transportation.

Thematic areas

A safe and healthy city

Ludhiana is the first city in North India to be covered under the Safe City Project. Aligning with the ‘Safe and healthy city’ vision, the city seeks to develop smart solutions for public spaces with street lighting and
video surveillances. It aims to ensure proper monitoring for public with the installation of 1,700 CCTV cameras in phases covering 25 points of the city. Furthermore, Ludhiana is committed to developing a healthy city strategy with a focus on infrastructure improvements. One of the most ambitious projects is retrofitting the Sarabha Nagar market and addressing up-keep issues such as congestion and lack of parking space. The idea is to revitalize the urban space by increasing green areas, enforcing strong parking regulations, and improving pedestrian accessibility and safety. Through the interventions, the city aims to reduce congestion and pollution in the market area and create more additional opportunities for the market. In addition, car-free zones (e.g. in Ghumar Mandi) will also be enforced to improve overall mobility and walkability in the area.

A walking and cycling city

Ecomobile modes of mobility (walking and cycling) constitutes approximately 47% of total trips in Ludhiana, among which walking accounts for 31% of total trips and cycling 16%. According to the SCP, Ludhiana will prioritize the development of 29 kilometer footpaths and 21 kilometers of cycle tracks along the Ferozepur Road and Ghumar Mandi. As the cycle manufacturing hub of India with more than 1,500 factories producing bicycle parts, Ludhiana strives to revamp its existing manufacturing industry and transform from being a car-centric city to a walking- and cycling-friendly city. It aims to be the clean and green bicycle capital of the country and aims at doubling the bicycle share on roads by the year 2020. In collaboration with prioritizing streets for pedestrians and cyclists, a public 'Rent a Bike Program' will be introduced. The goal is to enhance last mile connectivity and changing mindsets to be less automobile dependent.

Public transport system

Ludhiana has a limited public transport network with only 50 buses operating on 5 routes of 70 kilometer length. A bus rapid transit (BRT) system of a 48 kilometer route was originally planned in as a pilot project; however the system was not implemented due to lack of funds.

The absence of an efficient public transport system in Ludhiana has led to the growth of intermediate public transport in the form of auto rickshaws. It is estimated that 30,000 auto-rickshaws operate daily in the city. Despite that it is convenient, affordable and easily-accessible for users, diesel driven autos rickshaws contribute largely to the city pollution and road congestion. In 2017 Ludhiana introduced the Global Positioning System (GPS) enabled ‘smart’ electric rickshaws and replaced auto-rickshaws. Rs 57.50 crore (around 6,737,850 Euro) was proposed for the initiative and subsidies are provided to the auto-rickshaw drivers, prioritizing the population living below the poverty line. The door-to-door data collected from the e-rickshaws are analyzed in an integrated platform and can be used for street design and planning to improve users’ experience.

In conclusion, all investments made by the city to improve the mobility system are vital to reduce pollution, road congestion, GHG emissions, as well as to enhance the quality of life to its residents.