

Ludhiana: Lessons from a developing city

How the pandemic reinforced the SDG imperative

Ludhiana, classified as an SDG advancer city in our study, is one of the most vibrant industrial cities in India. Prior to the pandemic, Ludhiana was acting on the SDGs. COVID-19 was a detour on its path to sustainability, but also an incentive to move forward.

As one of the biggest cities in Punjab state, Ludhiana has a large market for skilled and semiskilled workers. It manufactures half of the bicycles used in India and is a major producer of auto parts and garments.

Ludhiana had already begun to address poverty, public safety, pollution, and other SDGs before the pandemic hit. The city spent months collecting data on mobility and transportation, followed by focus group discussions with drivers, union heads, and users to draw a comprehensive picture of the city's transportation problems. City planners had many ambitious decongestion initiatives in their sights, from improving road demarcation to upgrading road networks and pedestrian areas.

Facing the pandemic

When the crisis spread, many jobs were lost. "The major impact of COVID was unemployment. People everywhere were fired as companies were not getting enough revenue," said Abhishek Sharma, Ludhiana's city manager. "For a city that is very big on industrial work and manufacturing, it was a disaster."

The city's first move was to fortify its healthcare system. With its limited resources and personnel, improving access to good healthcare was already a goal for the city before 2020, but the pandemic heightened the urgency. The city worked to boost healthcare resources and to digitize many services.

"We are focusing on online appointments so that people don't come in at once, and so they don't wait for a long period of time," said Sharma. "We have started this service, but people don't always know how the process works, so we are planning educational campaigns."

Education was another city imperative as students, confined to their homes, had to rely on online learning. The city invested in improving its network infrastructure to address residents' complaints about poor connectivity. To facilitate online learning, schools brought in an array of [new technologies](#), such as smart projectors, computers, and TVs.

"Before the pandemic, we were improvising day by day. This was the biggest lesson: we shouldn't improvise in our city. We must focus on technology and infrastructure so that people stay here, work here, and also come from other states."

—Abhishek Sharma, City Manager, Ludhiana



Smart City Solutions for a Riskier World Spotlight: Ludhiana, India

On the road to “Digital India”

Among its many impacts, the pandemic also increased the priority placed on Ludhiana’s digital plans.

The crisis underscored the need to provide more reliable and affordable Internet access and mobile connectivity to citizens and businesses, as well as to invest in digital transformation.

“India is trying to become Digital India. This is not a priority just for our city; all over the country we are focusing on the Digital India program led by the prime minister,” said Sharma.

Launched in 2015, the country designed the [Digital India](#) campaign to support its transition to a more digital economy by improving online infrastructure and connectivity. The program also focuses on providing government services online and improving digital literacy. With over [560 million](#) Internet subscribers in 2018, India is the second largest and fastest-growing market for digital consumers. The campaign’s goal is also

to reduce the digital gap and provide connectivity to all citizens. But for Ludhiana, as with other emerging market cities, money stands in the way.

“Whether we need to build a bridge or improve our educational system, we always need funding from the government,” said Sharma. “Everything depends on funding and how it is being utilized, how long we have to wait for that funding, and how we are going to implement it.”

Looking ahead

Today, as Ludhiana gradually recovers and [provides its residents](#) with the COVID-19 vaccine, the lessons learned will carry over into future initiatives. The city is already planning infrastructure projects focused on avoiding sea level rises during the rainy season, which impacts the city’s mobility and damages housing. Most of all, city leaders recognize the vital role that digitization will play in future urban plans.

Ludhiana’s biggest lessons from the pandemic

Smart city programs and digital transformation are crucial for the future of our city

Business and government need to collaborate more closely to address today’s issues

Operational continuity planning and agility are critical in today’s fast-changing world

A resilient ecosystem of suppliers and partners is vital to cope with unexpected, disruptive events

Cities need to provide more reliable and affordable Internet and mobile connectivity to citizens and businesses

Ludhiana’s biggest technology investments

Now	In three years
IoT & sensors	Cloud
Cloud	AI
AI	IoT & sensors
Telematics and geospatial	Blockchain
Online collaborative tools	Telematics and geospatial
Digital dashboards & real-time data tracking	Mobile/apps
Data management center	Digital dashboards & real-time data tracking
Digital twins	Biometrics
	Data management center

Ludhiana’s investment priorities



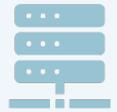
MOBILITY & TRANSPORTATION



GOVERNMENT & EDUCATION



ENERGY, WATER, & OTHER UTILITIES



DIGITAL INFRASTRUCTURE & NETWORKS