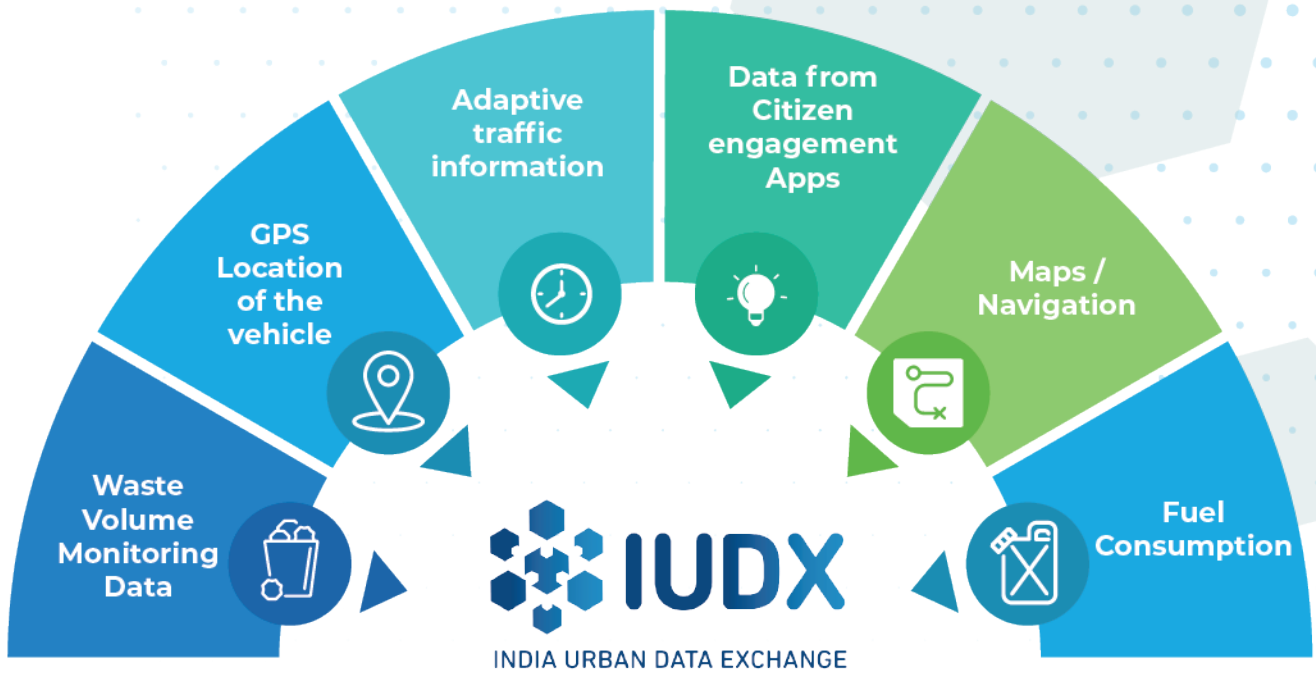


SOLID WASTE PICKUP AND ROUTE OPTIMIZATION



Creating Cleaner Cities with Reduced Carbon Footprints

Time, cost, and energy efficient waste management system that optimises solid waste collection by dynamically routing the pick-up vehicles. The process entails selection, control and distribution of bins, the planning of pick up routes, monitoring of vehicle load, bin and dump filling levels and citizen engagement data to improve operational efficiency.



IMPACT

-  Better utilization of resources
-  Real time tracking of the waste pick-up vehicles
-  Decreased operational cost for the waste management agency
-  No overfilling and spillovers at waste collection points
-  Prioritized pickup at locations with higher waste volumes
-  Reduced traffic, less pollution, cleaner city and higher citizen satisfaction

CITIZEN BENEFIT

- Cleaner city
- Decreased risk of spread of infectious diseases
- Reduced greenhouse gas emissions
- Positive effect on water bodies within the cities
- Improved chances of recycling of waste

HOW IUDX MAKES THIS USE CASE BETTER AND EASIER TO BUILD?

- Use cases built for one city can easily be ported to another
- Opportunity for partners to scale engagement across multiple cities with IUDX facilitation
- Easy access to city data held by city administration, which otherwise is difficult to obtain.
- IUDX acts like a bridge between city specific implementation and global standards.
- Reduced development cost. IUDX provides an open source foundation to build upon, with standard interfaces simplifying implementation.

CASE STUDY

The solid waste management use case went live in Varanasi in October 2020. Each waste pickup vehicle is equipped with a smartphone that is used to estimate the picked-up waste along with the exact vehicle location via GPS feed. This smart system, powered through IUDX, enables the city officials to identify anomalies and generate alerts in real time. In the event of a vehicle breakdown or complete filling of capacity, recommendations are made to the nearest vehicle to take over and coordinate garbage collection. This use case has been implemented in partnership with Hitachi India.



INR **16.95**
crores saved by
varanasi on
solid waste
management
every year

Impact: The city generates over 600 metric tons of solid waste everyday, spending approximately INR 113 Crore/year in the process. With the implementation of the solid waste management system based on IUDX, the city not just saves approx INR 16.95 Crores/year on the sanitation services, but also has shown improved efficiency and resilience of the waste collection cycle.



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