

# The Urban Waste Challenge: Moving Beyond Static Management

Optimizing collection through IoT and Smart Technology.

## THE GLOBAL SCALE

- **3.40 Billion Tonnes:** Projected global waste by 2050 (World Bank).
- **Static Routing:** Current trucks follow fixed paths regardless of bin levels.
- **30% Inefficiency:** Operational costs lost to "empty bin" collections.

## THE "WHY"

- **Environmental:** Unnecessary fuel consumption and higher carbon footprints.
- **Sanitary:** Overflowing bins lead to odors and vector-borne diseases.
- **Administrative:** Lack of real-time data for holiday/event spikes.

## THE SOLUTION

### SENSE

Ultrasonic sensors monitor bin levels.



### TRANSMIT

Real-time data sent to the Cloud.



### OPTIMIZE

Algorithm calculates Dynamic Routes.



### ANALYZE

Trucks collect only full bins, saving fuel and time.

## REFERENCES:



## OUTCOME:

**Optimized  
Logistics for a  
Cleaner  
Tomorrow.**