

## **Handling Freight with Finesse**

Obtaining Data on Cargo and Urban Freight Vehicle Movement within Bengaluru

Bengaluru has the fastest growing startup ecosystem in India and contributes significantly to the country's GDP, besides serving as the fourth largest technology hub in the world and housing several Fortune 500 companies and global innovation centers. The city has emerged as the hub of information technology, biotechnology, aerospace, animation, visual effects, and graphics, among others.

The city also has a population of more than 13 million and has seen rapid growth in e-commerce in recent years. As several e-commerce companies engage delivery partners separately to deliver packages to consumers, there is an increasing movement of two-wheelers and micro-mobility vehicles. Focus on transit-oriented development and the implementation of large infrastructure projects, such as metro rail or housing projects, is also contributing to increased urban freight movement.

Bengaluru hence faces significant traffic congestion due to rapid increase in the number of personal vehicles, despite public transport accounting for 40% of daily trips. Urban freight movement is also adding to the congestion.

As the urban freight sector in Bengaluru is fragmented with many stakeholders, mostly of the private sector, there is a scarcity of data as there are no readily available solutions for capturing type of freight vehicles, type of loads carried, routes taken, time of travel, delays due to various factors, demand for parking, monitoring of freight flows etc. As a result, efficient management of freight flows through the already congested city roads has become a challenge, leading to avoidable delays for freight movement.

In India, the logistics sector constitutes 7% of total CO<sub>2</sub> emissions, and is growing year over year. Shifting to green freight modes is the need of the hour; however, considering the highly fragmented nature of the sector, overseeing or enabling such a shift through regulations would need to be supported through robust monitoring and enforcement.

In order to monitor and manage freight flows in Bengaluru to derive analytical insights for planning and regulation of urban freight, **Artificial Intelligence Tools are needed to help capture data such as:**

- 1. Type of freight vehicles**
- 2. Type of loads carried with weight**
- 3. Routes taken**
- 4. Time of travel**
- 5. Areas restricted for movement of freight**
- 6. Time of restrictions of entry and exit of freight**
- 7. Availability of parking**
- 8. Availability of loading/unloading bays**
- 9. Volume of traffic**
- 10. Number of entering and exiting vehicles**
- 11. Frequency of deliveries**
- 12. Type of grievances**
- 13. Queue length**
- 14. Delays due to various factors**

- 15. Overlapping of trips to same destinations
- 16. Vehicular emissions
- 17. Availability of warehouses for storage

**What Does The Winning Company Get?**

An opportunity to conduct a pilot implementation of the tool in Bengaluru for the Directorate of Urban Land Transport, Government of Karnataka, and in collaboration with the [Green Urban Mobility Innovation Living Lab](#) – a joint initiative of GIZ and Bosch Limited.

**Program Partners:**



**Challenge Owners:**

