Background Note on City Logistics Committee

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Background and context

Cities are central to India's economic development, contributing to over 63% of India's GDP.[1] Urban freight in turn is a core component of the modern Indian city. It provides residents and businesses with products needed on a daily basis. With economic growth and urbanization, urban freight movement is rapidly growing, with total demand estimated to increase by 140% by 2030.[2] This growth will be particularly rapid in the e-commerce sector, where the market is expected to be worth nearly INR 11 lakh crore by 2022.[3]

While urban freight is a critical element of a prosperous city, it is also directly linked with multiple negative externalities. Freight vehicles are responsible for a disproportionate amount of vehicular pollution—in India, they contribute 23 kilo tonnes of Particulate Matter (PM) and 305 kilo tonnes of NO_x emissions annually.[4] They also amount to 10% of India's freight-related CO_2 emissions.[5] Additionally, freight vehicles contributed to 10% of road fatalities in Million-Plus cities in 2019.[6] Improperly parked and illegally driven freight vehicles prove to be a regular obstruction for flow of traffic in cities, causing congestion and delays. Combined, these issues create public health concerns for urban areas while also reducing their economic competitiveness.

Urban freight systems can also be highly inefficient if not planned for and managed well. Uncoordinated and haphazardly planned deliveries generate excessive trips and vehicle kilometers, exacerbating existing externalities. Final-mile freight movement in cities is responsible for 50% of total logistics costs in India's e-commerce supply chains.[7] This illustrates the opportunity presented by improved efficiency. It can result in vast benefits, including lower emissions, improved road safety and traffic flow, employment creation, and reduced costs.

Meeting the growing demand for urban freight reliably while implementing interventions to improve its efficiency will require proper planning by cities as well as effective collaboration between private and public sector stakeholders. In recognition of this, the Government of India is developing the Freight Smart Cities Scheme to support 75 Indian cities in efficient freight planning. Its objectives include creating capacity building linkages between cities and academic institutions and providing guidance to cities in creating City Logistics Plans. It is also aimed to develop indices to baseline, track, and rank cities' progress on freight efficiency.

A pillar of the Freight Smart Cities Scheme is the promotion of urban governance on freight in the form of city-level logistics committees. This note aims to provide context on the need for city-level logistics committees, its objectives, suggested composition and governance structure, and actions to be taken by the committee. It also provides international case studies where similar committees on urban freight have yielded effective outcomes for cities and businesses.

Opportunity and need

The urban freight ecosystem is complex, comprising various stakeholders with differing roles and priorities. In addition to e-commerce companies, carriers, logistics providers, and other private sector players, urban policymakers must work with state authorities, law enforcement agencies, vehicle regulators, and other public sector parties to formulate effective policies. Civil society organizations, academic, and research organisations/think tanks must also be consulted for their technical expertise and to ensure representation of the interests of urban residents.

Due to this multi-stakeholder nature of urban freight, efficiency improvements need to be identified and implemented in a collaborative fashion. Urban governance in the form of City-Level Logistics Committees can effectively play this part. The committee can bring together stakeholders from public and private sector, which can together discuss and act on solutions to make the urban freight transport more efficient

and cleaner. These solutions can then help reduce carbon, PM and NOx emissions from this sector, and also reduce shipping costs, which in turn can be passed onto the end consumers. The coordinated effort at the city level will directly feed into reducing logistics costs as a share of GDP for the country and also improve India's ranking in the Logistics Performance Index (LPI).

The committee can be tasked with guiding the preparation of a City Logistics Plan (CLP) following a review of the city's performance on freight. The CLP can map the current freight performance of the city, define its present and future needs and priorities, and identify quick reform areas. The committee can provide guidance, create an enabling environment for the implementation of the CLP, and support the monitoring of progress of the CLP.

Functions of the committee

The city-level logistics committee is envisaged to have the following functions:

1. Advisory & Planning
    - Setting a vision and targets for the city's freight performance.
    - Identifying and supporting key actions and projects (such as pilots) that can be undertaken for improved freight performance
    - Reviewing and recommending proposals for improved logistics planning for the city from different public sector stakeholders.
    - Ensuring alignment of city's freight efficiency objectives with existing or proposed transport, vehicle, zoning, and land use planning for the city.
    - Providing inputs to state and national policies from the freight efficiency perspective.

2. Stakeholder Coordination
    - Engaging with stakeholders across the ecosystem to incorporate their perspectives and inputs into freight policymaking.
    - Working with academic institutions, civil society organizations, non-government organizations and think tanks, as well as local civil society organizations and NGOs to host stakeholder convenings, evaluate city-specific enablers, and formulate implementation action plans.
    - Providing regular support across the city government to prepare and implement the CLP.
    - Represent the city on freight performance at state and central levels.

3. Progress Assessment
    - Monitoring and regularly evaluating the implementation of measures outlined in the CLP.

Committee formation and composition

For every state, following structure is proposed:

- City-level committees for the selected cities under the Scheme
- An apex state-level committee

City level committees: For forming committee at the city level, two alternative compositions can be considered based on the size and geographical constraints of the city, similar to the formulation of Unified Metropolitan Transport Authorities (UMTAs). UMTAs are government nodal agencies under the urban

local bodies that perform regulatory, policy and strategy functions related to urban transport in cities and integrate and approve proposals by different transport agencies at city level.[8]

- *Alternative 1: Committee for a single municipal area for non-metro cities*

  This structure applies to urban areas including cities such as Jaipur, Lucknow, Kanpur, Mysore, where the urban area is contained within a single local government jurisdiction. This kind of structure will be most prevalent across the cities in India.

- *Alternative 2: Committee for a group of adjacent municipal areas*

  For urban areas where two or more cities are adjoining and have a presence of significant inter-city freight movement and require a facilitated coordination of vehicle movement, having a single logistics committee monitoring the adjacent areas will be more relevant. This kind of structure would apply to cities such as Ahmedabad – Gandhinagar or Pune – Pimpri-Chinchwad, or urban agglomerates such as Greater Kochi, which have two or more municipal areas in close proximity.

State level committees: Apart from committees at the city level, state level apex committees are proposed to be constituted. While state-level committees can guide and monitor progress of cities under the Freight Smart Cities Scheme, they can also guide and provide expertise to smaller cities, which are usually resource and cash constrained and are not included in the current scheme. Moreover, for majority of the cities, significant freight movement will be beyond the control of municipal boundaries, hence state's intervention will be important for successful implementation of identified actions. The state-level committee structure can be drawn upon the learnings of existing UMTAs at the state level for states of Karnataka, Madhya Pradesh, West Bengal, Rajasthan and Jharkhand.

The governance structure of these logistics committees can be implemented in the following two ways:

- The committees can be part of the existing UMTAs. The UMTAs are responsible for the transport planning and management for the particular jurisdiction, so it will be easier and is recommended to integrate the functions of the logistics committee with UMTAs, where they are already functional.
- Wherever the UMTAs are not functional or don't exist, the states and cities can formulate a new logistics committee reporting to a nodal agency such as the Municipal corporation at the city level or State urban development/transport department at the state level.

The city-level logistics committee should preferably have representation from both public and private sector. In the public sector, municipal agency, traffic department, transport department and development authority representation are the most relevant for urban logistics planning and enforcement. The committee will collaborate with central and state government agencies as needed to ensure integration across policy schemes and for effective implementation of identified actions. Involvement of private sector is necessary to understand on-the-ground operational issues and logistics demand. This coordination amongst stakeholders is essential to facilitate logistics planning, secure data, and develop integrated infrastructure plans.

The tables below outline the suggested composition of the committee. The committee is proposed to be chaired by the Municipal Commissioner in case of Alternative 1 of city level committee, by one or more Divisional commissioners in case Alternative 2 of city level committee and by Principal Secretary of Urban

Development in case of State level committee. Depending on the governance and geographic features, the composition can vary.

City/state government:

Stakeholder type	Areas for collaboration
Municipal Corporation	• Nodal agency
Transport Department	• Transportation regulations and policymaking e.g., designing incentives for electric vehicle adoption, regulations for freight vehicles
Police Department	• Traffic management
Environment Department	• Introducing sustainable practices in logistics and monitoring emissions, levying environmental/pollution cess, etc.
State Urban Development and Town Planning Departments/authorities	• Plan industry related policies like industrial land use planning, pollution control • Land use planning for the city • Parking management
Finance department	• Project prioritization and finance

Other state-wide representation such as nodal officers dealing with national and state highways, railways, airports and ports can be included as appropriate.

Private sector:

Stakeholder type	Areas for collaboration
Logistics service providers	• Freight demand and movement patterns • Mapping locations for warehouses
Truck associations, third party logistics providers	• Understand barriers with freight vehicle operations
Shippers/providers	• This will include Warehouse Providers, Packaging Companies, Handling Agents. • Their inputs will be critical to understand freight demand and movement patterns, mapping locations for warehouse, ensure integration across transport modes.
Goods receivers	• This will include market associations like shops, restaurants, etc. Their inputs will be crucial to understand operational barriers with the goods movement.

Other stakeholders include end-user industries, importers/exporters, domestic traders, logistics service associations, chambers of commerce, custom brokers, freight forwarders, and charging infrastructure providers.

Central Government:

City and state committees will be advised by/ can consult central government agencies, as needed:

- **Roads** – Ministry of Road Transport and Highways (MoRTH), National Highways Authority of India (NHAI)
- **Railways** – Ministry of Railways

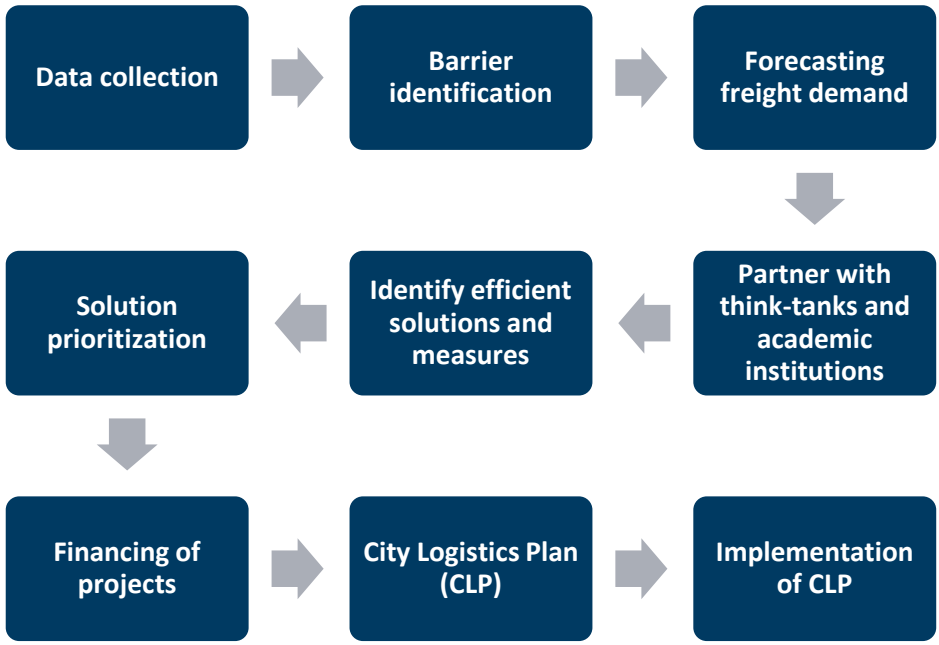
- **Ports** – Ministry of Ports, Shipping and Waterways
- **Inland Waterways** – Inland Waterways Authority of India
- **Airports** – Ministry of Civil Aviation, Airports Authority of India
- **Central Board of Indirect Taxes and Customs** (ICD, CFS)
- **Urban Development – Ministry of Housing and urban Affairs (MoHUA)**
- **Electric vehicles, clean fuels – NITI Aayog, DHI, MoP, MoPNG, MoEF&CC**

Actions to be undertaken by the committee

Once the composition structure of the committee is finalised, it is important to lay the framework for key actions the logistics committee will support, and its methods of action. The functions will vary based on the size and respective needs of the city, but overall, the multi-stakeholder committee will provide guidance to city on improving its freight related activities, act as a forum for stakeholder discussions, provide a platform for information sharing, and help in formulation of the City Logistics Plans (CLPs).

Specific actions performed by the committee are (Exhibit 1):

Exhibit 1: Key actions performed by the committee



Data collection

The first step toward figuring out inefficiencies in the urban freight system is to acquire the right data. Data acquisition and its interpretation will help the city officials better understand how the freight is moving in the city, what kind of freight is being moved, and which vehicle types are responsible for that movement. Hence, it is important to have a well-planned data collection framework.

The logistics committee can help fast track the process of data collection, as it has representation from the stakeholders who will provide most of the data (e.g., businesses, logistics service providers) and also the stakeholders who will use this data for better policy formulation (e.g., the municipal, traffic and transport departments).

There are four key categories of data types that can be collected and analysed to develop a deeper understanding of freight movement in the city.[9] The first data type is around *vehicle location and travel data*, which can provide information on how the vehicles move, stop, perform deliveries, and charge (in case of electric vehicles) during the day. This can help optimise vehicle routes and plan charging infrastructure.

The second data point is *business registrations*, which can be gathered through municipal or tax authorities. This data point can help the city officials understand freight and commodity flows, which can help streamline the process for infrastructure planning and land use.

The third data type is *surveys*, which can help better understand how goods move within a city, with details on truck size, number and type of deliveries, load size per vehicle, how the delivery vehicle spends its time, pain points that require resolution, cost composition and much more. Surveys can be in the form of road-side interview, establishment, parking, and driver surveys. These data points are helpful in projecting trip generation, planning parking, and better understanding of existing congestion issues.

Finally, data can also be collected via *manual counts*, which can be used for understanding parking and delivery patterns in dense urban areas or along key freight corridors.

In case some or all of these data points exist or are being collected, the committee should coordinate with the relevant agencies for data collection and avoid any duplication of efforts and hence build upon existing efforts.

Barrier identification

Urban freight in India consists of complex activities and supply chains and is often plagued by barriers arising from lack of understanding of these activities among public agencies. The unorganized and fragmented market dominated by private players and disconnect between them and the public agencies, widespread logistics sprawl due to existing land use planning and business models, slower uptake of technological solutions, etc. are also prominent barriers.

The committee can identify and resolve these barriers, which will differ by city, through regular stakeholder consultations. The presence of stakeholders such as freight forwarders, transporters and logistics service providers, and retail businesses in the committee can help the policy makers identity barriers efficiently.

Forecasting freight demand

Forecasting freight demand is crucial to decisions around infrastructure required to satisfy that demand and the associated investment to build up that infrastructure. To accurately forecast the demand, it is important to understand certain parameters such as trip generation (quantity of freight moving in and through the city), trip distribution (origin-destination pairs), mode share (by which mode is the freight moved), and network assignment (how many vehicles are running on the network).[10]

The committee could work alongside the particular nodal agency and partner with academic institutions for such tasks to perform an in-depth review of the different demand sources for freight movement, which will differ by city. These demand sources are usually retail and e-retail, courier and post, hotels and restaurants, construction and waste disposal. This review by each demand source will help the committee in analysing the evolving consumer preferences and advise on infrastructure planning accordingly.

Partnering with think-tanks and academic institutions

The committee can also partner with think-tanks and academic institutions which have expertise in the field of urban freight. These institutions are an important stakeholder group which can provide capacity building and technical support to the cities. Such institutions have a unique ability to convene various urban stakeholders and ensure all perspectives are incorporated in city logistics planning. Their expertise and knowledge will aid the committee and city governments in formulating the CLP.

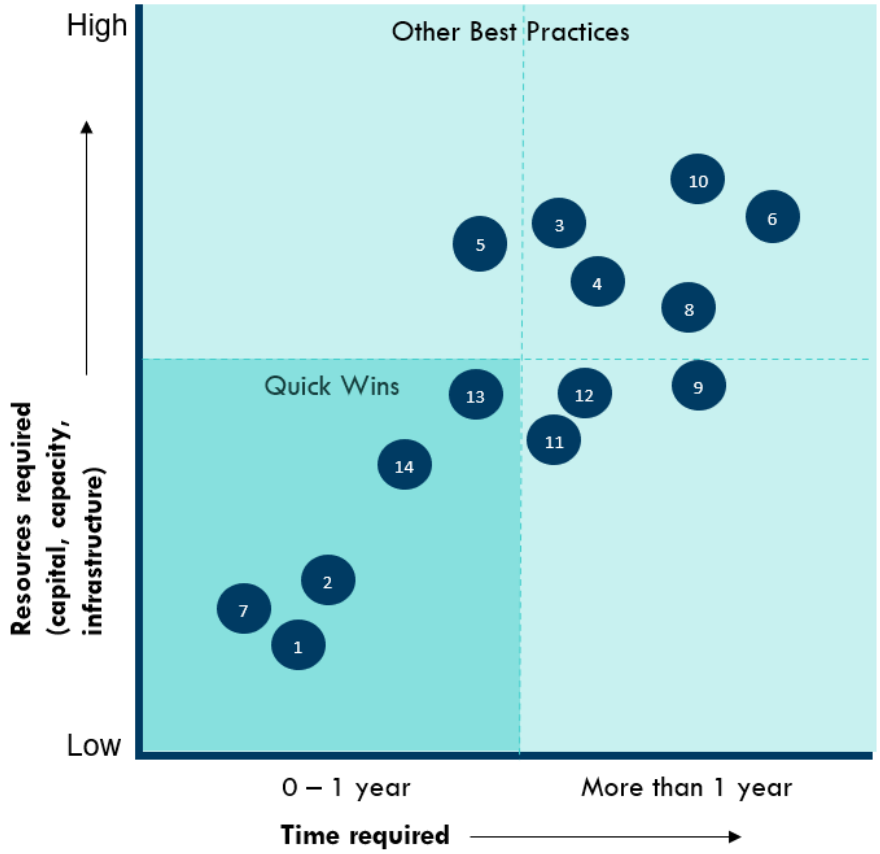
Identifying key solutions and measures

After acquiring the right data, identifying the pain points, conducting demand modelling and consultations with the institutions, the committee can then advance to figuring out the right measures that the city can implement to improve the efficiency of its freight transport system. Some of these measures are quick wins that can be implemented within a year and with limited resources in terms of capital, capacity and infrastructure requirement, while others will applicable over a longer term. The measures are as follows:

Table 1: List of solution categories and associated measures that the cities and states can deploy

Solution category	**Measures**
Vehicle use optimization	1. Night-time deliveries
	2. Developing truck routes
	3. Reverse logistics
Infrastructure development	4. Urban consolidation centers
	5. Urban logistics spaces and logistics hotels
	6. Logistics development and logistics parks
	7. Parcel delivery terminals
Demand and land use planning	8. Industrial planning
	9. Modal shift planning
	10. Bypasses and ring roads planning
	11. Parking and unloading zones
	12. Low-emission zones and congestion pricing
Technology adoption	13. Use of Intelligent Transportation Systems
	14. Promoting electrification of urban freight

Exhibit 2: A 2x2 matrix mapping the measures according to the time and resources required for their implementation



The measures that each city will focus on will depend on its specific barriers and needs, as previously identified by the committee.

Solution prioritisation

Once the solutions and measures are identified, the crucial next step is to prioritize these measures. Based on each city's freight ecosystem and needs and after evaluating trade-offs between competing goals such as economic development, improved public health and reduced CO_2 emissions, safety and cost, the committee can suggest goals and prioritize measures, in consultations with its members.

With rapid urbanization and evolving customer needs, the goals will change. Hence, the committee will need to revisit its prioritisation strategy in order to maximise the benefits to the citizens.

Financing of projects

The committee can suggest funding mechanisms for the various measures, but the final decision will be made by the departments enacting the policy or developing the infrastructure. Some of the methods of financing that the committee can recommend are Public Private Partnerships (PPP), Project Finance, Value Capture and conventional budget/tax collection.[11]

Since majority of urban freight projects benefit both the private players, through cost reductions, and the public sector through reduced congestion, better air quality and economic development, PPP funding is an effective way of pooling capital from both public and private sector for effective project execution.

Wherever the upfront costs of the project are high (especially in the case of infrastructure solutions), project finance can be considered as another funding mechanism. Here, revenue generated from use of the associated infrastructure is used to pay for the high upfront cost of the project.

The third avenue taps into value capture, where a particular freight related project can lead to amplification of the value of nearby real estate. The project can then be paid off by capturing value through property charges or other fees levied on the developers.

City logistics planning

The committee's central role will be to utilise the above-mentioned actions, which will culminate into City Logistics Plans (CLPs). CLPs use collected data to understand current issues and also forecast demand, set targets for improved freight efficiency, and outline specific solutions to achieve these targets. They also recommend sources for funding for the projects and set action plans for effective policies that can make the freight transport system cleaner and more efficient.

The main objectives of the CLP will be to improve the existing freight transport ecosystem and infrastructure in the cities, promote economic development, and improve the quality of life for the citizens. These plans will take into account both short-term fixes and the long-term planning which is essential to set a vision for urban freight policies and initiatives. The plan will also focus on minimising the environmental impact of the freight transport activities and will promote automation and digitisation in freight movement and warehousing for increased efficiency.

Implementation of CLPs

The CLP, once formulated, will require support from multiple agencies for a smooth implementation. The committee will continue to provide technical assistance to the city on implementing the CLP. This will involve offering support on existing activities of the CLP, suggesting changes or updates after constant review of the plan and associated projects, and seeking out new avenues for improving the freight transport system for future updates of the CLP.

Case Studies

1. Freight Advisory Board, Seattle, USA[12]

The city of Seattle created its Freight Advisory Board in 2010, with the primary objective of providing technical advice on making the freight transport system in Seattle more efficient and cleaner.

The advisory board directly advises the mayor, city council, and other local government departments in facilitation and implementation of freight related policies, plans and projects. Over the last decade, this committee has been instrumental in setting up and regularly updating Seattle's Freight Master Plan. This master plan outlines policies and infrastructure design guidelines to make the freight ecosystem more efficient, and short- and long-term opportunities that the city can tap into for improvements. It has a special focus on creating a data driven framework.

The committee also provides inputs and advice on other projects, such as identification and designation of key truck routes and streets in the city, and regular updates to the freight aspects of the Transportation Strategic Plan of the city. Annual reports for the city council outline the key projects and successes undertaken by the committee.

The committee has representation from various private and public sector stakeholders, promoting a collaborative approach towards solving freight-related issues in the city.

2. Freight Quality Partnership, Central London, UK

The Central London Freight Quality Partnership (FQP) was established back in 2006 as part of the University of Westminster's Transport Studies group.[13] This FQP is a forum involving a public-private partnership which aims to understand the freight issues in Central London and suggest recommendations for improving the freight ecosystem.

The FQP performs three main roles of advocacy, research, and collaborative implementation.[14] The FQP advocates for effective policy making, for example assisting in the central London strategic freight policy. It performs research on measures such as efficient loading and unloading, cost reduction opportunities for business and freight operators, and helps freight players understand their environment footprint. The FQP also collaborates with city council departments to implement measures that can make the freight transport more efficient.

The FQP is chaired by professors from University of Westminster and has representation from government agencies such as city council departments, Greater London Authority, police department, and from private players such as freight service providers, vehicle associations, local businesses, restaurants, and supermarkets.

3. Urban Freight Committee, Kochi, India[15]

Kochi Metropolitan Transport Authority (KMTA) has recently approved the formulation of an urban freight committee. This committee will be responsible for supporting the implementation of efficient freight measures that will enhance the economic development of the region and reduce its environmental impact.

The main function of the committee will be to provide assistance in planning, regulation and implementation of sustainable freight transport in Kochi. The committee will also provide a platform for multi-stakeholder engagement among the public and private sector players. Public sector players will include existing members of the KMTA such as Motor Vehicles Department, urban transport planners, police, secretaries of local bodies, etc. The private sector players include (but not limited to) transport associations and unions, Cochin Chamber of Commerce and Industry.

The committee formation is part of a larger project stream in Kochi geared toward identifying the right strategies and formulation of key policies for efficient urban freight movement in the city.

Endnotes

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