Urban Freight Policies and Initiatives

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Acknowledgements

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Freight Policy

- Should ensure freight movement as efficiently as possible, as hampering the flow of cargo is bound to have a negative effects on the economy.

Goal:

- To maximize the efficiency of freight flows while minimizing their negative externalities.

Agents:

- Producers, the ones that manufacture/produce the goods
- Shippers, the ones that send the goods
- Receivers, the ones that use the goods transported
- Carriers, the ones that transport the goods

These are key to behavior change.
Typology of Public Sector Initiatives
1. Infrastructure Management
Use infrastructure improvements to enhance freight.

Enhancements often necessary due to increases over time in urban truck size and traffic.
a. Major Improvements

- Ring Roads
- New / Upgraded Infrastructure, Intermodal Terminals
- Freight Cluster Development (Freight Village)
b. Minor Improvements

- Acceleration / Deceleration Lanes
- Removal of Geometric Constraints at Intersections
- Ramps for Handcarts and Forklifts
2. Parking/Loading Areas Management
Include initiatives aiming to improve the way parking spaces are used by freight vehicles

Attempts to reduce:
- Double parking violations
- Delivery time
- Impeding on sidewalks and roadways
a. On-Street Parking and Loading

**CLEARWAYS**

6.30-9.30am
Mon-Fri except Public Holidays
3.30-6.30pm
Sunday and Public Holidays

**CLEARWAYS**

3.30-6.30pm
Mon-Fri except Public Holidays
11.30am-2.30pm Saturday

Source: TfL, Kerbside Loading Guidance (2009)
b. Off-Street Parking and Loading

- Enhanced Building Codes
- Timeshare of Parking Space
- Upgrade Parking Areas and Loading Docks

<table>
<thead>
<tr>
<th>Land use</th>
<th>Floor area</th>
<th>Minimum number of bays</th>
<th>Land use</th>
<th>Floor area</th>
<th>Minimum number of bays</th>
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<tbody>
<tr>
<td>Office</td>
<td>General</td>
<td>1/5000 m² 1 LR</td>
<td>Dept Store</td>
<td>General</td>
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<td>4 HR</td>
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<tr>
<td>Shop</td>
<td>General</td>
<td>1/2000 m² 1 LR</td>
<td>Showrooms</td>
<td>General</td>
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<td>1 HR</td>
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<td>General</td>
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<td>Warehouse</td>
<td>General</td>
<td>1/1000 m² 1 A</td>
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3. Vehicle Related Initiatives
Seek to improve environmental conditions by fostering the use of technologies and practices leading to reductions of negative impacts related to freight vehicles.
a. Emission Standards

- Foster the use of vehicles producing less environmental impacts

**Alternative fuels**
- Electric
- Hybrid/Electric
- Natural Gas (CNG and LNG)
- Hydrogen

**Vehicle design and components**
- Stop/start idling systems
- Tractor unit aerodynamics
- Trailer aerodynamics
- Emission control retrofits
- Low resistance tires
Low Noise Technologies

- Electric/alternative fuel trucks
- Low noise lift platforms
- Noise absorbing coatings
- Low noise carts
4. Traffic Management
Conditions under which freight vehicles can circulate
a. Access and Vehicle-Related Restrictions

- Use restriction(s) to limit access of freight vehicles target area
- Restrictions vary in terms of:
  - Vehicle type: size, weight, load factor, commodity type, engine type
  - Time of travel
- Not well received by carriers, due to operational changes and higher costs
- Research has clearly shown these restrictions could lead to counter-productive effects in terms of congestion and pollution
a. Access and Vehicle-Related Restrictions

- Vehicle Size and Weight Restrictions
- Truck Routes
- Engine-Related Restrictions
- Low Emission Zones
- Load Factor Restrictions
b. Time Access Restrictions

- Impose restriction(s) on the times at which freight activity can take place
- **Goal**: reduce freight traffic during the congested times of the day in specific sections of a city
- Building owners and receivers **also** impose delivery time restrictions
  - Relaxation of such delivery windows can reduce congestion spreading peak truck traffic
c. Traffic Control and Lane Management

- Promote effective use of available road capacity
- Try to optimize the allocation of lane right-of-ways
- Often used to improve lane utilization, mobility, safety
- Could reduce travel delays and improve reliability
c. Traffic Control and Lane Management

- Restricted Multi-Use Lanes
- Exclusive Truck Lanes (Dedicated Truck Lanes)
- Traffic Control
  - Signs, equipment, and such
  - Effectiveness can be enhanced with real-time traffic information systems and variable message signs
5. Pricing, Incentives, and Taxation
Use monetary signals to achieve public goals
Pricing
1. Road Pricing

- Recommended to reduce freight traffic by promoting better utilization of transportation capacity

- In theory, the increase in transportation costs produced by toll lead to reduction in truck traffic

- Empirical research indicates in the case of cordon time-of-day pricing, things do not work that way

- Carriers cannot unilaterally change delivery schedules, and have limited power to transfer the toll costs on to their customers
2. Parking Pricing

- Intertwined with allocation of curb space among users
- **Issue:** Cities fail to allocate enough parking for freight activity. Thus, significant parking violations and fines
- With proper allocation of curb space
  - Increase sustainability
  - Protect historical areas
  - Improve traffic conditions
Incentives

1. **Recognition Programs**: Use power of public acknowledgement to encourage others to follow

2. **Certification Programs**: Recognize participants achievements and follow certification process

3. **Operational Incentives**: Provide incentives to foster use of electric/low emission vehicles

4. **Financial Incentives**: Provide incentives for purchasers electric/low emission vehicles

**Conclusion**: Combine power of incentives and regulations
Taxation
Taxation

- Used to raise revenues and foster behavior changes leading to public benefits
- Tax incentives or penalties usually tied to purchases that are easy to verify
- If properly designed, a mix of incentives and penalties is more effective than only punitive policies

Example:
- Tax reductions to companies using energy efficient equipment
6. Logistical Management
Focus on altering the way deliveries are made

Classified:
- Cargo Consolidation
- Intelligent Transportation Systems
- Last Mile Delivery Practices
a. Urban Consolidation Centers

- Seek to reduce freight traffic in target area by consolidating cargo at a terminal
- Overall costs higher than direct deliveries
- Difficulty to find enough suitable space in urban areas
b. Intelligent Transportation Systems

1. Real-time Information Systems
2. Dynamic Routing
3. Vertical Height Detection Systems

Objectives:

- Help carriers improve delivery reliability
- Reduce costs, and respond to unexpected incidents
- Reduce impacts of truck traffic.
c. Last Mile Delivery Practices

1. **Time Slotting of Pick-Up/Deliveries**: Reduce negative impacts of pick-up/deliveries to LTGs

2. **Driver Training Programs**: Seek changes in driver behaviors to improve operational efficiency and safety

3. **Anti-idling Programs**: Attempt to reduce pollution caused by idling trucks.

4. **Pick-up/Deliveries to Alternate Locations**: Foster use of alternate locations such as lockers and drop-off boxes
7. Demand/Land Use Management
It focuses on modifying the demand, instead of modifying the logistical activities or the traffic.
Demand Management
1. **Voluntary Off-Hour Delivery Program**: Induce a time shift for deliveries to be made during the off-hours (7PM to 6AM), by providing incentives to receivers.

2. **Staggered Work Hours Program**: Distribute daytime receiving hours to reduce truck demand during peaks.

3. **Receiver-led Consolidation Program**: Encourage receivers to reduce the number of deliveries that they receive by consolidating purchases and deliveries.

4. **Mode Shift Programs**: Encourage use of alternative modes to reduce the number of trucks in the city
Land Use Management
Land Use Policy

- Regulates spatial concentration and distribution of economic activities related to freight
- The bulk of urban truck traffic is produced by small establishments in the food and retail sectors

1. Relocation of Large Traffic Generators
   - It has high risk for unintended consequences

2. Integration of Freight into Land Use Planning:
   - Include freight in urban land use planning process.
   - First: understand the sources of conflict between freight and other land uses
   - Second: Develop strategies enabling compatible development
8. Stakeholder Engagement
Successful implementation of initiatives to improve urban freight requires active involvement and participation of key stakeholders.
Stakeholder Engagement

1. Designate a “freight-person” at the key city agencies
   - Focal point of communications

2. Create an Industry Advisory Group, IAG, (FAC)
   - Forum for discussion of freight issues

3. Educate Elected Officials
   - To enhance importance of freight and how to improve it

4. Create a Technical Advisory Committee (TAC)
   - Public sector staff meet to discuss freight policy

5. Consider Freight Quality Partnerships (FQP)
   - To create formal working environments

Closing Remarks

- Before attempting to police the freight system:
  - Assess the problem/need to identify its source
  - Identify key agents involved
  - Engage main stakeholders in the solution

- Once a reduced set of strategies is identified, decision-makers proceed with the planning process:
  - Establish goals
  - Identify resources available
  - Define performance measures
  - Analyze existing conditions
  - Evaluate strategies and select preferred (based on tradeoffs)
  - Develop an action plan
  - Implement, Follow up and Reassess
Thanks!!
Questions?
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