Project SOLUTIONS webinar series
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CITY LOGISTICS

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800,000 deliveries a day in the Paris region
(urban freight surveys, Lab. of Transport Economics, Lyon)

- New urban freight survey for the Paris metropolitan area (LET, 2014)
- 0.70 delivery per week per employment job (about 0.40 delivery per week per inhab.)
  - 24% small retail
  - 18% offices
  - 18% industry
  - 17% wholesale
- 2% of these deliveries are innovative urban logistics
Types of vehicles: increase in two-wheelers

Répartition des opérations par semaine selon le type de véhicule (données redressées)

Source: LET, ETMV IDF, 2014
Types of operations: increase in joint deliveries/pick-ups

- Les types d’opérations selon le secteur d’activité

Source: LET, ETMV IDF, 2014
Different cities, different needs

- Chicago: the main rail hub for North America
- Los Angeles: air pollution and urban trucking associated with the port
- Shanghai: largest cargo port in the world, logistics as a major economic activity
- Tokyo: truck congestion to and from the ports
- Mexico City, 42% of the working population works in micro companies of which half are home-based workshops or street-based, generating specific patterns of deliveries
- Dabbawalas in Mumbay
• New York City: home deliveries!
• Every day in the metro area:
  – About 1.4 million deliveries to businesses
  – About 0.8 million internet deliveries
Urban freight is a highly performing activity

- Serves customers despite fast changing urban economy and difficult traffic conditions
- The urban economy today is not the one from twenty years ago:
  - less independent retail activities
  - increased demand for express and courier deliveries
  - decrease of storage and demand for more frequent deliveries
  - development of e-commerce and home deliveries
Changing urban supply chains

Istanbul retail: from local stores to supermarket chains
⇒ Consolidation of deliveries
⇒ Larger trucks
⇒ Deliveries concentrated in morning hours
‘City logistics’ is emerging

- City logistics = any service provision contributing to an optimised management of the movement of goods in cities and providing innovative response to customer demands
- Main postal/parcel delivery players still dominant
- New players: Star’s Service, Shurgard, Kiala (UPS), The Green Link, Colizen, Cargo Hopper, Binnenstadservice
- New concepts: automated lockers, urban consolidation centers, electrically assisted cargo tricycles, city barges
City logistics innovations
Environmental issues

• Very large companies on the one hand and very small operators on the other
• Huge diversity of vehicles - fleets are older in cities than on interurban roads
• In French cities, freight is responsible for a quarter of transport-related CO$_2$, a third of transport-related NOx and half of transport-related particulate matter (LET/Ademe)
• In metro Mexico city, 71% of PM$_{2.5}$ by mobile sources were from freight vehicles
A huge increase in warehouses and distribution centers in metro areas

- +200% freight facilities and warehouses in metro areas such as Atlanta and L.A. b/w 1998 and 2009
- Serving an import-based economy and global supply chains
- And new markets (fulfilment centers for e-commerce)
The location of cross-dock parcel companies’ terminals in the Paris region between 1974 and 2010

Dablanc and Andriankaja, 2011

Paris, parcel transport industry, 1974-2010
Los Angeles, warehouses, 1998-2009 (NAICS 493)

Dablanc and Farr, 2012
‘Amazon shipment mobility’!
Best practices: consultation, certification and training programs

- Freight forums, information portals, labels and training programs provide incentives for voluntary changes of behaviour and enhance the cooperation between local authorities and urban transport operators.

*Signing the Charter for Sustainable Logistics, City of Paris*
Off peak hour deliveries

- Night and off-hour deliveries, combined with low noise delivery equipment, can be an efficient strategy to reduce vehicle-miles and congestion.
- Ex. PIEK programme (NL), tests in Manhattan, Paris, Barcelona.
Pick-up points for e-commerce deliveries

PackStation, Frankfurt train station

ByBox UK
©ByBox
Innovative street designs

UK ‘bus and lorry lane’

Barcelona’s multi use lanes and ‘delivery triangles’

Paris’ « Lincolns »
E-vans and cargocycles in city centers

• Becoming a key feature of busiest neighborhoods in Paris, London, Berlin
Low Emission Zones

• Access to a certain area (e.g. city centre) is denied to trucks and vans which do not meet pollutant emissions levels

• 191 cities in Europe with LEZ

• Recent research (IFSTTAR/Ademe): a LEZ reduces the number of delivery companies while keeping quality of service
New urban logistics buildings

- A diverse set of new logistics buildings are emerging in cities
- Freight villages, urban logistics spaces, micro-terminals, multi-story terminals, urban consolidation centers
Future Paris zoning ordinance: identification of ‘logistics sites’
Experiments in non-road urban freight transport

- A larger use of waterways, heavy rail and light rail can reduce the number of trucks and vans in metro areas
- Ex. Volkswagen tram in Dresden, Monoprix and Franprix retailers’ deliveries in Paris
VELOCE (Italy)
Vicenza Eco LOGistics CEnter

ELCIDIS (ELectric CIty DiSTribution center, La Rochelle, France)

Bristol consolidation center (UK)

More than 150 Urban Consolidation Centers in Europe in the 1990s, about 20 today
Survey among SUFS/VREF partner cities (Holguin-Veras, Oct 2015)

Applicability of sustainable urban freight initiatives to local reality?

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<th>Public Interventions</th>
<th>India</th>
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<td>Applicable</td>
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<td>Infrastructure Management</td>
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<td>Major Improvements</td>
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<td>Ring roads</td>
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<td>New and upgraded infrastructure, Intermodal terminals</td>
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<td>Freight villages or freight cluster development</td>
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<td>Minor Improvements</td>
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<td>Acceleration/deceleration lanes</td>
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<td>Removal of geometric constraints at intersections</td>
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<td>Ramps for handcarts and forklifts</td>
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<td>Parking / Loading Areas Management</td>
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<td>On-Street Parking and Loading</td>
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<td>Freight parking and loading zones</td>
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<td>Loading and parking restrictions</td>
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<td>Peak-hour clearways</td>
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<td>Vehicle parking reservation systems</td>
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<td>Off-Street Parking and Loading</td>
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<td>Enhanced Building codes</td>
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<td>Timesharing parking space</td>
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<td>Upgrade Parking areas and loading docks</td>
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<td>Improved Staging Areas</td>
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<td>Truck stops/ Parking outside of Metropolitan Areas</td>
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<td>Vehicle Related Interventions</td>
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<td>Technologies and Programs</td>
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<td>Emission standards</td>
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<td>Low noise delivery programs/regulations</td>
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<td>Traffic Management</td>
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<td>Access and Vehicle-Related Restrictions</td>
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<td>Vehicle size and weight restrictions</td>
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<td>Engine-related restrictions</td>
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<td>Low emission zones</td>
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<td>Load factor restrictions</td>
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<td>Time Access Restrictions</td>
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<td>Daytime delivery restrictions</td>
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<td>Nighttime delivery bans</td>
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<td>Lane Management</td>
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<td>Restricted multi-use lanes</td>
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<td>Exclusive truck lanes (Dedicated truck lanes)</td>
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<td>Traffic Control</td>
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Conclusion

• Urban freight represents many jobs and an important economic asset for cities

• Innovative logistics services in cities are emerging but freight transport still generates many environmental impacts

• Local decision-makers can implement simple and effective policies to address part of the issues

• Freight and logistics issues also depend upon global economics, technical/organisational innovations or long-term national policies
Resources

- www.bestufs.net
- www.sugarlogistics.net
- www.let.fr/Publications-du-LET
- www.citylogistics.org


- *City Distribution and Urban Freight Transport, Multiple Perspectives*, ed. by S. Melo and C. Macharis, NECTAR Series in Transportation and Communication (2011)