

# **Effective City Logistics – Challenges and Opportunities**

**Presentation to IRU Goods Transport Council**

**Thursday 7 November 2013**

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## **Outline**

- **Urban Freight and City Logistics: a brief review**
- **Major challenges**
- **Future directions**

**Note: Sources, acknowledgements and additional references are on slides 37 and 38**





**Freight in the city:  
Developments and  
new approaches**

## Importance and scale of urban freight activity

- **In urban areas freight generates up to**
  - 20% of traffic / 30% of street occupation and 50% of greenhouse-gas emissions (from transport)
- **In London**
  - Freight activity = 17% of traffic (25% in central London)
  - On a typical weekday over 265,000 freight vehicles travel 13 million kilometres
  - 80% of inbound freight movements take place between 6am and 6pm.
  - 20% of London's ground-based CO<sub>2</sub> transport emissions are produced by freight movements.

## **City Logistics: Developments over Time**

**1970s: Safety issues, Transshipment Centres, Vehicle Restrictions and Regulations...**

**1980s to early 1990s: Terminals, City Logistiks, National interest...**

**1990s: More research (models, surveys, data), Policy initiatives...**

**2000s: Best practice, Transferability, Company engagement, Intelligent Transport, Targets, Global Interest...**



## **City Logistics: Policy context**

- **Research programmes**
- **Action Plans and White Papers (esp. within the EU)**
- **City and local authority transport plans increasingly include freight policies**
- **Sustainable logistics concepts growing despite economic challenges**
- **Changing city demographics**
- **The rise of mega cities**
- **Power of city authorities**



## City Logistics: Supply Chain Context

- Supply chains constantly changing: velocity and design
- Supply chain boundaries moving (e.g. delivery direct to consumer)
- Growth in outsourcing (freight and services)
- Competition for space (and time)
- Environmental impacts: local and global



### Some problems (not new)

- Increasing road congestion
- Energy use
- Environment (air quality)
- Safety
- Disturbance – noise, visual intrusion
- Access restrictions and narrow roads
- Lack of loading and unloading space





## New demands on kerbspace

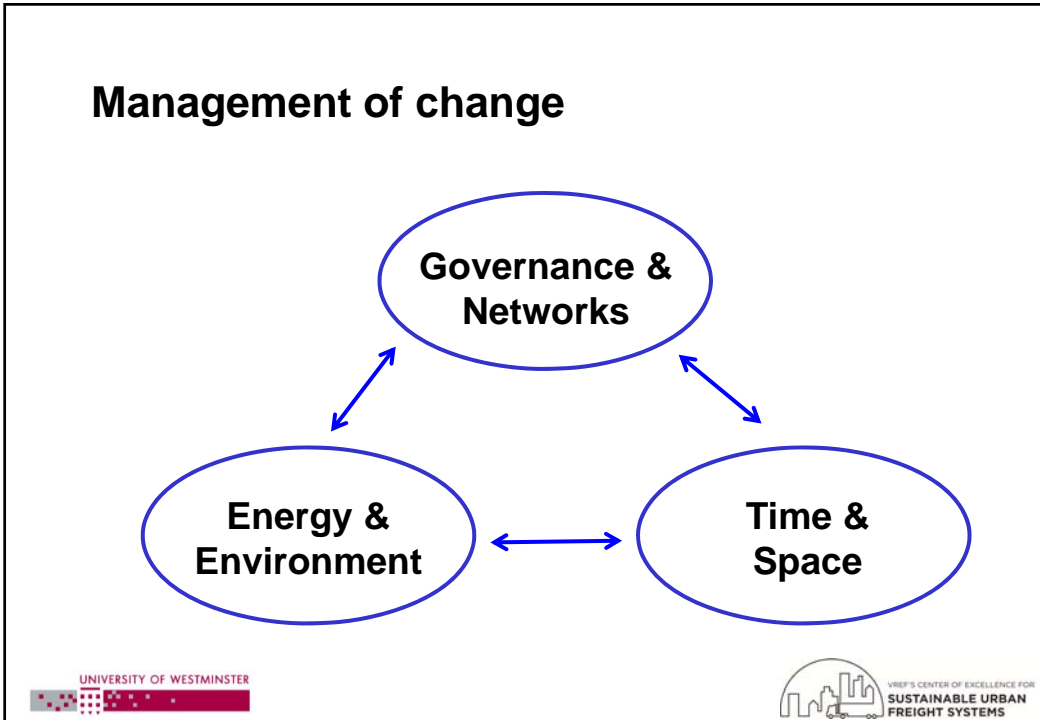
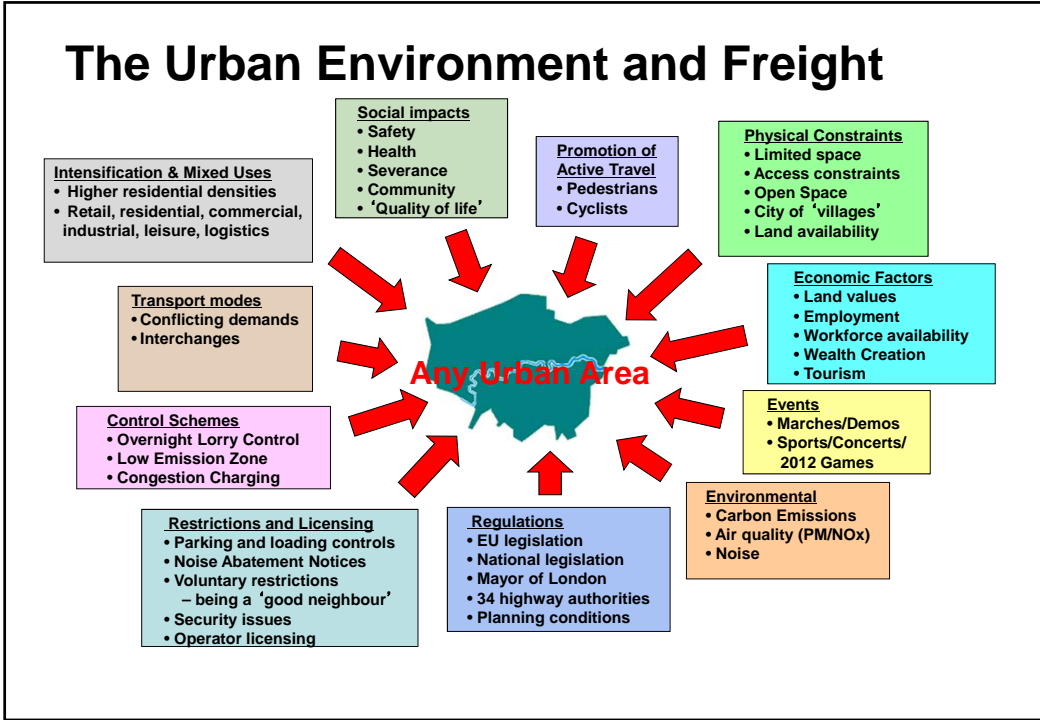


## Participants/stakeholders

A very wide range of participants...

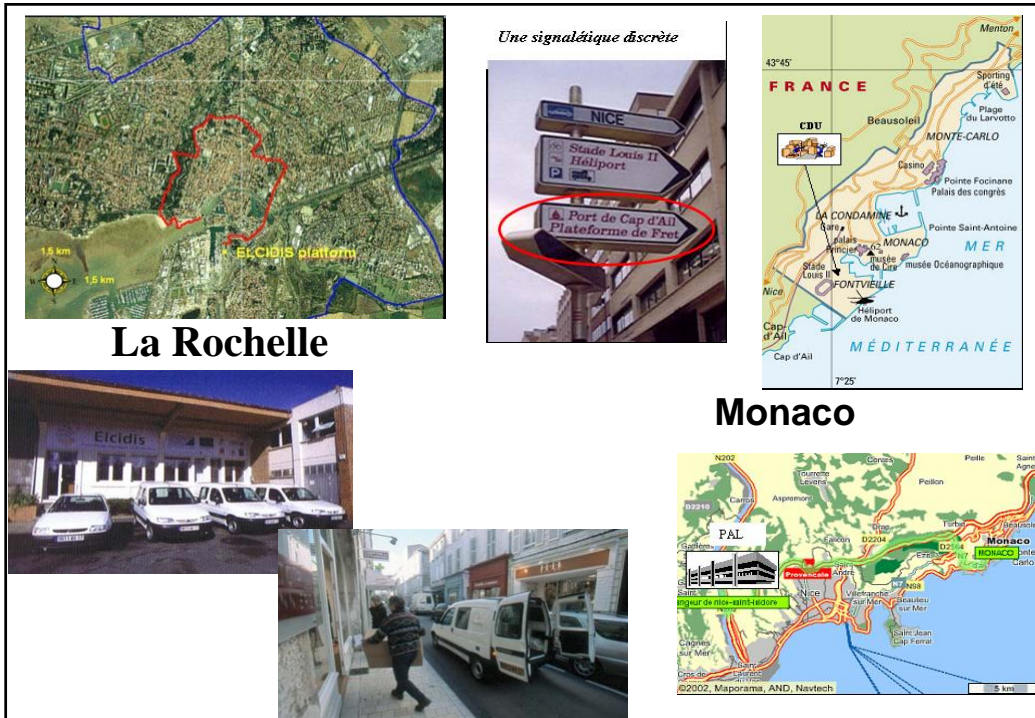
- Senders and receivers
- Logistics service providers
- Residents/consumers
- Government/Administration...

...leads to significant complexity



## Some categories for solutions

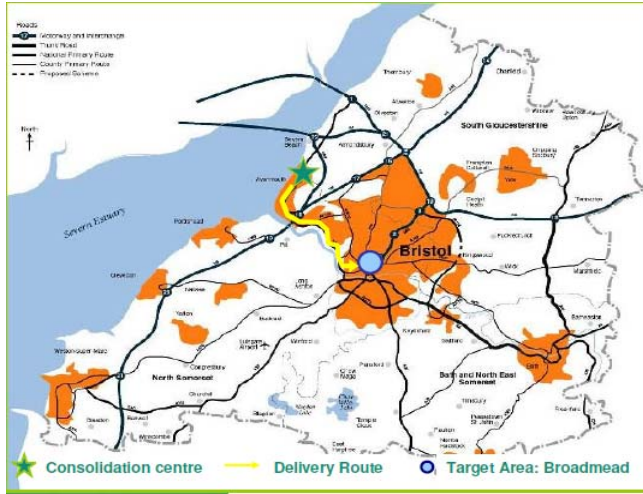
- Change the flow of goods
- Change the flow and type of vehicles
- Change the time
- Change the space





## Bristol Freight Consolidation Centre

**DHL initiative  
Now extended to Bath**



- Located on edge of Bristol close to strategic road network;
- Approx. 500 sq m warehousing space;
- 17 kms from city centre target area;
- Approx. 25mins journey time to target area;
- Using electric vehicle for final delivery.

### Urban consolidation centre (Motomachi, Yokohama Japan, 2004-)

Type	Before	After
Number of carriers	17 (participating carriers)	1 (jointly-owned carrier)
Total number of vehicle-days	40 vehicles 30 days	20 vehicles 30 days
Type of vehicle	Diesel truck	CNG truck
Number of participating stores	-	Almost all stores
Goods of exclusion	-	Directly delivered goods from manufactures, High-value items

## Parking area for cooperative freight transport



## Delivery and Service Plans (DSPs)

- A framework to manage freight and service trips
- Movement to and from individual buildings (including retail shops, offices etc)
- Focus on the receivers in the supply chain
- DSPs developed in London and used in planning for the 2012 Olympic Games



## Monoprix: Paris delivery initiative

- Main approach by rail (30km) from warehouse outside Paris to transit facility
- Emphasis on visual and environmental benefits
- Final delivery to 94 stores with 26 CNG vehicles



Europe-wide information on Low Emission Zones - Windows Internet Explorer

http://www.lowemissionzones.eu/

Low Emission Zones in Europe

Europe-wide information on LEZs

Website Co-funded by the EU

Sunday, 30 May 2010

HOME | How to comply | Retrofitting | LEZ Cities A-Z | Countries

Quick guide to all LEZs

What are LEZs?

Why LEZs? : HEALTH!

Overview of LEZs

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News and Press

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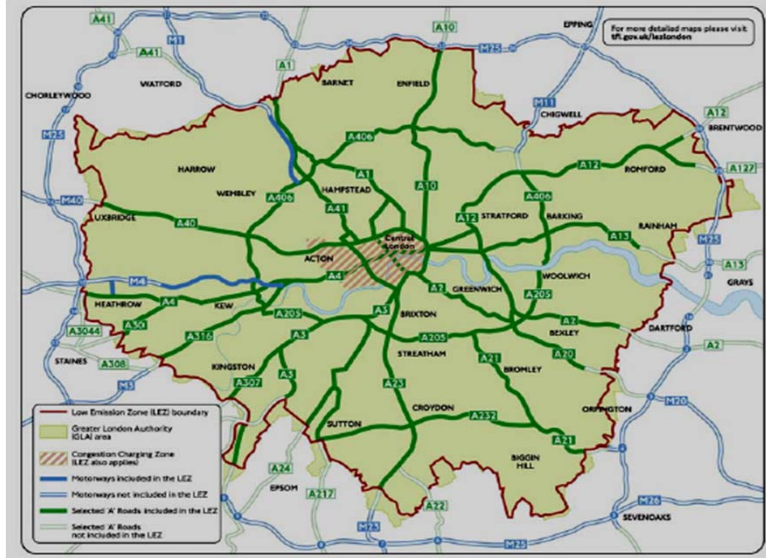
Google - press F5 in Internet Explorer

Select Language

This automatic translation is provided to help you. We accept no responsibility for the accuracy of translations.

start | My Documents | 180\_rev\_York1.ppt | General Overview wo... | Europe-wide informat...

## London Low Emission Zone (Feb 2008)



## The Off-Hour Deliveries NYC Project (Jose Holguin-Veras)





## Regular vs. Off-Hour Deliveries (1 of 2)

25



❖ NYC adopted off-hour deliveries as part of its sustainability strategy

planNYC  
UPDATE APRIL 2011

A GREENER,  
GREATER  
NEW YORK

The City of New York  
Mayor: Bill de Blasio

The slide features a red header bar at the top. Below it, on the left, is a bullet point stating that NYC adopted off-hour deliveries as part of its sustainability strategy. On the right is a graphic for 'planNYC' with the text 'UPDATE APRIL 2011'. Below the logo is a blue silhouette map of New York City. In the bottom right corner of the map area, there is a green and blue box with the text 'A GREENER, GREATER NEW YORK'. At the very bottom left of the slide is the official seal of the City of New York and the name of the Mayor at the time, Bill de Blasio.



### London 2012: Quieter out of hours delivery trials



**Fortnum & Mason**



**Tradeteam deliveries:  
pubs in Southwark**



**Marks & Spencer  
Kensington and Chelsea**



**Co-op:  
Redbridge**



**Veolia – municipal  
Waste: Southwark and  
Lewisham**



**Coca-Cola  
(Westminster)**



**Dorchester Hotel  
(Westminster)**

### ELP: Bordeaux

**An innovative facilitating system for incoming goods**



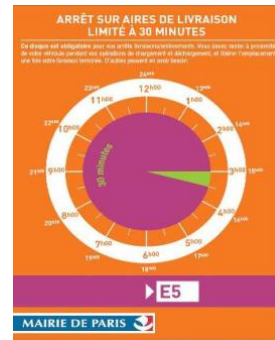
**For city centre  
deliveries**



**Source: D.Patier (LET, France)**

## Paris - improve the use of delivery space/capacity

- **Control disk**
  - Involvement of trade associations
  - In force from 1 January 2007
  
- **Charter of good practice**
  - Public-Private Initiative



## Public-private cooperative organisation activity (East Osaka, Japan)

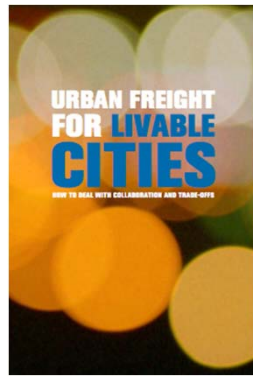
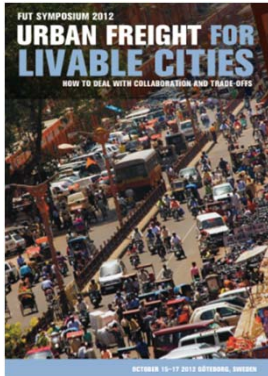
- |   |   |   |
|---|---|---|
| <b>1. Eliminating trucks' on-street parking</b>       | ➔ | -Development of logistics parking<br>-Informing the location of parking space                 |
| <b>2. Eliminating private cars' on-street parking</b> | ➔ | -Instructing and raising awareness about illegal street-parking<br>-Tightening of regulations |
| <b>3. Managing traffic flow</b>                       | ➔ | -Traffic restriction into the residential roads<br>-Access route map of the subject area      |
| <b>4. Improving the local environment</b>             | ➔ | -Planting trees and trash picking activities<br>-Idling stop practice                         |



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## Future Urban Transport Conference October 2012



- Partnership and leadership
- Interactions in urban freight
- Sharing the urban space

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## In 2013 VREF supported two Centres of Excellence in Urban Freight

- METROFREIGHT
- Sustainable Urban Freight Systems (COESUFS)

## Partners in the VREF Centres of Excellence

- **Academic partners:** Rensselaer Polytechnic Institute, Westminster, Kyoto, Delft, Monash, USC, IFFSTAR, New York, Toronto, Seoul, Sao Paulo, Cantabria, Gothenburg, Bologna, Madras, Dalian, UAE, Columbia...
- **Cities:** NYC, London, LA, Seoul, Rotterdam, Paris, Copenhagen, Osaka, Melbourne...
- **Businesses and organizations:** Freight Transport Association, National Confederation of Transport (Brazil), DHL, TNT, UPS, American Trucking Association...



## Challenges: a summary

- **Constraints and system complexity will grow**
- **Scale is difficult to achieve**
- **Behaviour change is key – but very hard**
- **Find ways to evaluate and share the good practices**
- **Evidence base needs to become more visible**



## Actions

- **Complexity: Use it – combine solutions, improve understanding and engage stakeholders**
- **Scale: Build and reinforce networks – not one ‘big thing’ but many – use the many existing examples**
- **Behaviour change: Do not give up – look for events and tipping points**
- **Good practice: Improve data and modelling**
- **Inspire change – support links:**
  - public – private
  - research – practice



*With acknowledgements to: (1) Steve Steele from Transport for London for the information and slides on the London Freight Plan and DSPs. (2) Prof. Jose Holguin-Veras (Rensselaer Polytechnic Institute) for slides on the New York OHD scheme. (3) Dr. Danièle Patier (LET) for slides on the ELP. (4) Prof. Eiichi Taniguchi (Kyoto University) for slides about Japan.*

*However, any views and comments expressed in the presentation are those of the presenter (Michael Browne).*

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## References links and further reading:

### (1) VREF Centres of Excellence Urban Freight:

**Center of Excellence: Sustainable Urban Freight Systems**  
(Webinars and other information available)  
<https://www.coe-sufs.org/>

### METROFREIGHT

<http://priceschool.usc.edu/metrofreight-the-localglobal-challenge-of-urban-transportation-planning/>

### (2) Websites

BESTFACT,  
<http://www.bestfact.net/index.html>  
BESTUFS,  
<http://www.bestufs.net>  
SUGAR,  
<http://www.sugarlogistics.eu/>  
TURBLOG,  
<http://www.turblog.eu/>

### (3) Book chapter

For a good general guide to the issues covered see the following book chapter:  
Allen J and Browne M (2012) Sustainability Strategies for City Logistics in 'Green Logistics eds. McKinnon, A, Browne M, and Whiteing A Kogan Page (Second Edition)



## Sources:

### Slide 3

Images at top of slide from Volvo Research and Educational Foundations 'Urban Freight for Livable Cities' (2013). Available at:  
<http://www.vref.se/aboutvref/pressroom/news/news/urbanfreightforlivablecitiespublication.5.11165b2c13cf48416def9b.html>

### Slide 4

- (1) The 1925 image of the city of the future is available from Popular Science Monthly August 1925. <http://ubersuper.com/popular-science-august-1925/>
- (2) For the green mega city image and some discussions see: <http://business.highbeam.com/409211/article-1G1-208962692/green-megalopolis-ecosavvy-blueprint-tomorrow-megacity>
- (3) iPad image (i.e. the ones with Siemens showing in the top left) is available from: <http://www.topappreviews101.com/virtual-siemens-city-en-global-ipad-app-12507.html>
- (4) <http://science.howstuffworks.com/environmental/green-science/5-green-future-cities.htm#page=0>

### Slide 5

- (1) The Future of Supply Chain is from a Capgemini report '2016 Future Supply Chain' Global Commerce Initiative, Capgemini.
- (2) The DHL image is from: [http://www.urbantec.de/media/urbantec/downloads\\_6/pdf\\_8/vortraege\\_1/09\\_Hanser\\_Joerg.pdf](http://www.urbantec.de/media/urbantec/downloads_6/pdf_8/vortraege_1/09_Hanser_Joerg.pdf)
- (3) Image of a Logistics Hotel is from a presentation by Christophe Riper (SOGARIS)  
[http://www.bestfact.net/wp-content/uploads/2013/10/BESTFACT\\_Amsterdam\\_Cluster1\\_12\\_06\\_22\\_SOGARIS.pdf](http://www.bestfact.net/wp-content/uploads/2013/10/BESTFACT_Amsterdam_Cluster1_12_06_22_SOGARIS.pdf)

