

French Institute  
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Urban Freight Platform, Gothenburg, Sweden

November 17, 2015

# New trends impacting the movement of goods in metropolitan areas around the world

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Gothenburg



IFSTTAR

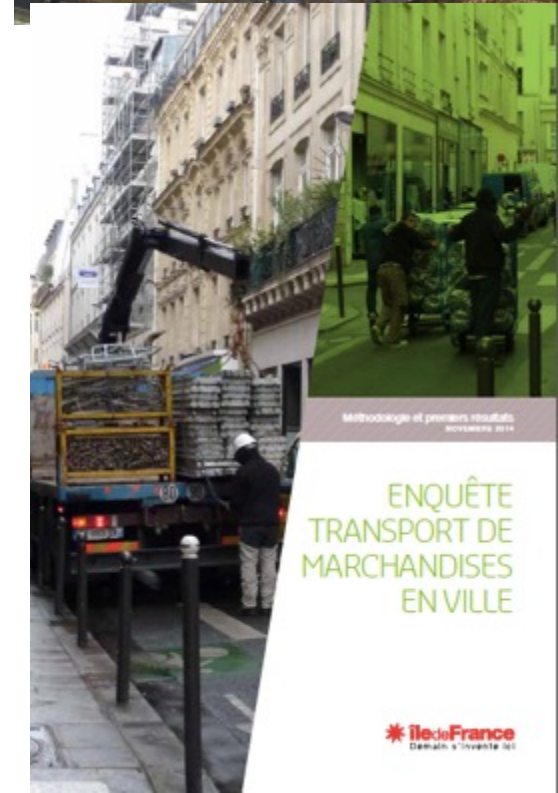
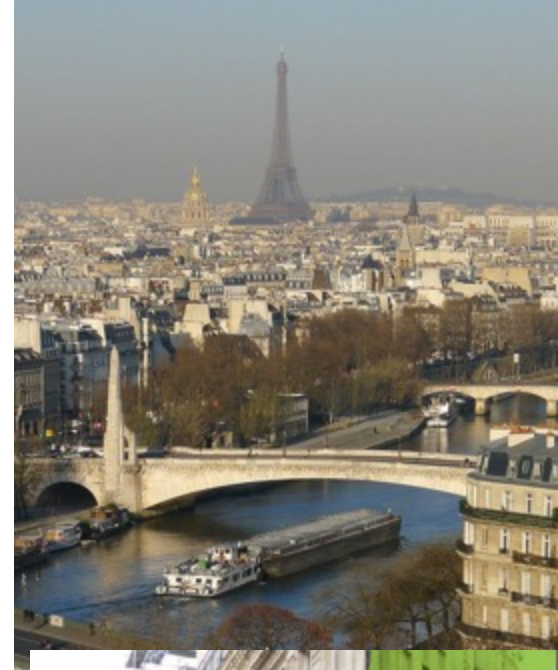
**MF**

METROFREIGHT  
Volvo Center of Excellence

# 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
  - 24% small retail
  - 18% offices
  - 18% industry
  - 17% wholesale
- 2% of these deliveries are innovative urban logistics



# 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

# Urban freight responds to customers' new demand

- The urban economy today:
  - less independent retail activities
  - decrease of storage and demand for more frequent deliveries
  - development of e-commerce and home deliveries, “instant deliveries”





# Changing urban supply chains



Istanbul retail: from local stores to supermarket chains

⇒ Consolidation of deliveries

⇒ Larger trucks

⇒ Deliveries concentrated in morning hours

# E-commerce

- Expected 10% of US retail in 2017
- Amazon: \$89 bn (2014), nearly four times the revenue of McDonald's, 19% Walmart revenue
- New York City every day: (J. Holguin-Veras):
  - About 1.4 million deliveries to businesses
  - About 0.8 million internet deliveries



# Instant deliveries

- “Instant Delivery Apps” (**Instacart, Postmates, UberEats, Amazon Prime Now**) have become mainstream in San Francisco, NYC, Los Angeles, Chicago, Seattle
- **Deliver-ee** (since 2014) in ten French cities
  - No employee but a pool of independent drivers (bikes, motorbikes, cars) paid per delivery
  - “We want to go fast before Uber comes in” (Deliver-ee CEO, Jan. 2015)

- **Toktoktok** in Paris: for a pre-defined list of goods (food base for much of them)
- **Uber Rush** in New York, Chicago and San Francisco – has become a confirmed service in October 2015 after an experiment in NYC
- **Uber Cargo** in Hong Kong: vans
- **Uber Eats**: US, Europe (Paris since Oct 2015)
- **Gogovan** in Asie
- **eBay Now**: abandoned at the end of 2014



We have retired the eBay Now same-day and scheduled delivery service in the U.S., including the eBay Brooklyn pilot program.

- The “Dabbawalas” in Mumbai
  - 200,000 lunch boxes made at home are delivered everyday to businessmen on their workplace through a delivery system using bicycles, trains and pedestrian
  - Deliverymen meet in specific places to exchange and consolidate shipments





# '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*
- New players: Star's Service, Shurgard, Kiala (UPS), The Green Link, Cargo Hopper, Binnenstadservice
- New concepts: automated lockers, urban consolidation centers, electrically assisted cargo tricycles, city barges



# City logistics innovations



# Warehouses and distribution centers in metropolitan 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 (fulfillment centers for e-commerce)

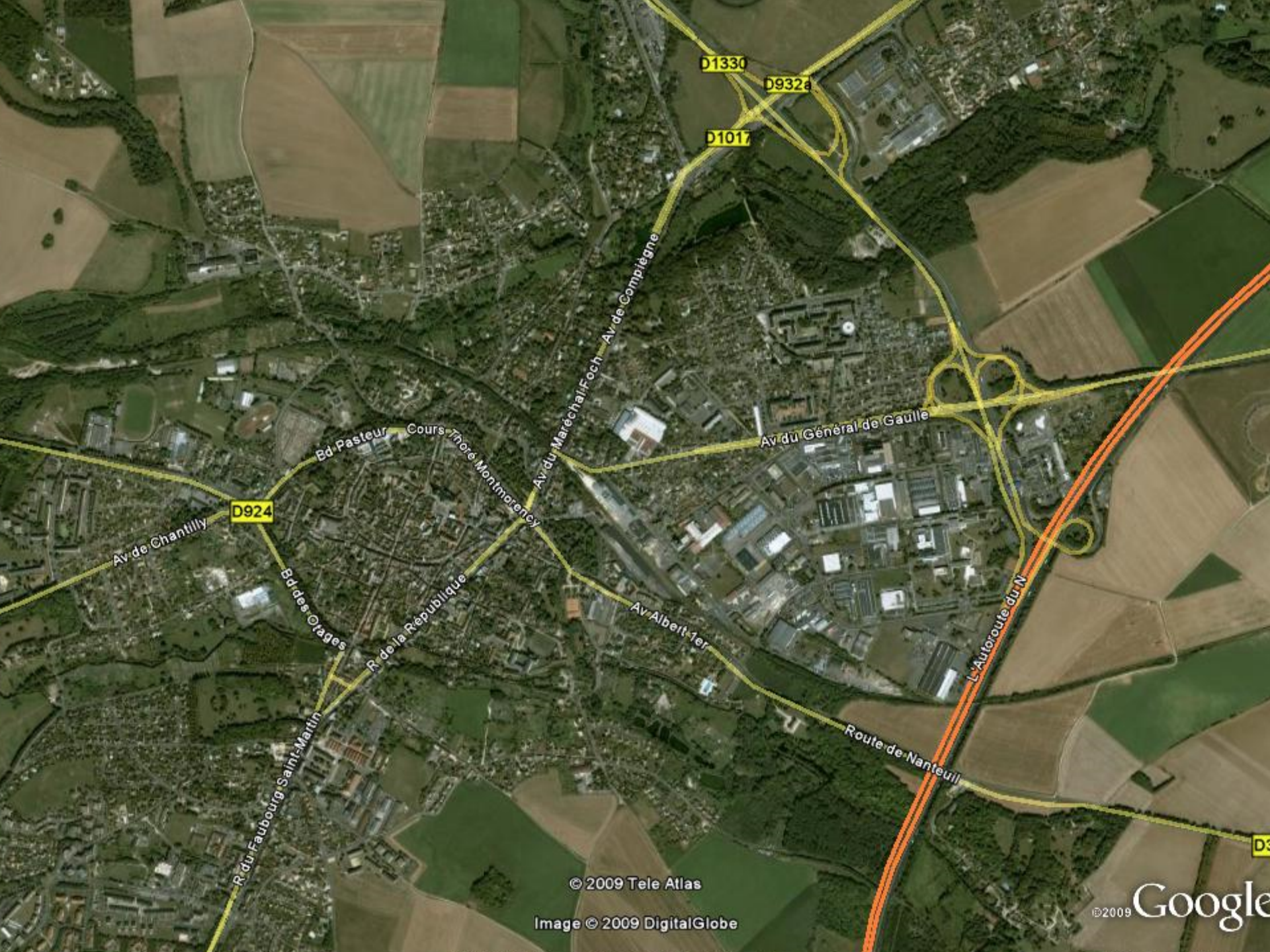


# New logistics landscapes in megacities

*Sao Paulo, 2015*







D1330

D932a

D1017

Av du Maréchal Foch  
Av de Compiègne

Av du Général de Gaulle

D924

Av de Chantilly

Bd Pasteur

Cours Thore Montmorency

Bd des Orléans

R de la République

Av Albert 1er

R du Faubourg Saint-Martin

L'Autoroute du N

Route de Nanteuil

D3

© 2009 Tele Atlas

Image © 2009 DigitalGlobe

©2009

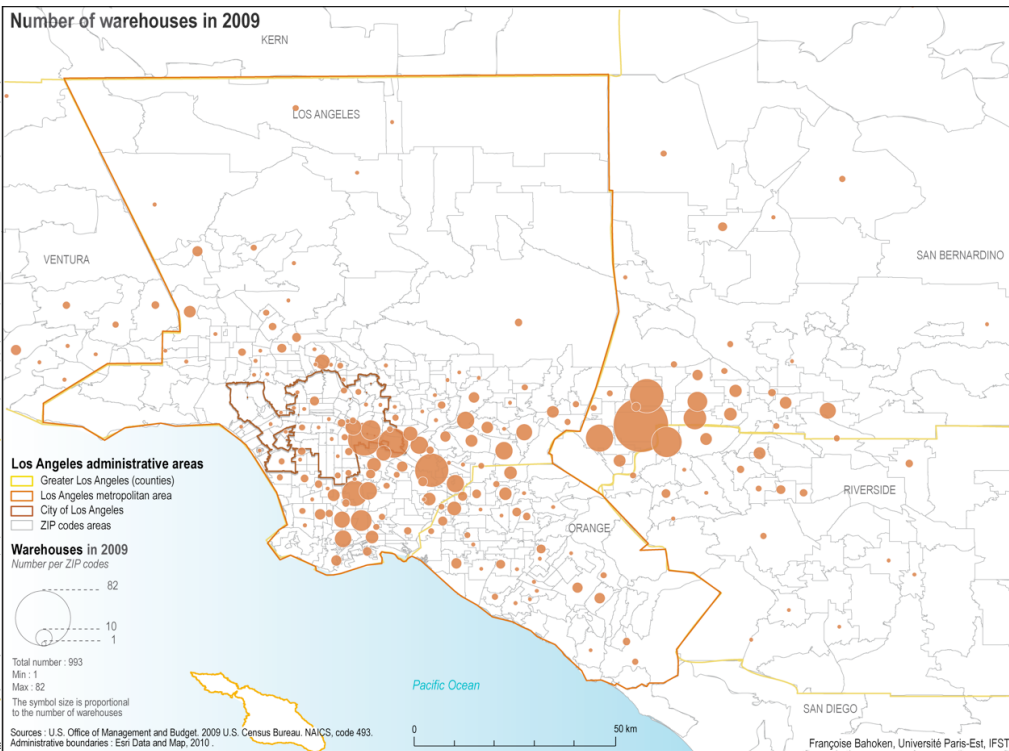
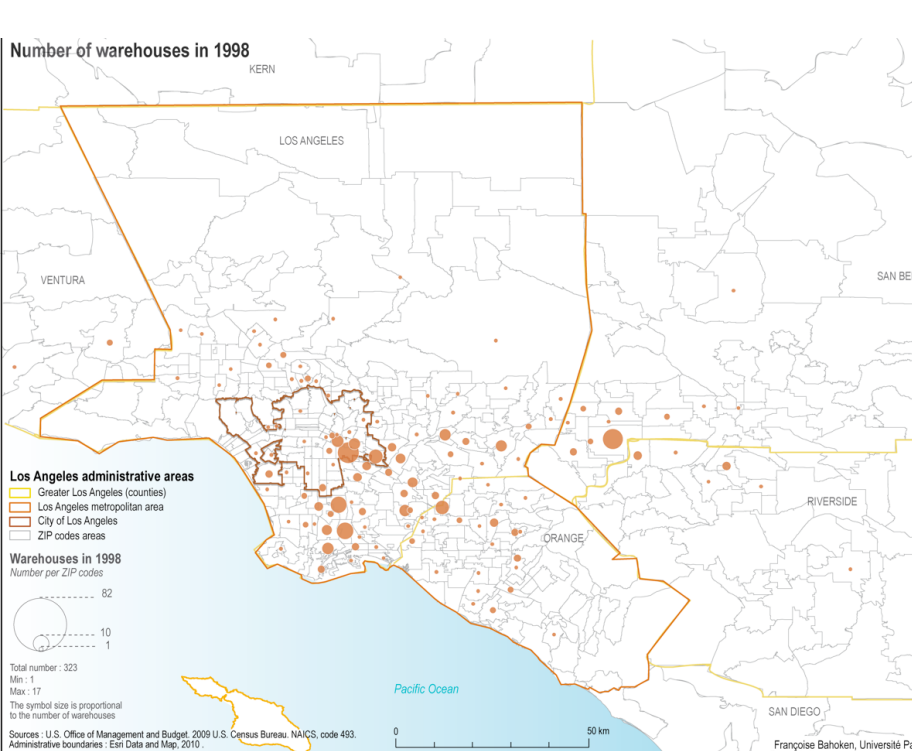
Google



# Processing shipments from global supply chains

- Containers arriving from Asia to Los Angeles ports
  - 25% stay in the L.A. area (up from 12% in 2000)
  - 75% leave the region—half of which transloaded (up from one third in 2000)
- => Need for local warehouses/distribution centers





Dablanç and Farr, 2012

# “Logistics Sprawl”

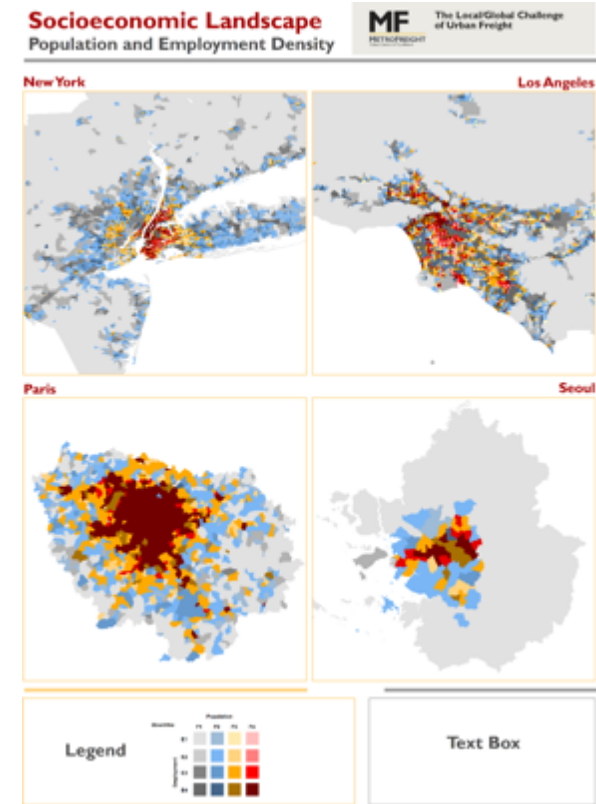
## Los Angeles, warehouses, 1998-2009 (NAICS 493)

# Amazon: metropolitan mobility of shipments



# Urban Freight Landscape research

- **Urban Freight Landscape Atlas** describes and explains spatial patterns in Los Angeles, NYC, Paris and Seoul
- Empirical tests of the relationship between these spatial patterns, transport supply, and freight flows
- Development and testing of a theoretical framework





# Paris chokes on pollution; City of Light becomes City of Haze



*Los Angeles Times, March 23, 2015*



# Environmental issues

- Commercial vehicles are older in cities than on interurban roads
- Paris: freight =
  - 20% vehicle-kms
  - 25% traffic-related CO<sub>2</sub>
  - 33% traffic-related NO<sub>x</sub>
  - 50% traffic-related PM
- In metro Mexico city, 71% of PM<sub>2.5</sub> by mobile sources were from freight vehicles



# Trends in policies:

## 1) Consultation, certification and training programs



*Transport for London initiatives*

*Signing the Charter for Sustainable Logistics, City of Paris, 2013*



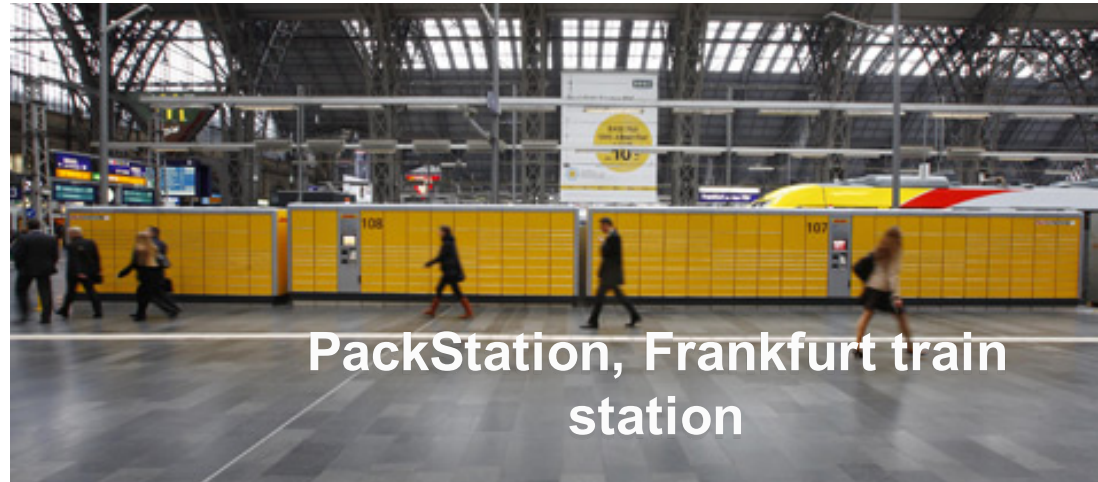
## 2) Off peak hour deliveries

- Ex. PIEK programme (NL), program in Manhattan, tests in Paris, Barcelona





# 3) Facilitation of pick-up points for e-commerce deliveries



PackStation, Frankfurt train station



ByBox UK

©ByBox



# 4) Facilitation of E-vans and cargocycles in city centers

- Becoming a key feature of busiest neighborhoods in Paris, London, Berlin











# 5) 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 (Paris: July 2015)
- LEZs seem to reduce the number of delivery companies while keeping quality of service



# 6) Promoting new urban logistics buildings

- A diverse set of new logistics buildings are emerging in cities
- Freight villages, logistics hotels and multi-story terminals, urban consolidation centers





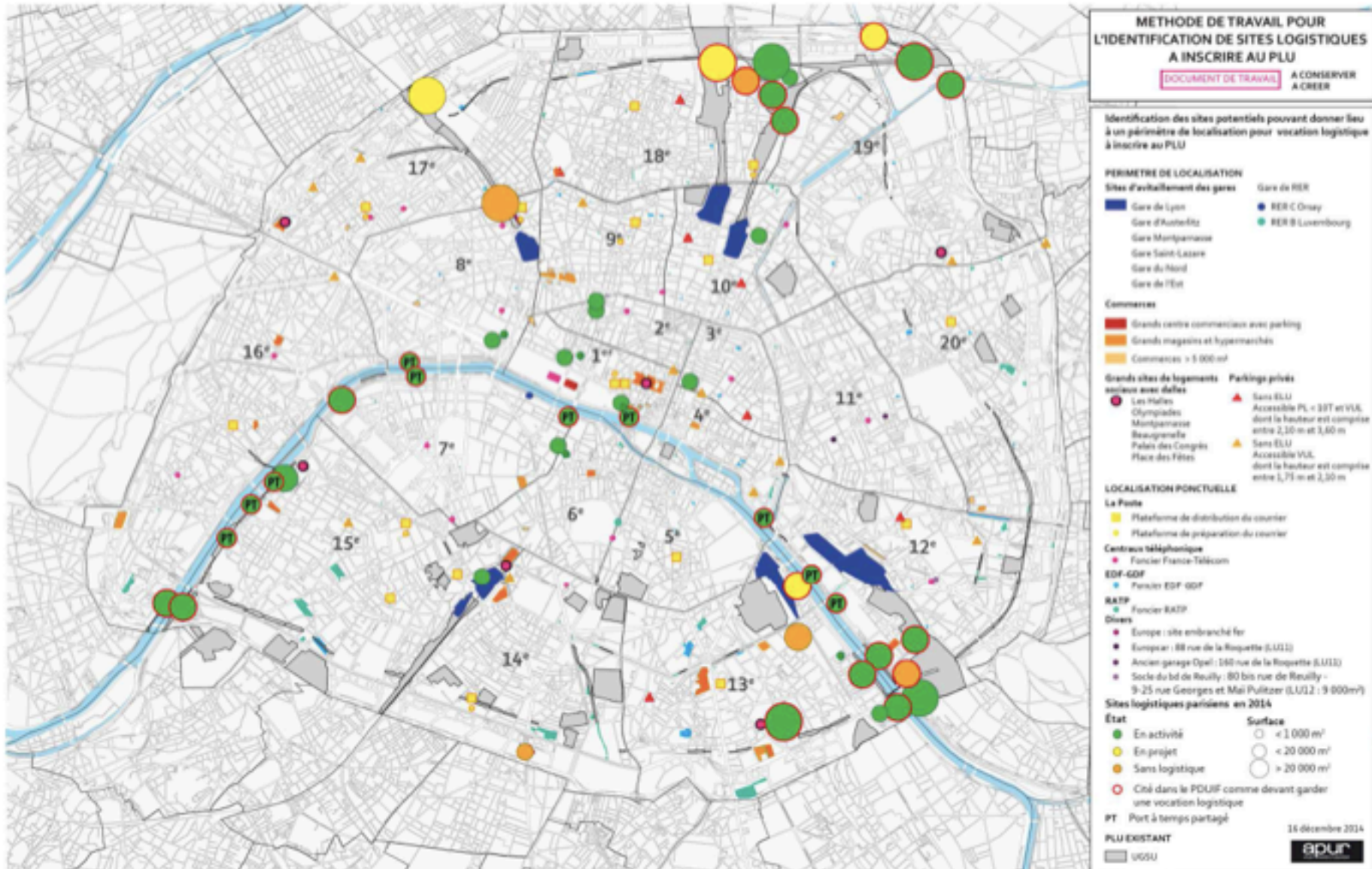
# Chapelle International: a logistics hotel in Paris



**Foncier:** 1 ha de toiture  
**Programme:** env. 6 200 m<sup>2</sup> DEVE et 3 800 m<sup>2</sup> DJS  
**Permis de construire à déposer**



# Future Paris zoning ordinance: identification of 'logistics sites'



# 7) Promoting 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



Survey among  
SUFS/VREF  
partner cities  
(Holguin-Veras,  
Oct 2015)

Applicability of  
sustainable  
urban freight  
initiatives to  
local reality?

Public Interventions	India			
	Applicable	Applicable w/ minor changes	Applicable w/ major changes	Not applicable
<b>Infrastructure Management</b>				
<b>Major Improvements</b>				
Ring roads	✓			
New and upgraded infrastructure, Intermodal terminals		✓		
Freight villages or freight cluster development				✓
<b>Minor Improvements</b>				
Acceleration/deceleration lanes			✓	
Removal of geometric constraints at intersections	✓			
Ramps for handcarts and forklifts	✓			
<b>Parking / Loading Areas Management</b>				
<b>On-Street Parking and Loading</b>				
Freight parking and loading zones			✓	
Loading and parking restrictions	✓			
Peak-hour clearways				✓
Vehicle parking reservation systems				✓
<b>Off-Street Parking and Loading</b>				
Enhanced Building codes	✓			
Timeshare of parking space			✓	
Upgrade Parking areas and loading docks		✓		
Improved Staging Areas		✓		
Truck stops/ Parking outside of Metropolitan Areas				✓
<b>Vehicle Related Interventions</b>				
<b>Technologies and Programs</b>				
Emission standards	✓			
Low noise delivery programs/regulations	✓			
<b>Traffic Management</b>				
<b>Access and Vehicle-Related Restrictions</b>				
Vehicle size and weight restrictions	✓			
Truck routes			✓	
Engine-related restrictions	✓			
Low emission zones	✓			
Load factor restrictions			✓	
<b>Time Access Restrictions</b>				
Daytime delivery restrictions		✓		
Daytime delivery bans				✓
Nighttime delivery bans				✓
<b>Lane Management</b>				
Restricted multi-use lanes				✓
Exclusive truck lanes (Dedicated truck lanes)				✓
Traffic Control	✓			



# 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 and websites

[www.metrans.org/metrofreight](http://www.metrans.org/metrofreight)

<https://coe-sufs.org/>

<https://coe-sufs.org/wordpress/ncfrp33>

[www.bestufs.net](http://www.bestufs.net)

[www.sugarlogistics.net](http://www.sugarlogistics.net)

[www.let.fr/Publications-du-LET](http://www.let.fr/Publications-du-LET)

[www.citylogistics.org](http://www.citylogistics.org)

[www.chalmers.se/en/centres/lead](http://www.chalmers.se/en/centres/lead)

[/urbanfreightplatform/Pages/default.aspx/metrofreight](http://urbanfreightplatform/Pages/default.aspx/metrofreight)

[www.vref.se/urbanfreight](http://www.vref.se/urbanfreight)

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

Dablanc, L. (2009) *Freight Transport, A Key for the New Urban Economy*, Report for the World Bank as part of the initiative *Freight Transport for Development: a Policy Toolkit*, 52p