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Metrans seminar

Urban freight policy: recent developments in Paris

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Acknowledgment

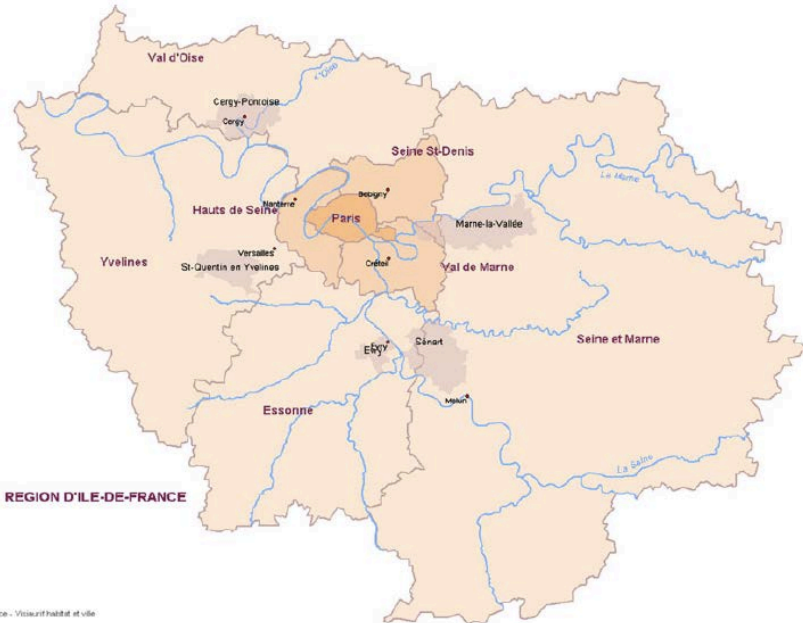
- MetroFreight VREF Center of Excellence
- CITYLAB H2020 European project

Four areas of interest

- Urban freight data collection
- Logistics hotels
- Low emission zone
- Promoting innovation

Paris

A city of 2.2 million people
An urban region of 12 million



Every day (metro area):
800,000 deliveries to businesses
240,000 deliveries to consumers
incl. 40,000 'instant deliveries' (est.)



Types of vehicles used for deliveries



4%



26%



31%



31%



8%

- Total street area occupied by commercial vehicles at peak hour:
 - 27% in traffic
 - 12% in parking



Comparing different time periods: Bordeaux 1994-2013

- **“Delivery Intensity”** of Bordeaux businesses has slightly decreased (from 0.9 to 0.8 /week/job)
- Total number of deliveries to businesses has increased by 12% (as number of businesses has increased)
 - Office activities: from 10 to 18%
 - Small retail: stable at 26%
- If B2C deliveries are included: **total increase in number of deliveries and pick-ups in Bordeaux since 1994 = +50%**

2013 Paris Charter for Sustainable Urban Logistics



MAIRIE DE PARIS 

Charte en faveur d'une
logistique urbaine durable

| Hôtel de Ville de Paris | 18 septembre 2013 |



- 80 stakeholders
- General goals for urban logistics
- 16 specific projects with detailed commitments from stakeholders

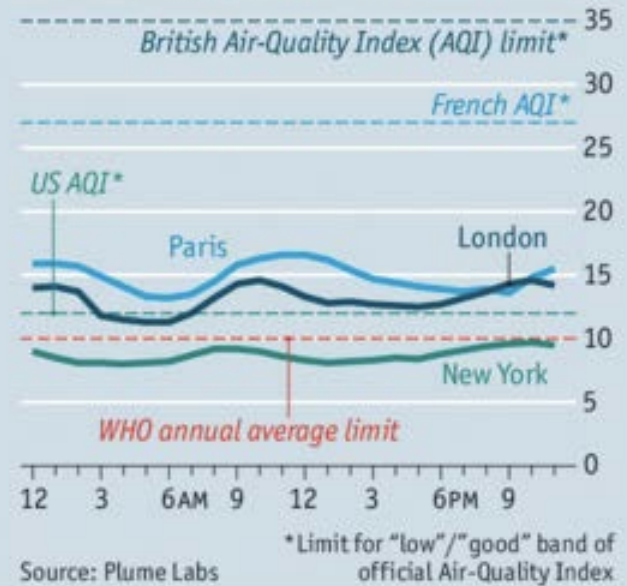
Los Angeles Times, March 2015

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



In the air tonight

Average fine particulate concentration by hour
 $\mu\text{g}/\text{m}^3$, May 2015–May 2016



The Economist, July 2016

Air emissions from urban freight



- Freight:
 - 20% of veh-km equiv. cars
 - 25% of transport-related CO₂
 - 33% of transport-related NO_x
 - 50% of transport-related PM
- Targets: old vans, small trucks and motorbikes
- 20% of Paris commercial vehicles are below Euro 3
- **Low emission zone** since Sept 2015
- Old vehicles' access ban
- Step by step approach

Air quality 'certificates'



Euro 5 et 6

À partir du 1^{er} janvier 2011

Euro 4

Entre le 1^{er} janvier 2006
et le 31 décembre 2010 inclus

Euro 3

Entre le 1^{er} janvier 2001
et le 31 décembre 2005 inclus

Euro 2

Entre le 1^{er} janvier 1997
et le 31 décembre 2000 inclus

Vans

Euro 6

À partir du 1^{er} janvier 2014

Euro 5

Entre le 1^{er} octobre 2009
et le 31 décembre 2013 inclus

Euro 4

Entre le 1^{er} octobre 2006
et le 30 septembre 2009 inclus

Euro 3

Entre le 1^{er} octobre 2001
et le 30 septembre 2006 inclus

HGVs

Paris Low Emission Zone

- Complicated
- Euro 4 and older trucks and vans banned from the city except at night, weekends; and with exemptions (supply of open markets)
- Only city of Paris – not metropolitan
- Poorly phased for the future
- Poorly enforced

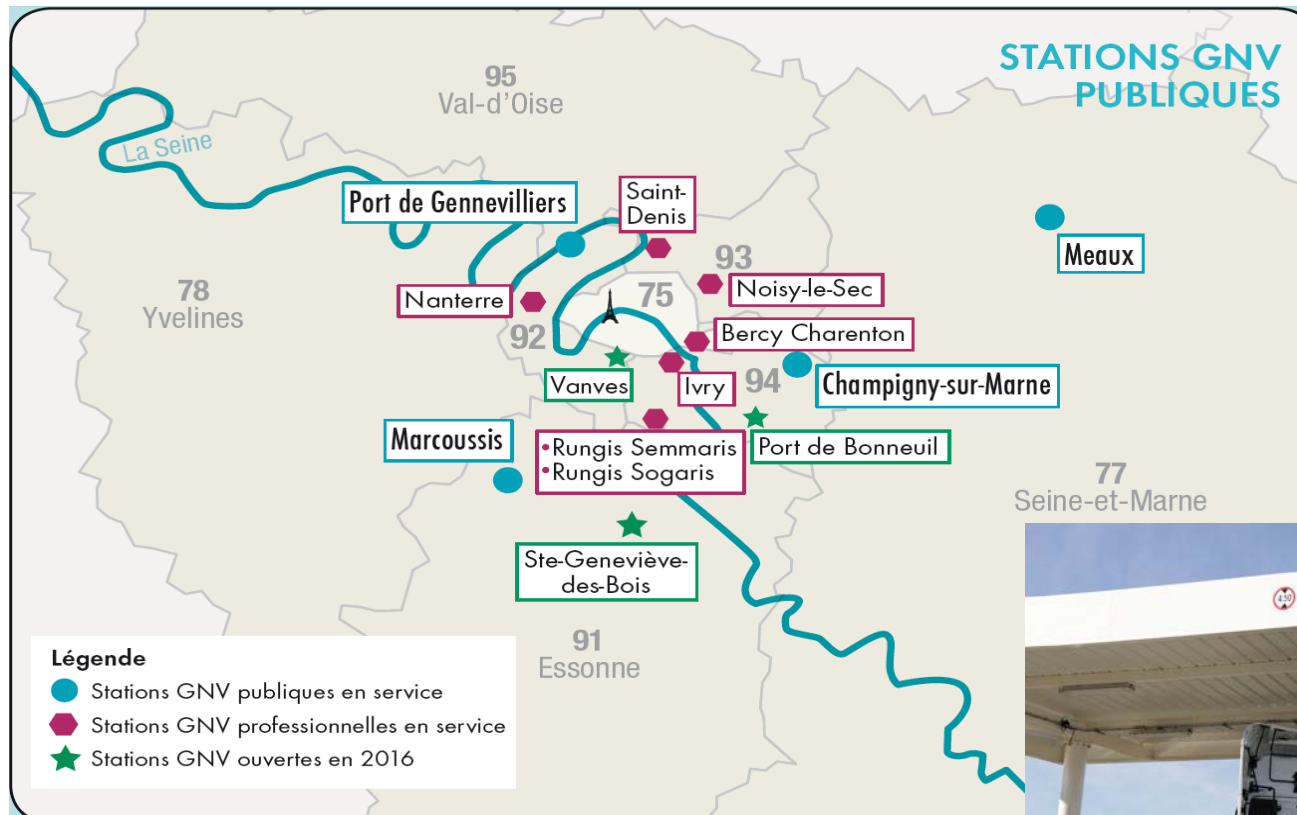


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Plan for a network of public CNG stations



Reintroduction of logistics buildings in the city

Concorde



Halle Gabriel Lamé



St-Germain des Prés et St-Germain l'Auxerrois



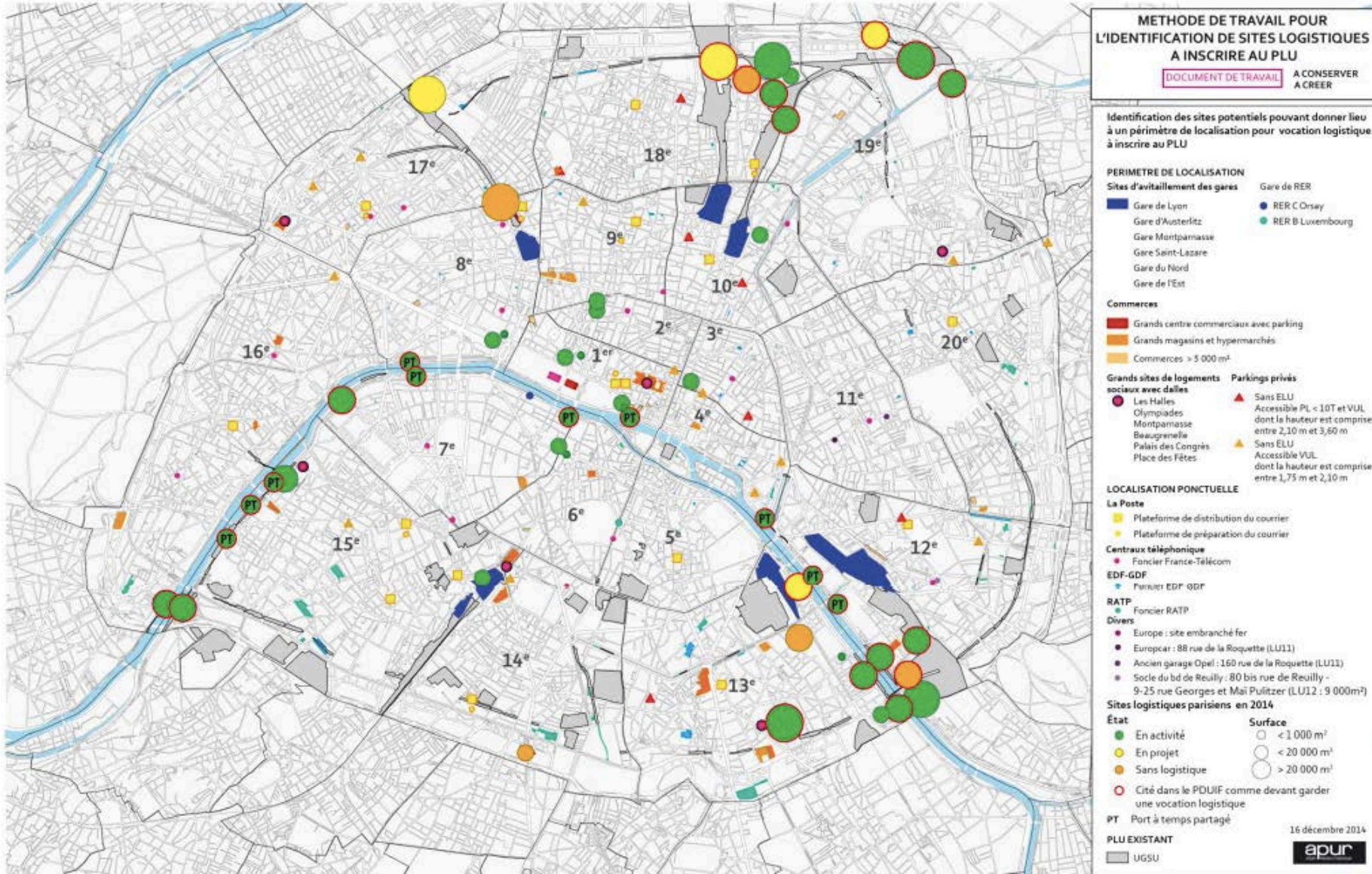
Pyramides



Beaugrenelle

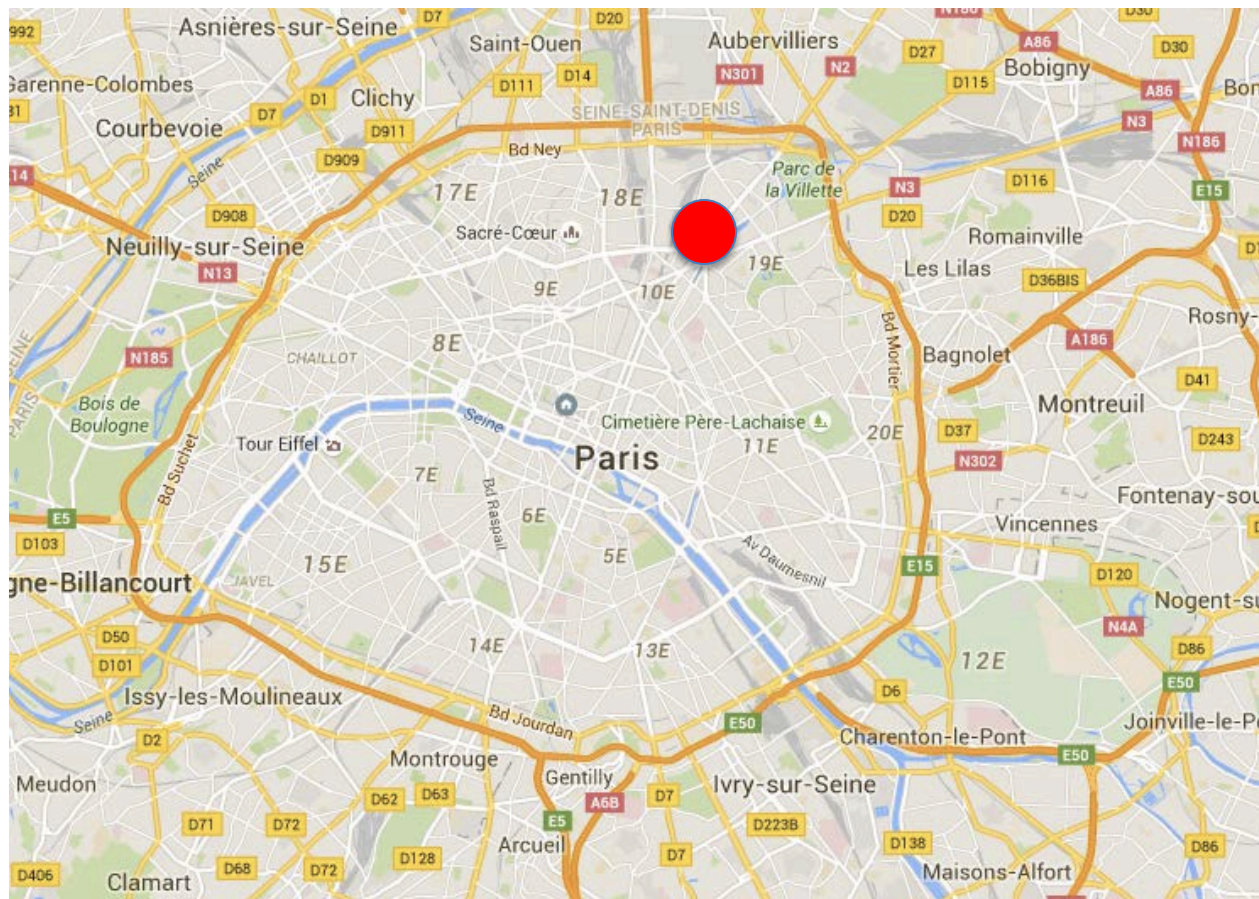


2016 zoning plan of Paris: Accommodating urban logistics facilities



'Logistics hotels'

Chapelle International: 45,000 m²



A “logistics hotel” in Paris opening in Nov 2017

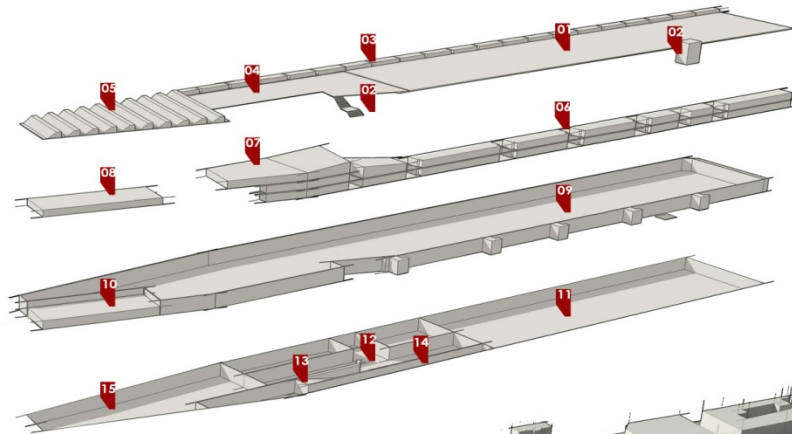


Foncier: 1 ha de toiture

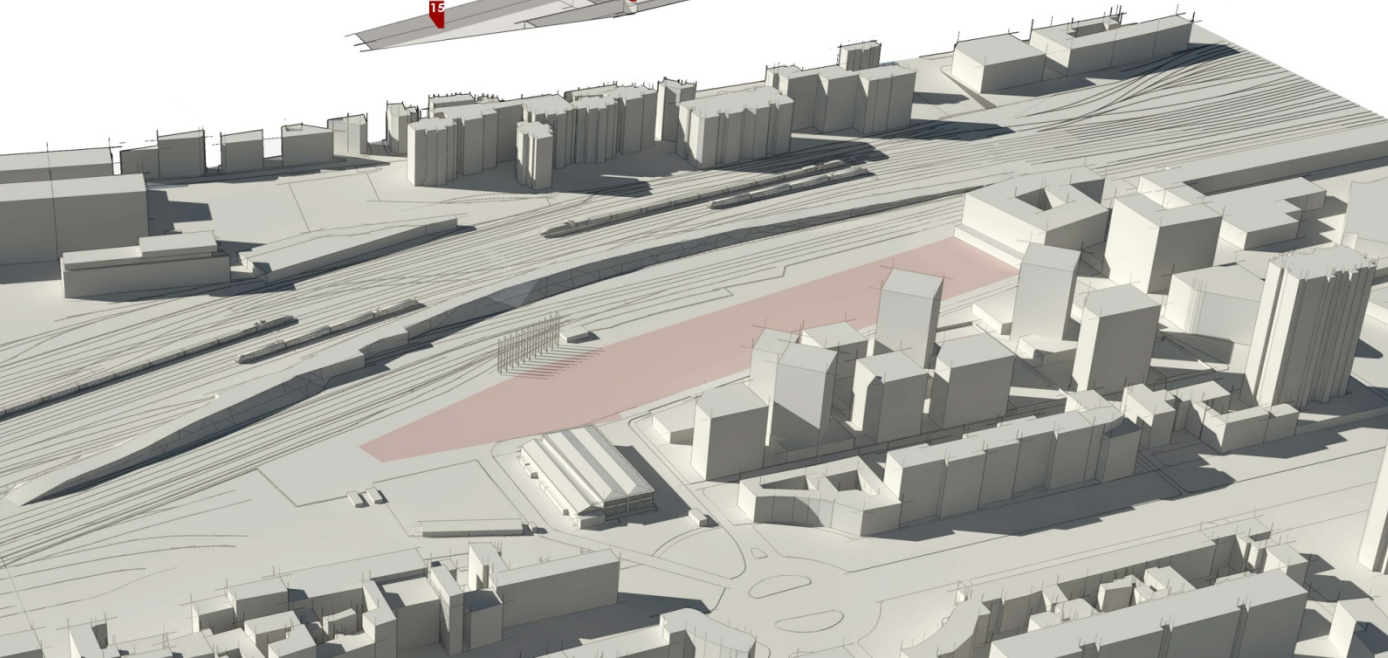
Programme: env. 6 200 m² DEVE et 3 800 m² DIS

Building programme

aménagés par la Ville de Paris. (hors projet)
 es en toiture.
 aurant.
 iture en 'sheds'.
 3 niveaux). (Aménagements hors projet)
 sociaux.
 manoeuvres.
 e.



- Urban farm and tennis courts
- Offices and data center
- Urban freight rail terminal
- Urban distribution terminal



Project's main partners

- SOGARIS, a logistics real estate developer and manager (main shareholders are city of Paris and other local governments)
- City of Paris
- XPO and Eurorail: 3PL companies
- Potential clients (tenants): wholesalers, large retailers serving Paris, parcel and express operators
- Fire and safety administrations

First lesson: a very long process



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2006: New Paris Land Use Plan with land parcels reserved for logistics

2010: SNCF launches a **request for proposals** for a logistics project

- with rail freight operations (imposed)
- not above 7 metres from street level (imposed)

2011: Sogaris project selected

2012 + 19 months: **building permit**

2013: **Special agreement** for large industrial buildings

2014 Nov-Dec: **Impact Study** and public enquiry

2014: **ICPE permit** (hazardous activities)

2014: **Specific Notice for Rail Safety permit**

2015 Sept: ownership of the site to Sogaris and start of works

2015 Dec: agreement signed with rail operator and logistics provider

2016 Jan: end of excavation works; agreement signed with wholesaler

2016: '**Modifying Building Permit**' solicited and granted

2017 Sept: first train tests Nov: inauguration



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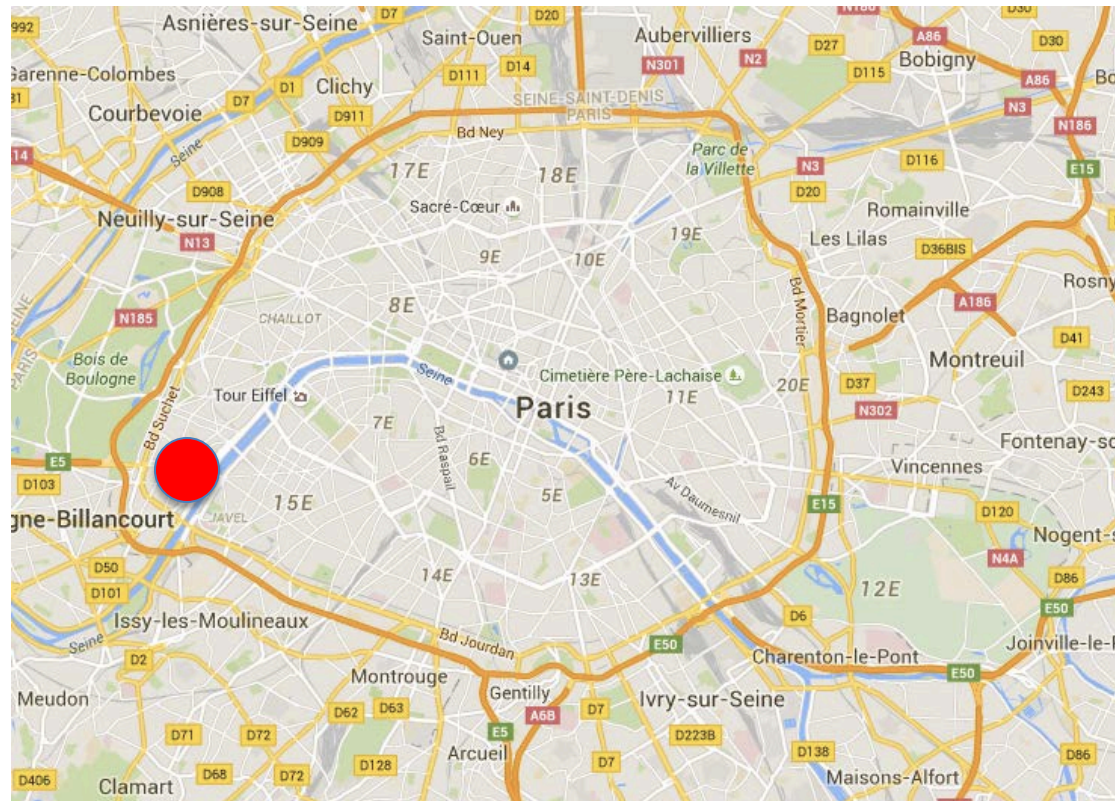
Second lesson: a risky investment

- Logistics rental price of 100 euros/m²/y
- Total construction costs: 84 M euros, including 30 for rail terminal
- Expected return on investment in 20-25 years
- Expected net creation of 300 new jobs

Beaugrenelle logistics hotel

3,000 m² in the south-west of Paris

Sogaris (investor), Chronopost (Poste Group), City of Paris





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- Opened in 2012 out of the transformation of a former parking facility
- 5,000 deliveries a day made by 2 electric vans and 28 diesel vans
- Assessment Jan 2017
- Clean delivery vehicles should have been 50% of vehicle by end of 2016
- Pollutant emissions reduced by 30 to 35% due to reduced total vehicle-miles
- (Includes trips to and from drivers' homes)

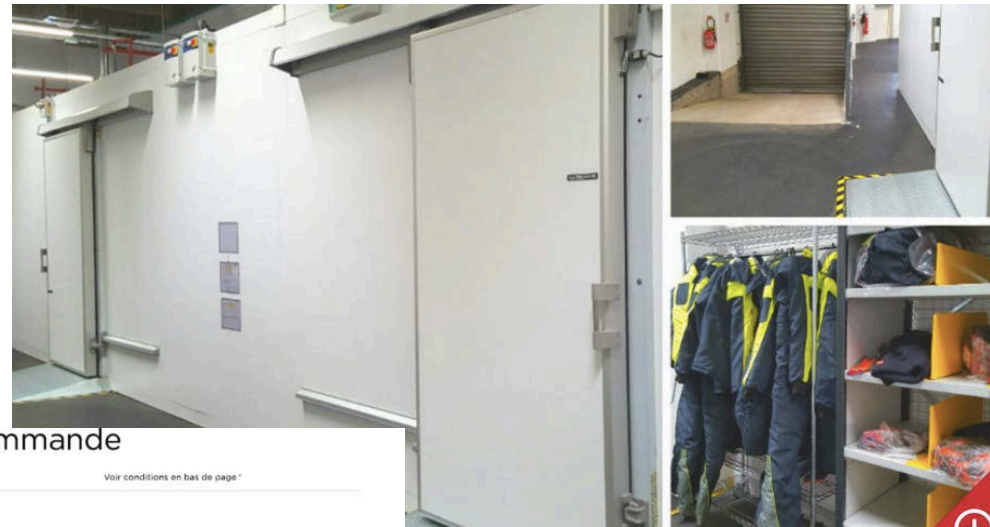


“Reinvent the Seine” program: a future logistics facility in the 16th arrondissement of Paris



Amazon Prime Now: a 50,000 sq ft warehouse in Paris and two 60,000 sq ft in surrounding cities

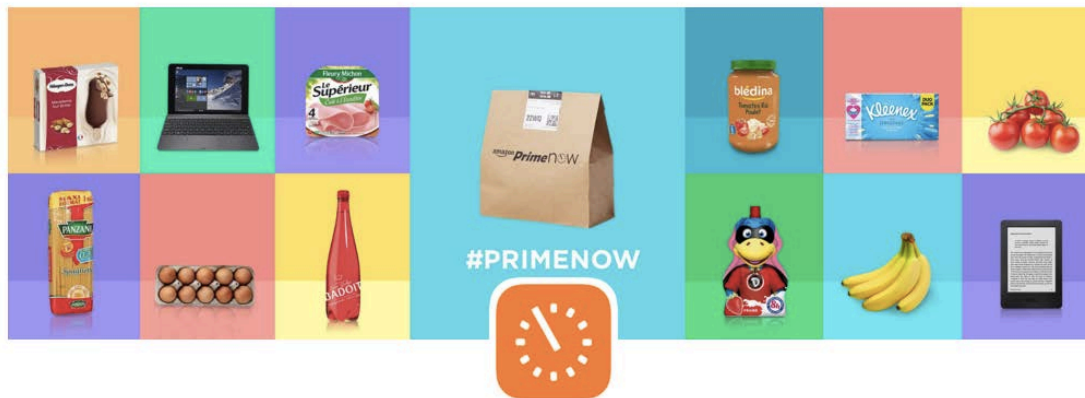
Amazon warehouse in Paris



Primenow

10€ offerts sur votre 1ère commande avec le code PRIMENOW10

Voir conditions en bas de page*



Primenow
Comment ça marche:



Installez l'application Prime Now



Entrez votre code postal



Connectez-vous et faites vos courses



Choisissez votre créneau de livraison

Promoting innovation



- 2015 municipal bid for innovative city logistics projects
- Selection of 22 projects



- End of 2017: opening of an 'incubator' building for start-up companies in the logistics sector

Delivery robots

Dispatch (San Francisco)



Domino's Pizza: in New-Zealand (2016)
and Europe with Starship in 2017



Starship (London, Sunnyvale, Redwood)



Marble (San Francisco)



Piaggio FastForward
(Boston)



Autonomous delivery vans? Autonomous delivery vans with drones?

BUSINESS
INSIDER

TECH INSIDER

Amazon is quietly exploring ways to use self-driving vehicles to deliver packages



Mercedes-Benz Vision Van - The most important control elements in the cockpit

1. INFO TERMINAL

At the info terminal, next to the package dispenser, the deliverer finds all the necessary shipment information.



2. PACKAGE DISPENSER

The deliverer takes delivery of the packages inside the cab. Simple, practical and in an ergonomically ideal position.



6. DASHBOARD

The dashboard consists of a widely curved ring. The information of relevance to the driver is displayed there.



3. JOYSTICK CONTROL

Due to the joystick control on the left side, the steering wheel and the pedals are omitted. This gives the driver more room to move.

5. AUTOMATIC DOOR ON CO-DRIVER'S SIDE

The automatic door allows the driver to enter the vehicle comfortably and safely on the co-driver's side.

4. BLACK PANEL GRILLE WITH LED MATRIX

The Vision Van communicates with its surroundings via the LED matrix. It consists of 2500 x 500 LEDs.

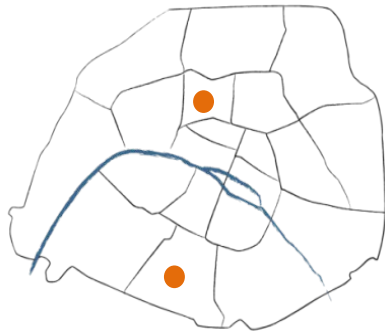


URBISMART / BIL

NOM DU PROJET

EN BREF

Il s'agit d'un projet partagé par deux entités, Urbismart et Libner qui ont répondu séparément à l'AAP lancé par Paris & Co. En raison de la complémentarité apparente de leurs projets, ils ont choisi de coopérer. Ils proposent aujourd'hui un système logistique hybride basé sur la mutualisation du transport de marchandises à destination d'une même rue ou d'un même quartier de ville. La mutualisation résulte de la commercialisation d'un logiciel spécifique. L'approche se fait en porteur 19 t dans lequel se trouve un petit véhicule électrique. Arrivé à proximité des lieux de livraison, le porteur stationne, devient ainsi une « base intelligente de logistique » (BIL), depuis laquelle le petit véhicule électrique livre les destinataires finaux (commerces, bureaux, particuliers).



TERRAIN
D'EXPÉRIMENTATION

14^{ème} et 9^{ème}
arrondissement

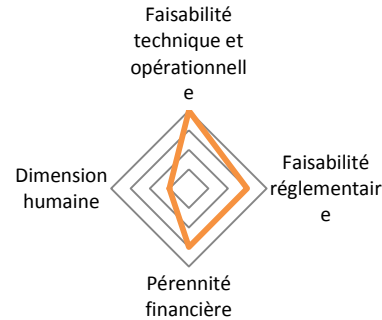
DEPLOIEMENT

mai 2016
octobre 2016

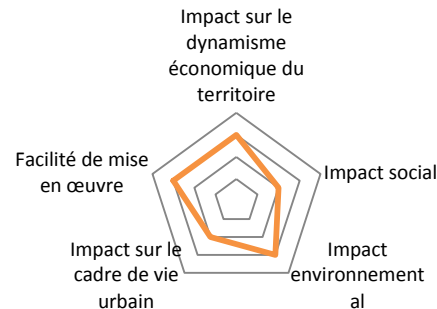
URBISMART / LIBNER

NOM DE LA STRUCTURE QUI PORTE LE PROJET

EVALUATION INTERNE DU PROJET



EVALUATION DU POINT DE VUE DE LA COLLECTIVITE



POINTS DE VIGILANCE

Réalité des gains environnementaux ?

PIERRE ORSATELLI / CHRISTOPHE TROUBAT

NOM DU/DES PORTEUR/S DE PROJET



SOURCE BIL.LIBNER.COM

La Base Intelligente de Logistique avec le BIL truck chargé de la BIL Box (800 kg de charge utile).

FORCES & FAIBLESSES

- Forces : produit opérationnel donc commercialisable ; conforme au concept d'éclatement (hub & spokes)
- Faiblesses : stationnement du porteur ; tare représentée par la BIL Box ; contradiction apparente entre le système Urbismart (système sans moyens) et BIL (maillon concret d'exécution)



NB : Les radars sont susceptibles d'évoluer.



MONOPRIX (Casino) in Paris train + CNG trucks

90 Paris stores since 2007
30 km rail trip from suburban
distribution center
+14% increase per pallet
Abandoned in 2016



FRANPRIX (Casino) in Paris barge + trucks

300 Paris stores since 2012
20 km barge trip from
suburban DC and port
No available info on cost

Waterways for urban deliveries



Cargo-cycles for urban deliveries



Off-peak deliveries and night deliveries

- Night deliveries are authorized in Paris (large trucks – over 29 m² – can only deliver at night)
- General restrictions on noise
- Some specific demonstrators have been tested with help from the municipality and use of silent equipment



Conclusion

- Urban freight represents many jobs and an important economic asset for Paris
- Urban freight still generates many environmental impacts
- New logistics services are emerging such as ‘instant deliveries’ and the municipality does not know how to cope
- Local decision-makers are looking for effective policies to address part of the issues
- Many freight and logistics issues depend on the economics or on long-term national/European policies that cannot be properly addressed at the local level
- Increasing knowledge and awareness

Survey on 'instant delivery' couriers in Paris (December 2016, Saidi and Dablanc)



- Main challenges:
 - Rain, cold, bad weather conditions (21%)
 - Problems with app, GPS or smartphone battery (20%)
 - Congestion, pollution and traffic (19%)
 - Bicycle theft and bike problems (13%)
 - Lost time waiting for the order at restaurants (12%)
 - Bike lanes (absent or ill-conceived) (7%)
 - Other (8%)

Resources



- <http://www.citylab-project.eu/>
- www.metrotrans.org/metrofreight
- CITYLAB Observatory of Strategic Developments impact urban logistics



(http://www.citylab-project.eu/deliverables/D2_1.pdf)

- Camilleri, P., Dablanc, L. (2017) An assessment of present and future competitiveness of electric commercial vans, *Journal of Earth Sciences and Geotechnical Engineering*. Vol 7(1), p. 337-364.
- Dablanc, Morganti, Arvidson, Woxenius, Browne, Saidi (submitted) The Rise of Instant Delivery Services in European Cities Supply Chain Forum an International Journal