Location of less than truckload (LTL) transport terminals in French Metropolises

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Less than truckload (LTL) transport terminals

- LTL transport operations: from 1 kg to 3 T

Network organization - consolidation in shipping centers and hubs

Location of LTL terminals Paris region (Dablanc et al., 2010; Heitz et al., 2017)

Location of LTL terminals in other French urban regions
French LTL market segmentation

Small parcels
- <30kg

Mixed
- <30kg

Pallets

10 networks:
- Global air carriers
  - UPS
  - FedEx
  - TNT
  - DHL
  - dpd
  - chronopost
- European postal companies
  - GLS
  - E-Commerce

8 networks:
- European T&L leaders
  - GEODIS
  - GEFCO
  - DB SCHENKER
  - DACHSER
  - DSV
  - KUEHNE+NAGEL

6 networks:
- Cooperative networks
  - ASTRE
  - palet
  - volet
- Integrated networks
  - FLO
  - POLE
- French specialized companies
  - Heppner
  - Groupe MAZET
  - XPO Logistics
  - TRANSALLIANCE
French LTL market segmentation

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**Mixed**
- GEODIS
- GEFCO
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- KUEHNE+NAGEL
- DSV
- FLO GROUPEMENT
- POLE
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**Pallets**
- Global air carriers
- European T&L leaders
- Cooperative networks
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10 networks:
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8 networks:
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French LTL market segmentation

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8 networks:
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  - DB SCHENKER
  - DACHSER
  - KUEHNE + NAGEL
- Integrated networks
  - XPO Logistics
  - TRANSALLIANCE

6 networks:
- Cooperative networks
  - ASTRE
  - Palet System
  - Voly
  - pal
  - FLO GROUPEMENT
  - POLE

E-Commerce
- Heppner
- Groupe MAZET
French LTL market segmentation

**Small parcels**
- <30kg
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**Mixed**

8 networks:
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**Pallets**

6 networks:
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  - Palet System
  - Troyes
- Integrated networks
  - FCO GROUPEMENT
  - POLE
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  - Groupe MAZET
- E-Commerce
  - relais colis
  - colis drive
  - XPO Logistics
  - TRANSALLIANCE
LTL transport terminals identification

- **Sources:**
  - Carriers websites
  - Online business directories

- Satellite imagery and street-views for validation and precise geolocation:

- **All France:** 1,179 terminals
  - Parcels: 491
  - Mixed: 420
  - Pallets: 268
Location of LTL transport terminals in France
Location of LTL transport terminals in French Metropolises
Number of terminals per Metropolises

• 440 / 1 233 terminals: 35%
  • Parcels: 38%
  • Mixed: 26%
  • Pallets: 16%

Population: 40% (26.4M / 64.2M)

TERMINALS PER METROPOLISES

- PARCELS
- MIXED
- PALLETS
Metropolises’ public logistics zones

Port of Gennevilliers

Delta 3 multimodal platform

Regional transport center of Lesquin
Location of terminals in Metropolitan logistics zones

- 107 / 440 terminals in logistics zones: 24.3%
  - Parcels: 20.5%
  - Mixed: 31.9%
  - Pallets: 20.6%
Distance of the terminals from the city centers (1)

- Mean distance from the city-centers: 13.7 km

**DISTANCE FROM THE CITY CENTER VS. SIZE OF THE URBAN AREA**

- $R^2$: 0.58
Distance of the terminals from the city centers (2)

• Mean distance from the city-centers: 13.7 km

Distance from the center vs. size of the urban core

R²: 0.83
Distance of the terminals from the city centers (2)

- Mean distance from the city-centers: 13.7 km

![Graph showing the relationship between distance from the center and size of the urban core. The graph includes data points for Marseille, Lyon, and Paris. The R² value is 0.83.]
Distance from the city centers: the case of Paris and Lyon

- Paris and Lyon urban regions: the only French “real” Metropolises
  - Several terminals per network
  - Presence of Hubs

![Map of Paris and Lyon urban regions](image)

- Logistics zones
- Terminals inside logistics zones
- Terminals outside logistics zones
- Communal population:
  - > 80,000
  - 20,000 - 80,000
  - 5,000 - 20,000
  - < 5,000
- Highways
Distance from the city centers: the case of Marseille

→ Marseille – Aix: a bipolarized Metropolis
Logistics zones and terminal locations (1)

- Mean distance from the city-centers: 13.7 km

  In logistics zones: 13.2 km

**DISTANCE OF THE TERMINALS FROM THE CITY CENTERS**

<table>
<thead>
<tr>
<th>City</th>
<th>% of terminals in LZ:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>OUTSIDE LOGISTICS ZONES</td>
</tr>
<tr>
<td>PARIS</td>
<td>29%</td>
</tr>
<tr>
<td>LYON</td>
<td>19%</td>
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<tr>
<td>MARSEILLE</td>
<td>4%</td>
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<tr>
<td>TOULOUSE</td>
<td>25%</td>
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<tr>
<td>LILLE</td>
<td>55%</td>
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<tr>
<td>BORDEAUX</td>
<td>28%</td>
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<tr>
<td>NICE</td>
<td>19%</td>
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<tr>
<td>NANTES</td>
<td>0%</td>
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<tr>
<td>STRASBOURG</td>
<td>16%</td>
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<tr>
<td>GRENOBLE</td>
<td>0%</td>
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<td>RENNES</td>
<td>33%</td>
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<td>ROUEN</td>
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<td>NANCY</td>
<td>0%</td>
</tr>
<tr>
<td>BREST</td>
<td>0%</td>
</tr>
</tbody>
</table>
Logistics zones and terminal locations (2)

• Mean distance from the city-centers: 13.7 km

In logistics zones: 13.2 km
Logistics zones and terminal locations: case studies

→ Conflicting influences of the logistics zones
Distance from the city centers for the three LTL markets

- Mean distance from the city-centers: 13.7 km  
  In logistics zones: 13.2 km
  - Parcels: 13.8 km  
  12.0 km
  - Mixed: 12.9 km  
  13.5 km
  - Pallets: 15.1 km  
  15.3 km
Conclusion

- Localization of LTL transport terminals in French Metropolises:
  - Urban and regional contexts of the metropolises
  - Network structures of the carriers

- Terminals located between 6 and 10 km of the urban cores or the Metropolises
  - Exception for Paris, Lyon and Marseille

- Conflicting influences of the logistics zones
  - Concentration of the nuisance of the transport industry
  - Multimodal transportation
  - “Sanctuarization” of effective locations for the transport industry
Thank you for your attention!

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