The Logistics Observatory

Indicators of competitiveness for the Catalan Logistics system (9th edition)

Advanced data for 2014

July 2014
1. Introduction

2. Socioeconomic context

3. Supply and demand

4. Infrastructure supply

5. Logistics real estate market

6. Efficiency
Introduction

The Logistics Observatory is:

- A tool for the **continuous evaluation of the needs of the sectors of the economy in relation to the infrastructure systems and logistics services.**
- A **meeting point for the companies and key agents** that enables the needs of the business sectors of the economy to be integrated with planning and management of infrastructures and services.

The objectives of the Indicators of Competitiveness of the logistics system are:

- To create a **reference framework that is stable over time**, based on real parameters and objective observation.
- To monitor the most relevant data from the logistics system and **analyse their evolution** by contrasting the derived information with experts in each specific area.
- To become a **tool that provides information for the planning and management of the logistics system.**
Introduction

Document structure:

- This work is divided into **two main parts**:
  - The document itself: 34 indicators.
  - The statistical annex: more than 50 complementary statistical data.

- The document is organised in the following sections:
  1. Socioeconomic context
  2. Infrastructure supply
  3. Supply and demand
  4. Logistics real estate market
  5. Efficiency
  6. Summary table of indicators
Introduction

**INDICATOR 3. PREU MITJÀ DEL GASOLI A LES GASOLINERES CATALANES**

1. **MOTIVACIÓN:** Considere el preu mitjà del litre de gasoli a les gasolineries catalanes, espanyoles i europees, amb l'objectiu d'establir una comparativa entre les diferents unitats territorials.

2. **DEFINICIÓN:** Preu mitjà del litre de gasoli d'autocció a Catalunya.

3. **EVOLUCIÓN:**

<table>
<thead>
<tr>
<th>Indicador</th>
<th>Preu del gasoli a Catalunya (€/L)</th>
<th>Preu del gasoli a Espanya (€/L)</th>
<th>Preu del gasoli a Eurozona (€/L)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2005</td>
<td>15.9</td>
<td>16.7</td>
<td>17.3</td>
</tr>
<tr>
<td>2006</td>
<td>16.3</td>
<td>17.0</td>
<td>17.5</td>
</tr>
<tr>
<td>2007</td>
<td>16.7</td>
<td>17.0</td>
<td>17.5</td>
</tr>
<tr>
<td>2008</td>
<td>17.1</td>
<td>17.5</td>
<td>18.0</td>
</tr>
<tr>
<td>2009</td>
<td>17.5</td>
<td>18.0</td>
<td>18.5</td>
</tr>
<tr>
<td>2010</td>
<td>17.8</td>
<td>18.5</td>
<td>19.0</td>
</tr>
<tr>
<td>2011</td>
<td>18.0</td>
<td>19.0</td>
<td>19.5</td>
</tr>
<tr>
<td>2012</td>
<td>18.3</td>
<td>19.5</td>
<td>20.0</td>
</tr>
<tr>
<td>2013</td>
<td>18.6</td>
<td>19.8</td>
<td>20.5</td>
</tr>
</tbody>
</table>

**4. RELLEVANCIA I ANALÍSI DE TENDENCIA:**

L'analisi de la sèrie 2005-2013 mostra un increment interanual mitjà del 5.0% del preu mitjà del litre de gasoli a Catalunya. No obstant, entre 2012 i 2013 el preu ha disminuït un 0.9%, trenant la tendència a l'alçada iniciada el 2009.

Pel que fa a la resta d'unitats territorials, es constata un increment de preus l'últim bienni analitzat. Adicionalment, es constata que al conjunt de l'Estat el preu mitjà d'aquest combustible es situà al cim de 19.8€ el 2012, mentre que a l'Eurozona el preu és 7 cèntims d'euro superior. No obstant, la diferència de preus entre Catalunya i l'Eurozona ha disminuït a nivell de 61.1% anual entre 2005 i 2013.

**5. METODOLOGIA**

La informació per a la construcció d'aquest indicador s'ha extret dels informes anuals de preus dels combustibles publicats pel Ministeri d'Indústria, Comerç i Turisme, present com a referència els preus amb impostos del gasoli d'autocció.

Pel que fa al preu corresponent a l'Eurozona, es considera la mitjana ponderada dels preus pertanyents a la zona Euro, indicats en cada cas en els informes anuals consultats.

**6. FONTS:**

- Premis de combustibles (Ministeri d'Indústria, Comerç i Turisme).

**7. INFORMACIÓ STATÍSTICA DE REFERÈNCIA RECOLLIDA A L'ANNEX:**

- I.11. Composició del preu mitjà del litre de gasoli
Introduction

Information search process:

- **More than 30 sources of information used**
  - Oriented towards analysis of the economic context:
    - Statistical Institute of Catalonia
    - National Statistics Institute
    - Eurostat
    - ...
  - For finding specific sectorial data:
    - Permanent survey of road freight transport (Spanish Ministry for Development).
    - Freight transport databases: from the rail sector RENFE, ADIF i FGC.
    - Statistical reports from the Ports.
    - Statistical data from the Spanish air authorities Aena and Clasa.
    - Data of average daily intensity (Catalan Transit Service)
    - Census data from sectorial magazines and logistics platforms (Alimarket)
    - ...

- Secondary sources: contrasting the primary results with experts from the various specialised areas within the sector.
Introduction: WHAT’S NEW IN THE 2014 EDITION?

OBJECTIVES

✓ Study, analyze and define **new indicators**, improving the necessary ones in order to **offer a global picture of the Catalan logistics sector.**

### 8 NEW INDICATORS

<table>
<thead>
<tr>
<th>Indicator</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diesel average price at the Catalan gas stations and comparative</td>
</tr>
<tr>
<td>Value of the commercial exchanges with the Spanish State</td>
</tr>
<tr>
<td>Rail share for the international land transport flows</td>
</tr>
<tr>
<td>Intermodal railway transport</td>
</tr>
<tr>
<td>Activity of the private rail operators</td>
</tr>
<tr>
<td>Logistics real state sector at the Mediterranean Corridor</td>
</tr>
<tr>
<td>Emissions or the road freight transport</td>
</tr>
<tr>
<td>Importance of alternative fuels</td>
</tr>
</tbody>
</table>

+ **7 NEW STATISTICAL ANNEXES**

+ **ADVANCED DATA FOR 2014**
Index

1. Introduction

2. Socioeconomic context

3. Supply and demand

4. Infrastructure supply

5. Logistics real estate market

6. Efficiency
Following the increasing trend of the last four years, despite the reduction of the economic extent of the freight transport, the logistics sector accounts for over 4% of the overall economy.

During 2013, the number of employees of the logistic sector has increased by 1.6% compared to 2012.

The Catalan balance of trade of the recent years has decreased the difference between the economic value of imports and exports. In spite of the economic crisis, the interannual growth of the economic value of exports has been 4% during the period 2004-2013.

The chemical, automotive and food and drink sectors account for more than 50% of the Catalan exports.

Between 2009 and 2013, the economic value of Catalan exports to the rest of the world has increased by more than 40%, while the value of exports to the rest of Spain has decreased by 5%.
Socioeconomic context: Economic weight

Following the growing trend of the last 4 years, the logistics sector accounts for over 4% of the overall economy. This fact is due to the growth in the transport related activities, which provide a higher added value.

![Logistics economic weight on the overall economy](image)

Source: Elaborated from data from the Statistical Institute of Catalonia and the Caixa Catalunya annual statistics review.

(*) The data for 2011 and 2012 are provisional and have been calculated from indicators of productivity and sectorial activity. These data will be updated as and when the annual services surveys are published.
The transport and storage sector is leading the labour market reactivation

- During 2013, the number of people employed in logistics has increased by 1.6% compared to 2012.

Source: Elaborated from data in the annual services survey

(*) The data for 2012 and 2013 have been calculated from data from the active population survey (INE). These data will be updated when the results of the annual services surveys are published.
Socioeconomic context: Economic value of exports (I)

Evolution over time

In spite of the deep fall of the year 2009 (-18% compared to 2008), the annual growth of the economic value of exports has been 4% during the period 2004-2013.

- During 2013, the evolution of the textile, leather, footwear and dressmaking, and chemical sectors should be highlighted, since the value of exports relating to both these sectors has grown by 10% and 4% respectively.

Advanced data for 2014

The two first months of 2014 represent the best start in the historical available data (increase over 2%).

Source: Elaborated from data from the National inland revenue agency and Idescat.

Source: Elaborated from data from the National inland revenue agency and Idescat.

INDICATORS OF COMPETITIVENESS (The Logistics Observatory of Catalonia)
Internationalization of trade exchanges

In the period 2009-2013, the economic value of Catalan exports to the rest of the world has increased 40.8%. However, the value of the exports to the rest of the Spanish State has fallen by 14.8%.

Source: Elaborated from data from Informe Trimestral sobre el comercio interregional en España, CEPREDE
The European Union keeps on concentrating the most part of the Catalan exports. However, in the last years the EU has lost influence to other parts of the world.

Source: Own preparation based on data from the Catalan Institute of Statistics.
Exports by mode of transport

Compared to 2012, no relevant changes can be seen on the distribution of the value of exports by mode of transport. It can be stated that road transport accounts for more than 60% of the economic value of the Catalan exports, while sea transport consolidates its importance.

Source: Own preparation based on data from the Catalan Institute of Statistics
I. SOCIOECONOMIC CONTEXT

I.2. Growth of GDP of Catalonia per sector in actual prices.
I.6. Number of employees per sector in Catalonia.
I.7. Consumer price index of Catalonia and Spain over time.
I.8. Importacions i exportacions de Catalunya per àrees i països.
I.9. Importacions i exportacions d’Espanya per àrees i països.
I.10. Importacions i exportacions de Catalunya per sectors.
I.13. Crude oil price (Brent barrel) over time.
Index

1. Introduction
2. Socioeconomic context
3. Supply and demand
4. Infrastructure supply
5. Logistics real estate market
6. Efficiency
Supply and demand: CONCLUSIONS

- During the year 2013 the **Catalan logistics system** managed 319 millions of tonnes, which represents 9.5% less than in the previous year. The **internal traffic** has been the most affected by this fall, and continues to lose share. Over the last 6 years it has lost 12 points, accounting for 43% of the total transported tonnes in 2013.

- During the last year, the **road flows** decreased 10.5% in Catalonia. Again, the **internal traffic** has been the most affected. Furthermore, the weight of fuel costs within total costs of road transport increased by 27% since 2009.

- The volume of **freight transported by rail** increased by 3.3% during the period 2012-2013, accounting for a 3.5% stake in the **Catalan logistics chain**. In addition, the **intermodal land transport** has consolidated its importance during the recent years.

- **Maritime freight transport** fell by -7.8%. Nevertheless, the **export profile** of the Catalan ports has been reinforced, especially on **container cargo**.

- In the last year, the total volume of **freight** transported by the **Catalan airport system** has increased by 3.2%, stressing the 70% growth of the volume managed from the Barcelona Airport to the Middle East.
Supply and demand: Overall volume (I)

By type of traffic

During the year 2013 the Catalan logistics system continued the decreasing trend started 6 years ago. The overall transported volume has fallen 9.6% compared to 2012.

Overall freight volume:
- Year 2012: 352.4 Million Tones
- Year 2013: 319.2 Million Tones

<table>
<thead>
<tr>
<th>Type of traffic</th>
<th>Weight 2012</th>
<th>Weight 2013</th>
</tr>
</thead>
<tbody>
<tr>
<td>Internal</td>
<td>46.5%</td>
<td>43.0%</td>
</tr>
<tr>
<td>Maritime / Air</td>
<td>21.6%</td>
<td>22.0%</td>
</tr>
<tr>
<td>With the rest of Spain</td>
<td>17.9%</td>
<td>19.3%</td>
</tr>
<tr>
<td>Through traffic</td>
<td>6.3%</td>
<td>7.1%</td>
</tr>
<tr>
<td>International land traffic</td>
<td>7.7%</td>
<td>8.7%</td>
</tr>
</tbody>
</table>

Source: Elaborated from data of the Spanish Ministry for Development, Renfe, FGC, the Spanish Ports, Aena (Millions of tonnes)
Supply and demand: Overall volume (II)

By mode of transport

It is clear that GDP has a multiplier effect on freight traffic, in both times of economic growth and in periods of recession.

Evolution of GDP and evolution of freight transport by mode in Catalonia

Overall freight

Interannual evolution: +8,4% growth

Interannual evolution: -8,2% fall

GDP (fixed prices)
Road transport
Rail transport
Maritime transport
Air transport
Global freight transport

Evolution 2012 – 2013 (tonnes)

<table>
<thead>
<tr>
<th>Mode</th>
<th>Percentage Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>GDP (fixed prices)</td>
<td>-0,5%</td>
</tr>
<tr>
<td>Road</td>
<td>-10,5%</td>
</tr>
<tr>
<td>Rail</td>
<td>+3,3%</td>
</tr>
<tr>
<td>Maritime</td>
<td>-7,8%</td>
</tr>
<tr>
<td>Air</td>
<td>3,2%</td>
</tr>
<tr>
<td>TOTAL</td>
<td>-9,5%</td>
</tr>
</tbody>
</table>

Source: Elaborated from data of the Spanish Ministry for Development, Idescat, Renfe, FGC, private rail operators, Spanish State Harbours. *Since 2004 road through traffic is included. **Since 2010 private rail operators are included. Data from Comsa corresponding to 2010-2011 is still waiting for confirmation.
Overall, the road transport flows in Catalonia have fallen by 11.5%.

- **Internal flows** continue to lose share.
- Despite the **reduction** in overall activity, exchanges with the rest of Spain continue to gain relative importance.
- **International operations** increase their share within road transport, both in absolute and relative terms.

### Graph:

#### Advanced data for 2014

During the 1st quarter of 2014 international flows increase by 23% compared to the same quarter of 2013.

**Source:** EPTMC

Source: Elaborated from data of the Spanish Ministry for Development
The number of operations within Catalonia has reduced by 50% between 2007 and 2013.

- The fall in the road transport sector is caused mainly by the burst of the real estate bubble. Therefore, the road transport related operations have fallen by 78% since 2007 (Thus, more than 80% of the fall is due to the construction sector).

**Number of operations** (Variation 2012-2013)

- Machines, vehicles and manufactured objects: -4.7%
- Chemicals: -0.1%
- Fertilisers: -24.6%
- Minerals and construction materials: -29.9%
- Metallurgical products: +7.1%
- Minerals and melting waste: -35.7%
- Oil products: -19.8%
- Fuel and solid minerals: -38.7%
- Food products and forage: -5.3%
- Agricultural products and living animals: -8.6%

Source: Elaborated from data of the Spanish Ministry for Development
Road transport mode: Evolution of costs in relation to the price of diesel

During the last 4 years, the relative weight of fuel costs to total costs has increased by 27% for road transport.

- During 2013 the average price of diesel has fallen by 1.5% compared to 2012 values.
- In the Eurozone the cost per liter is 8 euro cents higher.

Source: Elaborated from data provided by the Ministry of Industry, Commerce and Tourism and the Observatory of road haulage costs.
During the year **2013**, rail transport has **increased by 15.5%** compared to 2012. In addition, the **stake of rail transport** in the **Catalan logistic chains** continues to **follow the increasing trend** started in 2009, **accounting now for a 3.5% share**.

*Source: Elaborated from data of the Spanish Ministry for Development, Renfe, FGC, private rail operators, Spanish State Harbours. *Since 2004 road through traffic is included. **Since 2010 private rail operators are included. Data from Comsa corresponding to 2010-2011 is still waiting for confirmation.*
The rail transport mode has a high competitiveness for long distances.

- The high rail shares on the overland operations between Catalonia and Belgium (48.3%) and Catalonia and Germany (27.5%) contrast with the lower share between Catalonia and France (0.5%).

### Overland transported tonnes from/to Catalonia to/from:

<table>
<thead>
<tr>
<th>Country</th>
<th>Tonnes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Belgium</td>
<td>922,591</td>
</tr>
<tr>
<td>Germany</td>
<td>2,509,948</td>
</tr>
<tr>
<td>Denmark</td>
<td>85,773</td>
</tr>
<tr>
<td>Czech Republic</td>
<td>57,432</td>
</tr>
<tr>
<td>Slovakia</td>
<td>2,444</td>
</tr>
<tr>
<td>Portugal</td>
<td>480,931</td>
</tr>
<tr>
<td>Rest of Spain</td>
<td>63,159,088</td>
</tr>
<tr>
<td>Italy</td>
<td>1,498,386</td>
</tr>
<tr>
<td>France</td>
<td>9,516,301</td>
</tr>
</tbody>
</table>

**Source:** Elaboration from Renfe databases, private rail operators and Spanish Ministry for Development
The weight of intermodal transport during the last 2 years has remained slightly stable. In the recent years the intermodal transport has become increasingly important.

RENFE rail transport by type of good (internal and Catalonia-Spain flows)

(*) ITU: Intermodal Transport Unit

Source: Elaborated from RENFE’s database
Zaragoza is the origin / destination of 40% of the ITUs sent from or received by rail by the Port of Barcelona, operated by Renfe.

- In addition, during 2013, the Port of Barcelona increases its hinterland, especially in the container exchange traffic with Algeciras, Vigo and the South of France.

### Evolution 2010-2013

<table>
<thead>
<tr>
<th>Terminal</th>
<th>Δ 12-13</th>
<th>Δ annual</th>
</tr>
</thead>
<tbody>
<tr>
<td>Zaragoza</td>
<td>-26%</td>
<td>28%</td>
</tr>
<tr>
<td>Tarragona</td>
<td>158%</td>
<td>20%</td>
</tr>
<tr>
<td>Lleida</td>
<td></td>
<td>-100%</td>
</tr>
<tr>
<td>Madrid</td>
<td>-71%</td>
<td>-41%</td>
</tr>
<tr>
<td>Osca</td>
<td>-5%</td>
<td>82%</td>
</tr>
<tr>
<td>Burgos</td>
<td>120%</td>
<td>-36%</td>
</tr>
<tr>
<td>Vitoria</td>
<td>103%</td>
<td>-44%</td>
</tr>
<tr>
<td>Portbou</td>
<td>-46%</td>
<td>-51%</td>
</tr>
<tr>
<td>Bilbao</td>
<td>-30%</td>
<td>-27%</td>
</tr>
<tr>
<td>Algeciras</td>
<td>134%</td>
<td>34%</td>
</tr>
<tr>
<td>Vigo</td>
<td>50%</td>
<td>110%</td>
</tr>
<tr>
<td>Perpignan</td>
<td>125%</td>
<td>540%</td>
</tr>
</tbody>
</table>

**Number of containers sent / received by the Port of Barcelona (Renfe)**

- Zaragoza: -26% increase from 2010 to 2013, representing 40% of ITUs sent or received.
- Tarragona: 158% increase, 20% of ITUs.
- Lleida: No change.
- Madrid: -71% decrease, 20% of ITUs.
- Osca: -5% decrease, 82% of ITUs.
- Burgos: 120% increase, 36% of ITUs.
- Vitoria: 103% increase, 41% of ITUs.
- Portbou: -46% decrease, 34% of ITUs.
- Bilbao: -30% decrease, 50% of ITUs.
- Algeciras: 134% increase, 34% of ITUs.
- Vigo: 50% increase, 110% of ITUs.
- Perpignan: 125% increase, 540% of ITUs.

Font: Elaborated from Renfe database.
During the last years, private rail operators increase its importance in rail freight transport.

- In 2013, the **percentage** of **tonnes** transported by **private rail operators** rose to 16.7%. This implies an increase higher than 70% compared to 2012.

Source: Elaborated from Renfe, private operators and FGC databases.
*Private operators are included since 2010. Data from Comsa corresponding to 2010-2011 is still waiting for resolution.
Maritime transport mode: Overall freight volume

Data from 2013 shows a downward tendency of the total freight volume handled by the Catalan ports.

- In the Port of Barcelona the total managed tonnage has remained stable during the period 2012-2013. However, the fall of the Port of Tarragona and the rest of Catalan ports provokes an 8% fall in the total volume of goods moved by the Catalan ports.

![Graph showing total tonnes from 2004 to 2013](image)

**Advanced data for 2014**

During the first 5 months of 2014, the total handled tonnage at the ports of Barcelona and Tarragona has increased compared to the same period of 2013. This could imply a start of a change in the trend observed during the recent years.

**Evolution January-May 2014**

<table>
<thead>
<tr>
<th>Port</th>
<th>Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Port of Tarragona</td>
<td>+1.9%</td>
</tr>
<tr>
<td>Port of Barcelona</td>
<td>+8.0%</td>
</tr>
</tbody>
</table>

Source: Ports of Barcelona and Tarragona

Source: Elaborated from data supplied by Ports of Barcelona, Tarragona and Catalan Ports.

**INDICATORS OF COMPETITIVENESS** (The Logistics Observatory of Catalonia)
Maritime transport mode: Exports vs. imports

The difference between the volume of goods imported and exported through the ports is reducing, consolidating the growth trend of exports managed by the ports’ logistics system.

- In the Port of Barcelona, during the last 8 years, full containerised exports have gone from being 25% less than the imports to being 50% more than the imports.

Traffic evolution. Ports of Barcelona and Tarragona

Full container traffic in the Port of Barcelona

Source: Elaborated from information supplied by the Ports of Barcelona and Tarragona and National Ports
Maritime transport mode: Rail traffic in the Port of Barcelona

During the last 4 years, the total containerised freight handled in the Port of Barcelona has risen by a factor of 2.6.

- Despite the economic crisis, the volume of freight transported by rail in the Port of Barcelona has grown at the rate of 17% annually between 2007 and 2013.

Source: Elaborated from information provided by the Port of Barcelona.
Air transport mode: Catalan air traffic

The number of operations made by Catalan airports fell by 4.2% during the period 2012-2013.

- However, during the last period analysed, the volume of freight transported through the Catalan airports increased by 3.2%, which is more than twice the growth of the world cargo within the same period.

Source: Elaborated from data provided by AENA’s Statistics department, Idescat and the Catalan Airports
Air transport mode: Type of air traffic

During the last two analyzed years, the total volume of freight transported by air mode (plane + camió aeri*) has remained quite stable, with an increase of 0.7%.

- During the period 2007-2013 the share of each type of transport has been redistributed. Therefore, the tonnes transported in the hold of passenger planes have increased by 42%, while camió aeri* tonnes have fallen by 35%.

Source: Elaborated from data of AENA’s and CLASA’s Statistics departments. Data refers to Barcelona Airport "camió aeri**" goods invoiced as air-freight although in fact transported by road, generally for distances of less than 1.000km.
The volume handled in the Barcelona airport increases by 5.4% in 2013, especially the traffic with Europe and the Middle East, which focus 75% of the total handled tonnes. Both regions increase their traffic with the Barcelona airport (+3.6% Europe; +69.6% Middle East).

Source: Elaborated from data of AENA’s Statistics department
III. SUPPLY AND DEMAND

GENERAL DATA

III.1. Volume of goods distributed by transport mode and flow type

III.2. Imports and exports of Catalonia by mode

ROAD TRANSPORT

III.3. Number of employees per company in European countries

III.4. Tonnage of goods moved by road in Catalonia

III.5. Volum of traffic on the major Catalan roads

III.6. Road transport operations by type of freight in Catalonia

III.7. Average composition of the gasoil liter

III.8. Road transported tones by country

RAIL TRANSPORT

III.9. General transport data for rail freight in Spain

III.10. Scheduled and special traint convoys: number of journeys made (Spain)

III.11. Scheduled and special traint convoys: number of journeys made (Catalonia and Aragon)

III.12. Scheduled train convoys: number of journeys programmed and completed (Spain)

III.13. Flow of goods per rail mode in Catalonia

III.14. Rail terminals in Catalonia: evolution of the number of TEUs

III.15. International rail border crossing

III.16. Tonnage transported per rail mode by country

Supply and demand: Statistical annex

Indicators of Competitiveness (The Logistics Observatory of Catalonia)
Index

1. Introduction
2. Socioeconomic context
3. Supply and demand
4. Infrastructure supply
5. Logistics real estate market
6. Efficiency
In the last years the Spanish annual road infrastructure growth has been higher than the Catalan. However, during 2013 the growth of such infrastructures in Catalonia has been higher than in Spain.

During 2013, the involvement of heavy vehicles in traffic accidents with human casualties in Catalonia has remained stable compared to 2012, while within the Spanish State it has fallen by 4.6%. The accident rate involving heavy vehicles in the Catalan roads accumulates 11% reduction in the period 2007-2012.

Catalonia has a better level of railway infrastructure compared to Spain during the whole analyzed period. Europe remains in a close position to Catalonia, even though since 2011 Catalonia takes distance thanks to the inauguration of the high speed line.

Between 2007 and 2013, the rail share in the accesses to the Port of Barcelona has increased fourfold, while the one corresponding to the Port of Tarragona has fallen by 11%.
During the year 2012 the total high capacity (4 or more lanes) road infrastructure has increased by 2.1%, while in Spain this growth has been 1.0%.

- The evolution over the whole time series (2004-2012) shows that the Spanish inter-annual growth over this period has been higher than in Catalonia (4.0% and 3.5% respectively).
- The growth in road infrastructure during the last period analyzed is due to the upgrading of the Congost axis (C-17) and Coastal (C-31). Data corresponding to 2013 will show a new turning point, as a result of the upgrading of the Transversal axis.

<table>
<thead>
<tr>
<th>Km/population</th>
<th>2012</th>
</tr>
</thead>
<tbody>
<tr>
<td>Catalonia</td>
<td>170,8</td>
</tr>
<tr>
<td>Spain</td>
<td>311,0</td>
</tr>
<tr>
<td>Europe-28</td>
<td>139,5</td>
</tr>
</tbody>
</table>

Source: Elaborated from data of the annual statistics of the Spanish Ministry for Development, INE and Eurostat)
**Infrastructure supply: Evolution of accident rates**

The involvement of heavy vehicles in the total number of accidents with human casualties has remained stable in Catalonia, while in Spain has fallen by 4.6%.

- The ban for heavy vehicles to circulate along the N-II road in the Girona province has brought a 73% reduction in the fatal accident rate in this stretch during 2013.

**Advanced data for 2014**

The number of fatal accidents in the Gironian stretch of the N-II road during the first quarter of 2014 is zero (April 2014).

Source: Catalan Government

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Source: Elaborated from data of the annual accident statistics of the National Traffic Department (DGT) and the Catalan Government
Infrastructure supply: Rail infrastructure provision

In relative terms, the level of rail infrastructure in Catalonia is significantly better than in Spain in the whole time series. Europe keeps on being in a close position to Catalonia, although since 2011 Catalonia takes distance thanks to the inauguration of the high speed line.

- In relation to the population, in 2012 Catalonia had an Index of 227.8 km of railway per million inhabitants (0.4% more than the previous year).
- Note that the comparison in terms of population reverses the position of Catalonia with respect to Spain and Europe.

Source: Elaborated from data of the Spanish Ministry for Development, Idescat and Eurostat
During the last year, the share of Port access by rail has increased significantly in the Ports of Barcelona and Tarragona (+11.4% and +14.6% respectively).

- During the period 2007-2013, the share of port access in the Port of Barcelona by rail has increased fourfold, while in the Port of Tarragona has fallen by 11%.
II. INFRASTRUCTURE SUPPLY

ROAD INFRASTRUCTURE

II.1. Average daily intensity of heavy lorries at the borders

II.2. Percentage of heavy lorries compared to the average daily intensity at the borders

II.3. Traffic accident rate in Catalonia and Spain over time

RAIL INFRASTRUCTURE

II.4. Late arrivals

MARITIME INFRASTRUCTURE

II.5. Port of Barcelona border control point

AIR TRANSPORT

II.6. Growth of the number of border crossing inspections (PIF) at Barcelona airport

LOGISTIC LAND

II.7. Logistics platforms in Catalonia

II.8. Surface area for storage in Spain

II.9. Surface area for storage in Catalonia
Logistics real estate market: CONCLUSIONS

- **Catalonia reinforces** its **leadership** within the **Spanish State** on the **offer** of **storage surface area**, with almost **24% of the total** offered surface, and **0.5% growth** between 2012-2013.

- During the last two analyzed years, the **fall** in the **logistics warehouse rental price** has been **3.7%**, being **now** in **3.6€/m²/month**, slightly **lower** than the **European average** (**5.6€/m²/month)**.

- Due to a consumption, industrial and logistics **privileged scene**, the Delta logistic platform **leads** the **price list** within the **Spanish State** (**5.6€/m²/month**), being **close** to the European average.
The total Spanish logistics storage surface supply is now more than 25.5 million m².

- **Catalonia** keeps on leading this supply, with almost **24% of the overall surface**, and **0.5% growth** between **2012-2013**, which contrasts with the stagnation of the rest of Spain.

![Graph showing storage surface by region and year from 2005 to 2013](image)
Logistics real estate market: Logistics warehouse price (I)

**Catalonia**

Following the trend started in 2007, the fall in the average logistics warehouse rental price has been 3.7% during the last two analyzed years, being now 3.63€/m²/month.

Since 2007 the average price has fallen by more than 35%.

---

**Advanced data for 2014**

The logistics warehouse rental price has increased by 16% during the first quarter of 2014 compared to the close of 2013.

Source: BNP Paribas

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Source: Elaborated from data of Atisreal, Richard Ellis, Jones Lang LaSalle, Aguirre Newman, BNP Paribas and King Sturge
During 2013, the average warehouse rental price keeps on reducing in all the Spanish cities.

- Barcelona maintains the 1st position in the price list, with a price of 5.6 €/m²/month in 2013.

Source: Elaborated from data of BNP Paribas Real Estate, Richard Ellis, Jones Lang LaSalle, Aguirre Newman, Cushman & Wakefield and CBRE
The average warehouse rental price in Barcelona is close to the European average.

- London is the European city with the highest price, going beyond 14€/m²/month.

Average logistics warehouse rental price at the main European cities (2012-2013)

Font: Elaborated from data of BNP Paribas Estate (2013)
Logistics real estate market: Logistics warehouse price (IV)

**Mediterranean corridor**

Barcelona lies in the second position in the logistics warehouse rental price list, just after Geneva.

### Logistics warehouse average rental price in the Mediterranean Corridor main cities

<table>
<thead>
<tr>
<th>City</th>
<th>Price (€/m²/mes)</th>
<th>2009</th>
<th>2010</th>
<th>2011</th>
<th>2012</th>
<th>2013</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ginebra</td>
<td>8,8</td>
<td>8,8</td>
<td>5,3</td>
<td>3,9</td>
<td>3,8</td>
<td>3,7</td>
</tr>
<tr>
<td>Barcelona</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Milla</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>3,6</td>
</tr>
<tr>
<td>Llo</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>3,5</td>
</tr>
<tr>
<td>Masella</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>2,9</td>
</tr>
<tr>
<td>Girona</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>2,8</td>
</tr>
<tr>
<td>Tolosa</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>2,6</td>
</tr>
<tr>
<td>Lleida</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>2,3</td>
</tr>
<tr>
<td>Murcia</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>2,3</td>
</tr>
<tr>
<td>Valencia</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Algeiras</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tarragona</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: Elaborated from data of Colliers International, BNP Paribas Estate and CB Richard Ellis
Logistics real estate market: Statistical Annex

IV. LOGISTICS REAL ESTATE MARKET

IV.1. Ranking of land prices for the main logistics zones in Spain

IV.2. Ranking of land prices for the main logistics zones in Europe

IV.3. Ranking of land prices for the main logistics zones in the Mediterranean Corridor

| Logistics real estate market: Statistical Annex | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | Var 11-12 | annual |
| Barcelona 1a Corona 0-10 km | 7.1 | 8.0 | 7.1 | 6.8 | 6.0 | 5.8 | 5.6 | -4.3% | -4.0% |
| Costa d’Azur | 6.8 | 7.2 | 6.8 | 5.8 | 5.0 | 5.0 | 4.5 | -10.0% | -6.6% |
| Torrejón-San Fernando | 6.6 | 6.8 | 6.7 | 5.8 | 5.0 | 5.0 | - | - | -5.4% |
| Leganés-Fuenlabrada | 4.6 | 4.6 | 4.1 | 4.1 | 4.1 | 4.1 | 4.1 | - | 0.6% |
| Huelva | 6.7 | 6.2 | 6.8 | 5.6 | 5.7 | 4.7 | 4.4 | -6.4% | -6.7% |
| Bal de Llobregat | 6.4 | 7.5 | 6.0 | 5.5 | 5.0 | 4.5 | 4.3 | -5.6% | -6.5% |
| Barcelona 2a Corona 10-40 km | 5.3 | 6.1 | 5.3 | 5.8 | 5.1 | 4.6 | 4.0 | -13.0% | -4.4% |
| Parla-Pinto-Valladolid | 4.7 | 5.6 | 5.8 | 5.8 | 3.9 | 3.9 | 3.6 | -11.1% | -4.9% |
| Alcalá de Henares | 5.0 | 5.1 | 4.8 | 4.3 | 4.1 | 3.9 | 3.6 | -8.4% | -5.7% |
| Vallés Occidental | 4.9 | 5.6 | 5.0 | 4.3 | 4.3 | 3.8 | 3.3 | -12.0% | -6.2% |
| Vallés Oriental | 5.3 | 6.0 | 5.1 | 4.5 | 4.3 | 3.8 | 3.3 | -13.3% | -7.7% |
| Sevilla | - | 4.1 | 4.2 | 3.8 | 3.4 | 3.3 | 3.0 | -10.2% | -5.8% |
| Girona | 3.5 | 4.3 | 4.2 | 3.3 | 3.1 | 3.2 | 2.8 | -11.1% | -3.8% |
| Alt Penedès | 3.4 | 3.8 | 3.6 | 3.6 | 3.5 | 3.2 | 3.2 | 0.0% | -1.2% |
| Terrassa | 4.2 | 4.6 | 4.3 | 4.0 | 4.0 | 3.5 | 2.3 | -35.7% | -9.7% |
| Barcelona 2a Corona 40-100 km | 3.4 | 3.3 | 3.6 | 3.6 | 2.8 | 2.8 | 2.8 | 0.0% | -3.4% |
| Valencia | 3.8 | 4.0 | 3.9 | 3.8 | 3.0 | 2.5 | -16.7% | -6.5% |
| Lleida | 4.0 | 3.8 | 4.5 | 3.3 | 2.8 | 2.8 | 2.4 | -14.5% | -8.5% |
| Guadalajara-Torrejón | 3.2 | 3.3 | 3.0 | 2.9 | 2.8 | 2.7 | 2.6 | -3.7% | -3.3% |
| Zaragoza | 3.3 | 3.1 | 3.0 | 2.8 | 2.6 | 2.6 | - | -5.2% |

Source: Elaborated from data of: BNP Paribas Real Estate, Richard Ellis, Jones Lang LaSalle, Aguirre Newman, Cushman & Wakefield and CBRE
# Index

<table>
<thead>
<tr>
<th>1. Introduction</th>
</tr>
</thead>
<tbody>
<tr>
<td>2. Socioeconomic context</td>
</tr>
<tr>
<td>3. Supply and demand</td>
</tr>
<tr>
<td>4. Infrastructure supply</td>
</tr>
<tr>
<td>5. Logistics real estate market</td>
</tr>
<tr>
<td><strong>6. Efficiency</strong></td>
</tr>
</tbody>
</table>
Efficiency: CONCLUSIONS

- Intermodal chains wave increased by 8.5% since the start of the economic crisis. The railroad, rail-maritime and air-road combinations have increased during 2013 (+1.7%, +5.8% and + 3.8% respectively).

- The percentage of empty journeys stabilizes around 41%. This ratio is 46.5% in internal trips, while in internacional and the rest of Spain trips is 21%.

- Fuel consumption and gas and particulate emissions caused by the road freight transport have fallen by 26-48% during the period 2006-2012.

- LPG raises its importance as an automotive fuel between 2005 and 2013.
Efficiency: Unimodality vs. Intermodality

Intermodal chains have increased during the crisis. During the last two years (2012-2013), the weight of intermodal chains based on rail-road, rail-maritime and air-road combinations have increased by 1.7%, 5.8% and 3.8% respectively.

- Intermodal chains have increased by 8.5% since the start of the crisis.

<table>
<thead>
<tr>
<th>Share %</th>
<th>2007</th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
<th>2011</th>
<th>2012</th>
<th>2013</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unimodals</td>
<td>82,1</td>
<td>81,5</td>
<td>80,9</td>
<td>78,9</td>
<td>77,3</td>
<td>75,0</td>
<td>73,5</td>
</tr>
<tr>
<td>Intermodals</td>
<td>17,9</td>
<td>18,5</td>
<td>19,1</td>
<td>21,1</td>
<td>22,7</td>
<td>25,0</td>
<td>26,5</td>
</tr>
</tbody>
</table>

Font: Elaborated from data of the Spanish Ministry for Development, Renfe, FGC, National Ports and Aena
Efficiency: empty journeys

The percentage of empty trips has reduced by 1.5% interannual during the period 2007-2013, and now is around 41%.

- This ratio is higher in the internal journeys (46.5%).
- For international and rest of Spain related trips this ratio is around 21%.

Source: Elaborated from EPTMC
**Efficiency: Road freight transport emissions**

Fuel consumption and gas and particulate emissions caused by the road freight transport have been reduced during the period 2006-2012, due to the reduction of mobility and technological improvements on the vehicles.

![Graph showing consumption and emissions](https://via.placeholder.com/150)

**Variation 2006 - 2012**

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Variation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Consumption</td>
<td>-26%</td>
</tr>
<tr>
<td>CO2</td>
<td>-30%</td>
</tr>
<tr>
<td>NOx</td>
<td>-39%</td>
</tr>
<tr>
<td>PM</td>
<td>-39%</td>
</tr>
<tr>
<td>CO</td>
<td>-48%</td>
</tr>
</tbody>
</table>

Source: Elaborated from data of EPTMC and the following reports: *Estudi de seguiment de l'evolució de la mobilitat i les emissions de gasos d'efecte hivernacle i contaminants a Catalunya per l'any 2010* (Institut Cerdà); *Avaluació de l'efectivitat en la reducció dels consums energètics i les emissions en els escenaris prospectius i subàmbits de les mesures proposades en el Pla director de mobilitat de la Regió Metropolitana* (Institut Cerdà)
Efficiency: Weight of alternative fuels

In spite of still being in a **preliminary stage**, during the last years **LPG** has risen importance as an **automotive fuel**, with an **interannual growth** of **18%** between **2005** and **2013**.

- Regarding **biodiesel**, the **application of the hydrocarbon tax** and the **loose** on its **mandatory use** have turned into a **reduction** of its **weight** during **2013**.

![Graph showing interannual evolution of alternative fuels weight (2007-2013)]

Source: Elaborated from CORES and ICAEN data.

**Interannual evolution of the alternative fuels weight (2007-2013)**

<table>
<thead>
<tr>
<th>Fuel</th>
<th>Growth</th>
</tr>
</thead>
<tbody>
<tr>
<td>LPG</td>
<td>+36%</td>
</tr>
<tr>
<td>Bio fuels</td>
<td>+34%</td>
</tr>
</tbody>
</table>
Efficiency: Statistical annex

V. EFFICIENCY

V.1. Estimate of the development of intermodal and unimodal transport
V.2. Transport operations and empty journeys percentage, by type of operation
V.3. Average antiquity of the van and lorry fleet
V.4. Freight vehicle fleet in Catalonia
V.5. Mobility of the freight vehicle fleet in Catalonia
V.6. Gasoline and gasoil consumption in Catalonia and Spain

[Bar chart showing gasoil consumption (ktoe) from 2005 to 2013 for Catalonia and Spain]