High Speed Rail and Long-Distance Passengers Transport in France: the End of a Golden Age

Pr. Yves Crozet
Contents

1) HSR in France: a success story?

2) Competition, demand, costs... the new challenges

3) Strategies for a mature market
The stages of HSR story in France

• 1975-1983 : an unexpected success

• 1983 – 2002 : a careful development

• 2003-2012: The climax “TGV everywhere”

• 2012-2017: The time of disenchantment

• 2018 and then.....
30 years of HSR France

• **1981**: opening of the Paris-Lyon

• **1989-1990**: opening of the Paris-Tours line (serving the south-west and Brittany).

• **1993**: opening of the Paris-Lille line (serving northern France, Brussels and London).

• **2001**: opening of the Lyon-Marseille line

• **2007**: opening of the first section of Paris-Est line (serving Lorraine, Alsace, Luxembourg and Germany). The second section has been opened in 2016

• **2011**: opening of the first section of the Rhine-Rhône line (first section not linked directly to Paris).

• **2017**: Opening of Bordeaux-Tours and BPL
National Scheme of Transport Infrastructures (2009)

- 2500 km of new HSR lines within 2020

- To be compared with the HSR network in 2009 = 1875km
## HSR Traffic in Europe

<table>
<thead>
<tr>
<th></th>
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<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>France</td>
<td>21.43</td>
<td>34.75</td>
<td>43.13</td>
<td>51.89</td>
</tr>
<tr>
<td>Germany</td>
<td>8.70</td>
<td>13.93</td>
<td>20.85</td>
<td>23.90</td>
</tr>
<tr>
<td>Spain</td>
<td>1.29</td>
<td>1.94</td>
<td>2.32</td>
<td>11.72</td>
</tr>
<tr>
<td>Italy</td>
<td>1.10</td>
<td>5.09</td>
<td>8.55</td>
<td>11.61</td>
</tr>
<tr>
<td>Sweden</td>
<td>0.42</td>
<td>2.05</td>
<td>2.33</td>
<td>3.10</td>
</tr>
<tr>
<td>Belgium</td>
<td>-</td>
<td>0.87</td>
<td>0.98</td>
<td>1.06</td>
</tr>
<tr>
<td>UK</td>
<td>-</td>
<td>-</td>
<td>0.45</td>
<td>1.01</td>
</tr>
<tr>
<td>Others</td>
<td>-</td>
<td>0.17</td>
<td>1.50</td>
<td>1.75</td>
</tr>
<tr>
<td>Total</td>
<td>32.94</td>
<td>58.80</td>
<td>80.11</td>
<td>106.04</td>
</tr>
<tr>
<td>% of all rail</td>
<td>9.4</td>
<td>15.9</td>
<td>21.2</td>
<td>26.3</td>
</tr>
</tbody>
</table>

Source: DG TREN, D. Banister and M. Ghivoni 2012
SNCF Réseau
TRAFIC DES TRAINS APTES À LA GRANDE VITESSE
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1) HSR in France: a success story?

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New competitors

• Collaborative economy
  – Ridesharing « Blablacar »
    =1 million trips/month =
    about 20 empty TGV
    train sets / day...
  – Car sharing

• New entrants
  – Bus on road and
    motorways, competition
    open at the end of 2015

• Rebound of private car
  due to a lower price of
  gas

• Low cost airlines
  offering a wide
  spectrum of
  destinations
High speed rail: the disenchantment
GDP and long distance passenger traffics in France
(2000 = 100)
Air passengers in France

France métropolitaine - trafic aéroportuaire : estimation 2050

- Sc1: 1.1%
- Sc2: 1.1%
- Sc3: 2.2%
- Sc4: 0.8%

- 395 millions de pax
- 209 millions de pax
- 3.1 millions de mvts
- 1.8 million de mvts
Rail passenger traffic: a strange fact (Eurostat)

Traffic Growth 2006 - 2015

- Italy + 4%
- Spain + 21%
- France + 15%
- Germany + 16%

Traffic growth 2006-2015

- United Kingdom + 40%
- Austria + 35%
- Sweden + 32%
- Switzerland + 30%
CBA: “Economic IRR”

<table>
<thead>
<tr>
<th>Region</th>
<th>Ex ante</th>
<th>Ex post</th>
</tr>
</thead>
<tbody>
<tr>
<td>LN 1 (Sud-Est)</td>
<td>16.5%</td>
<td>15.2%</td>
</tr>
<tr>
<td>LN 2 (Atlantique)</td>
<td>12.0%</td>
<td>8.5%</td>
</tr>
<tr>
<td>LN 3 (Nord Europe)</td>
<td>13.0%</td>
<td>3.0%</td>
</tr>
<tr>
<td>Interconnexion</td>
<td>10.8%</td>
<td>6.9%</td>
</tr>
<tr>
<td>LN4 (Rhône-Alpes)</td>
<td>10.4%</td>
<td>6.1%</td>
</tr>
<tr>
<td>LN5 (Mediterranée)</td>
<td>8.0%</td>
<td>4.1%</td>
</tr>
</tbody>
</table>

Source: J. P. Taroux (op. cit.).
### CBA: « socio-economic IRR »

<table>
<thead>
<tr>
<th>Location</th>
<th>Ex ante</th>
<th>Ex post</th>
</tr>
</thead>
<tbody>
<tr>
<td>LN 1 (Sud-Est)</td>
<td>28.0%</td>
<td>?</td>
</tr>
<tr>
<td>LN 2 (Atlantique)</td>
<td>23.6%</td>
<td>14.0%</td>
</tr>
<tr>
<td>LN 3 (Nord Europe)</td>
<td>20.3%</td>
<td>5.0%</td>
</tr>
<tr>
<td>Interconnexion</td>
<td>18.5%</td>
<td>15.0%</td>
</tr>
<tr>
<td>LN4 (Rhône-Alpes)</td>
<td>15.4%</td>
<td>10.6%</td>
</tr>
<tr>
<td>LN5 (Mediterranée)</td>
<td>12.2%</td>
<td>8.1%</td>
</tr>
</tbody>
</table>
4 new high speed lines (2011-2017) and public subsidies

<table>
<thead>
<tr>
<th></th>
<th>EAST</th>
<th>BPL</th>
<th>CNM</th>
<th>SEA</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total cost (million euro)</td>
<td>2000</td>
<td>3300</td>
<td>1800</td>
<td>7800</td>
<td>14900</td>
</tr>
<tr>
<td>Length (km)</td>
<td>106</td>
<td>182</td>
<td>80</td>
<td>303</td>
<td>671</td>
</tr>
<tr>
<td>Cost/km (million euro)</td>
<td>18,9</td>
<td>18,1</td>
<td>22,5</td>
<td>25,7</td>
<td>22,2</td>
</tr>
<tr>
<td>Paid by RFF (million euros)</td>
<td>520</td>
<td>1400</td>
<td>0</td>
<td>1000</td>
<td>2920</td>
</tr>
<tr>
<td>Paid by central government (million)</td>
<td>680</td>
<td>950</td>
<td>1200</td>
<td>1500</td>
<td>4330</td>
</tr>
<tr>
<td>Paid by local government (million)</td>
<td>640</td>
<td>950</td>
<td>600</td>
<td>1500</td>
<td>3690</td>
</tr>
<tr>
<td>Paid by EU + Luxembourg</td>
<td>160</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>160</td>
</tr>
</tbody>
</table>
HSR from profit to public subsidies?

- For Tour-Bordeaux, 4 billion of public money for 20 million of passengers per year
  = 4 euros/p/day/50 years...

- But for Marseille-Nice, 15 billion of public money for 10 million of passengers per year
  = 48 euros/passenger/day/50 years...

- For Bordeaux-Toulouse, 6 billion of public money for 4 million of passengers per year
  = 30 euros/passenger/day/50 years...
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Air traffic growth in EU

Percentage growth

2005: 8.9%
2006: 6.9%
2007: 7.9%
2008: 2.4%
2009: -1.2%
2010: 8%
2011: 6.3%
2012: 5.3%
2013: 5.2%
2014: 5.7%
2015*: 7.4%
2016*: 6.2%

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New consumer behaviours?

“While the EU economy did not even grow by +3% between 2008 and 2015, passenger traffic at EU airports increased by +13,6% over the same period. Such a wide gap is pointing to a lasting discontinuity in the usual relationship between GDP growth and passenger traffic performance. This is reflective of new market dynamics, changing consumer behaviours and the increased importance of air transport for the European economy.”

Olivier Jankovec, Director General ACI EUROPE (5 February 2016)
HSR: a « niche market »?
How to intensify HSR ridership (1)?

**Less train-km**

- Lower frequency on some poor relations
- Lower frequency on some new relations (Tours-Bordeaux)
- From 6/2015 to 6/2017, 8% less HSR train-km
- Higher load factor

**Yield management**

- More and more special offers (ex. 25 euros)
- Monthly lump sum tickets for people under 28.
- 79 euros per month, during at least 3 months
- As many trips as you want, except during peak period
How to intensify HSR ridership (2)?

Low cost services

• Special trains, OUIGO
• More seats, No service
• Low fares (10 or 15 euros)
• Fees for heavy luggages
• Starting and arriving in peripheral rail stations (Massy, Roissy, Miramas, Lyon Airport...)

Traffic gains, but...

• 1st semester 2017: 28,5 Mi passengers
• +8,4% /2016
• But + 4,8% / 2015 (27,3)
• Traffic increase is only coming from OUIGO (+20% => 5,4%) and TGV max +1,8 Mi. pass.
Intensification of yield management

Ticket Price

<table>
<thead>
<tr>
<th>Demand</th>
<th>Same ticket price</th>
</tr>
</thead>
<tbody>
<tr>
<td>60</td>
<td>30</td>
</tr>
<tr>
<td>120</td>
<td>10</td>
</tr>
</tbody>
</table>

Mi. Pass

Demand

Ticket Price

120

100

60

30

Mi. Pass
Conclusion
The strategy of the new government

• High speed rail projects: a break
• No new project within the next 5 years
• Priority to MAAS (mobility as a service) and new mobility providers (shared mobility)
• What about the ail tunnel between Italy and France?
• We stop the costly projects but we keep the very costly projects?