High Speed & the city

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Introduction
Introduction

UIC has conducted, in 2010, a research on the impact of High Speed Rail (HSR) on stations.

This presentation aims at providing the audience with the main findings of this research.

Let’s introduce the issue by asking a question:
A High Speed Train (HST) is just a train running at a higher speed on new lines. Nevertheless, it is similar to a conventional train when it is inside a station. So, why should High Speed Rail specifically change the station?
Methodology
Methodology

The tender documents for this research where based on comparisons between the situation before and the situation after the commissioning of a High Speed Line (HSL), for a given station or city.
Methodology

The tender documents where also based on the focussing on 4 various viewpoints since a station is a 4-actor meeting point

passenger

Infrastructure manager

HSR operator

city
Methodology

We selected **BB&J Consult**, a Spanish consultant, for this purpose.
Methodology
Methodology

12 stations located in countries operating HSR have been analyzed.
Methodology

It has not been possible to compare the situations before and after the commissioning of HSR because data are not available.

So the methodology has shifted towards a benchmark of stations.
Major findings
High Speed Trains have **one only specificity**: they run faster. However this capability brings **two major changes** in:

- the perception of time by the passenger
- the rail traffic volume.

Both changes lead the 4 actors to envision differently the station.
Major Findings

The perception of time by the passenger

- 4-hour trip in conventional train
- 2-hour trip in HST
Major Findings

The traffic growth

More people

New expectations
Major Findings

Quite often HSR leads towards new locations along with a change in the operating pattern.
Passenger’s viewpoint

HSR never comes alone
TAIPEI:

HSR was created from scratch
Passenger’s viewpoint

PARIS CDG: a full fledged network

HSR may entail the creation of new stations
City’s viewpoint

HSR never comes alone
City’s viewpoint

SEOUL:
Huge urban development
Right above and around the station
City’s viewpoint

MADRID CHAMARTIN:

HSR is the spark for a global revision of the land use in the station district.
City’s viewpoint

MADRID ATOCHA:

HSR is the spark for a global revision of the land use in the station district.
City’s viewpoint

LONDON St PANCRAS:
Revitalization of an old station
And of the surrounding district
+ creation of Ebbsfleet station
Operator’s viewpoint

HSR quite never comes alone
Operator’s viewpoint

LONDON
St PANCRAS:
Shifting from one terminal (Waterloo) to another (Saint Pancras)
Operator’s viewpoint

BARCELONA SAGRERA:
From A dead end to a through station
Infrastructure Manager’s viewpoint
Infrastructure Manager’s viewpoint

YONGSUAN: Through operating scheme along with a new design of the station plateforms.
Infrastructure Manager’s viewpoint

PARIS CDG:
A totally New station

<table>
<thead>
<tr>
<th>Track</th>
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<tbody>
<tr>
<td>Railway infra manager</td>
<td>RFF</td>
<td>Through</td>
</tr>
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<td>HS tracks yard</td>
<td>Underground</td>
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<td>Number of tracks</td>
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<td>Tracks used for high speed</td>
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<td>High Speed trains/day both ways</td>
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<td>Length of platforms</td>
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<table>
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<th>Area</th>
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<td>Station footprint (sq mt)</td>
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<td>Total area (sq mt)</td>
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<td>Platforms area (sq mt)</td>
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<td>Commercial area (sq mt)</td>
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<td>Parking area (sq mt)</td>
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<td>Daily movements st-depot</td>
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<tr>
<td>Depot-station distance (Km)</td>
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| Station construction costs (mill €) | 260 | |

High Speed and the city | September 2010 | Paris CDG Infra manager point of view | B.8.4

next station
BRUSSELS 2011
March 17-18

34/41
Conclusion
Infrastructure Manager’s viewpoint

- HS arrival has implied a restructuration of rail network achieving higher efficiency in all cases
  - most new HS lines are completely independent
  - HS lines skip almost all stations of the conventional network
  - change from dead end to through schemes in all but LON and PAR
  - new depots and connections in almost all cases
  - city terminals, new or remodelled with enhanced interchange with PuTr and commercial centers and offices, for city neighbours, not only for pax
  - new HS stations outside the city, except MAD, in correlation with population and activity ratio region/ city, with extensive P&R
Both for the city and the station, High Speed Rail is seen as an opportunity and a potentiality.
In all the cases under review, HSR have brought huge changes at the city level.

Passengers, operators, infrastructure managers and city planners have benefited from the improvements.
Conclusion

These changes may sometimes occur in cities out of all High Speed context,...

... but the converse never happens:

HSR without any significant change.
Conclusion

Since there is a kind of causation effect between HSR implementation on one hand and the city and the station evolution on the other hand,...

... it is worth deepening this relationship in order to identify guidelines for further development of the HS network.
Thank you for your attention