

Urban Transformation and Property Value Variation

The Role of HS Stations¹

Carmela Gargiulo

Department of Urban and Regional Planning, University of Naples Federico II, e-mail: gargiulo@unina.it, web: www.dipist.unina.it

Fiorella de Ciutiis

TeMaLab, e-mail: fiorella.deciutiis@unina.it, web: www.dipist.unina.it

ARTICLE INFO

TeMaLab journal

www.tema.unina.it
ISSN 1970-9870
Vol 3 - SP - March 2010 (65 - 84)

Department of Urban and Regional Planning
University of Naples Federico II

© Copyright TeMA. All rights reserved.

Keywords:

Urban redevelopment
Externalities of HS stations
European cases

ABSTRACT

The article aims reading and interpreting the positive externalities, especially in terms of urban redevelopment, connected to the building of node/station of the High Speed railway network. The measure of the variations of the real estate values, carried out through the analysis of numerous European and Italian experiences, is considered as a synthetic indicator of urban quality consequent to the strengthening or establishment of a new High Speed station. The identification of relationships between High Speed station, residential property values and typologies of cities (role and urban specialization) and urban context in which the station are located is one of the conclusions of this work. In accord with the aim, this paper is organized in three principal parts. The first part identifies the relation between urban transformations, urban quality and property values and provides a scientific frame of the studies on the relationships between accessibility increase and property values. Indeed, the results of many studies and reports reveal that the reduction in generalized cost of transport and the increase of accessibility related to the implementation of new infrastructure such as a railway station, in some cases have impacted significantly on increasing demand for space in the surrounding areas and, accordingly, on property values. The second part proposes the reading of some experiences of building of High Speed stations in some European and Italian cities, with a focus on the case of Roma-Napoli High Speed line. The choice of cases was made using criteria that seem to give a guarantee of representativeness to the variety and multiplicity of experiences. In particular, the criteria used are: geographic location of railway line (selecting cases with different geographical locations); city-node size (choosing different types of cities for size and population), functional role of the city-node, timing for the completion of railway line (fully in operation, partly in operation or not yet in operation). Besides, the description of each case is divided into: summary description of the characteristics of the HS railway line; description of the main features of cities that represent the nodes of the selected routes; identify the characteristics of the surrounding context of the railway station; measurement of the change in property values in the surrounding context of the railway station due to HS link. The third part provides a comparative outline of the effects of High Speed stations on property values and the urban typologies and characteristics that influence this relation. The first result of this article is a comparative framework between all study cases. In conclusion, the comparative reading shows that the effect from opening of the High Speed railway stations on property values is valuable in cases where it contributes significantly to raising the socio-economic and the quality conditions of spaces.

Urban transformation, urban quality and property values

To transform the city, the most common aspiration, both in research and practice, seems to be to manage the establishment of new functions and new services so that the positive externalities produced can contribute to achieving effective policies for urban regeneration (Stanghellini 2007).

The transformations of the city, contributing to raising or lowering the physical, functional and environmental quality, cause location advantages or disadvantages that result in changes of the rent.

In other words, the actions of urban transformation have significant impacts on the physical, functional and environmental

quality of an urban area (AA.VV. 2006), and the property market, which is very sensitive to these effects, responds in a timely manner through changes of property values. The location advantages are created by different assets, such as accessibility to public goods, urban environmental quality, public services, the overall size of the city and its general attractiveness (Camagni 2007). From this perspective, the article aims to read and interpret, through many experiences in Europe and in Italy, externalities related to the implementation of High Speed stations through measurement of changes in property values that can be considered as a synthetic indicator of urban quality.

Through reading and measuring the change in property values, the article attempts to identify the effects on the housing market by

strengthening or establishment of HS stations, in relation to the kinds of cities and the main characteristics of the smaller urban context in which they are located.

Accessibility and property values: the scientific reference

Early studies on the socioeconomic and territorial impacts of public transport infrastructure (in particular the railway) were conducted in the United States in the mid-sixties. The results of many studies and reports reveal that the reduction in generalized cost of transport and the increase of accessibility, related to the implementation of new infrastructure such as a railway station, in some cases have impacted significantly on increasing demand for space in the surrounding areas. Consequently, in some cases there has been an increase in property values over the other urban areas.

In other cases, by contrast, generally when degradation and rising crime result from the realization of a railway station, there has been a sharp decline in residential, commercial, tertiary demand, and thus also in property values in the surrounding areas. With the spread in many European countries and beyond of High Speed lines, it has focused attention on the spatial and economic impacts of this new link system which offers transportation costs significantly lower (particularly in terms of savings time) and often represent a strong catalyst for economic and residential activities and services of general interest.

Some studies and experiences in Japan, for example, show that the start-up of High Speed railway (the first train goes back to 1964) produced both a significant increase in population in the cities with HS stations, that significant increased property values of commercial space that has reached even 67% (Nakamura and Ueda 1989).

Some studies on the French experience show that the start-up of TGV HS link (1981) resulted in redistribution of population, relocation of many companies and thus also increased residential and commercial property values in the areas around the stations, as in the cases of Paris and Lyon (AA.VV. 2005).

Examination of the data, reported in the following pages, shows that this last statement, especially if compared to the overall urban situation, it should be considerably reduced. Indeed, in anticipation you can read below, it appears, for example, that in the X arrondissement of Paris, upon the arrival of the TGV at Gare du Nord in 1994 for connection to London, that the arrival the TGV in 2007 at the Gare de l'Est for connection to Strasbourg, property values have been growing more contained than the performance average in Paris, showing in 1994 a percentual variation of -12.93% against -7.07% of city's average, and in 2007 a percentage change of 2.18% against 4.06% of city's average. Many authors, both

Italian and foreign, agree that the market value depends on many factors, among which occupy a primary place the accessibility, the density of services in the vicinity, the habitat quality (Curto 1993, AA . VV. 2002) and argue that the analysis of property value can be useful to assess the social appreciation (Garrod et al. 1992). The land rent increases by some conditions that occur in an urban that Camagni (2007) identifies as: disposal of significant areas in terms of dimensional and functional, degradation cumulative, urbanization of peri-urban agricultural areas, processes of regeneration of historic centres, establishment of new public goods (metro, High Speed, universities, etc.). In most of the studies and research, therefore, shared the view that the link service on iron, especially High Speed link, provides a benefit in terms of social and economic development and improved quality of life, whose value may be capitalized into the price of real estate nearby (Bowes and Ihlanfeldt 2001). In this regard, it is worth, once again, anticipating one of the results described below. The survey, in fact, does not refute this position in general but the data reported reveal that the capitalized value is not always and not just linked exclusively to the High Speed station; significant changes in property values, in fact, make reference to a system of articulated action or a more comprehensive process of regeneration. This is shown in most cases reported later in this article, whether it be world-class city, international-class or national-class city. The only exception is the case of Ashford which has its main functional specialization in the High Speed rail link.

HS stations and property values: the criteria for reading

As mentioned above, to identify the effects on the housing market arising from the start-up of the High Speed Link t (with opening of new stations or just with the reorganization of existing ones) were considered some of the most important Italian and European experiences.

Through this reading, it has come to a description of the various effects recorded in the property market because of some important features related to the examples taken into consideration and, in particular, relating to the rank and role of the city-node of High Speed rail and to the physical (center-periphery) and functional characteristics of urban context of each HS station.

The choice of cases reported in this article has favored certain criteria that seem to give a guarantee of representativeness to the variety and multiplicity of experiences.

In particular, the criteria used were as follows:

- geographic location of railway line;
- city-node size;
- functional role of the city-node;

- timing for the completion of railway line.

In particular, in reference to the first criterion were selected cases with different geographical locations in so you can read the changes in property values for territorial characteristics, i.e., linked to cultural and socio-economic national factors.

With reference to the second and third criteria were selected cases with different types of city-node both size of population for functional specialization: world-class cities when they can capture all the functional urban specialization; cities with strong and specific functional specialization such as, for example, tourist, cultural or political specialization; cities with low functional specialization. In reference to the last criterion, were selected cases because of the progress of the completion of HS station: fully in operation, partly in operation or not yet in operation.

Furthermore, within the selected routes, has focused attention on cities that host terminal stations and intermediate stations that in most cases are medium size cities.

Finally, to influence this selection was the availability of data on changes in the housing market and socio-economic and functional features of urban areas considered, necessary to permit the reading and interpretation of the phenomenon. Through the reading of the cases, therefore, attempted to understand the effects that the HS generated in property values in different urban realities and to identify factors that contribute to the most relevant spatial variation of them.

The European cases considered are:

- the nodes of Paris, Reims and Strasbourg on the Paris-Strasbourg HS railway (TGV Est-européenne), in operation only since 2007 from Paris to Lorraine;
- the nodes of London, Ashford and Paris, on the London-Paris, in operation since 2007;
- the nodes of Madrid, Ciudad Real and Puertollano, on the Madrid-Puertollano, in operation since 1992.

The Italian cases considered are:

- the nodes of Turin and Milan on the Turin-Milan HS railway, in operation only since 2006 from Turin to Novara;
- the nodes of Bologna and Florence, on the Bologna-Florence, under construction;
- the nodes of Rome and Naples on the Rome-Naples, in operation since 2005 except the last kilometers.

In particular, the European stations are already in operation for the High Speed Service (except Strasbourg, where the LGV-Ligne à Grande Vitesse has not been completed). Among those considered to Paris, Strasbourg, London and Madrid are the last stop, while Reims, Ashford, Ciudad Real and Puertollano are intermediate nodes. As regards the Italian stations, should be highlighted that:

- Porta Susa station (Turin) is under construction and is a terminal station;
- Tiburtina station (Rome) under construction as a terminal station;
- Milan Central station haed node, is awaiting the completion of high-speed lines;
- Belfiore station (Florence) and Bologna Central station are terminal stations and they are in design phase;
- Naples Central station, terminal node for high-speed, is under construction.

To enable a simple and immediate reading of selected cases and thus facilitate the comparison between them, the description of each case is divided into:

- summary description of the characteristics of the HS railway line;
- description of the main features of cities that represent the nodes of the selected routes, with particular reference to the urban hierarchy, the prevalent vocation, the main characteristics dimensional (area, number of inhabitants) and functional;
- identify the characteristics of the surrounding context of the railway station, with particular regard the location and role within the urban system;
- measurement of the change in property values in the surrounding context of the railway station due to HS link.

The European cases

The case of Paris-Strasbourg

In June 2007 he was inaugurated the first stretch of the High Speed Line Est-Européenne (LGV-Ligne à Grande Vitesse), which is part of a broader project of the high-speed Master européenne, linking Paris and Budapest, through Germany, Austria and Slovakia.

Est-européenne line, connecting Paris to Strasbourg, serves the major urban centers in northeast France. The first section put into operation spread for 300 km and linking Paris, Reims, Meuse and Lorraine; the second stretch, from Lorraine in Strasbourg, is expected to be completed by the end of 2014. In addition, the strengthening of existing stations of Paris (Gare de l'Est), Reims, Nancy, Metz and Strasbourg and the construction of new stations in Champagne-Ardenne (5 km from Reims), Meuse and Lorraine are part of the project. The opening of the East-européenne has made it possible to connect very quickly between Paris and cities northeast of the French: 45 minutes to get to Reims and currently 2:20 to get to Strasbourg (with completion of the second section, the timing of the Paris-Strasbourg will drop to 1:50).

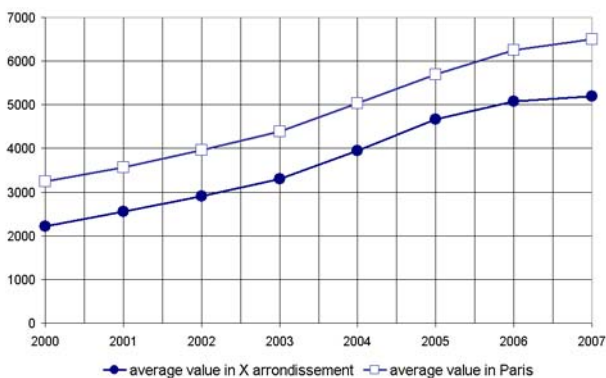
Paris, as you know, is the cultural, political and economic centre of international level and represents an important traffic hub in Europe.

From Paris originate other lines of the High Speed Railway built between 1981 and 1992: the Paris-Lyon-southeast of France line, the line Atlantique Paris-Le Mans-Tours and the northern line Paris-Lille-Arras, which branches in two directions to Belgium and Britain. In Paris, the station of Est-européenne line is the Gare de l'Est, built in 1849 in the X arrondissement, opposite the Boulevard de Strasbourg. It's one of the largest stations in Paris and is terminus of a branch of SNCF network (French National Railway Company) and, in 2006, was subject of a renewed and strengthened to accommodate the trains of the High Speed TGV.

They are still work in progress for redevelopment of public spaces around the station to improve accessibility and exchange intermodal.

The X arrondissement, located on the right bank to the north east of Paris, is characterized by multi-ethnic population and for the presence of many tertiary activities (especially related to advertising and fashion), cultural and health of prestige (Saint Louis, Fernand-Widal). The X arrondissement, in addition to being well served by transport public local (bus and metro), receives another important railway station, terminal of the High Speed line Paris-London: the Gare du Nord.

To evaluate the effect of start-up of the HS link at Gare de l'Est, we compared the trend of property values in the X arrondissement with the urban average change between 2000 and 2007, using data from the Chambre des Notaires de Paris-Ile de France, and the annual percentage change in the X arrondissement with annual average percentage change in the city at the same time frame.

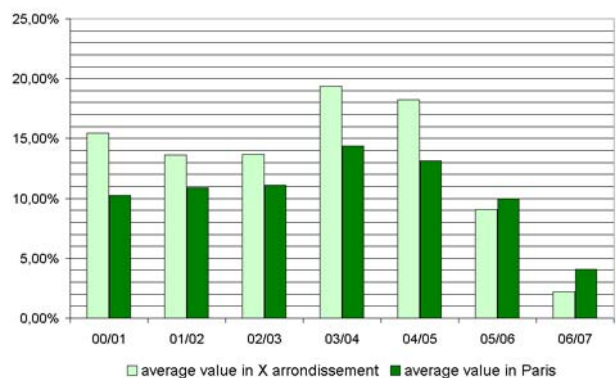


The trend in property value in the X arrondissement follows the general average value between 2000-2007.

From the first comparison revealed that in the X arrondissement the deviation between property values in X arrondissement and the

average in the city keeps almost constant over time, except that in the last two years.

The annual percentage change in the neighborhood, after a long period of growth greater than the urban average, recorded in the last two years a lower growth than average annual in the city. In particular, between 2006 and 2007 (year of opening of the East-européenne), in the X arrondissement there is a percentage change in property values of +2.18%, lower of the percentage changes that occurred in previous five years with a peak of +19.35% in 2003-04.



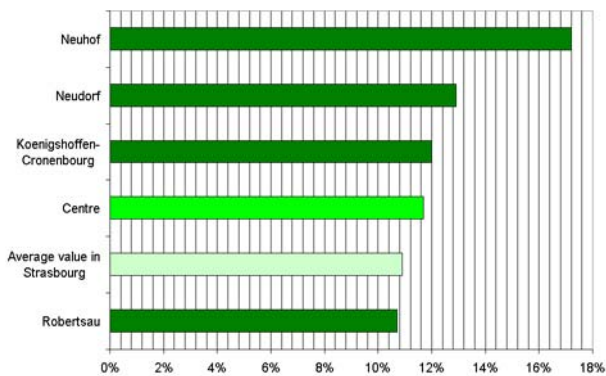
In the X arrondissement, the annual percentage change of property values is lower than the average value in Paris in 2007, when the TGV arrived.

Strasbourg, city of the Alsace region, is located on the right bank of the Rhine. Seventh city of France for the population (first in the north east), is a major economic centre of the region, standing out in the industrial and tertiary sectors mainly aimed at business financial, research and business services. Furthermore, Strasbourg is the seat of important international institutions: the Council of Europe, born in 1949, and the European Parliament, established in 1981. The Central Station is the node of the LGV Est Européenne, located in the Center neighborhood. To accommodate the LGV, the Central Station have had a radical transformation, by adapting its structure to the new flow of passengers and so fulfill the role of multi-modal hub.

This operation, which began in 2005 and completed in June 2007, was also the occasion to reorganize the square outside the station, rethought as a space of encounter and exchange. The graphs on the percentage change in residential property values in the area surrounding the station, taken from Special Dossier Immobilier 2007 of French newspaper L'Express, shown an increase in values of 11.7% between 2006 and 2007, slightly higher than the average in the city. Moreover, Center is historically among the most expensive neighborhoods in the city (with Robertsau) and retains this feature in 2007. Other neighborhoods, such as Neuhoef in the suburbs

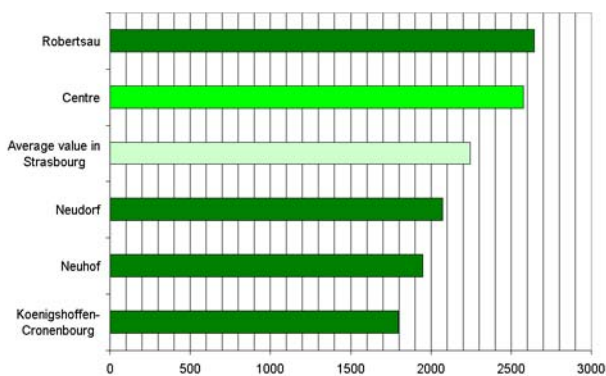
northeast of the city, while showing property values among the lowest in the city, have recorded highest rates of change in 2006-2007 (17.20%).

This phenomenon, probably, can be attributed to the interventions of urban regeneration and reorganization, will be completed in 2009, and to improve accessibility in those areas (thanks to the creation of a new tram link).



The percentage change in residential property values in the Center district, where is the Strasbourg railway station, is slightly above general average value between 2006-2007.

According to Marie Pellefigue (Nouvelle Observateur, 30 August 2007), "the arrival of the TGV and the end of some major urban interventions should create new opportunities in the real estate market in Strasbourg, without causing a surge in prices. Between 2000 and 2005, in fact, the real estate market in Strasbourg has already reached high values, with a price increase by 60%. The year 2006 marked a pause, because the rise has slowed. Still, in the first half of 2007, the average increase in prices recorded in Strasbourg is an average of 3.5%, according to the group Orpi Strasbourg, compared to 7% last year.



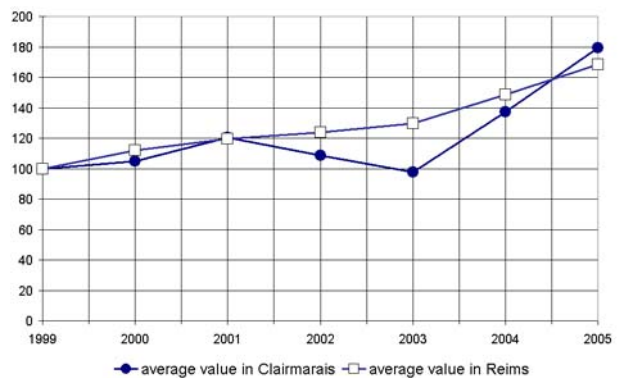
Center is historically among the most expensive neighborhoods in the city and retains this feature in 2007, year of arrival of the TGV.

Reims is a major economic centre of the Champagne Ardennes region (department of the Marne), in north east of France, mainly because of its excellent wine production. With 187.206 inhabitants, is the thirteenth French city by population and is the most populated municipality in the north east of France, after Strasbourg. The Reims Station enjoys a privileged location in the city centre. The south entrance opens on the Place d'Erlon, the most animated of the city, and the entrance in the north district of Clairmarais. This neighborhoods, historically characterized the presence of industrial and railway activities, present important opportunities for development for the availability of brownfield.

At the beginning of 2007, the Central Station has undergone enhancement work in anticipation of the arrival of the HS Railway link, with the adjustment of existing facilities and the construction of new parking and a bus station.

In this district, the City administration had already started, in 2004, the project for the construction a pole of tertiary, commercial and residential activities with related services and a new pedestrian link between the district and the city centre, be completed in 2010.

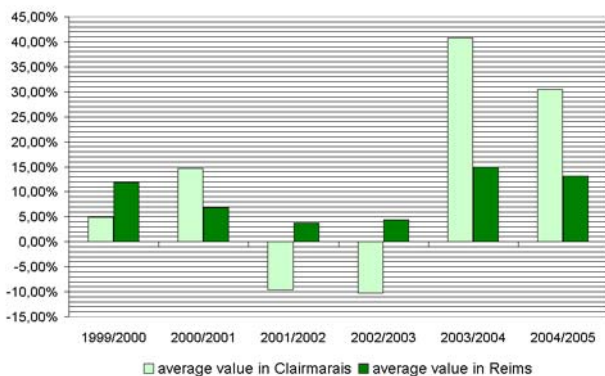
The data on property values, of Perval Notaires de-France (French professional organization) show in the neighborhood of Clairmarais a discontinuous trend until 2003; then property values tend to increase steadily, to over the average value in Reims between 2004 and 2005.



The property value (assuming the index 1999=100) in neighborhood Clairmarais exceed the general average value between 2004 and 2005, when the conversion of vacant areas begins.

This trend could be reported at the start of realization of the tertiary pole and commercial and residential structures, behind the station. The percentage change in property values of Clairmarais, moreover, since 2002, appears to be higher than the average town, with an increase of 40.82% over 2003-2004 and 30.52% in 2004-2005. In summary "Property prices in Clairmarais, neighborhood behind station in Reims, have suffered the sharpest rise in between 2004

and 2005. This finding may be the sign of a certain interest in the district that receives station, providing the HS rail link with Paris. Moreover, this area will benefit from a series of urban interventions related to commissioning TGV. These trends are thus capitalized in estate prices, which may partly explain the progression property prices in this neighborhood "(Bazin et al.2007).



The annual percentage change of property value in Clairmarais, between 2003 and 2005, is higher than both the average general value in Reims than all those registered in the district between 1999-2005.

The case of London-Paris

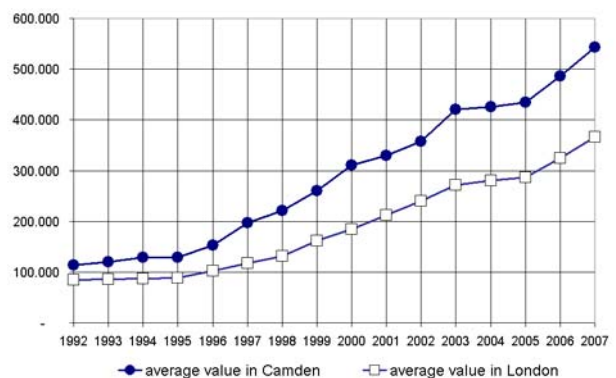
The stretch of London-Paris HS line, which runs Great Britain, called High Speed 1, links London to the Channel Tunnel through Kent. The last section of this link, which arrives at London station St Pancras International, opened in November 2007, provides the link between London and Paris in 2 hours and 15 minutes. Between the Channel Tunnel and Paris, the line, which is called LGV Nord, has been operating since 1994. The entire line from London to Paris, as well as connecting two of the major world capitals, it is also four medium-sized cities (Ebbsfleet, Ashford, Calais and Lille).

London, as is known, exerts enormous influence worldwide in terms of economic, financial, political, tourist, cultural and communication and produced goods and services each year by 365 billion dollars, or 17% of GDP throughout the United Kingdom (Oxford Economic Forecasting 2005). London is also the most populated city in Europe, with 7.5 million inhabitants residing in the territory of the Great London, consisting of the City of London and thirty-two districts where it divides the city. The city is the largest global air traffic hub, with five international airports, and is one of the most important railway junctions in the United Kingdom. Moreover, urban public transport, including the London Underground (subway, with twelve lines and 274 stations), the London Overground, DLR, Tramlink and bus services and the urban river, is known for its efficiency.

The St. Pancras International Station houses the HS line, opened in 2007. The station is located in the heart of London, in King's Cross area in the neighborhood of Camden. By modifying the original design (which wanted a new station in south east London) and in line with the supervening need retraining sector east of the city, the project has focused on the reuse of the St. Pancras station in London as a HS terminal, ensuring even the interchange with the North London Line. The project of renovation and expansion of the station to accommodate HS rail has accelerated the action already taken by the City Government for redevelopment and revitalization of the area of Kings Cross, characterized by high levels of degradation and crime for several years.

The redevelopment project of this area dates from the early Nineties, but only in the following decade, with the choice of St Pancras as a high speed terminal, are implemented early interventions in the area. Following the construction of offices and hotels, the opening of the London Canal Museum, the British Library (1997) near St Pancras Station, the area became a place for cultural meetings. Furthermore, to reassess King's Cross will be the realization of the new St. Pancras station and the redevelopment of the surrounding area.

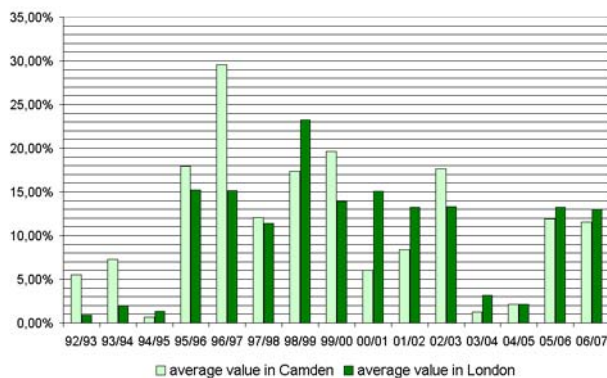
As is apparent from the Wealth Report 2007 of estate agency Knight Frank and City Private Bank, London stands at first place for property cost, followed by the principality of Monaco, New York and Hong Kong. Despite the prices, the housing market is still holding, even if the cost of money, weaker demand and supply more abundant are indicated as possible causes of any slowdown. The housing market is no longer growing, but turns to consolidation, although there are still several opportunities for growth.



The trend in residential property values in the neighborhood of Camden tends to increase and is always ahead of the average value in London.

With reference to Camden, the trends in residential property values, reported in the English finance company HBOS, after a period of

stagnation between 2003 and 2005, tends to increase but it is always over the average value in London in the time period from 1992 to 2007. The highest values are found in the period 2005-2007 in which there is a percentage change of nearly 12%. In any case, in 2007 Camden ranks as the city's most expensive borough, after Kensington and Westminster.



The annual percentage change in the neighborhood of Camden shows an increase in value between 2005 and 2007, in coincide with the opening of the St. Pancras International station.

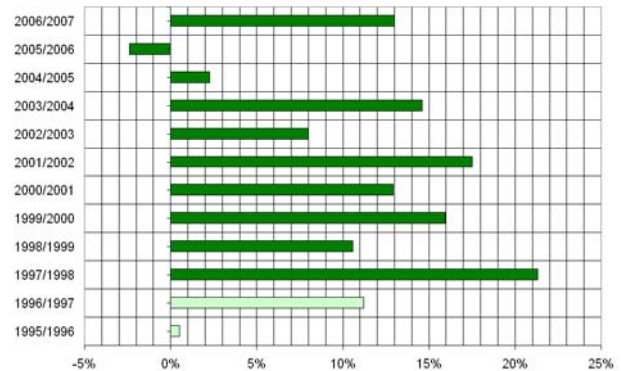
Ashford, with a population of approximately 102,661 inhabitants (including the surrounding districts), is an average city in England, located in eastern region of Kent, 80 km from London.

The city is a railway junction and a centre steel. Thanks to its strategic position, the city is characterized by a thriving business, as witnessed by the presence of numerous companies and business parks. Since 1996, Ashford is served by high speed trains Eurostar, with eight daily services connecting to/from Paris and to/from Brussels. In 1996 the Ashford International station was inaugurated, in the first section of the High Speed 1 (then called Tunnel Channel Rail Link), adjacent to the old station still up to national and local links. As for the national housing market, the percentage change in average residential property values in town, taken from PROVISER (online service of English society TSI Consulting Ltd), has increased significantly in 1996, opening station.

The percentage change in fact varies from 1% in 1995 to over 11% in 1996. Even compared to other cities in the region, property values in Ashford show a trend that places the city in 1996 in a dominant position (Preston et al. 2006). From the analysis, although macroscopic and conducted using only the average value in Ashford, it seems undeniable the effect on rising property values from the opening of the high speed station in the city.

As already mentioned, in 1994, the line of the High Speed LGV Nord reaches Paris, arriving at the Channel Tunnel via Lille, then branching out in two directions to Belgium and to England.

Until 2007, the Eurostar train to England walked the remaining stretch to London on the traditional line, sharing platforms with local traffic. The Paris station of LGV Nord is Gare du Nord, one of the main city train station and the terminus of a branch of the national network SNCF, with 180 million passengers annually.

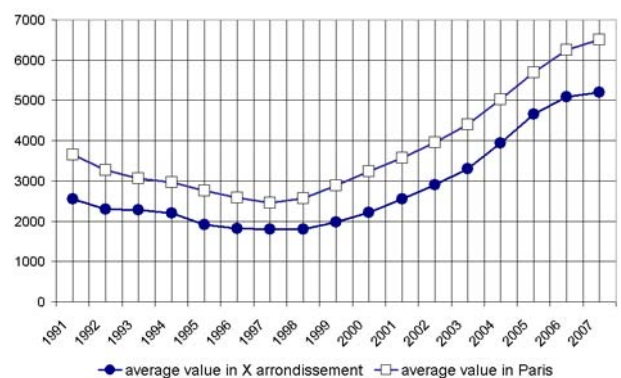


In Ashford the percentage change in property values has increased significantly from 1% to 11% in 1996, when the station opened.

The Gare du Nord is also among the first railway stations of Europe and, probably, the third in the world for passenger traffic.

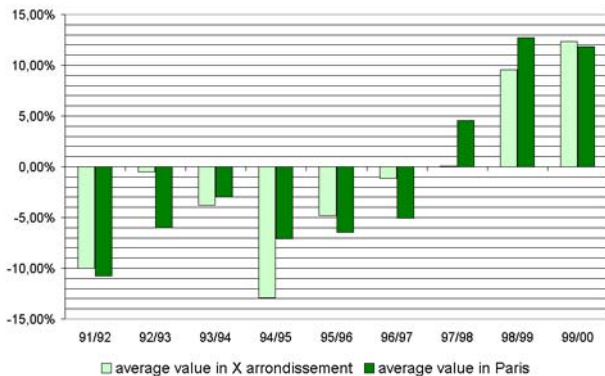
The station, built in 1865 on the Rue de Dunkerque in the X arrondissement, is close to the Gare de l'Est, which is just over 500m. The X arrondissement, as mentioned earlier, is located in the north east of Paris, an area well served by transport local and characterized today by several companies, especially advertising and related fashion and service activities.

The trend in property values, derived the Chambre des Notaires de Paris-Ile de France, in this area between 1991 and 1999 (period at the entry into operation of LGV Nord), shows a trend decreasing.



The trend in property values in the X arrondissement follows the average value in the city and does not seem influenced by the arrival of the TGV (1994) to the Gare du Nord.

The variation percentage is -3.77% between 1993/1994 and 12.93% between 1994/1995, already reaching -4.81% in the year after. This phenomenon should be analyzed in a more general trend of property values in the city, which shows a decrease in property values in all district between 1994 and 1995.



The annual percentage change in the X arrondissement is less than the average variation in the city, in the period 1993-1995.

The case of Madrid-Sevilla

The first high speed rail link in Spain was between Madrid and Seville, opened in 1992, with three intermediate stops: Cordoba, Ciudad Real and Puertollano. In the same year and on the same link was opened further regional high-speed service, called Lanzadera, which from Madrid, touching Ciudad Real, arrives at Puertollano, to meet the high demand for travel between these cities.

Madrid is the third largest city of the European Union by population (3,092,759 inhabitants over an area of 667 sq km) after London and Berlin. Its economic growth has a strong push from the middle of last century, when became the administrative center of the country, has experienced a strong industrial development, especially in chemical and metallurgical sectors. In recent years the city economy has brightened, as well as from traditional activities administrative and financial, also from activities related to tourism, culture and fun. In 1992, The Atocha station, the largest and oldest railroad junction town, thanks to an intervention of strengthening and reorganization of space, has been transformed into a modern rail terminal and adapted to receive the AVE trains (Alta Velocidad Española) coming from Southern Spain (Seville and Lleida).

The station is located in the district Arganzuela, which borders the historic town center and represents a natural extension. In the quarter, historically characterized from the settlement of industrial and general markets in the last decades of the last century was a process of replacement of many industrial activities in parks and cultural centers.

Ciudad Real, capital of the province and major city of the autonomous community of Castilla-La Mancha, is medium-sized urban center with almost 70,000 inhabitants. Since the eighties, the city is home to the University of Castilla-La Mancha, and now it hosts a large campus in south-eastern area with more than 10,000 students and who, it is believed, owes its development to the pursuit of nearby AVE station, inaugurated 1992.

This intervention has also encouraged economic growth of the city, relying on the development of tertiary activities that were saying at that time. The AVE train station of Ciudad Real is located on the south-east, characterized by an low density urban texture. A few years after the construction of the new station, thanks to the reuse of vacant areas by the old railroad tracks, was created a new neighborhood, a new urban park (Parque del Pilar) and expansion of university facilities, already in the area.

On the effects of the opening of the station on the property market, you can refer to a study conducted by the Universidad Politécnica de Madrid (2000) on the economic and territorial impacts of High Speed in Spain, prepared on the basis of data from periodic field and interviews with estate agents. The study showed that in Ciudad Real, in coincidence of the arrival of the AVE link, the highest increase of property values are registered in the old town and the area near the station (135,000 pts/sqm in the old town and 132,000 pts/sqm area of the station AVE), with a transition zone between them. It is noted, in other words, a break in the pattern of property values, usually characterized by a negative gradient from the center to the periphery, in fact, the study shows that the normal pattern is interrupted in the area of the AVE train station, about to undergo a jump that bring the property values of this area than in the old town. We must, however, note that in this area, the values may have increased thanks to the University and the opening of the ring road south-east.

The town of Puertollano is a center of 50,470 inhabitants, situated in the province of Ciudad Real (Autonomous Community of Castilla-La Mancha). The city's economy, traditionally linked to the industrial sector used resources Basin coal, is still tied to the strong industrial vocation.

In 1992, the Madrid-Seville AVE line and the service's regional Lanzadera, already mentioned above, have made it much more efficiently and quickly connected with Madrid and Ciudad Real (1:10 to reach Madrid, 20 minutes for Ciudad Real). The morphology of the mountainous territory has influenced the urban development of the city and forced the passage of the railway line the city center, in a small step in the Sierra Calatrava.

The high-speed connection using the traditional railway tracks, leading to a new station constructed ad hoc, opened in 1992 in the historic city centre, about 200 m from the traditional railway station.

In the study conducted by the Universidad Politécnica de Madrid, in the case of Puertollano appreciates a negative gradient in the pattern of property values as they pass from the center to the periphery with a sharp variation at the area where the station is located, which is better connected to the city center area that west of the city, partly because of the physical barrier created by the railway track. The difference price/sqm in area central and west of the railroad, in fact, is 2.5 points. To understand the magnitude of this gap, we must remember that in Ciudad Real, the difference between the most expensive and the cheapest is 1.3 points.

Italian cases

Designed in the EC plans for the development of European High-Speed network to promote rail transport of passengers and goods, the Italian lines have adopted a different formula than the other countries named High Speed/High Capacity and is distinguished essentially for technical-engineering features in the transportation of passengers and goods and for their close integration with the existing railway lines.

Within the European High Speed network, the Italian lines play a crucial role and constitute an essential part of some large trans-European corridors: Corridor I Palermo-Berlin; Corridor V Lisbon-Kiev; Corridor VIII Bari-Varna and the Corridor of the two seas, Genoa-Rotterdam.

The case of Turin-Milan

Strategic part of the axis of the rail network called the European Corridor V, Lisbon-Kiev, the Turin-Milan has a length of about 125 km. On this route was made an intermediate station at Novara, which allows the link between western Piedmont and Malpensa airport. Now the link is available between Turin and Novara, commissioned in 2006 at the Winter Olympics in Turin; in the stretch Novara-Milan the work commenced in February 2005 and completion is scheduled for 2009. Once in operation the whole link, moving between Turin and Milan, the two most important urban centres of Northwest Italy, will take place in 50 minutes, compared with a current average time of 1 hour and 50 minutes. Turin is the fourth Italian city in population (after Rome, Milan and Naples) and, according to an economic study of Censis of 2006, is the third economic centre. Furthermore, according to the study carried out for the Strategic Plan city, Turin is a "European city of the third rank, namely, a regional capital characterized by strong specialization in a field, as cities like Bilbao, Lyon, Toulouse, Marseilles, Dresden, Glasgow, Manchester. Almost all live in or have recently passed a very difficult situation, arising from

the need to convert spaces and functions, first dedicated to sectors that are undergoing decline or massive restructuring (Turin International 1998).

Since the Eighties, in fact, the production system has been affected by a transition process, aimed at addressing the city's economy toward the service sector and research. The urban section of the High Speed, which affects the city of Turin, is substantially constituted by passing rail. The project, already partly realized (in 1999 the link was activated from Porta Susa to Porta Nuova) will be finished by 2011, with the new Porta Susa railway station for High Speed trains.

Porta Susa station is located in the Cit Turin, within the so-called Central Backbone (more precisely in the area called Spina 2), an avenue of 12 km running north-south, create by undergrounding of the long rail line that divided the city into two parts. The design of the new station is part of the broader urban development plan of the city. The realization of the great urban boulevard, with the redevelopment of many vacant areas sites along the rail line, will promote the localization of production plants, facilities, cultural activities and leisure.

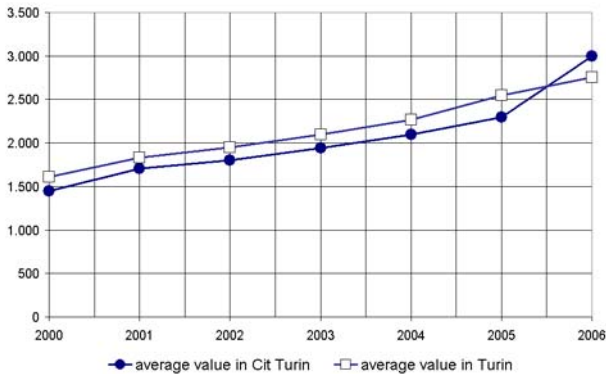
Cit Turin, bordering the old town, is a residential neighborhood always considered prestigious for the presence of an important market town and its shopping streets.. The new station, more than 15,000 square meters, will consist of passenger building, a tall building (more than 100 m) that will house directional centers, hotels and places for trade and will be integrated with the metro line 1 and the other rail links (including the airport link).

In the area around the station the Master Plan includes a series of interventions such as enlargement of the Gallery of Modern Art and the Polytechnic, the public library, a new theatre obtained from the partial recovery of a factory building industrial use.

Turin is, after Milan and Rome, the third Italian real estate market as evidenced by the number of annual trading, which is around 5% of national trading, and by the increase average annual purchase of housing, which is around 6%. The reason for this dynamism is also attributable to the fact that "in recent years, construction activity has taken effect: the pressure of demand continues to support the development of new housing, because, in 2002-2004 there was a peak with about 2,401 new dwellings to remain, however, still high in the period 2005-2006, which recorded an increase of approximately 2,000 new buildings "(Scenarios Estate 2007).

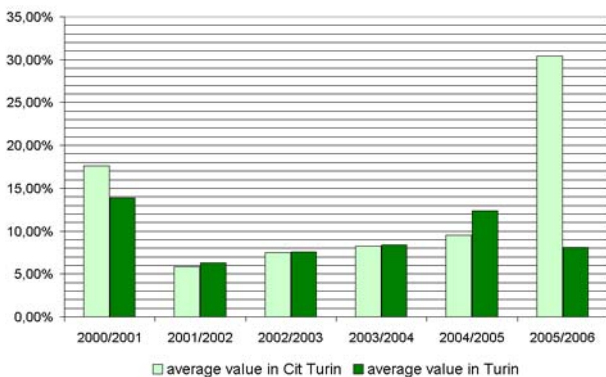
To see the effect of opening yards of the station of Porta Susa (in April 2006) on the trend of property values in the neighborhood of Cit Turin, were compared to property values in the neighborhood with the average value in the city, in the time period 2000-2006, using data from Scenarios Estate (2007). We note that the values in the neighborhood of Cit Turin are identical to the trend of growth

seen in the city until 2005. In this year, there is indeed an abrupt change: in mid 2005 the values increased to more than the average value in the city, from an annual percentage increase of 9.52% in 2005 to an increase of 30.43% in 2006.



The property values of Cit Turin follow general trend until 2005, when it is noted a sharp increase in values that exceed those average in the city.

On the other hand, comparing the percentage change in values properties of Cit Turin with other urban areas, in the interval of time 2004-2006, the district shows the highest increase, equal to 42.86%. Reading these data should be considered that the Central Backbone is the urban area with the highest degree of physical transformation and functional, in which are carrying out many other interventions such as the conversion of over 340 thousand square meters of vacant areas in higher learning, cultural, technical-administrative and residential activities and the construction of new subway which crosses Cit Turin with the city centre.



The annual percentage change in the area of Cit Turin rises sharply during the start of construction Station (2006), resulting the highest in 2000-2006.

Milan, with 1,303,670 inhabitants, is the second Italian city in population (after Rome), with a density slightly less than that of

Naples. The urban fabric extends beyond the municipal boundaries, incorporating the territory north and east, forming an urban area, even called Greater Milan, which has about 3,900,000 inhabitants. Economic and financial capital of the country, Milan has developed an economy primarily geared to advanced service industries in various sectors: finance, national and international commerce, publishing, industrial design, advertising, information technology, marketing and multimedia, also becoming the world's fashion capital with Paris.

Currently, the city has undergone several projects for the architectural and urban renewal.

They are, in fact, in several projects relating to both the shipyard redevelopment of whole areas that the revitalization of his image as an European and world cities (among them the new Milan Trade Fair, the fair city and the CityLife project, the district of S. Giulia).

Milan is also a national and international node of communication, with a system Airport (consisting of the three airports of Malpensa, Linate and Orio al Serio), which concentrates most of the Italian air traffic (ISTAT 2007) and the largest railway system of northern Italy, with 22 stations of the city.

In Milan cross three lines of the High Speed: Milan-Rome-Naples, Turin-Milan-Venice and Milan-Genoa, merging in Milan Central Station, the only point of intersection between the three national lines. The other stations are Milan AV Rogoredo, on the south line Milan-Rome-Naples, Milano/Rho Fiera, on the west line Turin-Milan and Pioltello, on the east line Milan-Venice. In particular, the final draft provides that the urban stretch of the High Speed from Turin will have a station in Rho, at the Fair (14 km from Milan), and will arrive in Milan central station.

Milan Central Station, with a daily flow of 320,000 passengers, has since the beginning of the century one of the main European stations for the railway traffic, national, regional and inter-urban and metropolitan. The station is located in Zone 2 (one of nine administrative divisions of Milan), and borders the north east of the city centre. Since 2005, the station is affected by major repairs and upgrading, within the wider regeneration project "Grandi Stazioni"-State Railways Group, and that should be completed in 2008.

Milan and its province are the most important real estate market in Italy in volume and dynamics. "The complexities of its urban system, the plurality of demand expressed in parallel with real estate projects developed, are the benchmark for the entire domestic market that historically it follows the model" (Scenarios estate 2006).

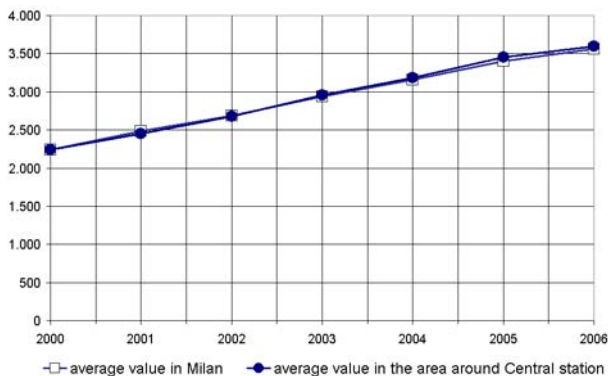
The national housing market is solid and stable growth. At the end of 2005, in fact, there has been a number of trading amounted to 13.8 billion euros, an increase of 6.5% compared to 2004.

The first part of 2006 saw an initial slowdown in growth rate, which is beginning to stabilize on smaller variations, after seven years of steady growth, registering a slight decrease of trade in Milan city and a parallel increase in the province.

As property values in town, "at the end of 2005 there was a variation of +6% over 2004 (it was increased by 11% last year) only in the most prestigious borough inside the ring of canals and in the most recent achievements also arisen outside the ring (the area formerly OM, Maserati Park, Milano Certosa, Lorenteggio).

However, we must also consider the areas affected by large levels of transformation that have registered growth trends consistent in the last 18 months. Among these, the area of the project Rogoredo Santa Giulia (+14%), the area of the square Martini (+19%) with the PII and the area of Porta Vittoria Garibaldi (+18%) with the project Garibaldi-Repubblica (Scenarios estate 2006).

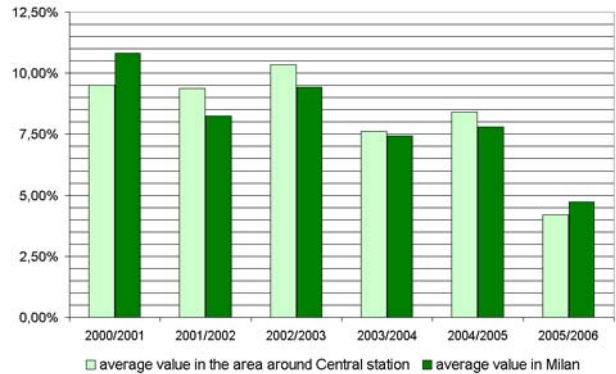
In particular, referring to the district of Milan Central station (which coincides with the areas of Corso Venezia, Corso Buenos Aires, City Studies, Management Centre), the trend residential real estate values from 2000 to 2006, drawn from the Value property of Scenarios (2006), basically follows the trend of the average value in the city.



The trend of property values in the area of Central Station is superimposed upon general average values.

Even the annual percentage change shows that in this district the prices, although remained at medium-high, followed by a slowdown phenomenon that occurs in all prestigious neighborhoods, from +8.41% between 2004-2005 to + 4.72% from 2005-2006.

In other words, at least for the moment does not seem to resent the effect of the arrival of the High Speed Train Station, which will be fully operational from 2009.



The arrival of HS trains in Milan Central Station not seems to have had an impact on the general slowdown of the percentage change in property values in recent years.

The case of Bologna-Florence

High Speed Railway line Milan-Rome-Naples, which is the Italian section of the Trans-European Corridor Palermo-Berlin and across Italy from north to south, touching the major cities (Turin, Milan, Bologna, Florence, Rome, Naples), is currently under construction trafficking between Florence and Bologna.

The work for the construction of the track (78.5 kilometers long) began in 1996 and its inauguration is scheduled for 2009. On the track, there are no intermediate stops and it will connect the two urban areas in 30 minutes, half the time taken today by the traditional line. A little over 100 km away, the two cities are both a part of major importance in the Italian economy for the functions you are located (Bologna is an important hub of transportation, logistics and exhibition, Florence is also the centre of business, but especially tourism and cultural).

Despite the small population size (lie seventh and eighth place among the Italian cities) and urban size of both, their spatial and social dynamics have affects on wider audience. Already a study by the DATAR (Délégation à l'aménagement du territoire et à l'action régionale), in 1989, in which he had proposed a classification of European cities for the degree of importance, puts the two cities at the same level of the largest and most populous metropolis for the major cultural and economic.

Bologna, located at the southern of the Po valley, stands in seventh place among the Italian cities by population with 373,026 inhabitants.

Bologna is an important university, economic and logistic centre in Central North. It is the second Italian fair city, receives an important logistic hub (one of the largest Italian hub, a major food centre and a leading wholesale trade centers in Europe, the Centergross) and is home to one of the most oldest universities in Europe, which attracts students from many parts of Italy and is the second Italian

after La Sapienza University of Rome, both in number of students who graduate.

According to the study of DATAR (1989), by the end of the eighties, the city and its metropolitan area had much higher importance than expressed by the simple demographic parameters at both national and European level. The study, which suggest a classification by degree of importance of cities with more than 200,000 inhabitants in fourteen European countries, classified Bologna, Florence and Venice at the same level of much more populous metropolis (eg. Glasgow, Edinburgh, Oslo, Vienna, Lisbon, Marseille, Seville, Valencia) for his cultural and economic significance. His position with respect to the rail routes and highways of central North has made it an important hub of communication.

Furthermore, with the completion of High Speed rail project and the completion of two rail routes that connect with Milan and Florence, Bologna will be respectively 55 and 30 minutes from the two cities.

Bologna Central station will be High Speed rail station, which will be affected by important transformations, both from the point of architectural and technology, to make it an integrated junction in which converge HS link, domestic and international traffic, regional and metropolitan and urban public transport.

It is currently carrying out the international design competition for the new integrated complex, which began in 2007. The design for the new station includes a multi-storey structure which will include the underground station for High Speed, the less profound for the Metropolitan Railway Service, and a third surface for local trains and long distance services. An area of 350 thousand square meters will be built with 42.000 sqm for service station and 120 thousand square meters for urban commercial functions, directional and accommodation.

The project also will extend for a further 36 ha to the surrounding urban area (called Ravone) which will be the subject of extensive redevelopment and whose use is intended to partly fund the construction of new station (Nomisma 2007).

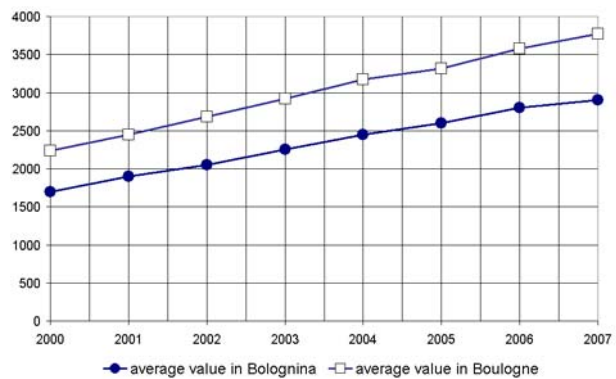
The station is located in the district of Navile, in the area of Bolognina, bordering the historic city center; the two areas, currently separated from the bundle of tracks, will be reconnected thanks to the project of the new station that provides the burying of the tracks.

In relation to the property market in Bologna, in recent years the trend of trading was broadly stable. The opposite was the trend in prices, which registered a steady growth, although inconsistent. Between 2000 and 2007, the central areas of the city are those that have recorded a total price increases larger than those of historical neighborhoods (Bolognina) and more recent ones.

Over the next few years to influence positively the framework of the Bologna market values, there will be the effects of retraining and modification of functional structures related to major urban projects planned (Scenarios Estate 2007).

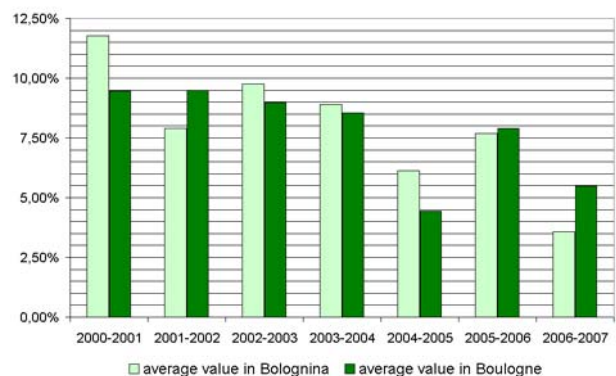
To identify the effect of the arrival of high speed line in the city (2009) of property values, was compared to the trend of property value with the average value of the district Bolognina in the period 2000-2007, using data from Scenarios Estate (2007).

The comparison shows that the evolution of values in the neighborhood mainly follows the trend of the average value in the city, although it always is lower.



The trend of property values in the district of Bolognina follows the general average trend, keeping always lower.

Furthermore, in Bolognina, the annual percentage change tends to decrease, especially in recent years (since 2005), and the variation 2006-2007 (3.5%) is the lowest reached since 2000. Moreover, even compared to other city districts, Bolognina shows the lowest percentage change in 2006-2007.



The start of the design phase of the HS station (2007) does not appear to affect the annual percentage change in Bolognina which tends to decrease.

In summary, the arrival of the High Speed (2009), which carries the station's building projects and urban redevelopment, not least for the moment seems to produce effects on the local property market. Florence, with 366,488 inhabitants, is the largest and most populous city in Tuscany, and its main hub historical, artistic and economic-administrative. Despite the paucity of resident population, the social dynamics and spatial city covering a much wider catchment (Scenarios Estate 2007). The city, in fact, has a diversified economy operates mainly in the tertiary sector, but is also home to industrial mechanical, chemical, pharmaceutical, processing of leather and clothing. Another important resource is its tourist activity, with a number of appearances that comes to touch the 10 million per year (Regione Toscana 2006).

The station Belfiore will be the urban node of HS link, to be built in the north east of the town, between Viale Belfiore and Viale Redi (a short distance from the Santa Maria Novella, the main railway junction current), in Rifredi district.

This district, which is the largest city, includes the areas of Novoli, Careggi Hospital, Castle and the area Rifredi, which because of its importance has come to give its name to the neighborhood. Seat of the hospital and several universities of Florence, Rifredi has passed predominantly industrial vocation.

Presence the railroad and its train were in fact determined the location of various industrial activities (the Institute Military Chemical and Pharmaceutical, Fiat), which in recent years have been a phenomenon of divestiture and conversion. Infact, Rifredi today is involved in several projects of urban transformation, including projects Novoli and Piana Castello. These projects fall within the wider process of change of government in Florence, which has the main objective to reorganize the city using the large brownfield sites to move some important executive activities and service from the centre, and to restructure the system of mobility (high speed train, tram system, highway).

The Novoli project (area ex Fiat) is the principal involvement of real estate development under construction in Florence and covers an area of about 32 ha.

The project includes a large urban park, the new courthouse in Florence, the University Centre of Social Sciences, residences, offices, shops and facilities, with new streets, squares, walkways and two large underground parking. The first part of this plan was completed in January 2004, after the completion of the housing and inaugurated the new University of Florence and are currently under construction the new courthouse and related structures, offices, businesses, car parks and the park (12ha) located in the centre of the area.

The new Belfiore station will rise in the Southern End district of Rifredi, just steps from the Santa Maria Novella. In 2003, the

international design competition for this station was won by Norman Foster. The project covers an area of over 45 thousand square meters, with a structure that develops in depth to accommodate HS trains, and the plan of campaign to host the services of the station, parking lots, bus stops and tram, to conjunction with the Santa Maria Novella station and the historic centre.

The opening of the new underground station is planned for 2009, time needed to complete the construction of the line, complicated by the particular topography of the area.

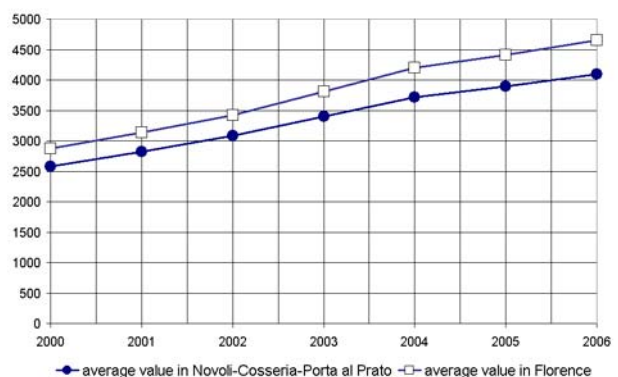
As for the national housing market in Florence are concentrated around 45% of all homes in the province, its characteristics of being a city of art open to international tourism has led to the demand towards more varied housing market, compared to average of Italian cities.

In late 2006, the main indicators of the residential property market in Florence showed negative sign, indicative of a cyclical downturn recorded in late 2005. Indeed, the high level of prices (which in 2006 marked mean increases above 6%) is believed to be behind the decline of trading in the capital (-5.8%).

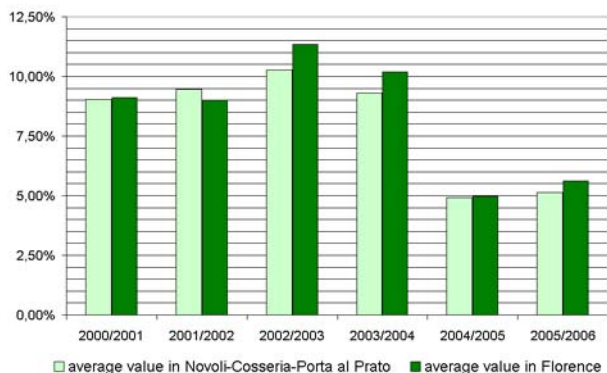
Indicative of this situation is the crisis that hit the apartments of the old town, until a few years ago in high demand and sold at prices much higher, but currently considered economically inaccessible and unsuited to the needs of most potential buyers (Scenarios Estate 2007).

As regards, in particular, the area where the Belfiore station will rise, residential real estate clearly was affected by this phenomenon.

The area of interest, as identified in the graphs Novoli-Cosseria-Porta al Prato, seems to show essentially the same trend as the city average, from 2000 to 2006 (data provided by Scenarios Estate 2007), although the percentage annual change shows a sharp decline in recent years (from 9.31% in 2003-2004 to 4.93% in 2004-2005), before recovering slightly between 2005-2006 (approximately 5.13%).



In the area of the future station Belfiore, the property values show the same trend city growth from 2000 to 2006.



The annual percentage change in property value around the station of Belfiore shows sharp decline in recent years.

In conclusion, in 2006 the real estate market in the area of the Belfiore station shows a slight sign of regrowth that should still be observed in the next few years, it can be attributed to the arrival of the High Speed (2009) and the redevelopment project of the area.

The case of Roma-Napoli

The Rome-Naples is part of the HS Railway Line that connects Turin, Milan and Naples, and replacing the Italian section of the Trans-European Corridor "Palermo-Berlin". On this line, in addition to the link between Rome and Naples in operation since 2005, which allows you to travel 204 km in 1:20, is also functioning the link between Turin and Novara (opened in 2006, during the Winter Olympics). Remain to complete the last 18 miles to Naples (the section from Gricignano d'Aversa and Afragola to Naples), the new stations in Naples-Afragola and Rome Tiburtina, the strengthening of Naples Central Station.

With a population of over 2,700,000 inhabitants, Rome is the first Italian town by population, as well as extension, and represents, along with Milan, the Italian largest economic centre whose activities (services, functions administrative, construction, tourism) in 2006 have produced about 8% of national GDP, more than any other city in the country (Censis 2006).

The city is the centre of a radial primary roads that trace the lines of ancient streets and is the most important railway junction in central Italy, both strategic location for provision of infrastructure on iron (Tirrenic line Roma-Genoa, the line north Rome-Florence-Bologna, the lines towards the Adriatic and the lines toward the south from Rome to Naples, the line Rome-Caserta and the new line of the HS Rome-Naples, along the way Casilina).

Termini station, who has the highest number of daily transits in Italy (about 400,000), is currently the only the High Speed terminal in Rome until it is completed of the new station Tiburtina, in 2009.

The new station Tiburtina is located in the north east of Rome and intended to be the largest High-Speed rail station.

The design of the new station (by Paolo Desideri) try to "mend the two historic districts divided by the driving of the track, both through the system of services contained within it, both through the element of the great urban boulevard, covered, elevated that crosses the tracks "(Rfi 2007). The station building represents a bridge-tunnel that serves both the function of international railway station and great urban boulevard. These two functions are compatible thanks to a great height and interior space to the complete availability of decking to share more diverse fitting needs. A gallery totally free of structural elements will provide real flexibility in the use of space through displays that integrate effectively free, as in large areas of airport, the areas for trade and those for business lounges (www.archiportale.com).

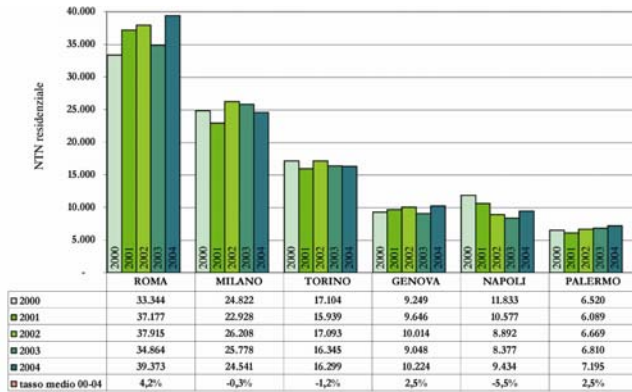
The realization of the new station is part of the wider urban project Pietralata-Tiburtina, which covers an area of approximately 200 ha. This project, approved in 1996, aims to create a new system for directional in the east area of the city.

In the Pietralata neighborhood, in fact, will be localized sites of public administration and a tertiary centre around the station Tiburtina. These interventions, accompanied by a deep urban regeneration, proposed by the Master Plan for the area of Pietralata (2001), which is based on "the completion of roads, parking lots and the provision of services, a system of urban parks, the construction of 900 new housing and a pole craft (40 shops), a university campus, new school complexes, a market, a social centre and sports facilities"(City of Rome, 2004).

In other words, the strategy planning of the City Administration, pointing to decongest the city centre and the redevelopment of the suburbs, find among the new central urban district Pietralata, thanks to its good accessibility afforded by metro line B and the Tiburtina train station.

The residential property market in Rome, in recent years, was certainly among the most lively in Italy (OMI 2005). The importance of the Rome's housing market is clearly looking at data concerning the change in the number of transactions compared to that of other Italian cities.

According to data from OMI (Center Real Estate Market-Agency of the territory) in 2005, Rome record the highest average rate of change in the number of transactions compared to large cities in the five years 2000-200 (4.2%), followed by Genoa and Palermo (2,5%), Milan, Turin and Naples recorded negative rates ranging from -0.3% (Milan) to -5.5% (Naples). Among the factors that contributed to the dynamism of the national residential real estate market, increasing the housing stock, built between 2000 and 2005, certainly played a decisive role (IMO 2005).

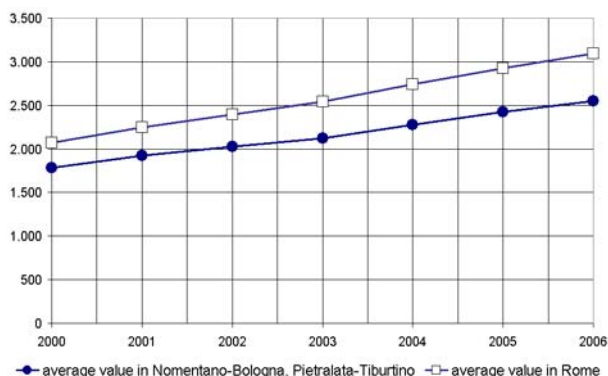


The residential property market in Rome, in recent years, was among the most active, recording the highest number of transactions between the Italian cities.

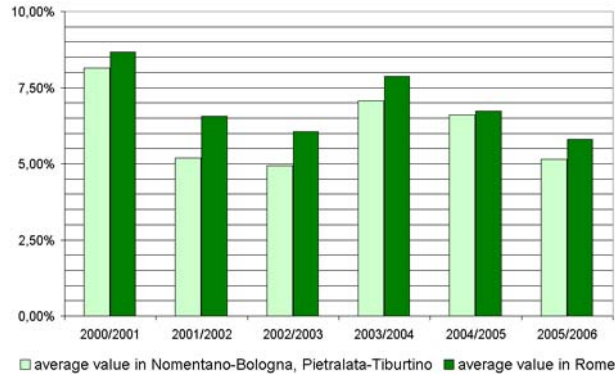
With reference to trends in property values (constructed on the basis of data from Scenarios Estate 2006) in the neighborhoods around the station, Pietralata and Nomentano, in 2000-2006 (the reference to read the effects resulting from the announcement, in August 2004, the next opening of the yards of the high speed station), these values are in continuous increase.

However, these still remain below the average value in Rome. Compared to the annual percentage change is also noted that these districts have an annual percentage change substantially following the trend of changes in the average value.

In recent years, in particular, peak percentage change in the district are 8.67% (2000/2001) and 7.86% (2003/2004), showing decreasing values in 2004-2005 and 2005-2006 (in fact it has gone from 6.59% to 5.15%).



The property values in neighborhoods around the new Tiburtina station show a trend continues growth, although lower than the general average value.



The annual percentage change of neighborhoods around the station Tiburtina shows decreasing values in recent years, exposing a substantial indifference to the advertiser opening the yard in 2004.

The news of the imminent opening of the yards of the High Speed Train does not therefore, a significant change in property values, while registering a reduction of the distance from the average value in the city from 2004-05. There appear to produce a climate of trust (and therefore have implications on property value) and the award of work on building the ring road linking between A24 and the Battery Nomentana in October 2004 (an action under Detailed Plan for the area of Pietralata 2001), that the inauguration of high-speed rail link between Rome (Termini) and Naples, in 2005.

The third city of Italy for population (almost one million), after Rome and Milan, Naples ranks among the last places for economic growth. Despite the presence of productive activities and business major, the city to be sluggish.

The situation in Naples, however, reflected in a more widespread regional malaise: estimates Istat (2005), provinces of Campania grow less than the other Italian provinces (+1.5% right, 0.7 points less than the national average and 1 point lower than the average for Southern Italy, unexpectedly more active than the North East and North West) and, in particular, the province of Naples has stagnated at 0.8%.

In Naples last decade has initiated a broad program of transformation of the city, bound on one side to total redesign of the city and the other to the development of mobility system. Following approval of the Guideline document for urban planning in 1994, began a planning process that, together, led to the drafting of the municipal planning instruments and tools of mobility: the Municipal plan of Transportation (1997), the Plan's primary road network (2000) and the Plan of 100 stations (2003) were prepared in parallel with drafting the new General Master Plan, which began in 1994 and ended in 2004.

In this rich and complex system of interventions that is grafted on a new vision for the city, there is also the project of the High Speed

Railways, which envisages the construction of a new station to Afragola, and the Grandi Stazioni project, which provides for the renewal and strengthening of the Central Station, the High Speed terminal station.

In the Naples Central Station, then, come HS trains into the city, while in the station Afragola, whose work will be completed in 2009, will arrive fast trains bound for Battipaglia-Reggio Calabria and for Naples and will be can exchange with the regional rail services and Circumvesuviana. Naples Central Station is the main railway junction in southern Italy since the beginning of the twentieth century and the sixth in the national rail system for the number of passengers, with about 137 thousand visitors daily and 50 million a year. This station is divided into a surface station for domestic shipping and an underground station (Napoli Piazza Garibaldi), intended to serve the metropolitan (metro line 2, Circumvesuviana) and partially to the national network.

The station is located southeast of the city, bordering the industrial area, between the historic districts of Vicaria, San Lorenzo, Pendino and Mercato.

Since 2005, is ongoing work of enhancement and adjustment of the structure, now dilapidated, which occurred with the requirements of the flows of travelers who cross here.

The project is funded and managed by Grandi Stazioni-Gruppo Ferrovie dello Stato, a company that was founded in 1998 with the aim of regenerating areas inside and outside of the twelve major Italian stations. Work on the renovation of this station is the framework in the proposed reorganization of urban and regional mobility proposed by Regional Transport Plan of the Campania Region.

In particular, the reorganization of mobility at the city level is entrusted to the Dominique Perrault's Rearrangement project of Piazza Garibaldi, commissioned by the Naples Metropolitana, which aims to redevelop the area of Piazza Garibaldi, the overall structure by reorganizing, rearranging spaces for vehicular and pedestrian circulation and strengthening staging areas for public and private. The project plans to fill the urban void of the existing Piazza Garibaldi area by inserting new functions but not new volumes and articulating the whole space into three large squares, rich gardens and green spaces that connect five stations.

A strategic railway station, therefore, insist that Central Station of the national traffic, the HS station, the Circumvesuviana and the two metro stations for line 1 and line 2. It is estimated at a daily transit system 260mila people, or 75 million a year, compared to 8 million of the Port and 5 million of the Airport of Capodichino, besides the increase of flow due to High Speed.

As for the national housing market, as the Property Report 2005 Observatory on Real Estate Market-Agency of the Territory, Naples

and its province also have a little flexibility, which not meet the needs of a modern government of urban systems.

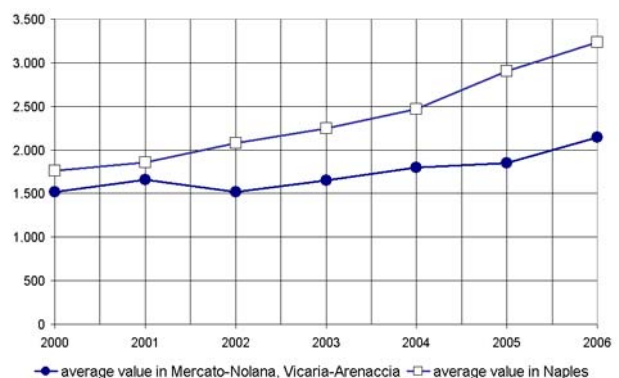
Although Naples has a housing stock that ranks among the five largest in the country and has a resident population that ranks third among the Italian cities, has seen a phenomenon of reducing the number of transactions, amounting to around 20% between 2000 and 2004.

This decrease corresponds to an increase in transactions in the province.

"This means that the city, unable to give an answer to the question of population, suffers a residential forced toward decentralization neighboring municipalities" (OMI 2005). Another important issue that the Report highlights concerns property prices: "They are, in Naples, segmented and highly variable from area to area and within the same area.

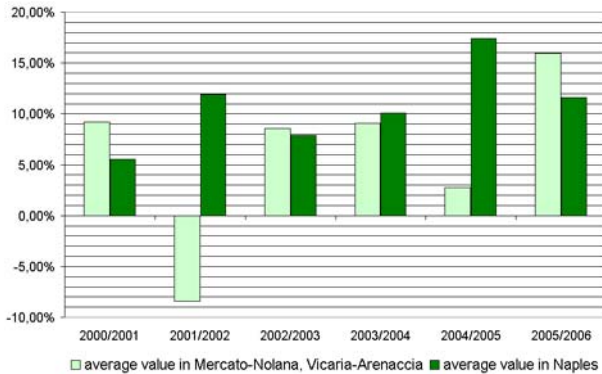
Is this the result of a random densification process buildings constructed outside of any coherent policy" (OMI 2005).

In particular, focusing on neighborhoods surrounding the central station, you can watch the trends in property values (built on the basis of data from Scenarios Estate in 2006) than the average value of Naples in the period 2000-2006, which includes the year that started operations in the HS and they have started work adjustment and upgrading of the station.



The property values in the area around the station have a discontinuous trend, while always keeping it below the city average.

In these districts the values always remain below the city average, with no increasing trend. From reading the annual percentage change in this area also shows that this increased rapidly, rising from 2.78% in 2004-2005 to 15.95% in 2005-2006, overcoming, so even the average value. This value is significant even in comparison to individual percentage changes of the other districts of Naples. Fact, this is placed in the middle position within the range of variation ranging from 31.15% (Arenella-Rione Alto) to -7.50% (Industrial Area).



The annual percentage change in the area around Central station is in increase between 2004 and 2006, coincide with the arrival of HS link, above city average value.

HS, types and characteristics of urban and real estate changes

The reading of selected cases, as described in the preceding paragraphs, reveal that significant changes in property values related to the arrival of the High Speed in the urban setting of reference are recorded mainly in the following circumstances:

- when the opening of the new station or the adaptation of an existing one to accommodate High Speed rail is one of the actions of a wider process of regeneration of urban in a districts with high levels of physical and social deterioration in the city of rank very high;
- when the arrival of High Speed trains is in a central area of the city in a radical physical transformation and functional result of a widespread phenomenon of massive industrial decline;
- when opening a new station of the High Speed invests a small to medium sized cities and with little functional characterization.

The occurrence of these conditions can be read explicitly in the charts and table that follow although it must still take into account the socio-economic background of the particular urban context. In the first two graphs of this section, also constructed on the basis of the criteria used in the selection of sample cases contained in these pages, are compared to the percentage change in property values during the opening of the station or to initiate the construction of clusters of cities established on the basis of the classes identified in the benchmark for European cities of Datar (2003) and between clusters of cities with different geographical location and, therefore, social and economic life.

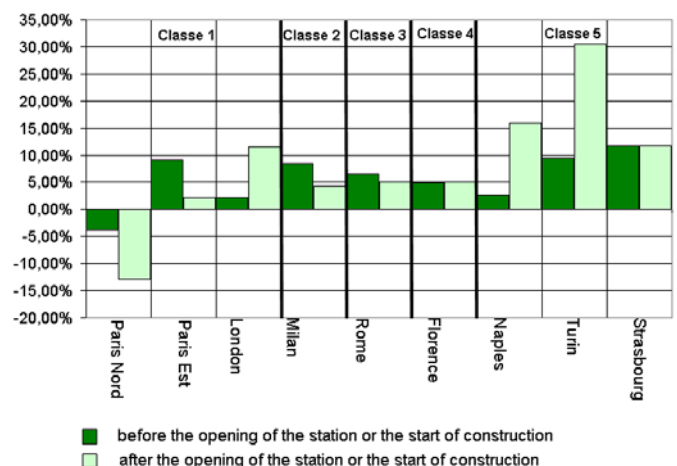
In the third graph, the comparison is divided because of the type of transformation started in the station and its surrounding urban; from reading of cases is apparent that the effects of implementing

High Speed rail hub on property values may also vary because of the types of intervention implemented in the urban areas of the station. In the first chart, then, is represented the percentage change in property values during the opening of the station or building work begun by city, grouped according to class of Datar identified in 2003.

The study of Datar, in fact, is the reference for all subsequent studies that propose a classification of European cities for functions and population size. In particular, the classes referenced in the chart and the table are defined in view of the role of global and European cities involved in the international context. Class 1 is the only world-class and classes from 2 to 5 are the European level. In brief, we outlines the definition derived from the study of the Datar single classes of cities:

- Class 1: cities with world-class functional mix (Paris and London);
- Class 2: cities with economic and financial functions of high level (Madrid and Milan);
- Class 3: cities with high-level functional mix (Roma);
- Class 4: cities with strong functional specializations (Florence);
- Class 5: cities with at least one function of European level (Turin, Bologna, Naples and Strasbourg);
- Classes 6 and 7: cities with almost no connotation of European level (Reims).

The medium-small sized cities selected in this article are not placed in classes defined by Datar, but for Ashford is highlighted its role as a major national commercial node and hub rail; for Ciudad Real and Puertollano the role of university and industrial mining the role of national level.



The comparison between the cities, grouped by Datar classes, read in light of the percentage change in property values, shows in the areas of the station a disregard of the property market to the size and the functional specialization.

A reading of the graph is found that among the cities belonging to the first three classes, Paris, Milan and Rome did not seem to feel the effects of the connection of the High Speed Railway, showing even a decrease in property values in areas around stations. We must remember that in the cases of Paris and Milan, the stations are located in the heart of the city, in areas with levels of quality, accessibility and property value at the highest.

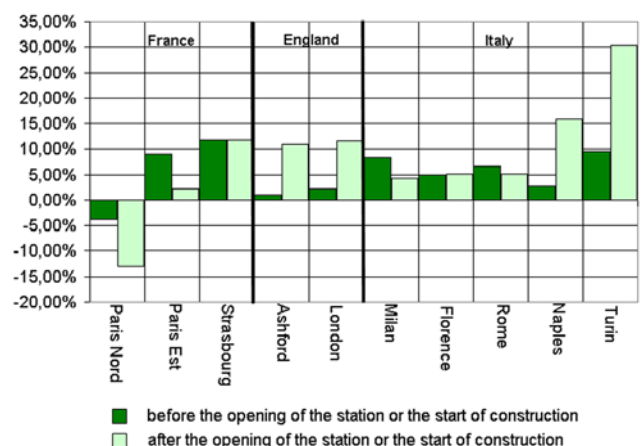
It should, however, taking into account all three cases that the negative change of values in the neighborhood of High Speed station reflects the more general trend in the cities which is aligned perfectly. Even in the case of Rome, which has characteristics very different from the cases of Paris and Milan, there is a substantial "estate indifference" to the arrival of High Speed.

Indeed, the district where is located the station Tiburtina, which is not yet in operation for HS rail line is part of the periphery is involved in a consolidated and comprehensive process of renewal and regeneration that involves the construction of the new directional system in the east Rome. Among these cities only exception was London where property values have increased significantly compared to previous years the opening of the HS train. The station that welcomes the High Speed Train is located in the borough of Camden, a neighborhood that for many years was characterized by high levels of degradation and crime and is now interested also intervention of a large urban redevelopment.

The significant change in property values in the neighborhood can therefore be viewed primarily as a tangible sign of renewed interest to the district, however, occupies a central position within the city. Among the cities below the third class, Naples, Turin and Reims show in the areas around the high-speed rail stations a substantial increase in property values compared to the previous period to the start-up of high speed. In these cases the stations are located in central urban areas involved in rehabilitation processes involving the surrounding spaces (the case of Naples) or re-articulation and rearrangement for the presence of vacant areas (the case of Turin and the occurrence of Reims), as can be read even in the third graph. In the neighborhood of the station of Strasbourg is not found appreciable variation of property values, probably due to the fact that the station is located in the central area where the buildings have the highest value of the city. In Florence, in conjunction with the start of the work of the new station by Norman Foster, whose entry into service is scheduled for 2012, there was a slight rise in property values in respect to the trend in previous years, probably supported the implementation of the new residential and tertiary Novoli on vacant land Fiat industries, which will be completed during 2008. Finally, in Ashford, Kent cities with the highest growth rate of the entire England, growing population, residential and infrastructure has been a significant increase in property values

which is passed from 1% between 1995-96 to 11% in the following year, coinciding with the opening of the station, located in the city center. It is enhanced, thus further its role as a commercial centre and communication mainly due to geographical location (the city lies at the confluence of two rivers, the Upper Great Stour Stour el'East) and, since the nineteenth century, the role of major railway hub that had a further boost during the implementation of the international station of the railway line linking London to the Channel Tunnel.

The geographic criterion for reading, unlike the previous one, does not seem to offer explanations to interpret the effects of the HS stations on property values. However, from reading the second graph is found that the presence in the French cities of High Speed stations does not produce effects on property values, unlike the English cities, for the sharp increase in values in station areas, seems to have decided once the effect of the opening of these stations.

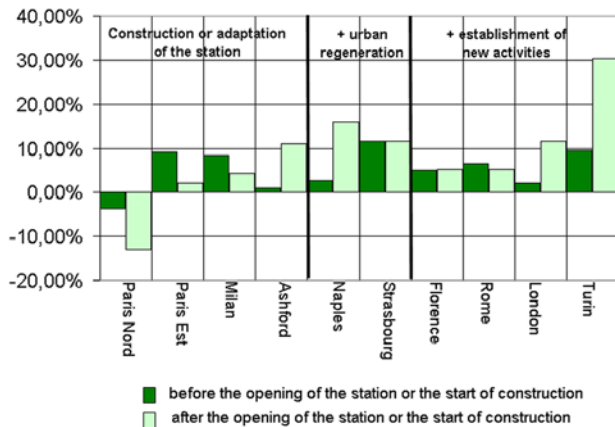


The reading of the percentage change in property values, depending the geographical location of cities, do not appear to explain the effects of the HS stations opening on property values.

In the third graph, the changes in properties are read in relation to the kinds of transformations implemented in the urban areas of the station. As in other cases, also because of the types of transformation is not possible to identify a homogeneity of effects of property values. Indeed, in cases where the intervention of transformation was limited to strengthening and/or adaptation of the railway station in Paris and Milan, there are no significant changes in values, while in Ashford, despite the intervention is limited to the building at station, the increase in property values is remarkable.

In the event that the transformation also involves the space surrounding the station, based regeneration and reorganization of mobility, there are significant increases in property values in Naples,

but not in Strasbourg, probably due to different physical and functional conditions of the respective station areas.



The size and type of the urban transformation process in the area of station does not always have the expected impact on changes in real estate, which may also depend on other factors such as size and functional specialization, especially in medium-sized cities.

Indeed, in Naples, in the presence of an area characterized by low levels of habitat quality and accessibility, the arrival of the High Speed with the initiation of work to the reorganization of vehicular and pedestrian traffic in the square outside the station Centrale (Piazza Garibaldi) and the presentation of the project to more comprehensive physical and functional rehabilitation of the area, produced an increase in property values in terms of annual percentage change by more than 15%. Even if the intervention of the Strasbourg building the resort has an opportunity to reorganize the square, but the level of physical quality and functional area and the already high real estate prices have not produced an increase in property values. Finally, in cases where intervention at the station is part of a larger project of urban transformation, with the establishment of new functions, residential, cultural, tertiary, the positive effect of property values is evident in the cases of London and Turin but not in cases of Florence and Rome. Indeed, London and Turin, the percentage change in property values reach the quota, respectively, 12% and 30%. In Florence and Rome the property values does not undergo any significant change as a result of the extensive processing operations implemented or being implemented.

In conclusion, the comparative reading of the cases shows that the effect from opening of the High Speed railway stations on property values is valuable in cases where it contributes significantly to raising the socio-economic and the quality conditions of spaces. In other words, in the towns of high class leading cases seem, therefore, be ascribed to those in which the station, rising in slums

and criminals, is an opportunity to revive socio-economic and physical rehabilitation and those in which, rising near or within vacant areas, is an important element in defining the new role to be given urban area. In the cities of lowest rank, characterized by the limited presence of strong urban functions from a small town but still dynamic, the effect on property values is significant, despite the absence of broader interventions on the urban system.

References

- AA.VV. (2005) "L'impatto socio-economico delle grandi opere ferroviarie sulla città e sulla provincia di Milano", Progetto di ricerca del CMRT-Centro di ricerca sui trasporti e le infrastrutture, Università Carlo Cattaneo.
- AA.VV. (2002) "La valutazione ex-ante degli effetti sul valore immobiliare di interventi di salvaguardia ambientale: un approccio edonico-gerarchico", XXXII Incontro di studio del CeSET, Venezia.
- AA.VV. (2006) "La valutazione del miglioramento urbano nel centro di Venezia. Un Approccio edonico-gerarchico", Fondazione Eni Enrico Mattei, Venezia.
- Bazin S., Beckerich C., Delaplace M. (2007) "L'évolution des marchés immobiliers résidentiels dans l'aire urbaine de Reims: un effet de la Ligne à Grande Vitesse Est-européenne?", Congress of the European Regional Science Association and ASRDLF, Parigi.
- Bowes D.R., Ihlanfeldt K.R. (2001) "Identifying the Impacts of Rail Transit Stations on Residential Property Values", *Journal of Urban Economics*, n. 50.
- Camagni R. (2007), "Il finanziamento della città pubblica", in Baioni M. e Caudo G., *La costruzione della città pubblica*, Milano.
- Censis (2006) "La ricchezza del territorio italiano", Roma.
- Comune di Roma (2004) "Centralità direzionale Pietralata", da http://www.urbanistica.comune.roma.it/urbaroma/pages/it/citt_a_nuova/citta_direzionale/centralita_direz_pietralata.
- Curto R. (1993) "Qualità edilizia, qualità ambientale e mercato immobiliare: un'applicazione della Multiple Regression Analysis (MRA) al caso della città storica", XIV Conferenza di Scienze Regionali, Bologna.
- DATAR-Reclus (1989) "Les villes Européennes. La Documentation Française", Parigi.
- DATAR-Reclus (2003) "Les villes Européennes. Analyse comparative", Parigi.
- Garrod G.D., Willis K.G. (1992) "Valuing goods characteristics: an application of the hedonic price method to environmental attributes", in *Journal of Environmental Management*, n.34 (January).
- Fariña J., Lamiquiz F.J., Pozueta J. (2000) "Efectos territoriales de las infraestructuras de transporte de acceso controlado", in *Quadernos de Investigación Urbanística*, n.29, Departamento

de Urbanística y Ordenación del Territorio, Universidad Politécnica de Madrid.

ISTAT (2007) "Statistiche del trasporto aereo (anni 2004-2005)", Roma.

Knight Frank (2007) "Wealth Report 2007", Londra.

Nakamura H., Ueda T. (1989) "The Impacts of the Shinkansen on Regional Development", The Fifth World Conference on Transport Research, Yokohama.

Nomisma (2007) "Italia in sviluppo. Rassegna dei più significativi progetti di sviluppo del territorio", Bologna.

OMI Osservatorio Mercato Immobiliare (2005) "Rapporto Immobiliare 2005. Speciale Roma e provincia".

OMI Osservatorio Mercato Immobiliare (2005) "Rapporto Immobiliare 2005. Speciale Napoli e provincia".

Oxford Economic Forecasting (2005) "London's Place in the UK Economy", Corporation of London, London.

Preston J., Larbie A., Wall G. (2006) "The Impact of High Speed Trains on Socio-Economic Activity: The Case of Ashford (Kent)", Fourth Annual Conference on Railroad Industry Structure, Competition and Investment, Universidad Carlos III de Madrid.

Regione Toscana (2006) "Ecco tutti i numeri sul turismo", Conferenza regionale del Turismo, 6-7 giugno, Fortezza da Basso, da <http://primapagina.regione.toscana.it>

RFI (2007) "La futura stazione Tiburtina: cardine per la creazione di una nuova centralità urbana", da <http://www.ferroviedellostato.it>

Scenari Immobiliari (2006) "Il mercato immobiliare di Napoli"; "Il mercato immobiliare residenziale di Roma"; "Il mercato immobiliare residenziale di Milano".

Scenari Immobiliari (2007) "Il mercato immobiliare di Torino"; "Il mercato immobiliare di Firenze"; "Il mercato immobiliare di Bologna".

Stanghellini S. (2007) "Introduzione", in Mollica E., Sistemi economici locali e mercati immobiliari. La misura degli effetti originati da interventi di trasformazione urbana, Gangemi, Roma.

Torino Internazionale (1998) "Verso il Piano. Informazioni di base e primi indirizzi strategici", Torino.

Notes

¹Although part of a joint discussion, Carmela Gargiulo edited "Urban transformation, urban quality and property values"; "Accessibility and property values: the scientific reference"; "HS stations and property values: the criteria for reading", "The case of Roma-Napoli"; "HS, types and characteristics of urban and real estate changes"; Fiorella de Ciutiis edited "The European cases"; "The case of Turin-Milan"; "The case of Bologna-Florence".