

## **Transformation Processes of Large Railway Stations in Europe: when Urban Quality is directly related to positional value**

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### **ABSTRACT**

Nowadays, the railway transportation system of many European cities has been undergoing a process of renewal accompanied by extensive urban transformation: not simple adaptations of the stations to the new technologies, but rather real changes in the functional layout of the entire neighbourhood in the vicinity of the railway buildings.

Thus, in some cases, the station has become a basic structural element in a city district in a state of transformation resulting in its progressive integration into the city centre, from which originally it had been excluded. The peculiar nature of railway stations and their neighbouring areas (i.e. the great added value due to their accessibility and attractive capacity, as well as the consolidated profitability of the activities that are, or can be, established in the area) is an element of convergence of different (public and private) interests as concerns the different transformation hypotheses.

This work intends to investigate, on a quality level, the transformation processes of railway stations, paying particular attention to the aspects related to urban strategies, the relationship between accessibility, mobility and utilisation density, financial feasibility and the consequent increase in value.

**Keywords:** urban strategies, infrastructural development, property value increase, public-private partnerships

## 1. Introduction

“For a long time people erroneously believed that railway stations would become a point of attraction for the inhabitants of a city. On the contrary, today it has been ascertained that people prefer to keep at a distance from such noisy centres. Generally the hotels closer to a station do not do good business”<sup>1</sup>. These words, written by Perdonnet in 1865, point out the poor relationship that existed in those years between cities and their railway stations.

In the 19<sup>th</sup> century, a railway station was not integrated to the city; this could be perceived by its location, outside the old walls, as a sort of appendix. At the time, the station building itself was an anomaly: “The railway station, half factory and half building, represented a novelty in the history of architecture. No other type of single construction joined two bodies so heterogeneous in their form, with a brickwork building destined to passengers and large glass and iron sheds for the parking of trains”<sup>2</sup> (Meyer, 1988).

The expansion of cities, the consolidation of railway technologies and social changes led to a gradual incorporation of stations into the urban framework, where they took on an important role as access gateways to the city.

As pointed out by C. Olmo (2003), “since the 19<sup>th</sup> century, cities have been designed by the railroad and the station has played a major part in shaping the life of the city. Over time, this has become a constraint hindering growth, those places have changed, in many instances, from meeting places to areas of marginality. Today, we have an extraordinary opportunity to regain control of mobility, as well as the destination of important portions of the urban centre, and make the construction of new stations represent an opportunity to redesign the urban landscape, to redefine the *formae urbis*”<sup>3</sup>.

Nowadays many European cities are witnessing a renewal of their railway transportation system, accompanied by substantial operations of urban transformation: not simple adaptations of the stations to the new technologies, but rather real changes in the functions of the entire neighbourhood in the vicinity of railway buildings (Lami, 2005).

Therefore, the station has become, in some cases, a basic structural element of a city district in transformation, resulting in its progressive integration into the city centre, from which originally it had been excluded. Improvements in railway service and the transformation of stations and adjacent areas have led to the strengthening of the role of stations as poles of attraction in cities; they are no longer places reserved solely for the transit and transfer of travellers.

This work intends to analyse the transformation processes of railway stations, noting in particular the aspects related to urban strategies, the relationship between

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<sup>1</sup> English translation from the Italian made by the paper's author.

<sup>2</sup> English translation from the Italian made by the paper's author.

<sup>3</sup> English translation from the Italian made by the paper's author.

accessibility, mobility and utilisation density, financial feasibility and the resulting valorisation<sup>4</sup>.

The paper is structured as follows.

Section 2 shows the main reasons that drive the transformation of a railway station and the surrounding area: transport necessities, real estate development operations, function of physical and psychological centrality in the urban environment.

Section 3 underlines the key factors that influence the decision to renovate railway stations, once the resolution to restore this particular urban zone has been defined: the relationship between density and accessibility, the gradual transformation and the flexibility in the choice of the functions, the project of the station building.

Section 4 illustrates both the financial and the valorisation aspect, as well as the different role of promoter assumed by the European Railways Companies in similar operations.

Finally, section 5 provides some final remarks.

## **2. TRANSPORT STRATEGIES AND URBAN STRATEGIES FOR THE TRANSFORMATION OF STATIONS**

The renovation of the railway stations carried out during the last years in the main European cities has been primarily motivated by two factors:

- transport needs;
- a new role of the Railways Companies.

With regard to the former, a fundamental turning point is represented by the high speed transport, which can be seen as the great European project of the 21<sup>st</sup> century; as for the latter aspect, it is important to underline how in many countries the privatization of some Railways Companies has caused them to seek new opportunities to expand their commercial potential through the enhancement of the economic and social value of their property.

In these days, the relevance of the high speed theme is underscored by the importance attributed to the issue by all European nations that, at a different pace, have initiated this long and costly restructuring process. The true objective of the project is the theoretical elimination of the physical borders typical of a multi-national Europe to usher in a multi-regional Europe in which the main cities are “physically” linked by a high speed transport network.

Moreover, the availability of real estate assets - stations and freight yards which, in many cases, extend over immense areas in very central positions - enables the Railroads to play a primary role in the European property market.

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<sup>4</sup> Some of the considerations expressed in this article emerged during a workshop on the “Transformation and re-qualification of Porta Nuova”, held in Turin on 9 July 2004, that was organised by SiTI within the framework of the “Feasibility study for the territorial reorganisation of Porta Nuova”. The speakers invited as experts were: Luca Bertolini, Eamonn d’Arcy, Maurizio Marcelloni, Laurent Staffelbach.

Besides these two needs (adaptation of the railways station and railways infrastructures; real estate operation in order to enhance the sites), there is a third element that influences the renewal works of a railways area: stations have an undeniable function of physical and psychological centrality in the urban environment. Only the worsening of the quality of the railway service in common use has deprived the stations of economic resources and profitable activities, relegating them to the role of mere ticket offices. Now intermodality has become indispensable for the very survival of the cities, besieged by traffic, and has relaunched the urban role of stations all over the world.

Therefore, a project of railway stations renovation becomes an outstanding opportunity for the transformation of a city, not just as a “patching up” of existing parts, but rather the exploration of new urban life styles. The image and the building styles that are used, even more than the functions, as well as the relationship between axes and perspectives, become a decisive choice if we are to give origin to new centralities in the urban framework. On this subject what happened in the case of the railway station area of Zentrum Zürich Nord is rather interesting: “Imaginative regulations and financing mechanisms have been devised to guarantee that a true urban mixture (including less profitable elements) is obtained. Particularly innovative is the idea that the area could serve as incubator for different uses. For example, next to permanent high-return/high investment functions with lower urban value (such as offices in new buildings) temporary low-return/low-investment functions with a higher urban value (such as cultural production and consumption in refurbished buildings) could also be developed” (Bertolini, Spit, 1998)

Another example is the “*promenade plantée*” of Paris; freeing the old viaducts has given way to a strongly characterising urban operation for the neighbourhood, to the point that now it is a primary element of attraction of the 12<sup>th</sup> Arrondissement. The intervention was able to recover and valorise all the areas left free by the railway, using them as a connoting element of the transformation project and, in doing so, also giving a “historical” value to the stations, the viaducts, the trenches. Thus railway areas are not perceived as residual terrain in the urban fabric, but rather as starting points for new projects

In general, the very nature of the Urban Project is that of overcoming the strict boundaries of the transformation area in order to connect and integrate the project with both the local surroundings and the overall texture of the city.

If this type of process is not used, there is a risk of producing a superimposed transformation (“like a landing spaceship”), that will not blend into the existing and future town structure. As a result, in addition to not being successful in itself, the transformation will not add value to the metropolitan system.

It is very important to try and foresee how a planned intervention will alter the urban amenity bundle for all stakeholders (employers, employees, residents), both existing and potential. It is more than a simple matter of image, and it ranges from the physical quality of the built environment to quality of life issues.

### 3 KEY FACTORS FOR THE DECISION OF STATIONS' TRANSFORMATION

#### 3.1 Accessibility, mobility, land use

A basic factor in any station transformation strategy is the relationship between density and accessibility, between the types of structure to be designed and the flows of travellers / users through the areas concerned.

Density is closely correlated to the mobility capacity offered and with the accessibility scale, i.e., number and origin of the travellers. It is important to realise not only how many travellers will reach an area, but also where they come from (whether from the district, the city, the nation or from all over Europe), since the potential of an area also depends, in terms of types of structure to be installed, on the nature of its possible users. In particular, the problem hinges not so much on the places of residence as on the destinations.

The functional changes in the urban fabric near the station strongly depend not only on the quality of the railway service, but also on the integration of this with general urban mobility. To make the public transportation system not only alternative but also really competitive with private vehicles, we need to build up a system of total integration of train transport with other means of transport, which, through a careful planning of the infrastructures, will ensure efficacious interchanges.

Another factor to be considered in the determination of accessibility is the definition of the type of centrality to be brought about: the mutual relationship between the two determines market attractiveness and the concentration of activities (which require flows of different user categories).

In many European cities, a process of redefinition of centrality is under way: a single centrality is being replaced by several centralities, distributed over the urban fabric (just think, for instance, of Amsterdam, Rome, Turin). In these processes, the quality of accessibility to the locations is a key factor in the redefinition of these choices. Accessibility, in fact, affects the real estate market, while, from a public viewpoint, to be able to manage efficiently the enormous property involved in a situation of this kind is of crucial importance. Two lines of specialisation are emerging:

- i. transport nodes become locations where the activities which, even in this era of telecommunications, require face-to-face interactions tend to concentrate; such activities take place both on a regional and on an urban scale;
- ii. inside the transport nodes, we should make a further distinction between public transport only nodes and those combining public transport and private vehicle traffic.

In connection with the latter issue, we can refer to the case of Amsterdam, where they are creating a distinction between the main station, devoted to public transport, and the other stations situated along the motorway rings, that combine the two types of transport. At the motorway-side stations, we are witnessing a growing concentration of offices, huge blocks of multi-screen movie theatres, concert halls.

The central station is being redefined as a place geared to leisure time activities, as well as tourism, strictly connected with the fruition of the historical city centre.

Strengthening the railway service reinforces the attraction of the surroundings of the stations in terms of accessibility and image, offering the local community the possibility of using this new attraction to enhance the value of the entire neighbourhood. Similarly, the impact of the trains on the centrality of an area is closely connected with the quality of the railway service.

In this process of definition of the uses of an area, a flexible approach is essential: we cannot speak of density unless we have clearly identified what kind of urban project we aim to pursue. The incentive towards more flexibility in urban policies is not completely new in Italy: "The last decade above all demonstrates a sort of response (reaction) to the rigid and regulatory urban planning, by means of new action programs and plans devoted to the implementation of local initiatives supported by Municipal, State and European resources" (Lami, Fubini, 2005).

Flexibility can be applied along two lines:

1. the definition of destinations
2. the identification of the building volumes per each destination.

In this connection we can think of a master plan that designs the blocks but does not define their use, and allows the evolution of market needs to provide a precise definition of future uses. The plan might indicate reference percentages. This choice is prompted by the consideration that these transformations encompass a very long time span and real estate products of this kind cannot be taken up by the market in a single solution. Who can foretell what uses will be in demand in a specific city area (whether in Turin, Zurich, Stuttgart or Rotterdam...) 15 years from now? No one can tell. Over time, as the project develops, the market will show what to include or exclude from a given area. At the same time, to specify a primarily residential as opposed to a primarily commercial use of an area has totally different repercussions on the transport network. Perhaps to create accessibility and then define density at a later stage is easier. In general, it is advisable to anticipate in the masterplan a mix of destinations (with high and low profitability levels), including those of a cultural type, that make a district into a real urban centre and not only a "dormitory" or tertiary quarter (Bertolini, Spit, 1998).

It should be noted that flexibility is not the same as chaos. A very clear definition of a reference framework for the set-up of the infrastructures and the system of public spaces is necessary, as it can also guarantee the quality of the intervention. After that, it is possible to enter into agreements with private organisations, even in the form of partnerships or consultations with private stakeholders or citizens.

Finally, the following approach might be useful as an essential element in attempting to examine the market basis for an intervention.

*Constructing a LACIS (Local Area Confidence Information Set) which will focus on the potential long-term impacts of urban regeneration.*

These impacts will be:

- business related (firm registrations, diversity of local business structure, airports, other)
- labour market related (job creation, unemployment, skills)
- Employee – amenities (residential, workplace, urban)
- Knowledge – amenities (entrepreneurship, educational institutions, concepts of creativity)
- Quality of life – EU Urban Audit
- The foregoing may be weighted through cross-sectional statistical analyses

*Constructing a PROTIS (Property market Trends Information Set) for the area.*

This set will be designed to provide a wider picture of the local property market trends and characteristics as opposed to narrow criteria such as rents, returns, yields.

For example, the potential relationships which might be examined would include:

- rental growth in relation to take up/absorption and floor space constructed
- availability of space for the broader business needs in the area
- sensitivity of local property market (different rental data series) to national trends
- analysis of past take up in relation to employment and long-term forecasts of take up.
- measures of the institutional structure of the local property market.

### **3.2 . The project of the station building**

The basic element in these operations of urban rehabilitation is the architectural project of the station building: if one of the primary objectives of the transformation of railway areas is that of eliminating the division effect created by the tracks, the station must be conceived as a real element of connection, promoting not only visual but also functional continuity.

In the '60s and the '70s it was believed that a building as complex as a railway station could be shaped like a factory, an industrial setting, a composition of lines, each of them accommodating a form of specialised traffic. Nowadays, complexity has become an integral part of the design principles with which spatial identity is sought, both in the construction of the architectural object, and in the definition of the relations that are established between the latter and the urban landscape.

“It is in Lille that we can discern more clearly the paradox on which modern stations are founded: having indefinite limits and at the same time preserving a strong identity. Trains are connected in an explicit manner to the other modern forms of transport: underground lines, parking areas, buses, tramways, taxis. Each of these converges in the immediate vicinity of the railway platform, giving rise to a multiplication of functional contrasts and paradoxes.” (M. Canonico, 1994).

As pointed out by Olmo (2003), stations are public areas where uses, not shape, dominate and make them into “anti-monuments”; where use defines the largely

informal rules governing their life, and control is subject to all the imperfect uses not related to rigid functions. The public area of a station is where a station's limits are negotiated with the surrounding buildings and change, day, week and year in and year out.

From an architectural point of view, the station building should be conceived as an element that promotes the connection of the two parts of the city that were traditionally divided by the railway. For this reason, most new design stations are built underground.

Let us consider, for instance, the case of Stuttgart, which envisages the transformation of a stub station into an underground through station. Thanks to the design project by Ingenhoven, what takes place underground is no longer a merely technical problem of spaces and functions, but rather it becomes a protagonist of the process of urban renewal.

The new underground station comes to the surface through huge glazed roof lights, conceived as architectural, structural, energy and lighting elements, and through the half-domes, also glazed, that mark out the main exits. Between the old station and the new district of Stuttgart 21, we find a spectacular underground hall lit by natural light and open to the sky through huge "eyes".

Yet, we should not overlook the fact that moving the railway structures underground is a very complex intervention. It is justified if it is able to bring about a reorganisation of the infrastructures that achieves a metropolitan impact, as was the case in Stuttgart, or if the property is valuable enough to make the process profitable. Similar examples can be identified in Europe only in the City of London and Paris. In the absence of these elements, it is difficult to advocate the opportunity of moving a station underground.

#### **4. COSTS, FINANCIAL COVERAGE AND VALORISATION**

The peculiar nature of railway stations and their adjacent areas, characterised by high added value thanks to their accessibility, attractive potential, and the well-established profitability of the activities that are, or can be, established in the area, is an element of convergence of different (public and private) interests in terms of the different transformation hypotheses.

In many cases, however, the expectations on the increase in the property value that may be achieved thanks to projects for the re-qualification of railway areas are way too high.

The result of the real estate valorisation process is the gain that an investor achieves on a property upon the conclusion of a building development project. At that point, the problem is the distribution of this surplus between the various stakeholders: the allocation of land rent and the ensuing structure of the economic flows may greatly

affect the structure and financing possibilities of the entire operation<sup>5</sup>.

First of all, it should be pointed out that it would be wrong to assume that infrastructural interventions can be financed on the basis of real estate valorisation alone. It would be wrong in that the scale of the operations - in terms of time and volumes - is not comparable. Moreover, as a rule, the railways only own a portion of the territory compared to the wider area that will profit from the new infrastructures and, in some instances, the improvements in the transport facilities will not necessarily translate into an increase in the value of property.

The experience of the Italian railway company shows how the surplus arising from the valorisation of property can be sufficient to restructure a station, not to invest in the rail network (Moretti, 1994).

Consequently, valorisation programs cannot be conceived purely as a function of volume maximisation, according to a logic of quantity-related profits. It is therefore more advisable to set one's stakes on quality projects that can really transform the image of a city.

Another point to be considered is the likely effects on the property market of the "patching up" of portions of the cities historically separated by the rail trenches. In this connection, an interesting case is that of Turin, where the real estate value of one of the two districts adjoining the rail trenches of the Porta Nuova station is nearly twice as high as that of the other. Imagine that the tracks are eliminated and the two districts are linked: which of the two would influence the other, and how?

As for the mechanisms of project financing for the interventions, in Italy we can identify a certain criticality, probably arising from two correlated factors: uncertainty in terms of times and uncertainty as to the results.

Urban development programs are based on the evolution of the real estate market and the behaviour of the local administrations, which, in the long run, are quite unpredictable.

For this reason, real estate financing works in connection with immovable property that can ensure predictable cash flows and generally shuns development projects, in view of the high financial exposure involved and the risk characteristics still present in the different contexts of urban transformation in Italy. In this connection, only clear-cut regulations can ensure the active involvement of private investors: the lack of transparency in administrative processes is a powerful deterrent for the investors, especially the foreign ones.

One final factor is the opacity of the real estate market: in view of the additional risks associated with real estate investments (as opposed to risk-free investments such as Government Bonds), it is impossible to work without accurate information that makes

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<sup>5</sup> It should be noted that in the USA, where, as a rule, urban renewal programs are not funded by public bodies, private investors are attracted by the public body through discounts on the property tax over a 20 year period (tax implement financing). In this manner, the public authority induces private organisations to install and develop their activities in an area.

it possible to determine the reference values and to decide whether or not the operation envisaged is in line with the market.

The definition of a concrete, realistic route for the realisation of station transformation programs requires a direct involvement of the city administration in the critical stages of the program, in a two-fold role: with respect to the city, for the protection of public interests, and with respect to third party partners, in terms of precise warranties on the decisions made regarding town planning and building choices.

It is possible to consider the creation of an *ad hoc* company for the operation, whose assets would be: the land purchasing contract, the project and the convention signed with the City authorising the valorisation of the areas<sup>6</sup>.

#### **4.1 The Railways Companies in Europe: different strategies of real estate promotion**

A fundamental prerequisite to be able to initiate these complex processes of urban re-qualification associated with the development of the infrastructures is the presence of a strongly motivated leadership.

The process of transformation of a railway station, in fact, requires a huge initial investment and offers no profit for an average period of from 5 to 10 years; its realisation time is much longer than the term of office of a city government and therefore it takes strong determination to launch an intervention of this sort.

Who can play this role of active promotion?

In general, it is the Railroad in collaboration with the City (or, in broader terms, the Public Administration), which is then flanked by national or international institutional investors. In this connection, we find in Europe examples of very different strategies.

In Germany, the national Railroad company (Deutsche Bahn) has conducted a very active policy over the last decade. Since 1993, Deutsche Bahn has started a vast program for the recovery and valorisation of their property, through the transformation of the main stations. This program is called "Project 21" (urban projects for the 21<sup>st</sup> century), and its main goal is to transform the stations built in the 19<sup>th</sup> century into underground structures, thereby freeing and putting on the market tens of hectares at ground level, while retaining the buildings classified as historical and incorporating them into the vast urban rehabilitation projects conducted with the aid of the public administration.

Moreover, Deutsche Bahn aims to make rail transport into a multifunctional transport mode, with little or no discontinuity between urban, intercity and international transport, through structures firmly rooted in the urban fabric, which may be

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<sup>6</sup> To build the *Promenade plantée* in Paris, constructed in the '90s over an ancient railroad segment where traffic had been discontinued in 1969, the City purchased the areas from the French Railway Company (SNCF) to be able to act freely and implement the transformation envisaged. When the SNCF has retired from the operation, the realisation of the intervention was entrusted to a Société d'Economie Mixte (SEM).

perceived as elements of attraction without undermining the morphological unity of the city landscape.

The first pilot projects concerned Leipzig and Köln, but the attention focused in particular on Stuttgart, Frankfurt and Munich, because of the magnitude of the sites to be developed (ca 100 hectares) and the ability of DB in finding public and private capitals so as to minimise its financial commitment.

In Stuttgart, the station to be moved underground was a stub station, which prevented the city from joining one of the most modern and fastest railway transport networks; the project proved a great opportunity for the revitalisation of the urban fabric, with the addition of new functions.

The area that in the past was taken up by the tracks will accommodate, according to the project, a green area, Schloßgarten, currently situated along the edges of the station, giving rise to Schloßgarten Platz, whose size, according to the designers, will match the dimensions of Place Royal in Paris or Piazza San Marco in Venice.

In the project the green expanse will be linked to the huge square that opens between the old station and the new district, thereby creating a complex sequence of public spaces where new commercial, entertainment and cultural functions will be established; some of these new functions will be accommodated inside the old station and will be accessible from the underground tracks.

Like the German railways, the Swiss railroad company, SBB, is also actively promoting the development of its property: they organise design contests for the transformation of the train stations and follow the process of definition of the master plan in liaison with the Public Administration in order to speed up the process of approval of plan variants and concessions; once the lots to undergo the transformations have been defined, they look for investors (banks, pension funds, etc.) to be able to reduce their investments in these projects.

An exemplary case in this connection, that also shows how important it is to collaborate with the city government to be able to implement such large and complex operations, is that of the second Railway Link in the main station of Zurich (Zurich HB).

The first project, referred to as Eurogate, was never implemented. For about a decade, in the '90s, lengthy discussions on how to cover the tracks with a concrete slab extending over an area of approx. 100,000 m<sup>2</sup> came to nothing. The project was promoted by a bank, but the City had not been involved as a partner in the process.

The Eurogate project was not put into effect for three basic reasons: failure to obtain the involvement of needed stakeholders (the City and district associations); the extremely high costs involved; technical complexity. In an intervention of this sort, involving the construction of a slab suitable for building on, the cost of the land alone would have come to 3,000 - 4,500 Euro/m<sup>2</sup>: even in Zurich, no destination could make land this costly into a viable proposition for a real estate promoter. The situation was unblocked in 2003, when SBB organised a contest for the design of a new master plan for the area of the station, following some transport-related decisions that rendered some portions of the tracks and several station sheds superfluous, and

the decision by the postal service to centralise the management of shipments, which made the large buildings right next to the station redundant.

The winning project was selected in three stages, during which the projects were discussed jointly by the City, SBB, the postal service and the three teams of architects that had been invited to participate in the contest.

The area partly freed of the tracks will accommodate 300,000 m<sup>2</sup> of public property with a mixed destination (housing, offices, restaurants, entertainment facilities), a new green avenue and connections between the two sides of the track route.

It is particularly interesting that the building index, of 3 m<sup>2</sup>/m<sup>2</sup>, was not established beforehand and included in the specifications of the contest announcement: it was worked out on the basis of the chosen project. This decision was taken after negotiating the strategies of the railway company, that owned the area and was obviously interested in obtaining a very high building index and the city administration, that wanted to limit the cubic volume. An agreement was finally reached when the discussion passed from quantitative to qualitative considerations.

Finally, it should be noted that the *master plan* delineates the new blocks, but does not define the destinations, entrusting a precise identification of future uses to the evolution of market demand. The master plan only provides reference percentages, specifying the minimum housing percentage: which increases from zero to 40% with increasing distance from the station.

The Italian Railroad company (FS) shows a different attitude to the German vs. the Swiss case.

As demonstrated by the recent experience of Grandi Stazioni S.p.A. and Centostazioni S.p.A. (two Italian companies in which FS holds a majority interest, set up for the development and marketing of railway yard areas), the approach of the Italian railroad to the issues of station transformations is transport-oriented.

Even in the past, Metropolis, another company controlled by FS, specially created to manage their property, concerned itself solely with the sale of the areas.

As underscored by Natalicchio (2003), "we can detect a certain reluctance by FS (which is responsible of the final decisions) to make use of the modern tools of negotiated programming and real estate financing. Maybe this comes from an unwillingness to forsake the traditional approach which views the company's core business - i.e. rail transport - as the prior concern, to the detriment of dynamism in enhancing the value of the vast properties in the possession of FS". For the moment it seems that not enough attention was paid to the character, and hence the positional value, of the station within the city framework; above all, the urban planning developments that might arise from the transformation of such a strategic area are totally disregarded.

In light of this attitude - waiting for the value of their property to increase, instead of engaging in active promotion programs as it is done in other European countries - it is not likely that Ferrovie Italiane will soon become active promoters of massive operations of urban re-qualification of the stations and the surrounding areas (Lami et al, 2005).

## 5. Conclusions

In most cases the triggering factors in the transformation of a station and its surrounding area are related to transport. The technological changes in railway transport can be both an opportunity and a constraint in the re-planning of a station. The fundamental point is that the adoption of new transportation technologies (typically high speed) should be supported by a policy of territorial planning for the transformation of the area.

There can be various key factors to determine the success of this type of operation.

First of all, the presence of a strongly motivated leadership carrying out an active promotion role. In most cases, this role is performed by the City in collaboration with the Railways. It is often necessary to have a public subject present to trigger the real estate operation and act as a flywheel, or that can provide incentives of a financial type to encourage new companies to settle in the area.

The direct involvement of the city administration performs a two-fold role: with respect to the city, for the protection of collective interests, and with respect to third party partners, in terms of precise warranties on the decisions made on town planning and building choices.

A second key factor is an extremely flexible urban project: once the essential guidelines are given, they can be adapted to the different factors that intervene in the process, depending on the investors, the needs of the community and the possibility of using, even for a limited period, the existing buildings.

A third element is the mix of destinations, with high and low profitability levels.

Another fundamental factor is represented by the architectural project of the station building: it should be conceived, from an architectural point of view, as an element that promotes the connection of the two parts of the city that were traditionally divided by the railway.

Connected to the above is the role of the Railways Companies, that is often not predictable within the station transformation operations. The ambiguity of the Railways often works against the operations to the point where sometimes a City Administration has to purchase the railway areas before it can intervene freely and carry out the planned transformations.

The last factor to consider is that it would be wrong to assume that infrastructural interventions can be financed solely through the expected increase in real estate values.

To summarise briefly, we can say that urban, functional and social transformations of station areas develop from the synergetic effects achieved by a policy of major urban transformations (which can be previous, contemporaneous or subsequent to the railway operations), financial investments activated in the area, a good integration of public transport and a suitable frequency of the train service.

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