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Mobility and landscape
The Landscape of High Speed. Verona: a crossroads between Corridors I and V

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1 ABSTRACT

The metropolitan landscape appears even more in an enigmatic form: a labyrinth composed of fragments from which emerges an overturning relationship between town and transportation networks. It can be redefined "(infra)structure", as they have lost the role of pure service and object among architectures, becoming themselves structures of the town, absorbing extemporaneous, multiple forms "to be live", indispensable for the contemporary space.

We have to outline the differences between urban and territorial infrastructures, between nodes (airports, intermodal railway stations, underground stations, ports) and networks (roadways, railways, waterways, and transport lines of energy). The main European cities are becoming centres of a wide international networks, characterized by a big transit of commodities, informations and people.

Nowadays people can simultaneously carry on their activities in many places, moving in other towns for work or taking advantage of urban services, or different kind of relax and tourism services. The increasing of mobility is the result of the developments of transport services such as airplanes and new transport systems such as the High Speed Railway. It let people able to cover longer distances and wider spaces. Mobility domain is continuing changing our landscape already rich of infrastructures.

In the cities of the XXI century, new infrastructures are becoming urban spaces designed for activities, communications, exchanges, and are also becoming modern milestones of the present time, replacing the traditional public spaces of the cities. Traditional great squares, historical meeting places look smaller and less crowded than the new great infrastructures which attract people offering entertainments (shopping malls, congressional centers, exhibition halls). That's why they are becoming basic elements to change and modify our territory; all of this is creating new landscapes: "landscapes of the infrastructures".

Infrastructural interventions on landscape require mediation between nature and development, between protection and use of environment, observation and in-depth knowledge of the territory not only as a background where an action take place, but as a subject and at the same time as a result of a complex action of transformation (G. Ambrosini, M. Berta, 2004). Contrarily, the insertion of infrastructures which "refer even more to themselves" is a cause of fragmentation of the space, which takes to an increase of residual, marginal, unused areas, that hardly are accessible and so degraded – also called «infraspaces» (Barbieri P., 2006) - that these spaces result apparently without any possibility of redemption. This happens in the specific case when specialized technical offices, corporations proprietary of roads, corporations of energy, railways, intervene on the territory subtracting them an integrated design which could contemplate the relationship between design of the infrastructure and landscape design; or conceiving the space of transports as element strictly monofunctional, intentionally not integrating different uses or activities. It's necessary have aggregations glances which are able to integrate different contributions of specialized disciplines inside the processes of increasing of value, innovation, rediscovering of the landscape.

The great European project of the High Speed railway focused on the theoretical abolition of the physical borders of the nowadays multinational Europe, in favour of an envisaged «multiregional Europe» (Tuminelli P.A., 1996), whose principal cities will be linked by a network of rapid land transport. The High Speed Railway is expected to be the catalyzer of European Union. A project of this magnitude necessarily involves different fields: from urban and environmental planning (High Speed rail networks and intermodality nodes) to architecture (stations), industrial design (trains, station furniture), marketing (identification of new services for new users), and communications (to renew the train's image).

Verona metropolitan area is geographically located at the intersection between two important infrastructure routes: Corridor I and V. This area might gain a strategic position in Europe, strengthening its competitiveness over other geographical locations and becoming a global city, representing an exemplary research case.

Infrastructures for accessibility definitely play a key role in enhancing competitiveness, especially when combined with renewal schemes. The contexts of Verona node are seen as privileged spaces for the creative transformation of city and for experimenting with the role of the quality of both infrastructure and architectural design in urban regeneration. The research of the regeneration of urban contexts of Trans-European nodes captures this strategic factor well. Nodes contexts are sites where transformation and real estate dynamics are concentrated; they are sites at risk, but with a high potential at the same time (Fossa G., 2006).

The infrastructure project conjugated with the space quality research must reconsider the advantages that can derive from the renewal of spaces in the heart of towns or from the new projects in extraurban areas: development opportunity of complementary activities, qualification and re-qualification of the landscape and growth of the estate value of the territory at disposal of the community.

Accessibility, intermodality and territorial insertion are the three keys design factor to model the choices of a project. The intermodality strategy have to place to the centre of project the infrastructural node, as determinant and crucial space. The research have to test innovative and eco-sustainable modalities of space organization and intermodality interaction of passengers transport nets, in order to reach together with their maximum efficiency, the highest level of security, the maximum inexpensiveness of investment, the most refined integration level with urban densely lived areas and the maximum sustainable environment.

The new infrastructural nodes must become structural elements, to be “new generator” of places that give a sense, hierarchy and identification to the contemporary city. The infrastructural nodes have to become “the focus points” of the sprawling cities, place of the common identification (Tadi M, Zanni F., 2005).

Researchers foresee that the great halls of High Speed Railway station, the nodes of exchange of transports, the terminal of intercontinental airport, the commercial hall integrated to the space of mobility could become the new cathedrals of the XXI century. So far, our cultural heritage has been represented by the traditional historical centres; now we have to consider how we could have architectural and structural spaces integrated to infrastructures.

Key words: Landscape, High Speed Railway, Mobility, Nodes, Networks.

2 THE SUBJECT

Nowadays the theme of mobility infrastructures is at the centre of international discussion, it’s subject to profound critical reflection about potential and strategic meaning that assuming in the contemporary settlement structure, becoming basic elements to change and modify our territory; all of this is creating new landscapes: “landscapes of the infrastructures”.

The research activity analyses in particular the relationship between the High Speed infrastructures and context, to understand the settlement issues, the role and the effects on the landscape, to close “the gap” between theory and practice, transportation and technical engineering vision.

3 RESEARCH OBJECTIVES

The intention is to define procedure to identify theoretical and operative milestones, as method to general planning of High Speed lines and station in landscape, starting from a interdiscipline approach. A guideline, as practical tool of acknowledgment for local administrators, practitioners, architects and planners, for all planning process - since political and economic choices to plan, to the interactions with the landscape forms, to effects on the territory - infrastructures which become landscape part assuming of time in turned characters, in an exchange process, reaching to reconfigure whole territory parts.

Therefore the landscape is at the center of research. Not a “landscape-object” to be admired, passive victim of transformations that, in such meaning, cannot do anything else than degrade the authentic image. The landscape is object of continual action, that admires and translates the values doing, as sensitive aspect and representation of our being, synthesis and mirror living the territory and the town.

4 PROBLEMATIC NODES

It’s necessary conceive infrastructure and landscape as terms of a unitary process, questioning about the possibility to develop landscape, considering that its evolution is strictly related to human work. It’s

necessary exceed the generic concept of territory, in favour of variety of landscape, interpreting and respecting the identity of places. The intervention quality must avoid the proliferations of «not places» (Augé M., 1993), and be, instead, able to convert them into reference places for the local identity, or reassign new meanings to places which have lost value.

In particular, with regard to the railway infrastructures, what does mean redefining the relationships between mobility places and and landscape?

Bernard Lassus thinks that landscape design should prepare the place discovery through the infrastructure and organize the visual field planning rhythms and frames, that highlight place specificity. The question consists in planning infrastructures that allow to discover landscapes and not infrastructures which simply cross (Venturi Ferriolo M, 2006).

The functional geometries bound to the logic of movement, so as those of big dimension bind to the landscape characters, they place some new questions to the rules of territory construction and of its works.

The works for High Speed lines, pillars of variable height from three to eight metres above ground level, raised tracks, tunnels flyovers and concrete strips, anticipate the perspective of not usual crossings, in which the landscape assumes a different vision from the perceivable one covering traditional railway. It's necessary, so, to return to being an integral part of landscape, with the specificity to assume at times the characters of an interior with views, who covers it (for traveller), and to reconfigure whole parts of territory, for whom observes it from outside (for inhabitant).

Fig. 1: Work for Milano-Venezia High Speed railway.

Is well known that the station transformation is the element which marks the most important urban renewal interventions in many european towns, losing the features of place destined just to the railway users to become place which assumes a multifunctional valence, often articulated purposefully around squares or roads which define a new urban centrality (Boschi F., Pini D., 2004).

Today it's necessary to reconsider the railway station a urban/architectural complex much more extensive than the traditional : square – travell building - tracks. Traditional realizations turn out inadequate to compare with new needs.

These new infrastructural nodes, not exclusively spaces of service, of technical performances, are called to assume a structural role, "new generator places" which are able to give sense, hierarchy and identification to the landscape. Interesting investigation and study perspectives open not only for the traditional disciplines of modification of the environment - architecture, town planning, engineering, geography - but for those - sociology, anthropology, economy - that are also always more involved by transformations which will weigh in a significant way upon the behaviour ways and upon the social uses.

Interventions that become opportunity to reorganization not only of the railway transport, but also of the urban mobility, presenting an integrated answer to the infrastructurals and urban questions.

In Italy, Urban Renewal Programs allow the municipality to propose in the neighbouring areas to the stations interventions turned to the functional reconversion or the recovery of dismissed productive areas, to the morphological reassembling and the functional improvement of the urban areas, the elimination of social degradation phenomenon and the improvement of the conditions of safety of the public spaces.

These transformations concern the recovery and the reconversion - with the participation of public and private operators - of dismissed areas and building complexes, neighbouring and/or inside the same railway areas; the reorganization of the railway-roadway exchange with realization of bus stations or the improvement of the connections with the existing ones and the wide car park; the road network improvement through a revision of the modes of overcoming of the "established barrier" of tracks; the redefinition of the pedestrian crossings and some public spaces which, through the station, can realize a connection between the two railway sides.

The project of the infrastructure, combined with the search for space quality, should rethink the advantages which can come from the space renewal in the town heart or from the new design in extra-urban areas: opportunity of revitalization and development of activities complementary, qualification and/or renawel of the landscape, such as of the growth of the estate value of the territory at community's disposal.

5 METHODOLOGICAL PROCESS

The historic-typologic knowledge process takes to consider that if, as been said, the building of first railways in pre- and post-Unification Italy was «the business bonanza of the 19th century» (Irace F., 2005), everything looks set to make Italy's current rail technology revolution the new bonanza of 21st century.

Considered obsolete until just a few decades ago in comparison to air and road transport, the railways are experiencing an undreamt return to popularity as the High-Speed philosophy takes hold, and urban and environmental planners find themselves considering the implications of a new idea of modernity that not only affect transport engineering and the environmental impact of railways, but also calls for an anthropological and social definition of movement and all its aestheticand psychological implications (Irace, 2005).

In Italy, the chance of redrafting nodes and railway lines represents a historical opportunity for transport system and realization of new places structuring the territory, an opportunity that require to observe the relationships between High-Speed railway stations and the context, to understand through an in-depth territory reading the settlement questions, the roles, the modifications in the landscape.

It's necessary to examinate in detail the historic-typological relationships between lines, stations and context, analysing urban transformations, to which towns, in the time, are meeting goings to accept them, than their role in the space and functional territory conformation, both their capacity to produce new places trying to identify aspects, characters and factors common to the various typologies and in several contexts in which they insert.

In the first place, the Trans-European Corridors V (Lisbon – Kiev) and I (Berlin – Palermo) are taken into examination, which constitutes virtual east-west and north-south sections of the old continent, in which appear, simultaneously, conditions, phenomena and extreme and often opposites processes: areas characterized by advancing suburbing and strong centrality, subject from the main continental flows to marginalization and high infrastructural congestion; dispersed urban systems and big compact urban

structures; urban areas with a high pollution level, environmental degradation and natural ambits from the delicate environmental and rural balance; territories conditioned by economic decline or strong industrial development**.**

Normative and documents, concerning the provisions taken by European Community, allows of recovers and understand the process which took to the realization of a system able to rebalance the transport modes through the railway, the promotion of the sea transport and river, the growth check of the aerial transport (Marco Polo Programme).

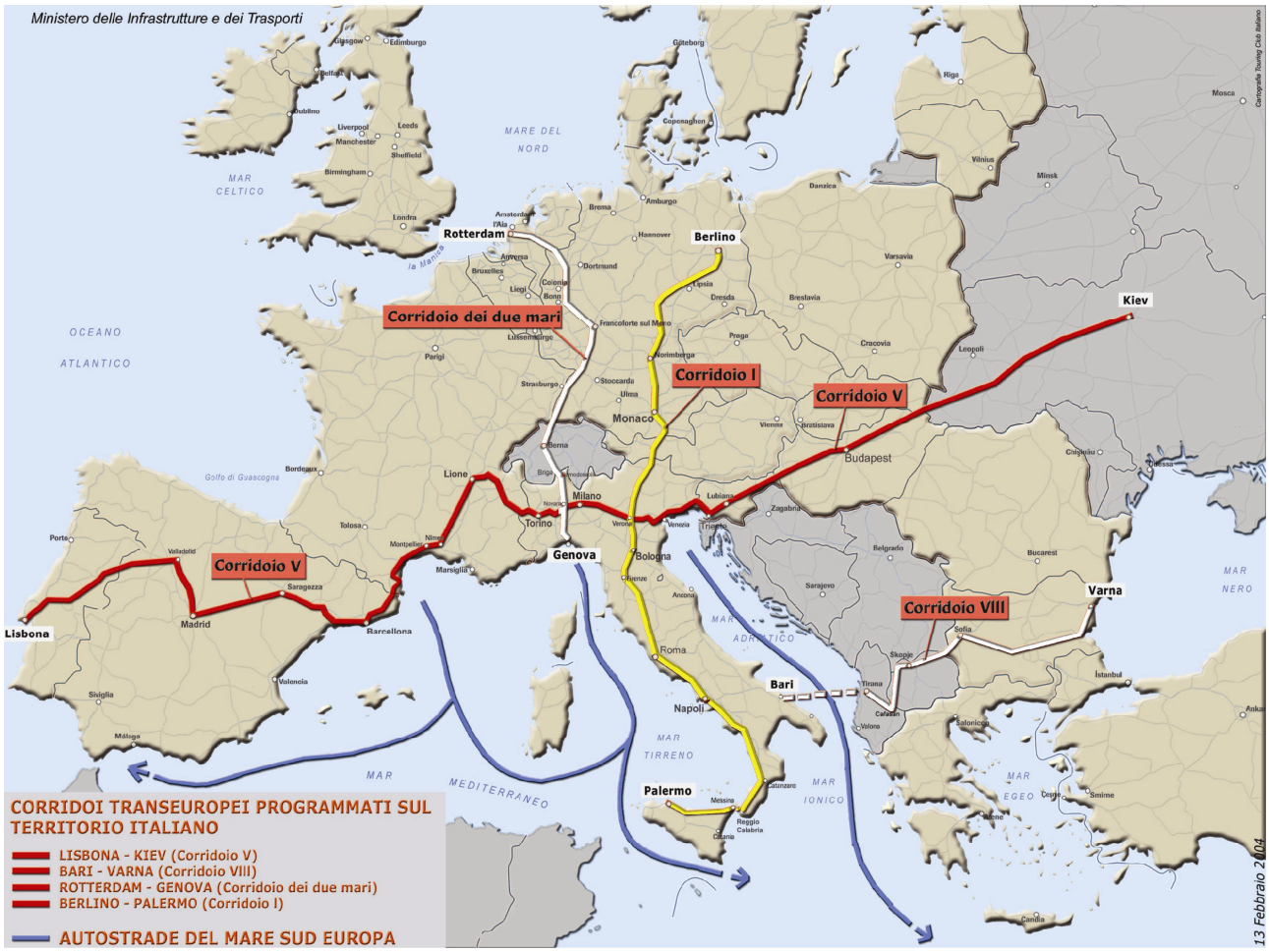

Fig. 2: Trans- European Corridors in Italy

The research intends to develop a methodological procedure through the project of a concrete case. A project seen as experimental check phase, with the aim of asking the theoretical formulations, aquired during the research, relating them to the concreteness of the real situations. In this sense, it's necessary examine a concrete case for contemplate in specific way, the particulars of outlined issues, for exemples:

- the increase in value of the pre-existent economic fabric
- the respect of the cultural traditions of a territory
- the complete and balanced analysis of the variety of the advantages/disadvantages
- the quality of service basin
- the tradition, the change and the vocation of landscapes
- the modifications of the crossed territories
- the "urban figures" of reference in relationship with station typology
- the introduced cultural modifications
- the artifice/nature relationship archetypes
- the storic-typologic relationships between lines/stations and contexts

- etc. etc..

6 CASE STUDY

The intersection of Corridor I and V in Verona satisfies the case choice. The big trasportistic node of Verona, in the last few years, has consolidated its competitive capacity, aquiring an excellence position in the European world, with planned interventions, moreover, change the threat of environmental degradation of Trans-European network infrastructure, in an extraordinary chance, combining the infrastructural accessibility with the renewal of territory.

Verona emerges with evidence for its thematic centrality that it allows to analyses the big part of the described problems, as:

- node absolutely significative inside the Corridor policy, intersection between the Corridor I and V on Quadrante Europa, big Veronese freight village, national infrastructure specifically turn to the international flow government;
- territory mature and at saturation level;
- presence and importance of the historical town grid;
- presence and importance of the recent district grid;
- existence of logistic terrestrial and maritime platform;
- environmental degradation produced by the settlement models and from the towns/districts contrast;
- road network saturation.

7 THE VERONA NODE. ANALISYS SETTINGS

The state of advancement of the activity research has allowed to identify the specific relationships between the different scenarios represented interacting subjects and that place as first methodology consolidations.

The strategic choices and the policies of address of Regional Territorial Plan of Coordination of Veneto (P.T.R.C) and the Regional Plan of Transports (P.R.T) rank Verona area as one of the seven logistic national platforms defining it «crucial and strategic place of the crossing between Corridor I and V».

The great works for the High Speed railway, will offer a high potentiality for freight traffic with opening up of the eastern and Balkan new Europe markets, becoming development opportunity for all North-East - new barycentre of an immense commercial exchange zone - but these will be able also to turn into environmental and social negativity elements, if these will be not carefully followed with responsible attention in design and realization.

In the last few years the node of Verona has been interested by remarkable interventions aimed at implementing to good system line for freight traffic, profits to assure an increase of the traffic capacity and improve the offer regularity, separating the two types of traffic: the commodities for the Quadrante Europa freight village and the travellers for the Verona Porta Nuova station.

It is important to gather the territorial impact of this infrastructural plan, putting in game a new centrality of the metropolitan area of Verona in the European world, of the urban and industrial systems directly and indirectly served.

The territorial sustainability – economic, social and environmental - will contribute, in a significant way, to give back the Verona competitive system, being simultaneously based on the conformity to its endogenous vocations, on the sensitivity towards the stimulations and the exogenous opportunities, evaluating the direct and indirect intervention effects, with constant critical discernment, on the total territory growth quality, expecting any intervention not to increase the negative transformation load on a system that already appears in difficulty.

The established "strategic" environmental tutelage objectives at international level, community and national (Local Agenda 21 Program) must necessarily ensure a high environment protection level and contribute to the environmental consideration integration to the act of the elaboration and of the adoption of plans and programs in order to promote the sustainable development.

To conform the node to the new traffic, to raise the potentiality and to strengthen the afferent lines, the node is at the center of a binding program of rationalization and development, to exceed the promiscuity of the same lines and to develop the whole metropolitan railway system. Interventions are related to the Brennero line expansion, of Milano-Venezia line, of the doubling of Verona-Bologna line and to the future link to the airport "Valerio Catullo".

The development of the railway for passengers and goods, of airport of Villafranca, of Quadrante Europa freigh village, of the Fair, of Agriculture-Manufacture zone (Z.A.I.) and renewal of the motorway articulations and accesses could aquire primary importance in the development drawing if it received all the provisions acts to exalt the chances deriving from the nodality area with respect to the transport system, as the environmental, commercial, directional, cultural, turist one, than establish with it important interrelations.

If, through the forecast interventions, Verona will have to exploit to the maximum the chances offered by the realization of the transnational infrastructures, the other side, in reason for a use of the territory to be safeguarded, already partly compromised, it will have to cure the territorial readjustment in order to avoid the possible negative impacts.

8 THE METROPOLITAN AREA OF VERONA

The economic and productive base of metropolitan area of Verona, to start off with its location, has principally developed the interexchange organization, at first specialized in the agricultural and food sector and later open to the main commerce sectors, while the next developments have seen increase the importance of the Fair function and the importance of industrial promotion, however have produced an excessive concentration in the recent years.

The principal choices of Territorial Plan of Provincial Coordination of Verona (P.T.C.P) lean to the transformation of the Verona conurbation in a metropolitan polycentric net for about 500.000 inhabitants, structured on the old cities centres thanks to network of the Regional Metropolitan Railway System (S.F.M.R).

The recent presence of the University - whose expansion has the dual aim of better distributing the load of the students who come from various interregional areas and supplement the existing structures - from point of view of the equipment and specializations - could induce further innovation elements through synergies between research and local production apparatus. Opportune initiatives will contribute to stimulate the productive activities to facilitate the birth and development of advanced enterprises and to increase productivity and competition in the specific activities of Verona area.

Furthermore the wealth of the cultural offer does a big regional tourist resource of Verona area. The net of the big and small old cities centres, the presence of outstanding monuments in Verona and its territory, the relief of museum endowment, the closeness of one of the fundamental turist systems of Veneto - the Garda lake - the presence of Lessini hills and of high value environmental areas - beyond the activities of Fairs and congresses - assign to the town a fundamental role in the tourist sector in the Regional territory.

9 URBAN SETTING

The current document about urban planning and architectural projects has allowed to highligh a situation in strong evolution, related to the territorial position and to the historical role developed in the territory since his military organization and then confirmed as logistic centre.

The analysis of the urban morphology highlights a town for parts, divided into local identities, with physical and conceptual barrier persistence.

The main urban transformations expected for Verona regard wide unused areas in the south part of the city, close to the intersection between the north-south axis (Brennero-Bologna) and the west-east axis (Torino-Venezia). The motorway constitutes a limit of the consolidated city that look towards the diffuse/sprawl landscape and at the same time it is next to the city center.

In this wide zone has place one of the most important European logistic centers – the Quadrante Europa - at present in expansion not only for the expansion of logistic activities, but also for the insertion of the Agroindustrial market, that has left free wide areas inside the ambit of Verona south (the historical Z.A.I).

The Porta Nuova station – future High Speed station - has an insufficient potentiality respect to the predictable increases of traffic which, assuming the development indexes expected by the General Transport Plan, is assessable of the order of 30% for the passengers and 100% for the goods. Infact when contruction of Milano-Venezia and Brennero-Verona-Bologna high speed lines will be completed, it will be possible to increase the volume of traffic up to 400 trains/day (80% goods and 20% passengers).

The reorganization, together with the formation of a park and a new settlement system on the area of the rail freight yard of Porta Nuova - that will be definitively transfered in Quadrante Europa - is at the same time opportunity to redefine the urban center form of whole sector which goes from Santa Lucia Golosine (the south-east of Verona) to Borgo Roma (the south-west of Verona) and to Adige river area.

The rail freight yard of Porta Nuova will return to the city an area of approximately 57 hectars in which to create a great green area. This park will be equipped for free-time and sport activities too and connected, on one side, to the close Spianà park and, on the other side, to the green area inside paper industry's area. The park will measure to approximately 160.000 mq mainly used as housings in order to integrate the new part with the quarter of S. Lucia Golosine. The South of Verona will offer good quality housing that will be connected to the neighborhoods in the east and in the west. The public green areas will ensure sustainable development and life quality. The integration with the old city center will be made through the new functions (offices, financial centers, public institutions).

The south area is organized on the "Cardo Massimo" axis that connects the highway door of the south Verona to the historical centre. From the point of view of transport, Cardo Massimo absorbs approximately 30% of the traffic flow in entrance in the city from the south and all the mobility system marks the morphologic and functional organization. On the axis there are also the main flows in the direction east-west.

The matrix of this urban system was born at the beginning of the nineteenth century, and was closely tied to the development of agriculture and its business activities. In 1948 the area is called Agriculture-Manufacture zone (Z.A.I area). But the Z.A.I area separate the quarters of Borgo Roma, S. Lucia Golosine (approximately 65.000 inhabitants) in two urban parts, in two different urban and social contexts.

In this interpretation the planning of the axis and of the areas along it assumes primary valence in the transformation of a wider part of the city. The renewal of Z.A.I represents the occasion to create, through qualified east-west connections, a new unique part of the city.

The Z.A.I area turn out strategic not only for the impact in the whole north-south system, but also for the potential connection between east and west.

In the dismissed area of historical Z.A.I the Urban Renewal Plan for Territorial Sustainable Development (PRUSST) and the Masterplan (P.A.T) - that receive and synthetize all the programs and the plans of the south Verona - expect the settlement of several functions: residence for about 29% of the total building volume, directional-tertiary for the remaining 71% of the foreseen volume, services and equipment (above all public green areas) for about the 22% of the building areas.

The project along a 4700 m street (Cardo Massimo) represent something unique for the city and significant in the contemporary debate on the infrastructures design. The street has not just the functional role, but it aims also to rebuild significance to the relationship between settlements and infrastructures through many values that can be recognized by society at different scales.

The street design is morphogenetic in the sense that it has to create transformations in the urban structure.

The occasion to redraw this axis through the development of many areas that were industrial represents a strategic choice fo the future of the city. In this context the theme of the public space and urban quality becomes the central element, together with infrastructures (high speed railway and motorway) and public transport. The functional integration between infrastructure, settlement, environment and mix land use, acquire important significances in order to give urban identity.

The reorganization of the mobility system constitutes one of more important keys of the masterplan of the south Verona and of its horizon of sustainability. The system of the public transit will be centred on a new tram line, that intends to supply a high capability net and an elevated level of service, able to be a real alternative to the use of private car. The line that begin from the station of Porta will go through the Cardo Massimo until being connected with the great parking near the motorway door. In the meanwhile, the system

of public transport by wheels will be reorganized on lateral roads, connecting the quarters of Borgo Roma and Golosine with tram stations.

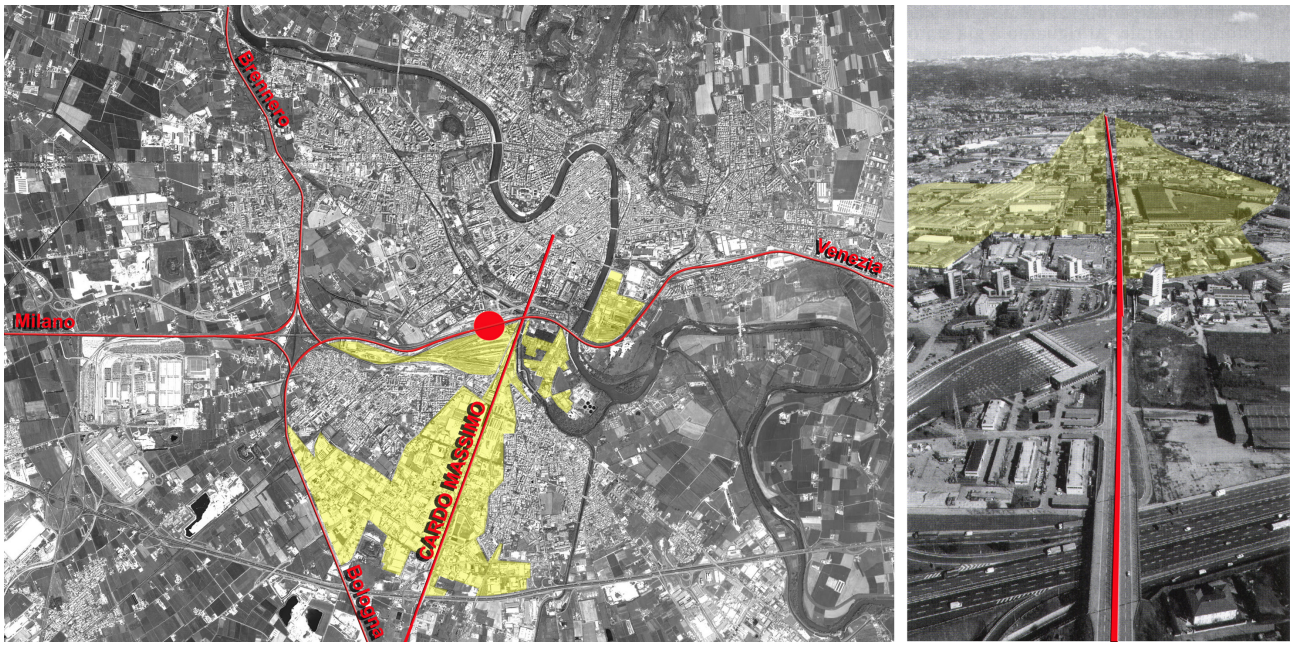

Fig. 3: Verona. High Speed network, Cardo massimo axis and transformation areas of ZAI.

The interventions destined to renew and to increase the existing infrastructural network are directly connect with policies of the Corridor V. The realization of Milano-Venezia line, the expansion of the Brennero line, the realization of the "TiBre" motorway, represent part of realization and reorganization of the Corridors.

Undoubtedly all described transformations affect the policies to Provincial and Local scale: the High Speed railway and landscape renewal, the expansion of the roads, of some streets of access to the town, of the system of the urban public transport, the connection to the airport are seen not only as necessary acts for the solution of mobility and landscape problems, but also as expression of a total strategy of consolidation of the Verona metropolitan role at Regional and European level.

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