

CASE STUDY: The reorganisation of the railway system in the Florentine metropolitan area and the regeneration of the adjacent areas.

SECTOR: Transport / Urban engineering

COUNTRY: Italy

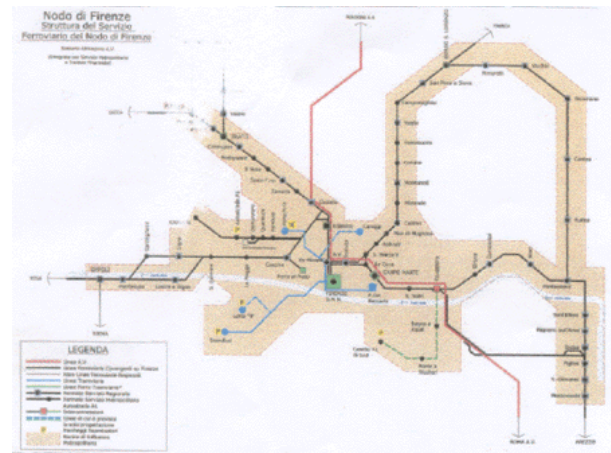
BACKGROUND

The construction of the new Florence – Bologna railway (which will be completed by 2008) will allow the reuse of the existing railtracks within the Florentine region and their integration with new lines, thus providing a rhythmic railroad service on a metropolitan level (Sfm). An agreement concerning the programme was reached in 1997 by the Italian Government, the Railway Companies and the Local Administrations, and a first draft was drawn up in 1999.

Some 34 town administrations belonging to 4 provinces (Florence, Prato, Pistoia and Arezzo) are involved in this transportation service. During the Summer 1999 some of these, with Prato acting as co-ordinator promoted a “Town planning and building regeneration programme” for the areas adjacent to the stations and stops along the metropolitan surface lines. This had the dual purpose of improving the access and backup facilities at the stops and at the same time creating opportunities for urban renewal in a sustainable development perspective, thus attracting improvements in production, commerce and tourism. The programme gathered 95 proposals at different scales, concerning initiatives both public and private, classifiable within the following five main categories:

- reorganisation of the railway areas
- actions mainly relating to the provision of parking spaces at existing stops. Some, however, concern the creation of new stops. Actions concerning the road network (mainly subways and underpasses for the improvement of the connections

- within the urban areas crossed by rail tracks)
- renewal and regeneration of derelict areas (this is the most important category of actions, namely involving the transformation of vast derelict industrial sites)
- construction and reactivation of productive and commercial areas
- actions involving the improvement of the environmental values of some areas (environmental reclamation and creation of new parks)



Investments are estimated in 1.200.000.000.000 Italian Liras (approx. 60 million euros, 49% of which are already available, around 90.000.000.000 come from public money, 480.000.000.000 from private funds and the remaining 51% has yet to be found, but will come mainly from public sources). The goals of this programme are important, but many deficiencies affected the methodology and the contents. Mainly, it doesn't follow a real metropolitan policy, having collected existing fragmented proposals.

Using this programme as a starting point, a research project carried out in the Department of Town-Planning of the University of Florence has monitored the future development possibilities and has

defined some methodological criteria for setting out an overall planning strategy. The purpose of the research project was to define the principles of a methodology for a better integration between infrastructure and transport policies on one side and urban strategies at a metropolitan level on the other: the first ones being directed to the development of public rail transportation systems, thus balancing the modal split in the Florentine area, the second ones to the urban requalification, the creation of new central poles, the promotion of a number of interventions aimed at the functional re-organisation.

In particular, the registration and analyses of all stops; those already existing as well as those planned, on a basis of homogeneous parameters (access and interconnection with other forms of transport, current traffic loads, presence of facilities, transformability of areas and structures) has allowed an assessment, line by line, of the relative role which they can perform within the metropolitan system as well as the use which can be associated to them.

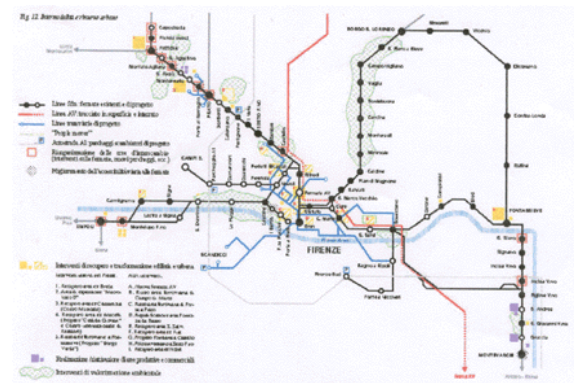
Reference has been made to 5 categories:

- Local access to the network (possibility of becoming the node of a new centrality on a local level);
- External access to the metropolitan area (main internodal exchange nodes);
- Access to service sector poles on a metropolitan level;
- Access to production districts;
- Access to environmental systems.

EVALUATION

The analysis of the railway stops has been carried out through a system by which marks -according to a pre-established value scales -are awarded taking into account some parameters relating to three judgement areas" valid both for existing (47) and planned (28) stops:

- intermodality (provision of car-parking spaces, bus stops, taxi ranks, areas for parking cars and taking bikes, exchange parking spaces, interconnection planned with regional lines and/ or with other rail modals)
- access (road, pedestrian-cycle on the basis of a 15 minute isochrones);
- surrounding urban "load" (presence of productive activity , buildings or "attraction poles").



The special public services have been grouped together under the heading "Attraction poles" and the scores awarded are different in relation to the level: local (schools, health centres, branches of public offices) supra-local (high schools, hospitals, sports centres, shopping areas) and regional (airports, universities, cultural poles, exhibition centres and shopping malls).

In this way a matrix of the "urban role" of the various stops was obtained. A second matrix referring to the role of the railway (number of trains per day) was drawn up referring to the draft of the Sfm programme. The values regarding each stop were then made comparable and averaged, thus obtaining a new table which sums up the urban and the transport role.

BENCHMARK DATA

According to the draft of the official programme the activation of the Sfm would mean an 84% increase in the volume of the railway service in the

involved area (from 12.714 trains km/day to 23.412 trains km/day). This corresponds to an increase of a 25% in relation to the whole regional service of Tuscany (which is nowadays of 41.235 trains km/day). The new offer refers to a number of about 1,100,000 people living in the area, against a present passenger traffic of only 73,000 units a day. Accepted reference values do not exist for town planning aspects. Accepted reference values do not exist for town planning aspects.

DRIVERS

The programmes connected with the activation of Sfm are in accordance with the principles of the sustainable development agreed on at World level during the Rio Conference (1992), by the Aalborg Charter, the Istanbul Habitat II agenda and taken up on a regional level by the Tuscan legislation and territorial governance tools (LR 5/95; regional planning for territorial organisation; Territorial planning for the co-ordination of the involved provinces). The planning and building regeneration programme for the areas adjacent to the stations and stops of the system figures as a "PRUSST", that is a complex planning tool introduced in 1998 by the Italian Ministry of Public Works which meets the planning requirements at a metropolitan scale stated by the national law 142/90.

LESSONS LEARNT

The method is oriented to the improvement of the official programme in order to make the public rail transport system the backbone of a co-ordinated urban renewal and to give unitary solutions to the different problems. It is based on the following principles;

- decentralisation and re-balancing of urban functions;
- improvement of conditions concerning the access to facilities and services;
- regeneration of disused or underused areas and the consequent reduction

of the consumption of the territory for new activities;

- widespread redevelopment of the urban areas involved starting from the interchange areas
- promotion of the public transport as opposed to the private one, freeing up the congested urban areas.

The systematic character of such operations and the proximity values assumed by each interchange node in relation to all the others make the financial involvement of private investors possible in the case of complex initiatives of a prevalent public nature.

Moreover, the evaluation is based on objective parameters of the urban potentials which the different knot-points of the network (the stops) can assume. These parameters can be a support for decisions, allowing a flexible programming of the interventions.

APPLICATION

In many urban and metropolitan situations, the railway is the backbone of the industrial city which, hit by a crisis, has left the areas adjacent to the lines and stations with extensive abandoned production areas, open air depots, disused or underused freight yards.

The transformation of these areas, combined with the introduction of new railway services on a local scale which improve the urban accessibility, is obviously possible wherever these conditions are present. In particular, the reorganisation of the railway services connected to the construction of the high speed line has allowed cities such as Bologna, Turin, Milan, Naples and Rome to plan an urban renewal around the new stops along the metropolitan network and the new railway flyovers.

The criteria used in this case have been previously applied to the regional railway system in a study carried out by the Lombardy Region. These criteria are aimed at evaluating the initiatives and the role which can be attributed to the various stops within the system and are

the basis, in all these situations, for a methodology useful for the strategic coordination of the single operations. On a working level, the new complex planning tools, including the Prusst, allow to coordinate the actions among the different administrative bodies involved, thus overcoming more easily the problems and helping in the involvement of private partners.

TRANSFERABILITY

Integrated programmes connected to infrastructure system re-ordering have already been carried out or started in many European countries, frequently relying on synergies between public and private operators. The model developed by the University of Florence with the singling out of the performance requisites of the interchange areas relative to classes of recurrent urban situations can be widely used as an assessment method among alternative strategies.

IMPACT ON SUSTAINABILITY AREAS

Environmental: High

Social: High

Economic: High

Institutional: High

PROJECT CONTACT

Marco Massa and Francesco Alberti,
Universita degli Studi di Firenze,
Dipartimento di Urbanistica e Pianificazione Territoriale, via
Micheli 2,50100 Firenze, Italy.
E- mail:arcoprogetti@tin.it

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