

FEASIBILITY STUDY OF A LOCAL PUBLIC TRANSPORT SYSTEM AND REORGANIZATION OF ROAD AND RAIL NETWORKS AND SERVICES ALONG THE NORTHERN AXIS OF UDINE

CLIENT: *Provincial Administration of Udine*

YEAR: 2004

DESCRIPTION OF ACTIVITIES

The Provincial administration of Udine has charged TRT together with TBridge (Genova), Studio Cudini (Palmanova) and Studio Matildi (Bologna) of drawing up a feasibility study for an extra-urban public transport system along the northern axis.

The main activities of TRT have been the assessment of passengers demand and the financial and economic evaluation of project's alternatives. Both activities were carried out by means of simulations performed with a multi-modal transport model (Meplan).

The area of this study is a 15 km axis in the northern part of Udine, until the municipality of Tricesimo, which in the last years has been involved in industrial and commercial development. This development has increased the mobility in this area and the aim of this study is to make the public transport more attractive.

The project has been divided into three phases:

1. analysis of the urban area characteristics and the relationships with its surroundings;
2. designing of project's alternatives;
3. alternatives' evaluation and comparison.

During phase 1 the following area's characteristics have been analyzed:

- geographical, residential and business characteristics;
- transport demand;
- transport supply;
- availability and contents of planning tools.

The analysis carried out during phase 1 has allowed the construction and calibration of a multi-modal model able to simulate the area's transport system. The steps followed to implement the model were:

- zoning of the area and estimation of a trips' Origin/Destination matrix;
- building the network's structure (road links, railway, public transport);

- model calibration and reference scenario simulation.

During phase 2 four alternatives were proposed and analyzed. Each alternative had a different path for the new public transport service and its characteristics and critical points were highlighted. For each alternative hypothesis of existing services and road circulation reorganization were made. Moreover different technologies were considered to implement the new public transport line.

The four alternatives are a combination of different paths (two road paths and one rail path) and different transport systems. For the different transport systems an investment costs evaluation has been conducted and the economical feasibility was carried out after the assessment of the transport demand along the northern axis for the base year and for the future scenario. The evaluation of projects alternatives has been based on the estimated transport demand for year 2013.

By means of the transport model the different alternatives have been simulated and compared with the reference scenario (no new transport system). For each alternative the demand modal split, the flow volume on road links and the passengers volume on the public services have been analyzed. Once the future transport demand have been assessed, the impacts of each alternative were evaluated both from an environmental and a financial point of view.

