CITY INDUSTRY DIALOGUE – CONFERENCE: THE FUTURE OF PUBLIC TRANSPORT NOT ONLY IN CITIES – MODERN TECHNOLOGIES IN PUBLIC TRANSPORT

Brno, 5th of June 2019

Innovative transport systems – An example in Trieste

VIU / Giovanni Longo

Challenges

- Balance demand-supply
- Desired modal split
- Support LU development (capacity)

TRIESTE OLD PORT (NOW)

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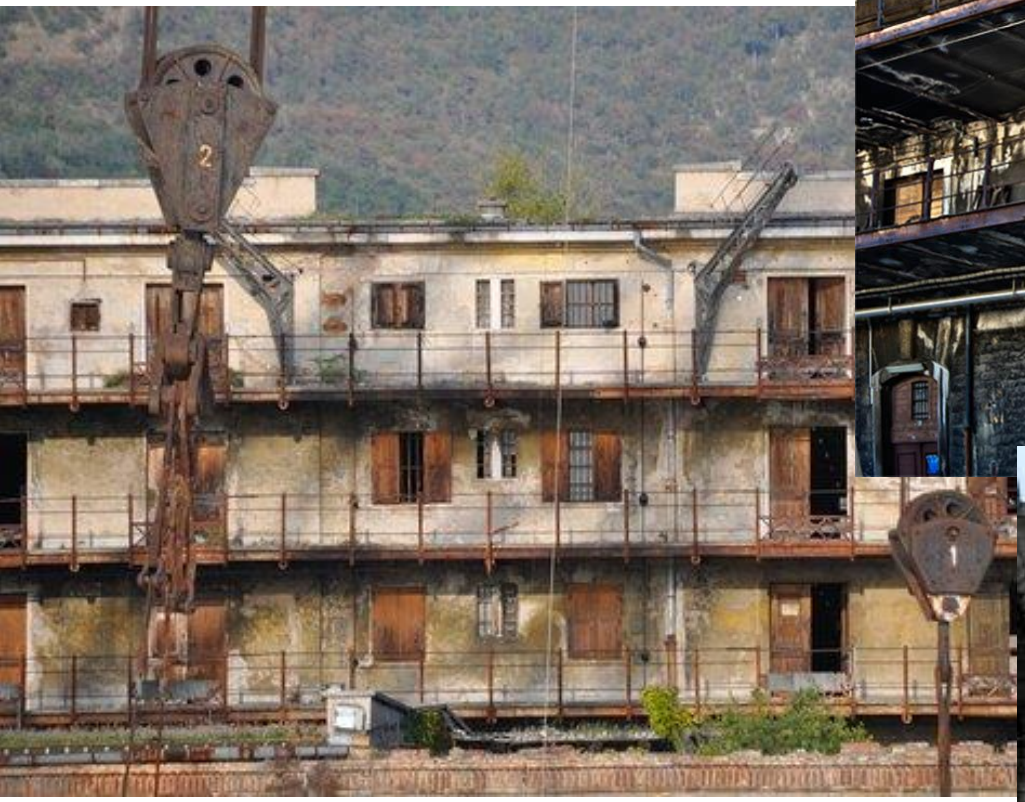
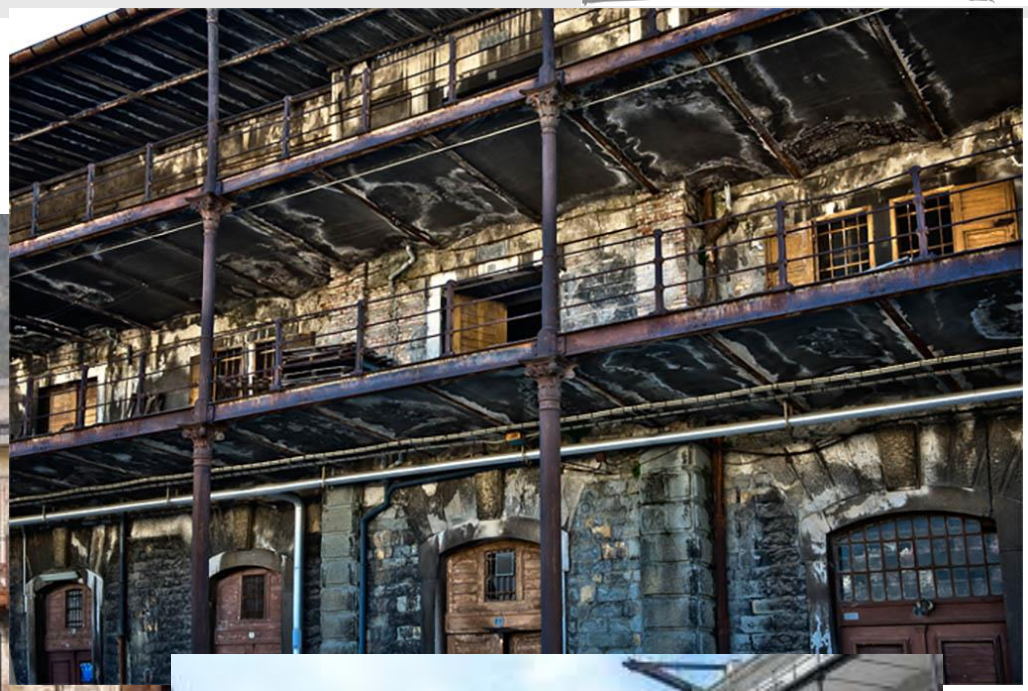
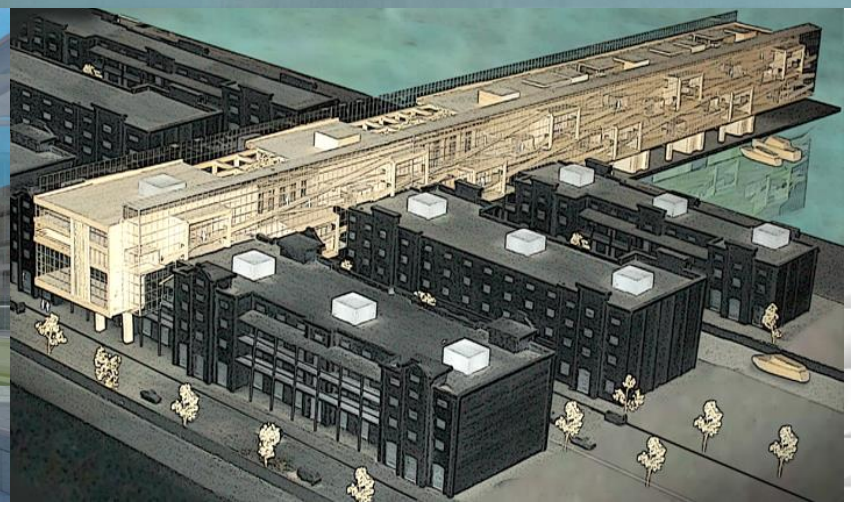




TRIESTE OLD PORT

- **65 hectares**
- **42 stores**
- Volume of about **1 million m³**
- Close to the historical centre of the city, located along the coastal strip, bounded by walls
- **Regeneration:** terminal functions, industrial activities, other support activities like residential (lofts, residences of support, university guest houses, boats, etc.)

TRIESTE OLD PORT (IN THE FUTURE)



CHALLENGES

- Definition of the area development requirements
- Urban accessibility to the Old Port area
- Generated demand → ensuring an efficient transport supply
- Innovative and Sustainable transport modes
- Public investments

ACCESSIBILITY

Interreg CENTRAL EUROPE
European Union European Regional Development Fund
Peripheral Access

Extra-Urban access ensured by the proximity to the **RAILWAY STATION**

INNOVATIVE MOBILITY SOLUTIONS

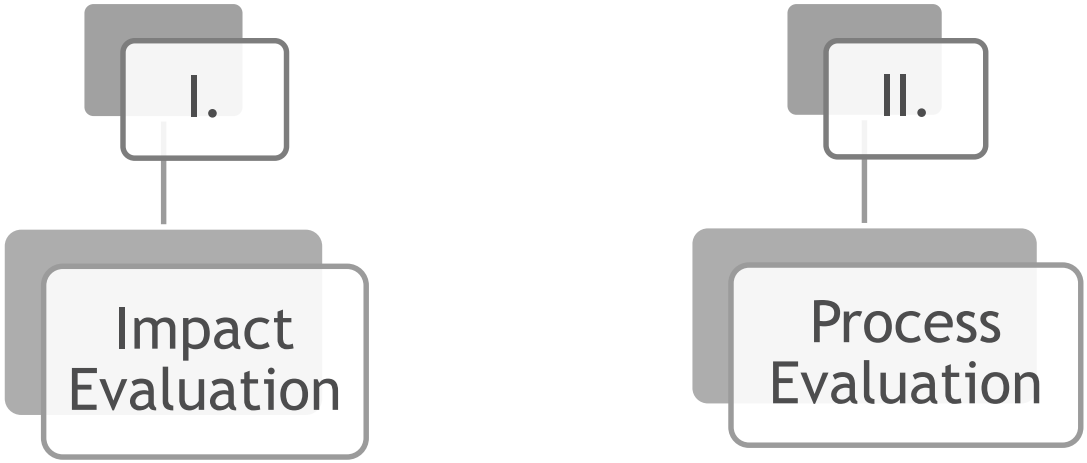
Promoting the **ACCESSIBILITY TO THE OLD PORT** by means of **INNOVATIVE MOBILITY SYSTEMS:**

- Bike-sharing system
- Hybrid buses
- Electric cars
- Car-sharing system
- Carpooling system
- DRTS

EVALUATION NEEDED

CIVITAS Portis project

Evaluation procedure composed by **2 steps:**



To assess the **performances of measures** (effectiveness)

To assess the **implementation process** (barriers, drivers)

ANALYSIS BY INDICATORS

Evaluation approach consisting of 2 steps:

1) Selection of **COMMON INDICATORS** from **European guidelines** (definition of category, sub-category, impact and indicator)

2) Creation of **CITY-SPECIFIC INDICATORS**

BEFORE and **AFTER evaluation** of indicators, with reference to the Business-as-Usual scenario main limitation:

DISAGGREGATION OF THE ASSESSMENT

MULTI-CRITERIA ANALYSIS (MCA)

MULTI-CRITERIA APPROACH ⟶ more **comprehensive evaluation results** (both quantitative and qualitative aspects of measures)

↓

Integration with the analysis by indicators when defining criteria

MULTI-ACTOR APPROACH ⟶ to consider the **different perspectives** of the involved **key stakeholders**

↓

Combination of the 2 approaches in the **AHP method**
creation of a **hierarchical decision model** composed by levels

TRANSPORT SYSTEM REQUIREMENTS

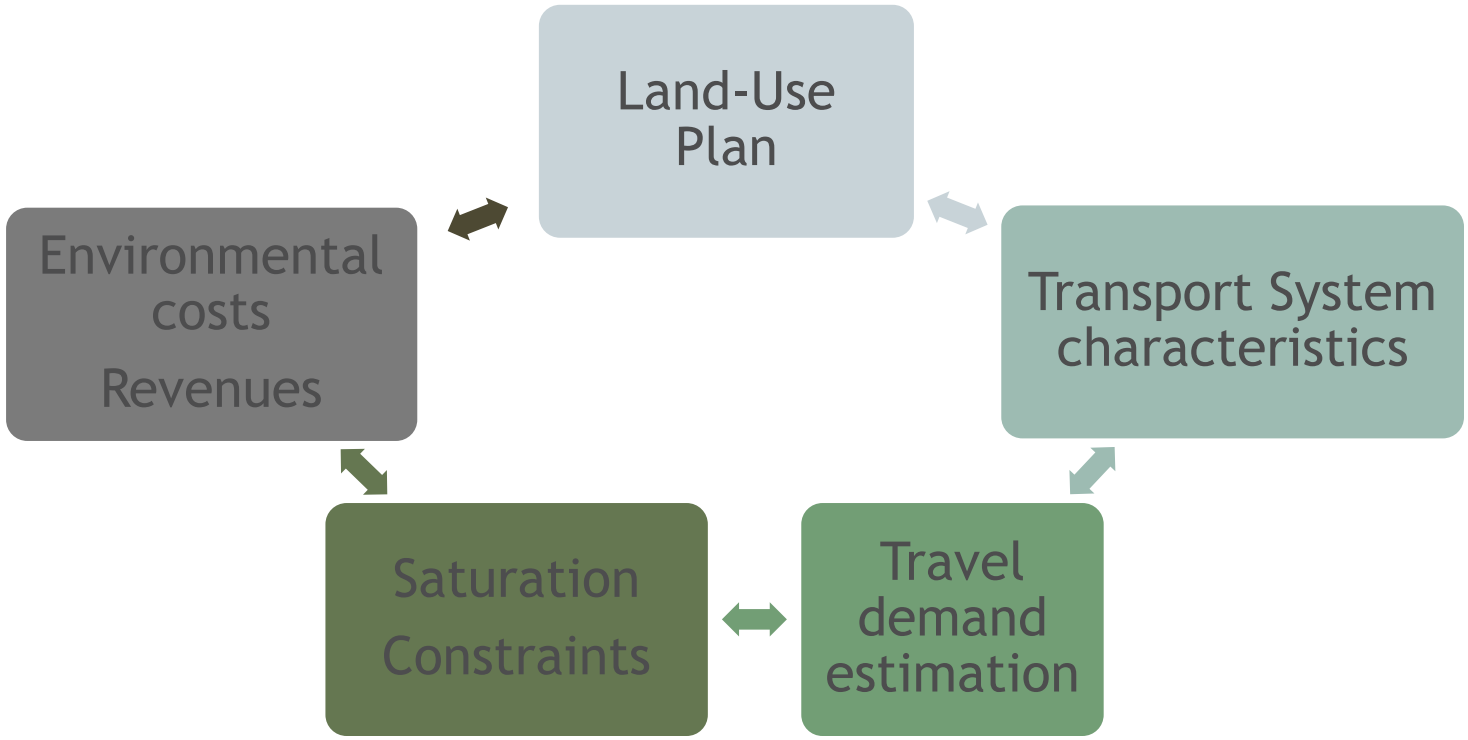
Given the relevance of **innovation and sustainability**

Need of **DESIGNING MOBILITY SERVICES** considering:

- Capacity
- Operational costs
- Environmental issues
- Demand-supply balance ⟶ in relation to investments

PLANNING APPROACH

Combined planning methodology

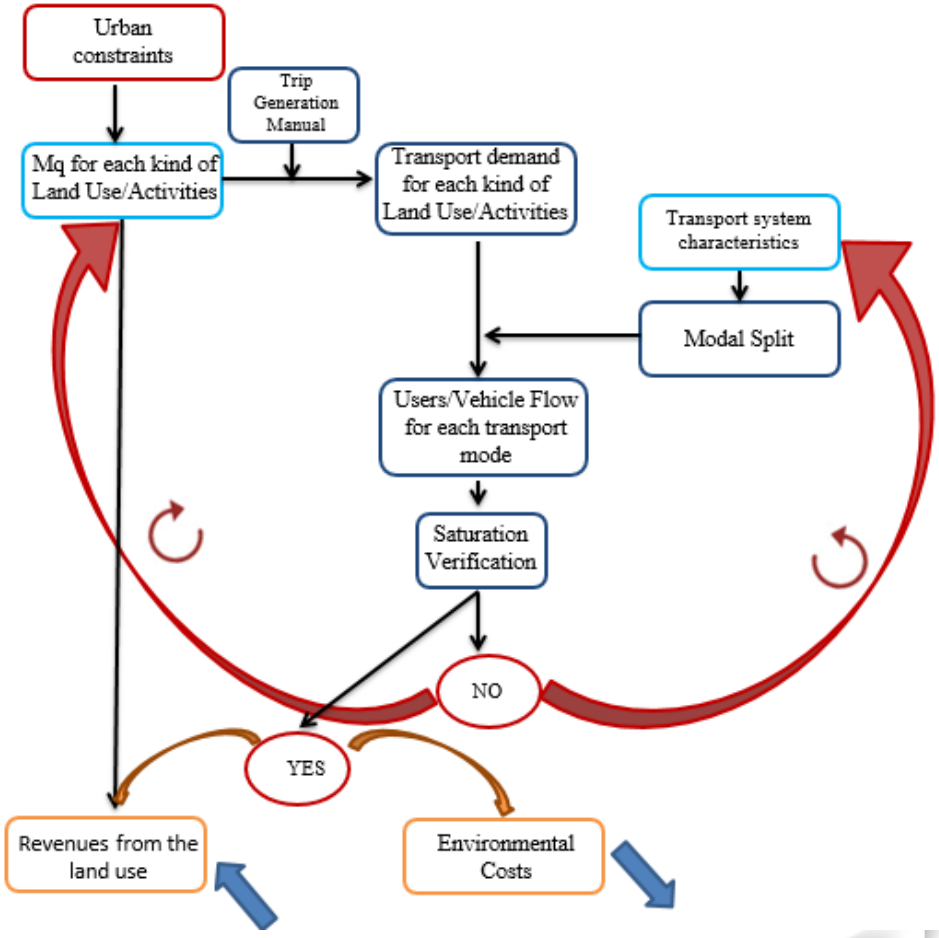


METHODOLOGY

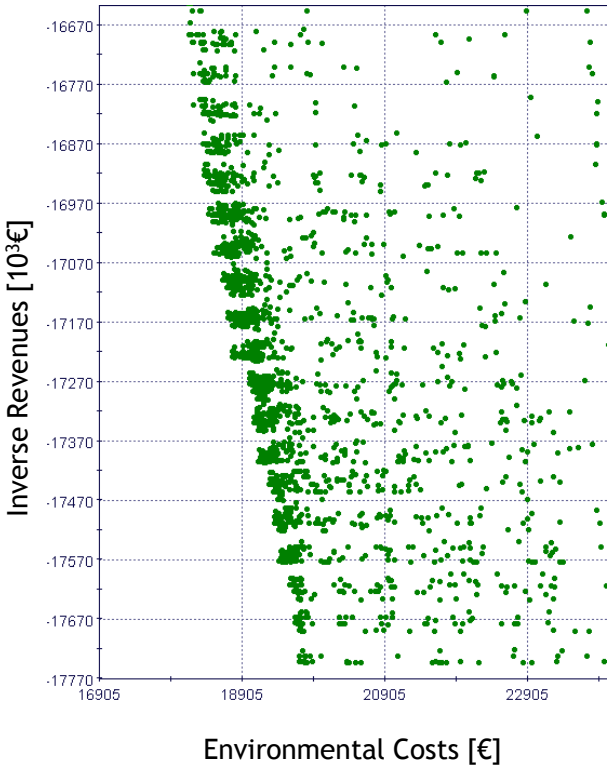
Optimization

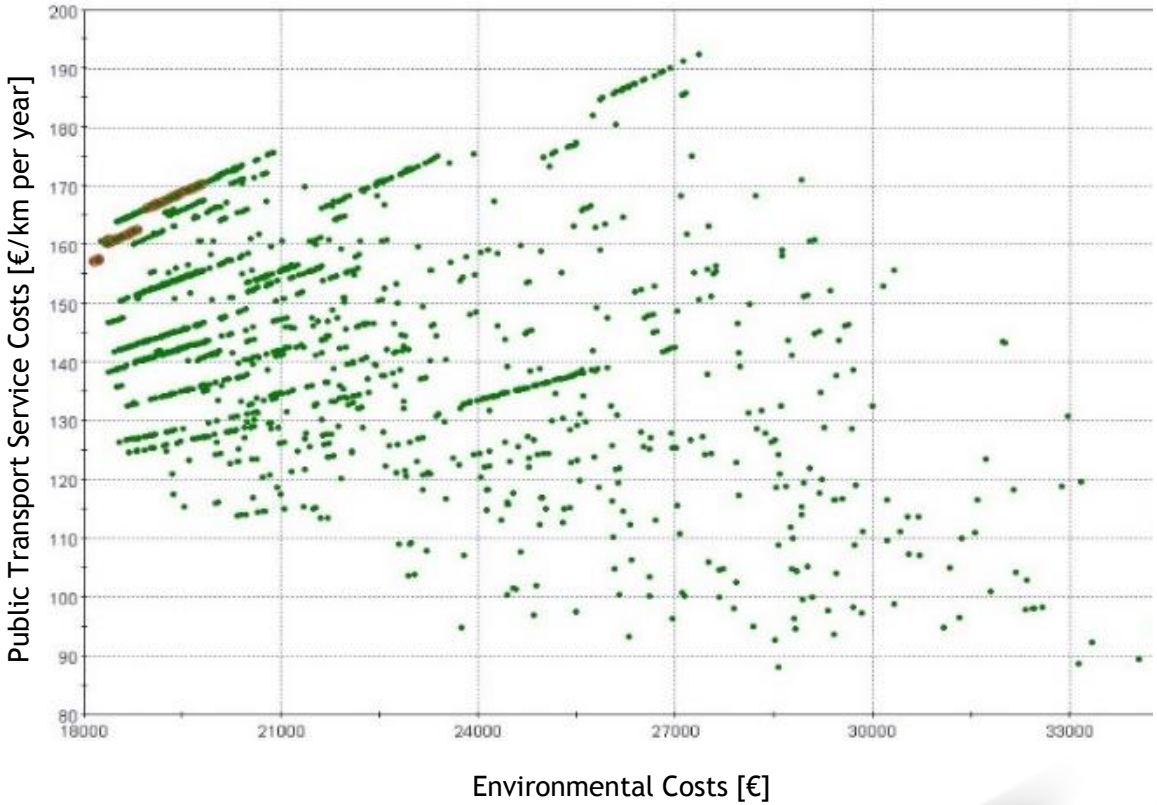
Objective Function:

- Maximization of Revenues from land-use
- Minimization of Environmental Costs



GRAPHIC RESULTS

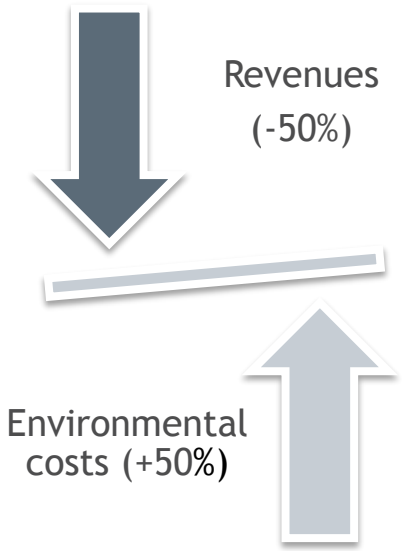




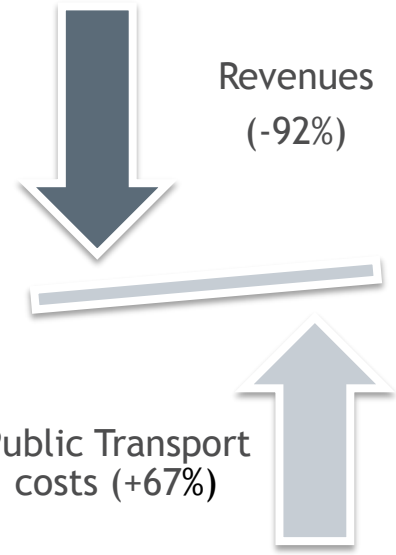
SENSITIVITY ANALYSIS

Some examples

Minimization of ***Public Transport Cost***



Maximization of ***City Park Area*** & Minimization of ***Environmental Costs***



CONCLUSIONS

Environmental Impacts

Public Transport Service Cost

Revenues from the land-use

Trade – Off

Multi-objective problem

Conjoint design land-use and transport plans

Optimization

CONTACT DETAILS

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