An Extension of the CIVITAS Approach for the Assessment of Sustainable Transport Policies in Port Cities

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PORT – cities: Innovation for Sustainability / HORIZON 2020
Port + City two entities: Opportunity or a Source of complexity?

34 partners

5 Port Cities in Europe + Ningbo in China

EU contribution 16,4 million €

Knowledge sharing in and beyond Europe
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CIVITAS PORTIS - OBJECTIVES

1. Improve cooperation between cities and port
   - SUMP implementation

2. Develop sustainability city-port environments
   - Increase awareness, citizens involvement

3. Plan more integrated transport infrastructure and mobility system
   - ITC, increasing accessibility

4. Boost the efficiency of urban freight traffic
   - To reduce congestion
CIVITAS PORTIS

CIVITAS PORTIS - OBJECTIVES

CIVITAS PORTIS

UNITS

Evaluation

Communication

Innovation

SUMP implementation

Increase awareness, citizens involvement

ITC, increasing accessibility

To reduce congestion

Standard structure for transfer and comparison among the sites

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Quantification of direct and indirect impacts
Assessment of the indicators
Before/After - Business as usual

CIVITAS PORTIS - METHODOLOGY

Measures assessment

Impact level

Process level

Understanding of successful factors and obstacles for implementation

Limitation: indicators are evaluated in a disaggregated way
Achieve an overall assessment of the transport policies and consider the different stakeholders’ points of view.

Integration of different assessment methods:
- Analysis by Indicators
- Multi-Criteria Decision Analysis
- Multi-stakeholder perspective
Evaluation approach steps

- 1. statement of the objectives
- 2. identification of the expected impacts
- 3. definition of the indicators
- 4. comparison of before and after scenarios
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5. building of the hierarchy
6. hierarchy level including the main stakeholders
7. weighing the indicators and the stakeholders by pair-wise comparison
8. determination of the overall judgment on the alternatives

Elements come from the analysis by indicators

Multi-Criteria Decision Analysis
Multi-stakeholder perspective

Adding Value
Main goal: IMPROVING FREIGHT MOVEMENT MANAGEMENT
(Process efficiency, environmental sustainability and safety)

2 MEASURES concerning both technological and governance aspects

- Coordinating freight movements
- Regulating access to the Port area
The Port of Trieste

KEY STAKEHOLDERS (interviewees)

IMPROVING FREIGHT MOVEMENTS

MAIN GOAL of the evaluation

MACRO-CRITERIA AND CRITERIA (CIVITAS indicators)

SCENARIOS OF INTERVENTION (PORTIS measures)

COSTS
- CAPITAL INVESTMENTS
- OPERATIONAL COSTS

ENVIRONMENTAL SUSTAINABILITY
- EMISSIONS
- AIR QUALITY
- NOISE

SAFETY
- NORMAL FUNCTIONING
- EMERGENCY
- HAZARDOUS MATERIALS MANAGEMENT

TRANSPORT IMPROVEMENT
- PROCESS EFFICIENCY
- INCREASE OF INTEROPERABILITY
- PORT-CITY MOBILITY INTEGRATION
- PRIVATE TERMINALS ACCESS REGULATION

INNOVATION IN MANAGEMENT
- INCREASE OF COOPERATION BETWEEN TPA-ADMINISTRATIVE ENTITIES
- ACCELERATION IN THE DECISION MAKING PROCESS

ALTERNATIVES
- FREIGHT MOVEMENTS COORDINATION
- TERMINALS ACCESS REGULATION
- COMBINED MEASURE
- NO MEASURES

MAIN GOAL of the evaluation

TRIESTE PORT AUTHORITY

FREIGHT OPERATOR

TRIESTE MUNICIPALITY

FVG REGION

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Results

Stakeholders levels of influence

Macro-criteria priorities

OVERALL ASSESSMENT: Ranking of the alternatives

The most valuable policy combined measure

Sensitivity analysis sensitive to changes in the criteria: “Capital Investments” and “Process Efficiency”
Conclusion

The methodology presented is a valid instrument to

- Aggregate in the evaluation different parameters
  - Social, Managerial, Environmental + Technical, Economical
- Consider different stakeholders
  - Weight their importance
- Help policy maker
  - to achieve sustainable mobility policies
- Get overall assessment of the policies

Future developments

- Evaluate alternative approaches as Group decision-making
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Thanks for your kind attention

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