



DESTINATIONS Evaluation & Environmental Assessment Framework

Monitoring environmental quality and safety in a Mediterranean Insular City context

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TECHNICAL UNIVERSITY OF CRETE (TUC)
SCHOOL OF ENVIRONMENTAL ENGINEERING
RENEWABLE AND SUSTAINABLE ENERGY
SYSTEMS LABORATORY

CIVITAS LIVING
LABS ON STAGE

FINAL ONLINE EVENT 6-20 October 2020

CIVITAS DESTINATIONS – 28 partners

9 countries + China

- 1,2 million habitants - 6 million tourists
- Mix of institutions, mobility and tourism
- A set of mutually reinforcing innovative mobility solutions in 6 touristic island cities
- 79 demonstration measures for sustainable mobility and tourism
- Insularity driven challenges



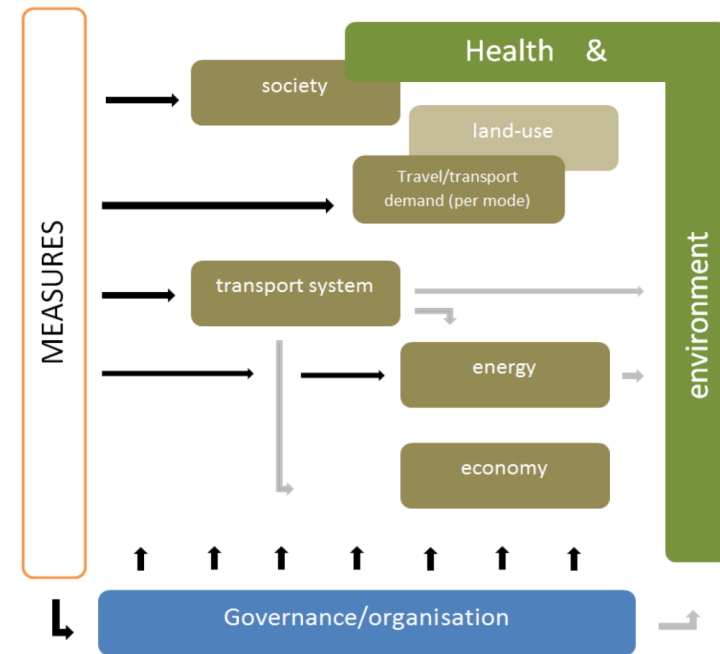
Sustainable Mobility Measures Evaluation

Measurable results

- what **really** happened to the measure vs what **should have** happened;
- **why** it happened;
- what you can **learn** from deviations.

we evaluate **because** we want to:

- take **corrective actions**
- **measure** the performance and actual **impact**
- **exchange** experiences.
- **learn** for future projects;



S M A R T E R



The added value of evaluation

- i) Evaluate the **impact** on the indicators **before and after** the CiViTAS measures and others are applied to the cities.
- ii) Establish **correlations** between the values measured and the traffic intensity/counts measured initially in the sensor stations.
- iii) Serve as a **decision support tools** for the municipalities in the scope of mobility and environment;
- iv) Make the information relative to the indicators **available to the citizens** (after the testing phase)

Both bottom-up, top-down evaluations could be critical

DESTINATIONS Environmental Assessment Framework

Environmental Indicators



Air quality (Levels; CO, NO_x, PM, VOCs, CO₂)



Emissions (Emission; CO, NO_x, PM, VOCs, CO₂)



Noise (noise perception)

Comprehensive approach; cross evaluation of **air-quality, **transport** conditions and incoming **tourism** fluctuation**



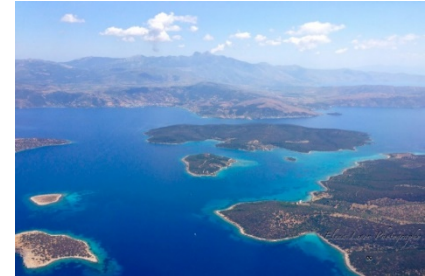
CLEAN AIR



Achieve an incremental shift away from fossil fuel-based transport systems and the adoption of new and innovative low-carbon solutions

The impact in the urban air quality due to mobility measures applied in insular cities

- The **impact of seasonality** – incoming tourism flows in road traffic and transportation services
- Correlation between **air-quality and transport** (Rethymno)
- The low-cost IoT **environmental monitoring** system of Madeira
- Energy/emission **savings** from mobility measures (e-bikes, green vehicles in Las Palmas)
- **Changes** in the quality of life of the cities during the during the different stages of the **pandemic**



In this webinar....

Applied methods, systems and tools to assess the environmental impact of mobility measures in insular touristic cities

- ❖ Introduction – CIVITAS DESTINATIONS environmental assessment framework
Prof Theocharis Tsoutsos, *Technical University of Crete*
- ❖ Environmental Monitoring Scheme – Madeira
Miguel Ribeiro, *ARDITI*
- ❖ Environmental monitoring and assessment in Rethymno, a touristic Mediterranean
Maria Aryblia, *Renewable and Sustainable Energy Systems Lab, Technical University of Crete*
- ❖ Fuel and emissions savings from mobility measures – Las Palmas de Gran Canaria
Clara Bellera, *CINESI*



Thank you!

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