



AVIATION TWIN TRANSITION CLUSTER

A EUROPEAN INITIATIVE FOR A SUSTAINABLE FUTURE

RefMap Clustering Event 2025

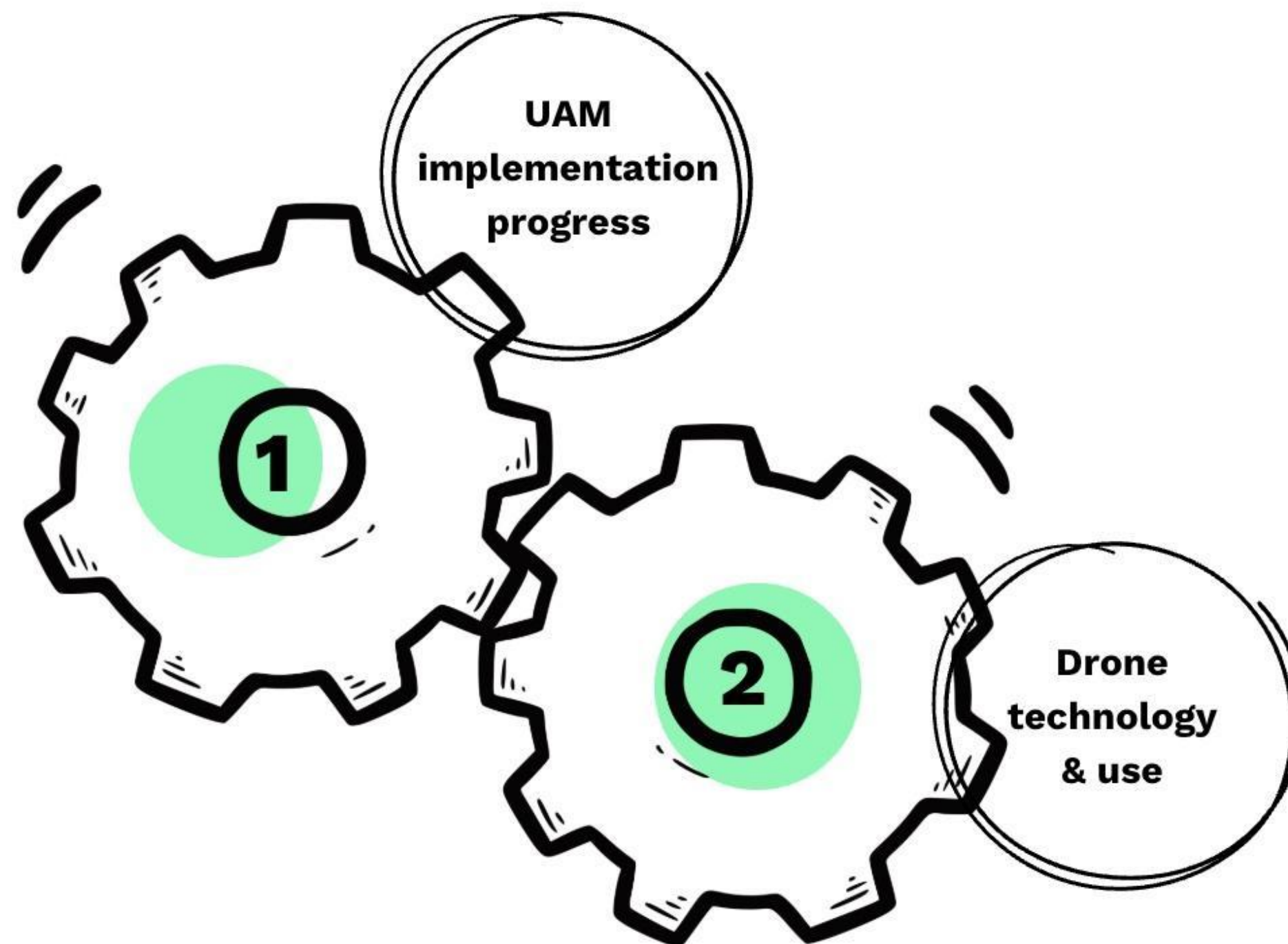
Advancing Sustainable Aviation & Urban Air Mobility

Evaluating accessibility and welfare in IAM Integration

Kyriaki Daskaloudi, Future Needs

ImAFUSA

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**We continued
working on the
framework
choosing welfare
and accessibility**

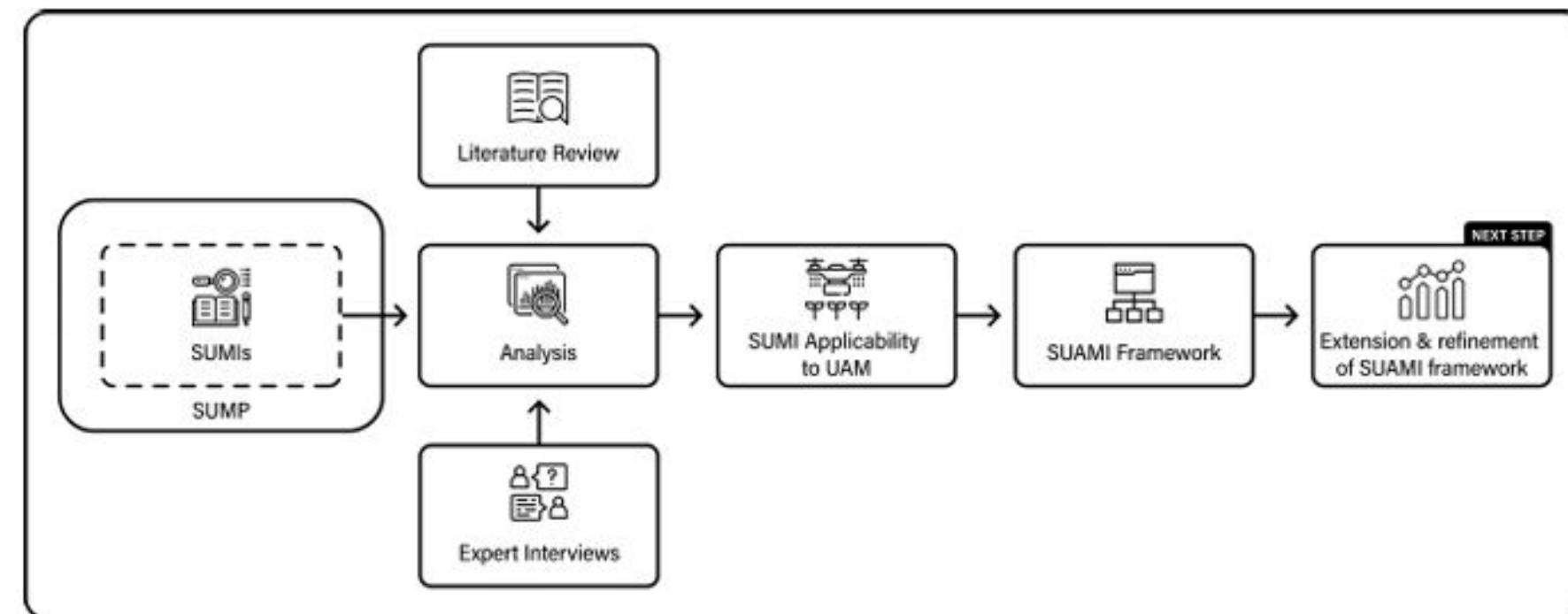
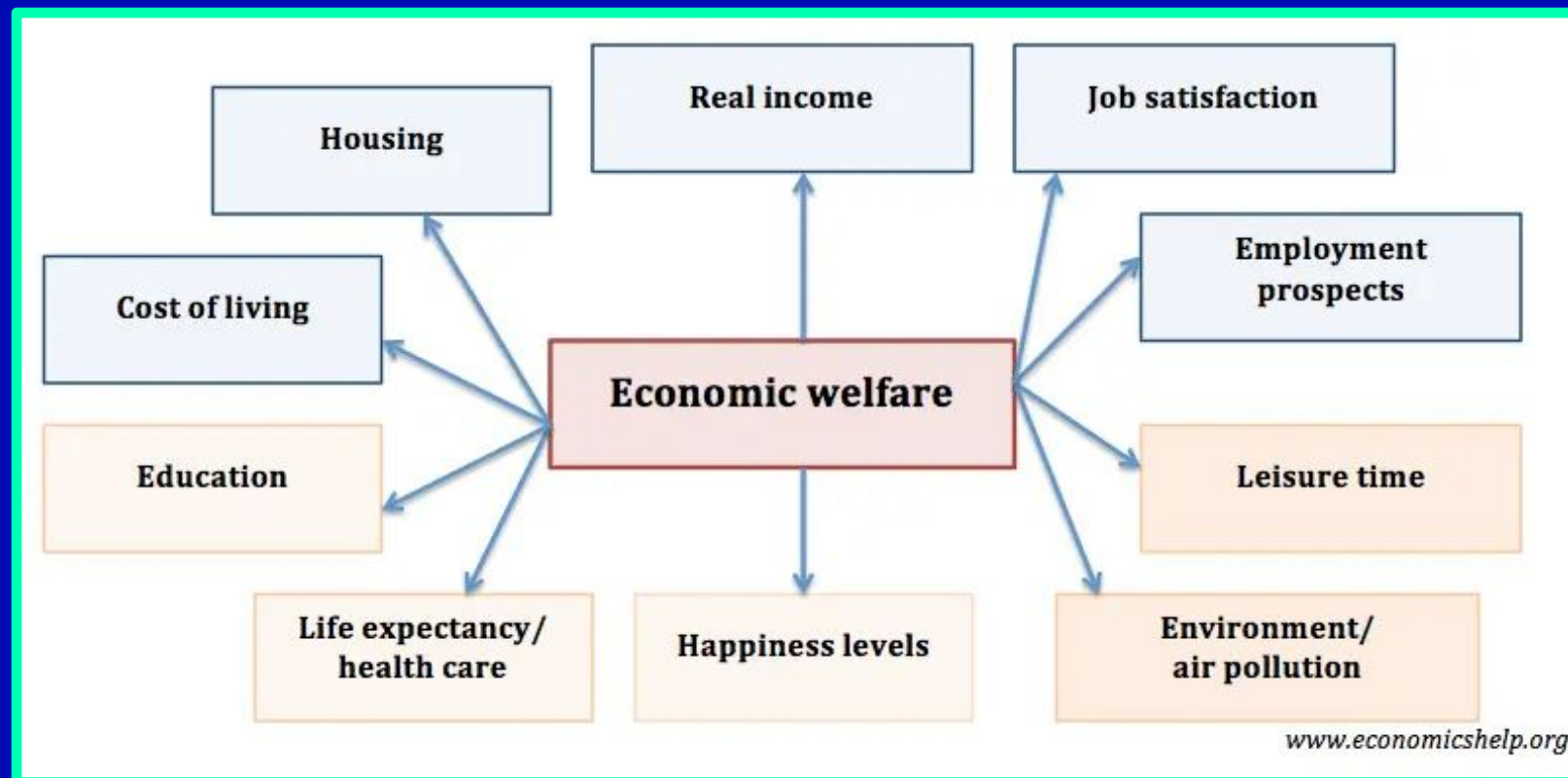


Fig. 1. Methodology followed for the current study for the SUAMI framework.



What is welfare?

Economists measure welfare primarily using income or GDP per person and transportation accounts for between 6% and 12% of the GDP.

However, GDP is an **imperfect measure**. True welfare considers **non-market factors**, such as:

- **Leisure, health, and home production**
- **Negative byproducts of economic activity** (pollution, inequality)

Overall, welfare economics is devoted to determining the optimal allocation of resources in society.

The challenge: Developing comprehensive metrics that capture these diverse aspects.

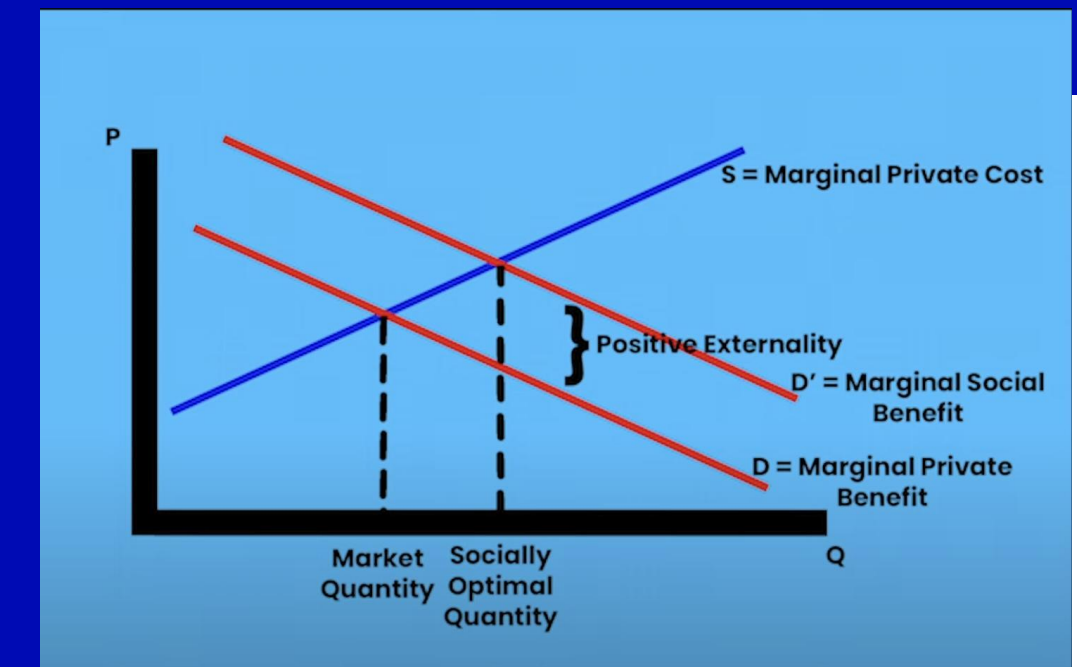
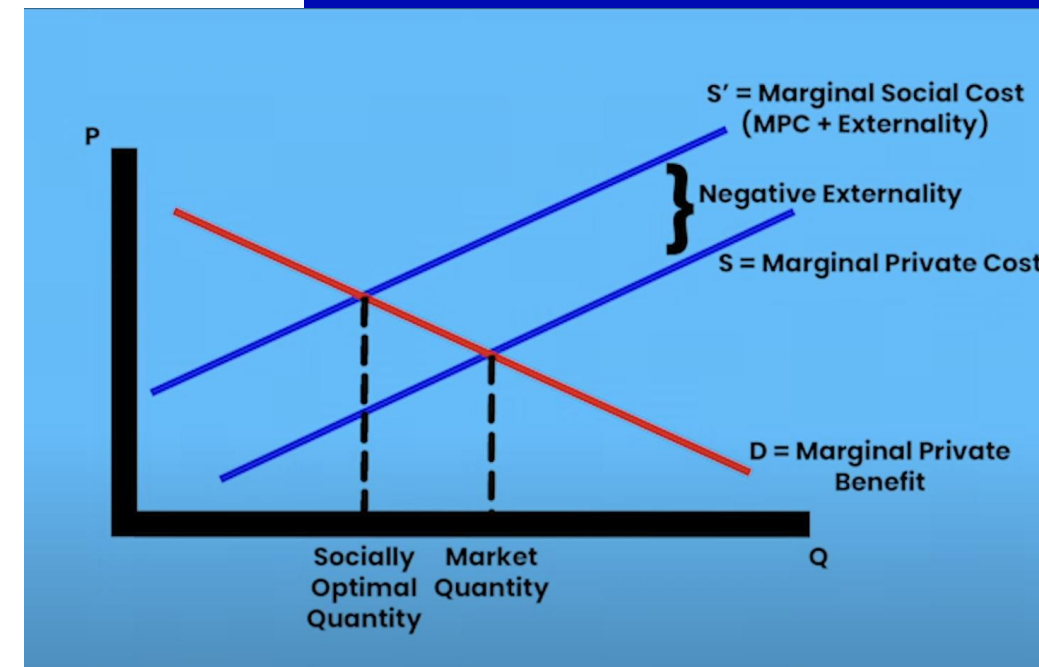
Welfare Externalities

Externalities are costs or benefits affecting third parties without their control.

Positive externalities: Increase societal well-being.

Examples:

- sustainable transport improves air quality in a city, the resulting health benefits for the residents;
- air transport increases accessibility to hard-to-reach locations
- **Negative externalities:** Decrease societal well-being. Examples:
 - visual pollution
 - noise



How to define welfare?

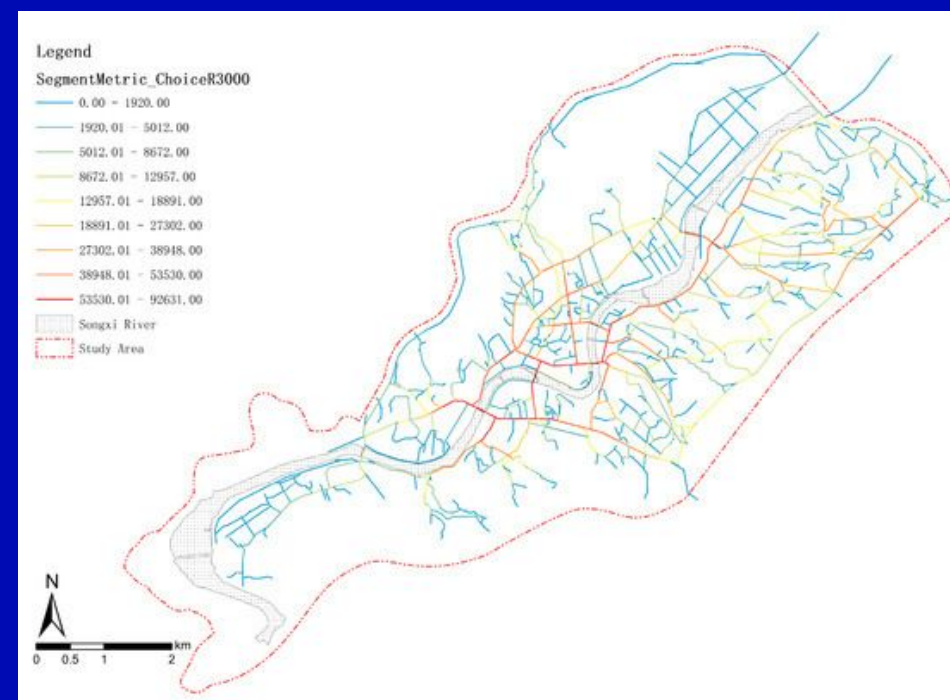
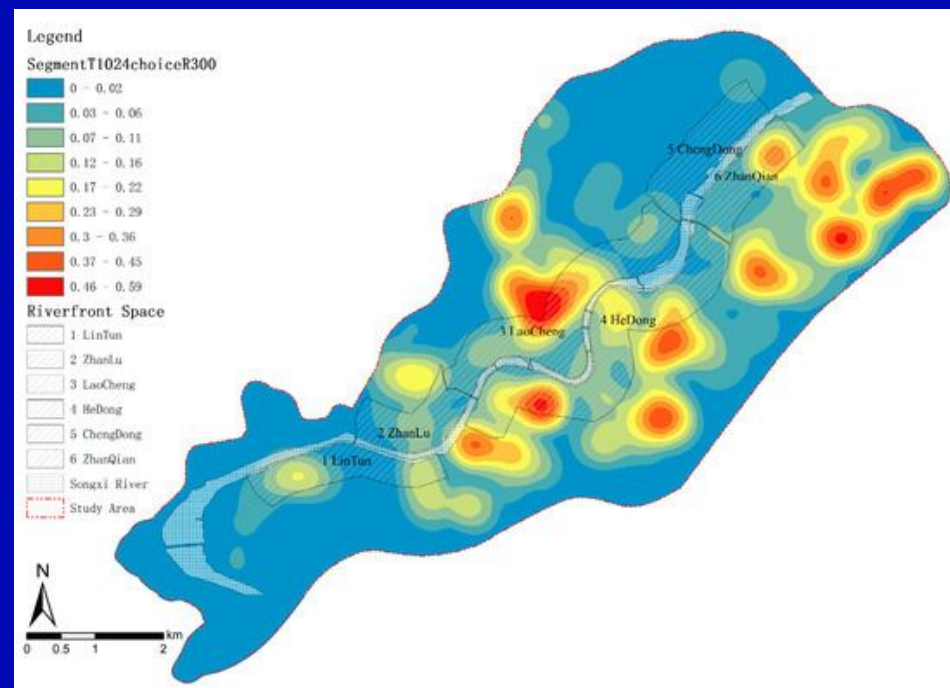
The Welfare Index in transportation is a comprehensive measure that evaluates the overall well-being of individuals and communities in relation to transportation systems.

In ImAFUSA we define welfare as the impact of UAM on the citizens' welfare.



What influences welfare?

Environmental Indicators	Air quality / Energy consumption of traffic
	Land-use sustainability
	Noise
Economic Conditions	Travel costs
	Business and logistics connections
	GDP
	Household costs
	Transport Affordability/WTP



How to define accessibility?

Accessibility in general refers to the ease of reaching goods, services, activities and destinations, which together are called opportunities.

- **Accessible Design:** Facilities designed for people with disabilities.
- **Financial Accessibility:** Transportation costs being manageable for all groups.
- **Spatial Accessibility (Focus of this research):** Measure of a location's capacity to be reached from, or by, different locations.

In ImAFUSA we refer to ground accessibility to the vertiport.

What influences accessibility?

Land-side Accessibility/ Access to Vertiports/Vertipads	Travel Time
	Transport Infrastructure & Connectivity
Socioeconomic & Demographic Accessibility Factors	Population density
	Job density
Policy & Equity-Based Accessibility Factors	Digital Connectivity and Real-Time Transport Data Availability



Practical Results

Formulas

- **Welfare:** GDP & Real estate cost
- **Accessibility:** Travel Time & Population to Jobs Ratio

ImAFUSA Platform

Where one can find and use the accessibility and welfare tools, providing results to help in decision-making.

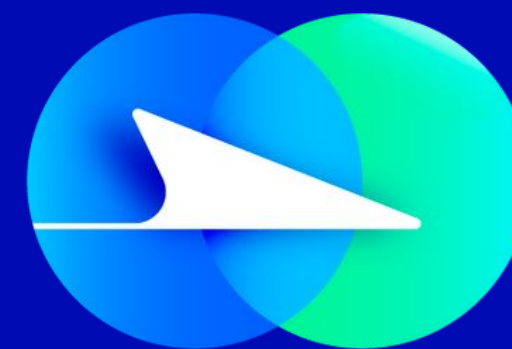
**thank you
for your attention!**

LinkedIn: Kyriaki Daskaloudi
Email: kyriaki@futureneeds.eu

ImAFUSA

For more information:
www.refmap.eu

**Q&A /
Closing**





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