

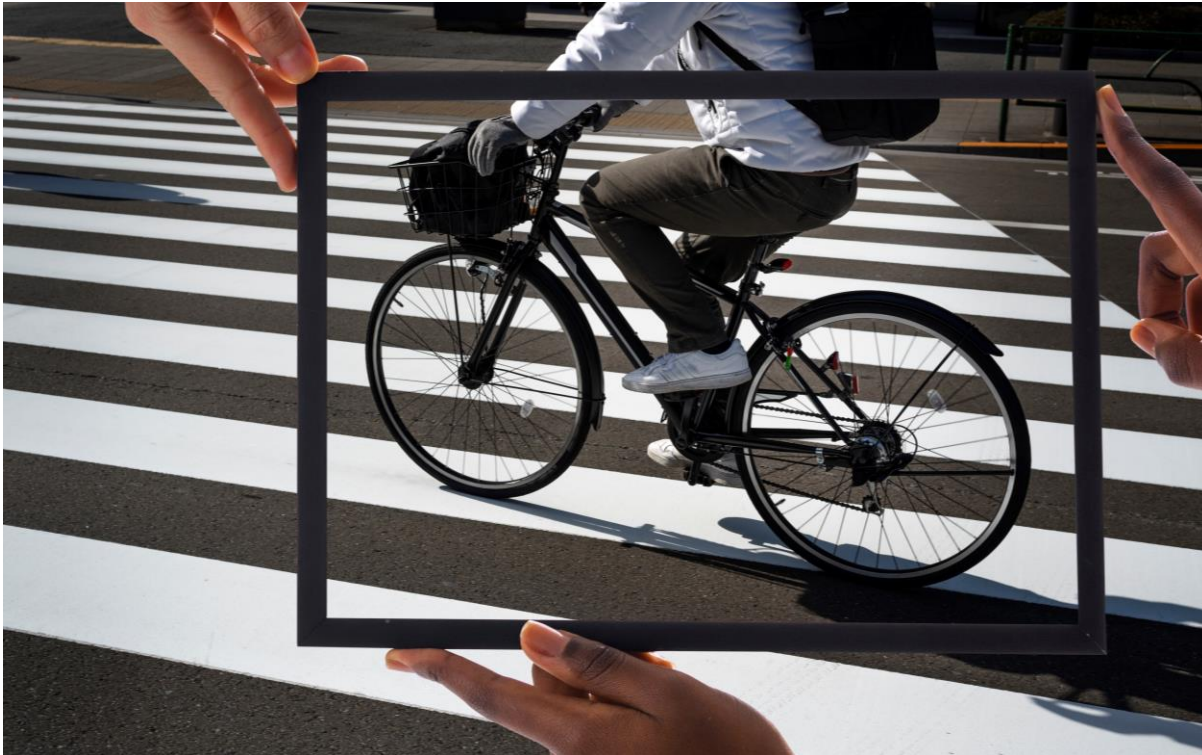
CRITICAL FACTORS THAT FAVOUR OR HINDER SHARED MOBILITY ON ISLANDS

PRESENTER : **VASILIKI AMPRASI**, CIVIL & TRANSPORT ENGINEER,
RESEARCH ASSOCIATE

AUTHORS : VASILIKI AMPRASI, PANAGIOTIS PAPANTONIOU, DIMOSTHENIS
PAVLOU, ELENi KARAKITSOU

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Contents



- Background
- Objective
- Methodology
 - Questionnaire survey
- Statistical analysis
 - Descriptive statistics
 - Analytical Hierarchy Process model
- Survey Results
- Mail Conclusions



Shared Mobility

Background



- The core principle of the sharing economy revolves around individuals' **capacity, willingness, and preference** to borrow goods and services instead of owning them outright.
- **Shared mobility systems** are gaining popularity globally, aiming to foster low-carbon transportation by altering travel habits and behaviors, yielding social benefits, and having a positive impact on the environment.
- Micro-mobility options, such as bikes and scooters, **are cost-effective** alternatives to motorized vehicles, requiring **minimal** parking space, and are especially effective for **short-distance** travel.
- Factors like inadequate or nonexistent infrastructure can discourage people from utilizing these modes of transport, while increased environmental awareness and personal motivations can significantly influence their adoption.
- **Shared mobility** is particularly crucial for islands, where space and resources are limited, and thus, efficient and affordable transportation solutions are key. This is especially relevant during peak tourist seasons, which create high demand for transport services.

Objective

The goal of this paper is to explore the key drivers and obstacles influencing the implementation of shared mobility solutions at the island level, with a particular focus on the **planning** and **operational phases**.

Special attention is given to the North Aegean Region.



Methodology



A **stakeholders' mapping** and a **questionnaire survey** were carried out



Structured questionnaire with a **mix of quantitative and qualitative questions**



To collect data that were accurate and useful gain knowledge on the stakeholders' perspective



The participants were from **different backgrounds** reflecting a **wide spectrum of perspectives**



The islands of the Region were represented as stakeholders and responded to the interview

Questionnaire (1/3)

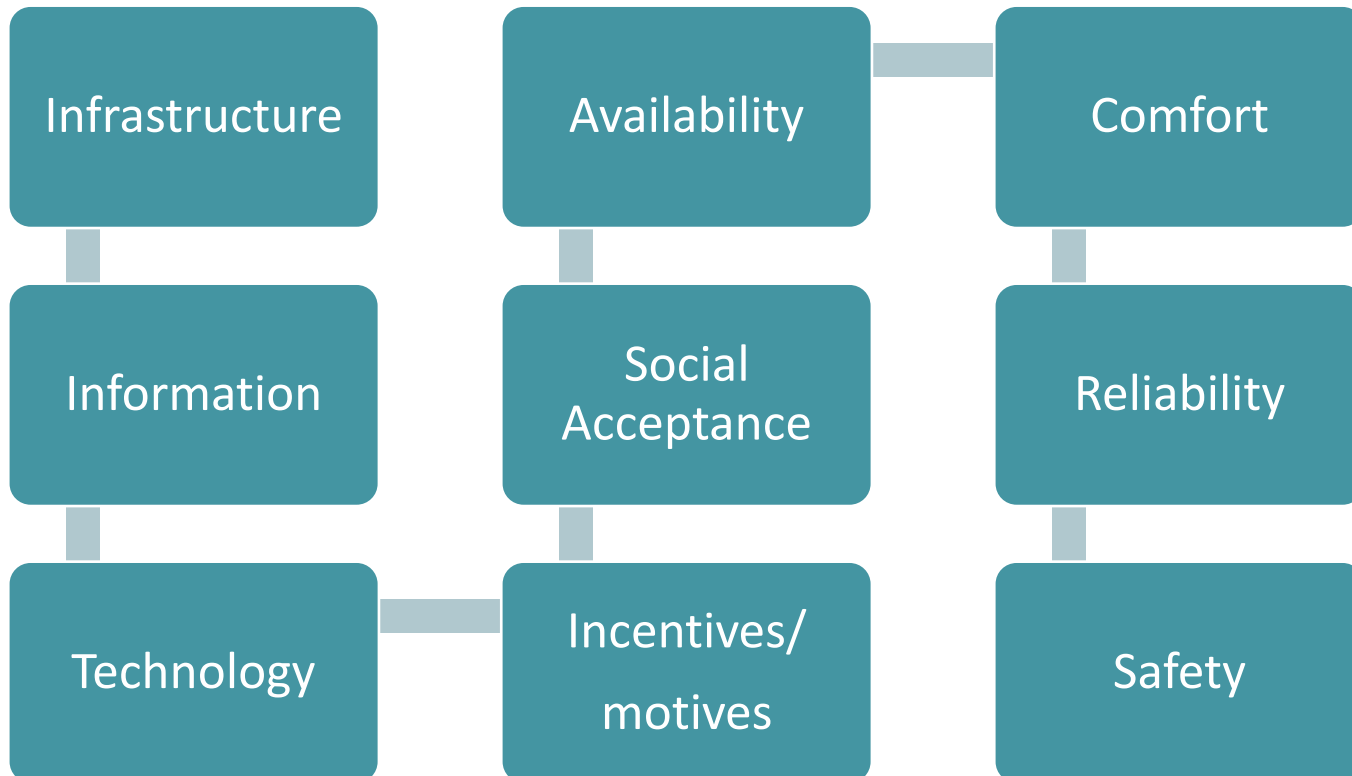
The interview survey included the following sections:

- ✓ Overview of the current mobility challenges
- ✓ Key factors influencing shared mobility
- ✓ Gap analysis related to shared mobility
- ✓ SWOT analysis (Strengths, Weaknesses, Opportunities, Threats) for shared mobility
- ✓ Comparative analysis of criteria affecting shared mobility, forming the basis of the AHP model



Questionnaire (2/3)

- Criteria that were selected to be assessed:



Questionnaire (3/3)

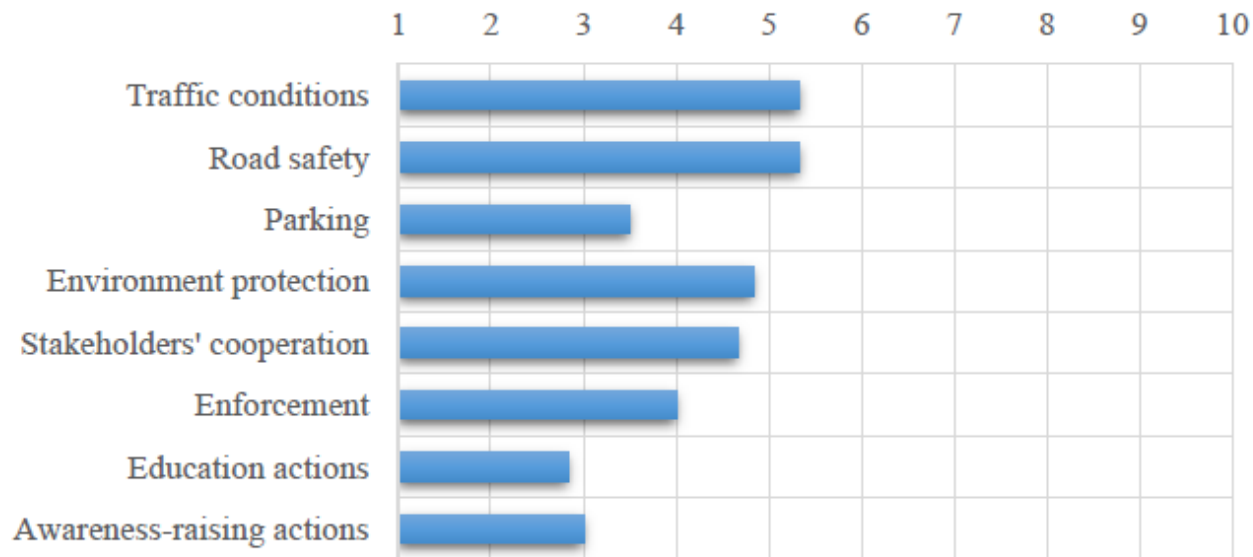
Sample of the respondents:

N.	Institution/Company	Category
1	Region of North Aegean	Regional Authority
2	Region of North Aegean - General Directorate of Development & Programming	Regional Authority
3	Municipality of Mytilene	local Authority
4	Municipality of West Lesvos	local Authority
5	Municipality of East Samos	local Authority
6	Municipality of East Samos	local Authority
7	Municipality of Chios	local Authority
8	Municipality of Limnos	local Authority
9	Municipality of Agios Efstratios	local Authority
10	Municipality of Psara	local Authority
11	Municipality of Oinousses	local Authority
12	Technical Chamber of Greece – Region of North	Chamber, Associations
13	Association of tourism professionals of Lesvos	Chamber, Associations
14	University of the Aegean	University
15	Cyclopolis	SME



Descriptive statistics (1/3)

Assessment of Current Mobility Status



All transport and mobility topics have been assessed **below 5,5**.



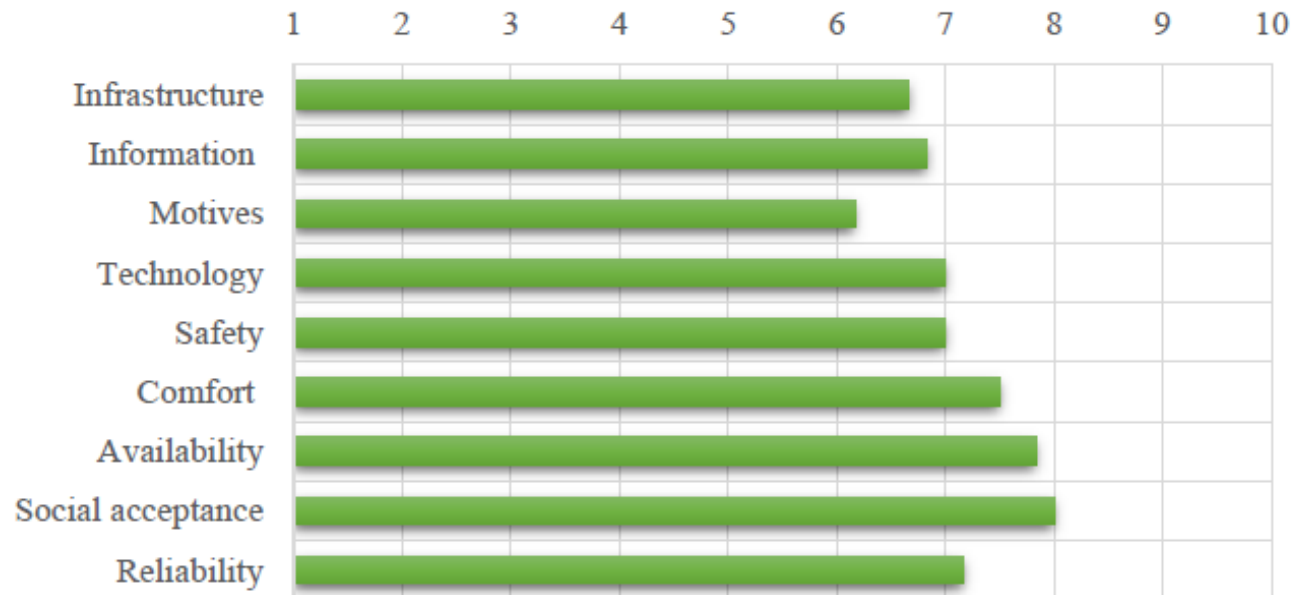
Traffic conditions and road safety have the highest evaluation among the assessed aspects.



Education actions receive the lowest relative score, indicating their absence.

Descriptive statistics (2/3)

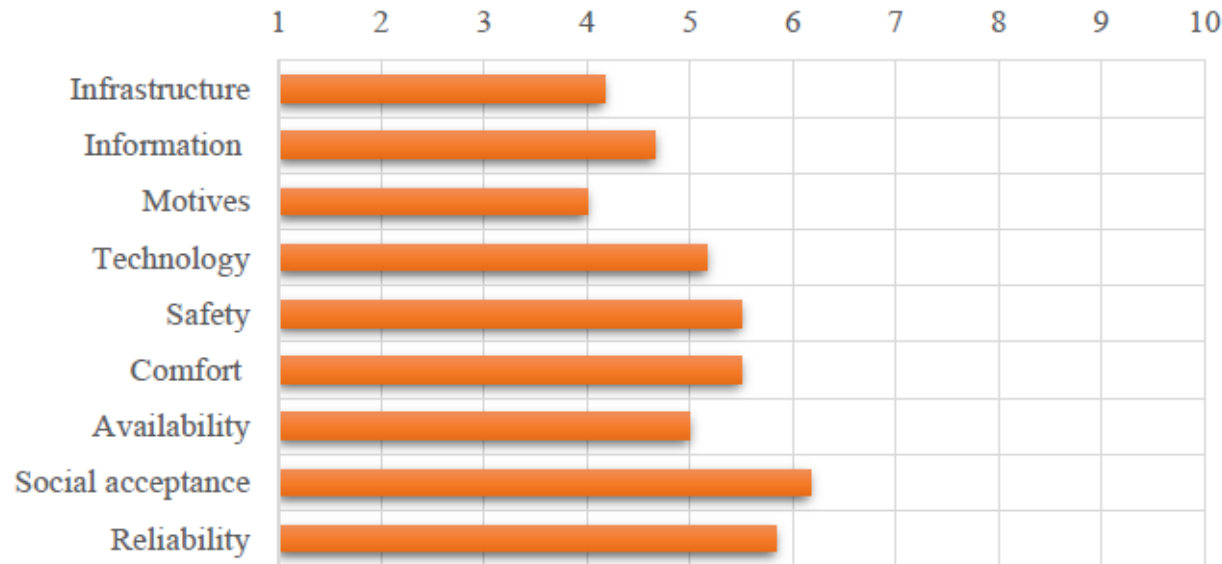
Importance of parameters affecting shared mobility



1. Social acceptance is the most important parameter according to respondents who rated it with 8 out of 10 on the evaluation scale.
2. Availability of shared vehicles received also a high score.

Descriptive statistics (3/3)

Gap analysis for shared mobility in the North Aegean Region

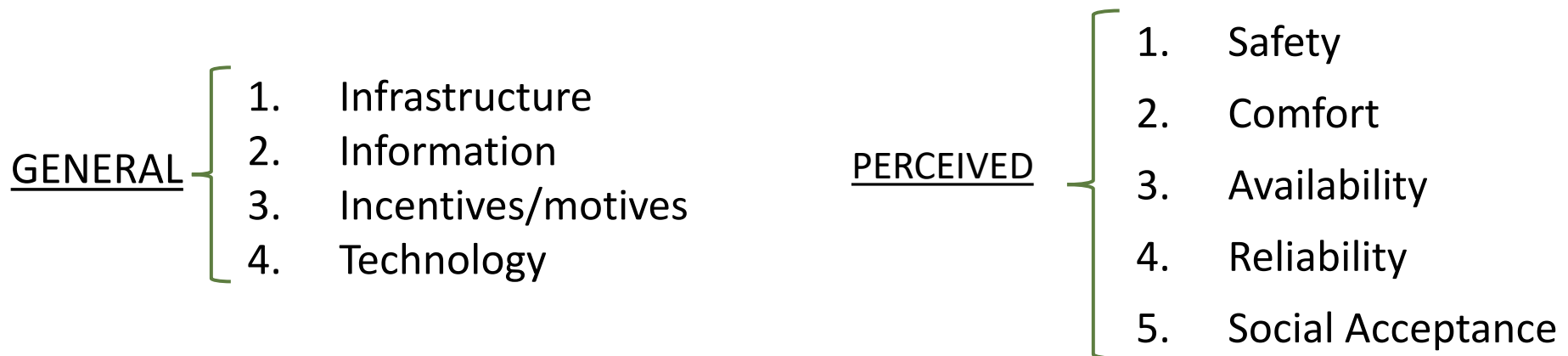


1. Regarding how well each parameter actually works in the study area, “motives provided by the Authorities” for the use of shared mobility had the lowest score (4/10).
2. Infrastructure, information and technology are parameters that were also ranked low.

A low-angle, upward-looking shot of a modern glass skyscraper. The building's facade is composed of a grid of dark metal frames and large glass panels. The sun is positioned behind the building, creating a strong, warm orange and yellow glow that filters through the glass, casting long, diagonal shadows and creating a lens flare effect. The sky is a pale, clear blue. The overall composition conveys a sense of height, modernity, and bright, clear vision.

— Analysis

- A multi-criteria decision-making software was used to prioritize factors for the optimal implementation and success of shared mobility.
- The criteria were grouped as follows, resulting in 37 pairwise comparisons made by each respondent.



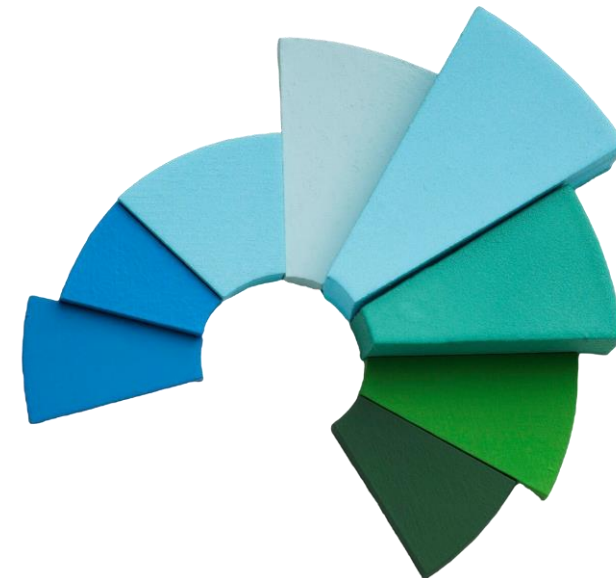
Analytic Hierarchy Process (AHP) model (2/2)

Optimized implementation =

$$0,143*Infra + 0,0408*Info + 0,014*Mot + 0,320*Tech + 0,139*Saf + 0,159*Comf + 0,104*Avail + 0,018*Soc_accept + 0,063*Rel$$

Infra = Infrastructure, Info=Information, Mot=Motives/Incentives, Tech=Technology, Saf=Safety, Comf=Comfort, Avail=Availability, Soc_accept=Social Acceptance, Rel=Reliability

AHP Model Results



- The final **hierarchical ranking** of importance for the successful implementation of shared mobility:

1st - Technology

- The most critical factor with the highest weight

2nd - Comfort

- The second most important parameter (almost 50% below 1st)

3rd - Infrastructure

- The third parameter in terms both of its existence and its high-quality maintenance

Incentives/Motives

- The least important according to stakeholders' answers, despite being the biggest gap for the region



Conclusions

Conclusions (1/4)

The findings of the stakeholders' interview survey regarding the drivers and barriers for the success of shared mobility on islands suggest that:

Prioritizing technological advancements and enhancing user comfort can significantly boost the efficiency of shared mobility services, as these derived as the dominant parameters

Strengthening infrastructure is also essential for supporting these services

Challenges are posed by insufficient incentives, social acceptance issues, and lack of adequate information dissemination which need targeted interventions



These findings are aligned with other international studies

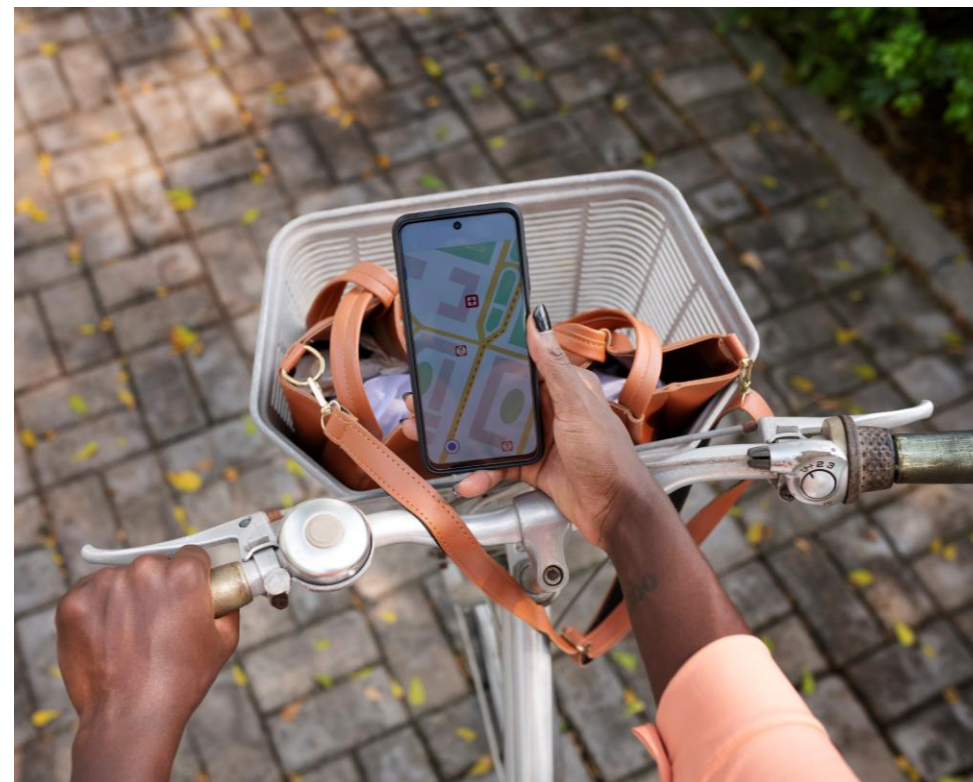
Conclusions (2/4)



- ✓ Crucial factors for their long-term operational sustainability rely on ensuring the safety, availability, and reliability of shared mobility services.
- ✓ The stakeholders in the North Aegean region have identified a lack of incentives and governmental support as the most significant gap. However, these incentives are ranked as the least important in pairwise comparisons, which may shed light on the region's slower progress.

Conclusions (3/4)

- ✓ In order to draft effective policy recommendations, emphasis should be placed to:
 - Provide suitable incentives
 - Enhance public perception through targeted communication strategies
- ✓ Also, adopting tailored approaches is important for island contexts and their specificities:
 - The distinct geographical and socio-economic characteristics of the North Aegean islands necessitate customized strategies.
 - Approaches must cater to the unique needs and constraints of island communities, as opposed to mainland solutions.



Conclusions (4/4)



- ✓ In general, it is confirmed that the development and implementation of shared mobility solutions require a well-rounded and integrated strategy.
- ✓ Among the key factors to consider exist both **tangible infrastructure**, on one hand, and **intangible social factors**, on the other hand.
- ✓ Future research:
 - Expand focus to include broader regional comparisons
 - Investigate how emerging technologies can influence tailored solutions, especially in island contexts

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- Special thanks to all the **engaged stakeholder participants** who provided their input in the frame of this survey.
- Project’s official website: <https://www.interregeurope.eu/smape>

Thank you!

Contact Details

Vasiliki (Vasia) Amprasi

Civil & Transportation Engineer, Research Associate

v.amprasi@uniwa.gr