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# Transportation Infrastructure: Adopting a Holistic Approach to Societal Progress

*Resilience through Innovation and Sustainability*

5<sup>th</sup> Transnational Meeting, Paphos, Cyprus

# SUSTAINABLE MOBILITY AS A CATALYST FOR RESILIENT COMMUNITIES



- ✓ RTIS Identity: A new generation European organisation developing actionable resilience strategies at the intersection of sustainability, innovation, and social equity
- ✓ Our Fundamental Principle: Accessible transportation enables exercise of basic rights - education, healthcare, employment, and civic participation
- ✓ Strategic Approach: Integrating disaster risk reduction, climate adaptation, and social inclusion into mobility planning
- ✓ EU Alignment: Our work directly supports the European Green Deal and EU Climate Adaptation Strategy through practical, scalable solutions

# USING MOBILITY INFRASTRUCTURE TO BRIDGE COMMUNITIES- GREENMOVE CONTEXT

## Accessibility & Non-Discrimination as Resilience Measures

Universal Design as Standard:

- ▶ All new transport infrastructure incorporates universal design principles
- ▶ Emergency evacuation planning integrated with accessible transport routes
- ▶ Multi-sensory wayfinding systems for diverse abilities

Social Protection through Mobility:

- ▶ Crisis-responsive transport systems for vulnerable populations
- ▶ Subsidized mobility solutions for climate-affected communities
- ▶ Gender-responsive transport planning addressing safety concerns

Geographical Equity:

- ▶ Island-specific solutions addressing unique isolation challenges
- ▶ Emergency transport guarantees for remote communities
- ▶ Resilient infrastructure connecting high-risk areas to safe zones

# PLANNING FOR LINKED DAILY TRIPS IN LOCAL ECOSYSTEMS



## Sustainability, Inclusion & Innovation Framework

### Climate-Resilient Sustainability:

- ✓ Infrastructure designed for climate adaptation and mitigation
- ✓ Renewable energy integration in transport systems
- ✓ Nature-based solutions for transport route protection

### Social Inclusion as Resilience:

- ✓ Participatory resilience planning with marginalized communities
- ✓ "Leave No One Behind" principle in climate adaptation transport
- ✓ Cross-generational knowledge transfer in mobility planning

### Innovation for Resilience:

- ✓ Digital twins for climate risk assessment in transport planning
- ✓ AI-powered emergency routing systems
- ✓ Smart infrastructure monitoring for rapid disaster response

# CHALLENGING MOBILITY STEROTYPES - FACTS

Challenge Area	Resilience-Specific Challenges	RTIS Mitigation Strategies
<b>Financial</b>	High costs for climate-resilient infrastructure	Blended finance models; EU resilience funds utilization
<b>Technical</b>	Lack of expertise in climate-adaptive design	Capacity building; knowledge transfer programs
<b>Institutional</b>	Fragmented disaster and transport governance	Integrated emergency-transport coordination frameworks
<b>Social</b>	Ensuring equity in climate adaptation benefits	Targeted vulnerability assessments; inclusive planning

## Context-Sensitive Climate-Adaptive Mobility

### Heritage-Compatible Resilience:

- ▶ Protection of historical sites through sustainable transport routing
- ▶ Traditional knowledge integration in climate adaptation planning
- ▶ Cultural heritage preservation in disaster-responsive mobility

### Cultural Resilience Programming:

- ▶ Mobility services supporting cultural continuity during crises
- ▶ Traditional evacuation routes integrated with modern systems
- ▶ Indigenous knowledge in climate-resilient transport planning.

## Monitoring Framework for Climate-Adaptive Mobility

- **Resilience Impact Metrics:**

- Accessibility maintenance during and after extreme weather events
- Service continuity metrics across climate scenarios
- Vulnerability reduction indicators for at-risk populations

- **Environmental Resilience Metrics:**

- Infrastructure climate adaptation capacity scores
- Carbon resilience combining mitigation and adaptation benefits
- Ecosystem services protection through transport planning

- **Rights Protection Metrics:**

- Fundamental rights access during crisis situations
- Equity in climate adaptation benefits distribution
- Community participation in resilience planning

# BEST PRACTICES FOR RESILIENCE-CENTRED MOBILITY



## Transferable Models for European Regions

### Climate-Resilient Governance Model:

- ▶ Integrated climate and transport planning committees
- ▶ Community-based early warning mobility systems
- ▶ Transparent decision-making in disaster risk reduction

### Holistic Resilience Planning:

- ▶ Integrated land use, transport, and climate adaptation planning
- ▶ Health resilience integration in transport projects
- ▶ Multi-hazard risk assessment in all infrastructure

### Innovation for Resilience:

- ▶ Digital platforms for crisis mobility management
- ▶ Real-time adaptive routing for extreme weather
- ▶ Open data policies enabling resilience innovation



# SCALING IMPACT THROUGH COLLABORATION

## Strategic GreenMove Collaboration Opportunities

### Knowledge Transfer for Resilience:

- ▶ Shared climate adaptation frameworks for transport
- ▶ Best practice database on rights-based resilience mobility
- ▶ Expert exchange programs focusing on climate adaptation

### Joint Resilience Initiatives:

- ▶ Common position on climate-resilient mobility in EU policy
- ▶ Resource pooling for climate adaptation pilot projects
- ▶ Shared research on gender-responsive resilience planning

### Technical Resilience Collaboration:

- Interoperable solutions for cross-border emergency mobility
- Common standards for climate-resilient accessibility
- Joint development of digital resilience tools

# COMPARATIVE RESILIENCE PERSPECTIVES



Initiative Type	Example Location	Rights & Resilience Dimension
<b>Flood-Resilient Mobility</b>	Netherlands, Rhine Delta	Elevated transport infrastructure protecting access during flooding
<b>Wildfire Response Routes</b>	Greece, Attica Region	Protected evacuation corridors ensuring safe escape routes
<b>Climate-Adaptive Public Transport</b>	Copenhagen, Denmark	Heat-resistant infrastructure maintaining service during extreme heat

## Digital Resilience Transformation:

- ▶ AI-enabled climate risk assessment for transport planning
- ▶ Predictive analytics for disaster-responsive service allocation
  - ▶ Digital twins for climate-resilient infrastructure design

## Policy Evolution for Resilience:

- ▶ Climate resilience impact assessment for all transport projects
  - ▶ Mandatory adaptation standards in procurement
  - ▶ Integrated EU funding for climate-resilient mobility

## Community Resilience Empowerment:

- ▶ Community-led climate adaptation mobility services
  - ▶ Participatory disaster risk reduction planning
- ▶ Resilience education integrated with mobility access

# CONCLUSION - KEY RESILIENCE MESSAGES



- ▶ **Core Principle:** Climate-resilient transportation protects fundamental rights during environmental crises
- ▶ **Strategic Imperative:** Integrating climate adaptation, social equity, and innovation creates sustainable and secure mobility systems
- ▶ **Collaborative Opportunity:** GreenMove partnership provides unique platform to advance climate-resilient mobility across Europe
- ▶ **RTIS Commitment:** Leading the integration of resilience thinking into sustainable transportation planning





THANK YOU

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