



A HANDBOOK ON SUSTAINABLE MOBILITY IN THE MED AREA



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A HANDBOOK ON SUSTAINABLE MOBILITY IN THE MED AREA



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A HANDBOOK ON SUSTAINABLE MOBILITY IN THE MED AREA

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ABSTRACT

[Giorgia Mancinelli]

The Mediterranean Region has specific features like climate and biodiversity and all regions facing the Mediterranean Sea are concerned by intense vehicular traffic and by increasing tourism activity. Europe receives over half the world's international tourist arrivals (UNWTO World Tourism Organization, Tourism Highlights 2018 Edition) and the MED area is the top world destination in terms of international and domestic tourism.

These flows are mainly concentrated in summer, but in certain areas traffic peaks also occur in other months, due to trade fairs and congresses, not to mention daily commuters, all of which always represent a challenge.

While it is difficult to work on the reduction of long-distance emissions, it is easier to reduce the emissions of greenhouse gases generated by short-distance trips made within the MED cities. Therefore, the transnational INTERREG MED MOBILITAS project (MOBility for nearLy zero CO₂ in MedITerranean Tourism destinAtionS), within the GO SUMP horizontal network, aims at implementing Sustainable Urban Mobility Plans, policies, technologies, governance, innovative services and other actions or Sustainable Mobility Plans to reduce the negative impact of traffic.

This handbook is the most important outcome of the MOBILITAS project in terms of transferability. The intention is to give added value to the projects concerning sustainable mobility, implemented in the MED area. In particular, this handbook gathers the results produced by all the projects included within GO-SUMP network, with particular attention to the adopted methodologies and implemented actions.

From a project output to a community publication.

This is the challenge represented by this handbook, whose main purpose is to highlight how important mobility issues are for the whole MED area, today more than ever, and to provide methodologies, guidelines, solutions and actions described in this handbook, which can be replicated in other tourist destinations with similar traffic problems.

Finally, *A handbook on sustainable mobility in the MED area* is not a scientific essay, but a handy and practical manual, easy to read, and targetted to a wide audience: policy makers, technicians, professionals, experts and, in general, for all those who are interested in sustainable mobility.

FOREWORD

[Valentina Ridolfi]

Sustainable mobility has been identified as one of the main topics to be dealt with in the **Strategic Plan of Rimini** from its very beginning, namely with the launch and then the development of participatory processes back in 2007.

Rimini can be defined as one of the most well-known seaside destinations in Italy, thanks to its long history of tourism which started in the middle of the 19th century, when Rimini discovered, for the first time, the considerable benefits of sea water on human health and opened the first bathing establishment. Since then, the reputation and the importance of Rimini has increased continuously, to the point where our town was proclaimed one of the “must-go” places for mass tourism after the Second World War and one of the most famous cities for entertainment in more recent decades.

However, like in many other **tourist destinations** all around the world, the tourism industry in Rimini **has been accompanied by a very strong process of urbanization** which, on the one hand, testified to the widespread prosperity of this territory, and on the other, resulted in critical impacts in terms of land consumption, considerable building construction, traffic congestion

and pollution. It is no coincidence that in the Italian dictionary, the verb “*Riminizzare*” was coined in the late 20th century to mean “Building too much and with poor urban and architectural quality”.

This quantitative urban model started to be drastically questioned at the end of the first decade of the new millennium when, drawing up the Rimini Strategic Plan, the local community identified a new, strong focus on the environment, as the main goal to be achieved in its future. This meant a practical and disruptive change to its previous approach to development.

Consequently, many strategic targets were identified to articulate this general goal into specific actions and projects: from water quality to the “environmental reconversion” of our long seaside stretch of land, to the goals concerning sustainable mobility, gathered under the symbolic catchphrase “Rimini mobile, car-free city”. Since then, we have been working day after day to turn all these targets into actions and projects. More specifically, concerning mobility, Rimini’s efforts have aimed mainly at **progressively reducing the use of private cars in favour of public means of transport, bicycles and other sustainable vehicles**, as well as at



dealing with some important breakthroughs, such as those introduced by the use of Big Data in drawing up policies and actions on mobility.

Therefore, the **MOBILITAS project has been an opportunity for us to exchange our work on mobility with what other important tourist destinations of the Mediterranean area** are doing on the same issue. Within the MOBILITAS project, Rimini Strategic Plan Agency has had a specific responsibility for the work package concerning the transferring of activities and for the main output of the whole project: the realization of a handbook on sustainable mobility in tourism.

Nevertheless, since the first months of the project implementation, we have been involved – together with the other MED modular projects regarding sustainable mobility - in **the horizontal project GO-SUMP aimed at guiding and supporting modular projects as a community** and to improving the visibility, capitalization and mainstreaming of their results through synergies and networking activities.

Thanks to the meetings and participatory actions organized by GO-SUMP, we have become more and more aware of each other's activities and projects, and willing to actively share our goals and actions. That is why, during one of the last GO-SUMP meetings, held in Barcelona in October 2018, the idea of

extending our handbook to all the projects of GO-SUMP network, instead of only to the MOBILITAS project, took shape. And just like that, and not without a certain degree of risk due to the complexity of having to coordinate and cooperate with a wide group of people, the envisaged “handbook on sustainable mobility in tourism” was converted into **A handbook on sustainable mobility in the MED area**, presented here. Of course, this extension entailed an increase in our work, but, in hindsight, the success of this challenge was worth taking.

So, introducing this handbook is for me an opportunity to say thank you to a large group of people.

First, I would like to say thank you to all our project partners of the MOBILITAS project for assuring fruitful cooperation. I would also like to thank all the points of reference of the projects CAMP-sUmp, EnerNETMob, LOCATIONS, MOTIVATE, REMEDIO and SUMPOR for their contributions to this book.

Secondly, I am extremely grateful to the Joint Secretariat of the MED programme for sharing with us the choice to extend the handbook and for supporting us in transforming our original idea into reality.

In addition, a big thank you to GO-SUMP, UNIMED and EUROCITIES and all the members of the Editorial board - namely Peter Canciani, Larisa Kunst, Francesca Liguori, Ermete Mariani, Silvio Nocera, Carlos Pacheco Sanchez, Alberto Rossini, Peter Staelens, and Fabio Tomasi - for helping my staff and I actively and with a proactive and cooperative approach. A special thanks goes to Ermete Mariani of UNIMED for his precious suggestions.

Thank you also to everyone who contributed to the handbook with their essays.

Finally, thank you very much to all the staff of the Rimini Strategic Plan for their commitment to creating this handbook and, in particular, to Serena De Rosa, Maria Stella Lodovichetti and Claudio Santini, not to mention the great Giorgia Mancinelli, who has worked by my side with her amazing unwavering enthusiasm and whose efforts were essential in producing this book. Thank you also and always to Maurizio Ermeti, Rita Marfori, Noemi Bello and Giuseppe Selvaggiuolo.

It was a real pleasure to work with each of you and I do sincerely **hope that this handbook, as a product not of a single project but of a real community, will be useful to those who deal with mobility issues and challenges daily**, both in the public and the private sector, all around the MED area and beyond it.



INTRODUCTION

[Roberta Frisoni]

Architect Renzo Piano recently claimed in a speech that, in his view,

**Better cities make
better citizens"**

Sustainability, beauty, health, culture and innovation are the pillars which form the basis of constructing better cities. A city investing in sustainable mobility is a city that can move faster than others to improve the quality of life and health of its citizens. Some topics are discussed below, but there are many more relevant topics.

Sustainability.

Sustainable mobility contributes to reducing the environmental impact of transport activities. As electric bikes and related technology are growing fast, the number of people that could cycle for their daily trips could well increase over the coming years. At the same time, new bike sharing and e-scooter sharing systems are spreading worldwide. Cycling and other micro-mobility solutions modal share can grow fast in cities worldwide and have a huge potential in destinations where people need to stroll around and discover new places. Moreover these means of transport could also boost the appeal and usage of local public transport services.

Health

Active mobility - cycling and walking - help people to be healthier and have longer life expectancy by improving air quality and by reducing



ROBERTA FRISONI

Councillor in charge of urban planning, mobility and waterfront for the Municipality of Rimini. Technical advisor in transport services, planning and socio-economic impact generated by infrastructure and services.

the risk of disease generated by sedentary lifestyles. Health, transport and tourism policies need to further go hand in hand to increase life expectancy and reduce the economic burden of health budgets dedicated to the treatment of disease, which could be better tackled by investing in correct lifestyles, in terms of food and physical activity. Moreover, the demand for holidays and trips where people can experience physical activity is growing fast and the tourist sector should invest in this trend, taking the opportunity to combine active mobility with other tourist experiences.

Beauty

Higher cycling and walking rates and modal share allow a reduction in the amount of public space currently dedicated to private vehicles. This helps improve the quality and landscape of squares, roads, urban spots, waterfronts and even cultural heritage sites, which are still, too often crowded with parked vehicles or are used to accommodate road transport needs.

Culture

Cycling and active mobility allow the discovery of cities and places in a natural and active way, which facilitates contact with and uncovering of natural amenities, enhancing citizens' sense of community and care of their city and providing an unrivalled way to experience the places they visit.

Innovation

Shifting the paradigm from a private-car centric model to a sustainable mobility model for tourist cities is an innovation by itself that deserves great support. The push that is currently ongoing in the bike and e-scooter sharing market – and especially in the free flow model – is an example of how micro-mobility is currently boosting innovation. There are many other ways, though, where sustainable mobility solutions can inspire innovation, which respond to people's needs. Much can be explored in the field of health and physical activity, in the prevention and control of heart disease; cycling and walking can also help social interaction and relationships, as proven by the recent increase in cycling events, in company coaching activities, among managers or other groups.



No doubt that better cities are those able to enhance their strengths through the above mentioned drives.

No doubt that tourist destinations are those that could benefit most."

Tourist destinations

Tourist destinations are those that need to be at the forefront of shaping of better cities: international travellers are looking for amazing, sustainable, healthy, welcoming

and charming places to go where they can have new experiences. Tourist destinations have no excuse, the above mentioned drivers are crucial for local development, and sustainable mobility plays a crucial role in this framework.

Existing tourist destinations need to work hard on **strategic planning** in order to elaborate a **clear vision**, able to guide integrated public works and urban regeneration processes – involving historical city centres, waterfronts, riversides, urban developments, peripheral areas, etc. – to create a sustainable, attractive and inclusive destination for tourists and to improve the residents' quality of life.

Different cities may have different challenges to cope with, but all of them need to have in common the adoption of a holistic approach where sustainability, health, beauty, culture and innovation become the drivers behind any process and choice, from urban planning, to public works, mobility, education, social services, art and cultural heritage, etc.

Tourist cities need to have the drive and ambition to be the frontrunners of this process, turning any challenge they face into an opportunity to demonstrate how things can be solved in a smart, innovative and sustainable manner.

Mobility is certainly a key and clear challenge tourist cities face, though, one that, if properly tackled, can definitely make the difference!



1.

**GO SUMP
NETWORK**



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1.1 COMMUNITY

[Roberta Lixia]

INTERREG MED Programme

The INTERREG MED 2014-2020 Programme is part of the European Territorial Cooperation Programmes, which intervenes on large transnational areas to support EU cohesion policy goals. **INTERREG MED supports the sharing of experiences and knowledge among a wide range of territorial stakeholders**, including national, regional and local authorities, and fosters the improvement of public policies in the Northern regions of the Mediterranean. The main sectors of intervention of the Programme are related to innovation, energy and environment, which are detailed further in specific sub-themes.

Co-operation approach

The INTERREG MED Programme 2014-2020 architecture embeds an innovative strategic framework, coherent with the EU's Cohesion Policy, where new cooperation patterns are promoted. Within this framework, Priority Axis 1, 2 and 3 provide for a two-tier cooperation approach:

- the Module-based approach where

project partnerships develop **concrete cooperation activities** and focus on transnational territorial impact;

- the Horizontal Projects that support modular project implementation, allowing for synergies, joint working and **increased reach at the policy making level**.

Modular project

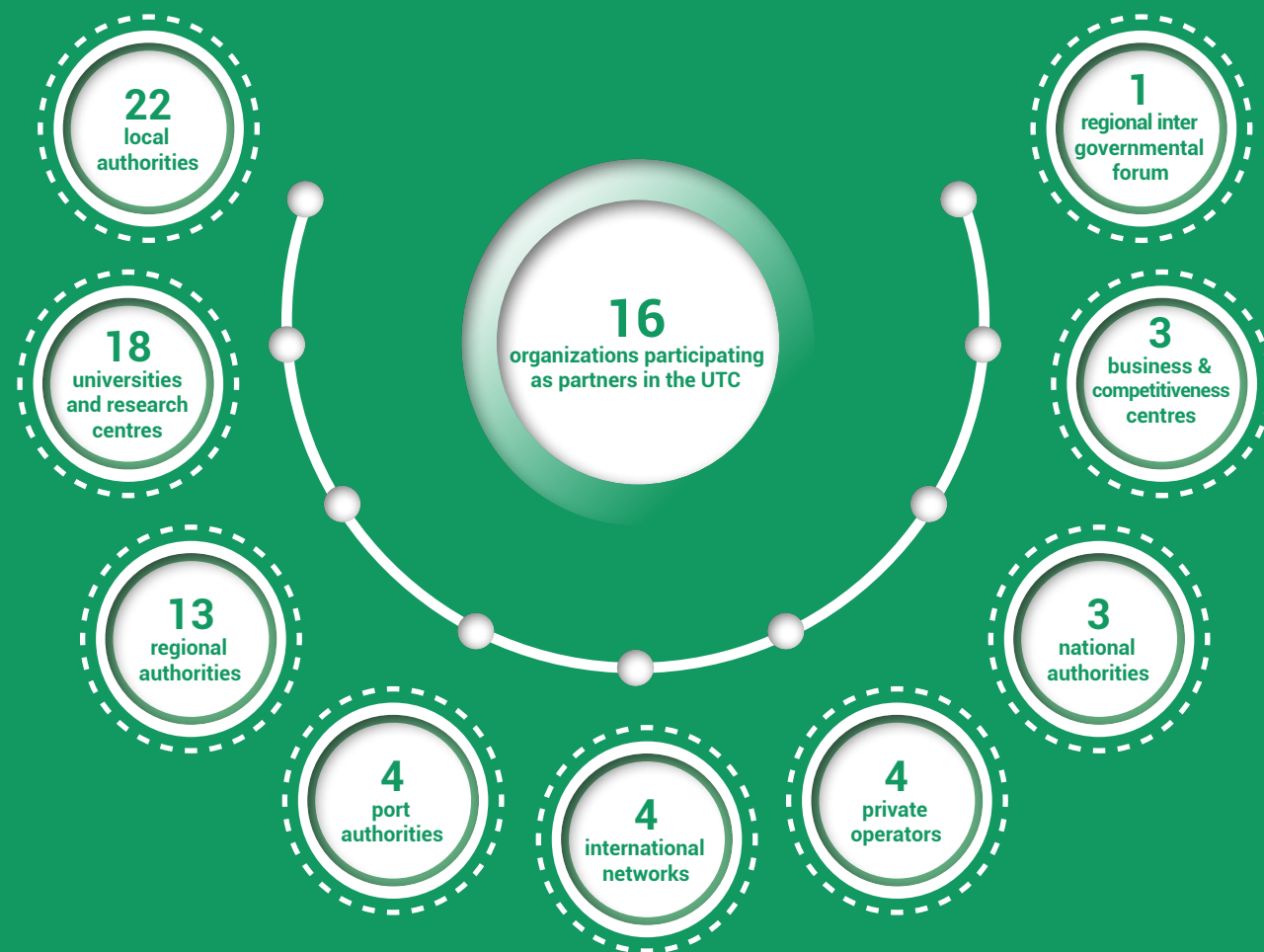
In more concrete terms, modular projects respond to the needs of territories from a bottom-up approach, focusing on studies, tests and/or capitalization activities. Each modular project works in a thematic community, coordinated by one **horizontal project**; the aim of this approach being to **encourage projects to work together on common results and share knowledge and skills**.

Urban Transport community

The Urban Transport community includes 7 modular projects - CAMP-Sump, EnerNETMob, LOCATIONS, MOBILITAS, MOTIVATE, REMEDIO and SUMPORT - and is coordinated



THE GO SUMP COMMUNITY IN NUMBERS



Contributions of the projects

by the GO SUMP horizontal project. The projects have been approved under the Programme's sub theme Sustainable Transport, under Priority Axis 2 - Low Carbon Economy. For this sub-theme, the main change sought is an increase in end-users having better access to and using sustainable transport systems, promoting the Sustainable Urban Mobility Plans concept (SUMP).

The concrete contribution of the projects of the Urban Transport community to the programme's objective consists mainly of:

- the **development and implementation of SUMPs**, including capacity building of local authorities and participatory urban planning and governance
- the implementation of **sustainable transport pilot services**, focusing, among other areas, on tourism destinations and port cities, highly congested roads and electro-mobility.

Pilot projects

More than 30 Mediterranean cities have been reached by the projects' pilot

Results

services, including electro-mobility networks, smart mobility systems, measures to tackle traffic congestion generated by tourists' mobility and renewal of traffic axis.

Over three years of joint work, the relevance of mobility generated by tourism activities in the Mediterranean area has emerged very strongly. **The cooperation of the projects** within the community, under the coordination of the horizontal project, **has led to concrete and relevant results**: joint development of tools and documents, joint capitalization and advocacy activities and events, sharing of knowledge and skills, capability of reaching an increased number of stakeholders, etc.

A handbook on sustainable mobility in the MED area is one of the results of the community effort, lead by the project MOBILITAS. It presents the best practices implemented by the projects of the community and provides guidance for managing sustainable tourism mobility which can be replicated in other territories.





1.2 HORIZONTAL PROJECT

[Carlos Pacheco Sanchez]

Network To develop an innovative structure where the functions of the horizontals were to create, firstly, a sense of community between the partners and the modular projects, was one of the main challenges for the INTERREG MED Programme. Once the community was created, the next challenge was to **identify synergies** and common solutions for sharing knowledge. Then, the final step was to **collect the greatest impact measures for sustainable mobility** in the MED and transfer them to new regulations and policies, in this case to the SUMP.

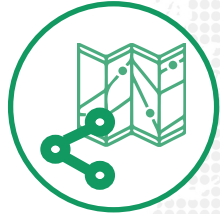
Partnerships The capitalization and mainstreaming of results at transnational level has demonstrated difficulties during the last programming period. When talking about sustainable mobility as a part of urban planning, the gap is even bigger in the Mediterranean, even though the classic city configuration of proximity could easily inspire a low carbon transport strategy. Using a specialized partnership as the backbone of the working structure,

the Urban Transport Community, and in particular the GO SUMP Horizontal project, work to solve this gap by guiding and **supporting modular projects** such as a community, to **improve the visibility, capitalization and mainstreaming** of their results through joint strategies based on synergies and networking.

Work with unique identity GO SUMP comprises of seven modular projects working to find specific solutions to specific problems or challenges related to Urban Mobility. These are the sense of life of the community with 120 partners, so GO SUMP acts as a bridge among the MED Programme and projects, and the stakeholders for their communication and capitalization, through key thematic groups such as Civitas, ELTIS, the SUMP Platform or the Covenant of Mayors. By capitalizing good and bad practices, the horizontal project, will contribute to a unique identity on SUMP in the MED cities enhancing its peculiarities as a key to implementing low carbon transport & mobility measures.

GO SUMP HORIZONTAL PROJECT

MAIN OBJECTIVES AND OUTPUTS



To join efforts by sharing challenges and developing solutions to improve the quality of urban SUMP.



To increase the impact of the MED Programme results in future policies affecting SUMP.



To establish a long-term joint communication & dissemination strategy.

LESSONS LEARNT

The implementation of measures should be carried out at a local level, with the participation of local authorities, citizens and private bodies, but under common EU directives and regulations.

The outputs obtained have similarities that can be exploited to implement a series of sustainable measures in the field of urban transport and on the northern and southern shores of the Mediterranean Sea.

Establish a range of common indicators on sustainability in order to adequately measure the effect of the implementation of the measures, mainly related to the impact on the environment.

120
PARTNERS

7
MODULAR
PROJECTS

36
MONTHS
Nov.2016
Oct.2019

1.167
MILLION

1.3 GO SUMP RESULTS

[Peter Staelens]

GO SUMP GO SUMP - Improving Sustainable Urban Mobility Plans & Measures in the Mediterranean Area - is a horizontal project under the INTERREG MED Priority Axis 2 which aims to **increase the capacity of the Mediterranean cities in using existing low carbon transport systems** and optimising multi-modal connections amongst them. Through a specialised partnership, GO SUMP offers guidance and support to modular community projects co-financed by the European Regional Development Fund ,to build on, increase the visibility of, and mainstream their results through joint strategies based on synergies and networking.

Promoting results To stimulate cooperation and cross-fertilisation between the different modular projects, GO SUMP established an Urban Transport Community (UTC), where modular project partners are invited to **promote their results and opportunities, and to discuss common challenges and solutions**. The exchange is facilitated

through a dedicated online platform, webinars, workshops and events, and structured along five thematic areas including tourist destinations, specific sub-areas of trip generation/attraction, participatory planning and processes, intelligent transport systems and electric mobility, and low carbon transport modes and services.

A growing community

The INTERREG MED Urban Transport Community represents seven modular projects which are briefly described in the following paragraphs, and more projects are expected to join in the future. The UTC can be considered as a **permanent and growing community of Mediterranean transport experts and practitioners** who - building on the results and experiences of the modular projects - will drive the transition towards low carbon urban mobility patterns in the Mediterranean area.

The modular projects that are currently represented in the UTC are:

GO SUMP MODULAR PROJECTS

CAMP-sUmp

Campus Sustainable University Mobility Plans in MED Areas.

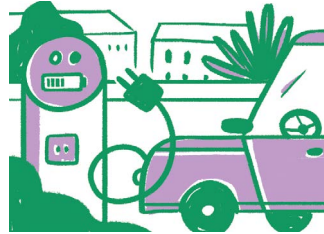


Improve and complement sustainable urban mobility plans for student flows inside university campuses.

This is possible by developing innovative mobility strategies and through better integration in the functional area. The main outputs consist of an **action plan** for developing mobility plans for university campuses, a **roadmap** for decision makers and an **ICT model** for management and communication.

EnerNETMob

Interregional Electromobility Network for the Mediterranean Coastal Areas



Enable a Mediterranean-wide network connecting cities in coastal areas and maritime with land transportation.

The project will implement several pilot actions, networks of Electric Vehicles Supply Equipment (EVSE) and co-powered by renewable energy, to **overcome medium-trip limitations, test interurban and interregional mobility plans and land-sea inter-modality** using e-transport systems and coordinate future investments in the Mediterranean area.

LOCATIONS

Low Carbon Transport in Cruise Destination Cities



Supporting local public administrations in drafting low carbon transport and mobility plans (LCTPs).

LCTPs drafting with measures dedicated to cruise passengers and freight flows, contributing to **de-congestion of urban transport systems and a lower production of greenhouse gases.**

MOBILITAS

Mobility for Nearly-Zero CO₂ In Mediterranean Tourism Destinations



Elaborates different scenarios to enable policy makers and stakeholders to better understand the effects of different policy choices.

The project involves regions affected by intense tourism flows with great pressure on transport infrastructure and mobility, causing air pollution, noise, health risks, road accidents and loss of cities' attractiveness. Its pilot actions are: introducing **sustainable tourism mobility policies, e-vehicles, sharing transport solutions and IT tools for traffic reduction.**

GO SUMP MODULAR PROJECTS

MOTIVATE

Promoting citizens' active involvement in the development of Sustainable Travel Plans



Promotes a new model of SUMP development across the MED area to make mobility planning more environmentally friendly.

The new model is based on the exploitation of social media and crowdsourcing Apps, helping decision makers to develop a sound understanding of the main mobility problems. Citizens and travellers are asked to contribute by providing data of their daily trips, **evaluating the current transport services, and assessing the usefulness of proposed/planned mobility modifications of the Pilot cities.**

REMEDI

REgenerating mixed-use MED urban communities congested by traffic through Innovative low carbon mobility sOlutions



Tests alternative mobility solutions for highly congested mixed-use roads.

Tests by creating "**horizontal condominiums**": a form of **participatory governance** that actively engages institutions, stakeholders and citizens, with whom **the Municipality can directly interact, to improve multi-modal and low carbon mobility**, freight logistics and environmental quality.

SUPPORT

Sustainable Urban Mobility in MED PORT cities



Improve sustainable mobility in Mediterranean port cities by fostering the uptake of SUMPs.

The project has a specific focus on integrating city and port-related traffic, **testing various types of measures concerning sustainable mobility with an important impact on citizens' everyday lives.** Pilot actions and small scale investments for sustainable mobility will be implemented in six MED port cities.



Apart from the many practical tools and guidelines produced within the Urban Transport Community - including for example the REMEDIO integrated modelling tool for assessing low carbon mobility solutions, the LOCATIONS project operational model for low carbon transport plans for cruise destination cities, the MOBILITAS future mobility scenarios for tourist regions, and the REMEDIO participative governance model for roads of medium-sized Mediterranean cities, a lot of valuable experience was gained by testing new transport services and technologies, by improving road infrastructure or by developing new methodologies to engage stakeholders in the sustainable urban mobility planning process.

centre using new Intelligent Transport System solutions. Thesprotia (Greece) improved and harmonized its existing SUMP, while Dürres (Albania) initiated the process for elaborating its first-generation SUMP.

LOCATIONS project partners Malaga (Spain), Lisbon (Portugal), Zadar (Croatia), Trieste (Italy), Ravenna (Italy), Rijeka (Croatia) and Dürres (Albania) each developed a low carbon transport plan to better manage passenger transport from cruise ships.

This is just a limited selection of the many actions that were developed and could potentially be replicated.

Loures (Portugal) redesigned part of its road network to accommodate cycling and walking. Nice (France) promoted soft mobility through a dedicated App, e-bikes and e-bike infrastructure for both local people and tourists. In Greece, the city of Thessaloniki upgraded one of its main roads to prioritise bus transport and green taxis. Treviso (Italy), Split (Croatia) and the port of Valencia (Spain) introduced bike sharing, while Koper (Slovenia) upgraded its traffic management

1.4 SYNERGIES

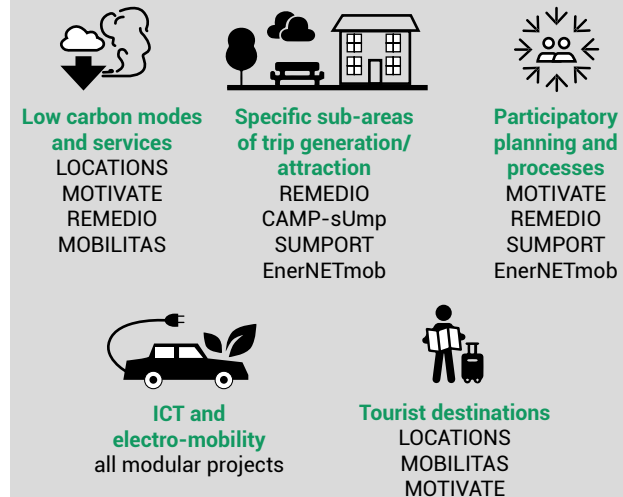
[Iván Luque Segura]

GO SUMP's first phase goals found synergies among the activities and objectives of the running Modular Projects (MPs) of Urban Transport Community (UTC) of the INTERREG MED. Following this, a detailed analysis of each MP's activity, together with a consultation process was developed, aimed at **identifying common mobility sub-thematic fields, where specific common actions could emerge.**

Thematic Working Groups (TWG) were created, aimed at facilitating the community building actions, while sharing the MPs' challenges and results. The MPs were distributed into various TWG, categorised by their specific activities; this was due to the variety of topics and objectives addressed by each project.

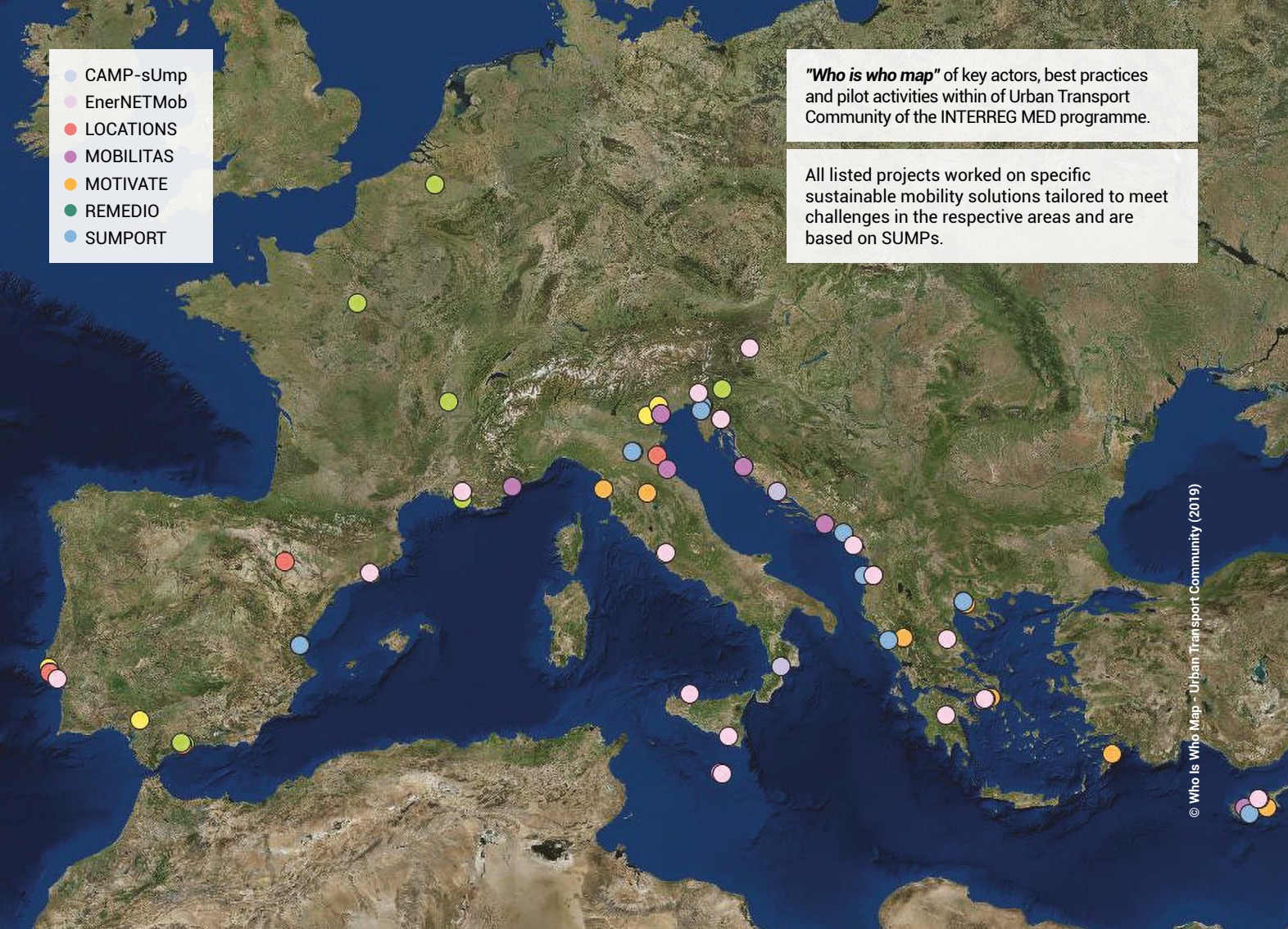
Building and finding common and complementary actions was accomplished within the series of workshops conducted along with the community building events of the UTC.

TWGs of the UTC



Community building events of the UTC





Modelling tool All the events developed together were able to be summarized through the TechCamp conducted in Nicosia, where the **repeatability and adaptability of the good practices and the UTC's tools presented among the participating cities were discussed**. For instance, the MOTIVATE tool and the work done in Lanarka were analysed in detail by the participating community stakeholders, with the aim of assessing whether it could be replicated in new mobility planning processes. In addition, south and EU MED representatives from cities and metropolitan regions received the REMEDIO Modelling Tool with the expectation of that it is repeated in other areas.

Results and concrete outputs The MPs have developed a wide set of results and pilot activities, which build upon the Mediterranean experience and lessons learnt on urban transport in its cities and territories. The contributions from the different projects to specific working areas at urban level bring the following concrete outputs, through the synergies identified and developed in detail among the MPs of the Urban Transport Community:

Measures • **Measures related to SUMP development.**

Since 2010, the SUMP concept has been promoted by the European Union as a strategic planning instrument for local authorities to foster the balanced development and integration of all transport modes, whilst encouraging a shift towards more sustainable, low-carbon modes of transport. All SUMPs aim to increase the number of commuting passengers and users of collective low-carbon transport modes and decreasing the total number of private vehicles. From the seven MPs of the UTC, 10 measures have been identified related to SUMP development. Among them, 4 measures aim to develop a SUMP from scratch or update/improve an existing SUMP. The others are more tools to give added-value to existing SUMPs.

Pilot actions • **Pilot Actions Involving Small-Scale Investments in Soft Mobility and electro-mobility**

We can distinguish between different types of measures which are listed below.



1st measure **Alternative transportation modes including bike-sharing, carpooling and e-vehicle sharing systems**

This category gathers pilot actions that aim to promote low-carbon transportation means, while making cities cleaner, and more attractive, like:

- **Carpooling** involves two or more people travelling together in a car to a shared destination. It is distinct from car sharing which allows different people access to the use of a fleet of vehicles by booking a vehicle for a defined period of time. Each works best in a different context, addresses different issues and serves a different target audience.
- **Bike sharing** schemes involve making bikes available to the public for short-term use, usually in urban areas. Bike sharing schemes can be part of a package of measures that serves to encourage cycling as a means of transportation in a city.
- **Electro-mobility** for the development of electric-powered drive-trains

designed to shift vehicle design away from the use of fossil fuels and carbon gas emissions.

- **Alternative collective transport modes** such as maritime transport

2nd measure **Road layout improvements**

The identified pilot activities come from 2 MPs: REMEDIO and SUMPORT. These are **measures that aim to both reduce car traffic** through restricting access and promoting cycling through specific improvements that make roads safer for both tourists and local people.

3rd measure **Information on traffic and parking management**

The identified pilot activities come from 2 MPs: MOBILITAS and SUMPORT. These are activities that should help **make urban transport faster, more efficient and to support travellers by using communication/information technology (ICTs)**. We can distinguish between two types of actions:

- the ones giving priority to **public transport**;

- the ones improving **parking management**.

Transferring & operationalising

In the last phase of GO SUMP project, further complementary actions have been developed, transferring all the UTC's results among Mediterranean cities. A series of "*peer to peer*" sessions were organised in Barcelona in 2019, as capitalisation actions, testing and operationalising the mainstreaming of the results among cities all around the Mediterranean basin.

Knowledge sharing

The UTC is contributing to knowledge sharing on urban sustainability policies and practices, through the design of the UTC's mobility section, as part of the MedUrbanTools platform.

This **toolbox is a Knowledge Sharing Platform on Urban Development in the Mediterranean**. It intends to be a useful, attractive and user-friendly database not only including technical content, but also offering visual materials and best practices, promoting urban analyses while inspiring new initiatives



1.4.1 CAMP-SUMP

[Donatella Soluri / Vittorio Papaleo]

Introduction Going from one department into another in a Mediterranean university campus may not be an easy task for students and university workers. With vast areas, large academic populations, similar to cities and integrated in their urban areas, university campuses in the Mediterranean regions have inefficient connections between different departments and activities.

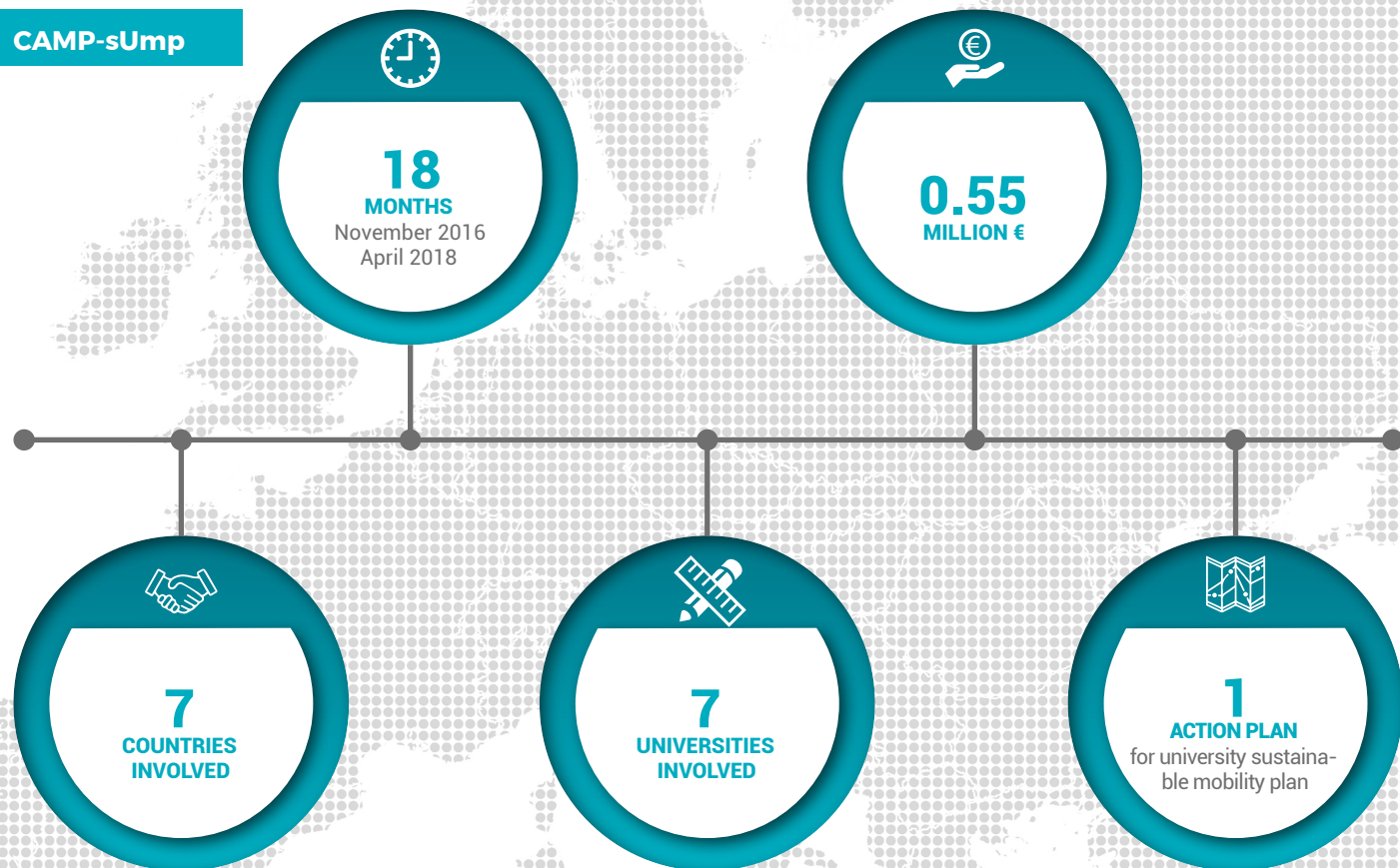
Testing new and innovative ways for student flows inside the university campuses and their integration with the urban areas in the Mediterranean northern sea basin regions is the main goal of the CAMP-sUmp project.

Main goals The CAMP-sUmp project concerns the strategic planning of Sustainable Urban Mobility Plans as the direct normative reference for the project and it aims to include in SUMP, the management and planning of student flows in university campuses. The CAMP-sUmp project wants to analyze university campus mobility and student

flows in order to push the development of SUMP in the MED areas, which have not yet adopted such plans, and integrate them with sustainable university mobility plans, as in some partner countries, to improve the SUMP of the MED areas which have already adopted them.

Actions The CAMP-sUmp project tests a university campus with regards to policies on public sustainable mobility **for improving sustainable urban mobility planning instruments**, such as Sustainable Urban Mobility Plan (SUMP).

Results **Student** mobility is a starting point and it **involves other urban development aspects**, such as urban and suburban environment and planning, management of urban development, urban accessibility and different categories of services for citizens. The CAMP-sUmp project capitalizes regional and local experiences as listed above, focusing on exchange of good practices and knowledge concerning student mobility. The outputs were:

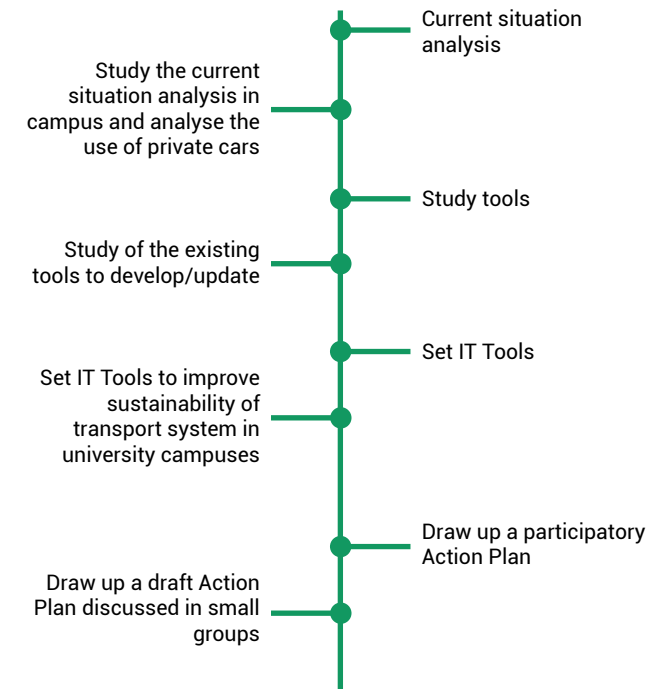
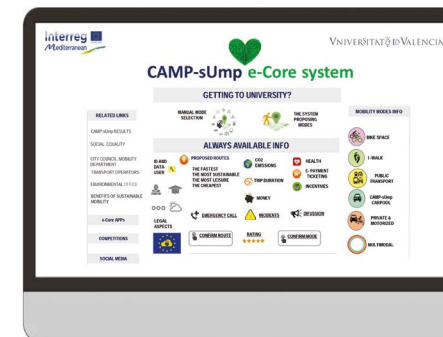


Universities involved: Greece, Spain, Cyprus, Croatia, Malta, Italy | Lead Partner: Magna Graecia University Foundation (IT) | Partners involved: the National Technical Universities of Athens (EL), Alma Mater Studiorum - University of Bologna (IT), Malta University (MT), University of Split (HR), University of Valencia (ES), University of Cipro (CY).

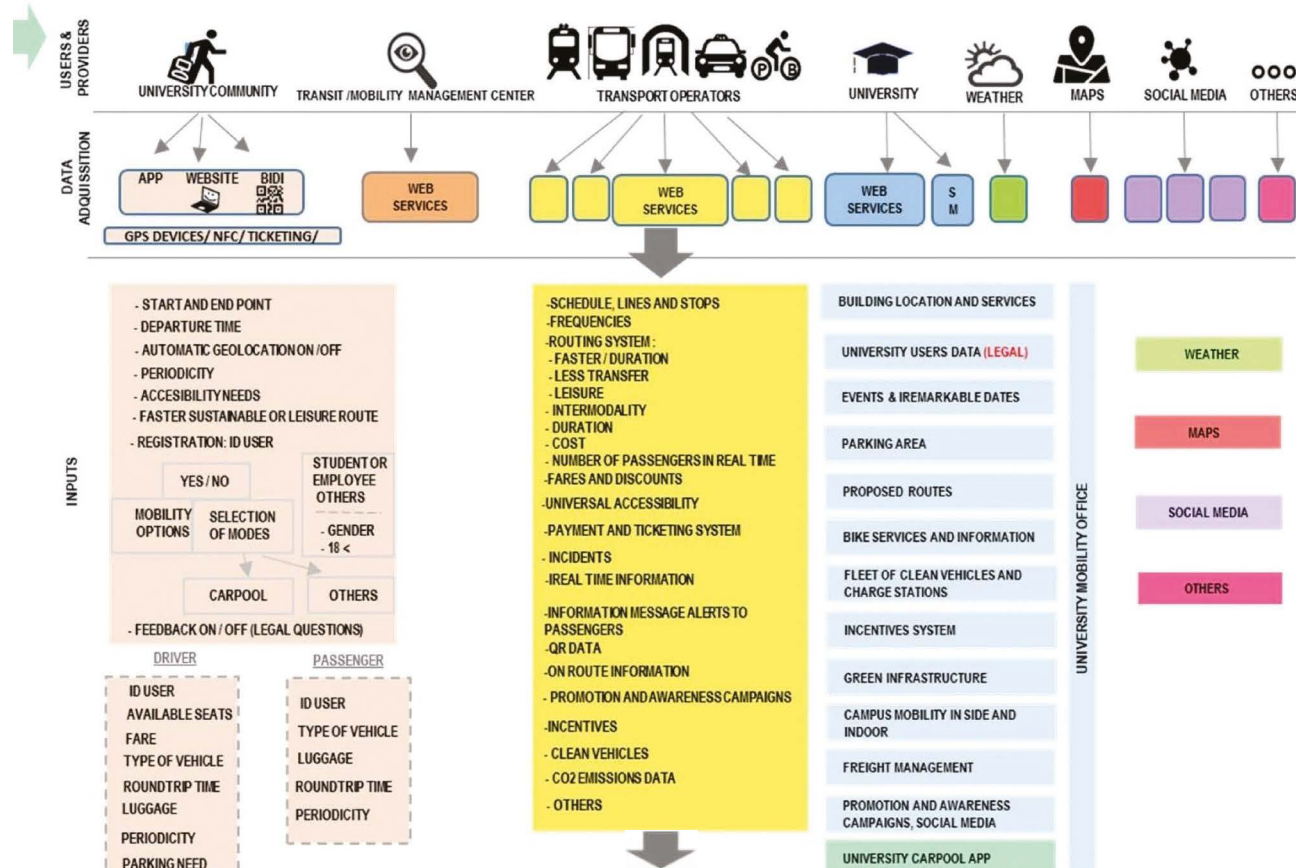
Outputs • Action Plan for university sustainable mobility plan implemented, capitalizing each local partner's experience on sustainable urban mobility, planning instruments and related transnational exchange of good practices.

• **RoadMap for decision makers** who intend to implement a plan for sustainable urban mobility in universities and to apply appropriate measures.

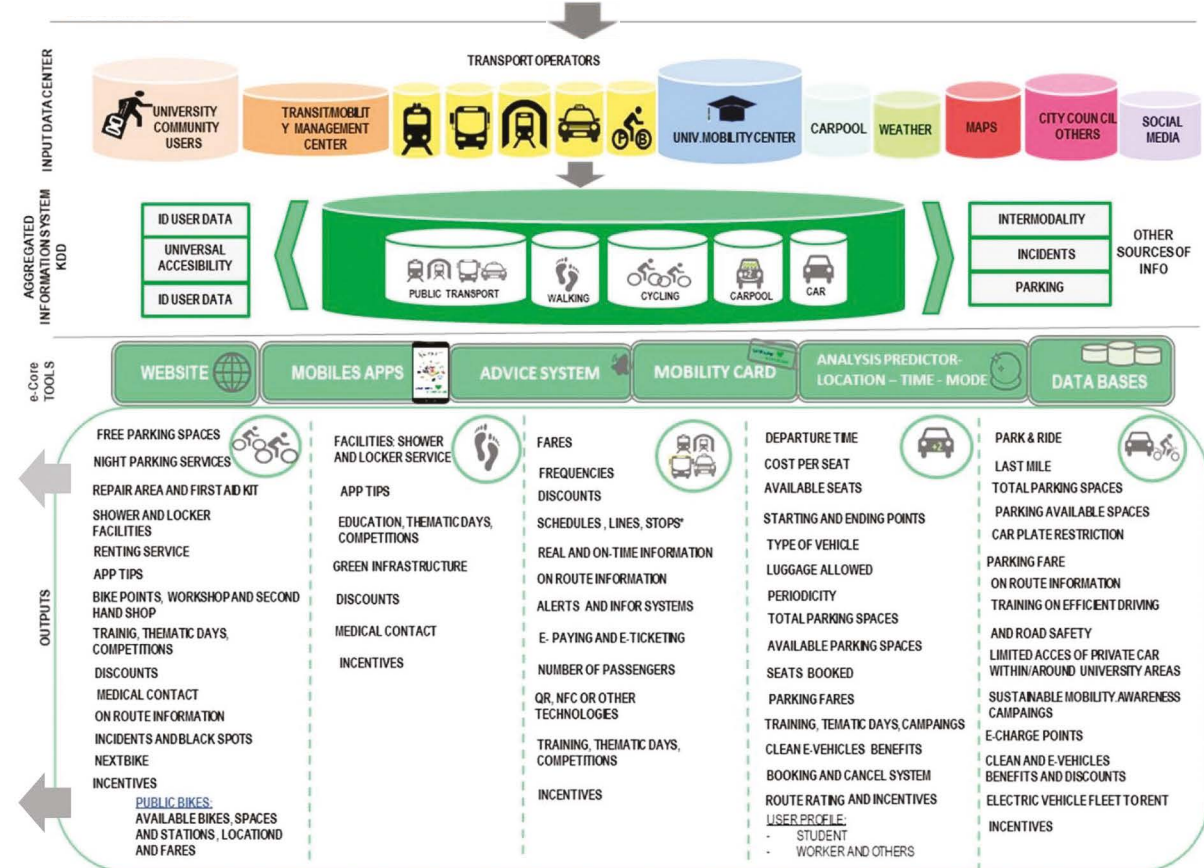
• ICT model for management and communication for planning, overseeing and monitoring of sustainable mobility in university campuses.



CAMP-sUmp e-Core system



© CAMP-sUmp - Urban Transport Community (2019)





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1.4.2 ENERNETMOB

[Ioannis Mardikis]

Introduction On the basis of existing Best Available Technologies, the EnerNETMob project will develop solutions and test pilot actions to overcome medium-trip limitations and to coordinate future investments in electric transport in the MED area. The projects aim to **decrease GHG emissions due to transport in the Mediterranean cities** and to improve: the living environment in high density areas, mobility and quality of life of populations in areas of economic crisis and transnational road-sea multi-modal transport services for passengers and freight. They also aim to promote electric transport and logistics as leverage to boost the competitiveness in the MED area and to increase the use of renewable energy connected to charging points.

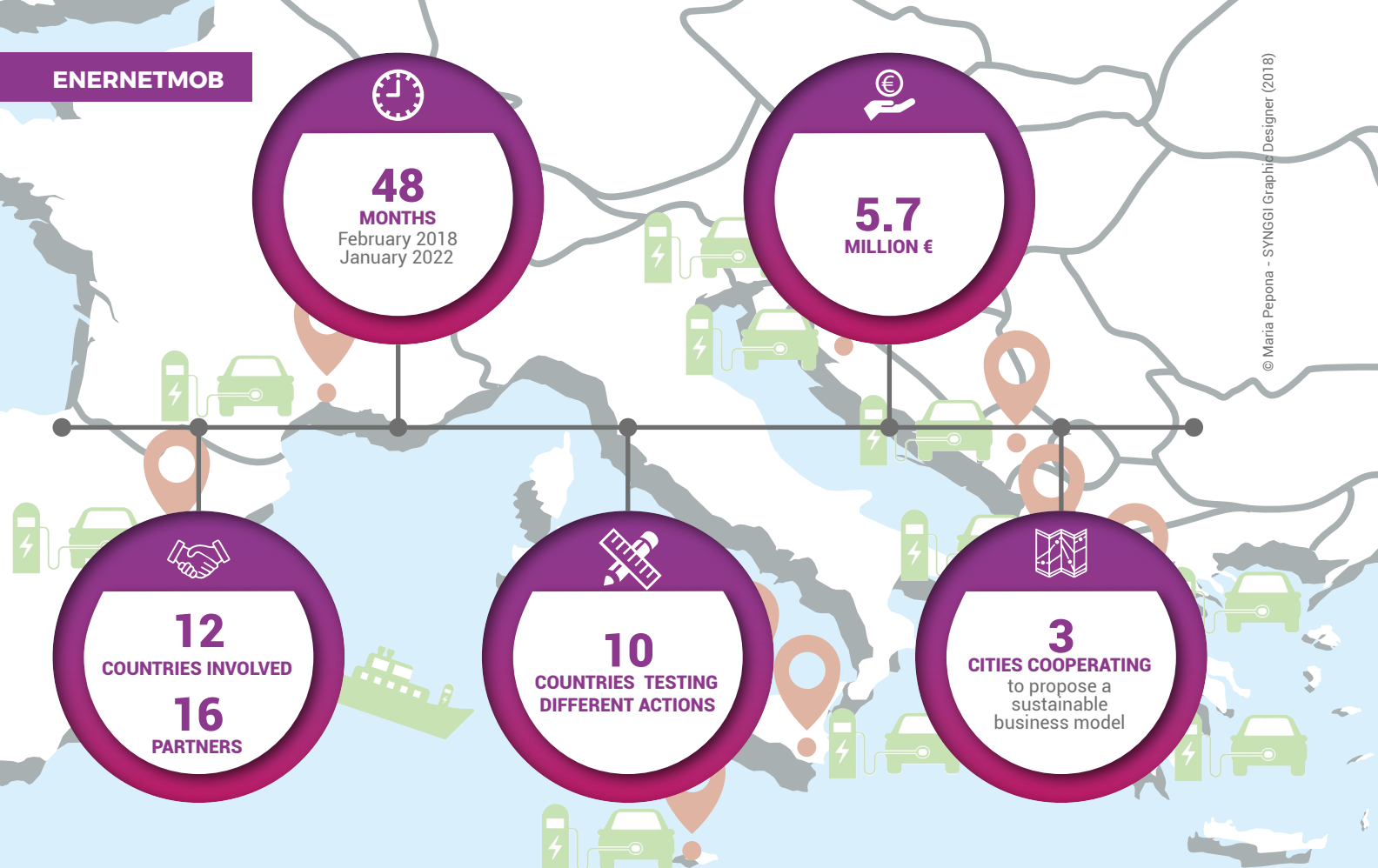
Main goals The aim is to draft, test and **improve Sustainable Electro-mobility Plans** parallel to SUMP and SEAPs according to common standards and low carbon policies, in order to set an *Interregional Electro-mobility Network* crossing cities

of all the transnational MED area. The plan promotes sharing mobility and land-sea inter-modality using electric transport systems to reach 2 main goals:

- to **implement and extend “Interregional Electro-mobility Networks”** inside and beyond the MED area, following common approaches and design guidelines for electric transport infrastructure/services;
- to **implement pilot small-scale investments in electro-mobility for interurban and inter-modal connections** in order to allow longer trips and test networks at transnational level, integrating regional networks of Electric Vehicles Supply Equipment (EVSE) using the same communication protocols.

Process The EnerNETMob project will design charging and electric transport infrastructure/ services as well as an ICT Platform so as to manage, monitor and interconnect the small-scale Infrastructure Networks to a wider Interregional

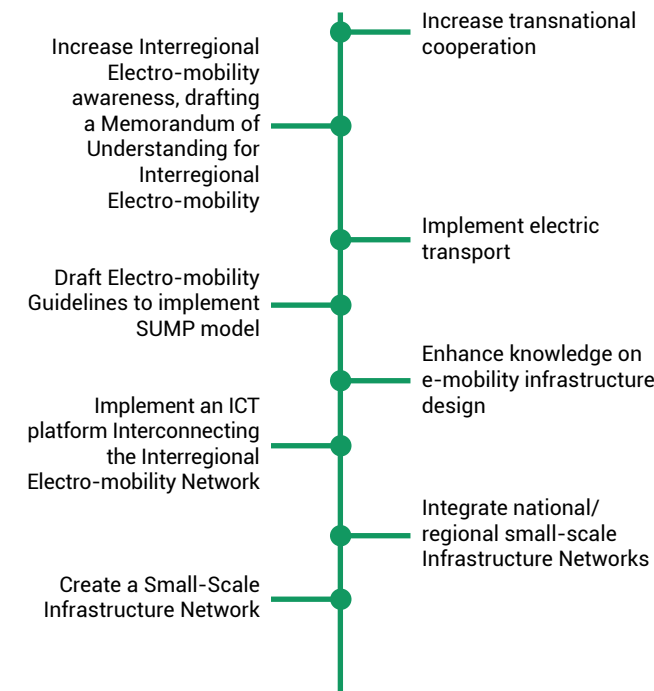




Countries involved: Greece, Malta, Italy, Cyprus, Albania, Croatia, Slovenia, Italy, Portugal, Montenegro, Spain, France, Austria | Lead partner: Region of Peloponnese-Department of Management for Development Planning (GR) | Partners involved: Authority for Transport in Malta (M), RAM Logistica Infrastruttura e Trasporti S.p.a. (IT), Ministry of Transport, Communications and Works (CY), Albanian Institute of Transport (AL), Region of Thessaly-Department of Development and Planning (GR), County of Primorje and Gorski Kotal (HR), University of Palermo - Department of Agricultural, Food and Forest Sciences (IT), Regional Development Agency of Northern Primorska Ltd. Nova Gorica (SI), Energy and Environment Agency of Arrabida (ES), Free Municipal Consortium of Ragusa (IT), Dynamic Vision P.C. (GR), Port of Bar Holding company (MNE), CIMNE, International Center for numeric methods in engineering-Barcelona (ES), CAPENERGIES, Aix-en-Provence (FR), FORSCHUNGSGES ELLSCHAFT MOBILITÄT - Austrian Mobility Research FGM - AMOR (AT).

Electro-mobility Network. It will test the flexibility of interurban displacement of Battery Electric Vehicles (BEVs) in a range of 30-60 kms by using charging points placed in different cities. The project is based on 3 different pilots:

- Actions**
- Pilot 1 will **optimize the mileage of BEVs with reference to sea-road trips** involving 9 charging points and 5 EVs in 5 countries.
 - Pilot 2 will **test sharing electro-mobility in combination with renewable energy sources** by replicating car-sharing or bike-sharing systems. 15 charging stations will be installed and 5 EVs will be purchased. 20 bikes including GPS/ICT equipment and 10 e-bikes for the disabled will also be used in 5 countries.
 - Pilot 3 will **test City Logistics for the last mile freight transport connections**. BEVs will be used in 3 cities in collaboration with SMEs and farming associations so as to propose a sustainable business model for agri-food chains. 4 charging stations will be installed.





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1.4.3 LOCATIONS

[Anja Starec]

Partnership 5 countries, 7 territories, 19 partners and a single challenge: **support Mediterranean cruise destinations in mitigating the impact of passengers on local urban mobility**, with the ultimate goal of reducing GHG emissions and preventing climate change adversities.

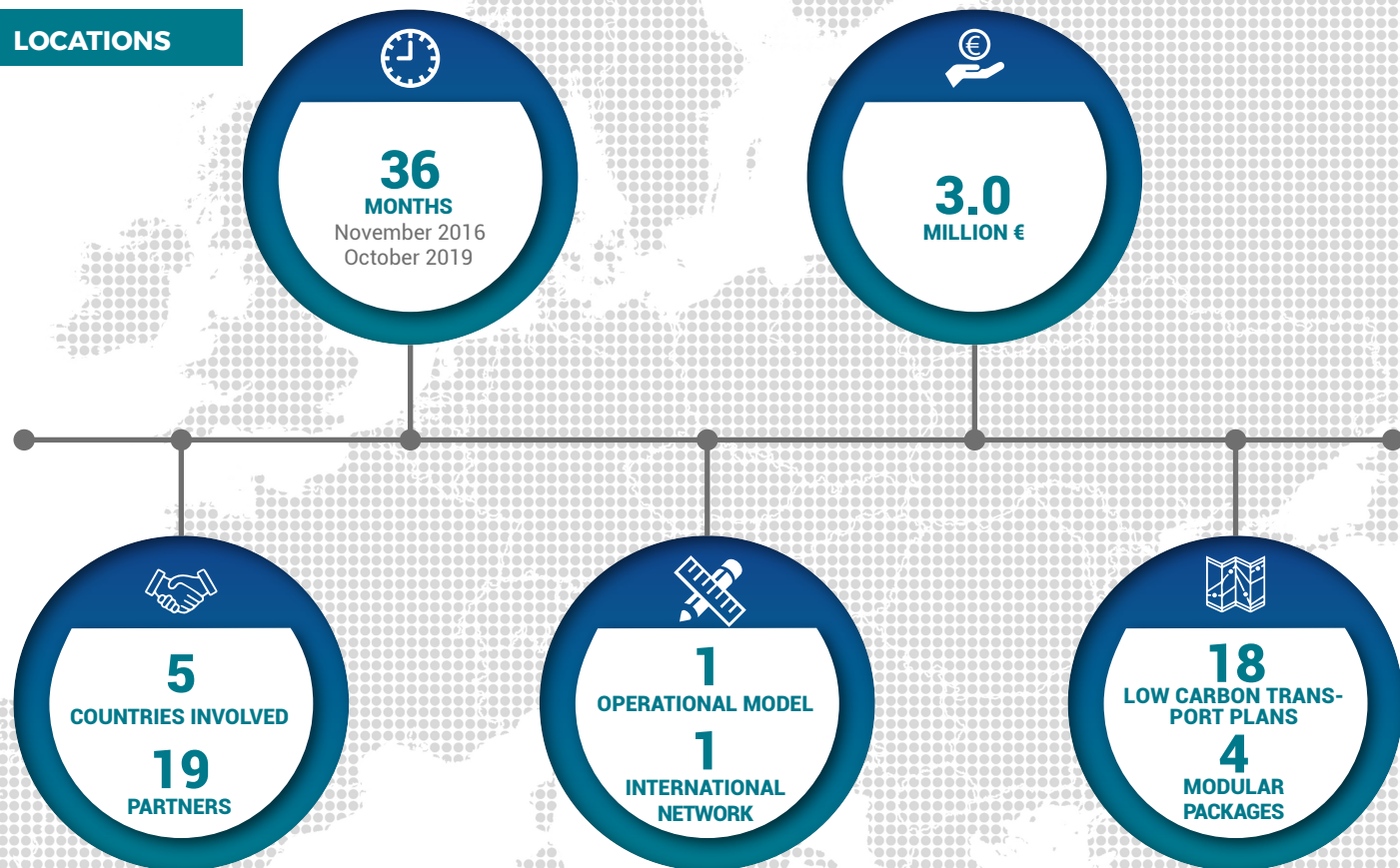
Introduction From its cruise tourism niche, the LOCATIONS project demonstrates that everybody should shoulder their own responsibilities where a greater good is at stake. Starting from local decision makers and competent authorities that are called to sustainably improve cruise passengers' mobility and freight flows on land, while preserving local environmental resources and community well-being. The solution proposed by the LOCATIONS project is the development of Low Carbon Transport Plans (LCTPs), e.g. dedicated sectoral plans focusing on specific passengers and freight flows generated by cruise tourism, to be developed in the wider framework of other local strategic, spatial, energy and transport/mobility plans, paving the way

for sustainable territorial development, the deployment of a low carbon economy and the achievement of EU2020 targets.

Main goals The LOCATIONS project's main objective is to **promote sustainable growth and the uptake of low-carbon strategies in MED cruise destinations** by leveraging on the capacity of port, local and regional authorities to jointly develop planning tools for the sustainable mobility of people and goods related to cruise flows.

Actions The actions taken by the project are based on the **development of a methodology for mobility planning in cruise destinations, on the development of quality standards, evaluation procedures, capitalisation and transfer strategy**. They also concern the involvement of key stakeholders in all project stages, the organisation of webinars to disseminate methodology, the provision of capacity building actions and the identification of the financial resources required for the implementation of LCTPs.

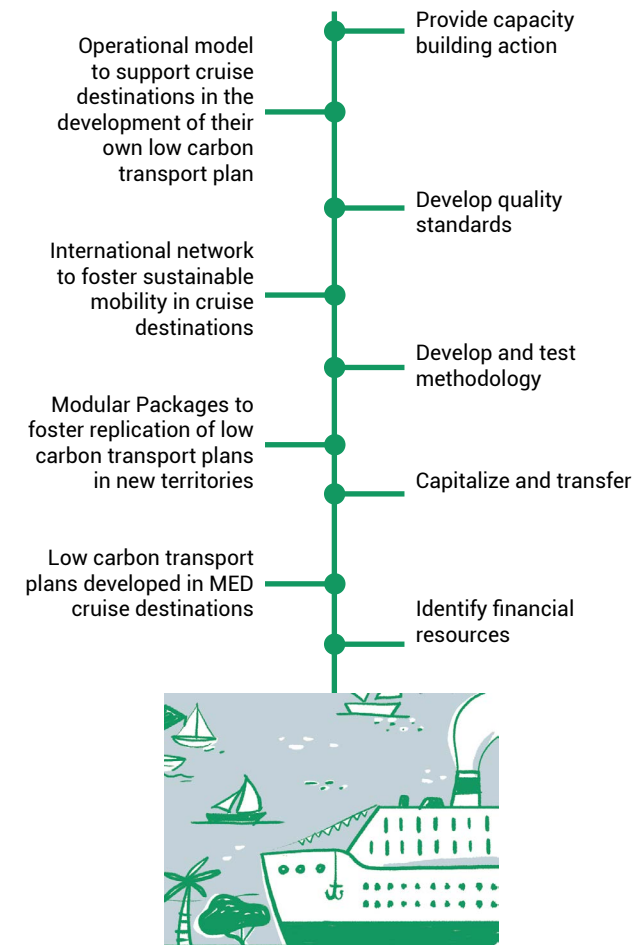
LOCATIONS



Countries involved: Albania, Croatia, Italy, Portugal, Spain | Lead partner: Area Science Park (IT) | Partners involved: Lisboa E-Nova (PT), City of Lisbon (PT), Circe Foundation (ES), Málagaport (ES), City of Ravenna (IT), Port Network Authority of the Eastern Adriatic Sea (IT), Regional Energy Agency Kvarner (HR), Rijeka Port Authority (HR), City of Zadar (HR), Albanian Institute of Transport (AL), Durres Port Authority (AL)

Process The LOCATIONS project evolves over 2 main stages:

- stage 1 foresees the development of a sound operational model, jointly devised by a consortium of technical partners, local and port authorities from 5 MED countries and its testing in 7 cruise destination cities to produce a set of as many low carbon transport plans, able to address local cruise-related mobility issues and needs.
- stage 2 has a dual focus: **supports LCTPs' implementation at a local level**, investigating difficulties encountered and finding suitable options including financing solutions; **triggers a replication procedure to develop new LCTPs**, capitalizing on experience and materials developed during the testing stage, further testing and applying the LOCATIONS project's methodology to a wider range of specific local contexts, making it immediately sound and flexible to adapt to ever-new local conditions.





© MOBILITAS project - Urban Transport Community (2017)

1.4.4 MOBILITAS

[Larisa Kunst]

Introduction The MED area is an attractive tourist destination suffering from heavy traffic caused by tourist flows during the summer, but also by the local population in peak hours over the rest of the year. The most widely used means of transport is the car, which is used by the majority of visitors who arrive at the destination. The same goes for the local population for their daily commute: public transport is unpopular (used only by 5 to 8% of the local inhabitants). Cruise ships or planes are the most commonly used means of transport to reach the south Mediterranean countries where areas with airports and ports often lack adequate public transport connections between the airport or the port and the city centre. Many private transfer services therefore cause bottlenecks in summer. Another common weakness of all partners' areas is insufficient inland public transport connections.

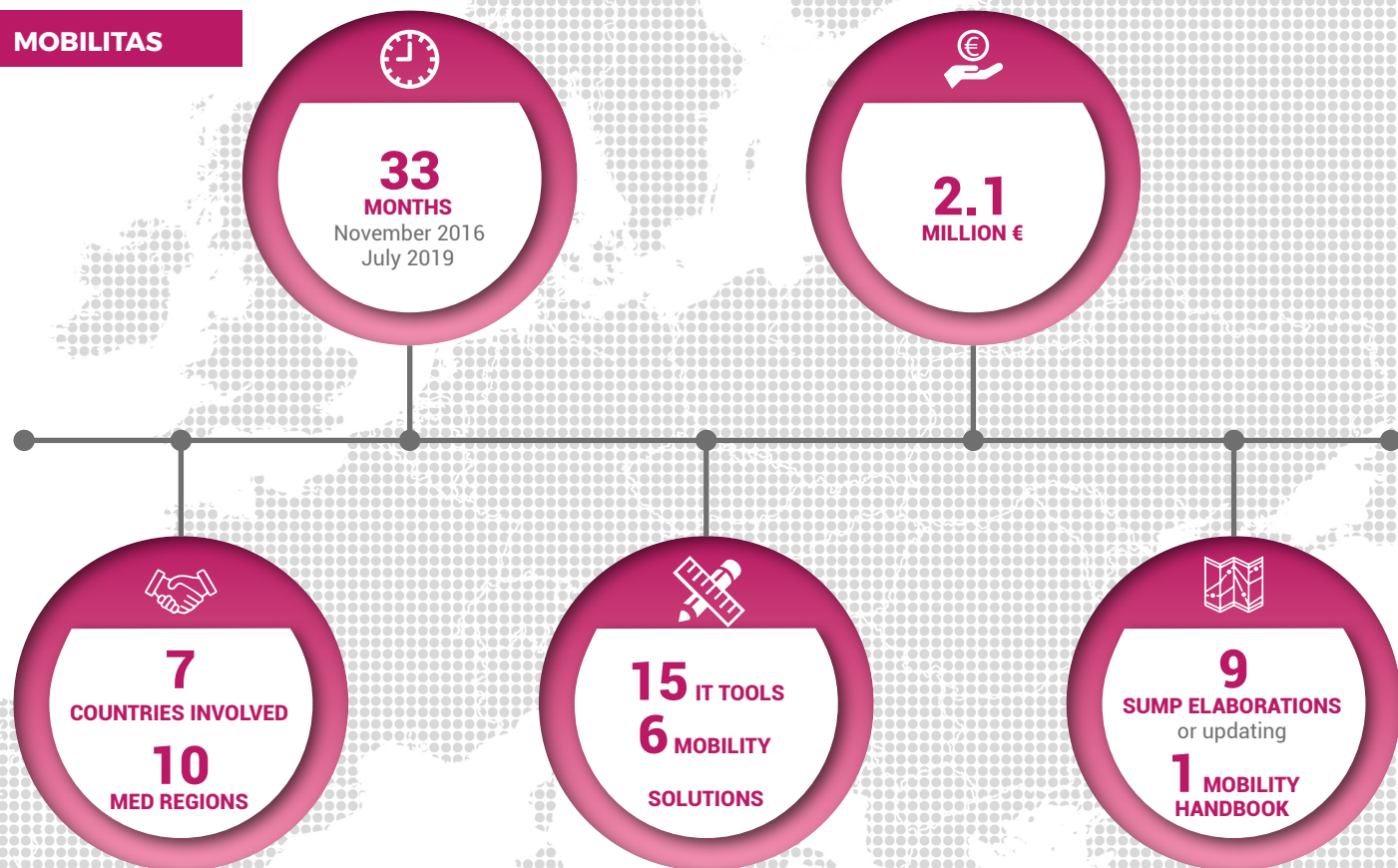
Partnership Traffic has a negative impact on air and noise pollution and on health, it makes

roads unsafe and cities less attractive. The MOBILITAS project partners intended to jointly contribute to traffic reduction through introducing sustainable tourism mobility policies and solutions.

Main goals The main project objective is to make mobility in tourist areas more sustainable by **reducing car use among tourists and the local population** with a 2-tier approach:

- **strategic level:** 9 planning documents were elaborated with the aim of reinforcing sustainable mobility measures in tourist destinations.
- **activity level:** 21 pilot activities were dedicated to the promotion of environmentally friendly behaviour.

Process In the first phase, the IUAV University of Venice elaborated **mobility scenarios** for the 9 project areas. They provided an estimation of the impact of climate change on future tourism demand and tried to

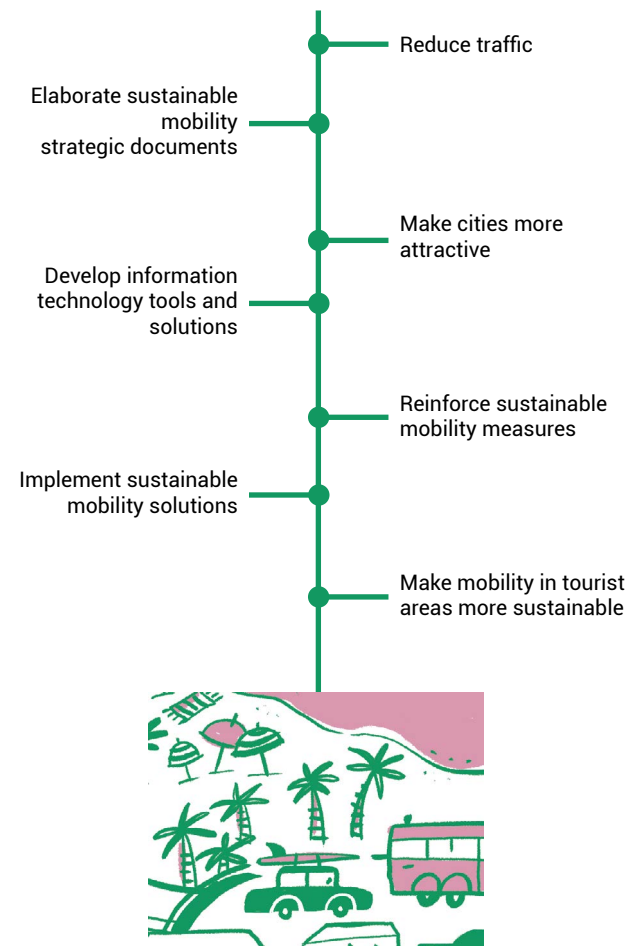


Countries involved: Cyprus, Croatia, France, Greece, Italy, Malta, Slovenia | Lead partner: Regional Development Centre Koper (SLO) | Partners involved: Pano Platres Community Council (CY), City of Dubrovnik (HR), Zadar County Development Agency Zadra Nova (HR), ENERGIES 2050 (FR), Municipality of Piraeus (GR), IUAV University of Venice (IT), Municipality of Misano Adriatico (IT), Rimini Strategic Plan Agency (IT), Paragon Europe (M)

assess tourism-related CO₂ emissions caused by tourism transport, based on forecasts of future climate change. Outputs can be a scientific basis for the definition of the primary measures to reduce future levels of CO₂ emissions without curbing its demand.

Scenarios In relation to these scenarios each partner identified 3 types of activities to be implemented:

- **Elaboration of sustainable mobility strategic documents** which will enable policy makers to undertake more efficient spatial and traffic planning.
- Development of **information technology tools and solutions** to facilitate traffic decongestion: design of Apps offering traffic and tourist information, design of websites, portals and databases and traffic flow analysis.
- Implementation of **sustainable mobility solutions**: e-bikes, bike sharing system, public transport line and sign-posting system.





1.4.5 MOTIVATE

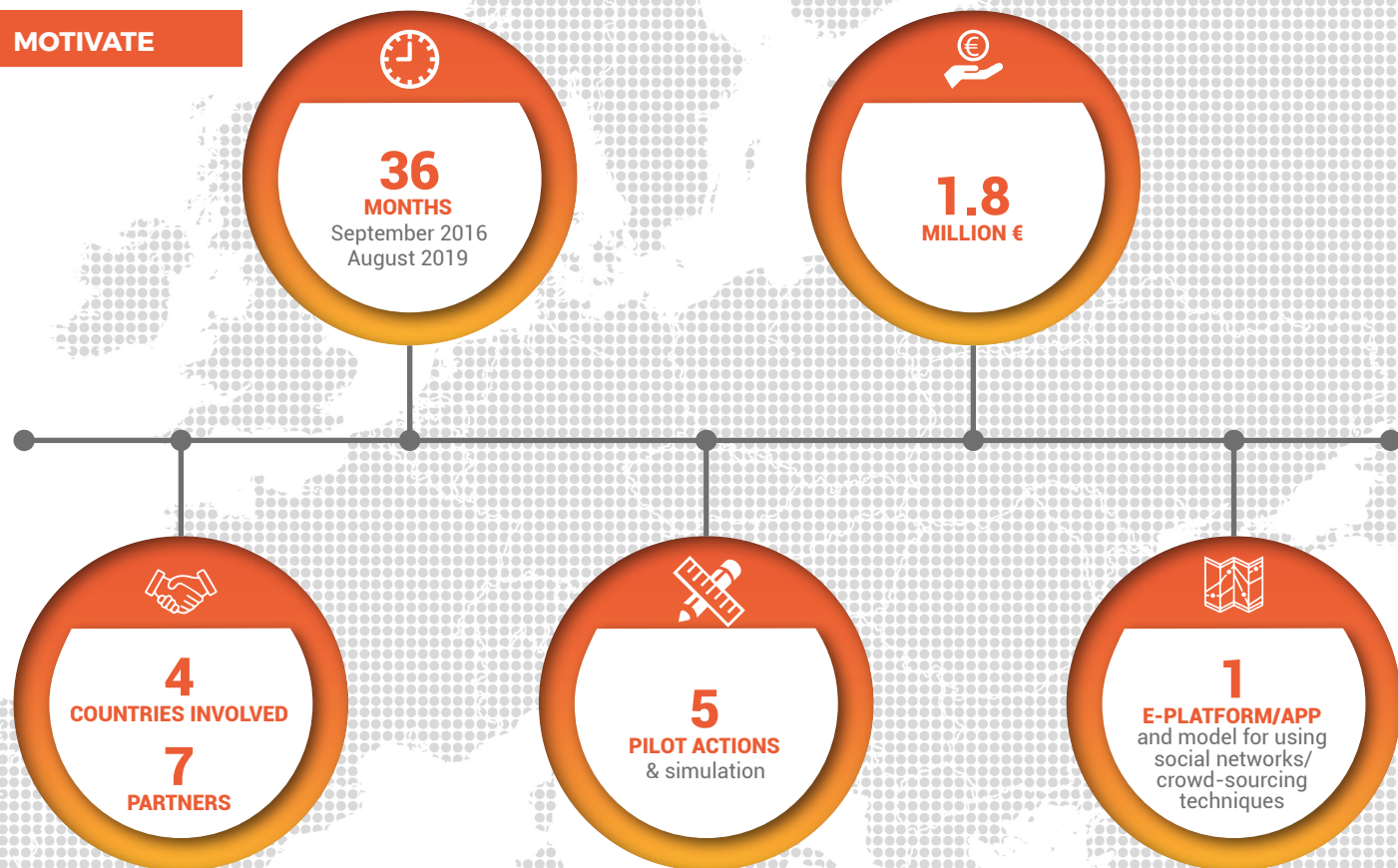
[Pedro Gomes]

Introduction The Mediterranean cities, whilst facing the common challenge of developing a sustainable mobility background, also present particularities depending on the territorial context and the type of tourists they attract. Unlike the traditional data collection methods, where citizens or visitors are "passive" users of the transportation system, the innovative approach of the MOTIVATE project lies in its **active involvement in transport data collection/management, problem identification and proposed measure evaluation promoting a new model of SUMP development**, based on the exploitation of social media and crowd-sourcing applications. This model will be created and updated after the pilot testing cases, and to the transferring protocol that will be created will include, processes, techniques and tools to ensure an efficient and consistent way of transferring the projects' results to other cities; it will support the SUMP development and enhancement all around the MED area.

Main goals MOTIVATE's main objective is to go a step further by focusing on the needs of urban areas with high seasonality (seasonal variations in transport demand) and try to align not only residents' but also visitors' needs with **policy goals on sustainable and accessible mobility services**. Unlike other cities with steady demand, many cities in the Mediterranean area face this common challenge, thus it should be treated separately.

Process The key to promoting urban sustainable mobility is given by the potential offered by using crowd-sourcing and social media, to involve travellers in the decision-making process, thus gaining wider acceptance. In this way, the most supportable sustainable urban transport policies (both existing and well known and new policies proposed by international practice) based on real users' needs, will form the "foundation" for **accelerating SUMP development with specific attention to efficient and qualitative PT services**.

MOTIVATE

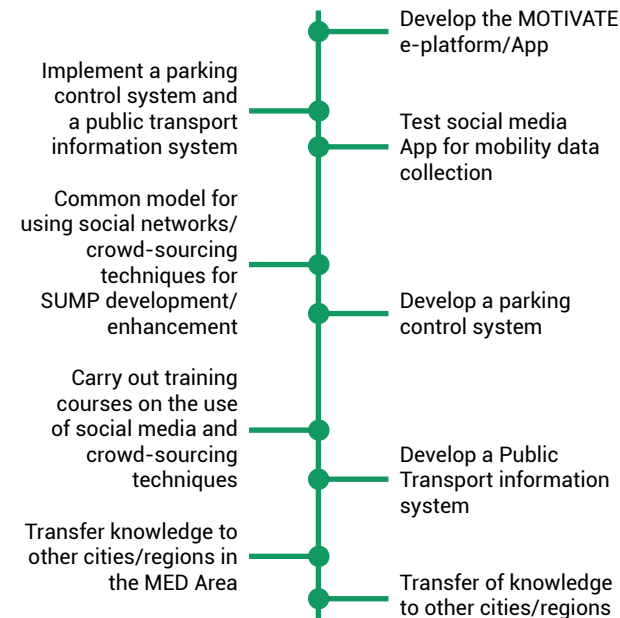


Countries involved: Portugal, Italy, Greece, Cyprus | Lead partner: Câmara Municipal de Almada (PT) | Partners involved: Centre for Research and Technology Hellas/Hellenic Institute of Transport (GR), MemEx (IT), Rhodes Municipality (GR), Aegean Energy & environmental Agency (GR), Tiemme (IT), Larnaka Municipality (CY), Municipality of Ioannina (GR)

Actions The use of social media and crowd-sourcing techniques for facilitating SUMP development, is not widely known yet. The MOTIVATE project is promoting citizens' engagement in urban sustainable mobility planning - through the use of social media and crowd-sourcing applications. Citizens are asked to contribute to the decision-making process by:

- **providing data** of their daily trips;
- **evaluating the performance** of mobility measures and expressing their satisfaction;
- **assessing the usefulness** of proposed/planned mobility modifications.

This is done by the MOTIVATE App (with Android and iOS versions, as well as the web platform - <http://motivate.imet.gr>), one of the core tangible outputs of the project. Two of the pilot cities will also develop sustainable mobility actions that will be evaluated through the MOTIVATE App and platform: the smart parking system in Ioannina and the new PT information system in Rhodes.





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1.4.6 REMEDIO

[Francesca Liguori]

Introduction The REMEDIO project addresses the challenge of high density areas surrounding city centres with commercial and directional roads (roads within business areas) often suffering from traffic jams and including elements of additional economic crisis and even social exclusion, to the point of becoming wounds in the connectivity to the wider city area.

Participatory governance For such congested roads, the REMEDIO project proposes transforming them into **"horizontal condominiums"**, forms of participatory governance that actively engage institutions, stakeholders and citizens and with which the Municipality can directly interact to improve multi-modal and low carbon mobility, freight logistics and environmental quality.

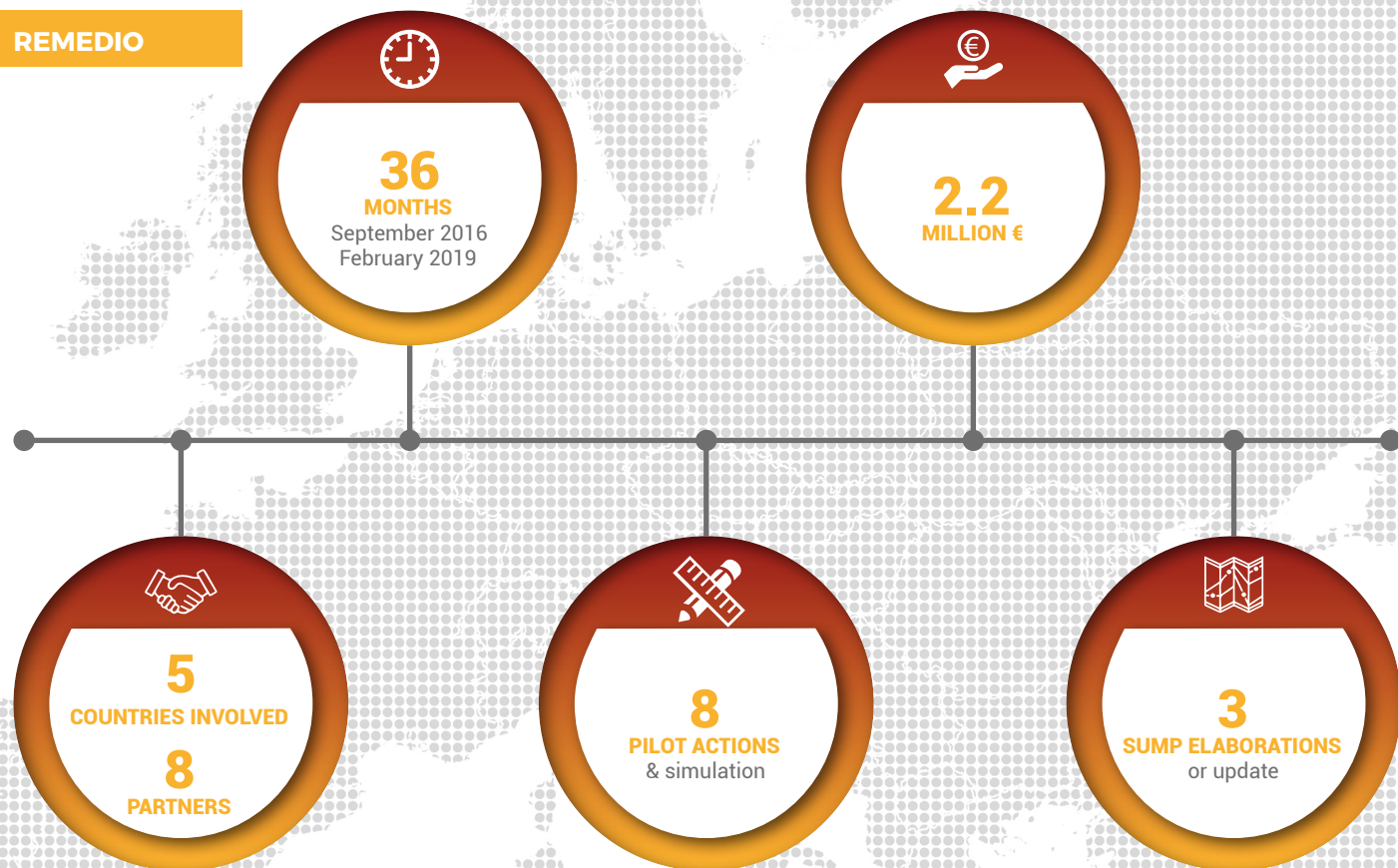
Main goals The REMEDIO project aims at **fostering the use of available low carbon transport systems and solutions through the testing of an operational path in the governance and management of highly congested roads**, a common issue for

many middle-sized Mediterranean cities lacking proper orbital roads or bypasses. The test consists of assessing the system's performance before and after the implementation of the mobility pilot activities through the use of a customized integrated modelling tool, based on the evaluation of transport/energy/environmental-related indicators. The innovation in the operational path lies in the idea of establishing one form of participatory governance, directly engaged in the improvement process, to provide the basis to further develop the sustainable urban mobility concept for the benefit of the larger urban area and the regeneration of urban communities.

Process The REMEDIO project is a test project, basing its approach mainly on three pillars:

1. **governance pillar:** a new participative governance model for roads of middle sized Mediterranean cities, based on *"horizontal condominium"*;

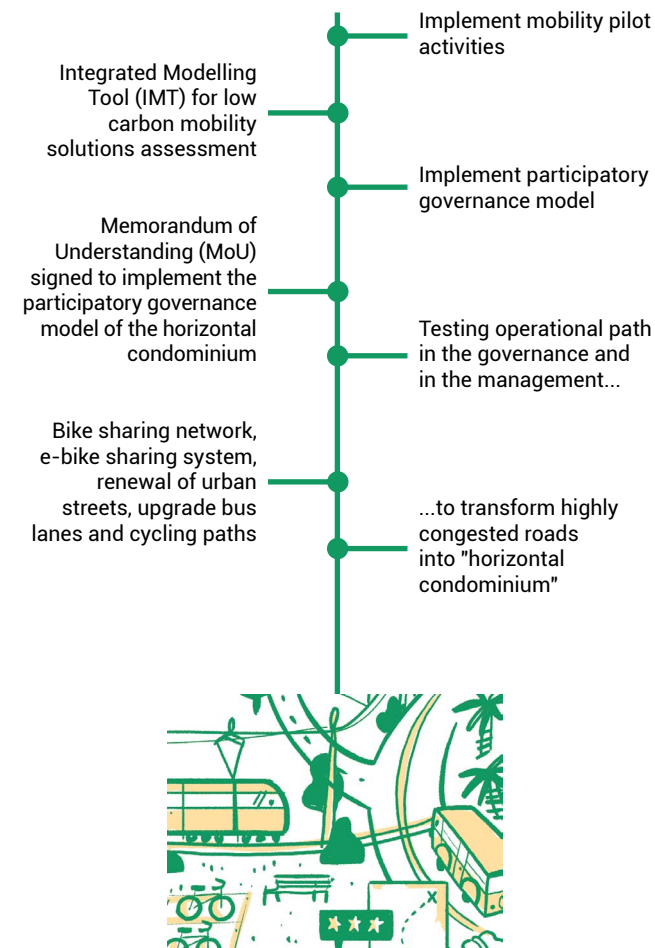
REMEDIO



Countries involved: Italy, Greece, Portugal, Spain, Croatia | Lead partner: ARPA Veneto - Regional Agency for Environment Protection in Veneto Region (IT) | Partners involved: Municipality of Treviso (IT), Aristotle University of Thessaloniki (GR), Instituto Superior Técnico Portugal (PT), University of Seville (ES), Metropolitan Development Agency of Thessaloniki S.A. (GR), City of Split (HR), Municipality of Loures (PT)

- hard pillar:** small scale modifications as pilot activities for urban low carbon measures;
- soft pillar:** an Integrated Modelling Tool (IMT) for low carbon mobility solutions to evaluate the low-carbon actions to be implemented in highly congested roads, testing the customized analysis performed in each pilot area.

Actions As governance actions, the REMEDIO project has been testing in four pilot cities, a participative approach that proposes to transform their pilot highly congested road into a "horizontal condominium". The "horizontal condominium" has been seen as an effective way to engage trade and business operators, enterprises, commuters, citizens, local communities and local authorities in sharing a new vision for these highly congested roads and agree on some concrete solutions. Moreover, awareness and educational paths on sustainable urban mobility behaviour constitute the **educational pillar**, with a great deal of effort made in all the 5 territories involved.





© Ubald Trnkoczy, Koper (2011)

1.4.7 SUMPORT

[Peter Canciani / Olga Izquierdo Sotorrijo]

Introduction The SUMPORT project has tackled the issue of congestion and air pollution, (aggravated by port-originated traffic), fostered competences in sustainable mobility planning and implemented pilot actions, to mainstream alternatives to individual car transport. Specific training courses have been organized to improve participants' skills and competences.

The project has also built an **e-learning platform consisting of valuable methodological and training materials on sustainable mobility** developed by all the projects belonging to the Urban Transport Community of the MED Programme.

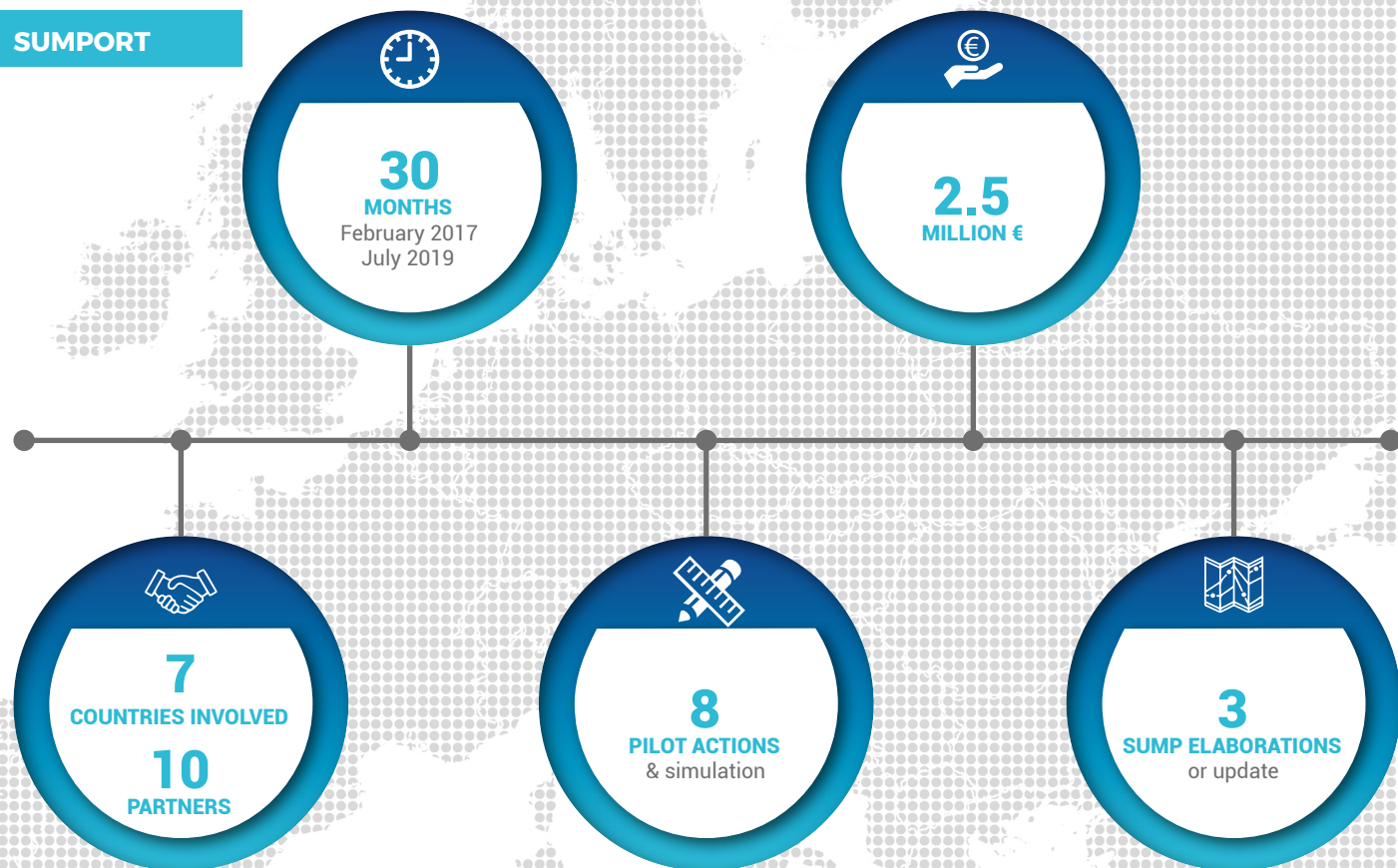
Partnership The SUMPORT project partnership has been inspired by the recognition that port cities in the Mediterranean face common challenges that stem from their function as well as their socio-economic similarities. Many of the participating cities have historical ties that date back several hundred years, and there are often geographical similarities, too.

What is even more important is that, regardless of the size of the port, or the economic relevance, all participating cities share similar trends in terms of traffic congestion and air pollution. These aspects require tailoring specific solutions, yet developed, based on a shared methodological baseline that incorporates lessons learnt in other European cities.

Main goals The SUMPORT project contributed to **strengthening the planning capacity on sustainable mobility of participating MED port cities through the sharing of experience, joint methodological elaboration and training.**

The knowledge accrued in this framework has been further tested and consolidated through the implementation of pilot actions that allowed the deployment of extremely concrete measures, thus affecting positively, the transport systems of participating cities.

SUMPORT

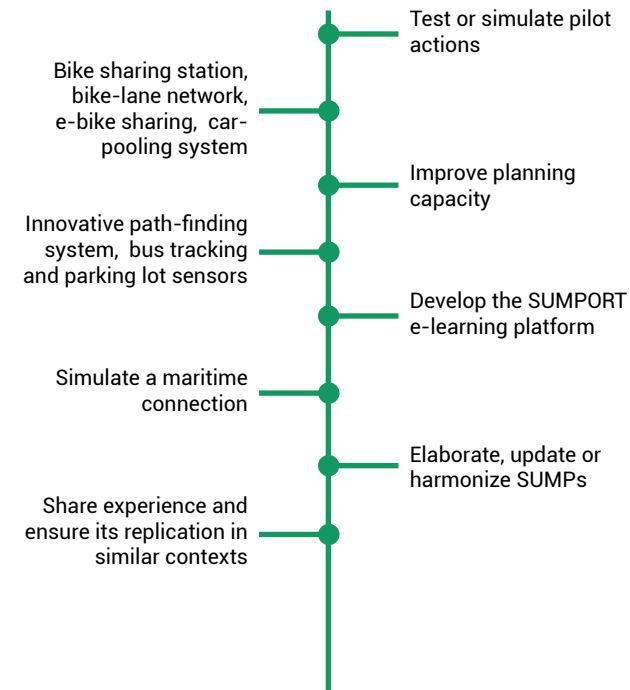


Countries involved: Albania, Cyprus, Greece, Italy, Montenegro, Slovenia, Spain | Lead partner: Central European Initiative (CEI) | Partners involved: Durrës Municipality, Region of Epirus – Regional Unit of Thesprotia (RUTH), Institute for transport and logistics Foundation (ITL), City of Limassol, Valenciaport Foundation for Research, Promotion and Commercial Studies of the Valencian Region, Aristotle University of Thessaloniki, Foundation of the Valencian Community to promote strategic urban development and innovation (LAS NAVES), City of Kotor, Municipality of Koper.

Actions The SUMPORT project has made considerably effort to strengthen strategic planning in some participating cities, to support the elaboration of the SUMP or to harmonize local SUMP in a regional dimension, promoting car-pooling, extending existing cycling lanes or bike sharing systems and fostering a path-finding strategy to promote a sustainable and safe path for cruise ships and ferries.

In some cases, the SUMPORT project implemented very specific solutions, such as, tailored smart mobility solutions or simulation of maritime public transport, connecting the Port with several points along the seaside.

Process The SUMPORT project deployed a blend of rather traditional approaches and actions. What made the experience rather exceptional was the understanding of all participating cities, of the importance of **improving quality of life by means of rationalizing traffic flows, reducing congestion and emissions, and making efficient mobility alternatives available.**



2.

SUSTAINABLE MOBILITY



@ Hong Nguyen/Shutterstock.com. The photo has been modified by Housatonic

2.1 URBAN MOBILITY PROBLEMS

[Silvio Nocera / Olga Irranca Galati]

Urban mobility

Transport systems are strictly connected to the performance and operability of any society and we cannot imagine a territory without any form of physical connection between the different parts included within it. According to EU statistics, a large majority of European citizens live their daily lives moving within an urban environment, sharing the same infrastructure and means of transport.

Mobility system

The high overlap of functions and population density makes urban mobility the most complex transport system. This

Commuter movements

system is based on the superimposition of three main categories of transport movements – individual, collective and freight movement – whose inter-connection generates positive and negative impact, mainly concerning social, economic and environmental spheres.

Hence, the city has to deal with different kinds of movement generated by commuters, who have specific needs and can be more inclined to take collective transport or individual means according to the peculiarities of cities and personal attitudes.

DIFFERENT TYPES OF COMMUTERS



Those who move regularly between locations of residence and work.



Business users who utilise transport for professional and work activities



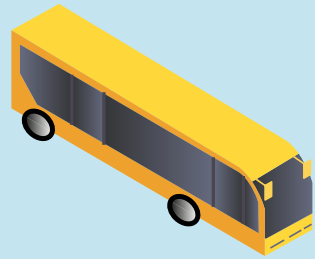
Personal users such as those people who travel for shopping and recreational reasons.



Tourists who explore cities with leisure and historical features (these kinds of movements are generally seasonal) and distribution workers mainly concerned with freight transport deliveries



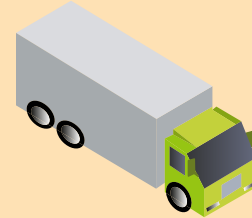
THE THREE MAIN CATEGORIES OF TRANSPORT MOVEMENTS



The collective transport system allows a large number of people who pay a fare to travel around the city. High urban population density requires collective transport because it responds efficiently to the need to reduce congestion and health-harming emissions in urban cities, it also contributes to a more efficient use of both vehicles and space. A well-organized and balanced system could also reduce the economic and social impact generated by individual means of transport, allow increased accessibility, also to low income users and people who cannot afford them. Collective transport systems include modes such as tramways, buses, trains, subways and ferryboats.



The individual transport system includes all those modes of transport based on individual choice and means, such as bicycles, walking, cars and motorcycles. The first two are generally promoted in an urban context, since they do not pollute and they require little space. Conversely, local authorities try to disincentivise the use of individual cars and motorcycles due to the high impact generated (e.g., high accident rates, air and noise pollution, climate change and congestion).



The urban logistics correspond to all those movements generated by the production and consumption of commodities around the city. The need to move products and food has an impact on people travelling. Even if the impact of this sector is mostly underestimated, its management is becoming increasingly important due to a significant growth in e-commerce (on-line sales online and home delivery services). The predominant means of transport used, varies from delivery trucks – the most pollutant vehicles – to freight bicycles and sharing delivery systems – the most sustainable ones.

Sustainable transportation is the capacity to support the mobility needs of a society in a manner that is the least damaging to the environment and does not impair the mobility needs of future generations"

[Jean-Paul Rodrigues's definition]

Mobility problems and sustainable development

The need for movement in urban areas inevitably generates both positive and negative impacts. Urban mobility is vital for citizens, increases jobs and competitiveness, contributes to economic growth, but it also generates congestion, accidents and pollution. To better understand the impact of transport systems, we should refer to the concept of sustainability in mobility systems according to Jean-Paul Rodrigues's definition.

Sustainable development: the three "E"s

The concept of a sustainable transport system can also be seen in the context of the general Brundtland Report's definition of sustainable development, based on the three "E"s:

Social Equity: living conditions, equal opportunity, social cohesion,

international solidarity, maintenance of human capital;

Economic Efficiency: economic growth, efficiency and competitiveness, flexibility and stability, production/consumption, employment, international trade;

Environmental Responsibility: consumption of resources, materials and waste, risks, rate of change of natural and cultural landscape. This is the most urgent component with specific attention to consumption of resources and pollution.

Specific urban mobility problems

If the previous externalities can be generalized for the whole transport system, the specific issues linked to urban mobility problems regard the three spheres previously mentioned and are reported below.

EXTERNALITIES OF TRANSPORT SYSTEM IN URBAN AREAS CAUSING THE GREATEST IMPACT

CONGESTION

Traffic congestion occurs when the use of infrastructure increases, exceeding the available capacity of roads. According to the European Commission, the cost of congestion in Europe is still high and it is estimated at around € 100 billion annually. Congestion can be incremented by social and economic features (demography, economy and social patterns, etc.), physical conformation (geomorphological and land use patterns, conformation of the city, business, activities and residence locations, etc.), and characteristics of transport systems (efficiency of public transport, availability of parking, transport infrastructure, car-ownership, etc.). This externality is strictly connected to other transport issues, such as air and noise pollution.

ROAD SAFETY/ROAD TRAFFIC ACCIDENTS

In 2016, 46.4% of road accident fatalities in the EU involved passenger cars followed by pedestrians (21.2%). The majority of fatal or serious road traffic accidents concerning vulnerable road users, take place within urban areas. Luckily, the number of fatalities has been constantly dropping – from 54.900 deaths in 2000 to 25.300 in 2017 – and European roads remain the safest in the world. The elements that can increase or reduce road traffic accidents are: environmental factors (poor visibility, ice on roads, animals, high winds), engineering factors (geometry, topography, surface conditions, absence of crash barriers), policy factors (sobriety laws, use of seat belts, speed limits), driver characteristics (age, gender, experience, alcohol/drugs), vehicle characteristics (weight, shape, size of vehicles, newer or older vehicles) and enforcement factors (frequency of patrols, establishment of effective driver education, higher severity of penalties).

NOISE POLLUTION

In urban areas, road traffic is the leading source of noise pollution. More than 70 million European citizens are exposed to noise levels in excess of 55 decibels just from traffic, even though the World Health Organisation recommends that background noise levels should remain below 30 decibels. This kind of pollution results in a general reduction of quality of life as well as loss of sleep, mental health problems, tinnitus and stress related diseases. Road traffic generates an equivalent of over € 40 billion per year in external costs. Good urban planning and road traffic management – for example, by the introduction of low-emission zones in city centres – can help to reduce exposure to air and noise pollution.

CLIMATE CHANGE/CO₂ EMISSIONS

There is a wide range of literature concerning the relationship between transport and climate change. Transport is one of the main sectors that contributes to the overall anthropogenic emissions and represents almost a quarter of Europe's GHG emissions. In 2015, road transport was by far the biggest emissions producer, accounting for 72.9% of GHGs, followed by aviation (13.3%), navigation (12.8%), railways (0.5%) and other transport modes (0.5%). Also in this case, the emissions from cars have been decreasing since 2000 because of the significant reduction in the specific emissions of new cars, but the emissions from road freight transport have increased due to improvements in e-commerce systems. Even though climate change is not considered to be a local problem, the main actions to be taken should start from cities and local urban areas.

AIR POLLUTION

Particular Matter (PM), Nitrogen dioxide (NO₂) and ground-level ozone (O₃), are generally recognised as the three pollutants that most significantly affect human health. The International Agency for Research on Cancer (IARC) has classified Particular Matter as carcinogenic to humans. The transport sector is responsible for a large proportion of air pollution, mainly in urban areas. In Europe, road transport alone is estimated to be responsible for up to 30% of particulate emissions. However, thanks to improvements in technology, between 1990 and 2016, this sector has significantly reduced emissions.

LAND USE CONSUMPTION

Obviously, transport systems cannot exist without infrastructure that allow people to move around the city. For this reason, it is also important to consider land use consumption among the negative externalities generated by transport systems. Roads and mainly parking facilities, have a significant impact on the environmental, such as soil sealing and contamination, loss of green or open spaces as well as the reduction of quality in the living environment.



CONGESTION AND PARKING DIFFICULTIES

Congestion and parking are strictly connected for two main reasons. First at all, the increasing number of car-owners has resulted in an increase in demand for parking spaces, generating a space consumption problem, especially in central areas. Parking spaces consume the transport capacity of roads, causing a general delay in circulation. Parking and congestion are also connected due to the phenomenon of cruising, i.e. searching for parking. This problem includes an excess of vehicle miles travelled, additional congestion, air pollution, time wasted, **driver frustration which could translate into an increased risk of accidents**. It is also important to highlight the loss of economic competitiveness and quality of life due to congestion and searching for parking difficulties.

COMMUTING

Since residences in the central part of the cities are generally more expansive than peripheral areas and the dimension of urban conurbations is becoming bigger and bigger, the phenomenon of commuting is rapidly increasing as well as the amount of time spent commuting between residence and workplace. Long commutes have a **negative impact on productivity and health** (e.g., depression, obesity, work-related stress). An efficient transport system and good urban planning can help to reduce the need to commute and the stress associated with it.

HIGH INFRASTRUCTURE MAINTENANCE COSTS

There is an ever increasing use of infrastructure in cities. The increasing pressure on transport roads and mobility demand generates rising costs of maintenance and consequently delayed upkeep in services. In the tourist cities the problem is doubled due to the intense tourism flows during seasonal holidays. The impact of delayed maintenance is paid for in terms of economic costs by users and society with an **increase in road accident rates, loss of quality of life, time and growing levels of stress**.

DIFFICULTIES FOR THE ELDERLY AND DISABLED PEOPLE

When considering groups of vulnerable people, cities are often not really inclusive. Elderly and disabled people can have difficulties in climbing steps, communicating, holding or manipulating objects, standing and walking. The physical design of urban infrastructure and facilities as well as the urban public transport often does not meet the requirements of these disadvantaged groups. One in six people in the EU has a disability ranging from mild to severe which prevents millions of people from fully participating in society and the economy. Considering that the rate of poverty among people with disabilities is 70% above average, and that they have limited access to employment, **availability of transport is a pre-requisite for an equal society**.



THE INADEQUACY OF PUBLIC TRANSPORT

Inefficient public transport can really damage users, especially low-income ones. Public transport is essential to increase productivity and develop a competitive urban city, but it is also fundamental to obtain social and equal justice. On the contrary, in a city with an inadequate service, the most vulnerable groups are those who cannot afford individual, motorised means of transport (taxi, car or motorcycle), such as the elderly, the disabled, those on low incomes, children and those without a driving licence. Another impact generated by inadequacy arises when collective transport means are over-used – in this case, over-crowding creates **discomfort and stress for users**.

LOSS OF PUBLIC SPACES

The increase in traffic and road use has constantly reduced the space previously reserved for community activities, such as urban markets, parades, processions, kids' games and general human interactions. In some cases, these activities have shifted into shopping centres while in other cases they have simply disappeared. It is well known that an increase in traffic has a huge impact on social interaction and street activities. The loss of public space due to roads and parking **influences the quality of the environment and the life of citizens**.

DIFFICULTIES FOR NON-MOTORIZED TRANSPORT

Cars are generally the predominant means of transport in a city. Intense traffic has a direct impact on pedestrians, cyclists and other non-motorized vehicles, both considering the environmental sphere (e.g. air and noise pollutions) and the physical design of infrastructure and facilities (city built on car-size). The absence of cycle lanes, narrow pavements, the loss of public space, the absence of cross-roads or traffic lights, could affect the quality of the city and reduce social interaction and street activities. Difficulties for non-motorized transport can greatly **increase the use of individual means** with a huge impact in terms of congestion, air and noise pollution, GHG emissions and traffic accidents.



Conclusion As has just been explained, the problems faced in an urban context are manifold. The European Union is trying to reduce all those impacts in different ways. First of all, the improvement in technology engineering has already had an effect on dropping air and noise pollution levels as well as GHG emissions. Obviously, the essential element is a good framework programme composed of effective urban transport policies. Urban mobility is closely related to other EU policies, such as those concerning energy, climate change, air quality, economy, social equity and accessibility, innovation, IT deployment and smart cities. Thanks to the Urban Mobility Package developed by the EU in 2003, the Commission reinforces the supporting measures in urban transport by:

- sharing experiences, show-casing best practices, and fostering cooperation;
- providing targeted financial support;
- focusing research and innovation on delivering solutions for urban mobility challenges;
- involving the Member States and enhancing international cooperation.

Changing habits However, the most important objective to be achieved is the change in the habits of local transport users. The sustainable mobility approach requires actions to reduce the need to travel, to encourage modal shift and to reduce the length of journeys. This condition cannot be met if there is no change in mentality and an increase in awareness about the impacts of transport systems on the environment, on society and the economy.



2.2 SUMPS

[Heloïse Chaumier]

Need for decision-making process in complex systems

Today, quality of life and the need to reduce local pollutants and greenhouse gas emissions play a stronger role in urban and mobility planning. In addition, planners and policy makers are faced with many, often contradictory demands at a local level. Thus, a more sustainable and integrative planning process, as a way of dealing with this complexity and identifying an appropriate set of policies, are necessary.

Inspired by similar approaches in England and France, the concept of Sustainable Urban Mobility Plans (SUMPs) is a way of planning which responds to this need.

The fundamental core is to set up a partnership approach allowing all the stakeholders in a territory to build a common mobility vision, to prioritize sustainable transport projects and measures, clarify responsibilities for implementation and set a robust but flexible finance, funding and implementation plan. Thus, SUMPs

should not be seen as an additional layer of transport planning but as a new planning paradigm.

From Transport to Mobility: Planning for people

Contrary to “Traditional” Transport Planning process, Sustainable Urban Mobility Planning **focuses on people** and not on traffic, on **an integrated set of actions** rather than on infrastructure. SUMPs foster the balanced development of **all relevant modes of transport** while encouraging a shift towards more sustainable modes.

Recognising the efficiency of such approaches and the strong role of urban and metropolitan areas to address climate change, the European Commission has promoted the take up of Sustainable Urban Mobility Plans in European **cities and metropolitan areas** since 2009. From 2010 to 2013, a European-wide expert consultation process made it possible to produce recognized and widely used guidelines, which propose the following definition of SUMP.



A Sustainable Urban Mobility Plan is a strategic plan designed to satisfy the mobility needs of people and businesses in cities and their surroundings for a better quality of life. It builds on existing planning practices and it takes due consideration of integration, participation, and evaluation principles."

[European Union, 2014]

SUMPs objectives



- improve accessibility for all, safety and security;



- reduce pollution, GHG emissions and energy consumption;



- improve the efficiency and cost-effectiveness of the transportation of people and goods;



- contribute to enhancing the attractiveness and quality of public spaces.

The overall goal of this approach is to create an **urban transport system**, considering all transport modes as well as urban functionalities and development objectives.

Merging forces

Several common challenges and barriers are often identified in the development and

implementation of SUMPs. One of them is related to the relevant territorial scale. Indeed, the choice of the document perimeter is a major prerequisite. It is particularly important to consider the mobility system in a global and integrated way and the relevant perimeter is often the strategic scale of the urban or metropolitan area, characterized by its continuity and defined by daily exchanges between its several municipalities. The SUMP's scale should consider the daily reality to achieve efficient solutions.

Main barriers

Regarding the main barriers to the development of SUMPs in "less advanced" cities in Europe, they deal with attitudes (car-oriented planning, lack of political commitment), resources, institutional and legal framework (lack of guidance, fragmentation of responsibilities) and procedures (lack of data and monitoring, difficulties in setting up stakeholder participation and citizen involvement).

2.3 SUMPS IN EUROPE

[Matilde Chinellato]

SUMPS as strategic planning instrument for local authorities

With the adoption of the European Commission's Urban Mobility Package in 2013, the Sustainable Urban Mobility Plan (SUMP) concept has been promoted as a strategic planning instrument for local authorities and used to foster the balanced development and integration of all transport modes, whilst also encouraging a shift towards more sustainable modes of transport.

European targets

SUMPs can help to effectively meet targets set at the European level for the coming years. To mention just a few: increasing the number of electric vehicles and charging points by 2020; phasing out conventionally fuelled cars in city centres by 2050; improving air quality by reducing harmful transport emissions by 60% by 2050; halving the number of deaths from road accidents between 2010 and 2020. In that respect, SUMPs are means of reaching reach a harmonised and integrated offer of transport alternatives and improving accessibility for all by various means of transport, reducing harmful

SUMPS-Up

air pollutants and noise emissions in urban environments, making better use of public space and road space by accommodating active travel, improving urban delivery operations, and regulating private traffic access.

While some advanced Member States already have an established policy framework to support Sustainable Urban Mobility Planning (France, Slovenia and Italy, for example), other countries are increasingly moving towards such an approach (that is the case for Spain, Portugal, Croatia and Greece), and a third group of countries has yet to adopt Sustainable Urban Mobility Planning as an objective of transport policy. However, the situation is even more complex than this approximate categorisation of countries indicates. For example, in some regions the situation is substantially different from the rest of the country, such as in the case of Catalonia in Spain, whose SUMP supporting framework is more advanced than in the rest of Spain.



- Prosperity countries
- Prosperity and SUMP-Up country
- SUMP-Up countries



e-vehicles



fuelled cars



harmful emissions



deaths

SUMPs in numbers

Through analysis conducted in 2017, a total of 1,000 SUMP have been identified in Europe. The major contributors are countries in which the adoption of a SUMP is mandatory by law or supported by significant incentives. Three countries alone – Belgium (Flanders and Wallonia), France, and Spain (Catalonia) – account for half of all the adopted SUMP in Europe. In comparison with the situation in 2013, the total number of adopted SUMP has increased from 800 to 1,000, with important contributions from Romania, Slovenia and Sweden, and the number of SUMP in preparation has also increased from 160 to 350. Among the 1,000 adopted SUMP, 290 are second or third generation plans. Those experienced and pioneering cities, located in 12 countries or regions, have a real role to play at a national level in sharing their experience with other cities which are starting, and in testing and consolidating the national SUMP methodology.

SUMP targets & barriers

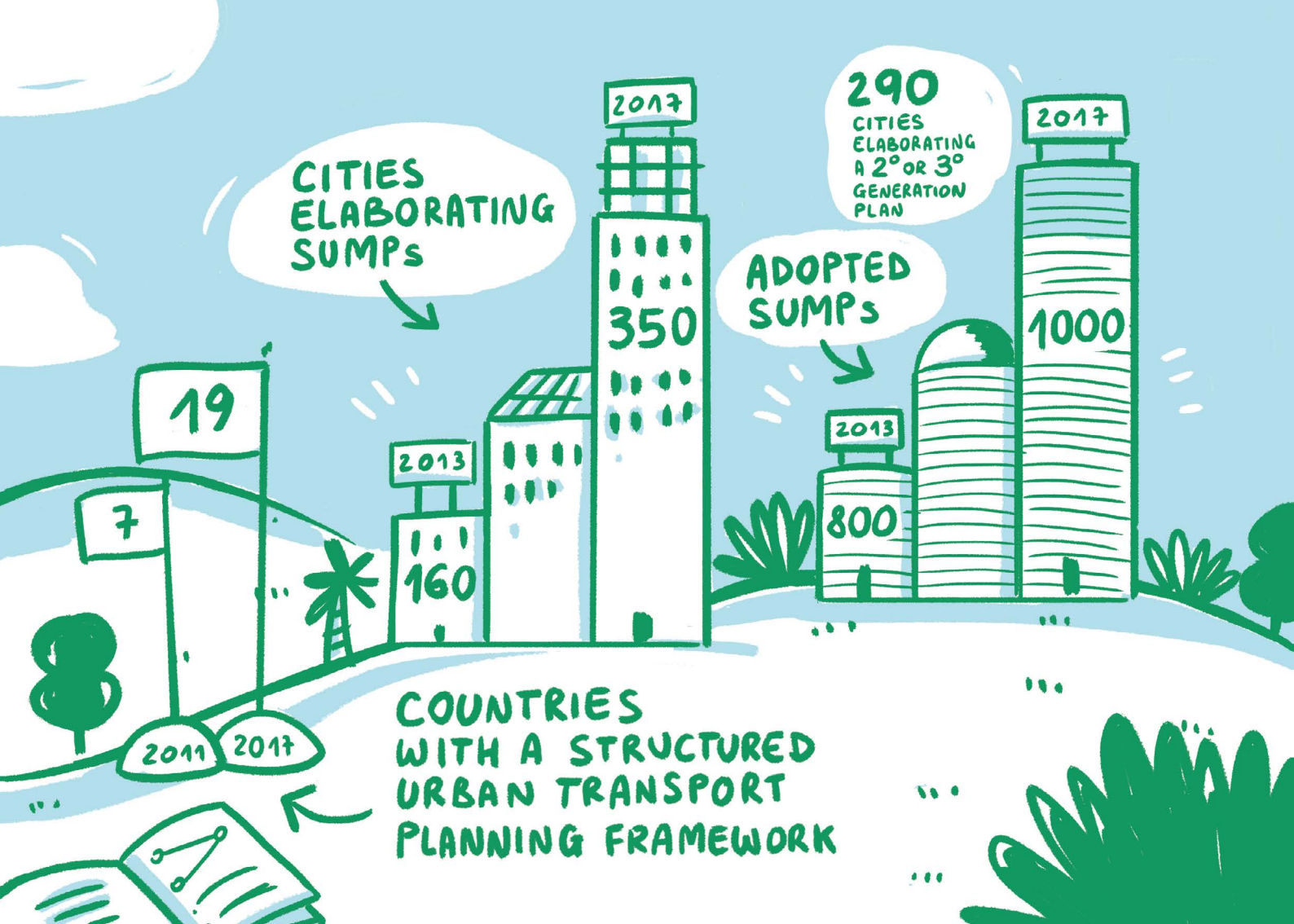
There are a number of drivers that motivate cities to develop a SUMP, including the availability of national funding; GHG emissions and air pollution reduction

targets, as well as challenges concerning health, congestion, safety and security, social inclusion, and integration; political and public support and improved attractiveness of a city. However, many cities in Europe still face barriers to the elaboration and implementation of SUMP at a national and regional level. Typically those barriers are: challenging cross-administrative cooperation among the different levels (city, regional, national level); lack of national support and inadequate regulatory framework; lack of political will; lack of capacity to prioritise the implementation of measures - so that they are in line with the SUMP concept - with available resources (which are often limited); lack of data and lack of experience of evaluation and monitoring activities.

Policy document to integrate SUMP

Member states have a real role to play in tackling and boosting these barriers and SUMP take-up. For example, member states can develop or reinforce both the legal and governance dimensions of the national framework for urban mobility - to improve both vertical integration (between different administrative levels) and horizontal integration (across





different departments). Member states can integrate sustainable urban mobility planning into national strategic policy documents like the Sustainable Development Strategy, for example, as an indicator or a policy target, emphasising, in this way, the contribution of sustainable mobility in reaching broader national policy objectives and targets, such as those related to environment protection, health, social inclusion, and safety and security. In addition, member states can provide a methodological framework adapted to the national context, including best practices from the country, guidance, and monitoring and evaluation tools. Indeed, evaluation of transport planning processes and the impact of SUMP's is rarely conducted systematically and remains a low priority in most EU cities.

The analyses have shown that even experienced SUMP cities need support in areas like transport evaluation, indicator development, data gathering, as well as newer mobility policy areas, such as urban logistics, shared mobility, use of public space, and automation. Future capacity building programmes and funding

opportunities both at national and EU level should also focus on these aspects.

On the other hand, cities experienced in SUMP development and implementation are valuable partners for raising awareness and sharing best practices and methodologies at the national level. City networks and EU projects can help facilitate this knowledge sharing. Peer-to-peer learning formats and direct exchange are highly appreciated by cities and should increasingly be used to foster knowledge exchange across Europe.

Funding is another crucial factor in fostering the adoption of SUMP's across Europe. Member states and the European Union should make funding available specifically for SUMP development and updates. This need has been clearly expressed by cities from different locations and of varying sizes. Incentivising the update of existing SUMP's is also crucial: financial support should target cities to help their transition towards second-generation ones, creating a separate stream of funding dedicated to SUMP's. Such funding, if secured and sustainable over time, would



increase the visibility and efficiency of the support towards cities, over a period of time.

Financial support

Moreover, financial support and other incentives should also target the last stage of the SUMP cycle in order to make the actual implementation of measures found in a SUMP action plan easier. Member states could additionally make receiving SUMP funding dependent on adopting a SUMP, especially where there is no legal requirement for a SUMP. This could help SUMP take-up as long as technical support is offered for its elaboration and quality monitoring to prevent SUMP being created solely for the purpose of gaining funding.

Bottom-up SUMP

Finally, analyses have shown that there is great potential to foster SUMP take-up by increasing awareness of urban mobility-related problems - e.g. air quality, noise emissions, road safety, or parking problems - among the public, politicians, and city administrations: this will help form coalitions of the willing. Involving citizens in a transparent SUMP development process and co-creating with them, as well as providing group-specific evidence that sustainable mobility measures have positive impacts, such as for inner-city commerce and business, is key to convincing them of the benefits of a SUMP.

SUMP guidelines extension

Cities can also pilot measures, initially to test reaction, raise awareness, and receive feedback, which can then be used to refine them at a later date if they are implemented. Raising awareness should come through national events and campaigns targeting decision makers and opinion leaders at the national and local level, but also through the use of existing European initiatives, platform and resources. One of the existing EU resources is certainly the SUMP guidelines published in 2014 and which quickly became the "go-to" guidance on how to develop a SUMP.

However, the current SUMP guidelines require a rethinking and extension due to three main reasons:

1. the wealth of practical SUMP experience accumulated over the past few years;
2. all the supplementary guidance material originating from various national and EU funded SUMP projects,
3. the new mobility developments (emerging technologies, new policy challenges and opportunities).

That is why the European Commission launched the SUMP 2.0 process.

2.4 SPECIFIC CHALLENGES FOR SUSTAINABLE MOBILITY IN THE MED CITIES

[Silvio Nocera / Olga Irranca Galati]

Pillars of sustainability

Sustainability is composed of three pillars - economic, social and environmental - which should be considered carefully and which cannot be ignored when public funds are used. If we talk about transport sustainability, we should refer to these pillars, too.

27% GHG produced by transport sector

Since the transport sector is responsible for about 27% of total GHG emissions in Europe, it is clear that one of the main challenges for the UE in future years, is to reduce those emissions.

Negative effects of transport

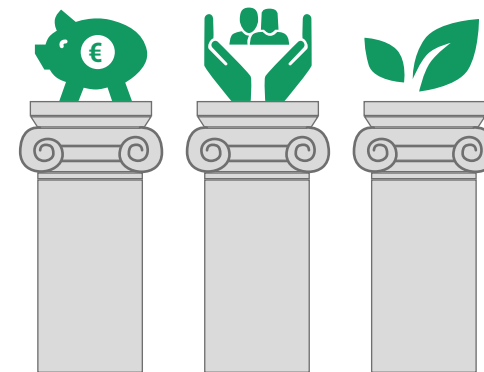
Nonetheless, this factor is also responsible for other impacts, such as air and noise pollution, accident rates and congestion, which also affect the economic and social fields negatively. Therefore, the question of **how to enhance mobility while at the same time reducing all these negative externalities** is a common challenge for all major cities in Europe.

Challenges in the MED cities

In this framework, the MED city has to face the same challenge in a specific context - the Mediterranean area - which implies greater difficulty from several points of view.

The MED area context

In order to find out what the specific challenges for sustainable mobility in the MED area are, we should start from a general analysis of the environmental, social and economic context of the Mediterranean basin.





A prototype
of the
Mediterranean
coastal area

The close relationship between coastal and inland areas makes the Mediterranean environment particularly significant. Even though not all the MED cities are the same, and they can vary according to their geographical position, morphological context, urban development and activities, we can easily identify three main representative characteristics. These features can make it harder to face the challenges, but they should be considered during the implementation of any sustainable plan or transport measure.

The three main representative characteristics of the MED cities are:

1st - Urban structure

The urban structure of the MED cities has been strongly influenced by the sea and all its related activities. Nowadays, what is left of the ancient sea-oriented operations (e.g. fishery or commercial trade) is an urban structure characterized by narrow streets and small squares.

This is also true for those cities which did not develop along the seaside, but

share the same spatial patterns – generally tight and poorly adapted to the advent of cars. The Mediterranean basin has many more cities like this than any other European area.

2nd - Historical and cultural heritage

A strong link with the sea and port activities means a significant influence by different cultures and ethnic groups.

The development of an interconnected network of exchanges has determined the proliferation of several art and architectural styles as well as the development of a major cultural heritage in the world.

3rd - Environmental fragility and high biodiversity

It is well known that the Mediterranean basin, one of the largest eco-regions, is among the most important ecosystems in the world due to its richness in biodiversity.

This condition also makes it one of the most vulnerable ones.

If some of these aspects can be considered strengths from a social and environmental perspective, on the other hand, other issues could also be seen as weaknesses and limits for transport. **The ancient urban shape is difficult to adapt to the current transport system**, and the lack of available space is incompatible with mobility based on the use of cars. However, the improvement of more sustainable forms of transport could be difficult in these areas, too, for instance cycling mobility.

Let's consider the construction of a bike lane in the context of a small Mediterranean village, or in the historic centre of a MED city, compared to a more recent city in the North of Europe. In the first case, the amount of design, work and bureaucracy needed would be significantly higher, implying possible delays and difficulties in implementing many of the new measures and technologies developed all around the world.

Strictly connected to the urban structure of the city is cultural heritage. The high value of **architectural inheritance prevents any substantial changes in the urban shape** and could be a barrier to designing new strategies. Finally, the **vulnerable environment and the**

high-biodiversity constantly threatened by transport negative externalities, could be an obstacle in developing an integrated and interoperable network, as it **reduces the number and typology of projects or initiatives** which can be implemented.

The level of difficulty in reducing transport negative externalities is strongly increased by another factor: the growth of the tourism industry. **These cities are marked by intense tourism flows** which have mainly increased in the last 20 years. The urban shape, the high-quality biodiversity and the significant cultural heritage make these destinations more attractive, but vulnerable at the same time. A MED city should provide for both the ordinary movements of a standard city (work, leisure, education, etc.) and for tourist flows. Especially **in the peak season, in particular, it needs to cope with a double or even triple increase in population with obvious consequences in terms of congestion and air pollution**.

This general trend is stressed by the individual choice of tourists and residents who mostly prefer private vehicles. The reasons for such unsustainable behaviour may be

the result of a general lack of public resources (or inefficient use of them) in implementing the latest transport solutions to promote sustainable modal choices; It may be due to in a mentality open to change, resistant to using collective and sustainable means of transport or, in some cases, due to geomorphological and climatic obstacles.

Considering the increasing importance of the tourism industry in the European economy and its dependency on the transport system, one of the main challenges of our MED urban cities will be to make tourism transport more sustainable. Tourism itself could play a strategic role in promoting new sustainable transport systems both for tourists and residents.

All those elements which connote the MED city can be seen as opportunities to encourage measures that greatly respect the cultural and architectural heritage, that adapt to ancient urban shapes and that prevent the disruption of high biodiversity, typical of the Mediterranean basin.

In the future, we need transport solutions that allow people and goods to move quickly and safely in a fragile environment, without polluting it further. We need transport plans and strategies that encourage shared mobility schemes both for tourists and residents.

An integrated and multimodal transport system is required for future urban mobility which is less polluting, and attentive to the needs of our cultural heritage and its inhabitants. Finally, but equally important, is that the challenge will be implementing all these sustainable solutions in a context characterized by fewer public resources and by a community less inclined – for historical, cultural and climatic reasons – to change its transport modal choice.

3.

CITIZEN ENGAGEMENT

3.1 THEORETICAL FRAMEWORK

[Alberto Rossini]

Policies and projects play an important role

The goal of the European Union for the following years concerning mobility is clear and it is evident that we need to increase the percentage of mobility by public transport, as well as of movement by bicycles and on foot. However, it is not only a question of air and environmental quality, but also an important theme concerning features of urban space, and a general liveability of the places where we live, work, and move in our free time. Not only should we improve the historical centres, where the beauty of the sites and the sense of belonging already play an important role, but also policies and projects have to deal with the peripheral areas *"less rich in attractiveness but richer in possibilities of reinventing collectively the use of the spaces"*.

SUMPs focusing on people and on their needs

Most of the Municipalities which have already approved their SUMPs have dealt with reaching these goals, focusing on people and on their needs and daily behaviours. Nevertheless, this is exactly the recommendation of ELTIS

guidelines for *"Standards for Developing a SUMP Action Plan report"*, especially where the guidelines themselves recommend *"the involvement of people as part of the solution: drawing up a SUMP means precisely planning for people"*.

SUMP strategies both for citizens and tourists

This strategy is valid for residents, but it must also be valid for tourists visiting European cities, because we can ultimately affirm that tourists are simply *"temporary residents"*.

Sustainable modes of transport

Furthermore, considering their familiarity with the places they visit, we must pay even more attention to their needs. In order to avoid the negative impact of tourism on sustainable mobility, it is necessary to guarantee modes of transport without damaging the environment or the urban quality. Only the presence of a complex and articulated system of sustainable mobility proposals can allow people to live in a city where moving is easy, friendly, and respects the environment and the quality of life.



The problem: We know that cars pollute, despite the different options currently available in terms of power supply (such as methane, electric, hydrogen, LPG, and other), but we also know very well that, sometimes, people cannot live without their personal cars, especially in compact but sprawling cities, causing dispersion of the urban fabric and difficulties of managing services, starting with public transport.

How to provide solutions An effective network of **public transport** should be able to put together the different urban points of interest (like public and private offices, schools, hospitals, workplaces, etc.), and be easy-to-use, clearly understandable, convenient and characterized by well-defined timetables. It is important that information about timetables, frequencies, delays or diversions are indicated in real time to the users. Nevertheless, current technologies, **digital platforms**, and big data help in a noticeable way to provide effective and continuous services.

The **cycling route plan** must be thought to facilitate movement, and must be well designed, organized, and drawn like a

net. In this case too, communication and clearly visible signs provide the necessary support, both for residents and tourists. Today, in fact, the increasing spread of **bike sharing** or of **free floating for bicycles or e-scooter**, and much more, is extremely helpful for residents to live and move within towns in innovative ways. The same consideration should be given to pedestrians, and many cities are thinking of **projects and maps for urban orienteering**, in order to **make the routes safer**.

Safety & security for better living in the city The issue of safety re-occurs when looking at vulnerable users, such as children or physically and mentally disabled people. In many towns, they work to **allow children to go to schools more independently**, thanks to specific paths or by creating **car-free areas** in the vicinity of schools. All these measures aim at favouring active and conscious mobility. In Italy, this experience is known as "walking bus", and it represents a positive innovation for a country not so used to giving children a significant degree of autonomy.

Safety also means having car-free areas, **pedestrian isles, limited traffic zones**, areas for active and non-polluting mobility, which can be achieved with a low budget, as long as one accepts and favours the meeting with citizens who live in these areas, in order to share with them the solutions to be adopted. What matters most is what happens before implementing public works, namely having a design system, a big picture of the town, of the places, and of how citizens can move. It is this strategic design which must be drawn up and shared with citizens through a real participatory process, not only formalistic, but substantial and concrete, sometimes also difficult but always necessary. Sustainable mobility can only be realized through a strategic design where the coherence of the choices, along time and space, must be a strong value, always to be respected.

We must also stress the fact that often all these themes cannot be independent from wider governance. The dimension of the urban plan can be partial in planning mobility network and functioning if it is limited to the urban scale. Sometimes, in fact, the most useful dimension is that of the “functional urban areas”, where the different administrative

bodies plan their choices together. A further important point is that countries must provide **tax benefits** and **regulatory measures** appropriate to develop a sustainable mobility model with low impact on the environment and really oriented to the quality of life for people. This is, for example, the case of the benefits for electric mobility or the bonus for going to work by bus or bicycle.

It is crucial to consider the importance of providing effective and periodic activities aimed at monitoring the achieved results. Only in that way, will both decision makers and citizens know whether and how the goals established by the SUMP are being achieved and which are the corrective actions need to be adopted. Being people centred within urban systems, allows them to live better the “*seduction of places*” (J. Rykwert), specific in each city. To do this, it is necessary to count on financial resources and mobility agencies and offices, who need in particular to be provided with specific knowledge and be able to interact functionally with territorial and urban planning. Sustainable mobility is a system, and to be so, it has to be part of the strategic planning of a city, or even better of a complex urban system.

3.2 PROMOTION AND COMMUNICATION

[Alberto Rossini]

A targeted and careful communication and promotion activity can significantly contribute to the implementation of a Sustainable Urban Mobility Plan. On the one hand, it is necessary to explain how the Plan can contribute to **improving mobility and**, more generally, **the quality of life of citizens**; on the other hand, communication has a fundamental role in interacting with the various stakeholders that contribute to the implementation of the plan. From this perspective, it becomes necessary to develop communication actions regarding both the overall strategies of the SUMP, and the individual action plans, those that most affect the daily life of every citizen.

While communication is already part of the process of forming the Plan document, it must also continue even when the plan is approved, because **it is essential to maintain open channels of communication with citizens**. The communication strategy must be the gauge of the implementation of the Plan.

It is in the relationship with the citizens that the success of the Plan's actions is played out. It is the credibility of the public administration that is at stake. In fact, some of the MED Project partners have suggested that there is a need for visibility to show that public administration officials are personally involved, that specific responsibilities have been assumed. This means establishing a relationship of trust and **stipulating a pact between the political decision-makers and the citizens, each of whom can express their own needs and desires**, with respect to the way the city is experienced.

Direct, interpersonal communication therefore plays a decisive role in establishing a level of empathy in communication which can become one of the keys to the success of the Plan. Consequently, **communication cannot be a focus only in the initial phase, but must be transversal and permanent**; it must be born together with the formation of the



Creating better mobility identifying common objectives

The preparation of periodic reports on the implementation of the Plan can make a contribution to show the way in which the SUMP's can gradually contribute to creating better mobility for people and the urban environment, by **identifying the benefits achieved**, how they were achieved, over what period and what remains to be done.

Different forms of engagement

Depending on the nature of the stakeholders and the territorial levels involved, different forms of engagement can be developed, linked to **individual interventions, or structured around long-term strategies**. This can also give birth to a **path of permanent participation** that links the elaboration of the plan to its implementation, favouring a different approach to the issues, in relation to the different degrees of specialization of the various stakeholders, such as, for example, experts and sector technicians, representatives of the institutions,

The role of social media

media representatives, not to mention the citizens. The topic of communication deserves a benchmarking analysis to identify the best possible strategies to encourage the development of actions.

In all the projects examined, a significant role is assumed by communication through social media. It cannot be otherwise. The social channels (*Facebook, Twitter, Instagram* and all the others) ensure **immediate, fast communication, capable of reaching**, if not all, then certainly large sections of citizens, in their various articulations. Furthermore, they guarantee users the **possibility of responding, of interacting immediately**, promptly reporting critical situations and points of disagreement with the public administration. Of course, it is not enough to rely on a single instrument to communicate well and effectively. In fact, it is clear from the MED Projects that multiple communication channels were used effectively, **press conferences, workshops, events** and even theatrical and other performances, such as sand art, in the case of the LOCATIONS project.



Find the correct key words

A further critical point is that, if the Plan is to be successful, it must be **"told" with a captivating narrative, able to involve people**, to make them understand the benefits, the individual advantages that can be obtained: from saving time going to work or school to having more road-safety, from reducing air pollution, to the acoustic climate, and to recovering urban spaces for playing or spending leisure time in pleasant and comfortable spaces within neighbourhoods. While, together with stakeholders and participants on the various work initiatives, it is necessary to find the right, correct and engaging keywords. This is what the CAMP-sUmp project states very clearly when it affirms that by **identifying the key words, success is guaranteed, in terms of both internal communication** between the partners **and external communication** of the results of the project.

Desires to improve our daily lives

It is true that we are talking about a Plan that has to deal with many technical aspects: road geometry, means of transport, timetables, journeys, etc. However, it is very unlikely that people would change their habits because of some technical reasons. It is therefore on the needs, on the desires, that we must focus; to put it briefly, on what improves our lives, our

daily lives. **Cycling can save us time and maybe help us stay fit and have greater individual well-being.**

"The more the interventions are aimed at changing the mobility habits of citizens, the more communication activities become necessary. Changing habits requires clear and unambiguous arguments, sufficiently solid motivations and a reliable road map for the implementation of change."

Emphasizing advantages

This point, reported by the Emilia Romagna Region in presenting the guidelines for cycling, is particularly important. Moreover, the promotion of sustainable mobility can take place by emphasizing the advantages of walking or cycling for the well-being of the body and for staying healthy. These **advantages can be communicated effectively, especially by accurately identifying the various targets** to which communication and promotion are directed: children, the elderly, people with sedentary lifestyles, the chronically ill and others.

Budgeting communication

Finally, there is the theme of resources, which must be organically programmed within the shaping of the Plan. Indeed they should be a part of every single action within the Plan. Any self-respecting company or organization plans communication in its budget as a fundamental element of its activity, so a public administration must do the same if it wants to achieve precise objectives as in the case of the Sustainable Mobility Plan, which looks not to cars or roads, but to people. As a result, the element of communication cannot simply be an **"add-on"**, but it must be an essential element of the strategy. The MED projects seem to indicate this very clearly.



© photo.com/ Rimini Loves Bike, Rimini (2018)



ELISA DRUDI

Social educator, journalist, video editor and co-founder and administrator of the Rimini Loves Bike community.



COMMUNICATION ON SUSTAINABLE MOBILITY FROM THE POINT OF VIEW OF YOUNG PEOPLE

Raising awareness of sustainable mobility

If someone had been asked about the relationship between young people and sustainable mobility issues a few years ago, the response would probably not have been extremely enthusiastic. Yet recent years have seen a flourishing of movements stemming from an ever greater awareness by young people: an awareness born at school desks, through social networks and also among chats on *WhatsApp*.

New ways to communicate

This is indeed because those communication tools, so demonised by adults have actually become an important channel for conveying social messages. In fact, many young people build and develop ideas and new perspectives for a more conscious city, nation and a more conscious Europe. A Europe made up of young people who are attentive, involved

in public life and aware of the need for a change of gear, which involves themselves primarily in their daily actions.

From the online to the offline world

These movements have passed slowly from online media to offline, through proposals which have become concrete and tangible and which have been viewed in the eyes of adults in a different way; proposals that have been brought before so many citizens unaware of problems related to the environment, pollution and sustainable mobility.

Choosing a bicycle

Choosing to use a bicycle rather than using a car may simply be the most banal thing that comes to mind, yet, even though it seems obvious, many adults, even today, struggle to understand its value. Fortunately, however, there are many young people who have taken this message.

Enjoy events
to enjoy
sustainability

This is evident from the movements offering initiatives to clean the beaches and parks due to the waste left abandoned (such movements have multiplied) as well as awareness-raising cycle tours that cross the city in a festive carnival, drawing attention to this means of transport, which is sometimes undervalued but has significant potential.

Involving
young people
in EU projects

The aspect of involvement among young people in the projects of the administrations or the European Union, despite all the technologies, still remains a stumbling block. There is often a general disinformation generated by a scarce capacity by those who have the power to create a real link with young people of school age or university students who could be a proactive engine of change.

What could be the keystone
for this "revolution"?

Generate
connections

It is important to start working together to bridge this gap and generate real and concrete territorial connections because, without the involvement of citizens, of young people, and of those who use the means to move around the city every day, the change remains only a paper exercise.

Finding
support

It is crucial to have specific and targeted support for these topics. Therefore the creation of *ad hoc* public offices is welcome: offices integrated into the administration with professionals who exclusively deal with this aspect.

Collaborating
with
associations
& communities

Territorial associations and online communities work daily to create bottom up participatory processes to build a different Europe, but they cannot do it alone.

Synergies
to...

A real and concrete synergy is needed that develops day after day, thanks to people who meet and work together.

...building
a different
tomorrow

Only in this way is it possible to build a different tomorrow, more attentive to the riches we have around us.



*The bicycle is
a simple solution to some of the
world's most complicated problems.*

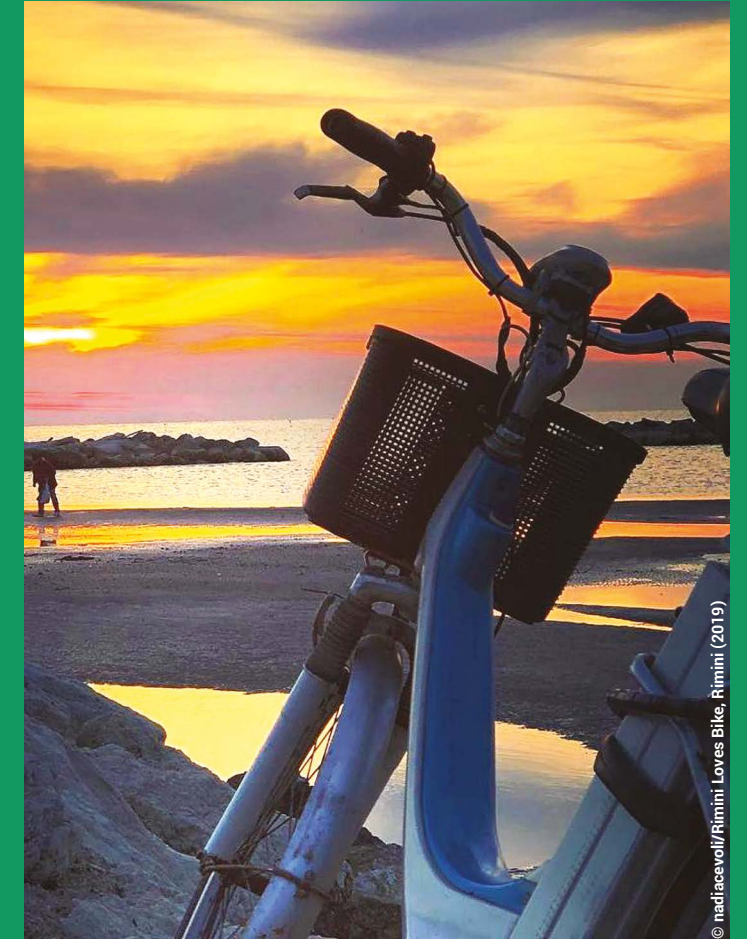
*The bicycle is the most efficient form
of human transportation.*

*It can combat climate change,
ease urban congestion,
and build human fitness.*

*It brings us together,
yet allows us to escape.*

*And it takes us places
we would never see any other way."*

[Trek Bicycles, 1 World 2 Wheels bicycle advocacy
campaign at the Trek World dealer convention in
Madison, Wisconsin]



© nadiacevoli/Rimini Loves Bike, Rimini (2019)



3.3 PARTICIPATION

[Andrea Conti]

Introduction For decades, both researchers and practitioners in transportation planning and in transportation economics described mobility as a relationship between the supply of and the demand for transport. In the past, planners and designers used to treat mobility as a mere traffic-issue, focusing on how to solve traffic congestion, or how to provide enough parking lots for private cars; in so doing, people's needs have been irremediably forgotten in the process.

Each individual affects mobility But what happens every day in our cities is that either going out, or staying at home, each individual affects mobility in urban areas. Commuting to work, taking children to school, ordering a take-away pizza, walking the dog in the neighbourhood, buying a book online, going to the gym, all constitute small examples of how people influence mobility in our cities. **Not only the culture of the place, but also people's attitude, characterize people's behaviour in terms of choosing**

the means of transport. Ultimately, **this choice affects the quality of mobility in urban areas.**

But how can planners consider the needs of every individual when designing mobility in a city?

And, how can they influence people's choices when planning the future of mobility in the city?

Involving people The involvement of people from the preliminary stages of the planning process seems to help planners in accomplishing an overall vision of mobility in the city. The European SUMP guidelines emphasize **the importance of engaging people in the process.** The participation of citizens and stakeholders included in the guidelines has at least two purposes: establish a common vision for mobility of the future, and share collective decision making among all the participants.

A LADDER OF CITIZEN PARTICIPATION



A ladder of citizen participation

Mobility represents a complex issue

The SUMPs and the GO SUMP projects that support sustainable mobility propose a **new way of designing the mobility of future, by making citizens and stakeholders the protagonists of the planning process.**

According to Arnstein's ladder of citizen participation, there are many ways to involve citizens in the process. Each rung of the ladder corresponds to a different level of citizen engagement. The higher the rung, the greater is citizens' power and responsibility for taking decisions on their own.

There is no fixed formula for a participatory planning process. Mobility represents a complex issue in every city. It affects not only the population at large, but also each of its components (e.g. public transport, private transport, bikeability, freight logistic, walkability) interest specific categories of population and stakeholders.

Each mobility component could correspond to a different level of involvement of stakeholders. The participatory process should be able to give a voice to every individual, favouring the weaker groups.

Types of participation

As noted above, the level of citizen involvement reflects the type of participatory process. It is possible to define three major types of processes:



1. **top-down actions**, where planners and experts simply inform people about the decisions;



2. the **establishment of partnerships** between experts and stakeholders able to generate shared planning decisions;



3. **bottom-up initiatives** where the community of stakeholders takes the initiative and generates solutions with the help of experts and facilitators.

A dedicated manual published on the ELTIS Platform on SUMP, collects a series of techniques and methods to apply in participatory activities at any stage of the mobility planning process.

In chapter four of this handbook, there are also examples of participatory processes carried out in the GO SUMP projects.

Who are the stakeholders in the mobility system of a city?

Multiple "we"

A stakeholder is **every individual or institution that receives or generates an impact in the mobility system of a city**, hence, we are all stakeholders in some way. Depending on how we move in the city, we represent different stakeholders at different times: for example, we are pedestrians, when walking or running in the city; cyclists when using a bike, passengers when using public transport, drivers when driving a motor vehicle, etc. "We" can refer to commercial activities that attract other "we" depending on how they move in the city. "We" can be citizens of our city, but also temporary citizens (tourists) in other cities.

Peopole are protagonists

When planning mobility in the city, participatory processes should give a voice to each of the mentioned "we". Categories such as means of transport, and traffic flows, belong to an old and quantitative way of planning. Today, all people are the protagonists of an innovative and quality-oriented way of conceiving mobility.



@ Andrea Conti, Rimini (2017). The photo has been modified by Housatonic

Why should the public authority engage citizens and stakeholders in planning the future of mobility in the city?

Participatory process problems

At first glance, participatory processes seem to be very **expensive, both in terms of time and money**. Moreover, **conflicts** among the different stakeholders can easily arise, especially when discussing a sensitive topic such as mobility. Conflicts might represent an initial obstacle, and the **benefits of engaging people in the process may not be immediately visible**.

Share expert knowledge with local knowledge

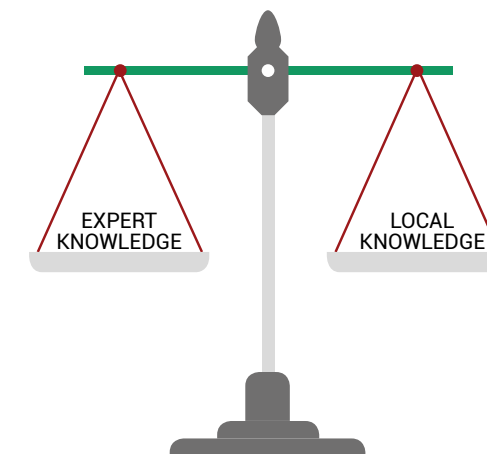
Experts are able to apply their knowledge and to solve design problems connected to specific and technical issues. For example, they are able to deal with regulations and traffic laws, and to apply scientific knowledge in quantitative and objective ways.

Nonetheless, when discussing the future of mobility, there is a need to establish a common vision between citizens and experts. Planners and policy-makers can apply their

knowledge as experts, but there is a need to include the local knowledge of every stakeholder in the process. **Local knowledge is based on the daily experience of every individual/stakeholder.**

Participatory process goals

The participatory process aims to share expert knowledge with local knowledge. **The balance between the two types of knowledge seeks to guarantee equity in the process** by redistributing power among the participants.





Consequences of involving stakeholders in participatory processes of mobility planning

The **benefits** of engaging people in participatory processes may **not be visible in the preliminary stages of the planning process**. **Results** of a participatory process **arise at different times** depending on the level of involvement of the stakeholders. **Inviting people to take part in the planning process is the first step** to make them aware of the current state of the mobility system of the city. Participation will encourage people to develop an interest in the subject. Preliminary outcomes will emerge from the involvement in the decision-making of both expert and local knowledge, but the **real benefits of participation appear as a long-term result**.

Crating a shared vision

Redistributing power among the stakeholders will raise awareness among the participants. **Empowering people also means making them responsible for their decisions**. Making citizens and stakeholders create a vision for mobility of the future city will transform the vision into *"their"* vision.

Two types of results

The results of such participatory processes will mainly emerge in two ways:

- in terms of **planning goals and actions**;

- in terms of **behavioural change among people**: this result springs from a long-term practice of participatory actions, and it represents the first step toward behavioural change on the part of citizens.

Transparency

The public authority that chooses to engage in a participatory process, also needs to be ready to accept its results. By empowering citizens and stakeholders, planners and facilitators have to be clear on what the process should achieve, specifying in advance what the level of involvement of each stakeholder is. With real participation, citizens control the process and the results that might lead to unpredictable outcomes. Therefore, **planners and facilitators should aim to engage in a transparent process**, where they listen to people's needs and together, seek to build a shared vision of mobility in the city which is in continuous transformation, as should be the involvement of citizens and stakeholders. **Participatory processes should continue during all of the planning phases** and during the evolution of every action, with monitoring and assessment phases.

4.

ACTIONS & TOOLS

4.1 MOBILITY GUIDELINES

[Peter Canciani]

Methodological & practical work

This handbook was not designed to be a quintessential display of knowledge nor an unassuming catalogue of experiences: **we made an effort to rationalize the remarkable array of analytical, methodological and practical work done by the Urban Transport Community so as to facilitate its use as an anthology for policymakers and planners.** Therefore, we opted to cluster the information in two complementary pillars: Chapter 4.2 is dedicated to illustrating Mobility Policies, while Chapter 4.3 gives insight into the constellation of Mobility Actions. This allows for “panoramic” reading (the compound of policies, the assortment of measures), but also facilitates looking into “policy-to-measure” progressions.

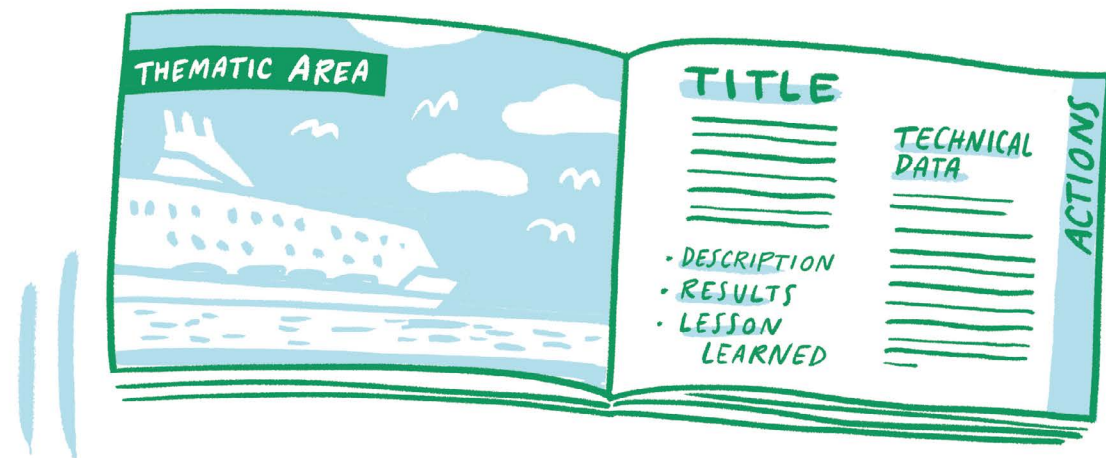
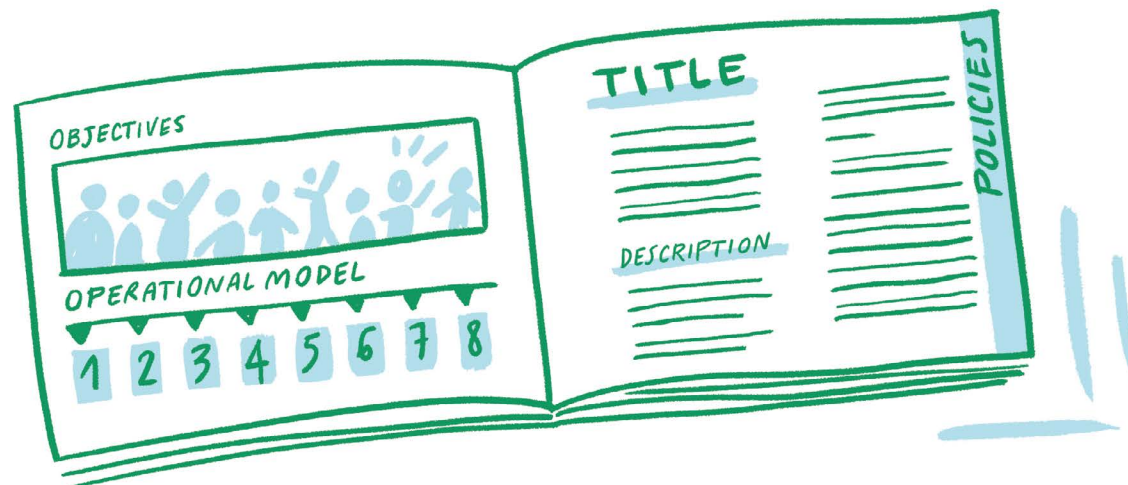
Mobility policies

The mobility policies chapter clusters the **theoretical knowledge** accrued by the UTC. The title might be misleading, inferring that the reader will find a list of ready-made policy actions “recommended” by the UTC. This is not quite the case, since what the projects are sharing is rather a

methodology, or a systematic description of decision-making processes that underlay the deployment of sustainable mobility measures. Therefore, Chapter 4.2 provides an overview on how to elaborate future scenarios, on how to develop update and expand SUMP, on how to involve the civil society to leverage funds for its implementation, on how to detail or downsize it to specific needs. In order to sustain this process-oriented approach, each **policy measure** is also described as the result of consequential steps.

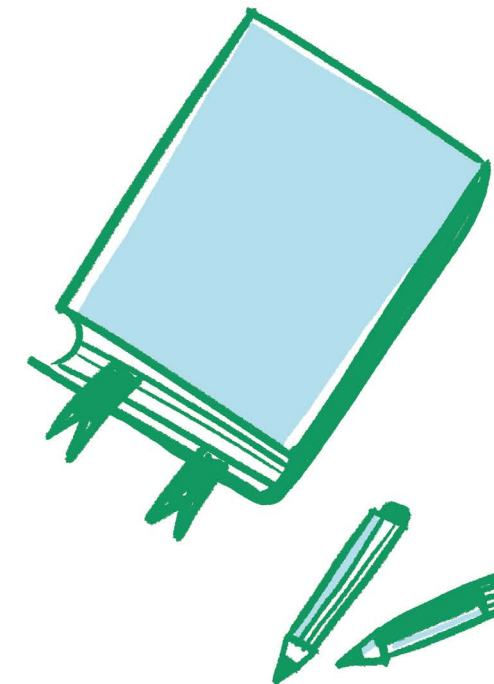
Mobility actions

The mobility actions chapter provides an insight into concrete measures that were designed and tested in local contexts. Given the **variety of solutions** that UTC stakeholders adopted, we grouped them into five typologically consistent and straightforward categories: analytical and IT tools for sustainable mobility, cycling infrastructure for alternative mobility, sharing and pooling solutions, and innovation in urban planning as a catalyst for the modal shift.



Replication Unlike the standard best-practice-exchange approach, the intentions of the policies and actions described in this section is not that they are taken-up as ready-made solutions: rather than **propose replication, we advocate for inspiration, proliferation, and mutual assistance among stakeholders.**

Fact-sheet structure Policies and actions are recognizable through the **different colour side-bands**, blue and purple respectively, and for each of them, a specific fact-sheet has been created containing the essential technical data to understand the *modus operandi* and the results in terms of efficiency and effectiveness. **To find the action of interest easily**, it is possible to read the type of action on the left, above the picture, and then the title on the right. On the right, there are also essential technical specifications and the references of people in charge of the action: in this way, the relevant person can be contacted for the future information. **On the methodology fact-sheet**, on the left, there is basic information to understand the objective and the approach, while on the right, there is more explanation.





4.2 SUSTAINABLE MOBILITY PLANNING AND POLICIES

- 4.2.1 Action plan for mobility in a university urban context
- 4.2.2 Crowd-sourcing tools to support SUMP development
- 4.2.3 Definition of scenarios: a three-step approach
- 4.2.4 Extension of the SUMP principles in a regional context
- 4.2.5 Operational model for LCT plans for cruise destination cities
- 4.2.6 SUMP elaboration
- 4.2.7 The "Horizontal Condominium"
- 4.2.8 Update of SUMP of port

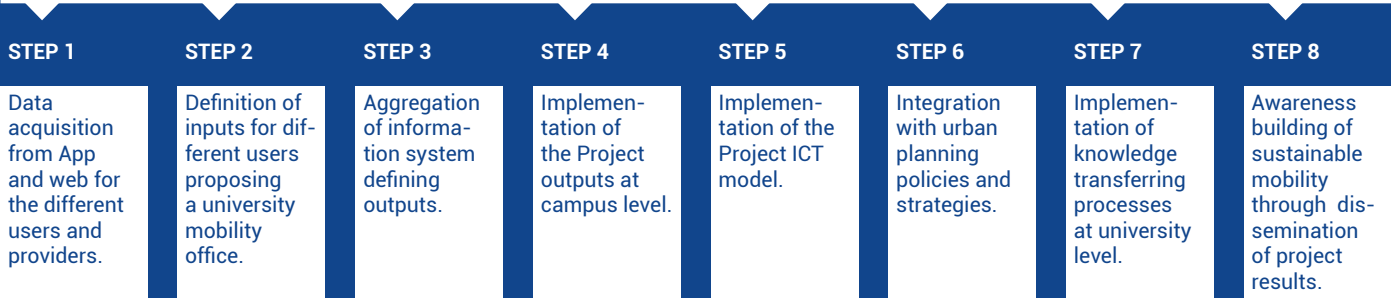
4.2.1 ACTION PLAN FOR MOBILITY IN A UNIVERSITY URBAN CONTEXT

OBJECTIVES

The university campus mobility management, combined with an innovative approach to sustainable mobility plan and its instruments, provided an efficient action plan to improve the management and planning of mobility in a university urban context.



OPERATIONAL MODEL



4.2.1 ACTION PLAN FOR MOBILITY IN A UNIVERSITY URBAN CONTEXT

[Donatella Soluri / Vittorio Papaleo]

Introduction

The CAMP-sUmp project tested a university campus with regards to policies on public sustainable mobility. With the slogan “Together for sustainable mobility”, the CAMP-sUmp project analysed and studied an innovative mobility strategy for student flows inside the university campus and their interconnection with the urban MED area in order to push the development of SUMP where such plans have not already been adopted, to integrate them with sustainable university mobility plans.

Method tools

The project studied how the improvement of instruments for SUMP, concerning student mobility, will resolve students flow mobility congestion in the MED urban area. The method was based on:

- SWOT analysis of current situation of student mobility flows in campus area and SUMP instruments;
- gap analysis of sustainable mobility instruments and policies for students;

- analysis questionnaire, definition of assessment of scenarios, meeting, local working groups and events with local and institutional stakeholders.

Operational model

The project produced two Action Plans for the university campus:

1. one inside the urban context;
2. one outside the urban context.

Monitoring & implementation

It represents a unique model for future tailored action plans adaptable for different MED universities. Partners produced a road map model for the implementation of the Action Plan which describes the steps and tools necessary to ensure commitment from decision makers, and to ensure consistency and viability in terms of social, economic and environmental sustainability. This ICT model is based on interaction between different actors and planning instruments, defining the tools for planning, managing and monitoring sustainable mobility in university campuses.



4.2.2 CROWDSOURCING TOOLS TO SUPPORT SUMP DEVELOPMENT

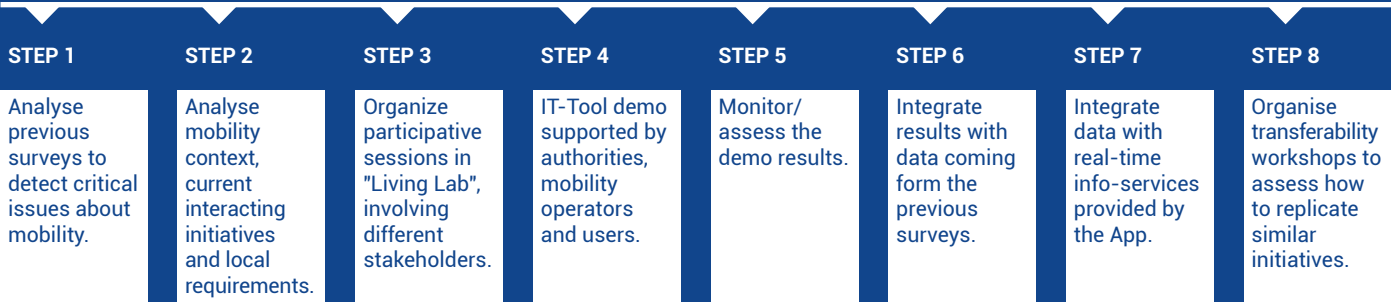
OBJECTIVES

Define procedures to collect O/D matrix, implement a platform to involve stakeholders, citizens and tourists in initiatives and simulation process; evaluate data collection for SUMP development/improvement; provide recommendations for the MED cities.



© Pedro Goms, Centre of Research and Technology Hellas (CERTH) in Thessaloniki (2018)

OPERATIONAL MODEL



4.2.2 CROWD-SOURCING TOOLS TO SUPPORT SUMP DEVELOPMENT

[Saverio Gini]

Introduction

When affected by seasonal mobility demand, small-medium cities in the MED area can hardly provide effective mobility solutions for the needs of different users. The MOTIVATE project exploits the potential role of crowd sourcing tool as a "low cost" procedure to collect data for SUMP and it guides mobility decision makers in their evaluation and adoption. Among the different data typologies, the MOTIVATE project focuses on origin/ destination matrix and evaluation of the level of satisfaction of mobility measures perceived by the users.

Operational model

The MOTIVATE platform can be accessed by an App targeted for real-time use and by a portal to be used after the trip. It provides functionalities for user registration, for the trip registration and for the evaluation of on-going/future mobility measures.

Monitoring & implementation

In a pilot city, the Mobile App has been upgraded with the MOTIVATE functionalities and the trip registration is carried out in terms of bus stops and line: the user selects the bus stop to get on the relevant line and receives the next arrival times. Then the App asks the user to confirm the trip/line and to select the destination. The results show that the crowd-sourcing tools need to be extended to a wider set of data in order to decrease the impacts of traditional data collection. The collection of "mass" data is fundamental to achieve statistical relevance: to do that, the tool cannot be a "stand alone" application but must be integrated with other tourist/mobility applications which provide services to end-users.

Method tools

The analysis of the mobility context, current interacting initiatives and participative sessions involving Authorities, Mobility Operators, target users and organizations, has been mainly carried out by 15 Living, to validate the design of the MOTIVATE project functionalities and then to monitor/assess the demo results. The results have been integrated with data coming from previous surveys to detect critical issues about mobility.



4.2.3 DEFINITION OF SCENARIOS: A THREE-STEP APPROACH

OBJECTIVES

Estimate the impacts of climate change on future tourism demand for tourist coastal areas and developing scenarios on tourist mobility and on CO₂ emissions through tools and strategies to contrast them.



OPERATIONAL MODEL



4.2.3 DEFINITION OF SCENARIOS: A THREE-STEP APPROACH

[Silvio Nocera / Olga Irranca Galati]

Introduction The territories involved in the MOBILITAS project are affected by intense tourism flows with considerable pressure on transport demand. Different **mobility scenarios** have been elaborated in order to provide useful information about the current and the future status of tourist mobility and enable policy makers better understand the effects of different choices on the environmental quality of the destinations. The method tools used to elaborate the scenarios was:

Method tools

- literature review and analysis of European experiences;
- questionnaire to collect information;
- TopDAd model (Tool-Supported Policy Development Interactive Tool for regional adaptation).

Operational model The method adopted to assess the implications of climate change on tourist mobility is based on the development of several alternative scenarios (*status quo*, intermediate and optimistic scenarios)

Monitoring & implementation The scenarios have been used as a basis for the elaboration of the 21 pilot actions of the MOBILITAS project. Unlike other projects, a specific section of the MOBILITAS work is focused on evaluating and monitoring of pilot actions. An Evaluation Report has been developed in order to highlight lessons learned, measure success and elements for transferability to other tourism destinations.

It is important to focus attention on completing the questionnaire properly. Indeed, most of the difficulties were encountered in obtaining information about tourism modal share and average kilometres travelled by tourists.

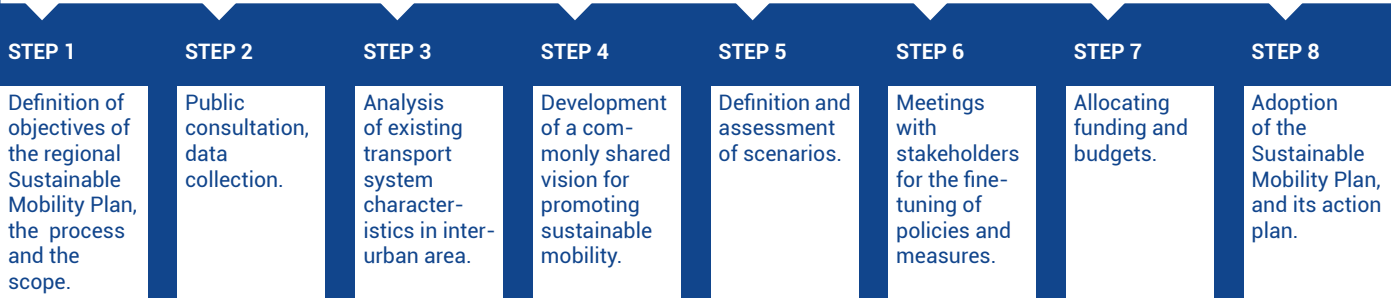
4.2.4 EXTENSION OF THE SUMP PRINCIPLES IN A REGIONAL CONTEXT

OBJECTIVES

Prepare and adopt a regional plan which will be based primarily on the socioeconomic and demographic characteristics of the Thesprotia region and with the consensus of the main stakeholders at local (Municipal) and regional level.



OPERATIONAL MODEL



4.2.4 EXTENSION OF THE SUMP PRINCIPLES IN A REGIONAL CONTEXT

[Thomas Logothetis]

Introduction The Regional Unit of Thesprotia will prepare a plan for the extension of the SUMP principles in its territory, in line with the one of its main Municipality: Igoumenitsa. The main objective of this regional Sustainable Mobility Plan (SMP) is to boost the take-up of SUMPs at regional level and adopt better mobility habits, turning to mass transportation systems for long-distance (interurban) trips in favour of living conditions and the environment.

Method tools The methodology comprises public consultation, data collection, analysis of the characteristics of the existing transport system, the development of a commonly shared vision for promoting sustainable mobility with the involvement of stakeholders, the definition and assessment of scenarios, meetings with stakeholders for the fine-tuning of policies and measures and the adoption of the SMP and its Action Plan.

Operational model The SMP will be elaborated according to the respective EU guidelines and will

Monitoring & implementation The monitoring plan developed to assess the impact of the selected measures comprises a set of selected quantitative and qualitative indicators that have to be surveyed or estimated. These indicators are related to three main categories:

- 1. environmental and societal benefits;
- 2. end-users, level of satisfaction;
- 3. SMP maturity and adoption.

Funding Funding sources for actions coming from the Regional Operational Programme of EPIRUS and Sectoral Operational Programmes at national level.

4.2.5 OPERATIONAL MODEL FOR LCT PLANS FOR CRUISE DESTINATION CITIES

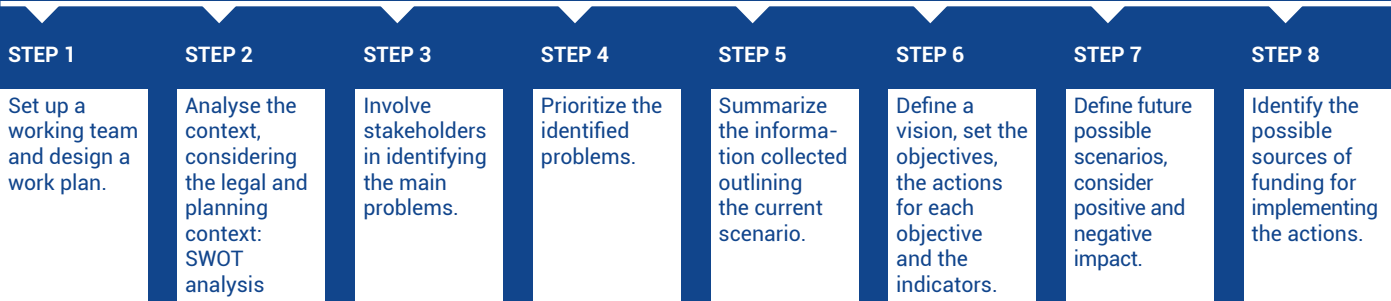
OBJECTIVES

Provide port cities with a methodology that enables them to manage the challenges of traffic generated by the large number of tourists that the cruise ships bring with them.



© Jaka Ivancic, Koper (2017)

OPERATIONAL MODEL



The LOCATIONS project developed and implemented LCTPs in 7 pilot port cities: Lisbon, Malaga, Ravenna, Trieste, Rijeka, Zadar, and Durrës. These pilots are meant to test specific identified measures reported in a catalogue of actions that can be replicated by local officers building their own LCTP.

4.2.5 OPERATIONAL MODEL FOR LCT PLANS FOR CRUISE DESTINATION CITIES

[Fabio Tomasi]

Introduction Cruise ship tourism is both a blessing and a curse for port cities, in particular in the Mediterranean. On the one hand, the ships bring economic advantages to their ports of call and surrounding areas. On the other hand, the huge amounts of passengers they carry can overwhelm their transportation systems and overcrowd historical city centres.

The project LOCATIONS is supporting local public administrations in drafting Low-Carbon Transport and mobility Plans (LCTPs) as tools to define a balance between economic advantages and quality of life of both tourists and residents. LCTPs are designed in a way that makes their integration into SUMP or Sustainable Energy and Climate Action Plans (SECAPs) easy.

Method tools The methodology suggested by LOCATIONS is based both on the European SUMP guidelines and on the guidelines of the Covenant of Mayor. As a consequence, it shares the same principles: promotion

of low carbon mobility, assessment of current and future scenarios, long term vision, structured implementation plan with definition of measurable objectives, monitoring and quality checks, institutional cooperation and active involvement of relevant stakeholders.

Operational model The LOCATIONS approach is a circular process aiming at constant improvements generated by the assessment of the results achieved by the implementation of the plan.

Monitoring & implementation Each LCTP includes a monitoring plan with a wide set of SMART indicators which are constantly monitored, leading to periodic revisions.

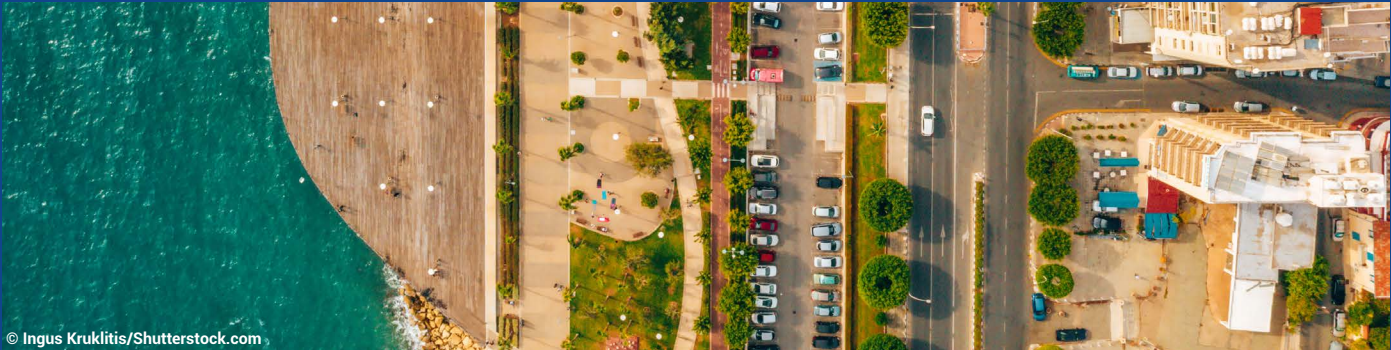
Funding The definition of the LCTPS has been totally funded by the LOCATIONS project. The implementation of the actions included in the LCTPs will be partial funded by each local authority budget or by external sources of funding for larger investments.



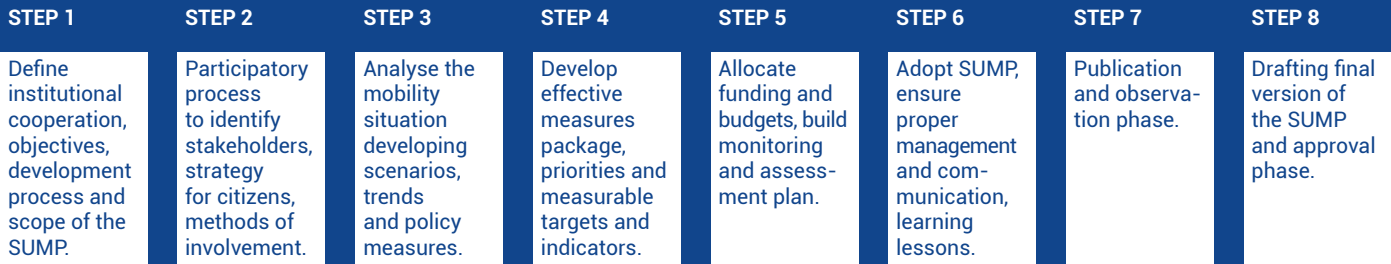
4.2.6 SUSTAINABLE URBAN MOBILITY PLAN ELABORATION

OBJECTIVES

Prepare and adopt a SUMP for the period 2019-2030, which will be developed in line with the General Local Plan implemented by the Government of Albania.



OPERATIONAL MODEL



4.2.6 SUMP ELABORATION

[Peter Canciani / Olga Izquierdo Sotorrio]

Introduction The Municipality of Durres will develop its first SUMP to address the traffic problems caused by increased traffic during the last decade and especially during the summer period, in order to improve the situation and the citizens quality of life. The main objectives of the Durres SUMP are to: harmonize urban and territorial development with road, rail, shipping, air and public transport according to the mobility needs of people and goods; suggest an institutional and financial framework for efficient planning, management and maintenance of the transport system of Durres Municipality and functional areas; combine existing and planned investments.

Method tools The methodology comprises traffic and household surveys and analysis of the existing situation, meetings with stakeholders, development of transport model, definition and assessment of scenarios, elaboration of SUMP and an integrated Action Plan for the city and its neighbouring settlements.

Operational model The SUMP will be elaborated according to the respective EU guidelines and will be monitored by a Project Steering Committee, which is composed of all relevant stakeholders involved in the early stages of the project.

The stakeholders identified comprise the Institute of Transport, the Port of Durres, the University of Durres, the Bike Association, Police, etc.

Monitoring & implementation The monitoring and implementation plan of this methodology is the same as the one reported in the fact-sheet 4.2.4 *Extension of the SUMP principles in a regional context* at page 121.

Funding The investigation of financial sources, the establishment of a monitoring and evaluation mechanism for assessing the effectiveness of the SUMP and its Action Plan, will be implemented in two stages (2019-2024 and 2025-2030, with a mid-term review).



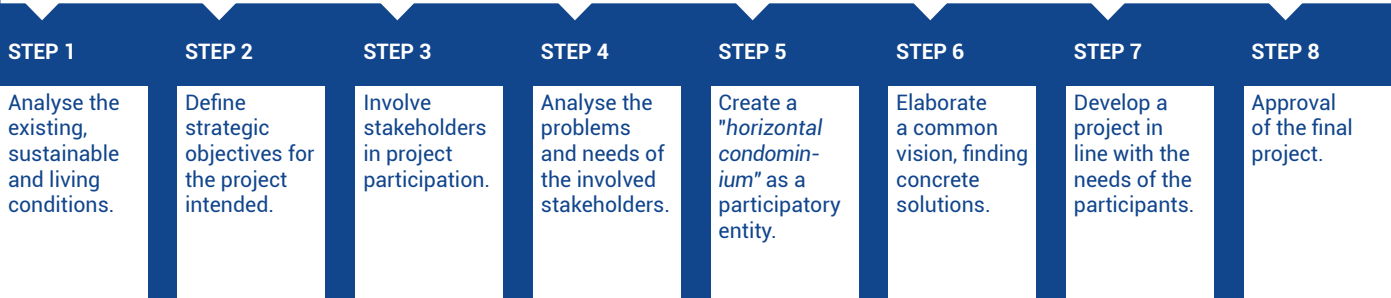
4.2.7 THE "HORIZONTAL CONDOMINIUM"

OBJECTIVES

Propose the "Horizontal Condominium" as an innovative model of participatory governance based on sharing a common vision together with the main stakeholders.



OPERATIONAL MODEL



4.2.7 THE "HORIZONTAL CONDOMINIUM"

[Francesca Liguori]

Introduction The "Horizontal Condominium" is a form of participatory governance to foster the implementation process of low-carbon mobility plans, focusing on mixed-use peripheral roads often suffering from traffic jams, to the point of becoming wounds in the connectivity of the wider city, and even creating elements of social exclusion. All the key local planning authorities are invited to constitute such a participatory entity to share a common vision and to find and agree on concrete solutions for their roads.

Method tools Several events open to the public and surveys through web and street interviews have been conducted. At the local working tables, the following have so far been involved: 30 business support organisations, 10 organizations from interest groups of civil society, 5 service providers of infrastructure and services, 15 from local authorities and 10 research institutions.

Operational model Traffic jams and high congestion in recent years have resulted in many

Monitoring & implementation

trade and business activities moving away from the areas served by the road. Against this trend, the Municipality of Treviso, thanks to the REMEDIO project and MED funds, is now widening its area of intervention towards the Sustainable Mobility profile of the axis: it has understood that sharing a new common vision for the axis, together with its main trade, could be successful leverage for reversing this process and to start a re-qualification of the urban area.

This participatory governance approach needs constant dialogue with the community involved in order to enlarge the initiatives to other strategic stakeholders that might join this vision of a unique "Horizontal Condominium". The leverage to engage operators should be in terms of incentives for energy saving, promotion of renewable energy sources or for actions promoting a more sustainable mobility profile of the area or in housing renewal and building refurbishment.

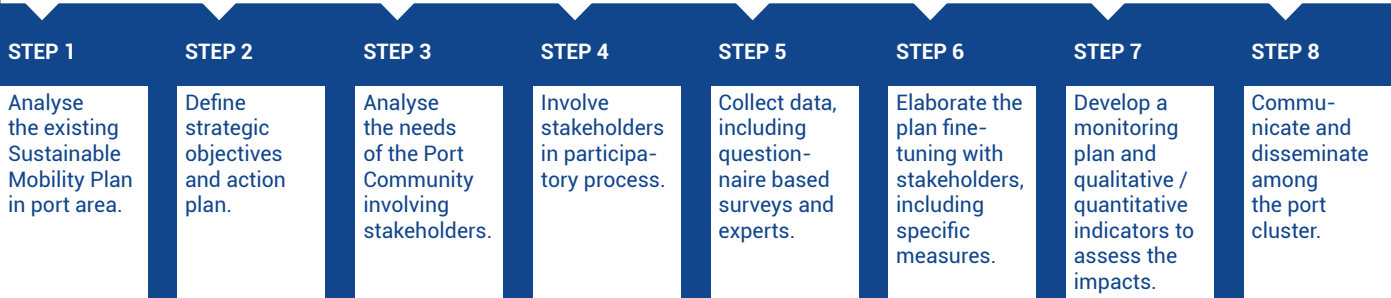
4.2.8 UPDATE OF SUSTAINABLE MOBILITY PLAN OF PORT

OBJECTIVES

Prepare a Sustainable Mobility Plan that evaluates the one of the previous period to update its strategic guidelines and contribute to its achievement.



OPERATIONAL MODEL



4.2.8 UPDATE OF SUMP OF PORT

[Peter Canciani / Olga Izquierdo Sotorri o]

Introduction Fundacion Valenciaport updated its SMP for the period 2012-2017, in co-operation with the Port Authority of Valencia and harmonised it with the city SUMP. The new SMP of the Port of Valencia should be in line with and integrated as far as possible, with the SUMP of the city of Valencia, which improves the Port-City interaction. This is to be achieved through the involvement and of the innovation branch of the Municipality of Valencia, Las Naves (also the SUMPORT partner).

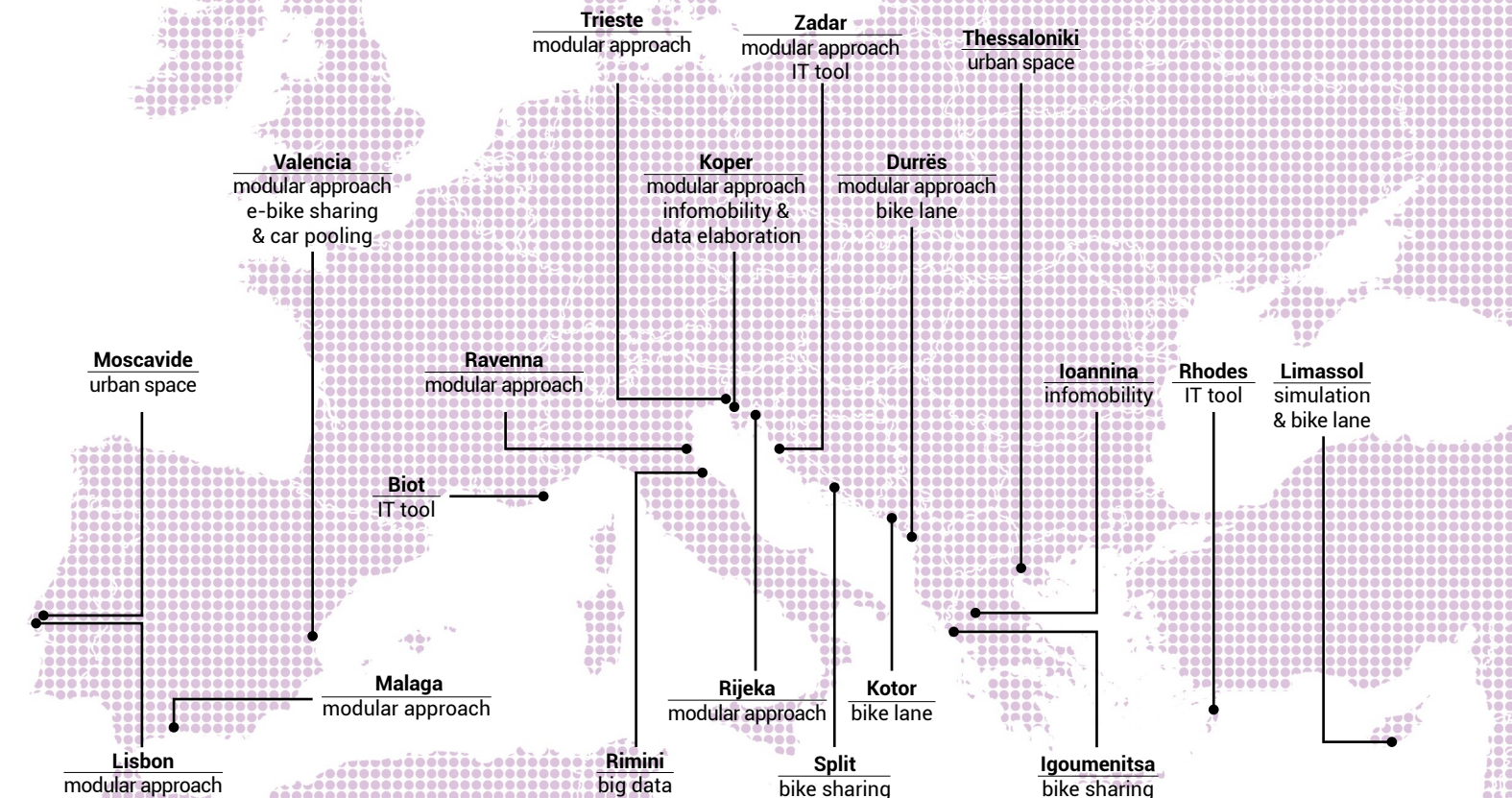
Method tools The methodology comprises an analysis of the existing SMP, meetings with stakeholders, collection and analysis of data (including questionnaire based surveys), elaboration of the SMP, fine-tuning with stakeholders, and communication and dissemination among the Port Cluster.

Operational model The methodology comprises the preparation of an SMP with strategic objectives and an action plan to meet these objectives.

Monitoring & implementation The monitoring and implementation plan of this methodology is the same as the one reported in the fact-sheet 4.2.4 Extension of the SUMP principles in a regional context at page 121.

Funding The total budget allocated for the updating of the SMP of port of Valencia was   40,000.

MOBILITY TOOLS, MEASURES AND INFRASTRUCTURE IN THE MED AREA



4.3 MOBILITY TOOLS, MEASURES AND INFRASTRUCTURE

4.3.1 Analysis & simulations

- 4.3.1.1 Modular packages for city destinations of cruise ship
- 4.3.1.2 Sea transport simulation

4.3.2 Bike lanes

- 4.3.2.1 Coordinating bike lane planning
- 4.3.2.2 New sign-posting and communication of cycle paths
- 4.3.2.3 Oblong coastal bike lane
- 4.3.2.4 Shared bike lane project

4.3.3 IT tools- Infomobility - Apps

- 4.3.3.1 A combined approach to promote sustainable modes of transport
- 4.3.3.2 An integrated approach to promote soft mobility
- 4.3.3.3 Big Data to manage mobility
- 4.3.3.4 Development of a parking control system

4.3.3.5 Development of a public transport information system

4.3.3.6 Info-mobility and promotion of public transport

4.3.3.7 Providing data to rethink urban mobility in tourist destinations

4.3.3.8 Traffic information centre

4.3.4 Sharing & pooling systems

- 4.3.4.1 Car pooling system for port workers
- 4.3.4.2 E-bike sharing system in a port
- 4.3.4.3 Implementation of public bike systems

4.3.5 New urban spaces

- 4.3.5.1 Redesign and upgrade of an urban axis
- 4.3.5.2 Structural modifications to roads to promote participation



4.3.1 ANALYSIS & SIMULATIONS



© Giuliano Koren - Port Authority System Eastern Adriatic Sea, Trieste (2018)

4.3.1.1 MODULAR PACKAGES FOR CITY DESTINATIONS OF CRUISE SHIP

Description A set of modular packages was created to define a catalogue of potential replicable actions that can be adapted in other local contexts to describe technical measures and solutions to produce new LCTPs, complemented by practical tips and suggestions. More than 40 measures were taken and they were grouped into 9 different categories and into 14 modular packages: clean and electric vehicles, port accessibility, inter-modality, ticketing and tariffs, access management and road pricing, parking management, info-mobility. For each modular package the expected impact is described.

Results & impacts The modular packages represent the tailoring of mobility actions to the specific needs of cities dealing with cruise ship passengers.

Lessons learned Creating alternatives in terms of transport modes and tourist attractions to promote sustainable mobility and avoid congestion in city centre.

OBJECTIVE



Catalogue actions for managing mobility issues generated by cruise ship passengers and logistics.

CASE STUDY



14 modular packages based on the experience gained by the pilot activities implemented in Lisboa, Málaga, Ravenna, Trieste, Rijeka, Zadar, and Durrës.



TIME DIMENSION

Different time dimension for each modular package.



COST

Different cost for each pilot action.



METHODOLOGY

Operational model for LCTPs for cruise destination cities.

AUTHOR & REFERENCES



Fabio Tomasi, LOCATION project (2019)
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4.3.1 ANALYSIS & SIMULATIONS



4.3.1.2 SEA TRANSPORT SIMULATION

Description The action envisages the simulation of introducing a maritime public transport system in Limassol, in order to provide an alternative solution to serve the connection between the Limassol New Port with various parts of the urban complex along a coastal front of approximately 25km. It actually examines whether such a service would be financially and economically viable and under what characteristics, so as to attract interest from the private sector for its implementation.

Results & impacts Limassol is limited by its sea boundaries and the largest number of trips are taken by private cars. The action examines the idea of introducing public transport across the sea and the introduction of such an alternative will contribute to the de-congestion of the city network by using the sea.

Lessons learned The question is whether the implementation of such a service will be profitable and could be used as an alternative means of transport.



OBJECTIVE Maritime transport for citizens and cruise passengers in Limassol, in order to connect the New Port with other points in the city.



CASE STUDY Limassol, Limassol District - Cyprus.



TIME DIMENSION The permanent action will be implemented based on the results of the simulation infrastructure.



COST € 60,000



METHODOLOGY Update of Sustainable Mobility Plan of Port.



AUTHOR & REFERENCES Stelios Stylianidis, SUMPORT project (2019) architect@limassolmunicipal.com.cy www.limassolmunicipal.com.cy



4.3.2 BIKE LANES

MARINA

NEW PORT

@Bainsy_Jay/Shutterstock.com. The photo has been modified by Housatonic

4.3.2.1 COORDINATING BIKE LANE PLANNING

Description The action comprises the design and implementation of a bike lane in Limassol Municipality to link the existing bicycle lanes on both sides of the New Limassol Port.

This way, the existing gap in bicycle infrastructure of the city's New Port - which is the main passenger port of Cyprus - with the town's most important points of interest and areas of trips production/attraction will be bridged.

Results & impacts This implementation provides uninterrupted, exclusive infrastructure for citizens and visitors who wish to perform ordinary or recreational trips by bike, safely and in an environmentally friendly way, changing mobility habits.

Lessons learned The action is implemented partly by the Municipality and by the Ministry of Transport, Communications and Works of Cyprus, which finances the SUMP of the Limassol Metropolitan Area, currently under completion. It is an example of coordinated planning and action.

OBJECTIVE

Integration of the bike-lane network in Limassol and connection between the existing bike lanes in order to have a complete network which will connect the Limassol Port to the main points of the city.



CASE STUDY

Limassol, Limassol District - Cyprus.



TIME DIMENSION

Permanent infrastructure.



COST

€ 100,000



METHODOLOGY

Sustainable Mobility Plan elaboration.

AUTHOR & REFERENCES

Stelios Stylianidis, SUMPORT project (2019)
architect@limassolmunicipal.com.cy
www.limassolmunicipal.com.cy



4.3.2 BIKE LANES



4.3.2.2 NEW SIGN-POSTING AND COMMUNICATION OF CYCLE PATHS

Description The Municipality of Misano has designed a new network monitoring and communication system for existing cycle and pedestrian paths. The objective is two-fold:

- new road signs along the seafront have been studied and put into operation in an appealing and effective way, indicating the path to the sea, to urban areas, nature areas and to schools, characterized by different colours and symbols, positioned on wooden poles and highly visible iron supports;
- two totems have to be set up, with luminous displays, in the two access points of the waterfront cycle path to know exactly how many users there are, be they residents, hikers or tourists.

At the beginning and the end of the promenade, a bike sharing station and a recharging station for e-vehicles in harmony with the SUMP strategies have been placed.

Results & lessons learned Sustainable mobility is achieved by coordinating initiatives, urban choices, communication and monitoring to enable people to make better use of active mobility.



OBJECTIVE Better sign-posting on footpaths and monitor cycle paths.



CASE STUDY Misano Adriatico, Emilia Romagna - Italy.



TIME DIMENSION Permanent infrastructure.



COST € 7,600



METHODOLOGY Definition scenarios: a three-step approach.



AUTHOR & REFERENCES Alberto Rossini, MOBILITAS project (2019) arossini@comune.misano-adriatico.rn.it



4.3.2 BIKE LANES



4.3.2.3 OBLONG COASTAL BIKE LANE

Description The action comprises the design and implementation of a bike lane in Kotor Municipality, to cover the cycling needs for regular and seasonal mobility, contributing to the expansion of the bike lane network. With more than half a million cruise passengers visiting the city, it is necessary to provide such infrastructure for cyclists, in order to deal with the congestion during the summer period, and provide vital space for alternative means of mobility.

Results & impacts The action implements an oblong coastal bike lane providing the infrastructure for citizens and visitors to perform ordinary or recreational trips by bike safely, and in an environmentally friendly way. It will contribute to changing mobility habits and reduce the use of private cars.

Lessons learned Limitations of public space to implement this action leads to abolishing car parking spaces or some cycle/pedestrian lanes. Coordination with authorities and citizens is vital to obtain an optimal technical solution.



OBJECTIVE Introduction of a coastal bike-lane in Kotor.



CASE STUDY Kotor, Kotor Municipality - Montenegro.



TIME DIMENSION Permanent infrastructure.



COST n.d.



METHODOLOGY Sustainable Mobility Plan elaboration.



AUTHOR & REFERENCES Lena Pasinovic, SUMPORT project (2019)
lena.pasinovic@kotor.me
kotor.me



4.3.2 BIKE LANES



4.3.2.4 SHARED BIKE LANE PROJECT

Description The action comprises the design and implementation of a bike lane in Durres Municipality, to contribute to the expansion of the bike lane network.

Three alternative alignments have been developed and focus on the stakeholders, discussing the details of design and operational/ safety aspects.

Results & impacts The action will extend the existing bike-lane network and provide exclusive infrastructure for citizens and visitors who wish to perform ordinary or recreational trips by bike safely, and in an environmentally friendly way. It will contribute to changing mobility habits and reduce the use of private cars.

Lessons learned Lessons learnt come from problems that emerged due to on-going construction of other projects in the Municipality, which did not consider this measure and left limited road space for the bike-lane implementation.



OBJECTIVE Extension of the bike-lane network in Durres.



CASE STUDY Durres, Durres County - Albania.



TIME DIMENSION Permanent infrastructure.



COST € 24,921



METHODOLOGY Sustainable Mobility Plan elaboration.



AUTHOR Emiriana Sako



AUTHOR & REFERENCES Ina Xhakoni, SUMPORT project (2019)
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durres.gov.al



4.3.3 IT TOOLS- INFOMOBILITY - APPS



4.3.3.1 A COMBINED APPROACH TO PROMOTE SUSTAINABLE MODES OF TRANSPORT

Description Since Zadar is one of the focal points of tourism in Dalmatia, it is often congested with traffic, especially during the peak tourist season. In order to tackle this problem, Zadra Nova implemented the following activities:

- data collection and analysis, cycle road mapping, upgrading a smart-phone App dedicated to promoting cycling among both tourists and the local population in the broader Zadar area;
- promoting the use of public transport, bicycles and other sustainable modes of transport during public events;
- creating strategic documents as a guideline for local initiatives;

Results & impacts Thanks to these actions, cycling tourism was promoted both in the hinterland and in the coastal areas among tourists and the local population.

Lessons learned The key is to make a starting analysis with an integrated approach raising awareness.



OBJECTIVE A combined approach to gathering and analysing the data, SUMP documents, policy recommendations and IT solutions.



CASE STUDY Zadar, Zadar County, Dalmatia - Croatia.



TIME DIMENSION Temporary action, for the duration of the MOBILITAS project.



COST € 20,000 -25,000



METHODOLOGY Definition scenarios: a three-step approach.



AUTHOR & REFERENCES Paulo Sarić, MOBILITAS project (2019)
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www.zadra.hr



4.3.3 IT TOOLS - INFOMOBILITY - APPS



4.3.3.2 AN INTEGRATED APPROACH TO PROMOTE SOFT MOBILITY

Description Local infrastructure incentivise the use of individual cars and many visited sites are poorly linked by other modes of transport. ENERGIES 2050 aimed to promote the use of electric bicycles through the following activities:

- data gathering, analysis and evaluation of the existing state of local initiatives, policies and actors to create synergies;
- testing and mapping of roads with regards to their practicality of use for cyclists, developing a dedicated mobile application: Ethicycle;
- publication of recommendations to promote low carbon mobility.

Results & impacts Results were: reduced traffic, improved access to highly frequented sites and promotion of cycling tourism which has increased the attractiveness of local territories.

Lessons learned An integrated approach to low carbon mobility is essential and all measures should closely fit territorial specificities.



OBJECTIVE An integrated approach to low carbon mobility combining field experimentation, data analysis, use of IT tools and recommendations.



CASE STUDY Biot, Antibes and Villeneuve Loubet, Alpes Maritimes - France.



TIME DIMENSION Permanent solution.



COST € 35,000 -40,000



METHODOLOGY Definition scenarios: a three-step approach.



AUTHOR & REFERENCES De Laboulaye Guillaume, MOBILITAS project (2019) infos@energies2050.org energies2050.org/mobilitas



4.3.3 IT TOOLS - INFOMOBILITY - APPS



© IEG - Italian Exhibition Group photo archive, Rimini (2018). The photo has been modified by Housatonic

4.3.3.3 BIG DATA TO MANAGE MOBILITY

Description Working with Big Data, it is possible to know if the actions on sustainable mobility are in line with the strategies of the SUMP. Gathering data on mobility, in particular during peak tourist season, allows the monitoring of trips by large numbers of people and evaluating the different modes of transport used. The activity was based on the use of big data from Cell Site Location Information (CSLI), Floating Car Data (FCD), Traffic Control System (TCS) and traffic detection cameras and was carried out during the Ecomondo Fair 2018: on that occasion, Rimini is faced with intense tourist flows, which put considerable pressure on transport and cause congestion in the city.

Results & impacts Thanks to the Big Data analysis it was possible to know tourist origins and their use of transport to evaluate SUMP actions, implement the framework knowledge and propose a biennial monitoring method.

Lessons learned It is important to do traffic monitoring to plan mobility in peak events relying on specialist companies with specific skills.



OBJECTIVE Big Data analysis carried out during the Ecomondo Fair in Rimini, 2018.



CASE STUDY Rimini, Emilia Romagna - Italy.



TIME DIMENSION Temporary solution carried out from 6th to 9th November 2018.



COST € 7,600



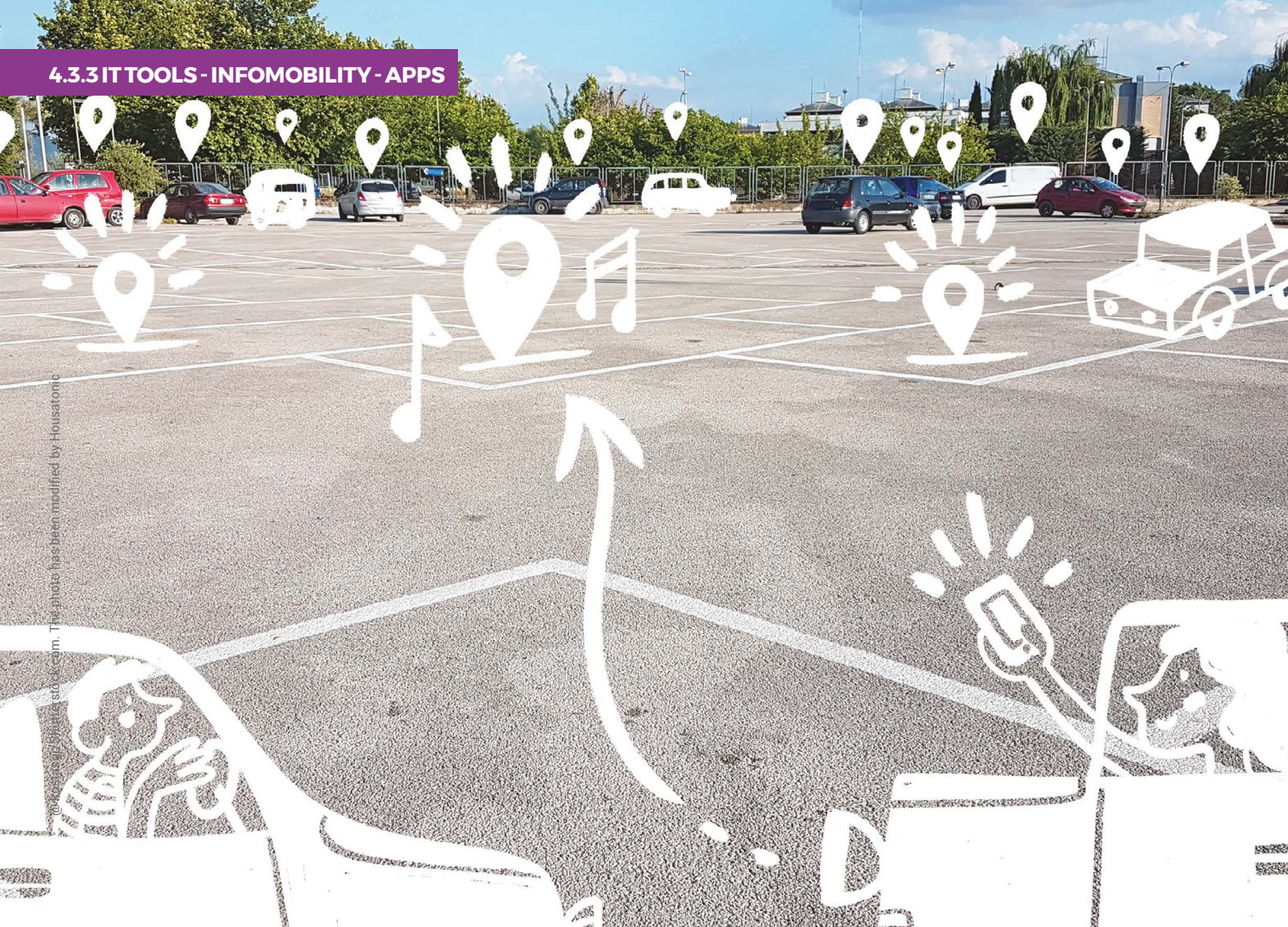
METHODOLOGY Definition scenarios: a three-step approach.



AUTHOR & REFERENCES Serena De Rosa, MOBILITAS project (2019) serena.derosa@agenziapianostrategico.it www.agenziapianostrategico.it/



4.3.3 IT TOOLS - INFOMOBILITY - APPS





4.3.3.4 DEVELOPMENT OF A PARKING CONTROL SYSTEM

Description The pressure of traffic on modern cities keeps growing, draining existing parking resources and increasing congestion and pollution. For years, parking management systems and smart parking concepts were studied and implemented by municipalities, like in Ioannina, which provides a low-cost smart parking system. Smart parking consists of an advanced real-time navigation system that signals availability and directs the user towards the parking space closest to the destination chosen.

Results & impacts The parking control system ensures management of short-term parking by visitors and long-term parking by permanent residents and to eliminate the phenomena of illegal parking and double parking.

Lessons learned This App helps reduce congestion and environmental pollution caused by private vehicles while trying to locate a parking space in the city. The key to a successful action was to connect the MOTIVATE Platform with existing mobility Apps.

OBJECTIVE  Efficient management of city parking to improve congestion, environment and quality of life.


CASE STUDY  Ioannina, Epirus Region - Greece.

TIME DIMENSION  Permanent solution.

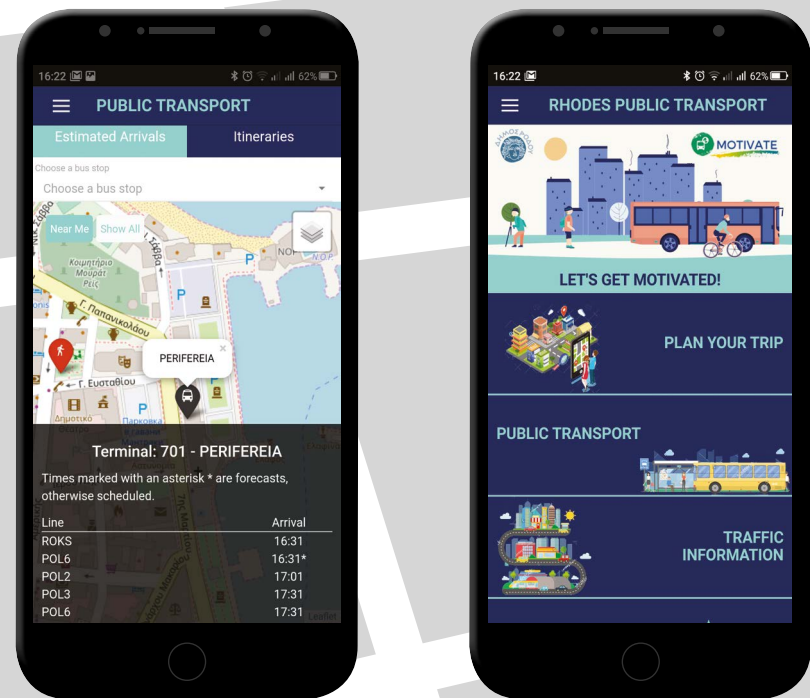
COST  € 80,000

METHODOLOGY  Crowd-sourcing tools to support SUMP development.

AUTHOR  Pedro Gomes

REFERENCES  Giorgos Antoniou, MOTIVATE project (2019) gio.antoniou@gmail.com





© Rhodes public transport App screenshots (2018)

4.3.3.5 DEVELOPMENT OF A PUBLIC TRANSPORT INFORMATION SYSTEM

Description The aim of the action is the design, development, configuration and installation of PT information systems and interconnection with the existing information system for traffic conditions.

The purpose is to implement a series of new applications and systems to provide information to the residents in the Municipality, which will adequately and comprehensively complement the existing municipal investments in intelligent transport systems.

Results & impacts As a result, the project will be a unified information platform with bus and traffic information about the city of Rhodes and will use websites, mobile applications and existing electronic signs.

The system has not been finalized yet and the final system will be operated and managed by the local public company transportation (RODA).



OBJECTIVE Promote the use of Public Transport through real time information to increase reliability and attractiveness of the PT system itself.



CASE STUDY Rhodes Municipality - Greece.



TIME DIMENSION Permanent solution.



COST € 50,000



METHODOLOGY Crowd-sourcing tools to support SUMP development.



AUTHOR Pedro Gomes, Paraskevi Moraitou

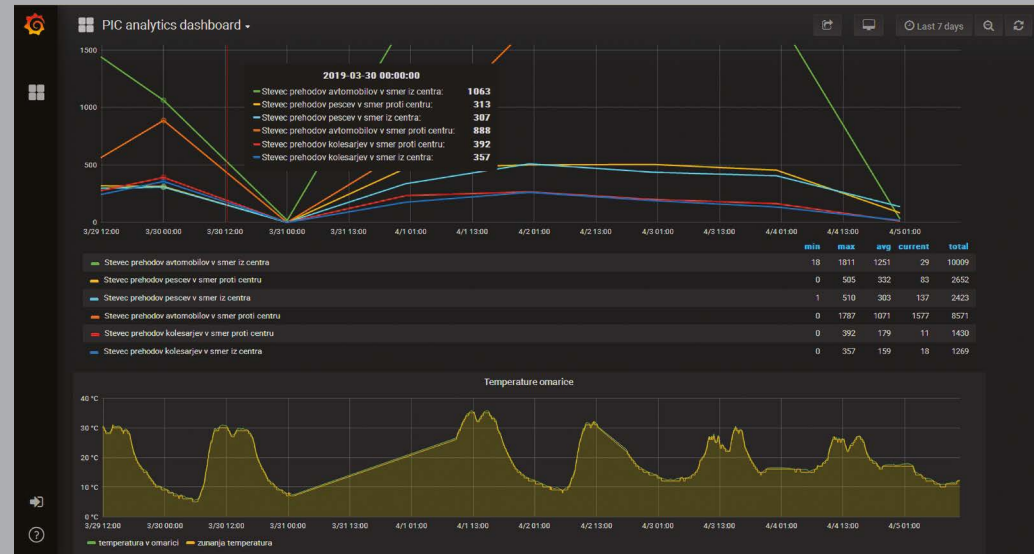
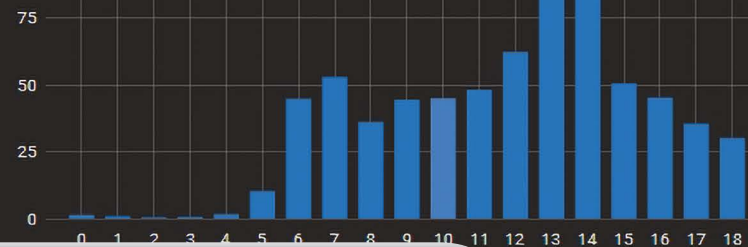


REFERENCES Paraskevi Moraitou, MOTIVATE project (2019) pmoraitou@rhodes.gr



4.3.3 IT TOOLS - INFOMOBILITY - APPS

1_ponedeljek	907
2_torek	5.576 K
3_sreda	916
4_cetrtek	988
5_petek	836
6_sobota	509
7_nedelja	396



© Traffic information Centre program, Koper (2019)

4.3.3.6 INFO-MOBILITY AND PROMOTION OF PUBLIC TRANSPORT

Description The new traffic information system installed in Koper has enhanced capabilities for monitoring, management and traffic analysis. It comprises: installation of GPS on buses and monitors in real-time, at bus stops, information promoting public transport use; creation of smart parking system with sensors for recording occupancy/availability of parking spaces; development of mobile applications for journey planning and real-time information; and upgrade of traffic information centre.

Results & impacts The action carried out provides the ability to integrate all traffic data in the traffic information centre, which distributes the information to the citizens and users in order to make better use of public transport and change mobility habits.

Lessons learned Mobility App gives overview of the road situation enabling better traffic management and cooperation with the national info centre, reducing traffic and CO₂ emissions increasing the use of public transport.



OBJECTIVE Mobility data sharing and public transport enhancement in Koper, unifying data transfer from different traffic monitoring and management systems into the traffic information system of the community.



CASE STUDY Koper, Coastal-Karst Statistical Region - Slovenia.



TIME DIMENSION Permanent solution.



COST € 150,000



METHODOLOGY Sustainable Urban Mobility Plan elaboration.



REFERENCES Ivana Strkalj, SUMPORT project (2019)
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www.koper.si

4.3.3 IT TOOLS - INFOMOBILITY - APPS



© Misano World Circuit (2018). The photo has been modified by Houseonic

4.3.3.7 PROVIDING DATA TO RETHINK URBAN MOBILITY IN TOURIST DESTINATIONS

Description When the small town of Misano receives thousands of visitors for the MotoGP, the city needs to rethink and plan a functional public transport system, adapting it to the needs of both residents and tourists. The big data testing action, aims to reduce the negative impact of traffic and tourism flows with a specific focus on the impact on the environment.

Results & impacts Data comes from mobile phone operators, on-site measurements obtained from a system of data collection on the motorway to Misano, mobile-camera systems placed in strategic locations and the data of the black boxes of GPSs. Data gathered regard the start and the length of the journey, rush hour, parking areas, length of the stay and other information.

Lessons learned Big data analysis is extremely important to assess how the local mobility plans and innovative transport services react under extreme pressure: during this event Misano also tested bike sharing and free floating system and on-demand shuttle.



OBJECTIVE Big data collection to reduce negative impact of traffic and tourism flows with a specific focus on the impact on the environment re-thinking urban mobility.



CASE STUDY Misano Adriatico, Emilia Romagna - Italy.



TIME DIMENSION Temporary solution.



COST € 10,000



METHODOLOGY Definition scenarios: a three-step approach.



AUTHOR & REFERENCES Alberto Rossini, MOBILITAS project (2019) arossini@comune.misano-adriatico.rn.it





© Traffic information Centre program, Koper (2019) | © MOK Mob App screenshot (2019)

4.3.3.8 TRAFFIC INFORMATION CENTRE

Description Two pilot activities were implemented in the Municipality of Koper on the Slovenian coast: a traffic information centre and an environmental database on which data on traffic is collected, analysed and elaborated. The aim is to redirect traffic flows from congested roads and filled parking spaces to less busy ones and, in particular, to stimulate the use of public transport offering real-time information (on website and on App) about traffic congestion, available car parks, bus timetables and their location and environmental figures.

Results & impacts IT solution allows the transfer of traffic data gathered at national level to the municipality's traffic information centre and included in the App for users. The environmental indicators are being measured using a mobile device.

Lessons learned Traffic and environmental databases give an overview of modifications of traffic flows and their impact on air quality in the area: the results are a useful tool for more efficient future traffic and spatial planning.



OBJECTIVE Database elaboration.



CASE STUDY Koper, Coastal-Karst statistical Region - Slovenia.



TIME DIMENSION Permanent solution started in November 2018.



COST € 20,500



METHODOLOGY Definition scenarios: a three-step approach.



AUTHOR & REFERENCES Larisa Kunst, MOBILITAS project (2019)
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www.rrc-kp.si



4.3.4 SHARING & POOLING SYSTEMS



© Carolina Navarro - Fundación Valenciaport, Valencia (2018)

4.3.4.1 CAR POOLING SYSTEM FOR PORT WORKERS

Description The action concerns the testing of a car-pooling system, allowing port workers of the Port of Valencia to share their own cars.

There are currently more than 6,500 workers at the Port premises and the aim of the tool is to assess, update and improve the functionality and use of the existing car-pooling system.

Results & impacts The main objective is the promotion of the rational use of private cars among the port workers, which will result in a reduction of emissions and noise disturbance produced by commuting to/from the port area: improving public space in the port area and saving on fuel costs.

Lessons learned The success of the pilot action depends on the assessment of the existing tool through a set of selected test users and meetings with them regarding problems, deficiencies, usability and potential improvements.



OBJECTIVE Improved Car-pooling system in the Port of Valencia.



CASE STUDY Valencia, Valencian Community - Spain.



TIME DIMENSION Temporary solution: 1 year from January 2019 to December 2019.



COST € 5,700.



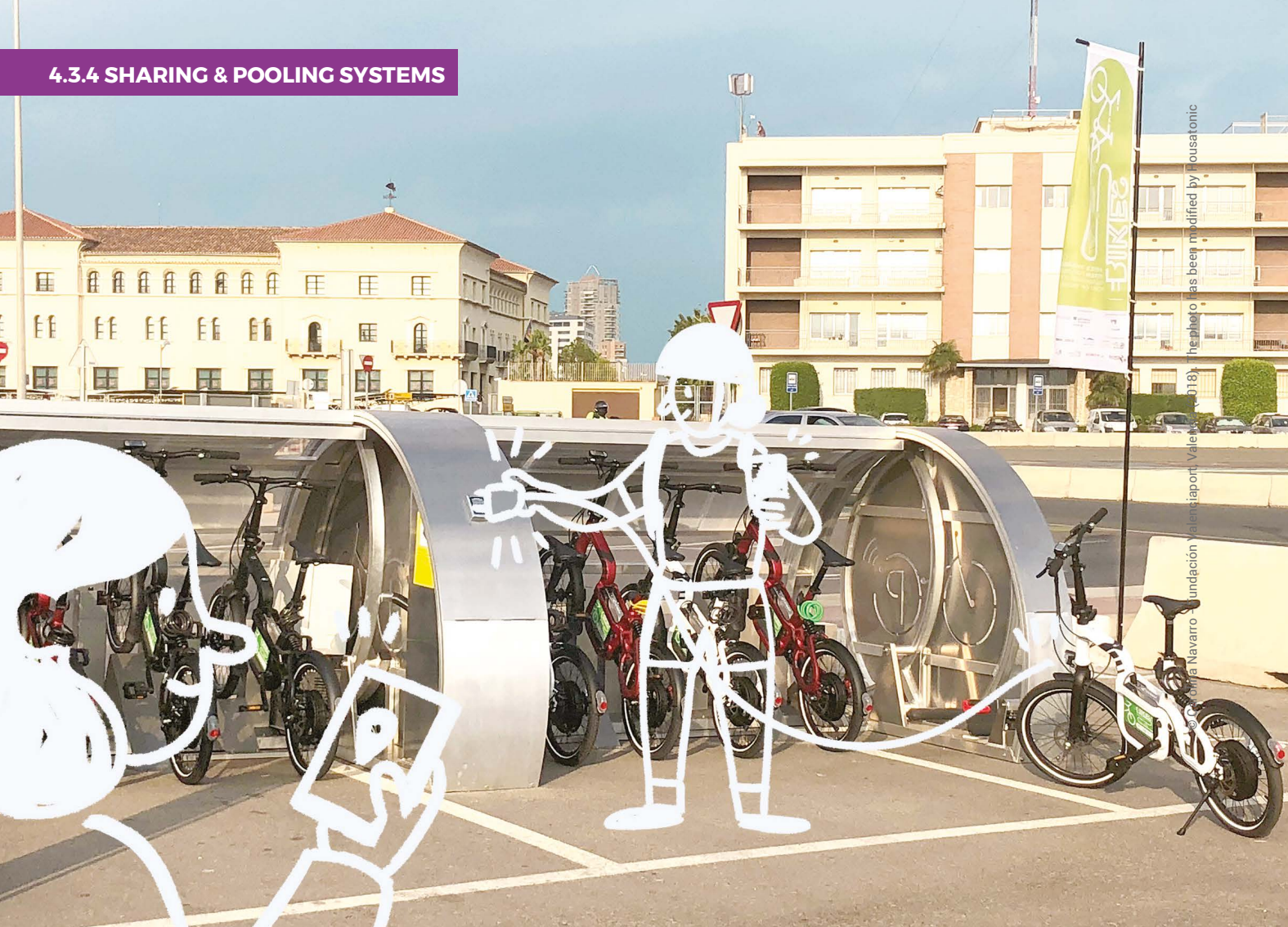
METHODOLOGY Update of Sustainable Mobility Plan of Port.



AUTHOR & REFERENCES Carolina Navarro, SUMPORT project (2019) cnavarro@fundacion.valenciaport.com www.fundacion.valenciaport.com



4.3.4 SHARING & POOLING SYSTEMS



4.3.4.2 E-BIKE SHARING SYSTEM IN A PORT

Description In 2018, Valencia Port received 421,518 cruise passengers in a total of 197 cruise ship calls. The cruise traffic has been growing in recent years and this trend is expected to continue in the coming years. For this reason, the APV, in collaboration with the FVP is working on the development and implementation of more sustainable modes of mobility for cruise passengers. The action concerns testing the introduction of an e-bike sharing system in the Port of Valencia, intended to allow cruise passengers to travel around the city and the port in a more environmentally friendly way.

Results & impacts The tested service aims to contribute to an increase in sustainable mobility and tourism through a new e-bike sharing system integrated with parking/charging stations avoiding car trips and emissions.

Lessons learned The main obstacles to success are the price and the preference of the cruise passengers, to hire services, which are available from the cruise ship.



OBJECTIVE E-bike sharing system installed in the Port of Valencia.



CASE STUDY Valencia, Valencian Community - Spain.



TIME DIMENSION Temporary solution: 6 months from July 2018 to January 2019.



COST € 7,750 (subcontracting of the parking and 10 bikes). Price of the ebike rental: 1 hour: € 9 / Up to 2 hour: € 18 / 1 day: € 24.2



METHODOLOGY Update of Sustainable Mobility Plan of Port.



AUTHOR & REFERENCES Carolina Navarro, SUMPORT project (2019) cnavarro@fundacion.valenciaport.com www.fundacion.valenciaport.com



4.3.4 SHARING & POOLING SYSTEMS



4.3.4.3 IMPLEMENTATION OF PUBLIC BIKE SYSTEMS

Description In the city of Split, a Public Bike System was implemented through the procurement of a mix of electric and classic bicycles, placed in eight locations in the city. The city of Split's joint public procurement process, worked in cooperation with the City's Utility company "Split Parking", as a partner in implementation and management. The preparatory works were delayed because of circumstances regarding the necessary electro-energy and field preparations and permits.

Results & impacts The hope is that, thanks to the implementation of the public bike system analysis, traffic congestion in the City would be reduced. Also, the Public Bike System would be an alternative to the classic motorized vehicles in order to reduce CO₂ emissions.

Lessons learned Finally, it is important to continue increasing awareness of target groups of citizens to use the alternative low carbon mobility solutions.

OBJECTIVE Implementation of the public bike system in the City of Split.

CASE STUDY City of Split, Split – Dalmatia County - Croatia.

TIME DIMENSION Permanent solution.

COST € 1100,000

METHODOLOGY The "Horizontal Condominium".

AUTHOR & REFERENCES
Tomo Šundov, REMEDIO project (2019)
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www.split.hr/Default.aspx



4.3.5 NEW URBAN SPACES



© Makridis associates, Centre of Research and Technology Hellas (CERTH) in Thessaloniki (2018)

4.3.5.1 REDESIGN AND UPGRADE OF AN URBAN AXIS

Description In Thessaloniki, the redesign of an important urban axis of the city which faces congestion issues was proposed. The vision and objectives were developed thanks to public consultation to record stakeholders' and citizens' opinions and technical processing with relevant experts.

Results & impacts The redesign: increases the visibility and separation of the bus lane introducing a 2-way bicycle path; serves taxis, waste collection and loading/unloading needs; increases parking spaces; extends the existing pavement and reduces the length of pedestrian crossings by up to 30% proposes to: upgrade PT and infrastructure introducing e-buses, building bus stops, installing bus priority in traffic signals and surveillance systems; improving the quality of materials used for pavements and using the bus lanes in emergency situations.

Lessons learned Finally, active involvement of stakeholders in planning helps create ownership of the solution. A clear message is needed to mobilize relevant actors.



OBJECTIVE Redesign/upgrade of an urban axis based on the principles of SUMP with a high-participatory approach.



CASE STUDY Thessaloniki, Central Macedonia Region - Greece.



TIME DIMENSION Temporary solution: 6 months from September 2017 to March 2018



COST € 120,000.



METHODOLOGY The "Horizontal Condominium".



AUTHOR Chrisostomos Kalogirou, Stella Zountsa



REFERENCES Metropolitan Development Agency of Thessaloniki, REMEDIO project (2019) secretary@mdat.gr www.mdat.gr



4.3.5 NEW URBAN SPACES



4.3.5.2 STRUCTURAL MODIFICATIONS TO ROADS TO PROMOTE PARTICIPATION

Description Structural modifications, with a huge emphasis on promoting soft and sustainable mobility solutions, was carried out to transform a congested avenue into a "*horizontal condominium*": two road lanes transformed into just one, increase in the public sidewalk and inclusion of street furniture, small gardens and equipment. This is not just about increasing quality of life and environmental benefits but empowering the population with information and tools connecting them to the Municipality. Results were:

- Results & impacts**
- increasing quality of life;
 - decreasing environmental impacts;
 - promoting participatory governance.

- Lessons learned**
- modification of an arterial avenue can impact and bring benefits for the whole city;
 - population involvement is crucial for the dissemination and continuity of the project goals.



OBJECTIVE Structural modifications based on SUMP concepts with strong participative governance.



CASE STUDY Moscavide, Loures - Portugal.



TIME DIMENSION Permanent solution.



COST € 237,500



METHODOLOGY The "Horizontal Condominium".



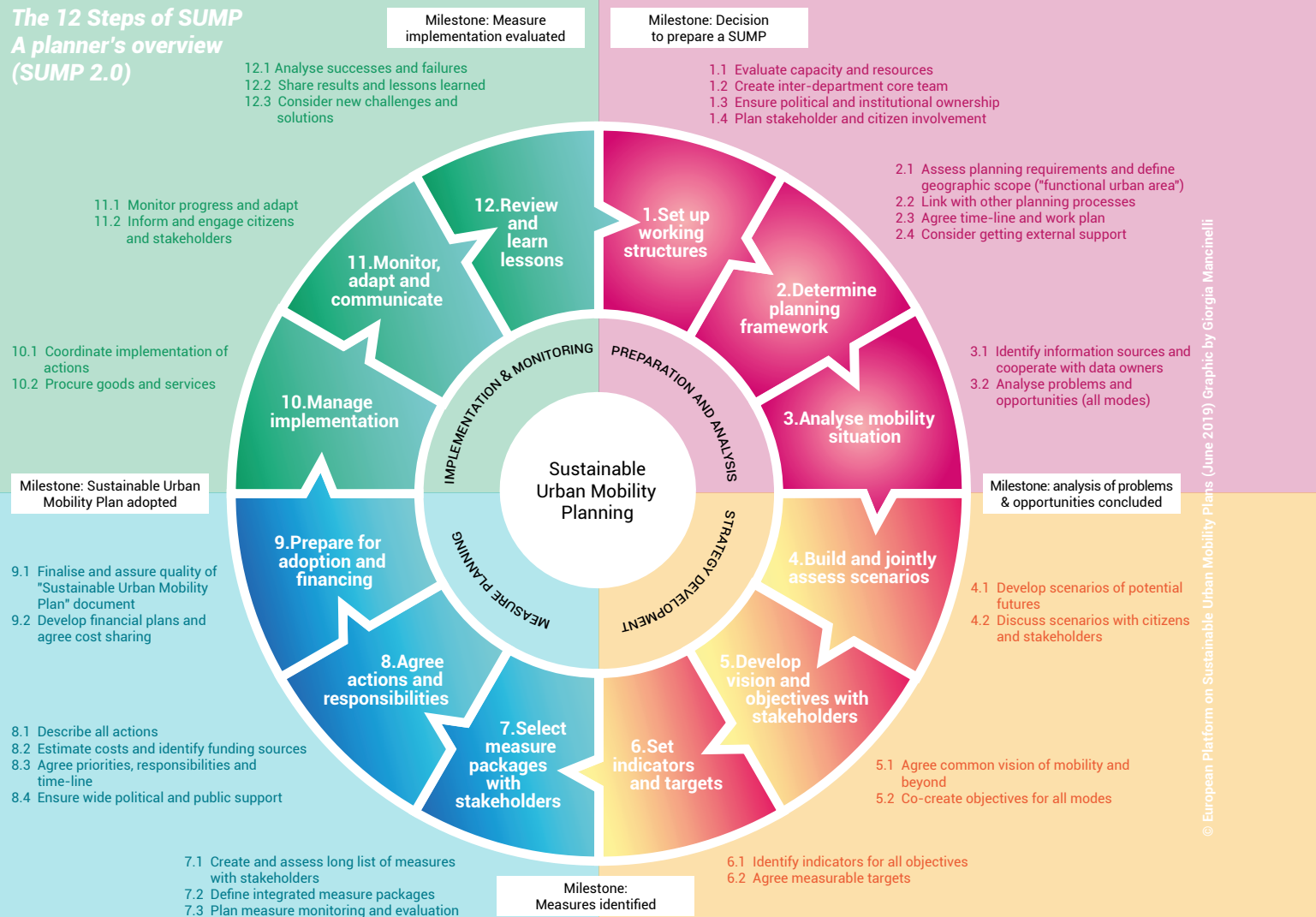
AUTHOR & REFERENCES Ana Catarina Sabino, REMEDIO project (2019) ana_casabino@cm-loures.pt



5.

**UP TO THE
FUTURE**

The 12 Steps of SUMP A planner's overview (SUMP 2.0)



5.1 TOWARD SUMP 2.0

[Peter Staelens / Heloïse Chaumier / Matilde Chinellato]

SUMPs are the key

The key to promoting the benefits of a Sustainable Urban Mobility Plan is to involve citizens in a transparent development process co-creating and sharing sustainable mobility measures.

In order to achieve these results there are pilot measures, such participatory planning, events and campaigns targeting decision makers and opinion leaders at the national and local level, but also through the use of existing European initiatives, platforms and resources.

Existing SUMP guidelines

Many guidelines at supranational or national level are available, aimed at providing a methodological framework on how to develop a good SUMP.

They commonly consider that it is the result of a structured process that comprises status analysis, vision building, objective and target setting, policy and measure selection, active communication, monitoring and evaluation – and the identification of lessons learnt.

One of the existing EU resources is certainly the SUMP guidelines, published in 2014, and which quickly became the "go-to" guidance on how to develop a SUMP.

The SUMP cycle: A continuous improvement process

The European guidelines propose the "SUMP cycle", a regular planning cycle, like a continuous improvement process. This cycle is composed of 4 main phases; (i) Preparation and analysis, (ii) Strategy development, (iii) Measures planning, (iv) Implementation and monitoring, themselves divided into 12 steps and 32 activities. From the starting point, the decision to prepare a SUMP to the final impact assessment, going through the milestones "Analysis of problems & opportunities concluded", "Vision, objectives and targets agreed" and "SUMP document adopted", these steps and activities may run partially in parallel or include feedback loops.

Toward SUMP 2.0

However the current SUMP guidelines do require a rethinking and extension to consider new developments in society



and technology, as well as valuable experiences from practical implementation. That is why the European Commission launched the SUMP 2.0 process for the update and further development of the existing SUMP guidelines at the 5th SUMP Conference held in Nicosia (Cyprus) from 14-15 May 2018.

As measures, tools and plans developed by Modular Projects of the MED Urban Transport Community presented in this handbook, mainly focused on tourist mobility, a specific challenge of the MED coastal areas, which have participated, to feed into this process of revision, by providing thematic complements to consider these specific mobility flows (university, port, tourist, etc.).

SUMP 2.0 Over the course of 2018 and 2019, key stakeholders are being consulted to identify emerging needs and to collect systematic stakeholder input on the improvement, extension, and modification of the existing SUMP guidelines.

The updated Guidelines on SUMP 2.0 are scheduled to be presented for validation at the 6th SUMP conference in Groningen (The Netherlands) on 17-18 June 2019.



5.2 OPEN INNOVATION & RESEARCH FOR SUSTAINABLE MOBILITY

[Ermete Mariani]

Unsustainable situation

The focus on urban areas is of particular strategic relevance considering that **70% of EU citizens live in cities and 85% of the EU's GDP is generated in urban areas**. The demand for urban mobility is therefore steadily increasing as most journeys begin and end in cities. However, this trend has created, in most urban areas, an unsustainable situation: severe congestion, poor air quality, noise emissions and high levels of CO₂ emissions. In other words, urban congestion might jeopardise sustainable and inclusive growth. Therefore, **making mobility more sustainable might have multiple positive impacts on the whole European continent** as well as beyond. However, the challenges ahead are very tough, as we experience considerable technological transition and we need collective effort to innovate, sustained by a strong supporting framework provided by the European institutions.

DG MOVE & DG RTD

In this context, several synergetic dynamics are being put in place between

the EU Commission Directorate General Research and Innovation (DG RTD) and Mobility and Transport (DG MOVE). They are both working together towards the common objectives of "**Innovation, digitisation and de-carbonisation**" set by the European Commission President Jean-Claude Juncker, at the State of the Union speech on 13 September 2017. More specifically, **DG MOVE is supporting** the transport policy, with the so-called **CIVITAS program**, a network of cities for cities dedicated to cleaner, better transport in Europe and beyond, launched in 2002. **DG RTD**, on the other hand, is **promoting technological as well as socio-economic research and is coordinating**, jointly with DG MOVE, **a cross-disciplinary team preparing the European Innovation Partnership (EIP) Smart Cities and Communities**.

The two DGs are working together to help cities and communities, business and civil society, to implement smart city solutions across the sectors of



energy, transport and ICT, at much greater scale and speed, to improve services while reducing energy and resource consumption, greenhouse gases (GHG) and other polluting emissions.

Mr. Patrick Mercier-Handisyde, from the European Commission DG Research & Innovation Directorate Transport, shed some light on the European Commission's strategic axes of development for urban mobility during the workshop *"Better Ways to Move, Better Places to Live"* promoted by the MED Urban Transport Community, and INTERREG MED Programme's initiative, in the framework of the *"UNIMED Week in Brussels"* on 19 March 2019 in Brussels, organised by UNIMED – Mediterranean Universities Union. The main points from Mr. Mercier-Handisyde's contribution are summarised below by the author of this article, who bears full responsibility for the text.

Open innovation
from the EU
Commission

A key document setting out the strategic axes of the development of sustainable urban transport is the **"White Paper 2011: Roadmap to a Single European Transport Area - Towards a competitive and resource efficient transport system"** published by the European Commission. The latter adopted a roadmap of 40 concrete initiatives for the next decade, with the aim of building a competitive transport system that will increase mobility, remove major barriers in key areas and fuel growth and employment. At the same time, the proposals are aimed at drastically reducing Europe's dependence on imported oil and cutting carbon emissions in transport by 60% by 2050. One of the most ambitious objectives set at that time was to halve the use of 'conventionally-fuelled' cars in urban transport by 2030, phase them out in cities by 2050 and achieve essentially CO₂-free city logistics in major urban centres by 2030.

Policy context

In terms of EU transport policies, especially in the field of urban mobility, there are different sets of actions. First of all, for the period 2009-2012, the European Commission adopted the **"Action Plan on Urban Mobility"**. The Action Plan proposed **twenty measures to encourage and help** local, regional and

national authorities **achieve their goals for sustainable urban mobility**. During this same period of time, the **"Action Plan on ITS – Intelligent Transport System"**, an important instrument for the coordinated implementation of ITS in Europe, was also developed. It aimed to establish interoperable and seamless ITS services while leaving Member States the freedom to decide which systems to invest in. In 2016, the **"European Strategy on Cooperative Intelligent Transport Systems (C-ITS)"** was adopted, representing a milestone initiative towards cooperative, connected and automated mobility.

Action Plan on
Urban Mobility

However, the most interesting initiative for the MED Urban Transport Community, according to Mr. Mercier-Handisyde, is the **"Urban Mobility Package"** adopted in 2013, **which reinforces the EU Commission's** supporting measures in the area of urban transport by sharing experiences, providing targeted financial support, focusing research and innovation on delivering solutions for urban mobility challenges, and finally by involving Member States and enhancing international cooperation.

Urban Mobility
Package

Calls to action were dedicated to specific fields of activity such as urban logistics, urban access regulation, ITS and road safety; and specific regulations linked to fuel and vehicle regulations. More recently, in 2017, the Commission published the third mobility package **"Europe on the Move III"**, which set the path for an integrated policy for the future of road safety with measures for vehicle and infrastructure safety; the first ever CO₂ standards for heavy-duty vehicles; a strategic Action Plan for the development and manufacturing of batteries in Europe and a forward-looking strategy on connected and automated mobility. An integral and strategic component of this strategy is the **promotion of SUMPs – Sustainable Urban Mobility Plans** at urban levels.

The 3rd
mobility
package

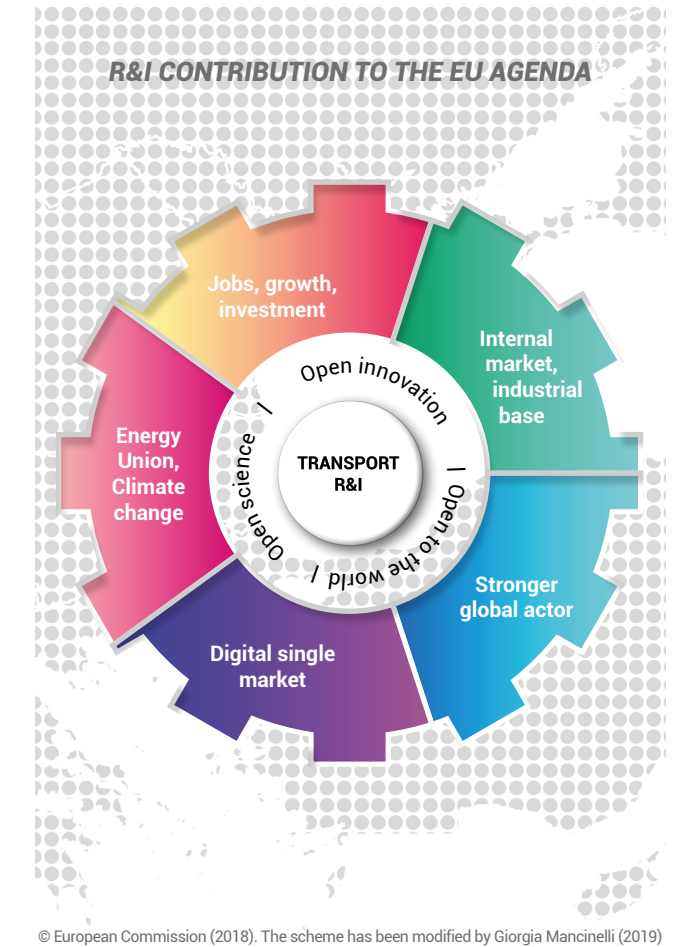
More recently, the focus has been shifting towards the development and large-scale deployment of **CAM - Connected and Automated Mobility**, which can provide a unique opportunity to make our mobility systems safer, cleaner, more efficient and more user-friendly.



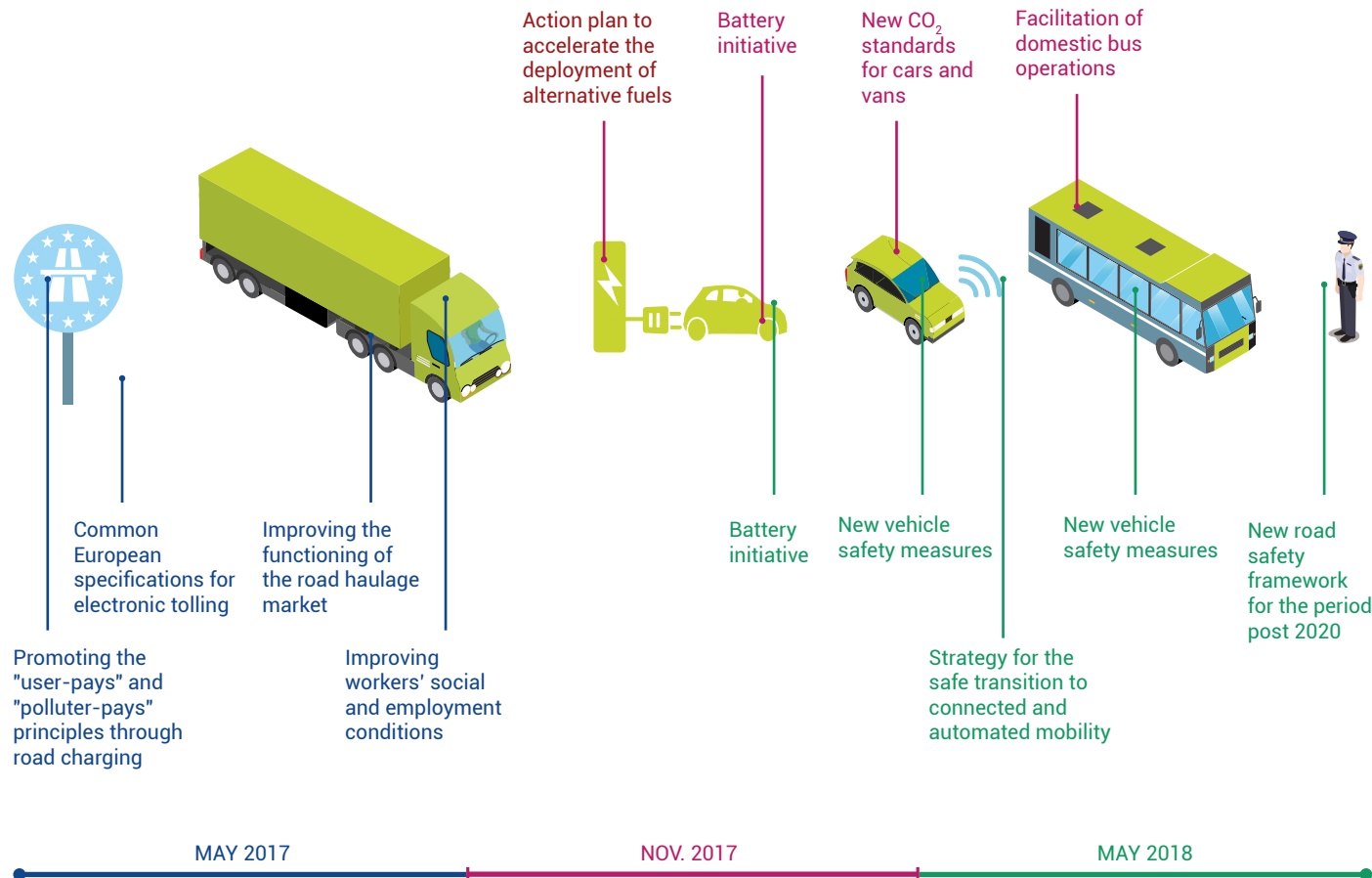
Research and innovation contribution to the European Policy Agenda

The research and innovation sector's main contribution to the European Policy Agenda relies on the 30's vision of "*open innovation, open science and open to the world*" set by Carlos Moedas, Commissioner for Research, Science and Innovations, back in 2015. The main goal expressed in this strategic vision is to **promote the involvement of a greater variety of actors in the innovation process and to ensure accessibility to science as well to open up our knowledge to fruitful international exchanges**. More specifically, research and innovation actions in the mobility sector should contribute to:

- increase investment, growth, jobs and market share;
- enhance mobility, de-carbonise transport, boost competitiveness;
- improve framework conditions, adapt regulatory framework;
- promote open access, user engagement, societal uptake;
- consolidate world leadership, promote knowledge sharing.



SOME OF THE KEY ACTIONS PROPOSED BY THE COMMISSION



DG RTD's activities

DG RTD's main strategic axes of research are, first of all, de-carbonization and clean vehicles; secondly, digitalization connected to the topic of mobility; and, finally, several other socio-economic research activities. DG RTD supports several sets of activities: high quality public transport and accessibility for all, both supported by the **Horizon 2020 program**; the **EBSF - European Bus System of the Future project** to support the deployment of electric buses in different cities in Europe; inter-modal transport stations; clean and safe vehicles for passengers on freight transport; new mobility services called **MaaS - Mobility as a Service** (mobility services that take advantage of new ICTs technologies); and road transport systems, with **AVENUE** (a project supporting the deployment of completely automatic shuttles, complementary to conventional public transport).

Different calls for projects

Urban mobility issues are also addressed by Horizon 2020, the main European research and innovation program, which had different calls for projects mainly focused on the smart green and integrated transport priority challenge. More specifically, there were calls for projects on:

- **mobility for growth**, with a focus on urban mobility and socio-economic research;
- **green vehicles**, linked to a public private partnership, set up to foster co-operation with industries and open to international cooperation activities;
- **automatic road transport**, launched to explore the potential of automatic vehicles;
- **smart city activities**, stimulating the interaction between ICTs, transport and energy.

Partnerships

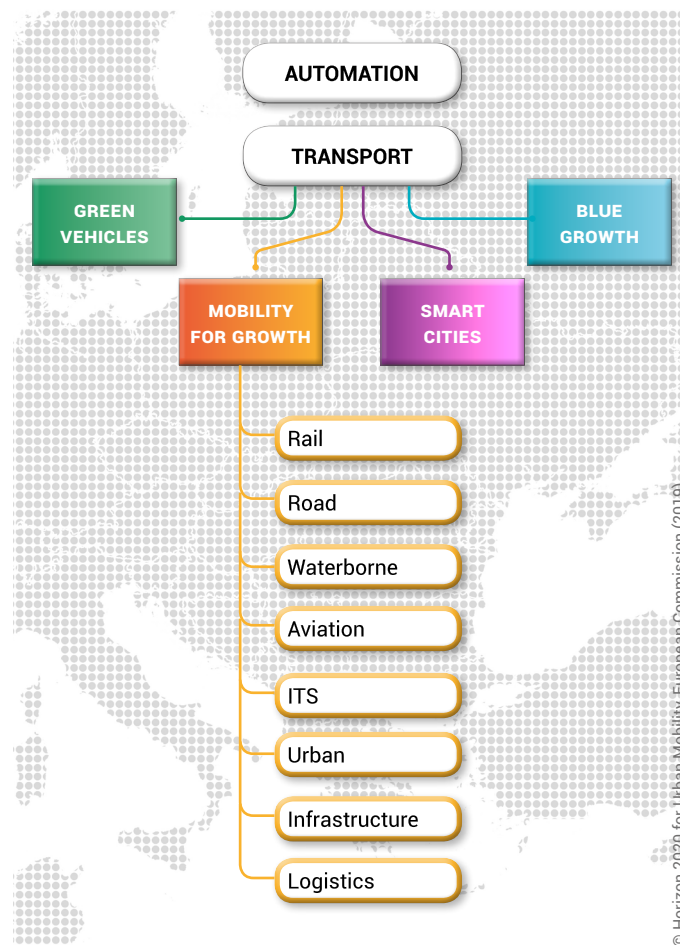
Meanwhile, DG RTD has established partnerships with relevant stakeholders and projects to define a **roadmap on research**, such as the European Road Transport Research Advisory Council (ERTRAC) **green vehicle initiative**, an urban transport research advisory council on road transport; and an association on logistics called **ALICE, a European technology platform** set up to develop a comprehensive strategy for research, innovation and market deployment of logistics and supply chain management innovation in Europe.

International cooperation to support & develop activities

A last call for projects in Horizon 2020 has just been launched and represents, according to Mr. Mercier-Handisyde, "a big push to support international cooperation, together with the launch of flagship initiatives in different domains, *inter alia* in transport and urban mobility." In this call, there is an international cooperation flagship initiative on urban mobility and sustainable electrification in large urban areas of developing and emerging economies, which has two main objectives. Firstly, it aims to develop support activities in the field of e-mobility and public transportation. Secondly, it aims to develop and organize demonstration projects in the field of electro-mobility in several cities in Europe, in Africa and other relevant countries.

Horizon Europe

Urban mobility is a strategic axis for our economies and societies. "It will therefore naturally **constitute a core activity promoted by the upcoming Horizon Europe**, the research and innovation framework program, successor to **Horizon 2020**, which will be implemented during the period **2021-2027**" concluded Mr. Mercier-Handisyde.



5.3 THE POINT OF VIEW OF ONE REGION

[Patrizio Bianchi / Stefania Leonil]

Sustainable mobility is a part of urban planning

Talking about **sustainable mobility as part of urban planning highlights a gap which is bigger in the Mediterranean area**, even though the classical city configuration of proximity could easily inspire a low carbon transport strategy.

UTC & partnerships

Since the capitalization of results at transnational level has shown difficulties during the last programming period (2007-2013), through a specialized partnership the **MED Urban Transport Community has worked to solve the gap. This has been done by improving the visibility and mainstreaming of their results, through joint strategies based on synergies and networking**, like the horizontal project GO SUMP: a project on sharing challenges and developing solutions for sustainable mobility in the MED area, which include seven transport issues (among which are studies, pilots, capitalization and integrated projects).

Territorial cooperation

To guarantee the necessary interrelationship between the different programs (regional/national and European), post-2020 programming should start by 2022 as initially planned in the Cooperation Programme. This would ensure coherence and complementarity between actions financed by mainstreaming programs with European Territorial cooperation programmes. The identification of



PATRIZIO BIANCHI

Regional Minister for Coordinating European Development Policies, Education, Vocational Training, Universities, research and Employment Policies for the Region of Emilia-Romagna in Italy.



strategic themes for the territory and for the regional structures would be a good starting point for dealing with a multi-fund and multi-program approach, and making the contribution of territorial cooperation to the objectives of the cohesion policy more binding. It is important to **reiterate the role of European Territorial cooperation programmes that act as a "hinge" and are complementary elements to regional and national programming**, by strengthening the territorial dimension in European programming.

Work on
Mediterranean
& Adriatic area

In the case of the MED and ADRION and Italy-Croatia Programme, it should be stressed that Italian participation in the programme is very significant, both in terms of geographical coverage, and in terms of the implications related to the national, regional, macro-regional and Mediterranean basin strategies envisaged by the Partnership Agreement. **Working in the Mediterranean and Ionian Adriatic area is of fundamental importance for the political positioning of Italy and Europe in relation to global challenges, in particular those posed by climate change, big data and migration flows and for future opportunities for innovative development of this area in the context of**

global, industrial and commercial development. Emilia-Romagna Region involves, at the beginning of the programme phase, regional stakeholders, Universities and research centres, in order to identify priorities to implement new projects and actions. In addition, the energy and transport issues related to new solutions to apply low-carbon strategies on islands, cities and remote territories are very important in order to prevent disease and reduce air and water pollution.

Reduce LCO2
and promote
cohesion
policy

For the next programming period, it will be crucial to stress the importance of air quality and new solutions to reduce LCO2 with macro-regional strategies based on a regulatory framework. This also includes the possibility of explicitly activating the link with the programmes of the cohesion policy, identifying the methods through which the contribution of the programs to the priorities of the strategies will have to be made, including financial priority.

Top-down &
bottom-up
approach

For this reason, it is desirable to use territorial tools and mechanisms to **integrate the works, following a dual top-down approach** (facilitating the integration of the results of

Integration at
regional level

European Territorial cooperation - ECT - projects through mechanisms provided by the Program and by the national level), **and bottom up** (greater thrust propulsion towards integration through mechanisms provided by the regional/local level).

Multi-level
governance
method

Therefore, it is especially in the governance of processes that there is a margin of improvement for a greater impact of ECT programmes and projects in the contexts in which they are realized, **identifying at regional level the adequate territorial level of integration with local institutional structures and subjects, to develop policies focusing on needs, territorial strategies and local development projects, in a logical system.**

Coordination
activity

In other words, it is a matter of **defining multi-level governance methods**, which stress the connection at a national level for the pursuit of European and national strategies, where the regional and local level allow the framework of needs and opportunities, to feed into and overlap with territorial specificities, objectives and tools available.

The coordination activity that is at the core of these actions could indeed:



- **encourage better participation** such as a lot of Regional stakeholders involved in European territorial cooperation;



- **improve the effectiveness of the resources** destined for it, favouring a leverage or complementarity effect in a shared strategic framework;

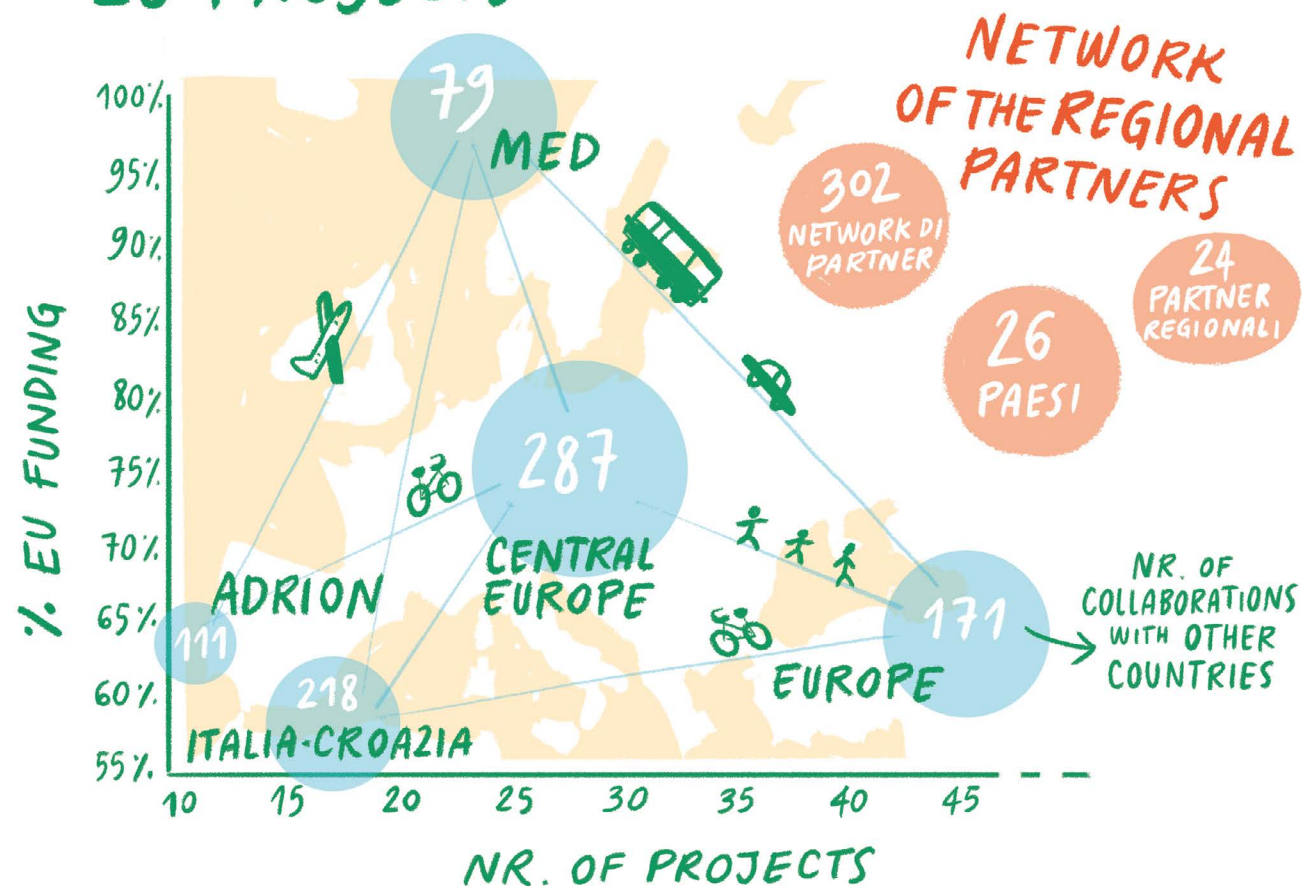


- **improve the ability to generate territorial added value** through the implementation of projects consistent with regional development strategies;



- **provide guidance to foster integration** (and additionality) between public policies.

EU PROJECTS



EUROPEAN PROJECT CONTEXT FOCUSING ON EMILIA ROMAGNA REGION

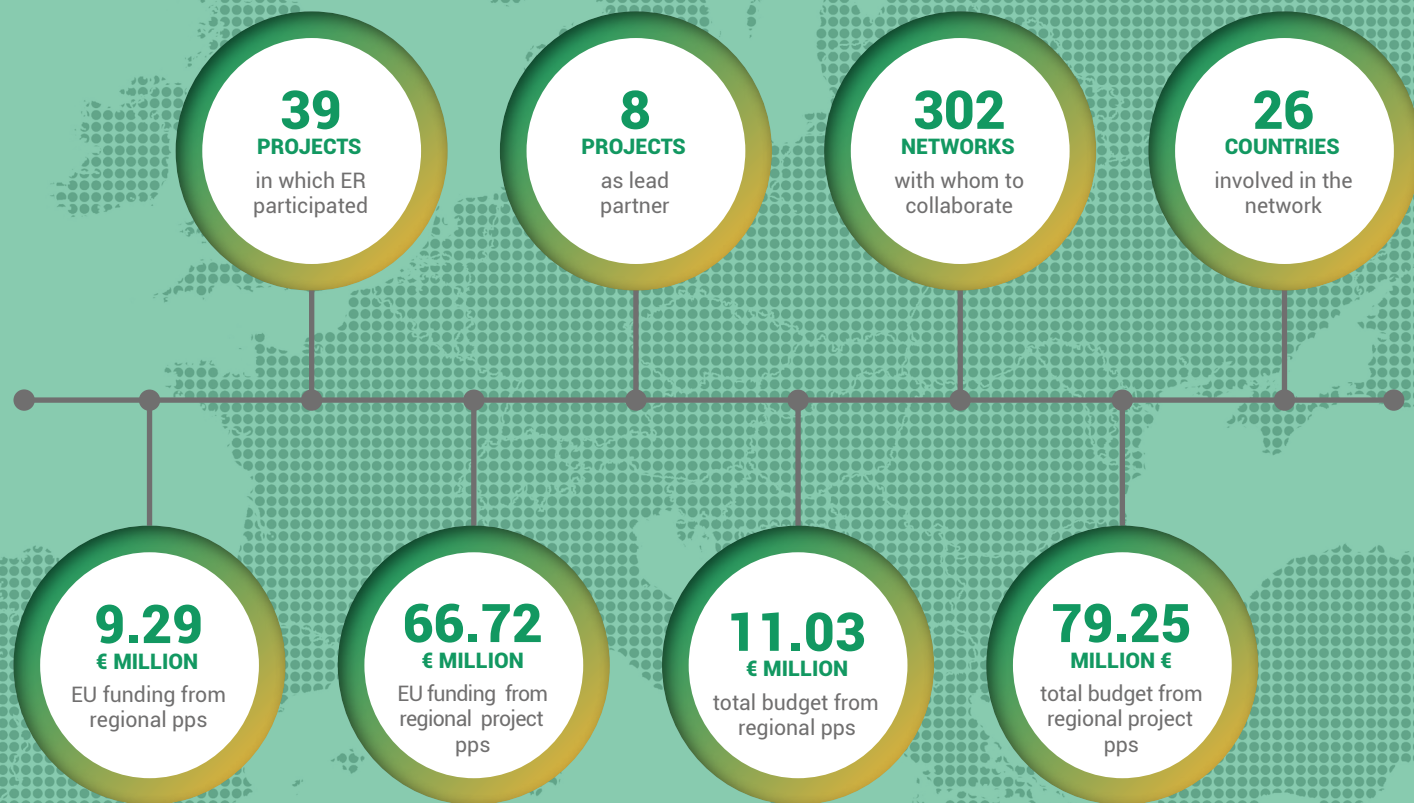
MOBILITAS MOBILITAS is a pilot action testing project and it was approved by the first call for modular projects opened for the whole Axis. The second call was opened only for the S.O.2.3 and only for Integrated Projects, considering the approved projects in the first call for modular projects and remaining financial resources.

Results from the projects In this context, one integrated project was approved under Axis 2 regarding Low carbon economy to complement the twenty-two modular projects selected in late 2016, for a programming rate of 99% of ERDF and 98% of IPA funds. Considering that almost all the totality of the Axis envelope has been programmed, the third call for modular projects was not open to Axis 2 projects.

From the twenty-two projects ongoing since late 2016/early 2017, four of them, which are Study or Capitalisation projects, were running for 18 months and finalised their activities, providing their final outputs and results, while the remaining 18 have been implementing their activities, following their work plan.

Measuring progress The calculation method used for defining baseline values calculated in 2014 has been replicated in early 2019, in order to measure the progress of the indicator at the end of 2018. A sample of new local urban plans (developed mainly between 2015 and 2017), from those available on the Covenant of Mayors website, have been analysed. The same proportion of plans include **soft actions for sustainable transport**; this is the reason why values remain stable.

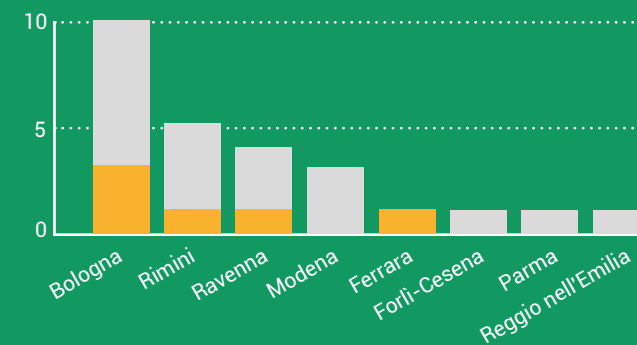
EMILIA ROMAGNA PARTNERS PARTICIPATION IN CTE PROGRAMS



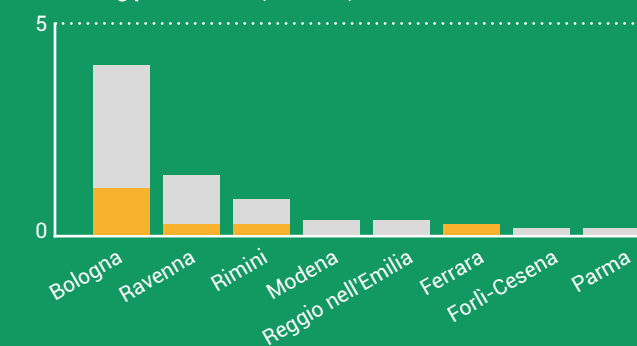
EMILIA ROMAGNA PARTNERS PARTICIPATION

lead partner
partner

Number of partners per Province



EU funding per Province (million €)



Assessment
on monitoring
& evaluation

For the 2022 review, contacts have already been established with the Covenant of Mayors to ensure data accessibility to their database and **monitoring analysis data, in order to assess any evolution of planned measures.**

Moreover, after the experience of monitoring and evaluation of the unit of this department (Coordination of European policies, Planning, Cooperation and Evaluation Unit) in 2018, Emilia Romagna Region started the development of monitoring systems, with the aim of collecting quantitative and qualitative elements useful for the analysis of the main phenomena at the regional territorial level and functional to the administration's ability to **improve its own programming skills and priorities, also in this case, in close collaboration with the managing authorities of the OPs FESR, ESF and RDP, as well as ADRION.**

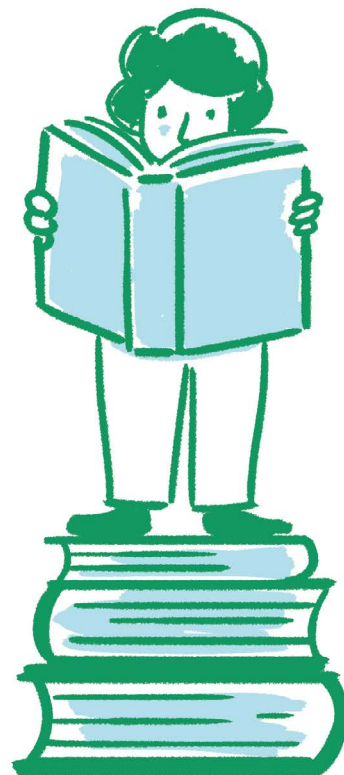
ADDENDA

LIST OF ABBREVIATIONS

App	Application	EVSE	Electric Vehicles Supply Equipment
APV	Port Authority of Valencia	FCD	Floating Car Data
BEV	Battery Electric Vehicles	FESR	Fondo Europeo di Sviluppo Regionale
CAMP-sUmp	CAMPus sustainable University mobility plans in MED areas	FPV	Valencia Port Foundation
C-ITS	European Strategy on Cooperative Intelligent Transport Systems	GDP	Gross Domestic Product
CO ₂	Carbon dioxide	GHG	Greenhouse gas
CSLI	Cell Site Location Information	IARC	International Agency for Research on Cancer
DG MOVE	EU Commission Directorate General Mobility and Transport	ICT	Information and Communication Technologies
DG RTD	EU Commission Directorate General Research and Innovation	IMT	Integrated Modelling Tool
EBSF	European Bus System of the Future	IPA	Instrument for Pre-Accession Assistance
EIP	European Innovation Partnership	IT	Information Technology
EnerNETMob	Mediterranean Interregional Electromobility Networks for intermodal and interurban low carbon transport systems	LCO ₂	Liquid Carbon Dioxide
		LCTP	Low Carbon Transport Plan
		LOCATIONS	Low Carbon Transport in Cruise Destination Cities
ERDF	European Regional Development Fund	LP	Lead Partner
ERTRAC	European Road Transport Research Advisory Council	MED	Mediterranean
ESF	European Social Fund	MOBILITAS	MOBility for nearLy-zero CO ₂ in medITerranean tourism destinAtionS
ETC	European Territorial Cooperation	MOTIVATE	Promoting citizens' active involvement in the development of Sustainable Travel Plans in MED Cities with Seasonal Demand
EU	European		
EV	Electric Vehicle		



MoU	Memorandum of Understanding
MP	Modular Project
NO ₂	Nitrogen dioxide
O	Ozone
PM	Particular Matter
PP	Project Partner
PT	Public Transport
RDP	Rural Development Programme
REMEDI	REgenerating mixed-use MED carbon communities congested by traffic through Innovative low carbon mobility solutions
SEAP	Sustainable Energy Action Plan
SECAP	Sustainable Energy and Climate Action Plan
SMP	Sustainable Mobility Plan
STM	Sustainable Tourism Mobility
SUMP	Sustainable Urban Mobility Plan
SUMPORT	Sustainable Urban Mobility in MED PORT cities
TCS	Traffic Control System
TopDAd	Tool-Supported Policy Development Interactive Tool for regional adaptation
TWG	World Tourism Organization
UNIMED	Mediterranean Universities Union
UNWTO	United Nation World Tourism Organization
UT	Urban Transport Community
WP	Work Package



GLOSSARY

[INTERREG Mediterranean Glossary from interreg-med.eu]

ACTION PLAN

An action plan should break down the strategy goals and objectives into specific tasks. It should include the sequence of steps to be taken, or activities that must be performed, for a strategy, to succeed. Therefore it should include a time line, the financial resources available and a definition of those responsible. This type of output can relate either to the development of new or further improvement, revision and/or update of existing action plans, as well as their subsequent implementation. It should not be confused with the concept of Working Plan.

ASSESSMENT

This is one part of the project selection process. It implies in-depth quality assessment of the project application.

BLUE GROWTH

Blue Growth is the long term strategy to support sustainable growth in the marine and maritime sectors as a whole. It recognises that seas and oceans are drivers for the European economy with great potential for innovation and growth. It is the Integrated Maritime Policy's contribution to achieving the goals of the Europe 2020 strategy for smart, sustainable and inclusive growth.

BOTTOM-UP APPROACH

A "bottom-up" approach is one that works from the grassroots - from a large number of people working together, enabling a decision to arise from their joint involvement.

CAPITALISATION

Organisation of data concerning the implementation of programmes, projects, their impacts, the methods used in order to make the accumulated experience usable for other programmes, projects or stakeholder groups.

CASE STUDY

A case study is a descriptive, exploratory or explanatory analysis of a person, events, decisions, periods, projects, policies, institutions, or other systems from a holistic point of view. It is a method of inquiring about a real-life case in order to explore its cause and find its underlying principles.

COOPERATION AREA

Area covered by the INTERREG MED Programme. It includes all or parts of the following countries: Croatia (entire country), Cyprus (entire country), France (5 regions – Corse, Languedoc-Roussillon, Midi-Pyrénées,



Provence Alpes Côte d'Azur, Rhône-Alpes), Greece (entire country), Italy (19 regions – Abruzzo, Apulia, Basilicata, Calabria, Campania, Emilia-Romagna, Friuli-Venezia Giulia, Lazio, Liguria, Lombardy, Marche, Molise, Piedmonte, Sardinia, Sicily, Tuscany, Umbria, Valle D'Aosta, Veneto), Malta (entire country), Portugal (3 regions – Algarve, Alentejo, Área Metropolitana de Lisboa), Slovenia (entire country), Spain (6 autonomous regions – Andalusia, Aragon, Catalonia, Balearic Islands, Murcia, Valencia – and 2 autonomous cities – Ceuta and Melilla), United Kingdom (Gibraltar), Albania (entire country), Bosnia and Herzegovina (entire country), Montenegro (entire country).

ECOSYSTEM

An ecosystem is a dynamic complex of plant, animal, and micro-organism communities and the non-living environment, interacting as a functional unit. Human being are an integral part of ecosystems.

EUROPE 2020 STRATEGY

Europe 2020 is the EU's ten-year strategy for smart, sustainable and inclusive growth. In order to deliver on this objective, five ambitious targets have been set, covering employment, research and development, climate change and energy sustainability, education, and the fight against poverty and social exclusion. Cohesion policy is committed to supporting the Europe 2020 Strategy financially. This is why, in the 2014-20 programming period, funding is targeted at 11 thematic objectives which address the

Europe 2020 goals. A specific percentage of investments has to focus on these thematic objectives. Thanks to this thematic targeting, cohesion policy funding is spent in a way that helps Europe become more innovative, efficient, sustainable, and competitive.

EUROPEAN TERRITORIAL COOPERATION (ETC)

European Territorial Cooperation (ETC), better known as INTERREG, is one of the two goals of the cohesion policy and provides a framework for the implementation of joint actions and policy exchanges between national, regional and local actors from different Member States. The overarching objective of the European Territorial Cooperation (ETC) is to promote harmonious economic, social and territorial development of the Union as a whole.

EVALUATION

Evaluation of the project happens during (*in itinere* evaluation, mid-term evaluation) and/or after its implementation (final evaluation). It aims at obtaining a general and impartial judgement on project's achievements (scope and quality of outputs and results) and impact.

GOVERNANCE

Governance refers to maintaining coordination and coherence among a wide variety of actors with different purposes and objectives. Such actors may include political actors and institutions, interest groups, civil society, non-governmental and transnational organisations.

GUIDELINES

Guidelines give practical information on how to perform certain actions or obtain expected results.

HORIZONTAL CONDOMINIUM

Forms of participatory governance that actively engage institutions, stakeholders and citizens and with which the Municipality can directly interact to improve multi-modal and low carbon mobility, freight logistics and environmental quality, and engage trade and business operators, enterprises, commuters, citizens, local communities and local authorities in sharing a new vision for these highly congested roads, and agree on some concrete solutions.

HORIZONTAL PROJECT

Horizontal projects are the unifying element of a thematic community of projects. They are in charge of community building activities, joint communication and joint capitalisation of the relevant projects.

INDICATOR

An indicator can be defined as a way of measuring an objective to be met, a resource committed, an effect obtained, a gauge of quality or a context variable. An indicator should be made up using a definition.

INFORMATION AND COMMUNICATION TECHNOLOGIES

ICT refers to technologies that provide access to

information through telecommunications. It is similar to Information Technology (IT), but focuses primarily on communication technologies. This includes the Internet, wireless networks, cell phones, and other communication mediums.

INTERREG

Tags : European Territorial Cooperation (ETC).

LEAD PARTNER (LP)

Project participant taking the overall responsibility for the development and the implementation of a project. Each Lead Partner is expected to conclude the Partnership Agreement (with its project partners) and the Subsidy Contract (with the Managing Authority), ensure sound transnational project management as well as project implementation, provide an efficient exchange of information among the partnership and with the Programme bodies, and the reception of the reimbursement by the partners in full and as quickly as possible.

LOW CARBON TRANSPORT

Sustainable low-carbon transport provides economically viable infrastructure and operation that offers safe and secure access for both people and goods whilst reducing short and long term negative impacts on the local and global environments.

MED AREA

Tags : Cooperation area.



MODULAR PROJECT

This concept refers to all thematic module-based projects from Axes 1, 2 and 3. A project can be composed of one or several modules depending on its strategy and main objectives, expected results, competences and experience of the partnership. Each one of the possible configurations (single-module or multi-module) is called a type of project.

MULTIMODAL TRANSPORT

Multimodal transport is understood as the carriage of people or goods by at least two different modes of transport. Environmentally friendly transport solutions are those allowing a significant reduction of emissions of CO₂, NOx as well as of noise.

PILOT ACTION

A pilot action means the implementation of schemes of an experimental nature to test, evaluate and/or demonstrate its feasibility with the aim of capitalising on those results and transferring practices to other institutions and territories.

PROGRAMME PRIORITY AXIS

Area of thematic works defined in the INTERREG MED Co-operation Programme. The INTERREG MED Programme has selected 4 priority axes for the 2014-2020 programming period:

- priority axis 1: Promoting Mediterranean innovation

- capacities to develop smart and sustainable growth;
- priority axis 2: Fostering low-carbon strategies and energy efficiency in specific MED territories (cities, islands and rural areas);
- priority axis 3: Protecting and promoting Mediterranean natural and cultural resources;
- priority axis 4: Enhancing Mediterranean Governance.

PROJECT OUTPUT

An output can be defined as what comes out of an activity, what is produced. Project outputs are the outcomes obtained following the implementation of project activities. Each output should be captured by a programme output indicator and should directly contribute to the achievement of the project result.

PROJECT PARTNER

All project partners other than the Lead Partner.

PROJECT RESULT

The immediate advantage of carrying out the project, telling us about the benefit of using the project's main outputs. It should indicate the change the project is aiming for.

PROJECT SPECIFIC OBJECTIVE

Project specific objectives further define the project's overall objective, which should clearly express the change the project intends to bring about compared

to the initial situation and which should outline the strategic focus of the project. The project specific objectives should describe what the project aims to achieve. They should be concrete and verifiable during implementation and should address the territorial challenges identified by the project.

REGIONAL ACTORS

Regional actors are all main stakeholders operating at regional level in a specific thematic field independently from their legal status, thus comprising the public as well as the private sector. These sectors include different types of entities such as public administrations, infrastructure and services providers and operators, agencies including RDA, interest groups, NGOs, research centres, educational institutions, enterprises including SMEs, business support organisation, etc.

REPLICABILITY

To duplicate, copy, reproduce, or repeat what has been successfully implemented in other areas or programmes in another territory.

RESPONSIBLE TOURISM

Tourism that maximizes the benefits to local communities, minimizes negative social or environmental impacts, and helps local people conserve fragile cultures and habitats or species.

[Cape Town Declaration on Responsible Tourism]

SCIENTIFIC PARTNER

A scientific partner is a partner that has a role mostly focused on developing knowledge.

SMALL SCALE INVESTMENTS

Facilities or infrastructure of limited size or scope, which are essential to the successful implementation of a pilot activity. Their purpose must be the demonstration of the feasibility and effectiveness of a proposed solution.

SOFT ACTIONS

Generic terminology covering strategies, action plans and tools (mainly IT tools). It does not include investment in infrastructure.

STAKEHOLDER

Anyone, internal or external to an organisation, who has an interest in a project or will be affected by its outputs and results.

SUSTAINABLE TRANSPORTATION

Is the capacity to support the mobility needs of a society in a manner that is least damaging to the environment and does not impair the mobility needs of future generations".

[Jean-Paul Rodrigues's definition]



SUSTAINABILITY

Sustainability is the ability to carry out an activity without significant deterioration of the environment depletion of natural resources on which the well-being of humans depends.

SUSTAINABLE TOURISM

Tourism that takes full account of its current and future economic, social and environmental impacts, addressing the needs of visitors, the industry, the environment and host communities. Sustainable tourism development guidelines and management practices are applicable to all forms of tourism in all types of destinations, including mass tourism and the various niche tourism segments. Sustainability principles refer to the environmental, economic, and socio-cultural aspects of tourism development, and a suitable balance must be established between these three dimensions to guarantee its long-term sustainability.

TOOL

A tool is to be understood as a mean for accomplishing a specific task or purpose. Tools should be jointly developed at transnational level and innovative. They comprise amongst others analytical tools, management tools, technical tools, software tools, monitoring tools, planning tools, decision support tools, evaluation tools etc.

TRANSNATIONAL COOPERATION

Collaboration between functional areas. It promotes co-operation among greater European regions, including the ones surrounding sea basins or mountain ranges, and facilitates coordinated strategic responses to joint challenges conducive to integrated territorial development.

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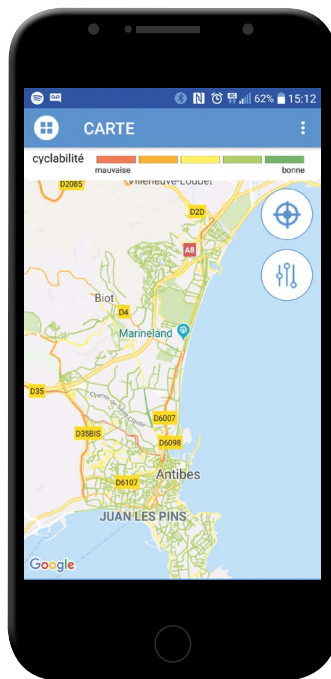
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**IMPLEMENTED
APPS**

ETHICYCLE

Ethicycle focuses on the cities of Antibes, Villeneuve Loubet and Biot. It aims to increase the attractiveness of these territories through the mapping of cycling paths and points of interest using dedicated cards.



Utilities

- Geo-mapping of roads' cyclability including danger zones
- Mapping of points of interest
- Hikes and bike trip recommendations

Operating system

Android/iOs

Updating at 2019

Version 4.2

Language

French

Availability

Free

Developer/Manager

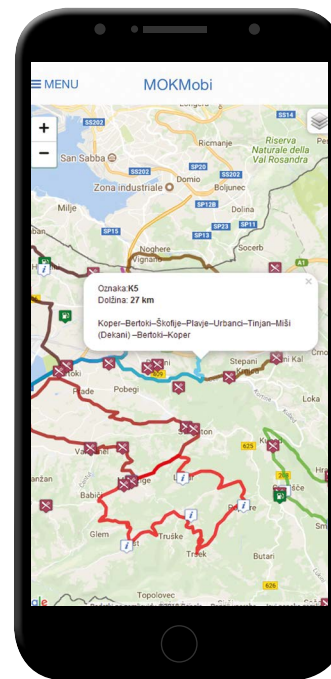
ENERGIES 2050

Download/information

energies2050.org/mobilitas

MOK MOB

The App gives information about traffic density, current position of buses and cycling paths. It helps visitors and the local population to move around the city using sustainable and public transport.



Utilities

- Traffic information (density, cameras, free car parks, road works)
- Bus lanes, bus stop and stations and arrival times by bus tracking
- Lines and counters for cyclists and pedestrians

Operating system

Android/iOs

Updating at 2019

Version 1.3

Language

Slovene

Availability

Free

Developer/Manager

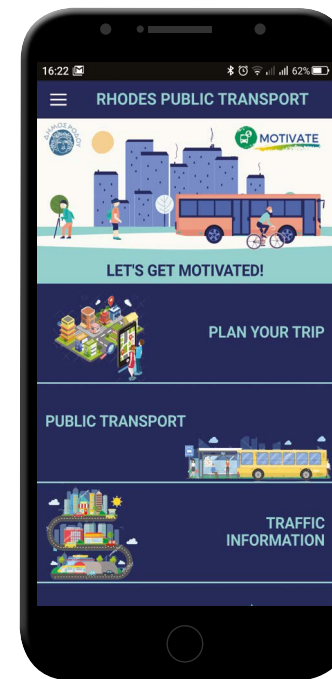
TEKASO d.o.o.

Download/information

pic.harphasea.si/mok-mobi

RHODES PUBLIC TRANSPORT

The App updates real-time information about traffic conditions, timetables, urban buses and the interconnection with the existing traffic information system for the benefit of the residents and visitors in the Municipality.



Utilities

- Bus timetables
- Traffic information
- Travel planning
- Combination of PT and car
- City guide

Operating system

Android/iOs

Updating at 2019

Version 0.1.5

Language

English/Greek

Availability

Free

Developer/Manager

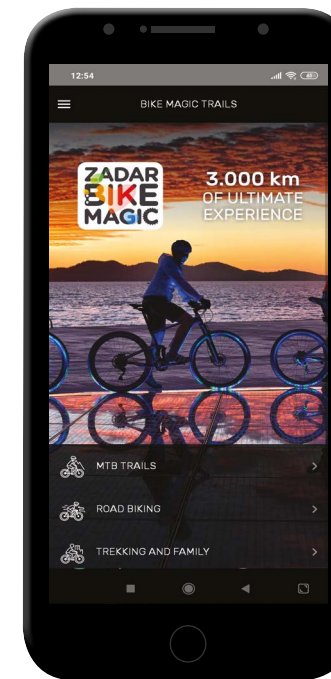
Municipality of Rhodes & Municipal transport Company RODA

Download/information

mobility.rhodes.gr

ZADAR BIKE MAGIC

The App includes a thorough analysis of the destination and categorization and classification of up to 87 bicycle routes and trails designed for both professional and amateur cyclists.



Utilities

- Categorization and classification of cycling routes and trails
- Tourist information

Operating system

Android/iOs

Updating at 2019

Version 5.0.5

Language

English/Croatian

Availability

Free

Developer/Manager

Lloyds design studio/ Zadar County Tourist Board

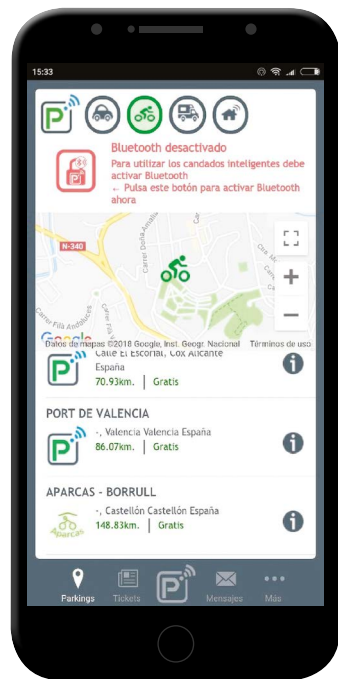
Download/information

play.google.com/store/apps/details?id=hr.apps.n7745&hl=it



PVERDE

This App provides supports in the hiring/renting of electric bicycles for cruise passengers in the Port of Valencia. The App is used to pay for the rental and gives a parking opening code for its removal and subsequent return.



Utilities

- Rent bikes
- Open the intelligent parking

Operating system

Android/iOS

Updating at 2019

Version 2.0.1

Language

English/Spanish

Availability

Free

Developer/Manager

Up2City

Download/information

play.google.com/store/apps/details?id=com.geotapgames.pverde

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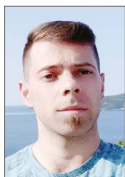
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Interreg Mediterranean



CAMP-sUmp



MOTIVATE



EnerNETMob



REMEDIO



LOCATIONS



SUPPORT



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