2020 CiViTAS
Cleaner and better transport in cities

DESTINATIONS

D4.1 User needs and requirements, ex-ante evaluation, service design and ITS specifications for shared mobility and e-infrastructures.

(Output of Task 4.2)

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Site abbreviations:

ELB - Elba
LIM – Limassol
LPA – Las Palmas
MAL – Malta
MAD - Madeira
RET – Rethymno

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Executive Summary

This report details the results of the activities performed by the sites under Task 4.2 related to the user needs analysis, the definition of service requirements and ITS specifications. It also looks ahead to the implementation phases of the various WP4 measures across the six project sites and within the measure categories.

Chapter 1 introduces the WP4 objectives and peculiarities and provides a description of the measures per cluster category.

Chapter 2 presents the user needs analysis and requirements at site level, highlighting the key stakeholders interested in the development of WP4 measures and analysing the similarities and differences of the stakeholders categories involved by each site.

Chapters 3, 4 and 5 present the design of each individual measure, grouped into the three identified clusters. This structure allows for immediate comparisons to be made about the design and preparation work in different sites and hence experience and knowledge to be exchanged.

1. Introduction

1.1. WP4 Overall Objectives

The role of WP4, in the DESTINATIONS project, is dedicated to the development of mobility services based on the concept of ride sharing and on the support conditions needed in order to increase collective and clean travel for improving the overall accessibility and attractiveness of the six DESTINATIONS sites.

The set of measures involved in WP4 at the different sites include various ride sharing schemes; advanced IT platform/portal for managing ride sharing; EV incentives and infrastructure and (vehicle/bike) shared services.

In this context the WP4 main objectives are the design, implementation and demonstration of:

- ICT-enabled platform for ride sharing services targeted at different residents' and tourists' needs and requirements allowing service management, monitoring, information, promotion and reporting. This platform and ride sharing mobility services will be implemented by Elba and Rethymno sites;
- new and consolidation of existing bike-sharing schemes, including the use of e-bikes and bikes for physically impaired users in Las Palmas and Rethymno; expansion of public bike-sharing services with e-bikes in Limassol and Rethymno and an information and awareness campaign to promote the services of e-bike and car sharing in Malta
- take-up of electric mobility vehicles and schemes based on fast charging points and various promotional measures, (Madeira, Rethymno, Las Palmas and Limassol) and the analysis and set up of specific regulations for fostering the use of clean vehicles, in particular EV and PHEV (Elba).

1.2. WP4 Structure and Tasks and D4.1

The structure of WP4 reflects the typical stages defined by the DESTINATIONS project for the site demonstration activities allowing also knowledge exchange among the DESTINATIONS sites.

The activities that will be undertaken in each of the six DESTINATIONS sites are the following:

- User needs analysis and stakeholder involvement;
- Site preparation and deployment of the solutions;
- Demonstration of innovative solutions;
- Data collection for evaluation; and
- Local dissemination and communication.

Moreover Portoferraio, supported by MemEx, is carrying out the Cross-site coordination and the production of the related Deliverables (including the current D4.1).

On the basis of the above WP4 is broken down into a number of cross-site and vertical tasks addressing the design, implementation, operation and piloting of specific site measures and services:

- Task 4.1 Cross-site coordination of shared mobility and e-infrastructures;
- Task 4.2 User-needs analysis, stakeholder involvement, service requirements and supporting technologies design for shared mobility and e-infrastructures;
- Task 4.3 Site preparation, solutions deployment, supporting actions and demo setup for shared mobility and e-infrastructures piloting;
- Task 4.4 Demonstrations of shared mobility services;
- Task 4.5 Demonstrations of new/extended public (e-)bike systems;
- Task 4.6 Demonstrations of shared e-charging infrastructures;
- Task 4.7 Data collection for ex-post, process and impact evaluation for shared mobility and e-infrastructures piloting; and
- Task 4.8 Local dissemination and communication for shared mobility and e-infrastructure piloting.

The table below presents the timing foreseen for the development of each task:

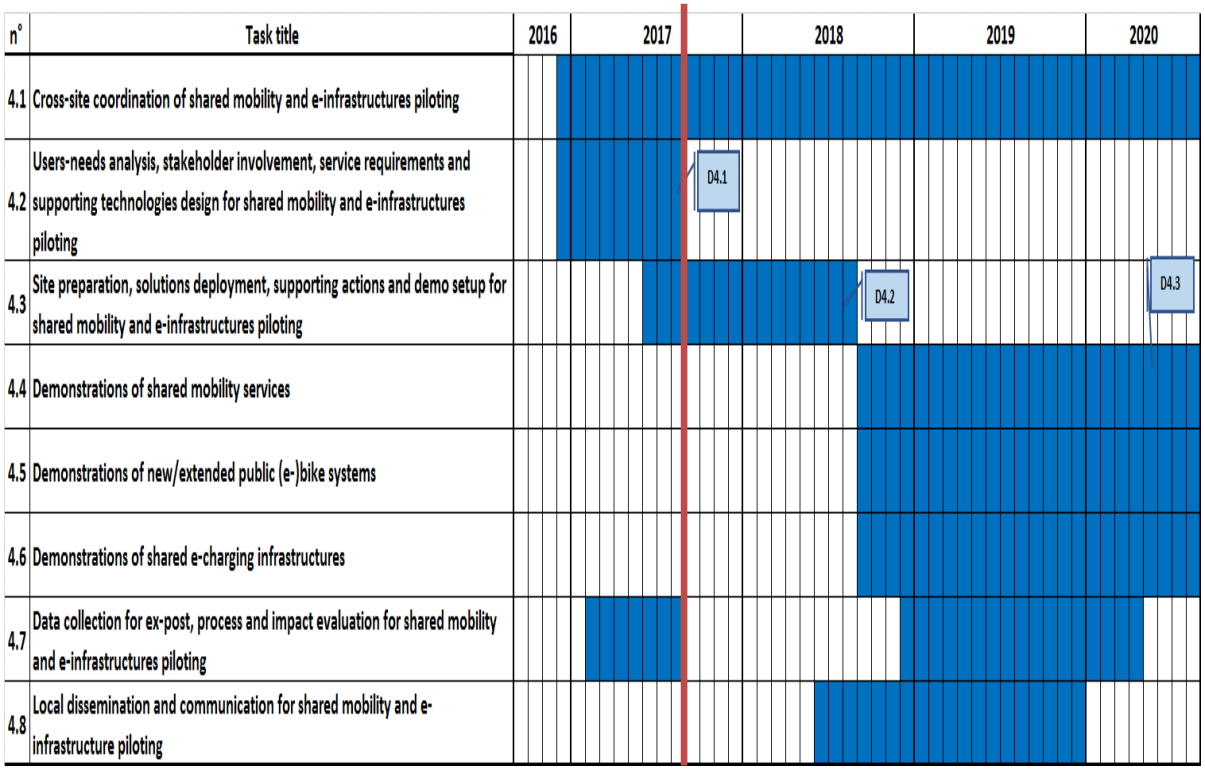

Figure 1 – DESTINATIONS WP4 GANNTT

The vertical tasks from 4.2 to 4.7 are structured in a consequential process, starting from the analysis of user needs, requirements and stakeholder identification and services design (T4.2). The results of T4.2 in each site, synthetised in this D4.1 deliverable form the basis of the development of T4.3 dedicated to the acquisition and/or realisation of the services/measures and to the preparation of the demo site and support conditions for developing the WP4 pilot actions by each of the six DESTINATIONS sites. In the second half of 2018, this activity will lead to the demonstration activities (operation and evaluation) that will last until the end of the project. The two horizontal tasks (cross-site coordination and local dissemination) will be carried out in parallel: T4.1 will last for the whole project duration while T4.8 will concentrate

its activities towards the end of the project so as to maximize the impact on the dissemination and promotion of each developed measure.

1.3. WP4 Main Peculiarities

Sharing Mobility Agency

to access the overall mobility offer and to coordinate the different flexible and ridesharing services integrated with the conventional Public Transport services

The increasing interest in ridesharing services as possible solutions for different mobility needs (related to specific user/citizens groups or to the specific areas/zone or time period, etc.) is confirmed by the presence of different schemes (i.e. vehicles sharing, beaches services, etc.) among the actions planned in the different Destinations sites. The main approach discussed and defined in DESTINATIONS is that Public Transport Authorities (PTA) and Public Transport Operators (PTO) should properly manage ridesharing services as services integrating and complementing the public transport offer rather than being considered as alternative solutions. In this approach the ride sharing services from PTA/PTO point of view are analysed both with respect to the transport services design (i.e. as feeder services for last/first miles connected to the "conventional" services based on fixed timetable and route) and with respect to the operation in terms of integration and user information.

In this context, one of the main WP4 planned measures, is the development of the Sharing Mobility Agency in Elba (SEM Agency) and Rethymno sites as centers for managing and making accessible several "on demand and shared" individual and collective services, coordinating different various actors and services supported by an innovative Information and Communication Technology (ICT) platform.

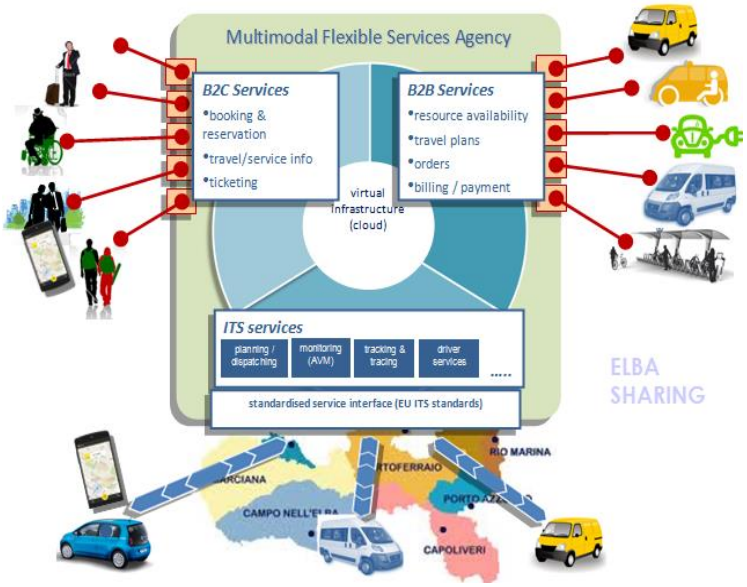

Figure 2 - SEM Agency in DESTINATIONS proposal

The innovativeness concept of the SEM Agency lies in the fact that users have a unique point of access to all information on the overall mobility offer in a consistent and efficient way (information, booking, etc.) and that it functions as a "broker" for the management and

coordination of the different flexible and ridesharing services integrated with conventional public transport services.

1.4. WP4 Measures Clusters

The first step carried out by T4.2 was the classification of the different WP4 measures to be specified and developed in each DESTINATIONS site. Three main clusters have been identified after a detailed analysis of each site measure:

- a) Ride sharing mobility services
- b) New and extended (e)bike systems
- c) Shared e-charging infrastructure

This classification supports the cross coordination task in order to facilitate the experience and knowledge exchange among sites/partners having common objective and needs with respect to the innovation both in transport schemes (ride sharing), services (shared means) and infrastructure (EV charge stations and regulation aspects).

Clearly the cluster related to the ride sharing mobility services Agency is the main measure relevant to the whole CIVITAS program due to the innovative approach focusing these services from the PTA/PTO point of view as services that should be designed and operated as part of the public or collective transport offer.

For each cluster a short introduction and specific synthesis of the measures to be developed in each site is provided in the following table:

CLUSTER a) **Ride sharing mobility services**	*Focus on the development of ICT-enabled ride sharing platforms supporting ride sharing services addressed to resident and tourist needs. Elba and Rethymno sites will develop the platform, thus promoting the concept of shared mobility as the most appropriate solution to move in their islands, especially during peak seasons*
Measure Title	**Measure description**
ELB 4.1 ELBA Sharing Mobility Agency	"**Elba Sharing Mobility** (SEM) **Agency**" is the organisational-operational structure that will coordinate and manage the mobility ride sharing services implemented within the other WP4 measures
ELB 4.2 Car/scooter/bike/boat (CSBB) sharing	Elba Sharing Mobility Agency through the platform (web portal and app) will network the different **car/scooter/bike/boat (CSBB) service operators** in order to reinforce the overall sharing of these services. The operators will have the possibility to expose their offers in terms of means availability and typology, etc. Moreover, the platform will provide a link to the existing Elba portal for leaving the operators the possibility to manage the payment and negotiation phase. The networking involves not only the CSBB operators but also the operator of other "mobility" resources (i.e. "summer" parking area).
ELB 4.3 Ride Sharing Platform	**Design, development and operation of the advanced ICT platform** (with Web and APP media channels) for supporting the management, monitoring and operation of the Elba Sharing Mobility Agency. The

	platform will allow the management of: networking sharing service operators, user information and ride sharing services through the web portal and app channels. In particular, the ride sharing services are based on the concept of a "shared board" (see sect. 2.6.1.1 for the details) implemented by different sharing schemes
ELB 4.4 Increasing feeling of security among Elba sharing users tracking for ELBA-sharing service users: app	Development of a **specific section** managed by the Elba-sharing platform (though the APP) **to allow users to be tracked during their "shared" trip** (achieved thought the specific functionalities/services allowed by the APP) thus enhancing their feeling of safety and making them more willing to largely use the Elba-sharing services. The indicated **hitchhiking** scheme has been defined and designed based on one of the "shared board" services. In fact, the list of the other ridesharing services allowed by the platform will be the following: ***ride sharing board, shared ride -pllanning and collective (aggregated) taxi (shared ride call and/or meeting at taxi pick up area).***
RETH 4.2 Building a sharing mobility culture – Sharing mobility campaign	Implementation of a **web based platform for sharing services** to manage car, bike and taxi sharing schemes specifically targeted to tourists and visitors, connecting the major tourist attractions with airport and ports
LIM 4.1 - Electric car rental connecting Limassol town with airport and port	Implementation of stations at Limassol airport and port including **shelters for car parking and EV chargers**. These stations will push the car rental companies to create e-car sharing rental systems which will connect the airports, port and Limassol tourist area
Cluster b) **New and Extended (e) Bike systems**	*Focus on the measures related to the implementation of new or enhancement of existing bike-sharing schemes, promoting the use of e-bikes and bikes for physically impaired users. Limassol, Rethymno, Malta and Las Palmas are the sites involved in this cluster*
Measure Title	**Measure description**
LPA 4.1 Public e-bike system	Introduction of a **new e-bike service** in the sharing system, including e-bike and models accessible for impaired users
LIM 4.2 Expansion of public bike sharing system, include e-bikes	**Support to the bike sharing company to expand its network**, adding new stations and increasing the number of available bikes (especially electrical ones)
MAL 4.1 Promoting e-bike sharing and car sharing	Realisation of an **information and awareness campaign** to promote both the services of e-bike and car sharing as well as educate the public on cycling safety
RETH 4.2 Building a sharing mobility culture – Sharing Mobility Campaign	**Expansion of the public bike sharing system** with new public bike sharing stations for bikes and e-bikes with all the necessary equipment for their safe storage, signage redesigned/installed and launch the e-bike use
Cluster c) **Sharing e-charging infrastructures**	*Focus on the measures related to the take-up of electric mobility vehicles and schemes based on fast charging points as well as to the analysis and set up of a specific regulation for fostering the use of clean vehicles,*

	in particular EV and PHEV. All sites (except for Malta) are involved in this cluster
Measure Title	**Measure description**
ELB 4.5 EV legislation revision and charging infrastructures in Elba	Elaboration of a **regulation, that will represent a guideline for Elba Municipalities, to foster the use of clean vehicles**, in particular EV and PHEV including incentives such as free parking in blue line parking lots, free circulation in the LTZ, free charge of the batteries at dedicated "green" reserved parking lots, etc. Currently PF Municipality is evaluating the economic feasibility of the realisation of some charging stations at its own expenses (no operational costs nor equipment purchases to be charged to the DESTINATIONS project)
LPA 4.2 Fast charging EVs	Realisation of **new fast recharging points for electrical vehicles** and purchase of new electric vehicles.
LIM 4.3 Promote the uptake of electric vehicles, campaign on e-mobility	**Increase of the number of electric bikes, electric cars and EV stations** with charging points (supported by renewable energy sources) in the region and its main getaways
MAD 4.1 Promote the uptake of clean vehicles by fleet operators	**Expansion of the charging network** including relevant points for tourist activities (i.e.: hotels and restaurants) and car parks in private and public spaces, and an information platform on electric mobility. **Promotion of incentive schemes to purchase electric vehicles**
RETH 4.1 Uptake of electric vehicles by fleet operators	**Installation of the first public EV charging points** in the region and **promotion of incentives for EV use**

Table 1 – WP4 Measures descriptions

2. User needs analysis and requirements at site level

2.1. Madeira site

2.1.1. Recognised needs and goals

The Madeira pilot site only has one measure planned in WP4, namely MAD 4.1 – *"Promote the uptake of clean vehicles by fleet operators*".

This measure fits into the local government plan which is in force.

Concrete steps were taken during the first 10 months of the project to approve on 2 March the electric mobility action plan for Madeira Region (e.g. Regional Law n.º 5/2017/M).

The vision of local partners is that the introduction of electric vehicles in the transport sector is strategic to reduce fossil fuel dependency, increase renewable energies in the transport sector, improve air quality in the city centers and contribute to an ecotourism image of the whole destination, therefore boosting the tourism sector. One of the main requirements for uptaking electric mobility is to create adequate conditions for the consolidation and expansion of the existent e-charging network in the public and private spaces as well as in households. The increase of electric mobility in tourist services could be achieved by:

- improving the image of rent-a-car and taxi fleet services and operational fuel costs;

- increasing ecotourism consciousness; and

- mitigation of the negative impacts of transport in the environment and in the economy, by reducing costs in fleet operation for organisations and citizens, and reducing pollutant emissions and noise in urban areas.

2.1.2. Key stakeholders

AREAM, the regional agency which is steering MAD 4.1, has identified several key stakeholders during the measure preparation phase. The stakeholders were categorised according to their foreseen role and their anticipated influence in the course of the project.

The identified stakeholders are:

- Local and regional authorities: DRET (Economy and Transportation Authority); Municipalities.
- Operators and business: Regional Electricity Company (EEM); Mobi-E (Net of charging points in Portugal); charging point operators (ZEEV; Factor Energia); rent-a-car companies; private companies; and taxi operators.
- Communities: ACIF (Chamber of commerce); AITRAM (Taxi association); electric vehicle users; citizens; hotels and parking managers; private and public companies with fleets.

In the scope of this measure, formal and informal contact have been made with actors of the charging station network of various intervention levels: EEM, DRET, EMACOM, Factor

Energia, ZEEV, SONAE Sierra, Pestana Casino Hotel, Quinta do Furão Hotel, AITRAM, and condominium management companies.

The most interested stakeholders in Madeira WP4 measures are represented by electric cars and charging point operators, the Municipality of Porto Santo and the national association of electric cars.

The various contacts made with the regional and local actors took place face-to-face, by telephone, email and web conference. Following contact, important steps were taken to make possible the expansion of the public and private electric vehicle charging network and the promotion of the electric vehicle.

2.2. Limassol

2.2.1. Recognised needs and goals

Limassol pilot sites have three measures in WP4, namely electric car rental connecting Limassol town with the airport and port (LIM4.1), the expansion of the public bike sharing system, including e-bikes (LIM 4.2) and promoting the uptake of electric vehicles with a campaign on e-mobility (LIM4.3).

The available options for commuting to and from the airports and ports to the tourist areas are limited to taxis, rented cars and airport shuttle buses that operate on specific timetables. The e-car rental system which is being developed under measure LIM 4.1 offers additional mobility options and also serves people wanting to use sustainable mobility modes who do not find the airport shuttle available at their time of arrival or departure. The e-car rental system also serves for traveling around the Limassol region and encouraging other regions to follow this initiative.

The bike sharing system in Limassol has been very successful in the last few years and has encouraged a lot of people to take up cycling, since they can do so without investing in purchasing a bike and without having to carry it from where they live to the cycling paths. By adding stations and increasing the number of bikes as foreseen in measure LIM4.2, more people will have the chance to use the system and users will have the option to cycle to new areas, since the system allows the user to leave the bike at any station on the network. The bike sharing system will grow to offer more options to leisure cyclists, encouraging them to follow more routes and visit more points of interest in the area.

Tourists currently travel around using rented cars and taxis. A smaller percentage uses PT. With the implementation of measure LIM4.3, tourists have the option of renting electric vehicles and an incentive due to free parking. Tourists also have the option of renting electric bikes. Residents are encouraged to use electric vehicles for everyday commuting. Dissemination campaigns will raise awareness and create interest among tourists and residents, resulting in an increase in the number of people using eco-friendly vehicles instead of conventional ones. The goals that the site would like to achieve with the implementation of these measures are several: reduced CO_2 emissions; a cleaner and more attractive environment; less traffic noise in the city center; less energy consumption; a contribution towards public health and safety; change of the habits of local people and tourists; increase of the total share of citizens that use sustainable mobility modes and an increase in the uptake of electric vehicles.

All three measures are targeted to tourists, local and residents.

2.2.2. Key Stakeholders

The key stakeholders identified for measures in WP4 are as follows:

- Cyprus Electricity Authority
- Cyprus Ports Authority
- Hermes Airports
- Car rental companies (Atlas Rentals, Europcar Cyprus, Leos Car Rental, Sixth, Hertz)
- Car Rental Companies Association
- Hotels
- Bike sharing company (Next Bike)
- Bike rental companies
- Local authorities
- Cycling clubs and associations
- Chamber of Commerce
- Tourism Boards (Ammochostos, Pafos, Nicosia, Larnaca, Troodos)
- Media
- Bike sharing company (Next Bike)
- Bike rental companies
- Cycling clubs and associations

Several meetings took place between the stakeholders and Limassol Tourism Company for the implementation of the measures.

Cyprus Electricity Authority, Cyprus Ports Authorities and Hermes Airports are involved in the installation concerning the EV Charging System.

Bike sharing and bike rental companies in Limassol will be involved to ensure the increase number of bikes and e-bikes available for rent. Local authorities provided permission for the installation of new bike sharing stations. Cycling clubs and associations will promote this measure to their members. Hotels will promote the EV-charging system and give incentives to their customers to use sustainable modes of transport. The Chamber of Commerce is promoting electro-mobility through campaigns and events to their members. The five main regional Tourism Boards in Cyprus have participated at the first national transfer seminar aiming to promote the CIVITAS project, introduce the CIVITAS measures, exchange best practices and encourage them to upgrade the available infrastructure by adding EV chargers in their region. The local media will play a key role in the implementation of the campaigns for electromobility, using various media tools, as well as printed material to be disseminated to the public.

2.3. Las Palmas

2.3.1. Recognised needs and goals

The main goals of WP4 measures in Las Palmas de Gran Canaria are:

- Reduced emissions / improved air quality
- Reduced energy consumption
- Reduced congestion
- Improved overall urban accessibility
- Improved cost effectiveness of transport services
- Enhanced attractiveness of tourist destinations

Las Palmas de Gran Canaria has already developed a SUMP (2009-2012) where a detailed diagnostic of local mobility was set up and the result was a set of strategic measures for urban mobility. Some of these measures have already been carried out and others are still waiting to be implemented.

According to the SUMP, 67% of all trips in Las Palmas de Gran Canaria is undertaken using private cars, either as a driver or a passenger, and just only the 0.5% of all trips used urban public transport.

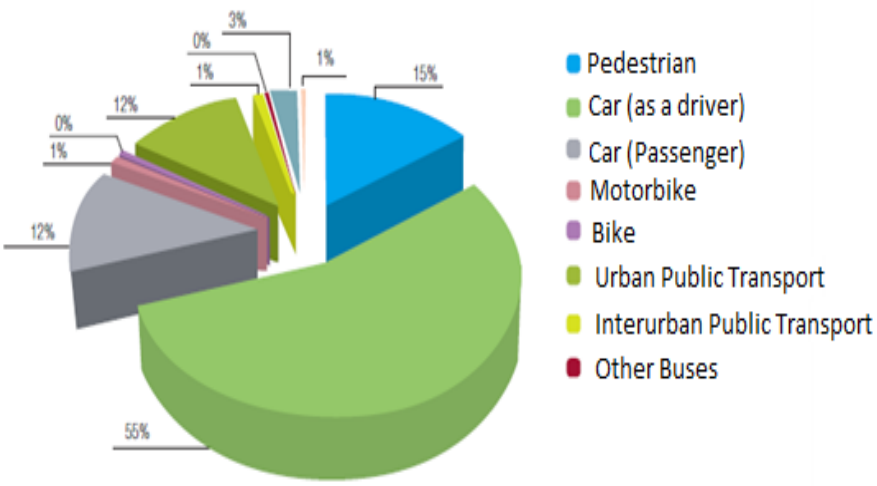

Figure 3 – Modal Split in Las Palmas de Gran Canaria

Besides the Sustainable Mobility Pact signed in 2011, the current SUMP (elaborated in 2012), and the General Urban Planning Plan of Las Palmas de Gran Canaria (2013), another Plan "Plan Director de la Bicicleta" focused on bike mobility was elaborated in 2013 and has recently been updated.

The main objective of these plans are to recover the public space for meeting and coexistence, making use of sustainable mobility as a tool to increase environmental and social quality. The main aim of the plan of the bicycle ("Plan Director de la Bicicleta") is to define the local bike policies of the city in the near future through the development of the points listed below.

- Give the bike a significant role in everyday mobility.
- Normalize the use of the bicycle and the image of cyclists.

- Contribute to the improvement of environmental quality.
- Foster healthy habits of the population.
- Decrease road insecurity.
- Promoting the recovery of public space, pedestrian improvement and universal accessibility.
- Offer new options for tourist and leisure trips.

Civitas DESTINATIONS is supporting Las Palmas de Gran Canaria to achieve the objectives planned in all these strategic documents thanks to the acquisition of the technical equipment to improve and enlarge the current public bike system.

2.3.2. Key Stakeholders

The following list of site Stakeholders have been identified for consultation:

- Cabildo de Gran Canaria (Regional Government)
- Autoridad Portuaria de Las Palmas (Harbour Authority)
- Patronato de Turismo de Gran Canaria (Gran Canaria Tourism Board)
- F.E.H.T. – Federación de empresarios de Hostelería y Turismo de Las Palmas. (Business Federation of Hotels and Tourism of Las Palmas).

Electro-mobility Stakeholders:

- Plataforma para el Desarrollo del Vehículo Eléctrico en Canarias (Platform for the Development of the Electric Vehicle in the Canary Islands)

- AIVA - Asociación de Importadores y Vendedores de Automóviles (Association of Car Importers and Dealers)
- AUVE – Asociación de Usuarios de Vehículos Eléctricos (Association of Electric Vehicle Users)
- FREDICA (Regional Federation of Canary Car Dealers)
- Nissan Brisamotor (Car dealer)
- Rental car companies

Bike Stakeholders:

- Las Palmas en Bici (bike association)
- Next Bike (bike supplier)

There are mainly two different categories of WP4 stakeholders in Las Palmas de Gran Canaria. Some of them can foster the uptake of electro-mobility while others can promote the use of the bicycle as a sustainable way of mobility.

Next Bike and Nissan Brisamotor are the suppliers of the technical equipment for WP4 Las Palmas de Gran Canaria measures (bikes and e-cars).

As public parking company and promoter of parking areas and electric charging points for e-cars, SAGULPA is in contact with car dealers and e-car associations and platforms, not only through meetings but also by sponsoring events related to mobility in the city.

2.4. Malta

2.4.1. Recognised needs and goals

Today, Malta has one of the highest per capita car ownership levels in the EU with the number of households possessing 3 or more cars currently standing at 19.4%. The goal of Malta measure in WP4 is to reduce CO_2 emissions, improve the general air quality levels and contribute towards the reduction of congestion.

According to the National Household Travel Survey[1] which was carried out in 2010, 74% of all trips by members of a household were undertaken using private passenger cars, either as a driver or a passenger. This represents a modal share increase of private cars of more than 5% when compared with the findings of the 1998 National Household Travel Survey. This change in the modal share was mainly due to a transfer of trips away from public transport and walking. At the same time, cycling only represents 0.1% of the modal split.

In recent years, several measures have been introduced with the aim of reducing dependence on private cars, including a fiscal regime that imposes comparatively high taxation levels for car registration, above-EU-average fuel costs, and an annual circulation tax that is aimed to discourage the purchase of high polluting cars.

The annual increase in the motor vehicle national fleet in recent years has exerted great pressure on national transport infrastructure both in terms of high demand for parking space and motorists' demand for increased road capacity. Capacity problems and bottlenecks now exist at a number of critical locations on the 2,350 km of road network, particularly at major traffic intersections.

E-bike and car sharing in Malta are targeted to tourists, who are generally used to shared services available in major European Cities, and to local residents. The services offer an alternative mode of transport to tourists who, as yet, have only two viable options to travel around the island, either by bus or rented cars. The latter is selected by 22% of all tourists who visit Malta, which considering the high influx of tourists drastically contributes to the island's congestion. By providing alternative options of travel it is hoped that the impact of tourism on the transport infrastructure is lessened.

2.4.2. Key Stakeholders

Transport Malta, who is leading measure MAL 4.1, has identified stakeholders for consultation from both the private and public sectors. These are categorised below according to their role and envisaged influence in the e-bike and car sharing promotional campaign.

The stakeholders below are classified as having high interest in the measure and high power for its implementation:

[1] [1]http://www.transport.gov.mt/admin/uploads/media-library/files/NHTS2010%20Report.pdf_20120502091559.pdf

- Malta Hotels and Restaurants Association
- Malta Tourism Authority
- Ministry for Transport and Infrastructure
- Transport Malta: Licensing and Testing Directorate
- Transport Malta: PR Unit

The following stakeholders are classified as having high interest in the measure but low power have been also identified for consultation:

- Ministry for Finance and Investment
- E-bike sharing operators
- Car sharing operators
- Valletta 2018 Foundation

Meetings were held with the experts conducting the study that will assess the cost of owning a car, to discuss the specifications of the study. Once the outcome is available, consultations with the marketing experts and the car sharing and e-bike sharing operators will be initiated to formulate the campaign message and timeline.

The car sharing and e-bike sharing operators will contribute to the final output of this measure by assisting with the campaign messages and promotional material.

The Ministry for Transport and Infrastructure will assist the PR Team, assisting with the marketing of the measure, particularly in the organisation and hosting of press conferences which the Transport Minister will be invited to address. The tender for the marketing campaign has been drafted and approved internally; it is currently awaiting imminent publication.

Stakeholder engagement will commence once the marketing contractor is on board in order to assist in the design of the campaign. Stakeholder consultation at the design stage will be in the form of one-to-one meetings with the involved ministries, the PR Unit within Transport Malta and the e-bike and car sharing operators. Throughout the campaign, users will be engaged via surveys and public meetings to get their feedback on their experience and views of the new services.

The stakeholders listed above are expected to provide supportive feedback throughout the design and implementation of the information and awareness campaign. Despite the fact that the e-bike and car sharing operators are private, profit-making companies, they stand to benefit from the success of this campaign and are expected to assist in the sharing of data and knowledge.

2.5. Rethymno

2.5.1. Recognised needs and goals

Rethymno has two measures within WP4, (RET 4.1) - Uptake of electric vehicles by fleet operators and (RET 4.2) - Building a sharing mobility culture/Sharing mobility campaign. Both measures target residents and visitors, while specific group of users are identified per measure. The ultimate goal is to drive behavioural change towards more sustainable modes

of transport aiming for GHG emissions reduction and energy saving and to launch vehicles sharing.

Rethymno measure 4.1 addresses the residents of the city, tourists and visitors and car rental and taxi operators. For Rethymno residents, one of their main needs is the reduction of conventional fuels and CO_2 emissions as well as the familiarisation with EV infrastructure while for tourist and visitors it is the availability of clean vehicles as an attractive alternative to move around and the presence of charging infrastructures in key points. Car rental and taxi operators mainly aim to find funding opportunities to introduce clean vehicles in local fleets. RETH 4.1 may provide an answer to all these needs with an increase in the awareness and acceptance of EVs, greater use of sustainable mobility options and uptake of clean vehicles and a strong involvement of local stakeholders in the decision-making of electro-mobility strategies.

RETH 4.2 addresses a wider range of target users, involving residents of the city, tourists, visitors, cyclists, the millennial generation and hotel employees. Their needs are very different spanning from the reduction of CO_2 emissions, noise, traffic congestion, and single occupancy rides to an introduction of flexible transport services and ridesharing services and the presence of alternative and affordable solutions for daily transportation. Cyclists also spot the need to have newly redesigned bike stations, an extended bike network with the introduction of e-bikes and an improved signage and ticketing system. RETH 4.2 aims to reach the goals of encouraging a behavioral change and shift of citizens towards sharing mobility modes, increasing the share of cycling users and involving local stakeholders in the promotion of sustainable mobility and in the promotion of EVs. This should lead to an improvement in the image of the city as a sustainable tourism destination and an improvement of the quality of life.

2.5.2. Key Stakeholders

The key stakeholders with high power and high interest in measure 4.1 Uptake of electric vehicles by fleet operators are:

- Region of Crete
- Region of Crete -Directorate of environment and spatial planning
- Hellenic Institute of Electric Vehicles (H.I.E.V)
- Technical Chamber of Greece, West Crete division
- Union of Car Rental Enterprises
- Parking operators
- Taxi operators
- Hoteliers Association
- Hellenic Institute of Transport

The Hellenic Institute for Electric Cars has already provided advice and expertise when necessary, supported communication activities and promoted the Rethymno example nationally. The cooperation will assure wider impact and interest and successful integration of EVs infrastructure.

Close cooperation with regional authorities is also foreseen to exploit available funding to build a sufficient charging stations network on the island. Car rental companies, taxi fleet operators

and relevant companies interested in promoting e-cars or e-bikes will be actively encouraged to participate for the uptake of EVs.

Initial informal contacts for the engagement of rental companies have been made, to briefly introduce the specific activities within the measure. The next step involves targeted consultation meetings, planned after the end of the peak touristic period, to formulate synergies and discuss about their future participation and support in projects activities, specifically aiming to motivate them for the inclusion of EVs into their fleet. The Union of Car Rental Enterprises of Rethymno has been supportive of the DESTINATIONS project from the beginning by signing a Letter of Support, stating that they share the project's scope of promoting sustainable solutions for cleaner and better urban transport and mobility.

The key stakeholders with high power and high interest in measure 4.2 are:

- Regional Unit of Rethymno – Region of Crete
- Municipal Tourism board
- Union of Car Rental Enterprises of Rethymno
- Bike Rental Operators
- Taxi Unions
- ATLAS Cycling Union
- Association of Active Citizens
- Hoteliers Association
- Schools communities

Cooperation with the taxi unions, car sharing and bike sharing operators is essential for their participation in the sharing mobility scheme. Also, their input will help to identify the appropriate solutions for successful implementation of the scheme at the regional level. Tourism stakeholders will be engaged for the promotional actions (promotional material display, information to tourists). Hotels will contribute to promoting the shared mobility modes available and to engage their employees to the sharing miles competition.

Consultation meetings with key relevant stakeholders is foreseen for full engagement and support towards planned activities. The engagement of citizens' volunteering groups is also essential for the acceptance and use of the sharing mobility platform amongst residents and tourists.

2.6. Elba

The WP4 measures to be developed in Elba have been specified and designed around the concept of the "Elba Sharing Mobility Agency (SEM Agency)" as a center for planning, managing and coordinating different ride sharing services and the related user information.

The first hypothesis of the SEM Agency drafted in the DESTINATIONS proposal and after in the contract was elaborated on the conceptual scheme presented in 1.3.

The SEM Agency is supported by an "umbrella" platform / organisation able to co-ordinate different transport services (in primis the ride sharing services) in a seamless mobility offer integrated with conventional PT services. At that stage the enabling technological infrastructure for the SEM Agency was based on the emerging paradigm of the Internet of

Services or Service Orientated Approach (SOA), providing several core facilities including: (a) services for transport users (Business-to-Consumer (B2C) services) enabling access to information, search for transport options, travel planning; (b) services for the co-ordination of different ride sharing and mobility schemes and the interaction with the relevant operators (Business-to-Business (B2B) services); and (c) services supporting the interactions among different authorities and entities involved in the mobility planning and control of transport services (Business-to-Administration services).

In particular, at that stage the main functionalities and services of the SEM Agency have been identified and drafted as design ride sharing services integrated with PT services, monitoring ride sharing services, unique user interface, teal time information and user feedbacks management, resources optimisation and coordination.

Finally, the Local Authority has been identified as promoter of the SEM Agency for contributing to start up the organisation able to manage the SEM Agency and to support the 8 Elba Municipalities for the mobility and transport planning and problems.

On this basis the activities carried out both for requirements definition and functional design have tuned the above approach and model in order to answer the identified needs.

2.6.1. Recognised needs and goals

Starting from the above context, the activities of user requirements developed during the first 9 month of project implementation under T4.2 (user needs requirements) have involved the different stakeholders for analysing the mobility needs of residents and tourists by specific workshops (in the context of DESTINATIONS WP2 SUMP development) and concertation meetings.

This activity has allowed the refinement of the concept of SEM Agency in a structure dedicated not only to managing the ridesharing services but also to providing infomobility service to residents and tourists and to support the 8 Local Authorities for the mobility planning and document management issues in relation to the higher level authorities (Livorno Province and Tuscany Region),

In particular, the results of requirement identification activities are synthesised in the table below in order to clarify the meaning of each measure defined in WP4 and their interrelations.

Measure Title	Measure Requirements
ELB 4.1 Elba Sharing Mobility Agency	SEM Agency, is the structure dedicated to plan, manage and coordinate the different ride sharing services, user infomobility services and mobility planning support. The SEM Agency structure is based on three relevant dimensions: ICT platform (ELB4.3), backstage and services operation (ELB 4.1, ELB 4.2, and ELB 4.4) and model business/organisation (ELB 4.1). The Macro components of the SEM Agency have been identified as the following: Ride Sharing Planning and Management, Infomobility Services, Operators Networking (ELB 4.2) and Open Data Layer (ELB 2.2). Macro components have been specified in terms of functionalities and use cases under the activities T4.3. The tracking functionalities (to be defined under ELB 4.4) is one of the key service of the SEM Agency that will be implemented as one of

	the functionalities of the platform. Moreover, the SEM Agency involves management resources both for operating the overall services (ride sharing, infomobility, operators networking) and for keeping and maintaining the ICT platform and the backstage support conditions. For the SEM Agency organisation (operation, costs and revenue, etc.) the business model activities to be carried out under the T8.2 (business model) will start in September 2017 on the basis of the current specification.
ELB 4.2 Car/scooter/bike/boat sharing	The results of the feasibility analysis carried out on the potential of car sharing/bike sharing for the Elba Isle and on the related operational/organisation impacts suggest to involve these services in the ride sharing platform managed by the SEM Agency. The reasons behind this choice are several: - the well known national operators (Car2go, Enjoy, Share'n go, DriveNow e ZigZag, Comunicare, etc.) have not demonstrated any interest mainly due to the low demand existing in Elba (both residents and tourists already have a mean for their trips), to the dispersed area characteristics and to no profitable return; - need for a private person to own specific qualification and complex lease agreements for accidents (accidents, insurance, etc.) to be able to share his/her car or boat with other people - the island's morphology which shows sensitive altitudes and distances between the various touristic interest points thus hindering bike sharing services. The hypothesis to manage these services directly (by the commitment of the Local Authority) has been left too, due to the relevant costs in terms of investments, maintenance and operation and for the negative experience made by some other Municipalities on the direct management of these services. In the end, the analysis carried out under the measure ELB4.2 on the existing bike/car/scooter/boat rent providers on all the Elba area pushed to design the foreseen services as services supported by the ride sharing platform through the networking of the related service operators. The services operators, through the platform, will be able to expose their services in terms of all statics and semi dynamic information on their offers (e.g. location of the bikes depots, typology of the bikes, etc.). Therefore this measure (ELB 4.2) will not include only the car/bike/scooter/boat operators, but also all the operators that have a resource to be shared (first of all the parking areas close to the beach for which information on the location and semi-dynamic information on available lots can be exposed by the platform through the app and the web)
ELB 4.3 Ride Sharing Platform	The "Ride Sharing Platform" is the ICT structure (sw environment, sw procedures, HW components, etc.) supporting the SEM Agency in the management of ride sharing, infomobility services and service operators networking. The requirements of the platform have been defined on the basis of the main macro components identified for the SEM Agency (ELB 4.1). The platform presents functionalities dedicated to: data collection, integration and management from different sources (systems, services, and procedures), data / information exposition and accessibility by different

	media channels and devices (web, smartphone, etc.). The main components of the platform are the following: a) OPEN DATA LAYER for the collection aggregation and accessibility to the mobility and service data and information (ELB 2.2); b) management of service operators networking (ELB 4.2) and support to mobility observatory; c) provision of the infomobility services; d) provision and management of ride sharing services. Around these four main components there are support functionalities as the security tracking function (ELB 4.4) that could be activated during the ride sharing exploitation. The platform is connected/interfaced with the users by web and app services. **The platform therefore is the central and key element of the SEM Agency**
ELB 4.4 Increasing feeling of security among Elba sharing users tracking for ELBA-sharing service users: app	As stated above, this measures has been analysed and defined as one of the main functionalities of the ICT platform supporting the SEM Agency. In particular this specific functionality is part of the macro component "ride sharing services" and will be activated (by a section of App connected with the Ride sharing platform) when a user will achieve the ride and during the trip. Therefore the user will be tracked (after enabling GPS on their mobile phones) during its trips, thus enhancing their safety feeling and making them more willing to largely use the Elba ride sharing services.
ELB 4.5	The 8 Municipalities already subscribed an Action Plan on the Sustainable Energy in Elba Island (*PAES – Piano di Azione per l'Energia Sostenibile*) aimed, among the other objectives, at fostering the use of EV and PHEV. The first step is to elaborate a regulation on the use of EV and PHEV and on the possible incentives that could be a useful guideline for all Elba Municipalities

Table 2 – ELBA Measures Requirements

2.6.1.1. Main Requirements of Elba Sharing Mobility Agency

Based on the above requirements of the WP4 planned measures the SEM Agency was defined as the centre for the provision of Infomobility and ride sharing mobility by the following main defined components aiming to:

- collect, aggregate, make available and accessible in open data modality the mobility and transport data and information;
- provide infomobility services;
- manage the observatory of the mobility and transport services on the Elba isle with the interactions with the province and regional levels;
- manage some specific ride sharing services.

The structure of the SEM Agency is schematised in the figure below.

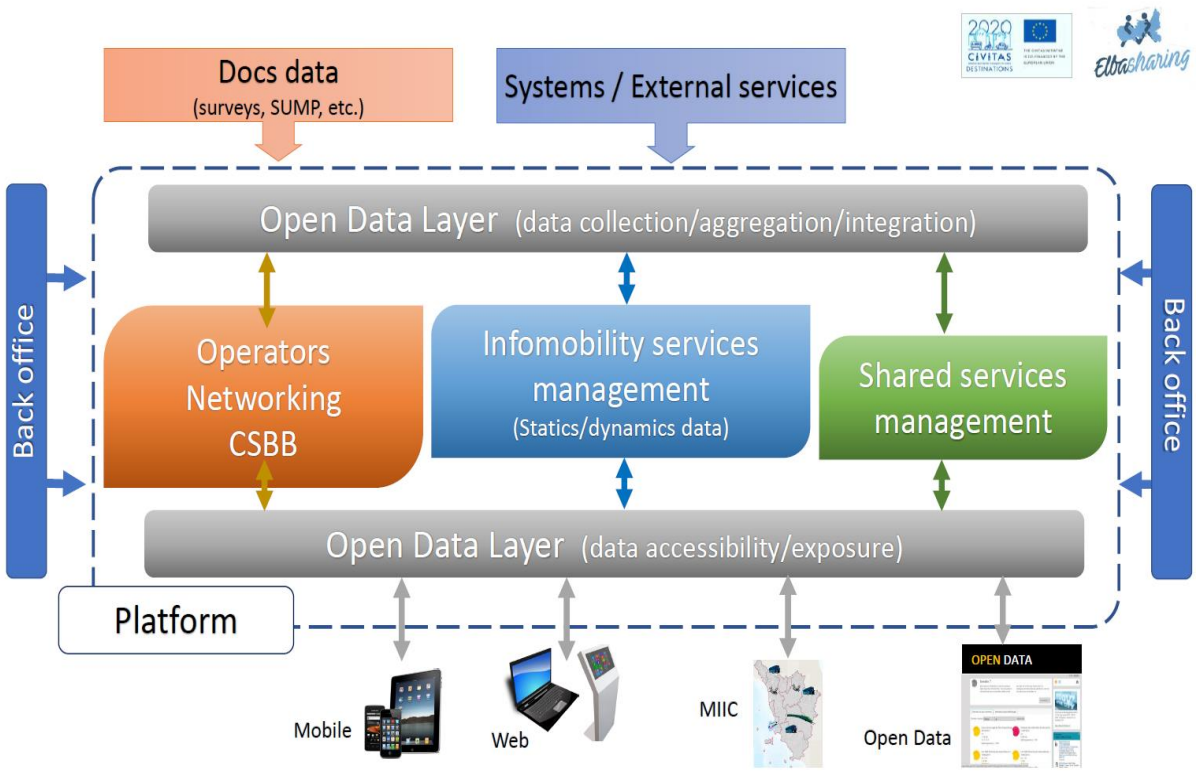

Figure 4 – Structure of the SEM Agency

The picture below highlights the relations among the different planned WP4 Elba measures and tasks including the T2.2 related to the Open Data Layer emerged under the T4.2 user needs and requirements identification.

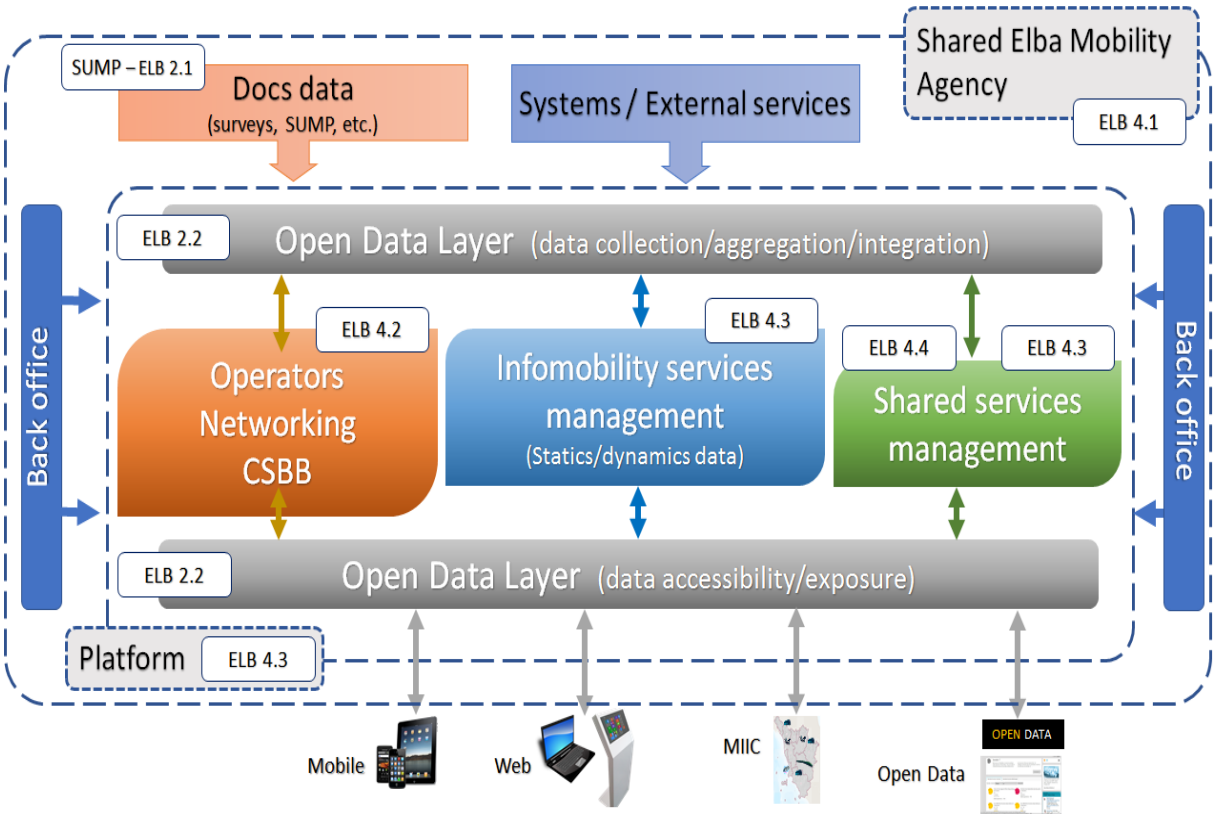

Figure 5 – Relations among Elba Measures

The requirements of the identified 4 macro components of the SEM Agency have been fully analysed and detailed. A synthesis of the identified requirements is provided below:

Elba OPEN DATA LAYER: is the macro component focused on data information collection and data exposition/accessibility (in open data modality by web and APP) on the different mobility and transport services operating in Elba Isle. On one side this component collects and integrates the data coming from the different systems/services/procedures active on the network (including documents in the different formats/standards); on the other side, this component homogenizes and makes available these data for exposition by APP or web and for the provision and management of the related services. Different users/actors should be able to simply access and manipulate these data depending on the defined user profile. The Elba OPEN DATA LAYER is the key component of the platform. This component was planned in the WP2 but is realised with the measure ELB 4.3.

Elba Operators Networking (CSBB) and Mobility Support: This component aims to realize and share a repository for all the information and documents supporting the mobility and transport services planning for the Elba Isle. These data and information should be collected by at least two modalities: automated (i.e. using online questions, implementation of collection campaign, etc.) or manually (i.e. acquisition in the repository of mobility documents by the input of a specific operator). This information adequately formatted and aggregated by the OPEN DATA LAYER is the base of the Observatory component. This allows some service as Mobility Manager for a specific entity (i.e. school) or the use of the specific road network model.

Moreover, this component realizes the level of networking among the different operators that offer CSBB services. The platform exposes the related service offers in terms of available resources (i.e. for the bike rental it will be possible to find out the nearest depots, the number of bikes typology availability, the tariffs and services times, etc. through the app/web.). This approach, allowed by the platform, is also useful for other services like the parking service in terms of location, number and availability of lots, etc.

INFOMOBILITY SERVICES: this component provides specific multimodal info-mobility services through the management of data communication with the Elba OPEN DATA LAYER component and the elaboration of the collected data. This level prepares and aggregates the collected data and the information contents for the different infomobility services provided on the different media channel managed by the platform. One of the services to be provided at this level is the multimodal journey planner and the provision of the public transport service arrival time at each bus stop (thanks to the interface ensured by the OPEN DATA LAYER with the PT fleet control system already active on the Elba network (please refer the ELB 7.1 measures).

RIDE SHARING SERVICES: this component is dedicated to managing some specific service based on the "ride sharing scheme" as "share the same trip". Some specific ride sharing services have been defined and detailed under the T4.2 user requirements definition activities. In particular, different user cases concerning the concept of "*Message board for sharing trips*" have been defined: the user through the specific APP could declare his/her position and the destination he/she wants to reach by sharing the trip with other users/drivers. The "*Message board for ride sharing*" has been instantiated for the following possibility/options:

- Share a trip: the user (who is in the ferry, disco, beach or other Point of Interest - PoI) asks to share a trip for some Elba localities by activating the APP that connects him/her with other users nearby and by indicating the destination and the departure time. The aim of this service is to allow users reaching /moving away from the island to share a trip to/from the beaches or other PoI.
- Plan the shared trip: through the App the user is able to plan a trip by choosing the departure/arrival points, the dates, time and routes agreeing them with other users who are planning a similar trip
- Tracking the trip: the aim of this service is to provide a functionality devoted to the safety of the users during the trip, since, once activated in the APP, the position and the trip is monitored and the user is given the possibility to send an evaluation and/or emergency messages
- Share a taxi trip: the aim of this service is to optimize the needs of the users to allow them to share a taxi trip and related cost; and
- Hitchhiking: the user, from any place along the predefined routes, activates the APP and sends a request message for a trip that the APP makes visible to other users. This service is similar to the "share a trip" service. The aim is to provide a trip to any location on the island within a network of predefined routes.

Moreover, two main support functions for supporting the above ride sharing schemes have been detailed regarding the certification of the reliability of the users and tracing the trip and user trip security tracking (ELB 4.4)

2.6.2. Key Stakeholders

The stakeholders engagement process started at the beginning of the project, in particular with the organisation of concertation meetings which aimed to inform participants about the opportunities that CIVITAS DESTINATIONS project is bringing to the island in terms of an improved public transport system, safer and more sustainable mobility and greater visibility all over Europe. In particular, three events (in the context of WP2 SUMP development) took place in the Municipalities of Portoferraio and Rio (formerly Rio), namely:

- **Elba Sharing Laboratory** (27th February 2017 in Rio, and 27th March in Portoferraio) which saw the participation of citizens of different Elba Municipalities (Lacona, Portoferraio, Porto Azzurro, Rio, Campo nell'Elba) and members of Portoferraio and Rio municipalities.

- **Future Search Laboratory** (10th – 11th May 2017 in Portoferraio) with the participation of 43 external participants among which representatives of hotels, BlablaElba Facebook page, Infoelba webpage, a local interest group, citizens, local authorities, public transport operators, taxi services, car rental companies, bicycle rental operators, Elba environmental association, Elba Foundation, Italia Nostra, Confcommercio, Confesercenti.

The role of the local authorities is pivotal to plan, facilitate and regulate the overall mobility system. Moreover, local authorities can establish an active and continuous governance so as to closely follow the service start-up and follow-up. Moreover, Elba Municipalities are involved in the definition of the specific EV regulations as well as in the definition of the key locations to install the charging stations.

Car and bike rental companies, taxis and shipping companies are mainly involved in the provision of data related to their services as well as in the promotion of the APP.

Other similar events will be organised during the project lifetime in order to show the results obtained from the CIVITAS DESTINATIONS activities and promote the new sustainable mobility solutions implemented to tourists and residents.

2.7. CIVITAS DESTINATIONS Key stakeholders and user needs analysis

During the first 10 months of activities in CIVITAS DESTINATIONS, all partners have identified the stakeholders interested in each of the measures implemented in the project and have mapped them out according to the methodology defined in task 8.1.1. They have mapped stakeholders related to the elaboration of a "stakeholder map" applied to each site, identifying the different stakeholder groups, their nature, background, interests, requirements and constraints which have been described in detail in the Deliverable D8.1 "Stakeholder maps and initiatives/tools for boosting the role of public and private stakeholders". Most partners (in particular Elba, Las Palmas, Limassol, Madeira and Rethymno) have already started a stakeholders' engagement process to seek collaboration for implementing the foreseen measures. The analysis of the stakeholders interested in the WP4 measures confirmed that many of the identified stakeholders across the six sites are the same types of organisations, as indicated in the following figure:

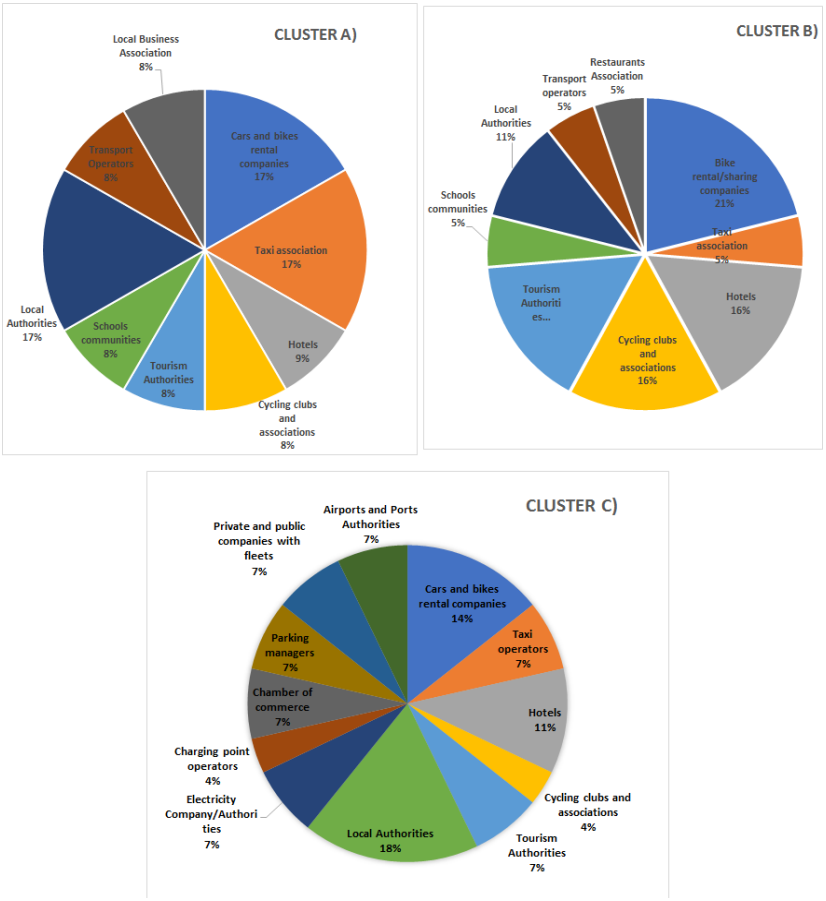

Figure 6 - Stakeholders mapping for the 3 Clusters of WP4 Measures

The most relevant stakeholders in the measures pertaining to Cluster a) "Shared Mobility Services" are represented by car and bike rental companies, taxi associations and local authorities. Local authorities (mainly municipalities but also regions) are essential to guarantee the service start-up and follow-up. The engagement of citizens is also pivotal to ensure the success of the implemented measures. This is the reason why in Elba, for example, a participatory process (defined under WP2 for the development of the SUMP) with the active involvement of citizens has started and will be maintained throughout the whole project duration (for example, it is currently ongoing for the definition of the SEM Agency services and for the organisation and management of the SEM Agency and will be used for the definition of the most suitable business model to be adopted for the SEM Agency). The role of car/bike rental companies and taxi associations is crucial too as they are expected to feed the sharing mobility platforms with information on their services.

The activities related to Cluster A) is also pivotal for the following tasks as it shows the possibility to manage the ridesharing services as complementary services which can be integrated in the collective transport offer (last/first mile).

As for Cluster B) "New and extended e-bike systems", bike rental and sharing companies are obviously the most relevant stakeholders for the involved partners, as well as cycling clubs and associations and hotels that can guarantee a wide promotion of the services and local authorities involvement for the provision of licenses

As for Cluster C) "Sharing e-charging infrastructures", the 5 involved sites also identified the same stakeholders. The most relevant ones are represented by local and regional authorities followed by car/bike rental companies and taxi fleet operators interested to promote e-cars or e-bikes and by electricity company/authorities and charging point operators.

User needs are also the same in all sites and can be summarised in the following:

- Reduce fossil fuel dependency, emissions and congestion;
- Improve air quality, overall urban accessibility and cost effectiveness of transport services; and
- Boost the tourism sector.

The following chapters (3, 4 and 5) present the design of each individual measure, grouped into the three identified clusters.

3. Design of Ride Sharing Mobility Services

3.1. Elba RIDE SHARING Mobility services

The design activities has been carried out for the following measures ELB 4.1 Elba *Sharing Mobility Agency*, ELB 4.2 *Car/scooter/bike/boat (CSBB) sharing*, ELB 4.3 *Ride Sharing Platform*, ELB 4.4 *Increasing feeling of security among Elba sharing users tracking for Elba-sharing service users. Moreover, the design activity carried out under ELB 4.3 has also influenced the activity planned under the T2.2 Open Data Layer, as described in the sect. 2.6.1.1*

In the following the results achieved for the design activities are synthetised.

3.1.1. Measures Design

3.1.1.1. Elba island context

Elba Island is located around 10 km away from the Tuscan coast and is the 3rd biggest Italian island and the main island of the Tuscan Archipelago, covering 223 sq.km. area.

Elba territory is divided into 7 Municipalities, which all belong to the Province of Livorno. These are: Portoferraio, Campo nell'Elba, Capoliveri, Marciana, Marciana Marina, Porto Azzurro, Rio (which includes the former municipalities of Rio Marina and Rio Elba). Although only two municipalities Portoferraio and Rio are partners of the CIVITAS Destinations project (since they are ports connected to the continent and are therefore most concerned with mobility problems) most of the project measures concern the entire island.

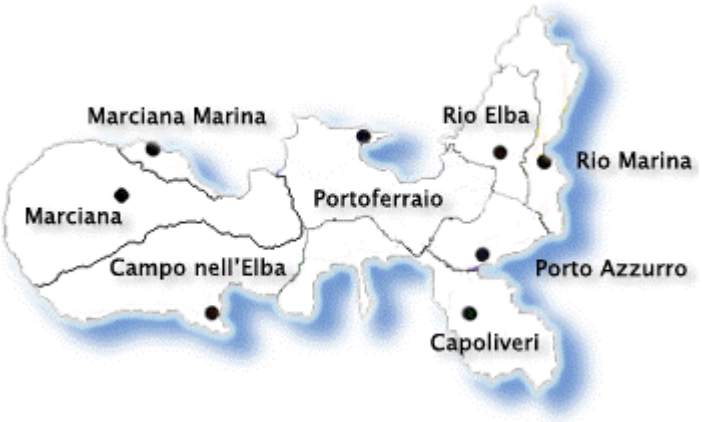

Figure 7 - Administrative organisation of Elba

In Elba the mobility offer is fragmented in terms of ticketing, information, marketing, accessibility and cooperation. There is in fact a number of web portals/app masters dedicated to tourist services, providing also information on some mobility services (i.e. ferries, public transports) which currently work as "single" web portals in non-coordinated network.

A coordinated mobility offer including collective and private modes will be an added value in Elba 's attractiveness, sustainability and overall accessibility and could also have relevant impacts on potential new job opportunities.

Moreover, the existing PT services are ineffective in providing suitable integrated solutions which could boost the use of PT services. In fact, they are not able to satisfy residents' needs

with respect to the systematic trips (during the winter and summer period) and the last/first km for reaching the outskirts and small villages.

The public transport services are also not suited to tourists' needs who are unable to easily find correct and updated information on Elba public transport services and thus prefer the use of private vehicles to move around the island. Moreover, public transport services (mainly the extra urban ones) often have to deal with significant passenger increase in the summer period (over 30% increase during the peak season) and may be inadequate to duly respond to the increased demand during the summer season.

This results in a low percentage of public transport use corresponding to only the 14% of the services offered. The situation of mobility and public transport services is therefore very difficult both during low season, for the limited services available, and during peak seasons for the high traffic congestion due to tourists' private cars.

3.1.1.2. Detailed description of the measures design

This section summarizes the activities carried out and the results achieved under measures design tasks, involved in the T4.2.

The main result of the requirements definition was the complete view of the SEM Agency structure, the ICT platform, the related infomobility ride sharing services and the Observatory management. Under the design activities the four main SEM agency components have been defined in terms of functionalities and related technical specifications. Clearly the platform plays a key role for the functioning and operation of the SEM Agency as resulted by the analysis made during the requirements identification phase.

In particular referring to each measure planned under the WP4 Cluster "Ride Sharing Mobility Services" in Elba Isle, the main results of the design phase are summarised in the following table:

Measure Title	Measure Design
ELB 4.1 Elba Sharing Mobility Agency	On the basis of the requirements defined for SEM Agency as structure, dedicated to plan, manage and coordinate the different ride sharing services, user infomobility services and mobility planning support, the design has identified the aspects to be faced during the Business Model activities (T8.2) that will be carried out from the next September 2017. The key aspects and constraints to be faced involving different dimensions (from the legal approach that the company dedicated to manage the SEM Agency should adopt, to the organisation, operation, data flow responsibilities, privacy aspects, etc.). These should be investigated in the BM process analysis and study. The main question is how the SEM Agency and the related components (from ICT to the ride sharing services) could be sustainable from an economic and organisation point of view. The answer to this question and others that will be formulated during the BM process (in particular how the SEM Agency should be organised) will represent the full design of the SEM Agency

	The BM process should moreover clarify which mechanism or criteria are the most suitable for the SEM Agency Auto sustainability (i.e. payment at the subscription, publicity spaces, etc.).
ELB 4.2 Car/scooter/bike/boat sharing	The platform and in particular the Infomobility component will provide a space in the portal in which the different car, scooter and bike rent providers and their related static and semi-dynamic information (location, number of the means, typology of the means, etc.) will be exposed and presented. This is possible *through the* Elba *Sharing Mobility platform* (see the platform functionalities design and specification described below). This approach will be allowed by the platform also for other services like the parking in terms of location, number and availability of lots, etc.
ELB 4.3 Ride Sharing Platform	See the platform functionalities and specifications described below. The ride sharing services are described under the main component of Ride Sharing Management
ELB 4.4 Increasing feeling of security among Elba sharing users tracking for Elba - sharing service users: app	This functionality was specified and defined and described as under the Ride Sharing Management.
ELB2.2 Open Data Layer	The Open Data Layer level was specified and defined as macro component of the Ride Sharing Platform (ELB4.3). It is the level allowing the platform to achieve data and information and docs and interact with the other systems and the user media channels (web and APP)

Table 3 – Results of Cluster A) Elba Measures Design

***Therefore the platform was specified in order to allow the provision of infomobility and ride sharing services and the management of the mobility observatory for the overall Elba Isle*.**

In the following the functionalities design of the platform is provided.

The SEM Agency facilitates data and information collection from different sources, such as:

- systems and mobility services active or planned in the short period on the Isle;
- crowdsourcing campaign, on line questionnaire/survey, feedbacks from users, etc.;
- administrative procedures (documents, regulations, mobility acts, etc.).

It also allows the data/information aggregation and integration of the information needed for the provision of information mobility services, ridesharing services and the mobility observatory capability.

As stated above the main components of the platform are the following:

- OPEN DATA LAYER

- OPERATORS NETWORKING (CSBB) AND MOBILITY SUPPORT
- INFOMOBILITY SERVICES
- RIDE SHARING SERVICES

The functionalities of the overall platform and for each macro component have been detailed and specified under the design activities developed in the last 5 months. The following figure show key function of each main components and the level of details that have been defined during the design phase.

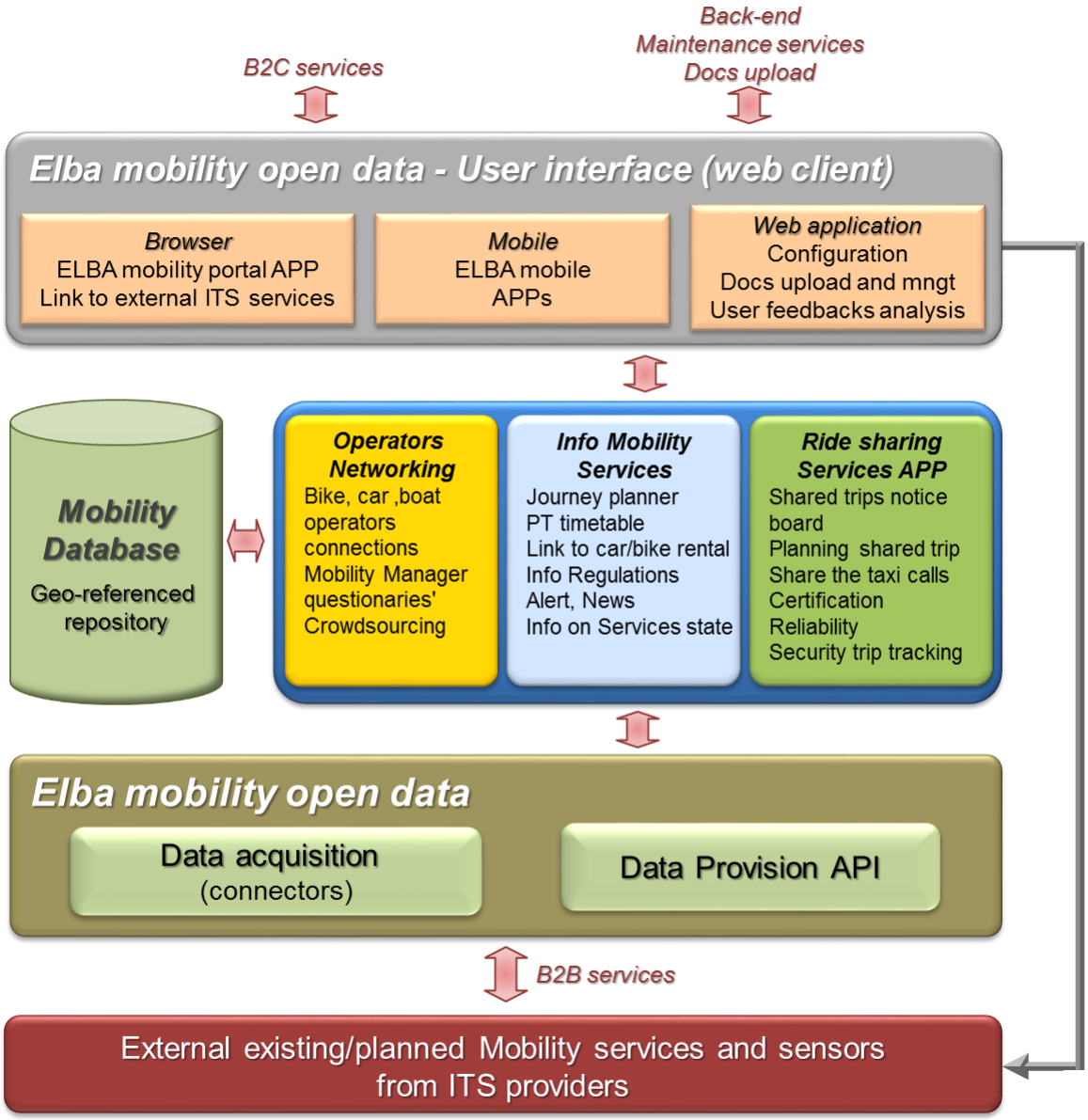

Figure 8 - Platform Components and Functionalities

A synthesis of the functionalities design for each macro component is briefly reported below:

Elba OPEN DATA LAYER

Three levels have been specified for this macro component:

I. *Collection of the different information typology and elementary data*

- Automated direct collection of the data and information generated by the different ITS systems and mobility services or made available by the different Authorities/Entities managing or contracting the different mobility and transport services. The modalities for collecting the information/data (static, semi dynamic and dynamic) could be different depending on the typology of data source, such as:
  - Automated data collection through crowdsourcing campaign or online questionaries' management;
  - Collection by input of the operator; and
  - *Uploading* documents, pdf, etc.

II. *Aggregation and integration of the information and data*

- Realisation of a centralised and unique georeferenced database;
- Realisation of a documentary archive; and
- Elaboration and aggregation of the info and data making available defined structured data.

The information and data (static, semi-dynamic and dynamics) to be collected refer at least to these different domains: parking area capacities, public transport timetables, ferries, railway services, bike/car/scooter rentals, bike usage patterns, EV recharge stations, regulation for accessibility and freight logistics in every Elba Municipality, alarms, meteo, news etc.,

III. *Exposition/Publication/Accessibility to data and information*

- Formatting and exposition of the data and provision of the service to the final source (B2C services); and
- Exposition and accessibility to the data base by the Authorities and third part users (B2B services.

OPERATORS NETWORKING (CSBB) AND MOBILITY SUPPORT

This component is supported by the OPEN DATA LAYER that allows the user to collect documents and data through a specific interface. The data to be elaborated and aggregated at this level concern the following issues: survey results and counts campaign, results from specific surveys (i.e. mobility manager), existing docs on mobility situations, documents and data collected during the SUMP (WP2) development, regulations for the accessibility to the Elba cities/village, parking and freight regulation, etc.

The main functionalities specified for this macro component part are the following:

- networking of the car/scooter/bike/boat (CSBB) service operators allowing all the functionalities for updating the information of the services and to expose it in the platform through the web and app channels. This approach will also be followed for other services (like the management of available parking lots). The following figure shows the logic flow and function of this main component:

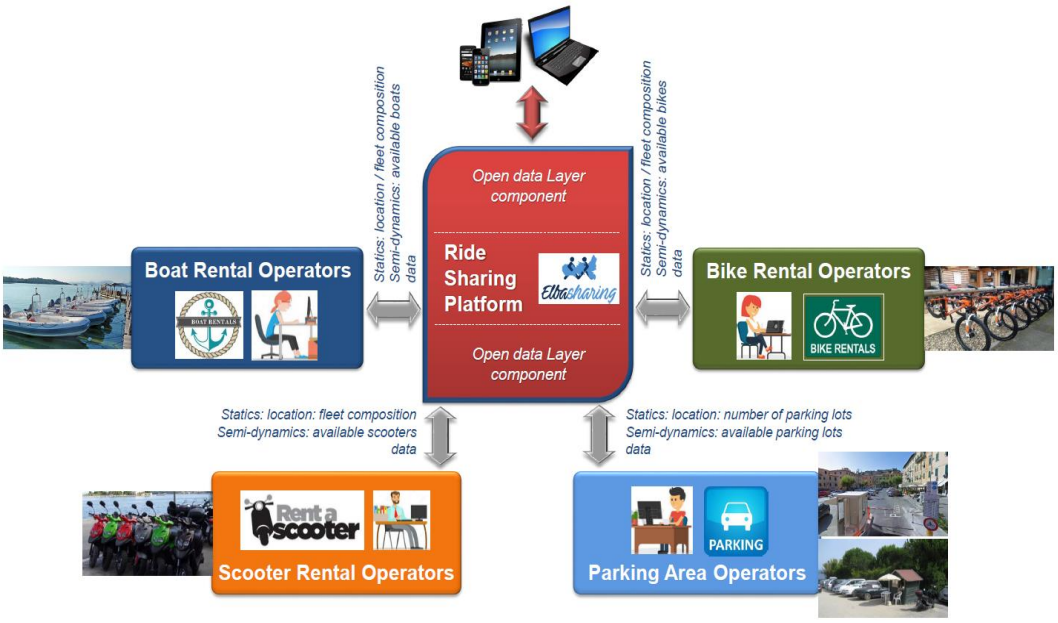

Figure 9 – Elba Operators Networking (CSBB)

- Online management of surveys such as a mobility plan for specific mobility destinations (i.e. mobility manager of school);
- Crowdsourcing functions for the involvement of citizens in the choice and mobility.

INFOMOBILITY SERVICES

This component is dedicated to the provision of the infomobility services to the user by APP or web. The main functionality aspects are the following:

- Management of the user's requests sent by the user on the different information;
- Formatting and managing the aggregated data;
- Management of local database; and
- Connection to the OPEN DATA LAYER for the answer to the user.

The related functionalities for getting the information by APP or web are the following:

- Statics/dynamic info on railway ferries, public transport services,
- Statics information (rules, services tariff, time table, location of the different parking areas, taxi stops, car/scooter /bike rent providers, etc.;
- Statics and dynamic freight loading/unloading freight lots;
- Statics/dynamic info on PT services;
- Traffic info statics/dynamic (congestion period, flow behavior, main road bottle necks);
- Statics/dynamic info on the bike rent provider;
- Statics/dynamic info on EV recharge stations;
- Multimodal journey planner;
- Statics/dynamic info on PoI (i.e. museum);
- Statics/dynamic info on parking and traffic limited zones regulation of the 8 Elba Municipalities (PDF) ;

- Municipal acts on mobility;
- news of public utility information;
- Link to the other exiting web services (booking and payments, car rental, etc.)
- Alert and weather forecast;
- Management of the feedbacks of user on the services;
- Travel diary; and
- On-line open or closed questions for the evaluation of the different new mobility proposals or existing services

RIDE SHARING SERVICES

This component allows:

- the management of different ride sharing schemes, in particular:
    - Sharing a trip to some Elba localities when the user is on the ferry;
    - Planning the shared trip;
    - Sharing the trip when the user is in some specific location (beach, PoI, etc.) indicated also as "certified Hitchhiking"; and
    - Sharing a taxi trip/call meeting at the same taxi area and at the same time.

From the related use case defined in the requirements phase the main functionalities have been identified as the following (among the others):

- Provision of the shared notice board for messages on the services. Each user could post his/her own messages and contact others
- The shared notice board allows access to all the information needed for the "trip/ride sharing" such as: presence on board the ferry, identity and reliability of the users to share the trip with, etc.
- The shared notice board allows for "trip planning" before the trip
- Possibility to join and to make contact between the driver and the user requesting the trip on the basis of the location, the destinations, the requested time, and trip and user preferences in order to match the demand and the offer
- Management of the subscriber group ensuring security and reliability of each user/driver
- Invitation of subscribers to provide the indication on the trips, timing, transport mean, timetable,
- Management of user feedbacks (updating the reliability levels, the possible conflicts, etc.

Moreover this component provide specific functionality for:

- The certification of the reliability of each user (both as the service provider-driver and as service user/passenger)
- Provision of security tracking during the trip (GPS tracing, start up, good trip end, etc.) with the intelligent modalities

The following figure presents the functionality chain scheme for this macro component.

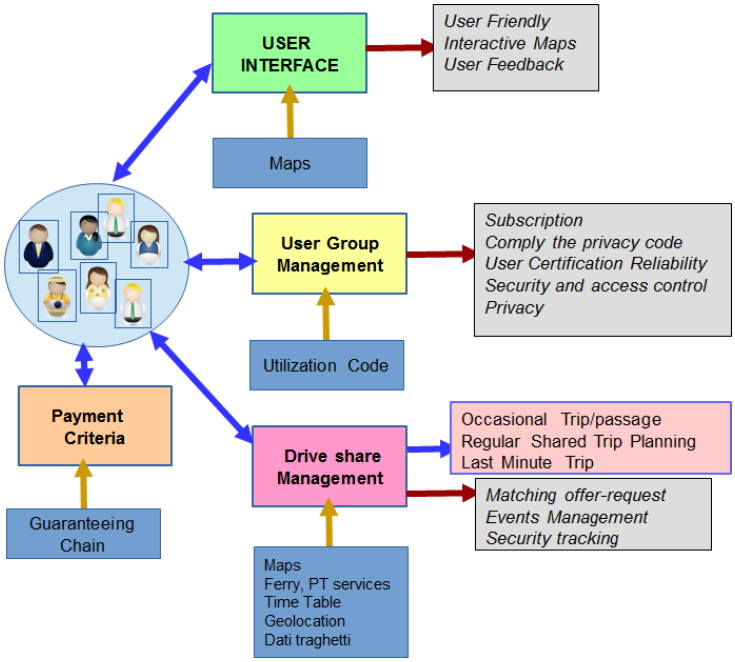

Figure 10 - Ride Sharing Service Functionality Chain Scheme

3.1.1.3. Project Partners working on measures, roles and responsibilities

Portoferraio Municipality is primarily involved in user needs analysis, data collection and provision, stakeholder engagement and in the management of the tender for the realisation of the SEM Agency.

Rio Municipality is primarily involved in the identification of the services and operators to be involved, stakeholder engagement and in data collection and provision.

MemEx supports Portoferraio and Rio Municipalities in the technical management of the foreseen activities, in particular MemEx is in charge of all the technical/technological aspects, the specifications definitions, support on the procurement process, document definition for ICT acquisition, monitoring of the implementation phase, the testing phase and the technical support during ICT platform operation, etc. MemEx has already participated in several meetings with members and representatives of both municipalities in order to support them in the stakeholder mapping exercise as well as in the interest groups creation.

3.1.1.4. ITS Technology, system or service requirements

The physical architecture will be based on in-house HW structure or in "cloud" depending to the sw solution that will be provided on the basis of the functionality design summarised above. The architecture should be developed with the SOA and based on different standards as W3C (web services), XML formats for the data exchange among the different applications. Moreover for interfacing the systems and services the more popular standards should be used like DATEXII, SIRI, etc. depending on the typology of system to be interfaced. Finally specific protocols and standards should be defined and used (like HTTP) for the security aspects and crypto format for the privacy issues. The GTFS standards for data modelling and transferring

will be used and API will be used for accessing and interfacing the platform. The figure below illustrates the scheme of the backstage of the Application sw interaction:

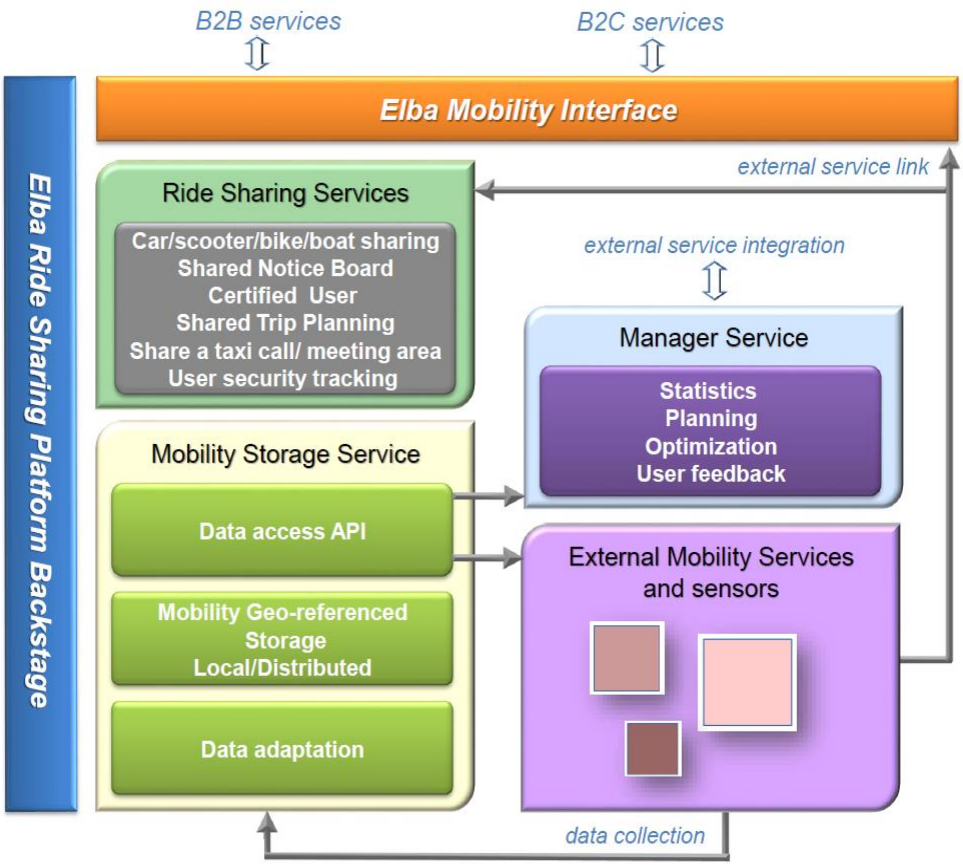

Figure 11 - Backstage of the Application sw interaction

The specific aspect of the physical architecture is, in any case, left to the solution that the providers will describe answering the call for tenders.

At any rate the platform should:

- present a user friendly interface with a specific own "look and feel" based on the use of interactive maps for supporting the location selection
- be realised as a multi-application platform (Android, iPhone, Windows)
- use where possible Open Source environment and sw
- manage the subscribers with the verification of the identity and using specific access rights
- comply with the security ICT criteria suitable to the ride sharing services (cyber security)
- comply with the privacy requirements and data protection under the current national law
- be sized to the foreseen users and performances
- define a regulation to be noticed by the APP and for which the user must sign and accept for using and participating to the service.

The following figure shows a scratch scheme of the main defined architecture:

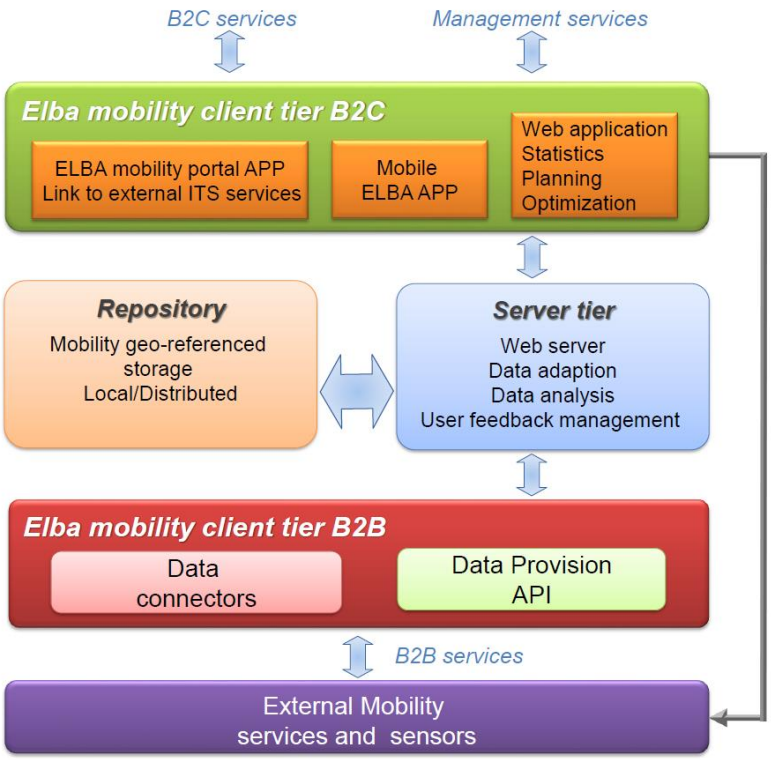

Figure 12 – Scheme of the main defined architecture

3.1.1.5. Procurement of services

The SEM Agency management (structure) as already stated, will be defined by the work to be carried out in the T8.2 regarding the identification of the business model for the SEM Agency and the evaluation of the different impacts and needed organisation, operation dimensions.

For what concerns the Platform acquisition and the overall functionalities (ELB 4.3, ELB 4.4, ELB 2.2 and ELB4.2) this will be acquired by means of the public procurement process. On the basis of the requirements, specifications and design results the technical annex for the bidding process will be realised (first draft for next August 2017) with all the administrative needed documentations able to allow to open the call for tender. The foreseen deadline of the conclusion of the tender is April 2018 with the start-up of the contract foreseen in May 2018.

The main index of the procurement documentations have already been drafted.

3.1.2. Measures ex-ante evaluation

For the measure ELB4.1, two impacts category have been identified for the ex-ante evaluation: Society and Transport System.

The impact on Society will be measured through:

- the **level of acceptance**, in terms of the number of favorable stakeholders and the number of citizens and tourists involved each month. It is foreseen that 70% of stakeholders will be satisfied from the SEM Agency and that 100 people will be involved each month in the use of the SEM Agency (ex-ante evaluation).
- **the level of use**, in terms of contacts per summer season. A number of 10 new contacts is expected (ex-ante evaluation)

The impact on the Transport system will be measured through:

- the number of **shared/rented cars**, in terms of n° of vehicles offered in peak season, and through **the traffic flow**, in terms of travel time for going by car from Portoferraio to Rio during peak summer season. The baseline for the n° of vehicles offered in peak season is represented by 120 (20 cars, 80 bikes, 20 scooters) and it is expected to reach a number of 190 vehicles, maintaining the same n° of cars (20) but increasing the n° of bikes to 120, of scooters to 40 and sharing/pooling vehicles to 10.

  It is expected that the car travel time will be instead reduced from 70 minutes (baseline) to 40 minutes (ex-ante evaluation).

For the measure ELB 4.2, the impact on Transport System will be measured through the **number of rented vehicles** during the summer, expecting to pass from 750 vehicles per month (baseline data, considering 4 cars, 15 bikes, 6 scooters on average each day) to 3.900 (ex-ante evaluation considering 10 cars, 60 bikes, 30 scooters and 10 pool/shared vehicles each day).

The measure ELB 4.3 mainly has an impact on Society, measurable through the percentage of **citizens/tourists awareness level**.

The measure ELB 4.4 mainly has an impact on Transport System that will be measured through the **number of people who will register each year** (expectation from the ex-ante evaluation is to reach 200 people in a year) and through the **percentage of users perceiving personal security** while using the APP services (the expectation from an ex-ante evaluation is that 90% of the users will be either satisfied or very satisfied on this side).

The data for all these four measures are collected according to the following deadlines:

- Baseline data have been collected during the month of March 2017 (M7)
- Intermediate data will be collected twice during the implementation, at month 30 (February 2019) and month 36 (August 2019)
- Final data will be collected after the end of the implementation, at month 44 (April 2020).

3.1.3. Implementation Plan

The table below summarizes the milestones description, foreseen deadlines and status of progress for the four measures (ELB 4.1, ELB 4.2, ELB4.3 and ELB4.4)

Measure	Milestone number	Milestone description	Milestone verification	Project month	Progress
Design and specifications					
ELB 4.1	M4.1.1	User needs analysis completed	Internal report as input for deliverable 4.1	8 – April 2017	Achieved
ELB 4.2	M4.2.1	Identification of the services and operators to be involved	Internal document listing existing services and related operators	8 – April 2017	Achieved
ELB 4.3	M4.3.1	ICT platform design (web portal and App) completed	Internal design document as input for deliverable D4.1	10 – June 2017	Achieved
ELB 4.4	M4.4.1	App for users tracking design completed	Internal design document	10 – June 2017	Achieved

ELB 4.3		Start up of procurement		September	
ELB 4.1	M4.1.2	SEM Agency design completed (organisation and structure)	First draft in collaboration with Task 4.2		In progress
		Site preparation		August 2018	
ELB 4.3-ELB 4.4	M4.3.2-M4.4.2	ICT platform App for users tracking	Contract signature	20 – May 2018	Future
ELB 4.2	M4.2.2	Involvement of different services/operators in the framework of the "SHARED Elba MOBILITY" Agency	Agreements with operators finalised	24 – August 2018	Future
Demonstration					
ELB 4.1	M4.1.3	Site preparation concluded	Internal document	24 – August 2018	Future
ELB 4.1	M4.1.4	50% of services fully operatives	Internal meeting	36 – August 2019	Future
ELB 4.2	M4.2.3	50% of the identified operators integrated in the SEM Agency services	Internal document	36 – August 2019	Future
ELB 4.3 - ELB 4.4	M4.3.3 - M4.4.3	Validated version of the ICT platform and of the APP in operation	Testing report	36 - August 2019	Future
Evaluation					
ELB 4.2	M4.2.4	Data collection during first summer period completed	Internal report	38 – October 2019	Future
ELB 4.1 - ELB 4.3 – ELB4.4	M4.1.5 - M4.3.4 - M4.4.4	Data collection completed	Internal document	40 – December 2019	Future
ELB 4.1-ELB 4.3	M4.1.6 - M4.3.5	Economic assessment concluded	Internal document	44 – April 2020	Future
Communication and dissemination					
ELB 4.2 - ELB 4.3-ELB 4.4	M4.2.5 M4.3.6 M4.4.5	Citizen/tourist information campaign start up	Press conference, dissemination/information materials	25 – September 2019	Future
ELB 4.1	M.4.1.7	Information campaign	Press conference	36 – August 2019	Future

Table 4 – ELB4.1-4.2-4.3-4.4 Implementation Plan

3.1.4. Potential risks and constraints

The main risk associated to these four measures implementation is not facing the organisation /operational aspects. The main question is how the SEM Agency and the related components (from ICT to the ride sharing services) could be sustainable from an economic and organisation point of view also in terms of auto sustainability (i.e. payment at the subscription, publicity

spaces, etc.). All these issues will be faced during the activity related to the business model definition planned for the upcoming months.

3.2. RETH 4.2 "Building a sharing mobility culture"

3.2.1. Measure Design

3.2.1.1. Detailed Description of Measure and City Context

In Rethymno, there is already a public bike sharing system with a limited number of stations and bikes. As biking is increasing over the last years it is obvious that the current system needs to be extended and upgraded while the existing bike stations should be relocated and the ticketing approach should be improved. Furthermore, a more aggressive informational – promotional campaign is required to motivate locals and make tourists aware, so they use it in their leisure time or common daily life routes. A large part of the city is flat, distances are rather short so there is much potential to increase bike use.

However, e-bikes and other modes of sharing mobility are not available in Rethymno or on the rest of the island. This measure will be a flagship project for the region and will challenge the use of shared modes of transport on the whole island.

The sharing approach will be launched in local/ regional mobility. Rethymno provides the key ingredients to demonstrate the potential of a car and taxi sharing scheme thanks to the local community culture across the generations. This measure offers two levels of sharing which we will seek to combine for maximum benefit in increasing car occupancy and taking unnecessary car journeys off the road. It will also offer a web-based platform to facilitate sharing of means and a car sharing mobile phone application.

Within the measure, the existing bike sharing network will be improved by the reallocation and increase in the number of stations. Also, the software used for the management of the bike sharing system is currently being upgraded. The improved software aims to provide a better user interface and additional payment options (credit card, electronic payments etc.). In addition to the above-mentioned upgrades, the introduction of the dockless bike sharing model is also being examined.

The existing network will be expanded by the launch of 16 new bike stations and 60 bikes, while 10 e-bikes, including 1 for disabled, will be introduced and incorporated in the existing scheme, which currently consists of 4 bike stations and 24 bikes.

A study about the most appropriate locations for the new bike stations have been performed to identify a larger number of potential sites (Fig. 13). The locations will be prioritized and determined during the SUMP development in a holistic approach. Within public consultation activities, residents and tourists provided feedback on their most preferred locations and their feedback will be considered for the final implementation, in order to integrate the users' needs.

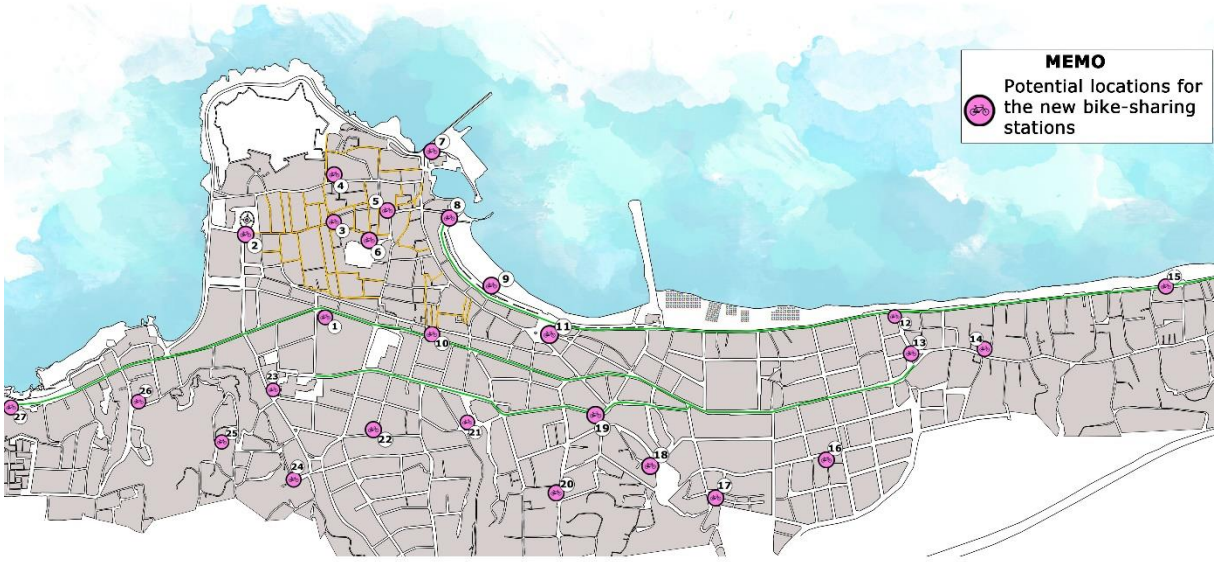

Figure 13 - The potential locations of the new bike stations in the Municipality of Rethymno

Moreover, Rethymno will launch and operate a customised web-based sharing mobility platform to manage a multimodal sharing scheme (taxi, car, and bike). The platform will target mostly tourists to provide alternative transport option for key attractions. The sharing scheme will be linked to walking and public transport networks.

Expected outputs of the measure are:

- Field research findings on potential users' profiles/motivation
- Study on mobility sharing with recommended bike, taxi and car sharing scheme designs adapted to local situation/culture
- 16 new public bike sharing stations for bikes and e-bikes with all the necessary equipment for their safe storage , signage redesigned/installed
- 10 new e-bikes, 60 new bikes, 1 e-bike for disabled people in the public bike sharing system
- Campaign to promote sharing mobility modes; social media campaign
- Postcards placed to hot spots/cafes/hotels
- Sharing miles competition in place, amongst hotel employees
- Pilot operation of web-based sharing platform;
- 1 car sharing mobile phone application (web based) demonstrated (SocialCar app H2020 project)

The measure has a strong connection with tourism in terms of demand responsive options, a competitive element of sharing mobility. This is an indispensable part of a modern transport system, especially in cities like Rethymno that experience highly fluctuating transport user

numbers. Therefore, coordinated taxi and car sharing offers more demand responsive options especially needed during the peak of the touristic period. This measure allows the residents and tourists to have more affordable mobility options for making their trips and to reduce the traffic generated by the use of rental cars by tourists.

The specific objectives of the measure are: optimisation of the existing bike sharing system and infrastructure; increase biking by increasing bike stations and bikes (and e-bikes) available for sharing; reduction in the use of Single Occupancy Vehicles and launch of car/ taxi sharing practice and increase of the citizens using sustainable mobility modes

3.2.1.2. Project Partners working on measure, roles and responsibilities

In the table below the involved project partners and their role and responsibilities are described.

Partner	Role	Responsibilities
Tech.University of Crete	Site manager Measure Leader	Local coordination, users' needs and satisfaction surveys, promotional campaign, competition
Rethymno Municipality	Beneficiary	Procurements implementation, monitoring of sharing mobility scheme, location study cooperation with stakeholders
VECTOS	Measure Support Expert Advice	Supports the design of surveys and users need analysis, research and recommendation on mobility sharing schemes. Conducts a study on mobility sharing with recommendation on sharing scheme designs to support behaviour change Provide guidance on how Rethymno can replicate locally the SocialCar app and other apps being developed in DESTINATIONS cities and supports the development of a car sharing mobile phone app in order to deliver a web-based car sharing mobile phone application

Table 5 – Roles and Responsibilities at Rethymno site

3.2.1.3. ITS Technology, system or service requirements

Within the measure, a sharing web-based platform will be operated, integrating sharing modes (car, taxi). Appropriate software will be identified in order to adapt locally and operate a customised web-based sharing mobility platform (multimodal) and a car sharing mobile application, also web based. The platform and the car sharing application will be based on the existing platforms used or recommended by other partners of the CIVITAS initiative.

The definition of functionalities and architecture of the web platform will derive after the analysis and identification of user needs and motivation of potential users (starting on August 2017) and the study of mobility sharing best practices (starting on September 2017).The design of the platform is expected in November 2018.

3.2.1.4. Procurement of services

Procurement of service is foreseen for the development of a web based sharing platform to promote the integrated shared mobility services, including system analysis, IT application development, interface, testing and validation. A tender will be published after the definition of functionalities and architecture of the platform.

TUC will subcontract services for the implementation of a field survey to define potential users' profiles/ motivation and constrains and other service for the APP design.

A graphic designer will be subcontracted for the design of promotional materials, brochures and signage of public kiosks for the sharing platform, in order to achieve strong communicational impact.

3.2.2. Measures ex-ante evaluation

The evaluation of the measure RET 4.2 includes mainly social, transport and economy impact indicators. The data collection for the measure's evaluation is planned in March 2018, August 2019 and June 2020, before, during and after the measure's implementation correspondingly. The initial data collection in March 2018 will provide the baseline for most of the impact indicators.

The impact on society will be measured through:

- **the level of awareness**, in terms of the percentage of citizens and tourists that are aware of the upgrade of the bike sharing system and the new sharing services. The expected value after the measure implementations is 50%.
- **the level of citizens' satisfaction**, in terms of the percentage of cyclists and car share users satisfied with the upgraded bike sharing system and sharing services**.** The expected value after the measure implementations is 30%.

The impact on the transport system will be measured through:

- the **bike sharing cycles and stations per capita**, in terms of number of bikes offered and stations offered to citizens and visitors. Currently, there are 4 bike sharing stations and 24 bikes (none of them electric). At the end of the measure, the bike sharing system will include 20 bike stations, 84 bikes, 10 new e-bikes and 1 e-bike for disabled people in the public bike sharing system.
- **the average modal split-passengers**, as the percentage of people that use alternative modes (bike and car sharing). The current percentage of cycling users is 5%, the percentage of car sharing users is not available. The average modal split towards these modes is expected to increase up to 10%.
- **the average occupancy,** as the average number of passengers per vehicle per trip. Due to the introduction of the car and taxi sharing services, it is expected that the average occupancy will be increased by 5%.

The economic impact will be measured through

- The **capital costs** of the new bike stations and the new bikes, the **average operating revenues** and the **average operating costs** of the bike sharing system in order to present the profit of the extended bike sharing system for the municipality. The economic indicators will be defined at the end of the implementation of the measure.

3.2.3. Implementation Plan

The following lines describe the measure's milestones and timeline:

M1. Implementation plan for the new bike stations (site and infrastructure). Define improvements to the existing system (November 2017)
M2. Procurement procedure for bikes/ e-bikes and related infrastructure (December 2017)
M3. Launch the new bike stations and improved system to the public. Pilot operation (June 2018)
M4. Design of the web platform. Procurement of service (November 2018)
M5. Pilot operation of the web platform (May 2019)
M6. Campaign to promote shared mobility culture, social media, sharing miles campaign for hotel employees etc. (May 2019)
M7. Assessment of the sharing platform operation and users satisfaction (October 2019)

The identification of the appropriate sharing solutions for the web-platform and the car-sharing application is a key factor for success. Desk-search for best practices along with the analysis of users' needs will be the base for the proper solution.

Additionally, the appropriate design for the reallocation of the bike stations and the new points for the extension of the bike sharing network must comply with the identified needs of users.

3.2.4. Risks and constraints

A potential risk for the success of the measure is the insufficient involvement and participation of key stakeholders. In order to mitigate the risk, consultation meetings and strong informational activities with the involved stakeholders will be planned in advance.

Another risk is the low participation of tourists and citizens in car sharing scheme. Local residents are not very familiar with the sharing culture and that might constrain their active participation and use of the sharing platform. For tourists on the other hand, it is a familiar concept, but strong informational/ promotional activities are required to ensure widespread use of the platform and increase of users.

3.3. LIM 4.1 Electric car rental connecting Limassol town with airport and port

3.3.1. Measure Design

3.3.1.1. Detailed description of measure including city context

In Limassol, measure LIM 4.1 provides additional mobility options to visitors arriving at the airport or port and need to travel to the Limassol tourist area. E-car rentals will also be a new sustainable mobility mode for leisure trips. This measure is expected to effectively attract part of the traditional car rental businesses, since it will provide a 24/7 self-service car rental option and will particularly attract visitors searching for greener mobility options.

In cooperation with the Cyprus Electricity Authority, Hermes Airports and Cyprus Port Authorities, EV charging stations have been mapped out. In addition, meetings have been held with car rental companies and their association to introduce the measure and establish e-car station shelters.

This effort is also being supported by the Limassol Municipality, who will provide free parking spots in the region for electric vehicles.

This measure ensures the increase of EV-chargers by at least 7 points in the region and its main getaways (Larnaca and Pafos airports, Limassol port). Signage and maps will be designed and produced for this purpose. Maps (20,000) will serve as the promotional material for the service and will distributed to hotels, tourist information offices and other high traffic points.

3.3.1.2. Project Partners working on measure, roles and responsibilities

The Limassol Tourism Company is the main project leader of this measure. LTC will be responsible for implementing all the activities.

3.3.1.3. ITS Technology, system or service requirements

Limassol will install new EV charging technology. Specifications outlining the functional and technical characteristics and the construction of the shelters have been identified in collaboration with the Electricity Authority of Cyprus.

3.3.1.4. Procurement of services

A call for the procurement process will be published for the installation of e-car shelters in collaboration with the Cyprus Electricity Authority. A separate tender will be announced for the installation for the relevant signage.

3.3.2. Measure ex-ante evaluation

The baseline data is necessary to assess subsequent changes resulting from the CIVITAS measures. For this measure, baseline data will be collected by carrying out surveys, estimations and through data collection. Limassol has identified the impact indicators that will allow the evaluation of the measure's implementation. It is estimated that Limassol will have the baseline data by project month 10, July 2017

3.3.3. Implementation Plan

- **Meetings with car rental companies (November 2016 – February 2017)**

Limassol has undertaken several meetings with key stakeholders, such as, car rental companies and associations in which project and measures were presented as an incentive for future development.

- **Meetings with airports and port authorities as well as local authorities for locations of stations (January 2017- March 2017)**

Meetings have taken place with local authorities to determine locations of EV charging stations.

- **Meeting with Electricity Authority of Cyprus – Specifications (February 2017)**

Selecting potential suppliers and on-site visits to determine specific locations for shelters. (April 2017)

In collaboration with the Electricity Authority of Cyprus, specification and locations for the shelters have been determined.

- **Implement a cooperation plan between the authorities (April 2017-June 2017)**

Limassol is in the process of implementing a cooperation plan between the authorities.

- **Purchase of shelters – construction of infrastructure - (April 2017-June 2017) - Preparation of tender documents, Evaluation and contract with the subcontractor (July 2017-September 2017)**

Limassol is investigating the possibility to purchase the shelters from the Cyprus Electricity Authority in the context of its project to expand of EV charging system in Limassol area. In this case Limassol will not require a procurement procedure.

3.3.4. Risks and constraints

No risks and constraints have been identified for this measure.

3.4. Collaboration among DESTINATIONS Sites/partners

Measure Title	Best Practice requirements: user needs, stakeholder involvement or measure design?	Supplier of BP?	Synergies	Details of planned exchanges between measure leaders
ELB 4.1 Elba Sharing Mobility Agency	Bibliography on the concept of shared mobility services agency could be shared in relation to the main functionalities, technology and organisation/operation beside the Business Model	Elba (PF, RM)	RETHYMNO	The exchanges will take place once RETH will start the design process, during project meetings and conference calls
ELB 4.2Car/scooter/ bike/boat (CSBB) sharing	The Ride Sharing mobility services based on the "notice board" approach could be shared in terms of use case and main functionalities and the role of a dedicated APP	Elba (PF, RM)	RETHYMNO	The exchanges will take place once RETH confirm the measure and activities around the ride sharing platform
ELB 4.3Ride Sharing Platform	Some indications on the concept, the main functionalities and architectural options could be shared. The design of the platform and the procurement documents (selected translation) could be shared if requested. The APP and Web media channels functionalities and approach could be shared.	Elba (PF, RM)	RETHYMNO; CIVITAS Program	The exchanges will take place once RETH confirm the measure and activities around the ride sharing platform. AT CIVITAS program level the general approach and the main functionalities could be provided using a web seminar to organised under the DESTINATIONS WP10
ELB4.4Increasing feeling of security among Elba sharing users tracking for sharing service users	These measure, as indicated in the specific Elba needs, requirements and design sections is related to a specific functions of the APP managed by the Ride Sharing platform	Elba (PF, RM)	RETHYMNO	The exchanges will take place once RETH confirm the measure and activities around the ride sharing platform
RETH 4.2Building a sharing mobility culture – Sharing mobility campaign	Exchange of experience on developing sharing platform and launch of a multimodal sharing scheme	VECTOS, PF	Elba	The exchanges will take place once RETH will start the design process, during project meetings and conference calls

	Promotional material for the expanded public bike sharing system. Best practices for operating costs: system operations (maintenance of all equipment, rebalancing of bicycles, customer service operations, website and IT support), administration, marketing and the utility costs associated with the bike stations. Public bike services tariffs in other cities (benefits for regular users, monthly card, daily tickets etc.)	MEMEX, VLC, LTC	LPA, MALTA and LIM	Exchange on expanding bike sharing system
LIM 4.1Electric car rental connecting Limassol town with airport and port	**Incentives:** The Limassol Municipality will provide free parking spots for electric vehicles, encouraging like this more tourists and locals to use e-cars. The possibility of free parking spots has also been introduced to different local authorities. Additionally, the zero road tax for e-cars is an incentive for car rental companies to consider increasing the number of available electric vehicles for rent. Structured campaigns on electro-mobility (4.3) will focus on raising awareness on the incentives for renting/buying an e-car	LTC	-	No other sites have similar measures with LIM 4.1. After the implementation of this measure, Limassol will share knowledge and best practices with other sites.

Table 6 – Synergies and cross exchange for Ride Sharing Mobility Services Measures (A)

The measures ELB4.1 (and related ELB4.3) and RETH 4.2 are closely interrelated since they both concern the development of a web platform dedicated to plan, manage and coordinate different ride sharing services. However, the implementation of the measures is foreseen and scheduled in different times: while the design of Elba Sharing Mobility Platform has been finalised, the design of RETH web platform will be performed next year. Elba will share with RETH the procurement documents (a translation of focused and selected part), the best practices on main platform functionalities and the aspects related to the organisation, the promotional launch of the mobility platform, the identified ride sharing schemes, the relation with the Sharing Mobility Agency concept.

4. Design of New and extended e-Bike systems

4.1. LPA 4.1 Public e-bike system

4.1.1. Measure Design

4.1.1.1. Detailed Description of Measure to be implemented including city context

Nowadays, Las Palmas de Gran Canaria has a public bike system with 150 bikes distributed in 13 anchors points. Furthermore, a master plan of the bicycle has been developed, which has established the guidelines to achieve a better sustainable urban mobility by increasing the number of urban trips by bicycles (building bike lanes, improvement of public bike system, mobility policies, facilities, etc.).

The current public bike system is going to be improved and enlarged by adding e-bikes and smart bikes. This measure includes the purchasing and implantation in Las Palmas de Gran Canaria of 42 new stations (5 of them will be smart totems that are going to be placed at touristic areas), 520 anchor points, 20 e-bikes, 375 conventional smart bikes and 2 adapted bikes accessible for the physically impaired.

District	number	Bike station	District	number	Bike station
Cono Sur / Vegueta	1	Ciudad Deportiva Gran Canaria	Mesa y López / Guanarteme	24	Base naval
	2	C.H.U Insular		25	Av. José Mesa y López (Corte inglés)
	3	Paseo San José, Campo de fútbol		26	Plaza de España
	4	Ciudad de la Justicia		27	IES Mesa y López esquina Daoiz.
	5	Plaza de San Agustín		28	Plaza de América
	6	Catedral de Canarias		29	Plazoleta de Farray
Triana / Alcaravaneras	7	Gabinete Literario		30	Churruca
	8	1º de Mayo esqu. San Bernardo		31	Plaza del Pilar
	9	Teatro Pérez Galdós		32	Intermodal el Rincón
	10	San Telmo	Zona Alta	33	C.C. La Minilla
	11	Cabildo de Gran Canaria		34	Canódromo (eléctrica)
	12	Plaza de la Feria		35	Parque de las Rehoyas
	13	Obelisco (Biblioteca)	Santa Catalina / Puerto	36	Parque Santa Catalina
	14	León y Castillo con Carvajal		37	C.C. El Muelle
	15	Tomás Morales esq. Carvajal		38	Aparcamiento Muelle del Sanapú
	16	Plaza Doctor Rafael O'Shanahan		39	Luis Morote
	17	Oficina Sagulpa (eléctrica)		40	Woermann
	18	Paseo de Chil - Barranquillo		41	Castillo de la Luz
	19	Julio Navarro		42	Plaza Ingeniero Manuel Becerra
	20	Ayuntamiento de Las Palmas GC			
	21	Paseo de Chil con Escaleritas			
	22	Torre Las Palmas			
	23	Parque Estadio Insular			

Table 7 - SAGULPA. Smartbike stations

The accessibility for tourists and citizens will be improved with information and new fares that will allow visitors and residents to go for a bike ride along the city of Las Palmas de Gran Canaria.

There will be new stations and digital kiosks around the city, enhancing the most touristic points, such as the cruise terminal and the new Aquarium. There will be information in the

tourist information points and on the corporate web and app in order to reach the tourists through the most proper channels.

4.1.1.2. Project Partners working on measure, roles and responsibilities

The main partners of Civitas Destinations working in this measure is SAGULPA as the company in charge of the public bike system in Las Palmas de Gran Canaria as well as the Municipality of Las Palmas de Gran Canaria in charge of the mobility and city planning service.

4.1.1.3. ITS Technology, system or service requirements

The public bike service to be developed by SAGULPA in the city of Las Palmas de Gran Canaria will have 375 conventional smart bikes with an on-board computer that will transmit the service data to the central servers by GSM. The bicycle will have a small solar panel that will supply electrical current to the computer. It will also have a battery and dynamo to supply current to the lights and computer through pedaling.

Figure 14 - SAGULPA. Smartbike

There will be 20 electric bicycles to carry out a pilot test that allows promoting the cycling and sustainable mobility between the high city and the low city of Las Palmas of Gran Canaria.

Figure 15 - SAGULPA. e-Smartbike

On the other hand, we will have 42 new bike stations, 35 Smartsigns (that will allow us to give information of the service and receive bicycles signal in the range of configured distance), and 5 terminal flats to access to the bike sharing service and to offer information in real time of the state of the public bike system.

Figure 16 - SAGULPA. SmartSigns and Terminal Flat

Finally, there will be 525 bike docks that will allow customers to pick up the bicycle when they stop using it. (20 of these bike docks will be available for electric bicycles).

Figure 17 - SAGULPA. Bike docks

There will be several types of fares for citizens and visitors to use the bike sharing system, (annual, monthly, weekly, and even a minute's tariff for any user who wants to have the opportunity to enjoy the bike).

The technologies used to communicate with various systems follow the standards of wireless communication (WIFI, GSM, and 3G).

4.1.1.4. Procurement of services

The Public Bike System of Las Palmas de Gran Canaria was tendered in 2016 and the winner of the supply of all bicycles, bike docks and terminals is the German multinational Next.

Our system is the same as those found in cities such as Valetta and Limassol, so we can establish policies for pooling procedures and sharing experiences in the different aspects related to the system (such as pricing policies, value-added, services, etc.)

4.1.2. Measure ex-ante evaluation

For this measure, baseline data will be collected by estimations and through data collection. Las Palmas de Gran Canaria has identified the impact indicators that will allow the evaluation of the measure's implementation.

4.1.3. Implementation Plan

Tender supply (September 2016-July 2017)

At this stage, the supply of all bicycles, bikes docks, terminal flats, smartsigns, as well as the computer system, has been awarded, being Next Bike the winning company.

Since January 2017, when the tender supply was awarded, SAGULPA has been working on the image of the bicycle and the configuration of different elements. This task will be completed during the month of July when the equipment will arrive.

The design of the bicycle (at the expense of a sponsor image and a change of brand for the service) is shown below.

Figure 18 - SAGULPA. Smartbike design for Las Palmas de Gran Canaria

Economic study of the public bicycle system implementation (March 2017- July 2017)

At this stage, the economic study of the service has been carried out, which includes the establishment of tariffs for the use of the service.

Tender logistical support service, maintenance and installation of new points (May 2017- August 2017)

SAGULPA has been preparing the documentation for the tender of logistical support service, maintenance and installation of new bike stations. With this tender, the immediate deployment of the entire network is sought in the shortest possible time.

This tender was launched during the month of June and it is still in process (it is expected to be awarded by the end of July).

Start up (August 2017-December 2017)

SAGULPA will launch the new system, during the month of September 2017. It is expected that after 3 months the entire network of bikes station will be deployed. During the beginning of this period, communication and promotion campaigns of the new system will be carried out (new tariffs, the new procedures to use the System, as well as the benefits will be announced).

4.1.4. Risks and constraints

Among the risks of this measure, it is worth mentioning the proceedings of the city council to obtain the approval of the service, since a new tariff policy is established. It has to keep in mind that the current service is for free and has many shortcomings.

4.2. LIM 4.2 Expansion of public bike sharing system, include e-bikes

4.2.1. Measure Design

4.2.1.1. Detailed Description of Measures to be implemented including city context

In Limassol, for measure LIM 4.2, the public bike sharing system is expanded in cooperation with the main bike sharing company which will increase the number of stations (10) and bikes (120) available in the region. Five new bike parking points will be created by the project to serve the cycling paths available in the region. Other bike rental companies will also be encouraged to increase the number of bikes and add electric bikes for rental, so as to cover the needs of less athletic people or senior citizens.

To date, several meetings have taken place with bike sharing company (Next Bike Cyprus, Cyprus Cyclist Association) and local authorities to determine the locations of parking stations. Three bike parking facilities are ready to be placed in the Limassol city centre creating new hotspots for bike sharing system, so that tourists and residents will have the opportunity to visit places of interests. The two bike parking facilities to be installed in the rural areas are independent from the bike sharing company and for general use.

Accordingly, 3 additional stations to be installed at the following points and as per the below map:

- ✓ Arch. Makariou Avenue, opposite Costa Coffee
- ✓ Arch. Makariou Avenue, in front of Bank of Cyprus / Debenhams Apollo
- ✓ New Port / Arrivals area

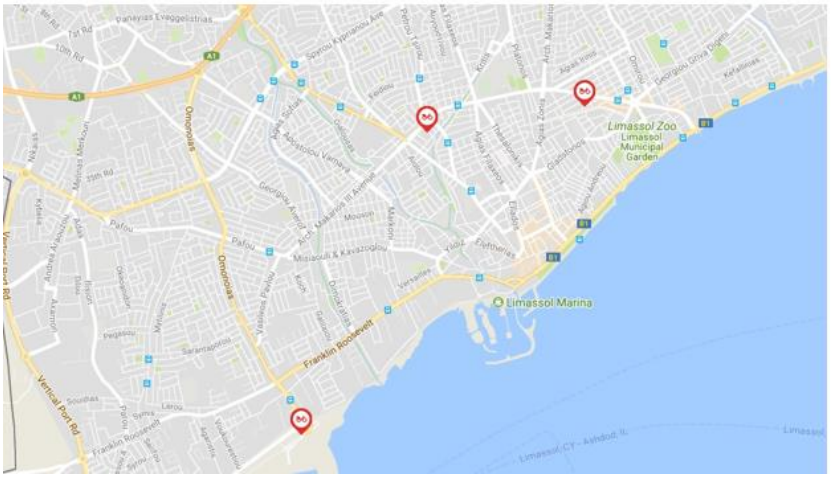

Figure 19 - New parking facility stations in Limassol city center

Regarding the bike parking, facilities are ready to be placed in the rural areas. LTC is in discussion with the Mayor of the district interested in order to finalise the exact locations.

These new station areas will allow the transportation of tourists to and from locations which are busy with restaurants, cafes, shops and other service points etc., either directly from the arrivals terminal at the port or from any other terminal of the existing bike sharing network. In combination with the existing stations, the tourists will have access to more areas in the city of Limassol enabling them to carry out shorter distances, to park / return their bikes and to visit the amenities offered in each area.

4.2.1.2. Project Partners working on measure, roles and responsibilities

Project Partner	Role	Responsibilities
Limassol Tourism Company	Lead Partner	- Meetings with the bike sharing company, local authorities for locations of stations and planning approval for new stations, potential investors in order to get funding to expand the bike schemes, bike rental companies to increase the number of bikes and e-bikes available for rent - Selecting possible new locations and onsite visits to determine specific locations - Creation of 5 new bike parking stations, 10 stations and 120 new bikes in the bike sharing system - Publicity efforts for new stations and increased number of bikes

Table 8 - Roles and Responsibilities in implementing Limassol 4.2 measure

4.2.1.3. ITS Technology, system or service requirements

The bike sharing company in Limassol will install three bike parking stations and terminals. The terminals will operate with the solar panel that will supply electricity to the touch screen display, RFID card reader and smart box.

Figure 20 – Next bike Cyprus Terminal station

The Next bike smart box FVZ2 serves as the central processing until for all stations electronic components. It fits to the Next bike terminal and can be integrated into individually designed kiosk structures. The smart box FVZ2 is a mandatory component for all stations with display and payment modules.

The touch display serves as the central interface for dynamic information and customer interaction. With its encapsulated build it is optimised for outdoor environments.

Figure 21 - Smart box FVZ2

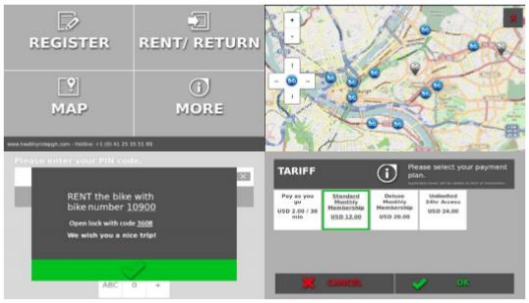

Figure 22 - Touch display FVT4

As an optional upgrade a PoS system enables walk-up users to accelerate the registration and payment process with all valid credit and debit cards. Depending on the country we either use products from Verifone or Ingenico

Figure 23 - PoS Payment System

4.2.1.4. Procurement of services

Limassol does not require any procurement of services for the implementation of this measure. Next bike CY Ltd is the exclusive representative and the trademark next bike, and is the only license holder and operator of the next bike terminals and bikes in Cyprus.

4.2.2. Measure ex-ante evaluation

For the measure LIM4.2, two impacts category has been identified for the ex-ante evaluation: Society and Transport Services

- Society: The impact indicators identified under this category is ‘’Acceptance level’’ and ‘’Awareness level’’. For the baseline data collected though surveys, only 15% out of the

200 participants were aware of this measure. It is expected that more than 75% will be aware and accept this measure (ex-ante).

- Transport: The impact indicators identified under this category is the ''Extent of on-street cycle network'', ''Opportunity for active mobility'' and ''Bike sharing bikes and stations per capita''. The baseline data for ''Extent of on-street cycle network'' was estimated to 263.9 Km. It is estimated that the network will expand to 265.9 Km (ex-ante). For the ''Opportunity for active mobility'', the baseline data estimated for the length of bike lanes is 263.9 Km. It is estimated that the bike lane will extend to 265.9 Km (ex-ante). The baseline collected for the "Bike sharing bikes and stations per capita'' impact indicator is 172 bikes. It is expected that by the end of the project, the total number of bikes will be 292 (ex-ante).

4.2.3. Implementation Plan

- **Meetings with the bike sharing company (November 2016- March 2017)**

Limassol has held several meetings with the main bike sharing company, bike rental companies and associations to introduce the project and measure, determine locations for the installation of the bike parking stations and expansion of the bike sharing fleet and possibility of purchasing e-bikes.

- **Meetings with local authorities for locations of stations and planning approval for new stations (February 2017-March 2017)**

Limassol has received the appropriate permissions and approvals for the installation of the bike parking stations.

- **Selecting possible new locations and on-site visits to determine specific locations (March 2017)**

Potential new locations have been determined for the installation of the bike parking stations.

- **Creation of 5 new bike parking stations (April 2017- August 2017)**

The bike sharing company in Limassol is ready to install the three bike parking facilities in the city centre of Limassol in order to expand its network, in addition to another two independent bike parking facilities to be installed in the rural areas of Limassol region.

- **Addition of 10 stations and 120 new bikes in the bike sharing system (April 2017- February 2019). Meetings with bike rental companies to increase the number of bikes and e-bikes available for rent (April 2017- February 2019)**

The bike sharing company and rental companies in Limassol intend to expand their fleet by adding stations, bikes and e-bikes.

- **Meetings with potential investors in order to get funding to expand the bike schemes (April 2017- February 2019)**

The bike sharing company in Limassol is investigating the possibility to attract investors for the expansion of the bike sharing system.

4.2.4. Risks and constraints

The bike sharing system in Limassol has been very successful in the past few years and has encouraged a lot of people to take up cycling. By increasing the number of bikes, more people will have the chance to use the system and users will have the option to cycle to new areas, since the system will allow the user to leave/park their bike at any station of the network.

One of the main barriers for implementing this measure is financial, since CIVITAS DESTINATIONS project does not have an allocated budget to invest in the purchase of e-bikes and bikes; it relies on private bike sharing companies and bike rental companies to make this investment. In regards to this, Limassol has undertaken several meetings with bike sharing and rental companies to introduce and promote this measure and discuss the possibility of increasing their bikes and e-bikes available for rent.

4.3. MAL 4.1 Promoting e-bike sharing and car sharing

4.3.1. Measure Design

4.3.1.1. Detailed Description of Measures to be implemented including city context

In Malta, measure MAL 4.1 is implemented as part of WP4 which revolves around educating the public on the innovative approach of shared mobility. This measure consists of an information and awareness raising campaign which will be launched nationwide to promote the services of e-bike and car sharing as an affordable, safe and viable, alternative transport mode. The campaign will also educate the public on cycling safety, in a bid to address the issue of lack of popularity of cycling as a means of commuting in Malta, mainly due to the perception of it being unsafe. The campaign will therefore also focus on the safety regulations and educate road users how to share the road safely with cyclists.

The concept of both car sharing and e-bike sharing services are new to the island of Malta. While residents may have encountered the services while abroad, the majority of the population need to be educated on how the systems work and the advantages which can be received from utilizing these services, before they can be convinced to opt for them instead of continue relying solely on private cars. For this reason, an information and awareness campaign is crucial to run in parallel with the introduction of the services.

In order to feed a meaningful campaign, a study has been commissioned in order to assess the cost of owning a car in Malta and compare said cost with the cost of using shared services. This will take into consideration various expenses associated with private car ownership including the initial cost of buying a car, depreciation costs, maintenance costs, fuel, insurance, road license, buying/renting a garage etc. The results will be used to design and formulate **a Marketing Plan**. This factual information will make the campaign more effective as the public will be presented with current information which they can evaluate.

The campaign shall use various media including national television, radio broadcasts, social media as well as printed material to be disseminated to the general public.

The goal from this specific measure is to reduce CO_2 emissions, improve the general air quality levels and contribute towards the reduction of congestion.

Car sharing stations will be launched as close to public transport infrastructure as possible in order to facilitate intermodality. Government has recently launched a concession tender to introduce car sharing services on the island which will support this move. Moreover parking slots specifically reserved for car sharing vehicles will be identified and marked accordingly. This will encourage the use of the service since users will always be able to find a parking space wherever they use the service, therefore saving time and resources in driving around in search of a parking space.

The project will seek to strengthen the competitiveness of local mobility operators and stakeholders in the provision of high quality and innovative mobility services.

Mobility initiatives can work to achieve positive social change and improved health conditions. New trends in active mobility, shared mobility and smart phone applications, can be easily tailored to meet the specific needs of **tourist** minority groups, mobility impaired and different generations.

New services and infrastructure will be designed with high safety standards which will offer mobility users the most secure journey experience. The impact will be a reduction in the perceived and actual safety issues of walking, cycling and using public transport. This should result in a sustainable modal shift and therefore less emissions (namely NOx, CO_2, PM2.5 and PM10) which will bring about an improved air quality and a decrease in respiratory illnesses in our cities. Through increased walking and cycling, there will be reduced cardiac illnesses caused by sedentary behavior. Mental health will also improve from a population with greater mobility autonomy and access to mobility needs.

4.3.1.2. Project Partners working on measure, roles and responsibilities

The main partners of Civitas Destinations working in this measure is Transport Malta as measure leader and the University of Malta as local evaluation manager.

4.3.1.3. ITS Technology, system or service requirements

The general objectives from this information and awareness campaign is to encourage sustainable transport behavior among tourists and residents, to educate the public on available alternative transport options and as a result of more sustainable transport modes being used, reduce the emissions from road transport and improve the local air quality. More specifically this measure will encourage cycling as a viable mode of commuting, encourage a modal shift from private cars to alternative, more sustainable modes of transport and reduce traffic congestion and journey delays especially during peak hours.

Since in Malta this measure involves an information and awareness raising campaign and hence no installation of physical equipment is required, no functional and technical characteristics are available.

For the purpose of formulating the campaign message, the facts from the study shall be used, emphasizing on the idea of cost savings rather than the possible benefits to the environment. This is based on our experience that unless the message directly targets what the individual may tangibly gain, especially financially, the concept would not be taken up by the public. The financial advantages of option for car sharing shall be studied by an expert who will be contracted by means of a Call for Quotations which was published during M8. The results of

the study shall contribute to the formulation of the messages to be disseminated in the campaign.

Apart from the results of the financial study, the campaign shall also be based on experiences of both car sharing and bike sharing services as implemented in other countries. Therefore, in designing the campaign TM shall make references to any best practices available in this field.

The campaign itself shall be launched over a 3 month intensive period with monitoring of its success taking part in 3 stages – before, during and after the campaign. Monitoring will be done by conducting surveys from a sample section of the target audience. The mid-campaign survey will help the project team to adjust the campaign strategy if it is found to be less effective than initially planned.

4.3.1.4. Procurement of services

A call for quotations has been published for the procurement of an expert to carry out the study on the cost of owning a car in Malta and a separate tender for the marketing campaign.

A separate tender shall be published for the design of an effective marketing campaign, including artwork and publication of material. The below figure describes the workflow that the Contracting Authority and Economic Operator users follow to complete a procurement process.

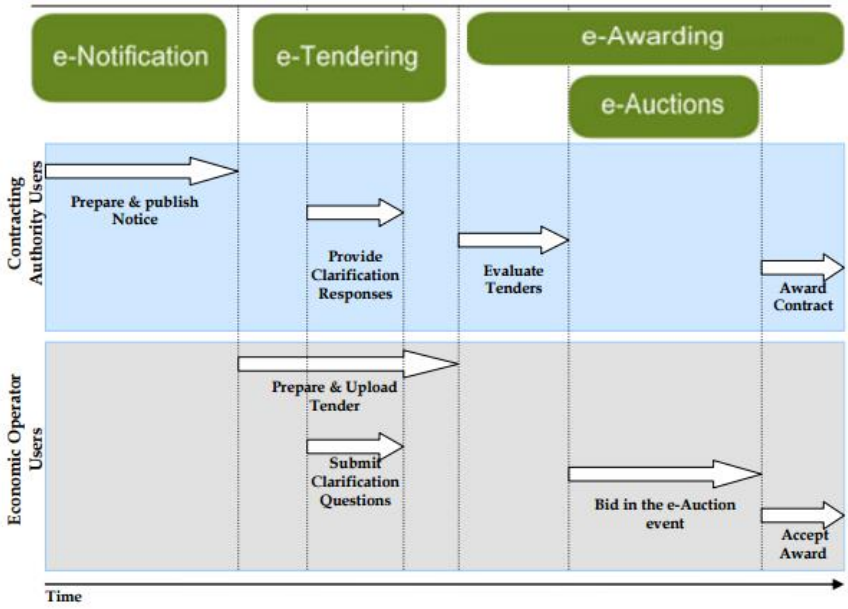

Figure 24 – Procurement Process workflow

4.3.2. Measure ex-ante evaluation

Surveys targeting the general public will be carried out before, during and after the information and awareness campaign. These will measure the awareness and acceptance level of the campaign by the public. The baseline survey (at month 17) will get an insight of the citizen's perception of the new e-bike and car sharing services prior to the launch of the information and awareness campaign. The results of the second survey at month 22 will allow changes

and shifts to the campaign to make it more effective. The final survey at month 26 will again focus on public acceptance and awareness and will indicate the overall success of the 3 month information and awareness campaign

4.3.3. Implementation Plan

The measure is implemented in five stages as outlined below.

- *Baseline Data Collection (April 2017 – January 2018):*

Through desk top research, surveys and data are being collected as part of WP4 baseline data. Baseline data will also be used to measure the success of the campaign, after its completion. This phase includes tender preparation for the procurement of an expert to carry out a study.

- *Formulation of the Campaign Message (April 2017 – May 2017):*

A study was commissioned in order to assess the average cost of owning a car in Malta. The study is considering the capital investment of purchasing the car, its depreciation over time, the cost of renting/owning a garage, fuel, maintenance, insurance, annual taxes etc. Once concluded, the results from the study will be used in the campaign to make the public aware of the costs that would be saved if they opt to sell their vehicle and rely only on the public forms of transport available, particularly e-bike and car sharing. The latter will be promoted as a flexible means of public transport, unencumbered by routes and schedules.

- *Campaign Design (June 2017 – July 2018):*

Based on the above and the importation of best practices, a Marketing Plan is being drawn taking into consideration the messages to be disseminated, the media to be used to disseminate the message, the promotional material to be used based on the different target audiences as well as the campaign timelines.

- *Preparation for pilot (June 2017 – December 2017):*

In parallel with the above, a preparation phase is ongoing. This includes the procurement of an expert to compile the study on the cost of owning a car. The results from this study will feed the Marketing Campaign. Following this, or possibly at the same time, there will be the subcontracting of marketing expertise. As part of this tender, the marketing personnel will design and produce the promotional material. Finally, data analysts will be procured in order to monitor the success of the campaign.

- *Launch of Campaign (May 2018 – July 2018):*

Once the marketing campaign has been designed, this will be launched. Periodic surveys will be held to monitor and gauge the success of the campaign.

Surveys will be carried out to monitor the progress and success of the information and awareness campaign. These will be at Month 17, Month 22 and Month 26.

4.3.4. Risks and constraints

In Malta, cycling is considered as a purely leisure activity and very few people cycle as a mode of transport In fact, cycling represents a mere 0.27% of the modal split. In recent months, a

private initiative has seen the deployment of e-bike sharing stations in most localities around the islands of Malta and Gozo, and yet, the public still perceive cycling too unsafe as a commuting option. In this regard, Cycling Safety education is highly necessary.

General election in the first half of 2017 has slowed down tender activities significantly which has pushed back implementation start dates.

4.4. Collaboration among DESTINATIONS Sites/partners

Measure title	Best Practice requirements: user needs, stakeholder involvement or measure design?	Supplier of BP?	Synergies	Details of desired exchanges between measure leaders
LIM 4.2 Expansion of public bike sharing system, include e-bikes	The bike sharing rental company in Limassol offers free cycling rides on a weekly basis and organizes various events to promote cycling. i.e.: Limassol Lady on Bike parade and Friday cycling around the city. The bike sharing company provides a certain number of bikes free of charge	LTC	LPA, RETH MAL	Share information and knowledge on the expansion of e-bike sharing systems and the implementation of campaigns for 4.3
LPA 4.1Public e-bike system	# **bike sharing management structure.** # **How to produce a business plan** including: Business pro-forma, potential revenue sources including grants, financially sustainable and transparently. sustainable capital funding for system growth and ongoing equipment replacement # **Strategies for decreasing operating costs**: # **Public bike services tariffs in other cities** (For residents and tourists, annual, months, daily, etc.) Master Plan of the bicycle	-	RETH; MAL	Share of information on existing tariffs

Table 9 - Synergies and cross site exchanges of New and Extended (e) bike systems measures (B)

Sites involved in this measure will share knowledge and information on the organisational and operational aspects of bike-sharing systems (applied model, operation by the municipality or private operator, tariffs, impacts on the traffic) during the scheduled project meetings and conference calls foreseen throughout the project development. The possibility to share information and practical/operational observations on the support conditions (e.g. availability of bike lanes, parking areas, bike park device, vertical and horizontal signs, etc.), and options (free floating schemes vs station based schemes etc.) referring if possible to some other EU cities experiences will also be explored during physical meetings.

In Las Palmas de Gran Canaria, for example, a Master Plan of the bicycle has been drafted (in 2013 and recently updated), and several features and actions for a future bike network were collected (bike lanes, bike stations, management, promotional campaigns). Information and best practices on this will be shared with other interested partners. Design of Shared e-Charging Infrastructures

4.5. ELB 4.5 EV legislation revision and charging infrastructures in Elba

4.5.1. Measure Design

4.5.1.1. Detailed Description of Measures to be implemented and city context

The measure ELB 4.5 foresees:

a) the development of a regulation which will represent guidelines to be followed by Elba Municipalities, fostering the use of clean vehicles, in particular EV and PHEV. These rules include several aspects and incentives, i.e.: free parking in the blue line parking lots, free circulation in the LTZ, free charge of the batteries at dedicated "green" reserved parking lots, etc. This regulation will be also included in the SUMP development.
b) the possible implementation of charging stations with dedicated parking lots that will be installed by the Municipalities of Portoferraio and Rio in some key locations at no operational cost for the project but funded by other Municipalities sources. The Municipalities are currently evaluating the economic feasibility of this installation.

This measure is part of the most general policies aimed at boosting the use of EV and PHEV that the island of Elba is pursuing with the aim of guiding citizens' behavior towards more eco-sustainable mobility. The objective is also to increase the attractiveness of Elba Island for tourists by creating support conditions for the adoption of clean vehicles with the aim to reduce CO_2/noise emissions and energy consumption, thus reaching a better environment quality.

There are few electric cars circulating in the island (exclusively belonging to private owners) and lack of specific regulations fostering their use. At present there are no public charging stations available in the whole island.

The Municipalities of Rio and Portoferraio have carried out an intensive activity in order to address all the different aspects to be dealt with, in particular:

- Analysis of the current existing situations at national level related to the electric mobility in urban areas;
- Analysis of the current situation regarding urban mobility at local level;
- Identification of possible incentive measures and definition of the ones actually applicable in the different contexts of the eight municipalities of Elba Island, such as:
    - Permit to circulate EV and PHEV in the LTZ;
    - Free unrestricted parking in the pay stalls for EV only vehicles;
    - Stops up to 5 hours in the charging parking lots.

In the next months the Municipalities will be involved in the following activities:

- Harmonisation of the identified incentive measures and related rules;
- Elaboration of the common regulation fostering the use of clean vehicles, in particular EV and PHEV;
- Presentation of the common regulation to the eight Municipal Councils.

Nowadays, the electric car market plays an important role in achieving a significant reduction in CO_2 emissions in urban areas. In fact, electric vehicles are one of the most promising technological ways to reduce the use of oil and CO_2, although a variety of eco-friendly technologies for EV under is still under development.

As previously indicated in Elba island there is not a specific regulation fostering the use of EV and PHEV and there are no public charging stations available in the whole territory.

Despite this, the incentives for the use of ecological vehicles are fully integrated into the overall environmental strategies and policies defined in the "Action Plan for Sustainable Energy in the Elba Island" (Piano d'Azione per l'Energia Sostenibile – PAES") which was signed by the 8 Municipal Administrations on the year 2012 and the Province of Livorno. The PAES demonstrate the willingness of the 8 Municipal Administrations to make Elba a zero-emission island through concrete interventions, thus qualifying it as a sustainable tourist destination.

4.5.1.2. Project Partners working on measure, roles and responsibilities

Portoferraio and Rio Municipalities are primarily involved in the coordination of the Municipalities for the definition of the specific EV regulations as well as in the local stakeholders' engagement in order to define the key points to install the charging stations.

4.5.1.3. ITS Technology, system or service requirements

The only technological element of this measure will consist of the charging stations that will be installed and operated at no cost for the project.

Thanks to the rapid evolution of technological components (especially batteries and accumulators electronic control systems) the EV and PHEV market has experienced strong development with a significant increase of the circulating vehicles.

At the current state of the technology, most stations have 4-5 hours of recharging time, so it is difficult to imagine their presence at normal service stations. In recent times there has been the introduction of medium and fast charging columns, but for the time being, they cannot be used by all electric vehicles.

Figure 25 – Example of EV charging station

Charging stations must comply with IEC 61851-1. The standard includes control electronics that uses a "universal" communication system between the station and the vehicle through a Pulse Width Modulation (PWM) circuit, required to ensure the security of the charging process, both for people and for avoiding possible damages to the battery pack of the vehicle. An example of the stalls is provided in Fig.24.

4.5.1.4. Procurement of services

For the implementation of the measure it is not foreseen any procurement but specific agreement with the energy providers.

4.5.2. Measure ex-ante evaluation

The measure ELB4.5 will mainly impact on Society and Energy.

The impact on Society will be measured through the level of acceptance, namely the **Citizens/ Tourists Satisfaction Index** (%). It is expected that 90% of citizens/tourists will be satisfied by the adoption of the new EV legislation. The data are being collected in the following way:

- Baseline data have been collected during the month of March 2017 (M7);
- Intermediate data will be collected once during the implementation, at month 24; and
- Final data will be collected after the end of the implementation, at month 44 (April 2020).

The impact on the Transport system will be measured through:

- The **number of EVs owned by Elba citizens** in 2020. Starting from a zero baseline, it is expected that the n° will reach 10 (ex-ante evaluation).
- Energy consumption, in terms of KWh /year consumption for charges. It is expected to reach 1,110KWh (3,7KWh x 300 cars).

These data are collected in the following way:

- Baseline data have been collected during the month of March 2017 (M7); and
- Final data will be collected after the end of the implementation, at month 44 (April 2020).

4.5.3. Implementation Plan

The table below summarizes the milestones description, foreseen deadlines and status of progress for the measure ELB4.5:

Milest. n°	Milestone description	Milestone verification	Project month	Status
Design and specifications				
M4.5.1	EV access and parking normative in Elba island defined	Municipal regulation approach	12 – August 2017	In progress
Implementation				
M4.5.3	EV charge stations installations and vertical and horizontal signals completed	Photos	24 – August 2018	Future
Demonstration				
M4.5.4	EV charge stations fully operative	Testing report	26 – October 2018	Future

M4.5.5	EV normative fully defined	Municipal act	24 – August 2018	Future
Evaluation				
M4.5.6	Data collection on EV charge stations completed	Interviews internal report	36 – August 2019	Future
Communication and dissemination				
M4.5.7	Citizen/tourist information campaign start up	Press, dissemination/information materials	24 – August 2019	Future

Table 10 – ELB 4.5 Implementation Plan

4.5.4. Potential risks and constraints

At the moment, there are only a few private electric cars in Elba mainly due to the lack of EV-charging stations, and the lack of awareness about electric modes and their benefits. The main barriers for the implementation of this measure are financial, in terms of finding the necessary resources for installing at least 1 recharging station, and cultural in the sense of the possibility to locate recharging station in relevant attraction points

4.6. LPA 4.2 Fast charging EVs

4.6.1. Measure Design

4.6.1.1. Detailed Description of Measures to be implemented including city context

Before Civitas DESTINATIONS, Las Palmas de Gran Canaria public parking company had 3 electric vehicle charging points at one of its public parking facilities. Moreover, SAGULPA had an electric van and a Twizy mini car in its fleet. The use of electric vehicles has been encouraged by the purchase of 6 charging points at public parking facilities and 3 electric mini-vans for SAGULPA's fleet.

This measure provides the possibility to visitors and residents of Las Palmas de Gran Canaria to charge their electric vehicles while they are shopping, working, sightseeing, etc.

In the promotion campaign special attention will be paid to the rental car companies in order to encourage them to include EV's in their fleets and to promote the existing fast charging infrastructure among their clients.

The main objectives of this measure in Las Palmas de Gran Canaria are:

- Increased satisfaction about the quality of mobility services.
- Reduction of noise, emissions and fuel consumption.
- Promotion of more sustainable ways of transport for tourists and residents.
- Increase the use of electric vehicles.
- Reduce barriers to taking up EV.
- Introduction of new e-mobility technologies.
- Raise awareness amongst citizens about sustainable mobility benefits.
- Increase the awareness among visitors about sustainable mobility options.

- Widely share and communicate the sustainable mobility experiences and outcomes with the citizens and the key local stakeholders.
- Shift of travel behaviour of tourists towards more sustainable modes.

The idea is that EV users will pay the same fare as any other users for parking their cars at public parking areas. However, EV owners will be able to charge their e-cars for free. Free charging for e-cars, and e-chargers available in several points along the city, will be an incentive for the uptake of electro-mobility not only for residents but also for visitors and rental car companies to foster the acquisition of this kind of eco-friendly vehicle.

4.6.1.2. Project Partners working on measure, roles and responsibilities

The main partners of Civitas DESTINATIONS working in this measure is SAGULPA as the company in charge of the public bike system in Las Palmas de Gran Canaria as well as the Municipality of Las Palmas de Gran Canaria as in charge of the mobility and city planning service.

4.6.1.3. ITS Technology, system or service requirements

3 recharge points (1 slow and 2 semi-fast) have been installed in the parking lot "El Rincon" and another 3 (1 slow and 2 semi-fast) in the parking lot "Subida de Mata". The chargers brand is CIRCONTROL Wallbox of 32 A.

- These electric chargers allow e-cars to be recharged up to 7KWh per each phase.
- The equipment is monitored to know at all times the energy consumption.
- The recharging devices comply with European safety regulations.

The recharging for e-cars users is for free, with the aim of encouraging the uptake of electric vehicles in Las Palmas de Gran Canaria.

In addition, 3 electric vans "NISSAN ENV200" have been acquired and are being used for the regulated parking service of the city, which is a significant saving on fuel and maintenance for SAGULPA Company.

Figure 26 - SAGULPA. Electric van

Figure 27 - SAGULPA. Electric car charging points

4.6.1.4. Procurement of services

The supplier of the recharging points is MICROÉLICA, providing in Canary Islands products of CIRCONTROL. The manufacturer is able to supply similar materials in other cities through its delegations.

4.6.2. Measure ex-ante evaluation

For this measure, baseline data will be collected by estimations and through data collection. Las Palmas de Gran Canaria has identified the impact indicators that will allow the evaluation of the measure's implementation.

4.6.3. Implementation Plan

Supply and implementation of recharging points (September 2016 - July 2017)

The e-cars charging points have already been installed at "Subida de Mata" and "El Rincón" parking lots. In July 2017 others e-cars charging points will be installed in "FastPark", next to Las Palmas de Gran Canaria City Hall. With this action, all the equipment included in this measure of CIVITAS DESTINATIONS project will be set up.

Advertising and publicity campaign (December 2016 - December 2018)

A promotional campaign is being carried out through videos in social networks and in groups or associations of electric vehicles with the intention of increasing the use of the electric vehicle. We will continue to carry out communication and promotional campaigns. Electric vehicles will be shown at thematic trade fairs as well as the recharge points.

4.6.4. Risks and constraints

No risks have been identified for this measure.

4.7. LIM 4.3 Promote the uptake of electric vehicles, campaign on e-mobility

4.7.1. Measure Design

4.7.1.1. Detailed Description of Measures to be implemented including city context

For measure 4.3, Limassol implements electro-mobility campaigns to raise awareness on the electric modes and their benefits. An increased number of EV-chargers located at strategic points in the region as well as promotional campaigns will increase interest and usage of electric vehicles.

Advertorials in hotels and other lifestyle magazines will promote this idea as a new sustainable way of life. Billboards and electronic advertisements will also support this effort. Competitions will be organised to create awareness on electro-mobility. The campaigns will also ensure publicity in the local and tourist media about the CIVITAS project and implementation actions in the region.

To date, Limassol has held several meetings with car and bike rental companies and association to establish interest and intentions of these companies to invest in electric vehicles.

In addition, a meeting was held with the Limassol Municipality to introduce the free parking policy for electric vehicles, to use as an incentive in the campaigns. An integrated communication strategy has been planned out with regards to the activities that will be carried out in the duration of the project:

- Mass-media: Articles were published in hotels and information tourist offices regarding electro-mobility
- Newsletters: electronic newsletters were circulated to members of the Chamber of Commerce to introduce this measure
- Social media: A dedicated social media page was created on electro-mobility to ensure the further publicity of this measure
- Billboards to be placed in the Limassol city center and tourist area to raise awareness on electro-mobility and the EV-charging network

4.7.1.2. Project Partners working on measure, roles and responsibilities

The Limassol Tourism Company is the main project leader of this measure and Stratagem will be responsible for implementing some of the activities, such as data collection, planning, meetings with car rental companies and associations and bike rental companies, implementation of three communication campaigns including competitions.

Stratagem Energy Ltd (partner no 8) will cooperate with the Limassol Tourism Company for monitoring the measure and evaluating the results following the campaigns, as well as supporting with the implementation of the communication campaigns and competitions.

The Limassol Municipality (partner no 7) is also involved in this measure by implementing the free parking policy for electric vehicles in the region and supporting LTC in the implementation of the three communication campaigns (including competitions).

4.7.1.3. ITS Technology, system or service requirements

No ITS Technology will be required for this measure.

4.7.1.4. Procurement of services

Limassol does not require any procurement of service for this measure.

4.7.2. Measure ex-ante evaluation

For the measure LIM4.2, one impact category has been identified for the ex-ante evaluation: Society.

- Society: For society the ‘’Awareness level’’ and ‘’ Acceptance level’’ have been identified as the main impact indicators. Data collected through surveys, only 15% of the 200 participants were aware of this measure. It is expected that more than 80% will be made aware and accept this measure by the end of the project (ex-ante).

4.7.3. Implementation Plan

The implementation plan is described below:

- **Data collection planning - Meetings with car rental companies and association and bike rental companies (November 2016- February 2017)**

Meeting with the key stakeholders, such as car rental companies and associations have taken place to introduce the measure and the implementation of the promotional campaigns for electro-mobility, which will be used as incentives to purchase electric cars and bikes.

- **Free parking for electric cars policy by Limassol Municipality (January 2017- March 2017)**

Limassol introduced the free parking policy for electric cars to be used as an incentive for potential electric car users.

- **Preparation of an integrated communication strategy (January 2017- March 2017)**

Limassol has prepared an integrated communication strategy for the implementation of the campaigns and completions through the life cycle of the project.

- **Preparation of promotional material (March 2017- April 2017)**

Promotional material, such as brochures and e-brochures for electro-mobility have been designed and ready to be produced.

- **National Seminars (July 2017)**

In Limassol, the first national seminar was organised for July 2017. Representatives of the main tourism boards in the region have been invited to participate at the seminar aiming to introduce the project and possibility to replicate certain measures in their region, i.e. installation of EV charges, etc.

- **Monitoring of the measure. statistical figures - Evaluation of results in terms of users and awareness created (July 2017- December 2019)**

To be completed. Data has been collected and estimated within the end of July 2017.

- **Implementation of three communication campaigns including competitions (May 2017- July 2017)**

In Limassol, the first campaign has been organised and implemented in July 2017.

For dissemination purposes, publications have been released, coordination with hotels and the Cyprus tourism organisation information offices has been initiated for the promotion of electro-mobility.

4.7.4. Risks and constraints

At the moment, there are only a few registered electric cars in Limassol and very few electric bikes. The major reasons for this are two: the fact that there are only two EV-chargers at the moment in the Limassol region, and the lack of awareness about electric modes and their benefits.

The main barriers to implementing this measure are financial and cultural. It is necessary for car and bike rental companies to invest in at least 20 new electric cars and 10 new electric bikes available for rent CIVITAS does not have an allocated budget to invest in the purchase of e-bikes or e-cars; it relies on private bike and car rental companies to make this initial

investment. Changing the habits of local people and convincing car rental companies to make this investment are definitely two of the main challenges.

In regards to this, Limassol has undertaken several meetings with bike and car rental companies to introduce this measure and discuss the possibility to add e-bikes and e-cars available for rent. With the electro mobility campaigns, tourists and residents will be made more aware of the benefits of electric vehicles.

4.8. MAD 4.1 Promote the uptake of clean vehicles by fleet operators

4.8.1. Measure Design

4.8.1.1. Detailed description of Measure to be implemented including city context

In the scope of this measure, AREAM, together with the support of CMF, SRETC and HF, promotes electric mobility and create incentives for electric vehicle purchase. In detail, partners seek to:

- Promote electric mobility
  - The expansion of the electric vehicle charging network in Madeira, by promoting, among local actors and citizens, the installation of fast and slow e-charging points in public and private spaces. The e-charging network will be accessible to customers, and employees especially in tourist accommodation units, restaurants, tourist attraction points, covered and open space car parks. The measure includes the expansion of the e-charging network in residential buildings.
  - Creation of an information platform, available through a mobile and desktop application, regarding the location of available e-charging points to support users of electric vehicles for a better battery management.
  - Implement a monitoring system to measure electric vehicle consumption for transport. This information will be integrated in the study of electric transports impact in electricity production and use of renewable energy.
  - Promotion of electric mobility through the elaboration of a regulation to be included in municipal legal framework of urbanisation and construction, to install electric vehicle e-charging points in collective residential buildings and services.
  - HF will play a demonstrative role as they will deploy 4 electric vehicles that will intensively circulate in Funchal and around the city for administrate purposes, so as to showcase how reliable electric vehicles are.
  - The Municipality will further support the measure through the purchase and deployment of at least 2 recharging stations for electric vehicles that will be located in strategic areas.
- Incentive schemes for electric vehicle purchase
  - Creation of a mechanism for joint procurement to obtain greater competitiveness in the final price, to promote the purchase of electric and hybrid vehicles for fleets of

public and private organisations, including regional and local administration, rent-a-cars, tourist services, taxis and logistics.

- Study of an incentive scheme to promote the increase electric vehicles purchase, making more affordable for final users the energy charging during night time. This action will be negotiated with local electric company to allow a more efficient usage of renewable energy sources during night periods.

The main expected outputs that will arise from the implementation of the abovementioned plan, entail:

- Electrical charging points in 20 places in Madeira Island.
- 100 new electrical vehicles in private and public fleets.
- Renting of four batteries to supply four light electrical vehicles.
- Deployment of at least 2 recharging points for electrical vehicles.
- 1 Electrical charging points network information platform.
- 1 Evaluation report of the impact of the electrical vehicles in the electricity load diagram.
- 1 Municipal regulation for electrical charging points in new buildings.
- 3 Incentive schemes, including 2 Joint procurement mechanisms for electric vehicles.

4.8.1.2. Project Partners working on measure, roles and responsibilities

The following table lists the roles of the involved partners involved in the measure:

Partner short name	Activities description
AREAM	Responsible for the preparation, implementation, evaluation and dissemination of: incentive schemes addressed to private fleets; e-charging network expansion; information platform regarding e-charging network location; study the impact of electric vehicle on the electricity load diagram. Contribute to: incentive schemes addressed to public fleets; concept of Municipal Regulation; dissemination other partner's initiatives.
SRETC	Responsible for the preparation, implementation, evaluation and dissemination of: incentive schemes addressed to public fleets. Contribute to: expansion of the electric vehicle e-charging network; dissemination other partner's initiatives.
CMF	Responsible for the preparation, implementation, evaluation and dissemination of: Municipal Regulation. Purchase and deployment of at least 2 charging stations for electrical vehicles in public spaces. Contribute to: expansion of the electric vehicle e-charging network; dissemination other partner's initiatives.
HF	The PT Operator is one of the companies to which the joint procurement and the incentive scheme will be targeted. The company will also be a test-bed for the use of electrical vehicles which will provide services as company cars and whose results will be showcased to other major stakeholders.

Table 11 – Roles and responsibilities in Madeira site

4.8.1.3. ITS technology, system or service requirements

The measure foresees the development of an information platform, available through a mobile and desktop application, regarding the location of available charging points to assist users of

electric vehicles for a better battery management. AREAM has not started the development of the application yet. However, it is intended to use known national and worldwide platforms, like Google Maps, Mobi-e (https://www.mobie.pt/) or Electromaps (http://www.electromaps.com/), and include the information (static and real time information) on the e-charging points available in Madeira.

4.8.1.4. Procurement of services

There are two tenders envisaged in the frame of this measure. One is a subcontracting service (10,000€) which will be required to program the development of an online information system with geographic localisation of electric vehicles charging points. The other one consists in the development of communication materials and tools that will be used to disseminate the use of the charging points among the locals.

4.8.2. Measures ex-ante evaluation

The following table contains a description of the indicators and their relation with the expected impacts established for MAD 4.1, the expected date in which the baseline will be gathered and the target groups these measures address to.

Impact category	Impact indicator	Unit of measure	Baseline	Ex-Ante	Target Group
Transport	Number of electric vehicles in Madeira *(city specific indicator)*	Number	Yes. Data will be collected until August 2017	100 new EV	EV users
Environment	CO emissions avoided by EV (CIVITAS Core Indicator number 12)	Kg	Yes. Data will be collected until August 2017	new target	EV users
Environment	NOx emissions avoided by EV (CIVITAS Core Indicator number 13)	Kg	Yes. Data will be collected until August 2017	new target	EV users
Environment	PM emissions avoided by EV (CIVITAS Core Indicator number 14)	Kg	Yes. Data will be collected until August 2017	new target	EV users
Environment	CO_2 emissions avoided by EV (CIVITAS Core Indicator number 11)	t; g/vkm	Yes. Data will be collected until August 2017	Less 197 t CO_2	EV users
Energy	Energy consumption *(CIVITAS Core Indicator number 3)*	MWh; kWh/vkm	Yes. Data will be collected until August 2017	Less 653 MWh	EV users
Energy	Renewable energy in the mix of electrical production *(CIVITAS Core Indicator number 4)*	MWh; %	Yes. Data will be collected until August 2017	Increase 175 MWh	EV users
Economy	Investment costs; energy importation costs; indirect	Eur	No	2320000	EV users, trade

Impact category	Impact indicator	Unit of measure	Baseline	Ex-Ante	Target Group
	investment costs *(CIVITAS Core Indicator number 2A)*				
Economy	Vehicles operating costs *(CIVITAS Core Indicator number 2B)*	Eur/km	Yes. Data will be collected until August 2017		EV users
Society	Beneficiary organisations and citizens *(CIVITAS Core Indicator number 35)*	Number	No	60	EV users

Table 12 – MAD 4.1 Indicators

4.8.3. Implementation Plan

A synthesis of the work carried out in the first months, which are directly related with the user needs and design and specifications phase of the project can be found in the following description.

The activities which have been carried out starting from month 4 and which are currently in progress are:

a) Conception, specifications and public procurement, stakeholders involvement in the preparation of incentive schemes for electric vehicle purchase for public and private fleets

For this activity, it must be underlined that the Regional Government approved, through Resolution no. 180/2017, the Action Programme for Electric Mobility in the Autonomous Region of Madeira, to be developed until 2019, which:

- integrates the electric mobility actions of the Civitas Destinations project, such as:
  - Free electricity supply at public charging stations until the end of 2018.
  - 50% discount off the fare of electric vehicles for the sea transport Madeira-Porto Santo.
  - Elaboration of two pamphlets with general information on electric mobility, aimed at the domestic and business sectors, to be distributed with the electricity bill.
  - Draft of the information/authorisation request for the installation of charging stations, to be sent by the owners to the condominium management of collective housing and services buildings.
  - Information and awareness raising action featured in the 3rd Edition of Environment + Energy | Machico 2017;
- foresees a 30% incorporation of electric vehicles in its fleets.

b) Preparation of municipal regulation for electrical charging points in new buildings

Sending of information to the municipalities with a proposal of the norm to be integrated in the Regulation of the Municipal Master Plan, with the objective to reinforce the need for the installation of charging stations in new housing and services buildings, with a collective parking lot

c) Identification of the starting point, problems and needs for the expansion of the electric vehicle e-charging network.

- Location of six new 50kW charging stations, with the capacity to charge two vehicles simultaneously, in Funchal, Machico, Ribeira Brava, São Vicente and Porto Santo.
- EMACOM, a charging station operator, will install: 3 charging stations in 2017 in Funchal, Ribeira Brava and Machico, and 3 charging stations in 2018 in Funchal, Porto Santo and São Vicente.
- Formal and informal contacts with actors of the charging station network of various intervention levels: EEM, DRET, EMACOM, Factor Energia, ZEEV, SONAE Sierra, Pestana Casino, Quinta do Furão and condominium management companies.
- Sending of a circular letter, by DRET, to private entities that mange car parks for clients (hotels, shopping centres, airports and car parks), to promote the installation of slow charging stations on their premises.
- Installation of three public EV charging stations (in substitution of an EV purchase)
- Municipality of Machico: Installation of a public EV charging station. Other municipalities are also analysing this possibility

d) Conception, specifications for public procurement, stakeholders involvement for the preparation of the information platform, regarding the location of available charging points

e) Preparation of an evaluation study to measure electric vehicle consumption for transport and the impact on the electricity load diagram

Preparation of a survey for electric vehicle users to assess the reference situation for the evaluation study of the impact of electric mobility on electricity generation.

The preparation of a tender to rent electric batteries is currently in progress and will be launched within the end of August.

In the context of the expansion of the charging network, the results achieved by the measure so far are:

- Location of six new 50kW charging stations, with the capacity to charge two vehicles simultaneously, in Funchal, Machico, Ribeira Brava, São Vicente and Porto Santo.
- EMACOM, a charging station operator, will install: 3 charging stations in 2017 in Funchal, Ribeira Brava and Machico, and 3 charging stations in 2018 in Funchal, Porto Santo and São Vicente.
- CMF: Installation of three public EV charging stations (in substitution of an EV purchase)
- Municipality of Machico: Installation of a public EV charging station. Other municipalities in Madeira are also analysing this possibility.

- Sending of a circular letter, by DRET, to private entities that mange car parks for clients (hotels, shopping centres, airports and car parks), to promote the installation of slow charging stations on their premises.

Some steps were taken specifically in the promotion of electric vehicles:

- DRET has created a webpage within their official website with information about electric mobility.
- Sending of information to the municipalities with a proposal of the norm to be integrated in the Regulation of the Municipal Master Plan, with the objective to reinforce the need for the installation of charging stations in new housing and services buildings, with a collective parking lot.
- Support rent-a-cars to explain to the potential EV investors how to proceed with the installations of the recharge station in the parking areas.
- Preparation of a survey for electric vehicle users to assess the reference situation for the evaluation study of the impact of electric mobility on electricity generation.

4.8.4. Risks and constraints

Potential Drivers	Potential Barriers	Activities to be taken to mitigate the barriers	Risk assessment (low, moderate, high)
Political/strategy	Political/strategy	Political engagement	low
Institutional	Institutional	Institutional engagement	low
Cultural	Cultural	Awareness raising campaigns	moderate
Financial	Financial	Other regional funds	high

Table 13 – Risks and constraints for MAD4.1

4.9. RETH 4.1 Uptake of electric vehicles by fleet operators

4.9.1. Measure Design

4.9.1.1. Detailed Description of Measure and City Context

Currently charging infrastructure is unavailable and there are limited electric vehicles in the whole region/island of Crete; incentives to use e-vehicles are not available. Due to the increased circulation of cars the city experience increased noise and pollution during peak hours. There is limited awareness and interest for electric vehicles and advantages. Rethymno will make available public charging stations in the area and lead as a lighthouse example for other Greek cities.

This measure promotes electric vehicles uptake and introduces charging infrastructures as a means to reduce air pollution and noise and increase public awareness towards a low carbon emissions economy.

The involved activities include the location study for clean vehicle charging sites that take into account tourists and users' need. The study will indicate the appropriate points for the launch of the first EV charging stations in the regional unit, in hotel areas and in the main parking sites of the Municipality. The study for the locations of the charging stations is completed; the preselected locations were assessed to meet a number of critical parameters.

Figure 28 - **The location of the new EV charging stations in the Municipality of Rethymno**

Within the measure, a powerful campaign to local media will be implemented; the promotional material includes inspirational signage and map of the charging points. These will be distributed both to visitors and citizens. A public event will be held with the cooperation of the Hellenic Institute of Electric Cars to raise awareness and challenge the uptake of EVs. Stakeholders engagement activities will involve dedicated one to one meetings with fleet operators (car rental-taxi fleets) to encourage them to start procuring electric vehicles and cooperation with the region for additional charging infrastructure installations in key points of the main roads network. As a result of the workshops, parking privileges for EVs will be defined and communicated to the public, along with the definition of a procurement framework of vehicles for PT fleets and charging points equipment.

Expected outputs of the measure are:

- 4 EV charging points: in hotels' area and in the main parking sites in the city centre;
- Campaign to promote electric vehicles to citizens;
- Leaflet and charging station map for distribution to main airports and through rental cars;

- Informational event in cooperation with the Hellenic Institute of Electric Cars;
- Free Parking card for electric cars in all parking sites in the city;
- Car rental companies informed (3 car rental companies involved);
- Incentives for including an electric vehicle in the car rental/taxi fleets. Joint procurement framework for PT fleets and charging points equipment;
- Capacity building workshop to regional stakeholders.

The specific measure gives incentives to fleet operators in order to introduce EVs as an alternative mode of transport in the region of Crete, empowering the sustainable and eco-friendly profile of the area amongst tourists. Additionally, unlocking the demand for EVs can give vast potential to improve air quality and reduce noise pollution to residents and the annual visitors. It is expected that the hotel's participation in the demonstrations will lead to an increase in interest from other hotel sites in the region. A study for clean vehicle charging sites across the region taking into account tourists and citizens' mobility needs infrastructure will be conducted.

The specific objectives of the measure are:

- Introduction of the first EVs charging points in the region;
- Raise awareness, interest and use among tourists and locals of more sustainable mobility options such as e-vehicles and e-bikes ;
- Facilitate procurement of electric vehicles by fleet operators;
- Unlock public / private funding for extra charging points installed in the city and the region;
- Decrease emissions due to solar energy production;
- Noise reduction; and
- Creation of municipal incentives to support e-vehicles use.

4.9.1.2. Project Partners working on measure, roles and responsibilities

In the table below the involved project partners and their role and responsibilities are described:

Project Partner	Role	Responsibilities
Technical University of Crete	Site manager	Support the location study, , monitor installation, evaluation, engagement and capacity building
Rethymno Municipality	Measure Leader Beneficiary	Procurement, installation. Charging station operation, maintenance

Table 14 – Roles and Responsibilities in Rethymno site

4.9.1.3. ITS Technology, system or service requirements

The measure includes the introduction of EV charging stations. Appropriate solutions available in market were identified for "park-and-charge" use and dual outlets for the charging of two cars simultaneously.

The technical details of the EV charging station were identified, along with the development of the procurement documents.

Figure 29 - EVs Charging stations (left) and the signage developed (right) in Rethymno.

The charging station for electric vehicles elected can serve two parking spots with Type 2 sockets, up to 22 kW each. It provides three-phase AC charging and can serve all vehicles, according to the IEC 61851 standard. The main criteria included reliability, maximum safety of end users and user-friendly charging process and practicality of installation and maintenance. The station features a multilingual LCD display that guides EV users through the charging process, mart energy meters for each socket and RFID card reader, if it is available for the users.

4.9.1.4. Procurement of services

The design of dedicated signage for the charging stations and designated area was assigned to a graphic designer and has been completed, incorporating elements of Rethymno's image and highlighting the sustainable profile of the city.

Procurement of services is foreseen for the development of an informational campaign to promote electric vehicles, production of promotional materials and for the organisation of informational events.

4.9.2. Measures ex-ante evaluation

The evaluation of the measure includes environmental, social and economy impact indicators. The data collection for the measure's environment evaluation is planned in August 2017, August 2018 and June 2020, before, during and after the measure's implementation correspondingly. Society indicators will be measured only before and after the implementation. The initial data collection in August 2017 will provide the baseline for most of the impact indicators.

The selected indicators are presented below.

The impact on environment will be measured through:

- the **GHS emissions,** in terms of the total emissions avoided **(in tn CO2eq)** by the uptake of electric vehicles. The baseline of the indicator will be obtained in August 2017. The expected emissions avoided is 3% of the baseline value.

The impact on society will be measured through:

- the **level of acceptance**, in terms of the percentage of citizens and tourists that are in favor of the new charging infrastructure of electro-mobility. The level of acceptance after the measure implementation is expected to be 20%.
- **the level of awareness**, in terms of the percentage of citizens and tourists that are aware of the new charging infrastructure. The level of awareness after the measure implementation is expected to be 40%.

The economic impact will be measured through

- The **capital costs** and the **average operating costs** of the charging stations in order to present the economic impact of the charging infrastructure for the municipality and be used in a future business plan. The economic indicators will be defined at the end of the implementation of the measure.

4.9.3. Implementation Plan

The implementation plan foresees the following milestones and time plan:

M1. Define the context, starting point, charging sites (September 2017)
M2. Procurement of the charging infrastructure (November 2017)
M3. Installation of the charging infrastructure and signage (February 2018)
M4. One to one meetings with taxi and rental car operators (February - April 2018)
M5. Integrated Campaign to promote electric vehicles to citizens (media, signage) (April-August 2018)
M6. Implementation of free parking cad scheme for EVs (December 2018)
M7. Assessment study of the charging stations operation and potential expansion (June 2020)

One key issue during the measure implementation concerns the operation and maintenance of the EVs infrastructure. Close cooperation with the supplier and the H.I.E.V for capacity building of the local and knowledge transfer is required.

4.9.4. Risks and constraints

The lack of cooperation of the relevant actors at the regional level might be a constrain to the expansion of the charging network in neighboring municipalities. Unfortunately, the success of the measure requires not only the involvement of local stakeholders but the full engagement in regional level to promote the expansion of e-vehicles charging stations network in the whole island..

4.10. Collaboration among DESTINATIONS Sites/partners

Measure title	Best Practice requirements: user needs, stakeholder involvement or measure design?	Supplier of BP?	Synergies	Details of planned exchanges between measure leaders
ELB 4.5EV legislation revision and charging infrastructures in Elba	Mobility regulations in the different Elba Municipalities	PF Municipality	LIM; LPA; MAD, RETH	Share of information on existing regulations and provisions to foster the use of EV
LIM 4.3Promote the uptake of electric vehicles, campaign on e-mobility	Incentives for EV use will be introduced via campaigns to raise awareness on electro-mobility. Promote the use of mobile applications free of charge. In addition, promoting electro-mobility through test drive of e-cars or e-bikes at various events, i.e. At the Limassol Boat Show, attendees were able to test the GoCycle e-bikes.	LTC	MAD, RETH, LPA, MAL	Share information and knowledge on the implementation of campaigns, key messages, use of mobile applications for comparing electric to conventional vehicles
LPA 4.2Fast charging EVs	# How to involve key local stakeholders. # How can we lower the OPEX (operational expenditure) costs of EV charging? # Business pro-forma complete with revenue, costs staffing recommendations and structure recommendations. # How to provide facilities to outsourcer fleets, and to taxis, private hire firms and couriers.	-	ELB	Share of information on existing legislation to foster the use of EV.
MAD 4.1Promote the uptake of clean vehicles by fleet operators	• Electric light vehicles promotion; • Electric and hybrid plug-in buses for public transport (PT); • E-charging networks; • PT Drivers' eco-driving performance. • PT tire press monitoring systems.	-	LTC,RETH, LPA, MAL	Share information and knowledge on the implementation of campaigns, key messages
RETH 4.1Uptake of electric vehicles by fleet operators	Strong engagement strategies for local authorities, rental companies and the accommodation sector for the uptake of e-vehicles and charging infrastructure	LTC, HF	LIM, MAD	Share information of existing practices and recommendations to adapt to local needs

	Best practices to promote electro-mobility, promotional campaigns, materials Business models including operational, revenue and staff costs			

Table 15 - Synergies and cross site exchanges for Shared e-Charging Infrastructures measures (C)

Some of the most interesting topics of discussion and of information exchange concern the incentives (i.e. free parking) and supporting measures (i.e. use of dedicated lanes) that can be put in place, the needed capability for planning EV network and devices (EV recharge station and EV parking) from the municipalities point of view and finally the relation between the EV solutions and SUMP measures. The possibility to share knowledge and experience on the implications of the defined incentives in the long term (basically to analyse the usefulness and convenience of some of these solutions) will be also explored with the sites.