

2020
CiViTAS
Cleaner and better transport in cities

DESTINATIONS



Measure Evaluation Result

ELB 7.1 - Improved public transport services for tourists

Project Acronym:	DESTINATIONS
Full Title:	CIVITAS DESTINATIONS
Grant Agreement No.:	689031
Work package:	9 - Evaluation
Responsible Author(s):	Eleonora Ercoli, Renato Bellini (MemEx)
Responsible Co-Author(s):	Federica Andreucci, Massimiliano, Ribaldo (Portoferraio), Adriana Mercatelli (Rio)
Date:	28/04/2021
Status:	Final
Dissemination level:	Public

The views expressed in this publication are the sole responsibility of the authors and the DESTINATIONS project consortium and do not necessarily reflect the views of the European Commission.

2020

CiViTAS
Cleaner and better transport in cities
DESTINATIONS



THE CIVITAS INITIATIVE
IS CO-FINANCED BY THE
EUROPEAN UNION

Executive Summary

Elba island is characterised by a strong touristic flow, especially in the summer period when the number of tourists every day equals the number of residents (about 32,000). The proximity of the island to the mainland (about 1 hour by ferry) invites many tourists to reach the island with their own car and also for one day only. The prevailing use of the car, the low utilisation rate of public transport (PT), combined with the morphology of the island and the old and narrow road network, often generates traffic congestion problems at peak times in various road arteries connecting the 7 Elba Municipalities and the different locations of interest.

The “Elba Sharing” local project within the overall DESTINATIONS project was aimed to improve mobility and accessibility on the island by reducing the use of private cars by residents and tourists, and by enhancing collective transport services (conventional and/or shared) and sustainable mobility services. These goals also led to beneficial impacts on the environment (with the reduction of emissions, noise, illegal parking, reduction of space use, etc.) and on “greener tourism” which is more respectful towards the islands’ naturalistic sites. An efficient PT service is essential to achieve the above-mentioned objectives.

PT services on the island were very poor, with a utilisation rate of around 14% of overall trips. The number of users increases during the summer-touristic period, but the overall utilisation rate remains very low considering the total number of tourists arriving on the island. With the project, specific measures have been implemented to improve the quality of PT services, in order to offer transport services that are more responsive to the needs of residents and tourists. The practical objective was to achieve an increase of passengers per year and to stop the PT service decline. The interventions carried out were related to the activation of new lines and bus routes, and the enhancement of the other related services, such as informative ones, AVM system, comfort and decorum at bus stops, promotional campaigns, and ticketing issues.

Most of the interventions have been developed thanks to the support of the project, directly by the two partners, Rio and Portoferraio Municipalities, and with the involvement of the local bus transport operators, CTT Nord and TIEMME, who signed an agreement with the two municipalities in order to improve the services according to their own competences.

In addition, the mentioned agreement revealed to be crucial to establish a profitable cooperation among the parties, that goes beyond the planned measures and the project itself. The activation of four new bus lines (from Portoferraio to the east and west part of the island, back and forth), the replacement of the old poles with new ones, the introduction of new buses, and the participation of CTT Nord and TIEMME representatives in meetings on mobility issues are just some of the additional interventions (extra-output) carried out by January 2021.

The measure evaluation was based on surveys carried out by the PT service operators, in order to assess the perception of users towards the actions (new fares, SMS ticketing) and measures (ferry connection, beach lane, etc.) implemented for increasing the PT service quality. The measures were appreciated as demonstrated by the results of the interviews carried out in the summer and during holidays by the Municipality of Portoferraio and Rio.

Unfortunately, from the quantitative assessment side, the number of passengers on the PT services after the measure implementation, although increased, was a little below the expected results. This result reflected the overall touristic flow, which decreased in all its components (foreign tourists, second home owners, hotel guests, groups of young people, etc.).

A Description

The island of Elba is characterised by a considerable touristic flow in the summer period. The population living on the island (about 32,000 residents) increases drastically during the summer months, causing problems of overloaded services. Many tourists, both those staying in hotels and those who have a second home on the island, arrive at the island during the months of June, July, August, and September, with a peak in August.

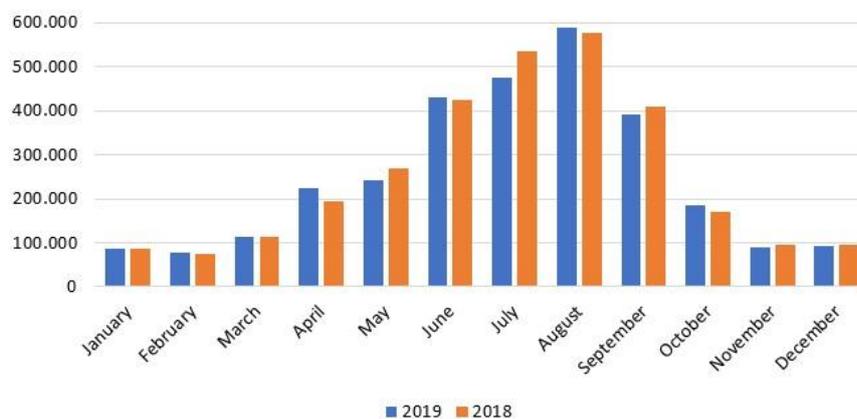


Figure 1: Passengers transported monthly by ferries

The main goal of this measure was to improve the quality of the public transport service, both on the island and the connection between the village of Campiglia Marittima (an important railway station) and Piombino port, from where the ferries arrive and depart.

In this regard, an agreement was signed between the two public transport companies operating the services on the mainland (TIEMME – responsible for PT services in Piombino and for the connection with the port) and in Elba (CTT Nord – responsible for Elba PT services). This enabled the connection and integration of the transport service to be improved for answering tourists' and residents' needs, and for making the service more efficient. Some of these measures included timetable integration, renewal of the bus stop of the port area, integration of data in the two different APPs, using the AVM system, and the introduction of informative poles at important bus stops.

As an extra-output, arising from the good relationship between the two Municipalities and the PT operators (thanks to the signed agreement), the following could also be achieved: the participation of PT operator representatives in meetings with high school students and headmasters, and the activation of new bus rides in order to better meet their needs; the substitution of the old poles with new ones over the whole island; and the introduction of new machines in order to substitute the oldest buses.

In addition, the two municipalities of Portoferraio and Rio, thanks to DESTINATIONS' support, activated additional transport services for tourists, in order to connect the main village to the other neighbourhood of the commune, to the nearby beaches, and to the parking areas. The aim was to test new lines that were more responsive to local needs, who were previously not really satisfied by the conventional public transport offer, which was mostly dedicated to an inter-municipal connection. The objective was to reduce parking problems around the most popular beaches and traffic congestion in the narrow streets near the coastline due to private mobility,

introducing collective modes of transport that actually integrate conventional PT. The Marebus and GoBus service in Rio, the “Mini-Ferry”, the “Shopping Bus”, the “Cosmopoli by Night”, and the daily flexible service in apecar are to be considered in this case.

A1 Objectives and outputs

City policy level objectives

- Improve the PT service quality and efficiency for citizens and tourists
- Expand and enhance the quality of tourist offer, in order to reduce the use of private cars and related emissions

Specific measure objectives

- Maintain the regularity and punctuality of the buses in respect to the scheduled time
- More information to the user about public transport
- Greater attention of the public service operator to the needs of citizens and tourists with innovative tools and travel times which are more responsive to user needs
- Definition of specific collective services focused on tourists needs

Outputs

- In Rio, daily services: the “Marebus” connecting the centre of Rio with near beaches during summer time
- In Rio, “Go Bus” daily winter shuttle service to connect urban areas of the Municipality
- In Portoferraio, night service called “Cosmopoli by night”, composed of bus connection between peripheral parking areas and city centre, and a flexible service by “Apecar” in the historical city centre
- In Portoferraio, a daily bus service called “Shopping Bus” activated in the Christmas period with the aim to connect some of the most populous neighbourhoods and the shopping areas
- In Portoferraio, “Mini-Ferry” (summer boat service) for connecting the various settlements on Portoferraio bay
- In Portoferraio, daily flexible transport service by apecar activated in order to connect the city centre and the urban area within a radius of one kilometre from Via Vittorio Emanuele II (rear port area)
- 3 new bus shelters in the port of Piombino very useful to protect PT users from rain and wind
- Launch of the Teseo APP for smartphone and the web version “Teseo Web”, providing static and real time information, travel planner, and a fast link to SMS ticketing
- Installation of 3 new electronic poles in Portoferraio, connected with the AVM (Automated Vehicle Monitoring) system and providing real time information

Other developed interventions¹ were funded directly by the local transport operators. The actions derive from the good relationship and cooperation established by virtue of the agreement signed among the operators and the two municipalities and can be considered as extra-output:

- Implementation of an Automated Vehicle Monitoring system in the Elba PT transport service
- Partial renewal of the bus fleet with the introduction of more modern and Euro5 buses

¹ Extra-output, not funded by DESTINATIONS

- 4 new daily afternoon bus rides (from Portoferraio to the east and west part of the island, back and forth) to facilitate in particular the trips of students
- Replacement of all the old and ruined poles on the whole island with new ones

Supporting activities

MemEx, the consultancy company and DESTINATIONS project partner, collaborated with CTT Nord (PT operator in Elba) and Tiemme (PT operator in Piombino) in making the agreements with municipalities of Portoferraio and Rio in order to improve the public transport service through the previous developed measures. MemEx also supported in monitoring and assessment of the implementation phase development.

A2 Inter-relationship with other measures

Measure ELB 7.1 is linked to:

- **ELB 7.2 - Travel ticket purchase via SMS.** In the island, there were few ticket selling offices, and a very low number of ticket vending machines. The implementation of this measure provided the possibility to buy tickets via SMS, thereby increasing the quality of services and reducing tariff avoidance.
- **ELB 7.3 - App for user real time information.** The CELSO system (related APP) equipped on buses operating the summer services has also improved their role as a PT feeder.
- **ELB 2.1 - Elba SUMP.** The plan prioritizing the PT by new network schemes (based on feeder routes) during the summer will support, if the plan is adopted, the extension in quality and quantitative terms the service to be provided to tourist and residents.

A3 Target groups and/or affected part of the city or region

Tourists and Elba citizens represent the target group of this measure. During the summer season, tourists are the largest PT user group (result from a survey of 2018). During the winter, the main PT users are represented by students moving from their origins based in the other 6 Elba municipalities to Portoferraio where the most important high schools are located.

A4 Stakeholders involvement

Stakeholder name	Activities description
Municipality of Portoferraio	Agreement and collaboration with local Public Transport Operator (PTO) to improve the PT services. Monitoring the service quality
Municipality of Rio	Agreement and collaboration with local PTO to improve the PT services. Monitoring the service quality
TIEMME	Agreement and collaboration with local Municipalities to improve the PT services. Provision the specific service
CTT Nord	Agreement and collaboration with local Municipalities to improve the PT services. Provision the specific service

Table 1: Stakeholder involvement

B Measure implementation

B1 Situation before CIVITAS

Before the DESTINATIONS project, the PT service use on the island of Elba was very limited in number (around 14% of overall trips) and in quality. People were not encouraged to use PT services due to negative service reliability, mainly due to the old buses and for the lack of regularity and punctuality. Revenues have been decreasing every year and remain much below the 35% of travel operation cost; the threshold requested by the Regional Government for providing funds. In the summer, the bus service in Rio and in Portoferraio was quite reliable regarding bus quality, while the service (timing and frequency) was not of high quality.

B2 Innovative aspects

The innovative aspect of this measure was the agreement signed between the municipalities of Portoferraio and Rio with the public transport companies CTT Nord and TIEMME. With this agreement the two companies, and in particular CTT Nord, were committed to:

- Realise new PT conventional lines, routes, and frequency
- Improve the quality of the service in terms of regularity, punctuality, efficiency, and bus renewal
- Provide user information through connected panels at stops and through a dedicated info mobility App in Italian and English
- Gradually activate on onboard services indicating routes and next stops
- Organize specific collective services for tourists during the summer period
- Organize two customer satisfaction campaigns for analysing the mobility needs of tourists and residents.

B3 Research and technology development

The technology aspect of this measure was linked to the use of innovative systems for monitoring and controlling the bus service, for providing mobility info to users, and reporting the reliability of the operated services.

For the conventional PT service in Elba (CTT) and in Piombino (TIEMME), a standard AVM system was operated with the TESEO APP for user information. For the summer PT services, the CELSO innovative solution was implemented by the different small transport operators, both for controlling and reporting the executed services and for user information.

B4 Actual implementation of the measure

The implementation of this measure was composed of a set of several actions, carried out with the support of DESTINATIONS but also financed by the Public Transport Operator in Elba, CTT North, with the goal of improving the overall public transport service. The improvements included reinforcement of the service provided, but also in terms of technologies in places, equipment, and improvements in the fleet.

Additional PT services for tourists

Rio Municipality has activated new bus services during 2017, 2018, 2019, and 2020 summer seasons to the beaches. In 2020, the service has been much improved compared to the previous year.

The Municipality of Portoferraio has experimented on the boat transport during the 2018 summer period in Portoferraio bay, with 2 new bus lines and 2 flexible services with “apecar”.

In Portoferraio:

- “Chicchero”, the Mini-Ferry: During the summer of 2018, a boat transport service was activated to connect by sea the centre of Portoferraio with all the tourist resorts in the bay (S. Giovanni, Schiopparello, Magazzini and Bagnai areas). The service was guaranteed by a small boat running several daily trips at established times (every 30 minutes). The service was highly appreciated by tourists, and has the potential of being further developed and improved, thus increasing its safety and profitability.

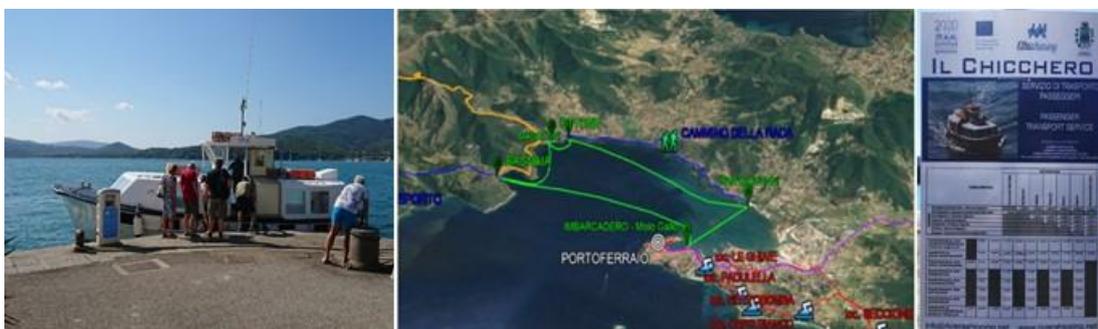


Figure 2: “Chicchero” boat transport service, Route of the small ferry (“Chicchero”) in the bay of Portoferraio, and service timetable

- “Cosmopoli by Night”: this free service ran during the night and was organised for answering the needs of tourists and residents wishing to visit the historic centre of Portoferraio in the moonlight. The service has been activated for two years and was composed of a bus shuttle connecting with the main car parks (in 2019 and 2020), and a buggy directed to the innermost part of the ancient city (in 2020). The service was active during the summer period from 20.00 to 00.30 every day, including holidays, with trips every 15 minutes. The bus service connected the Limited Traffic Zone with the various urban car parks of Portoferraio, with a circular route; this helped to limit the number of private cars headed to the city centre in search of parking. In addition, the flexible service in “apecar” has been considered very useful in particular by elderly people and persons with reduced mobility, as it represented a good solution to visit the high and inner part of the city centre included in the Limited Traffic Zone which is not accessible by private cars.

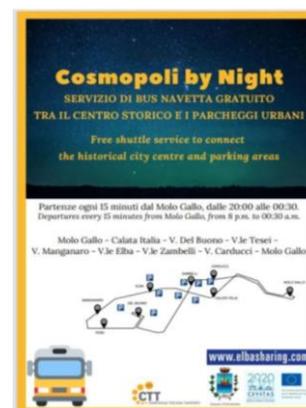


Figure 3: “Cosmopoli by Night” leaflet

- “Shopping Bus”: daily shuttle service to connect some of the most populous neighbourhoods and the shopping areas.

- “Passaggi in apecar”: free and flexible service by “Apecalessino” (buggy) to travel around the city of Portoferraio within one kilometre radius from Via Vittorio Emanuele II (rear port area).



Figure 4: Apecar auxiliary transport

In Rio:

- “Marebus”: In the territory of Rio Municipality there are numerous pleasant small beaches quite far from the centre. Though representing the major tourists’ attraction in the summer, these beaches are not really accessible by car because of the scarce presence of car parks in the surrounding area. To overcome this problem, the municipality set up a summer transport service with a free shuttle bringing tourists and residents to the various beaches from the city centre. This service, called *Marebus*, was put in place in 2017, 2018, and 2019 and, given its considerable success, in 2020 it was enhanced with three different paths.
- “Go Bus”: In November 2019, the Municipality activated a new transport service with a free daytime shuttle, called "Go Bus". This service connected the main towns of the municipal area in the winter period, from November 1 to June 15, in order to offer the opportunity to move and use the services scattered throughout the territory. "Go Bus" is especially dedicated to the most vulnerable users living in a condition of social exclusion and economic fragility, with difficulties in reaching and using the conventional PT service.



Figure 5: Marebus service in Rio

The “Marebus” in Rio proved to be an optimal PT service to ensure the correct relocation of private cars in the parking areas outside the city centre, facilitating the local services’ safety management carried out by the municipal police and related to the anti-COVID regulations. In conclusion, the service was fundamental to allow users, especially people with reduced mobility,

to reach destination places in the city centre or the “Anfiteatro delle Miniere” – place of interest and tourist reception of the Mining Park of the Elba Island.

PT services additional improvements

In addition to the abovementioned actions carried out directly by the two Municipalities of Portoferraio and Rio, other activities have been developed with the cooperation of CTT Nord and Tiemme in order to reinforce the public transport service.

First of all, the “Teseo APP”, downloadable both on Android and IOS (Italian and English version), was launched allowing passengers to know the buses real time arrival at every bus stop and to obtain other static information about the service; the travel planner function is also available. The APP has been equipped with the AVM system, already developed by the company but previously only used internally for functional purposes. The App has allowed for better control of the fleet on the Elba network, increasing their regularity and punctuality.



Figure 6: electronic info-panel at bus stop

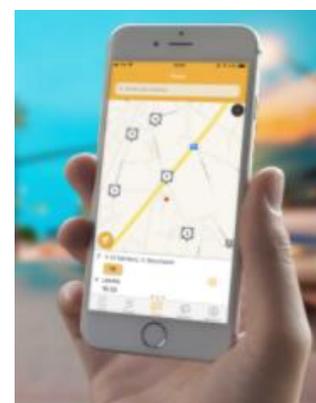


Figure 7: Teseo APP

In addition, for user information, three info-panels were installed in two bus stops and at the bus terminal in Portoferraio, connected with the AVM system as well.

In Piombino, Tiemme company installed three shelters at the very important bus stop in the Port area, just in front of the railway station and the main docking points for ferries to Elba.



Figure 8: Shelter in Piombino port

C Impacts evaluation

C1 Evaluation approach

Expected impacts and indicators

Impact category	Impact indicator	Unit of measure
Transport System	1- Public transport users/ year	Nº
Transport System	2- Bus fleet control level to verify the regularity of the rides	%
Society	3- Users satisfaction with PT system	%
Society	4- User satisfaction with additional public transport system	%

Table 2: Expected impacts and indicators

Method of measurement

Impact indicator	Method*	Frequency			Target Group	Domain (demonstration area or city)
		Bef.	Dur.	Aft.		
1-Public transport users/ year	DC	2016	2017-2018	2019	Citizens, students, and tourists	Elba island
2-Bus fleet control level to verify the regularity of the rides	DC	n.a.	2018-2019	2020	Public transport provider	Elba island
3-Users satisfaction with PT system	S	n.a.	2018	2019	Public transport users	Elba island
4-User satisfaction with additional transport system	S	n.a.	2017, 2018	2019	Additional public transport users	Portoferraio and Rio

*(Data collection (DC), Estimation (E), Survey (S), Interview (I))

Table 3: Method of measurement

Detailed description of the indicator methodologies:

1 - Public transport users/ year: Portoferraio was responsible for this data collection. But on the basis of the agreement stipulated between the Portoferraio and Rio municipalities and the CTT Nord company, the data was provided by CTT Nord on the basis of the bus tickets sold in each project year.

2 - Bus fleet control level to verify the regularity of the rides: CTT Nord launched the AVM system in 2018 to monitor and control the bus fleet. The system, after a positive test, allowed an increase in the reliability and regularity of the service and to comply with the timetable

indicated in the Service Contract for each operated bus line. Data for evaluation was collected from the CTT Nord AVM system.

3 - Users’ satisfaction with PT system: on the basis of the signed agreement with Rio and Portoferraio, CTT Nord, during 2018-2019, carried out two customer satisfaction campaigns interviewing 527 PT users in order to evaluate the level of appreciation of the PT service and to receive the enhancement proposals. The collected answers were evaluated on the following: Vs=Very satisfied, s=satisfied, n=not satisfied, NA not assessed.

4 – Users’ satisfaction with additional public transport system. the Municipalities of Portoferraio and Rio undertook specific surveys with questionnaires and interviews in order to understand strengths and weaknesses of the services, and to obtain suggestions for improvements. The collected answers were evaluated for the following: Vs=Very satisfied, s=satisfied, n=not satisfied, NA not assessed.

The Business-as-Usual scenario

The analysis of the business-as-usual scenario depends on the annual quantity of tourists and their typology (foreign or Italian, second home owners, hotel guests, users of their own car, groups of young people, etc.). The overall yearly presence of tourists arriving in Elba in the period 2001-2019 is shown in Figure 9, while the number of passengers of the PT services during the period 2012 – 2019 is shown in Figure 10. If we consider the period 2012-2019, these two figures already provide a view of the existing relation between tourists and PT passenger numbers.

It may also be noted, as an effect of the DESTINATIONS measures, the increase in the number of passengers in 2019 versus 2018 (+0.8%), despite the overall decreasing trend in the number of tourists using PT throughout the period 2012-2019.

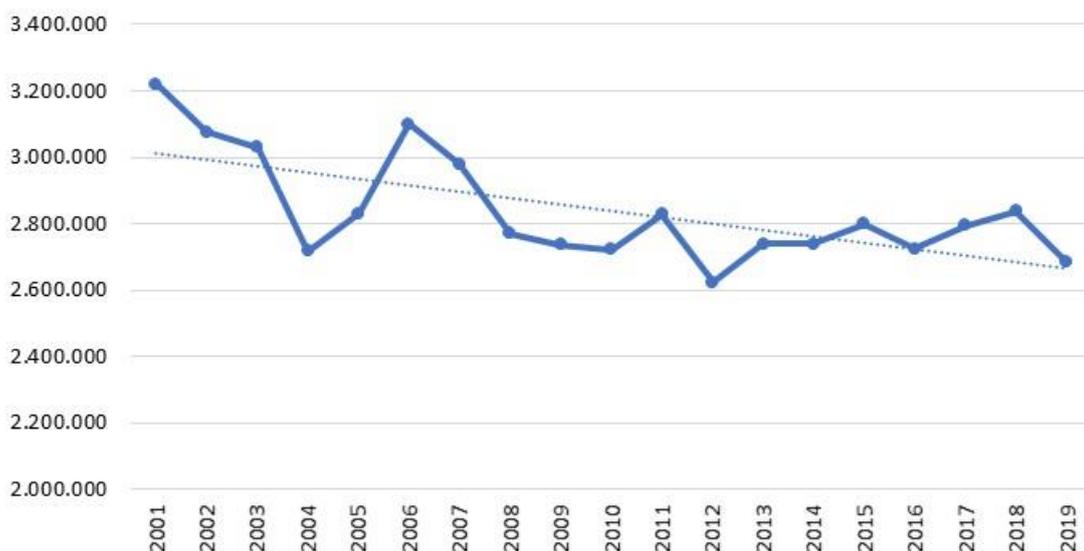


Figure 1: Elba island tourist presences in period 2001-2019

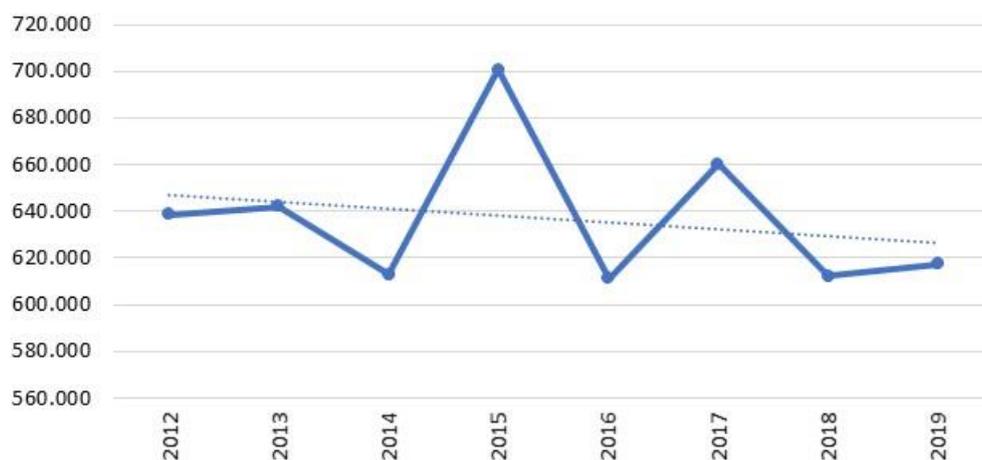


Figure 10: Elba island PT passenger's trend

The falling curve of the presence of tourists has been and still is a relevant issue, which has been extensively investigated and debated among the island's political and economic stakeholders. There are different motivations and factors contributing to this decrease in the presence of tourists in Elba, some of which are:

- the increasing costs of living and housing
- the competition from new seaside tourist resorts in Tuscany
- the advent of low-cost flights that affect any type of local tourist offer
- the difficult to reach Elba by the main PT services due to the many mode changes required (mainland railway and conventional extra urban bus, ferries, island bus services, etc.)
- at the same time, the insufficient dimensions of Elba airport to host the common aircraft size (Boeing 737 or Airbus 319-320)
- the non-adaptation of many tourist facilities (especially hotels) to new user needs

C2 Measure results

Impact category	Impact indicator	Unit of measure	Baseline	Ex-Ante	Ex-Post
Transport System	1 - Public transport users/ year	N°	611,372	672,510	617,380
Transport System	2 - Bus fleet control level to verify the regularity of the rides	%	60%	95%	95%
Society	3 - Users satisfaction with PT system*	%	40% Vs	60% Vs 10% s 50% n	70% Vs 20% s 10% n
Society	4 – User satisfaction with additional public transport system*	%	n.a.	70% Vs 10% s 20% n	70% Vs 10% s 20% n

*Vs=Very satisfied, s=satisfied, n=not satisfied, NA not assessed.

Table 4: Measure results

C2.1 Transport system

1 - Public transport users/ year

During 2019, there was a decrease in tourist presence in comparison to 2016. This only partially justifies the decrease in PT passengers which occurred in 2019, despite the measures and actions performed during the years 2018 and 2019 in favour of PT services. During the winter, the number of passengers remains practically the same over the years. The users are mostly students moving from different parts of the island to Portoferraio where the high schools are located. Another factor influencing the number of PT passengers is tourist typology. In recent years, a relevant decrease of foreign tourists was noticed, and in parallel a notable increase of Italian tourists generally reaching Elba with their own car. Even the service improvements implemented from 2018 by CTT Nord (AVM system, APP for real time timetables, Elba card subscription, new buses, new line, etc.) did not lead to relevant increases of passengers in 2019.

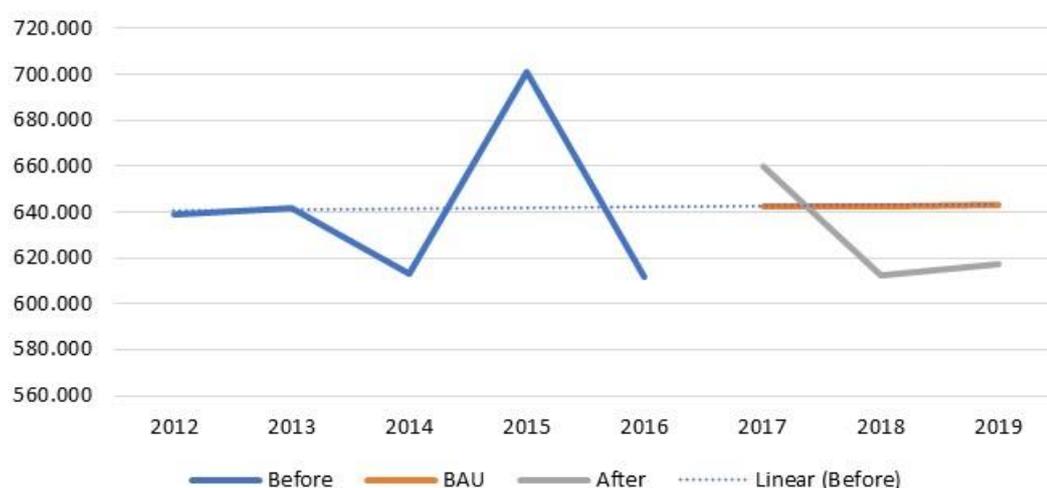


Figure 2: Total PT passengers transported since 2012 and BAU scenario

2 - Bus fleet control level to verify the regularity of the rides

In 2016, the public transport service in the island was not supported by an AVM system and therefore there was no possibility to control the services and regularity of each bus. The timetable at the stops were often not respected and the service reliability index was very low.

In 2018, CTT implemented the AVM system on the Elba bus fleet, which was already operating in other mainland areas served by CTT. The system has led to a marked improvement in fleet operation indexes and compliance with timetables. The AVM system enabled an overall 95% punctuality to be reached, with peaks in normal conditions of 98%.

C2.2 Society

3 - Users' satisfaction with PT system

As established in the agreement between the municipalities of Portoferraio and Rio and CTT Nord, in the summer of 2019, CTT Nord appointed a survey regarding the user satisfaction of the transport service to a specialized company.

Over 527 passengers were interviewed and answered questions related to several aspects of the public transport service offer. In general, the degree of user satisfaction was over 67% (columns 3+4 of Total table).

Aspetti del TPL	1	2	3	4	Don't know	total
I. Extensiveness of the service	61	105	160	154	47	527
II. Needs responsive timetable	84	142	134	141	26	527
III. Timeliness and regularity of the service	35	56	131	270	35	527
IV. Adequate cost of the service	111	134	122	134	26	527
V. Competence of the driver	24	34	134	297	38	527
VI. Courtesy of the driver	24	39	126	298	40	527
VII. Courtesy and competence of the ticket inspectors	23	36	110	293	65	527
VIII. Cleanliness of vehicles	85	117	158	135	32	527
IX. Reliability of vehicles (with respect to mechanics)	55	118	158	145	51	527
X. Comfort of the journey (temperature, crowding, seats'comfort, etc.)	44	106	197	149	31	527
XI. Safety on board (with respect to criminality)	34	51	135	268	39	527
XII. Cleanliness and suitability of the bus stops	96	123	155	126	27	527
XIII. Comprehensibility of the timetables on the poles	131	131	115	108	42	527
XIV. Ease of finding tickets/Availability of tickets	160	93	118	128	28	527

Figure 12: PT customer satisfaction survey results
(1 – not satisfied at all, 2 – low level of satisfaction, 3 – satisfied, 4 – very satisfied)

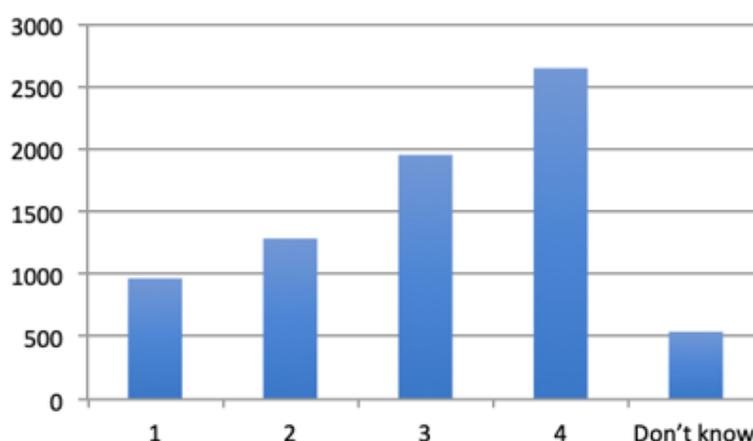


Figure 13: User satisfaction survey summer 2019 (on total answers)

Before the user satisfaction survey, 2 meetings were held (on 15th December 2017 and 5th February 2018) between the Province Authority (manager of the PT) and CTT Nord (Elba PT operator), involving the students of the Portoferraio institutes to find out about their needs and the actual shortcomings of the service.

During the meetings, the various aspects of the PT service (reliability of the service, lack of punctuality, cancelled rides, old buses, low service accessibility, tariff schemes with regard to

origins/destinations, winter and summer offers, etc.) were discussed. CTT Nord guaranteed the students that in the short term, as far as possible, most of the requests will be addressed and a general improvement of the service will be ensured (replacement of some very old vehicles with new ones, App to know the timetables in real time, adaptation of timetables, etc). Due to the fact that the service is funded by the Regional Government, under a service contract, CTT doesn't have free choice to update the service on the road.



Figure 14: Press release on the Elba student requests in meeting of January 5, 2018

4 – User satisfaction with additional public transport system

The user satisfaction surveys launched by the two municipalities about the additional public transport services revealed, in general, a very positive opinion (about 70%). What people appreciate most depends on the specific characteristics of each service. In particular, the "Marebus" service in Rio was considered very useful because it really contributed to the resolution of parking and congestion problems near the most popular settlement on the east coast of the island. One of the reasons why passengers appreciated the "Mini-Ferry" of Portoferraio was the possibility to enjoy a wonderful and unusual view of the island from the sea. The "Cosmopoli by night" bus line was considered well-designed, as it used to connect the most important destinations (big parking areas and the beginning of the LTZ), completely eliminating the stress caused by parking issues. Finally, the flexible services in apecar (buggy) reveals the importance to provide flexible services, that better fit the needs of people who may have impairments but are not necessarily disabled, but who may still find it troubling to walk on ancient pavements or stairways.

C3 Quantifiable targets

No	Target	Rating
1	Improved Elba accessibility for tourists; reduction of car trips	NA
2	Reduction of congestion and emissions	NA
3	Improvement of security and safety	NA
4	Enhancement of cost effectiveness of transport service	NA
5	*PT Increase 10% passengers in 2019 versus 2016	O
6	*Respect of timetables by the bus fleet equal to 95%	**
7	*Citizens satisfaction with transport system more than 60%	**
NA = Not Assessed O = Not Achieved * = Substantially achieved (at least 50%) ** = Achieved in full *** = Exceeded		

*New target, not in GA

Table 5: Assessment of quantifiable targets

In the evaluation phase, after having implemented all the actions envisaged in the measure, it became clear that the impacts indicated in the GA were not quantitatively measurable, although they would have been reached to a certain extent. The reasons for not being quantitatively measurable are the following:

- Although the public transport service quality was improved, it was not followed by a significant increase in the number of passengers. Therefore, the reduction in the number of car trips on the island and the related reduction in emissions were not possible to be quantified.
- On the other hand, the renewal of part of the fleet used for public transport and the AVM system, which allows the transport operator (namely CTT Nord company) to control the circulating buses in real time from the control room, has certainly allowed for the improvement of accessibility in Elba for tourists, and to increase the security and safety of both passengers and drivers. Furthermore, the above-mentioned improvements in the bus fleet and in particular in the AVM system, have also contributed to the enhancement of cost effectiveness of transport services, even if the quantification is uncertain.
- In order to deliver quantifiable targets concerning the improvement of transport services, quantifiable parameters such as the increase in passengers, respect for timetables, and the degree of passenger satisfaction were introduced. Besides being measurable, these parameters, although different from the ones envisaged in the GA, have allowed for the evaluation of the impacts and to gauge the success of the measure.

Target 5 was Not Achieved. The failure to achieve the ex-ante expected values largely depended on the decrease in the number of tourists and their changed typology. It may also be said that the goal (+10%) was too ambitious. This is because, despite the improvements to the service made by CTT Nord, there is a tendency in Italy, particularly in small municipalities with

low population density, to not reach large number of passengers. On the other hand, it is worthwhile to note that, even if the ex-ante target was not reached, the passenger data curve for the year was stabilized and partially improved in 2018-2019.

Target 6 was Achieved in Full. The development of the AVM system allowed the PT manager to see the position of the buses passing through the island in real time. Furthermore, the possibility, always through the same system, of being able to communicate with the driver has made it possible to solve the various delay problems on scheduled times. In addition, through the on-board system, the driver is able to know the advances or delays at each stop and consequently vary the speed of the bus.

Target 7 was Achieved in Full. Many improvements have been carried out including the replacement of older buses, the improvement of the maintenance status of the entire fleet, the increase in frequencies on some lines, the extension of the service to some areas of the island, and the commissioning of the Teseo App (which allows knowledge of real time arrival of buses). All this, together with numerous meetings of PT managers with groups of citizens (e.g. students) and tourists, led to a clear positive change in users' evaluation of the PT service.

C4 Up-scaling of results

Upscaling of results has been estimated with reference to the free bus service, Rio Marebus, connecting the city centre with some beaches. Registered passengers (summer period 2017) on the Rio Marebus service amounted to 5,326 for an average route of 5 km. It can be reasonably estimated that this avoided the use of at least $5,326 / 3 = 1,775$ cars, and therefore a saving of $1,775 * 5 = 8,875$ Km travelled by private cars. Considering a car consumption of 14Km / lt., this is an energy saving of 634 lt. of fuel per year.

The success of the Marebus service is an example for the other municipalities of Elba to organise similar services in the summer period, as done by the Municipality of Marciana in 2020.

If all the municipalities of Elba adopted this summer service, there would be a total energy saving of $634 * 7 = 4,438$ lt. / year on the island, equal to $4,438 * 0.720 * 12.2 = 39,000$ KWh / year.

Even with regard to emissions, there would be an annual reduction of CO₂ equal to $4,438 \text{ lt.} * 2.38 \text{ Kg CO}_2 / \text{lt} = 10,562 \text{ Kg CO}_2 / \text{year}$.

D Process Evaluation Findings

The public transport service throughout the year was provided by CTT Nord, and the PT use by citizens and tourists was so far limited (as already stressed, data until 2017 indicated a utilization rate of 14%). The low use in the past years hindered investment to improve the service, investments that would have compromised the company balance sheets.

In recent years (thanks also to the CIVITAS DESTINATIONS project), an improvement in the PT service and an increase of user (both tourists and residents) satisfaction have been achieved. The ex-post data confirmed the estimated ex-ante targets regarding user satisfaction. Unfortunately, the improvement of the service and the increased user satisfaction did not lead to a relevant increase in passenger numbers, reflecting the lower presence of tourists.

On the other hand, a great success has been reported in Rio for the free summer transport service (“Marebus”) for tourists to visit the beaches by bus. The boat service in Portoferraio bay (“Chicchero”) was only activated for August 2018, but also reached quite satisfactory results, as well as for the Portoferraio night service (“Cosmopoli by night”).

D1 Drivers

The implementation of this measure counted with the political will of the two municipalities of Portoferraio and Rio to improve the public transport service to increase its use and reduce the use of private cars. The excellent relations established between the management of the DESTINATIONS project with CTT Nord, supplier of public transport on the island, also supported the implementation of this measure.

Other factors worked as drivers for the implementation of this measure, such as the pressure towards the municipal authorities of Portoferraio of groups of citizens (for example students) to request the improvement of public transport, the advertising of auxiliary services put into operation by municipalities, and the lack of parking in city centres and near tourist points, which has led tourists to use auxiliary services.

D2 Barriers

The low use of public transport, and therefore its low economic management, led the provider company (CTT Nord) to limit investments to improve the service (such as an increase in frequencies and replacement of old buses). In addition, the fact that the PT provider, CTT Nord, had to leave the supply of PT as it had been entrusted by tender to another company, also led CTT Nord to limit the structural investments to improve the PT. In addition, the mentality of many citizens and tourists to always prefer their car for every trip.

D3 Lessons Learned

The involvement of PT provider managers in the DESTINATIONS project led to hard-to-implement PT improvements. In addition, if municipalities provide **efficient transport auxiliary services**, there is a very positive response from citizens.

E Evaluation conclusion

The improvement in the efficiency of the public transport service (new buses, service regularity reliability, increased number of rides, information in real time to users, etc.) had impacts in terms of higher PT use by citizens and tourists.

A general improvement of the service has been recognised by users' evaluation, even if there was not a corresponding increase in the number of passengers. In any case, the improvement of the service is a basis for a future change in resident and tourist mindsets in the direction of more sustainable mobility use that can limit the use of private cars.

On the other hand, there has been a positive evaluation by tourists also for the summer services implemented in Rio and Portoferraio which, in Rio in particular, have achieved considerable success among residents and tourists.

F Additional information

F1 Appraisal of evaluation approach

The user satisfaction survey was carried out by interviewing, at various bus stops, mainly the persons awaiting the arrival of the bus. Perhaps a different result could have been obtained by interviewing residents and tourists in other locations, thus also including people who are not already inclined to use PT.

The evaluation of free bus tourist services to the main beaches was certainly very positive as demonstrated by the significant number of registered users. It must be also underlined that these services are completely free of charge, and that they have enabled the difficult problem of car parking near the beaches to be solved.

F2 Future activities relating to the measure

In the framework of quality improvement of the PT service achieved in recent years, associated with possible regulation policies to limit the use of private car and a general change of mindset of residents and tourists, the PT may represent a greater share of Elba's mobility in future years.

The intention of the Elba Public Transport Operators (PTO) is to continue renewing the bus fleet and maintaining a dialogue with the Municipalities to try to better meet the needs of users. The various municipalities of the island have confirmed their intention to improve summer transport services for tourists in the years to come.