

LIS_09: To improve the integration of PT and active travel modes

Description of the measure and main outcomes expected

LIS_09 has as main objective to foster the integration of PT and active travel modes in Lisbon metropolitan area. The idea is to generate debate on the importance of the integration of PT and active modes as complementary solutions of mobility at local level. This integration, both at infrastructure and service level, respectively through the installation of cycling infrastructure at PT interfaces and the combination of PT and shared cycling services, is key to raise competitiveness against the use of private car.

The LIS_09 measure intends to increase opportunities for multi-modal trips with bikes and PT through physical and ticketing integration. This need for action in both infrastructure and services, led to two different approaches, and therefore two sub-tasks, described below:

Sub-Task 1: Study of bike parking infrastructure on PT interfaces and stations. The general objective of this sub-task is to analyse the status of cycling parking infrastructure at PT interfaces, and create better conditions in some of them, as pilot and example for others to follow.

Sub-Task 2: Integrate Lisbon bike sharing in PT ticketing system. The general objective of this subtask is to award PT regular users with the possibility of using city shared bikes for free, therefore promoting complementarity of use and solving last-mile issues. This is to be done by technologically integrating GIRA Lisbon municipal bike sharing services, managed by the municipal company EMEL, with PT ticketing services.

Preparation of the measure

LIS_09 measure started with an internal strategic discussion on how to better promote the complementary of PT and active modes at local level. The focus on the integration of both PT and cycling networks led to the identification of two main problems:

Bike users find it difficult to park bikes when reaching the PT network, which results in low use or the transport of bikes in PT vehicles, with consequences to comfort inside the vehicles and limitations at peak hours.

PT users that do not use their bikes to complement PT commuting, also find it limiting to have to pay for bike sharing services and use different access features (no ticket and access integration).

This has led to the definition of two practical solutions:

The creation of parking infrastructures in PT interfaces.

The integration of PT and bike sharing services, both at tariff and ticket levels.

These 2 solutions were assumed as the two sub-tasks of LIS_09 UPPER measure.

Sub-Task 1: Study of bike parking infrastructure on PT interfaces and stations

In this sub-task, special focus is given to the increase on cycle parking infrastructure at interfaces.

Step 1: Identification of PT interfaces where to implement bike parking infrastructure



The definition of the strategy to follow in the implementation of cycling infrastructure on Lisbon metropolitan PT interfaces, started by studying the recent EC project SmartHub methodologies and evaluating if they would be adequate to this UPPER measure.

Then, the topic was discussed with local stakeholders, namely the metropolitan municipalities, the infrastructure owners and the PT operators, to evaluate the importance given to the subject and the interest in participating in the initiative.

At the same time, in the scope of LIS_03, in the development of the Lisbon metropolitan area SUMP, a hierarchy of PT interfaces was defined, based in several criteria. This has also been used in the definition of which PT interfaces should be chosen for the bike parking integration.

Step 2: Engagement of PT interface owners for implementation of the bike parking infrastructure

The results of conversations with stakeholders crossed with bike user experience and the interface ranking, pointed that the interventions in the boat interfaces could be a good solution.

Therefore, deeper discussions were undertaken with the boat operator, Transtejo, and field visits were done to their main interfaces.

Step 3: Definition of interfaces and site visits / Step 4: General definition of requirements for the bike parking installation

Following discussions and visits, a methodology was designed to do the intervention, that included the following steps:

- Preparation and signature of a protocol between the parties to frame the UPPER initiative.

- Technical visits to stations.

- Definition of spaces for installing these bike parking infra-structure.

- Design of the different interventions – one per interface.

- Clarification of the investments to be made.

- Acquisition of components.

- Study and decision of the management/maintenance/cleaning business models.

- Creation of user access rules for bike users.

- Implementations/installations/works.

- Opening to the public.

As main features, the following discussions led the teams to define the following issues:

- to make investments valuing work solutions and acquisition of separate parts (access control, sheffields, fences, cctv...), that prioritize bicycle safety and protection against bad weather, as commuters' bikes tend to remain in the interface for a few hours.

- always ensure the bicycles can be tied to secure infrastructure, that guarantees full security: inverted U / Sheffield type racks and equipment's, guarantee access control whenever possible, etc.

- if possible, install fences that guarantee exclusive access to PT users, namely unlocked by the "navegante" monthly ticket from the rain and the sun.

Two interfaces were selected to be the first to hoist the bike parting infrastructure: Terreiro do Paço and Barreiro. The interfaces were visited and studied, the current use of bikes was monitored, the expected



demand was evaluated. As a result, different intervention scenarios were already discussed for each location.

Sub-Task 2: Integrate Lisbon bike sharing in PT ticketing system

In this sub-task, special focus is given to the integration of PT and public bike sharing services at tariff and ticketing level.

Step 1: Analysis of the PT and bike sharing ticketing systems / Step 2: Definition of technical requirements for ticket integration

This service has become known to the general public as “GIRA NAVEGANTE”, and is only available to residents that are PT users with a valid PT monthly ticket “navegante” in the current month. Only those can access the product, and therefore use the GIRA bike sharing system for free.

The general steps undertaken to the preparation and development of this measure were:

TML and the City of Lisbon discussed the integration of the Lisbon public bike sharing system GIRA with the Lisbon PT ticketing system ‘navegante’ (Fig 47).

The City of Lisbon politically decided to sponsor the free use of bikes by Lisbon inhabitants that use PT services in a regular basis, that is to say, people who live in Lisbon and have a valid monthly PT ticket (named navegante).

TML, that manages the PT ticketing system in Lisbon metropolitan area, and EMEL, the Lisbon municipality company that manages the Lisbon public bike sharing system GIRA, got together to discuss the technical integration of both systems.

Step 3: Developments to integrate the public bike sharing system GIRA and the PT ticketing system ‘navegante’

Regarding the integration, a TML webservice was adapted to be used, including identification of the user and identification of its associated transport card “navegante”. The procedure is the following:

The user acquires a “navegante” PT monthly ticket.

The user opens GIRA app and chooses the “GIRA NAVEGANTE” product.

The user inserts his/hers “navegante” card number.

The GIRA service launches a call to the TML webservice, to check if the card exists and if the monthly ticket for that user for that month is valid.

The webservice then proceeds to verify if the card belongs to the identified user and if the monthly pass was purchased for the month in question.

If so, the GIRA system concedes free access to the GIRA bike sharing service for free for this user until the end of the month.

Each month, the procedure is repeated.



Fig 47. Integration of the public bike sharing system GIRA and the PT ticketing system 'navegante'.

By the submission of this report, this sub-measure has been completed and is already in a demonstration phase. In particular:

- The integration was done.
- Tests were conducted.
- The service was launched.

Challenges & Mitigations

Sub-Task 1: Study of bike parking infrastructure on PT interfaces and stations

Main challenges and mitigations included:

- Depreciation cost rules were an obstacle to the definition of the solutions, so solutions that do not need to be considered under those rules were given priority.
- The boat operator is taking too much time to validate the measure and decide on the solutions to be implemented, therefore TML is looking to other interface owners/managers to implement the sub-task.
- The definition of quality spaces to implement the bike infrastructure were difficult to find, but in the end solutions were found.

Sub-Task 2: Integrate Lisbon bike sharing in PT ticketing system



Main challenges and mitigations included:

The clients in the GIRA system are identified by the national fiscal number and in many cases the “navegante” system did not include that information, which resulted in the failure to match the client to the card. As a mitigation measure, clients were directed to make an update on their navegante information by email. Also, monthly vouchers were attributed to clients when EMEL, the municipal company that manages GIRA, physically validated the client information and monthly pass acquisition.

The transport monthly pass is valid for a calendar month. When a client adheres to GIRA in the middle of the month the access to bikes is only valid for the rest of the month. Communication was reinforced in this case.

The “navegante” system sales operation are not performed online with the system that validates the validity of the Gira access. This means that if a client purchases the monthly pass and immediately tries to access GIRA it will give an error indicating the pass has not been acquired. For the moment the client is urged to retry later. Additionally at a back-office level, EMEL, the municipal company that manages GIRA, implemented a mechanism to also retry without additional user input.

Next steps towards implementation

Sub-Task 1: Study of bike parking infrastructure on PT interfaces and stations

The work is following in a continuous base. Currently:

Transtejo is doing some benchmarking and looking into the market for competitive commercial solutions for bike parking in buildings.

Transtejo is designing interventions for different scenarios.

Next steps towards implementation include:

Transtejo Board will validate the proposed approach.

Investments to be made will be defined.

The bike associations will be called to give their opinion of the different scenarios, solutions, equipments and infrastructure management rules.

Management/maintenance/cleaning business models will be studied.

Transtejo Board will choose the solutions to be implemented in each interface.

User access rules for bikers will be made.

Acquisition of works and components will take place (part of T6.2).

The implementation and demonstration phase (WP6) will include:

Implementations/installations/works will take place

Opening to the public

TML will look into other interfaces for a possible second round of interventions

Eventually, a campaign will be designed to showcase the measure

Sub-Task 2: Integrate Lisbon bike sharing in PT ticketing system



This sub-measure is already implemented. During the demonstration phase, the next activities will be conducted:

Systems maintenance

Evaluation of customers opinions/complains

Debugging / correction of errors

Evaluation of the measure (data analysis)

Implement notification interface to inform Gira system when new information arrives at “navegante” system