DESTINATIONS

Measure Evaluation Results

LPA 3.1 - Attractive, safe and accessible public space at major attractions

Project Acronym:	DESTINATIONS
Full Title: CIVITAS DESTINATIONS	
Grant Agreement No.:	689031
Workpackage: 9 - Evaluation	
Responsible Author(s): Jordi Casas (CINESI)	
Responsible Co-Author(s): Antonio Artiles (Guaguas Municipales) and Clara Bellera (Cinesi)	
Date:	22/03/2021
Status:	Final
Dissemination level:	Public

Executive Summary

In recent years, Las Palmas de Gran Canaria has kept attracting visitors in steadily growing numbers, resulting in a need for improving mobility management for tourists and local tourism operators within the city.

The main goal of this measure was to create a Laboratory Area for sustainable urban mobility around the Puerto Ciudad area (close to the new Aquarium and the Cruise Terminal), where plenty of touristic and leisure attractions are located. At the beginning of the project lifetime, the new Aquarium was still under construction and was expected to become a major tourist attraction in the city attracting over 500,000 visitors per year. In addition, it is important to outline that the annual number of cruise passengers passing through the Cruise Terminal was expected to grow to 1 million by 2020.

The LPA 3.1 measure reached its main objectives: (1) To assess the impact of the new Aquarium in the current mobility system by drafting a Mobility Plan for the northern part of the city; and (2) To set up a Laboratory Area reshaping the public space of this area and fostering universal accessibility solutions.

This Mobility Plan for the northern part of the city is the core of the LPA 3.1 measure. Its goal is to foster a balanced development of all relevant transport modes by setting the following specific objectives: (1) To reduce car use; (2) To encourage a shift towards more sustainable modes; and (3) To tackle traffic congestion.

The evaluation framework included an assessment of the baseline situation through a comprehensive data collection campaign – using Scout cameras, automatic and manual for car counting, and also a household mobility survey to 800 residents on the island – and a traffic simulation using AIMSUN NT. Following this, all the involved stakeholders – Municipality of Las Palmas de Gran Canaria, Guaguas Municipales, Sagulpa, Port of Las Palmas Authority, Gran Canaria Tourism Board, the new Aquarium Poema del Mar, Cruise Companies and Tour Operators – selected an effective package of measures, considering experiences from other places with similar policies, ensuring value for money, and exploiting synergies between measures as much as possible.

The improvement of sustainable mobility in the Laboratory Area has been the result of the cumulative effect of a wide range of measures and actions. Thanks to this approach, the Laboratory Area has become a traffic-calmed area, which is very attractive for pedestrians and cyclists. The combination of push and pull measures addressed to the specific needs and requirements of both residents and tourists has helped to settle a sustainable mobility system into this area.

The effect of measure LPA 3.1 was seen in the evaluation phase, using different indicators. The length of the walking network in the Laboratory Area increased by 3.7% (with new traffic calmed and car-free or pedestrianised streets) and the cycling network increased by 5.1% (with bike lanes and 30km/h speed-limited streets). Moreover, there was a drop of 27% in traffic flow on average in this area. This was measured using loop detectors and video recordings in the peak hour (8-9 am) of a business day in three streets inside the Laboratory Area.

A Description

One of the main actions developed under this measure was the development of **a Mobility Plan to assess the impact of the new Aquarium in the current mobility system in the northern area of the city**. In addition, the intention was to foster a balanced development of all relevant transport modes by setting the following specific objectives: (1) To reduce car use; (2) To encourage a shift towards more sustainable modes; and (3) To tackle traffic congestion.

The geographic scope of this plan covered the northern area of Las Palmas de Gran Canaria (the *Isleta-Puerto-Guanarteme* district). The Laboratory Area – the surrounding area of the new Aquarium – is located within this district and includes some of the most important tourist hotspots in the city (including the Cruise Terminal, a shopping mall, the main bus station, and the new Aquarium).
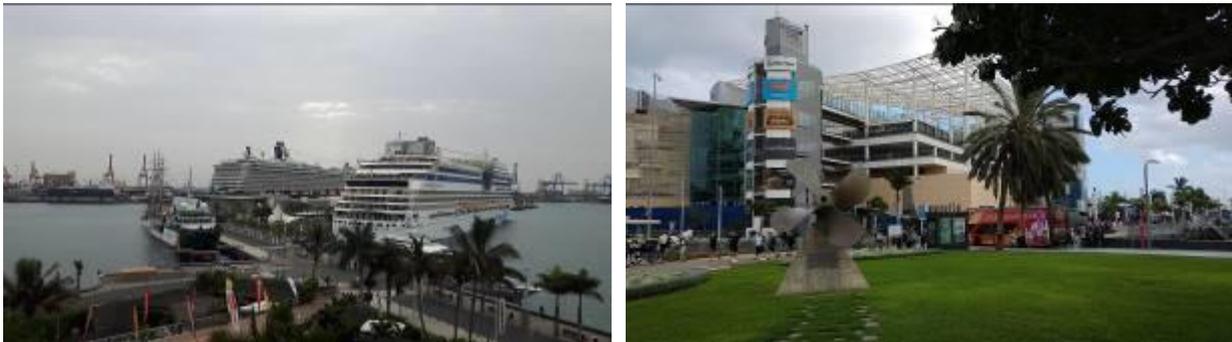
Figure 1: Cruise terminal and shopping mall in the Laboratory Area

An effective package of measures was selected, based on discussions with key stakeholders (Aquarium, shopping mall, and port managers, Gran Canaria Tourism Board, etc.). These discussions considered experiences from other places with similar policies, ensuring value for money, and exploiting synergies between measures as much as possible. The project supported the design and feasibility study of this integrated set of technical, infrastructure, policy-based, and soft measures, but did not fund their implementation.

Some of these measures – with no funding from CIVITAS DESTINATIONS – have already been implemented during the project lifetime. These include a new walking path that connects the study area with the main promenade (the public investment has been over 3.6 M€); a wide range of actions to improve accessibility (sidewalks, crosswalks in all street crossings, curb ramps for pedestrians in all crosswalks, etc.); a new taxi station and loading/unloading bays for coaches; and a new walking and cycling connection to overcome the GC-1 highway.

Unfortunately, some other tasks initially included in this measure could not be implemented due to a number of reasons. This is the case of the design and implementation of two new bus stops in this area and the design and implementation of a communication and information campaign of the improved area. These two actions did not have any CIVITAS DESTINATIONS funding but were integrated into the whole improvement strategy for the Puerto Ciudad area. These were not implemented due to delays of the new Bus Rapid Transit (called Metroguagua) for the city (expected by 2022). The Metroguagua will connect the northern and southern neighbourhoods of the city with a high-quality bus-based transit system.

A1 Objectives and outputs

City policy level objectives

- Promotion of sustainable mobility among citizens and visitors
  Efficient and coordinated use of the different transport modes (urban public transport, pedestrian and bike mobility)

Measure specific objectives

- Improve accessibility for physically impaired people
- Carry out communication and information campaigns about sustainable mobility
- Raise awareness about sustainable mobility benefits amongst citizens
- Increase awareness about sustainable mobility options among visitors
- Widely share and communicate the sustainable mobility experiences and outcomes with citizens and key local stakeholders
- Foster key local stakeholders' involvement in the decision-making process regarding mobility issues
- Support the Mobility Department of the Municipality of Las Palmas de Gran Canaria and the Mobility Office (LPA 2.1) when implementing the measures defined in the Action Plan of the city's SUMP
- Identify and analyse the mobility patterns of different targets groups (students, tourists, commuters, etc.)
- Shift the travel behaviour of tourists towards more sustainable modes

Outputs[1]

- A Mobility Plan for the Laboratory Area around the new Aquarium (Puerto Ciudad)
- Stations for the public e-bike system (LPA 4.1)
- Charging stations for electric vehicles (LPA 4.2)
- **A new walking path that connects the study area with the main promenade (the public investment has been over 3.6 M€)
- **Actions to improve accessibility (sidewalks, crosswalks in all street crossings, curb ramps for pedestrians in all crosswalks, etc.) in the Laboratory Area
- **A new taxi station and loading/unloading bays for coaches
- **A new walking and cycling connection to overcome the GC-1 highway. This new walking path connects the new Aquarium with *La Isleta* neighbourhood and some touristic hotspots such as the *Mercado del Puerto, Castillo de la Luz* and *Las Canteras* beach. The public investment for this new infrastructure reached 2.3 M€

Supporting activities

Besides the actions mentioned in this measure, some other traffic calming measures have been implemented in streets within this area since 2015. These include sidewalk widening (at Fernando Guanarteme Street), diverters and other volume management strategies (at José Franchy Roca Street), or chicanes and lane shifts (at Fray Junípero Square). Moreover, Luis Morote Street was turned into a shared street in 2015 by removing the physical distinctions between pedestrian, cycle, and vehicular spaces. In addition, there have been other actions carried out in the Laboratory Area outside the DESTINATIONS project that increased and supported the design of the measure. Some of these actions are, for example, the construction

---

[1] ** Extra-output during DESTINATIONS funded by other financial instruments.

of a walkway (https://www.laspalmasgc.es/es/otras-secciones/pasarela-puerto-ciudad/), and the renewal and improvement of the maritime front in this area (https://www.laprovincia.es/las-palmas/2019/09/23/inaugurado-nuevo-frente-maritimo-santa/1212158.html).

A2 Inter-relationship with other measures

Elements from other measures were combined in the Laboratory Area:

- Bus stops with real-time information panels (LPA 7.3)
- Stations for the public e-bike system (LPA 4.1)
- Charging stations for electric vehicles (LPA 4.2)
- Integrated payment solutions to combine mobility and tourist attractions (LPA 6.2)

Moreover, this measure has also been affected by other measures that the Municipality of Las Palmas de Gran Canaria has implemented outside the DESTINATIONS project. Some examples are the implementation of a new parking management scheme, and the implementation of traffic calming measures (creating shared streets, improving and enlarging pedestrian space, raised crossings and continuous paths without interruptions at crossings, etc.).

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

The part of the city affected by this measure is the "Laboratory Area" around the "Puerto Ciudad" area (close to the new Aquarium and the Cruise Terminal), and the beneficiaries of these improvements are the residents and the tourists that will visit this area.

A4 Stakeholders: CIVITAS project partners and other important actors

| Stakeholder name	Activities description
Las Palmas Port Authority	Responsible for the part of the harbour next to the downtown city. Therefore, they are a key local stakeholder when planning to implement urban changes in this part of the city.
"El Muelle" shopping mall managers	The main commercial mall in the area. Information and dissemination contribution.
New Aquarium "Poema del Mar" managers	This will be the main hotspot in this area. We are looking for a close collaboration with them to promote sustainable mobility measures amongst tourists. Information and dissemination contribution.
F.E.H.T. – Federación de empresarios de Hostelería y Turismo de Las Palmas.	It is important to strengthen the relationship with this key local stakeholder as their associates are in close contact with tourists during their stay in Las Palmas de Gran Canaria. Information and dissemination contribution.
Gran Canaria Tourism Board	Collaboration in the information and disseminations campaign about the Laboratory Area.

Table 1: Stakeholder involvement

B Measure implementation

B1 Situation before CIVITAS

Even before the start of the CIVITAS DESTINATIONS project, plenty of touristic and leisure attractions were organised in the "Puerto Ciudad" area (the Laboratory Area for the CIVITAS DESTINATIONS project), and many events are held there all year long. When the CIVITAS DESTINATIONS project started, the inauguration of the new Aquarium, located in this Laboratory Area, was planned for 2017. Firstly, the impact of the new mobility generated by the Aquarium within this area needed to be assessed, and then new measures proposed to ensure mobility would be as sustainable as possible in this tourist hotspot in the city. This was the aim of measure LPA 3.1 and the Mobility Plan drafted within it.

B2 Innovative aspects

Firstly, in order to implement pilot measures to foster a sustainable mobility system and evaluate its effectiveness, an innovative approach was needed – the creation of a Laboratory Area. Secondly, traffic modelling software was used to assess the current mobility situation in the area. This software was also used to assess the impact analysis of the future scenarios (do-nothing-scenario, business-as-usual scenario, BRT scenario, etc.). Thirdly, the use of Scout cameras for traffic data collection, which were the industry-leading traffic-counting devices, built for reliable, unattended field operation for days at a time. Scout cameras provide the optimal setup for a variety of traffic studies, and are easy and safe to setup and operate at the roadside. And last but not least, this has been the first time that a sustainable mobility approach has been applied to assess the impact of a new tourist hotspot (the new Aquarium).
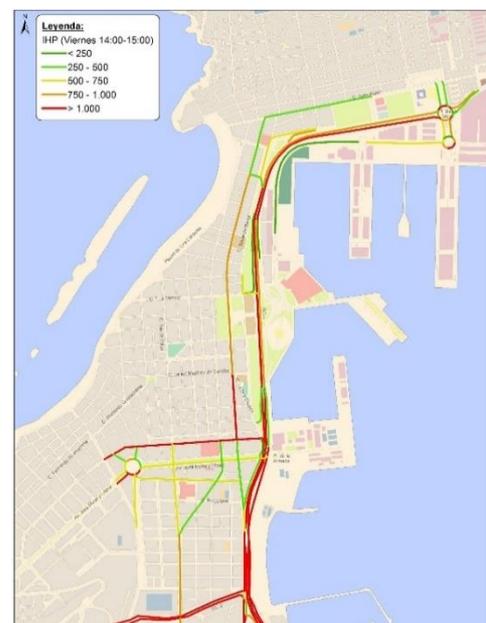
Figure 2: Traffic simulation (AIMSUN NT)

B3 Research and technology development

Scout cameras have been used for the traffic data collection of this measure. Scout cameras are the industry leading traffic counting devices, built for reliable, unattended field operation for days at a time. They provide the optimal setup for a variety of traffic studies, and are easy and safe to setup and operate at the roadside.

B4 Actual implementation of the measure

The implementation of this measure consisted of setting up the Laboratory Area as well as the development of a Mobility Plan. This Mobility Plan took into account the impact of the new mobility generated by the Aquarium, which was recently inaugurated in this Laboratory Area. Before the development of the Mobility Plan, several data collection campaigns took place

(using cameras for car counting, mobility surveys) as well as traffic simulation using specific software, as per Figure 3. Moreover, involved stakeholders were also consulted.

Figure 3: Automatic car counting and Scout cameras used in the data collection campaign

All of this resulted in a Mobility Plan which proposed an effective package of measures for promoting sustainable mobility in this area. The implementation of these measures was the "setting up of the Laboratory Area". The measures implemented consisted of the creation of a new walking path, a wide range of actions to improve accessibility (sidewalks, crosswalks in all street crossings, curb ramps for pedestrians in all crosswalks, etc.), new cycling connections, the installation of new stations for the public e-bike system, and new charging stations for electric vehicles. Specific measures dedicated to users with reduced mobility were also implemented, such as the curb ramps for pedestrians in all crosswalks.

However, the design and implementation of the two new bus stops in this Laboratory Area did not take place during DESTINATIONS, as the new BRT system (Metroguagua) will not be in service in 2021.

Figure 4: A new walking and cycling connection to overcome the GC-1 highway

Figure 5: Actions to improve accessibility (sidewalks, crosswalks, curb ramps, etc.)

Figure 6: A new walking path - connects the study area with the main promenade

Figure 7: A new taxi station and loading/unloading bays for coaches

C Impact evaluation

C1 Evaluation approach

Expected impacts and indicators

Impact category	Impact indicator	Unit of measure
Transport	1 – Traffic flow (peak)	veh/hour
Transport	2 – Opportunity for walking	km
Transport	3 – Opportunity for cycling	km

Table 2: Expected impacts and indicators

Method of measurement

Impact indicator	Method *	Frequency (Months)			Target Group	Domain (demonstration area or city)
		Bef.	Dur.	After		
1 – Traffic flow (peak)	DC	9	n.a.	43	citizens	demonstration area
2 – Opportunity for walking	DC	4	n.a.	42	citizens / tourists	demonstration area
3 – Opportunity for cycling	DC	4	n.a.	42	citizens / tourists	demonstration area

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

Table 3: Method of measurement

Detailed description of the indicator methodologies:

1. **Traffic flow (peak) –** This indicator measured the average daily vehicle flow during the peak hour. The value shown was the average traffic flow (veh/h) registered in the peak hour (8-9am) of a business day in three streets inside the Laboratory Area. Data was collected using loop detectors (for the baseline value) and video recordings (for the ex-post value).

2. **Opportunity for walking –** This indicator showed the total length (number of kilometres) of the traffic calmed and car-free/pedestrianised streets (pedestrian zones, living streets / shared spaces and Zone 30 streets) inside the Laboratory Area.

3. **Opportunity for cycling** – This indicator showed the total length (number of kilometres) of bike lanes, pedestrian zones, living streets / shared spaces, and Zone 30 streets inside the Laboratory Area, as these are the spaces that bikes are allowed to use.

The Business-as-Usual scenario

If measure LPA 3.1 had not been implemented, this area of Las Palmas de Gran Canaria where the new Aquarium was inaugurated would lack many elements that foster the use of sustainable mobility. As explained before, the Aquarium attracts even more visitors to this already touristic area, and measure LPA 3.1 allowed assessment of the impact of this new mobility, and implemented actions to facilitate the use of sustainable mobility.

C2 Measure results

Impact category	Impact indicator	Unit of measure	Baseline	Ex-Ante	Ex-Post
Transport	1 - Traffic flow (peak)	veh/hour	889	711	651
Transport	2 - Opportunity for walking	km	25,99	31,19	26,95
Transport	3 - Opportunity for cycling	km	31,34	37,61	32,96

Table 4: Measure results

C2.3 Transport

1 - Traffic flow (peak)

The actions carried out in the Laboratory Area to promote sustainable transportation (walking, cycling and public transport) were expected to reduce car use compared to the situation before DESTINATIONS. The traffic flow inside the Laboratory Area was expected to be reduced by 20% but measurements showed an even higher reduction (26.8%).

2 - Opportunity for walking

The number of kilometres of traffic calmed and car-free/pedestrianised streets was expected to be increased by 20% with the setting up of the Laboratory Area. In the end, the executed measures of the Mobility Plan have increased the pedestrianised streets by approximately 1km, which is still good news for active mobility.

3 - Opportunity for cycling

During the CIVITAS DESTINATIONS project, the bike lanes inside the Laboratory Area were increased by an additional 700 meters (approximately). At the beginning of the project, an overly optimistic objective was set, at 6000 additional meters, which is 20% more than the initial situation.

C3 Quantifiable targets

No	Target	Rating
1	Increased satisfaction among tourists about the quality of mobility services at the tourist destination	★★
2	Increased accessibility for the physically impaired	★★
3	Fewer injuries/deaths from road accidents in the area	NA
4	Decrease in feelings of insecurity	NA
5	Modal split among the 500,000 visitors of the Aquarium	★★★
6	More passengers using bus stops in the area (compared to other bus stops)	★
7	More pedestrians in the area	★★★
8	More users of public bike stations in the area (compared to other Public bike stations)	★★★
NA = Not Assessed O = Not Achieved ★ = Substantially achieved (at least 50%) ★★ = Achieved in full ★★★ = Exceeded		

Table 5: Assessment of quantifiable targets

The indicators considered to evaluate the actions implemented under this measure were not foreseen at the outset of the project. However, in order to evaluate the GA Quantifiable Targets, it was difficult to find which indicators would be appropriate and especially, possible to evaluate. For the three indicators considered, it was possible to obtain data. Moreover, they are related to the Quantifiable Targets that involve improvement of accessibility and increases in pedestrian and bike users in the Laboratory Area, as a reduction of cars and an increase in the offer of walking and cycling lanes foster more active mobility.

Target 1 was Achieved in full. The satisfaction among tourists about the quality of the mobility services was evaluated through surveys in 2019, carried out under measure LPA 2.2 - *SMART Destination*. The quality of mobility services was rated at 7.8/10. This value is not comparable with a baseline value as it has never been evaluated before, but 7.8/10 exceeds the forecast, which was 7/10 for this concept.

Target 2 was Achieved in full, as within the framework of this measure, many actions to improve accessibility inside the Laboratory Area were carried out, including specific actions dedicated to citizens and tourists with reduced mobility. These included sidewalks, crosswalks in all street crossings, curb ramps for pedestrians in all crosswalks (specially for people with reduced mobility), etc. Therefore, there are more accessible elements now than in the baseline situation.

Target 5, 7, and 8 were considered as Exceeded. The actions carried out under this measure contributed to the increase of the number of available kms for walking and cycling in the city, providing enhanced conditions for cycling and walking and, therefore, promoted the use of these sustainable modes. The percentage of people using active transport modes in the city has increased from 15% in 2016 to 19% in 2018, according to the **modal split** of the city. It was assumed that the variation in the Laboratory Area was the same as which took place in the whole city.

The result achieved in terms of modal split (+4% of trips by active modes), reflects a cumulative effect of the implementation of a combination of measures and actions.[2]

Target 6 was Substantially Achieved because there was an increase of 15% in bus passengers between 2016 and 2019 in the whole city of Las Palmas de Gran Canaria. Even though there was no data available for the specific zone of the Laboratory Area, it was assumed that the increase was at least the same. The indicator "bus passengers transported" was evaluated specifically in measure LPA 7.4 - *Integrated payment solutions for mobility and tourism*.

Finally, there are two quantifiable targets that have not been assessed: *fewer injuries/deaths from road accidents* in the area and *decrease in feelings of insecurity*. The first could not be assessed as there was no information about the number of road accidents inside the Laboratory Area before and after the CIVITAS Destinations project. However, as the motorised traffic in the Laboratory Area has been reduced (as indicator *1 - Traffic flow* shows), and there is more space dedicated to pedestrians and fewer cars, it could be assumed that this area is safer than it was before the implementation of LPA 3.1, and there should therefore be fewer injuries/deaths from road accidents. The feelings of insecurity could also not be evaluated because there were no surveys carried out that asked for information on this topic within the Laboratory Area.

C4 Up-scaling of results

Getting to know mobility patterns in touristic zones (as was achieved in this measure with the development of the Mobility Plan) contributes to the improvement of sustainable mobility from connecting tourist hotspots and attractions. Therefore, this approach can be applied in other touristic zones.

The traffic simulation used in this measure was integrated into the overall traffic simulation being used to assess traffic performance in the whole city. This will be used to update the SUMP (measure LPA 2.1)
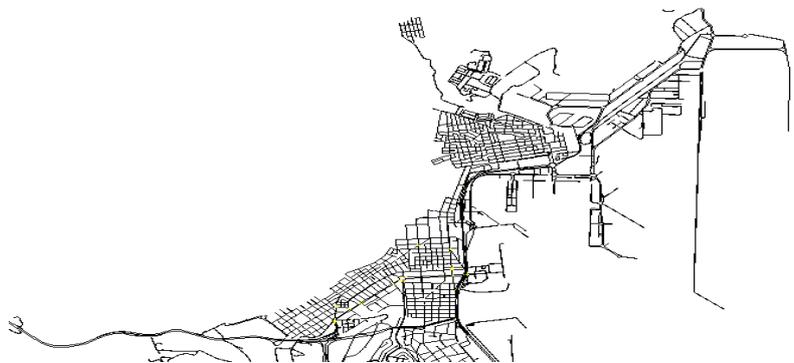
Figure 8: Traffic modelling of the norther area of Las Palmas de Gran Canaria

---

[2] For more details regarding the cumulative effects under modal split indicator, see the "MER Introduction: Global Executive Summary and Common Indicators" document

D Process Evaluation Findings

D1 Drivers

A driver for this measure was the involvement of all key local stakeholders in the mobility planning of the Laboratory Area beforehand.

D2 Barriers

Despite the success of having involved all key local stakeholders in the mobility planning of this new area of the city, there have been some obstacles and barriers for its success. On the one hand, the decision-making processes of Public Administrations have quite different characteristics (pace, deadlines, paperwork, etc.), which had a negative impact on the smooth development of the project. On the other hand, an important part of this study area was located within the Las Palmas harbour, which depended directly on the National Government and had special urban regulations.

D3 Main Lessons Learned

The improvement of sustainable mobility in the Laboratory Area was the result of the cumulative effect of a wide range of measures and actions. Thanks to this approach, the Laboratory Area has become a traffic-calmed area, which is now very attractive for pedestrians and cyclists. The combination of push and pull measures, addressed to the specific needs and requirements of both residents and tourists, has been the best way to promote a sustainable mobility system in this area.

E Evaluation conclusions

Cinesi adapted traditional transport and sustainable mobility methodologies to the needs and requirements of a highly touristic area. This approach made it possible to improve the planning process, and to integrate tourism and transport products and services.

Unfortunately, it has been difficult to implement most of the measures included in the Mobility Plan in the northern area of Las Palmas de Gran Canaria, despite the willingness and interest of all stakeholders involved.

F Additional information

F1 Appraisal of evaluation approach

The actions carried out in the Laboratory Area within this measure were evaluated through three indicators. One measured the opportunity for walking, and another the opportunity for cycling. These values (km) were easy to obtain as the Municipality keeps these maps updated. The final indicator measured the evolution of traffic flow in the Laboratory Area. For this indicator, data was collected using loop detectors and video recordings of vehicles on several streets of the Laboratory Area before and after the implementation of LPA 3.1, and the results were used to calculate an average for the indicator.

F2 Future activities relating to the measure

The northern area of Las Palmas de Gran Canaria (and specifically the Laboratory Area) will be further developed in terms of sustainable mobility thanks to the upcoming BRT system that will be implemented in 2022.

The pictures below show the public space improvements due to the BRT system development (Av. Mesa y López). This is an example of the transformation that the northern area / Laboratory Area will experience in the coming months.

Figure 9: BRT system development (Av. Mesa y López)

Figure 10: BRT system development (Av. Mesa y López)