CIVITAS 2020
Cleaner and better transport in cities

ECCENTRIC

D4.2 Implementation Report WP4 Cluster 2:

Measures to increase the share of walking and cycling

Deliverable No.:	4.2
Project Acronym:	CIVITAS ECCENTRIC
Full Title:	
Innovative solutions for sustainable mobility of people in suburban city districts and emission free freight logistics in urban centres	
Grant Agreement No.:	690699
Work package/Measure No.:	4
Work package/ Measure Title:	
Increasing the share of walking and cycling	
Responsible Author(s):	
Anne Bastian, Paul Fenton	
Responsible Co-Author(s):	
Measure leaders	

CIVITAS 2020
Cleaner and better transport in cities
ECCENTRIC

THE CIVITAS INITIATIVE IS CO-FINANCED BY THE EUROPEAN UNION

Abstract

The report presents a technical description of the demonstration measures MAD 4.6, MAD 4.7, TUR 4.8 and STO 4.9 aiming to increase the share of walking and cycling at the Living Lab Areas, including a description of the implementation process and of the main challenges and success factors encountered during the implementation phase.

Cluster Partners

Organisation	Country	Abbreviation
Ayuntamiento de Madrid	Spain	AYTOMADRID
Grupo de Estudios y Alternativas 21 SL	Spain	GEA21
Stockholms Stad	Sweden	STO
Cykelconsulterna Sverige AB	Sweden	CYKEL
City of Turku	Finland	TUR
Turun Ammattikorekeakoulu OY	Finland	TUAS

Document History

Date	Person	Action	Status	Diss. Level
	Anne Bastian	draft based on input from measure leaders	draft	measure leaders
17/12/2018	Carlos Verdaguer	First format checking	Draft	
29/12/2018	Carlos Verdaguer	First quality check		
09/02/2019	Measure leaders	Final update of the measures	Draft	
11/02/2019	Carlos Verdaguer	Quality check	Draft	
28/02/2019	Isabela Velazquez Measure leaders	Update delayed measures	Draft	
03/03/2019	Carlos Verdaguer	Final Quality Check	Final Draft	

Status: Draft, Final, Approved, and Submitted (to European Commission).

Dissemination Level: PC = Project Coordinator, SC=Site Coordinator, TC=Technical Coordinator, EM=Evaluation Manager.

Table of Contents

List of Figures

List of Acronyms

ACM	Adaptive City Mobility
API	Application Programme interface
ca	*circa* (around)
CO_2	Carbon Dioxide
DX.X	Deliverable
DoA	Description of the Action
DMP	Data Management Plan
EC	European Commission
ECOMM	European Conference on Mobility Management
EU	European Union
EV	Electric Vehicle
e.g.	*exempli gratia* (for example)
FCEV	Fuel Cell Electric Vehicle
GA	Grant Agreement
H2020	Horizon 2020
HOV	High Occupancy Vehicle
IA	Innovation Actions
i.e.	*id est* (that is to say)
ICT	Information and Communications Technology
IEE	Intelligent Energy Europe
IHFEM	Integrated Action Program for the Promotion of Electromobility in Munich
IT	Information Technology
KoM	Kick-off Meeting
KPI	Key Performance Indicator
LBG	Liquid Biogas
LDM	Local Dissemination Manager
LEM	Local Evaluation Manager
MaaR	Mobility as a Right
MaaS	Mobility as a Service
MER	Measure Evaluation Report
ML	Measure Leader
MR	Measure Report

MS	Milestone
NGO	Non-Governmental Organization
NOx	Nitrogen Oxides
OCG	Observers City Group
P&R	Park & Ride
P2P	Peer to peer
PAC	Political Advisory Committee
PAG	Political Advisory Group
PDM	Project Dissemination Manager
PER	Process Evaluation Report
PEM	Project Evaluation Manager
PMG	Project Management Group
PT	Public Transport
SM	Site Manager
SUMP	Sustainable Urban Mobility Plan
WP	Work Package
WPL	Work Package Leader
WS	Workshop
WT	Work plan Table

Executive Summary

CIVITAS ECCENTRIC work package 4 ‘Enabling safe walking and cycling’ comprises nine measures aiming to increase the safety and the share of active modes in Madrid, Munich, Ruse, Stockholm and Turku.

This report focuses on the implementation of those four measures within the work package, that are related to increasing the share of walking and cycling, by making it more attractive year round, and by providing the opportunity to try out e-bikes - to let people experience the advantages of cycling. In Madrid, suburban districts bicycle and walking infrastructure and public places are being improved. In Turku, a new form of winter maintenance of cycling and walking paths was implemented. In Stockholm, citizens and companies were given the opportunity to test e-bikes and e-freight bikes.

The overarching conclusions from the measures discussed in this report are:

1. Importance of stakeholder engagement in every part of the process
2. Importance of financial analysis, negotiation and risk management
3. Importance of data collection and effect size analysis from the start

1 Introduction

In the last decade, European cities have made significant steps forward in the delivery of sustainable urban mobility policies, proving that major impacts in terms of congestion and reduced emissions can be achieved through ambitious measures.

The main common challenges are to relieve central areas through clean and efficient urban logistics, as well as to increase the attractiveness and sustainable mobility of suburban districts. To tackle these common challenges, the cities of Madrid, Stockholm, Munich, Turku and Ruse have formed the CIVITAS ECCENTRIC consortium (European Commission, 2016).

The overall objective of the project is to demonstrate and test the potential and replicability of integrated and inclusive urban planning and sustainable mobility measures that increase the quality of life of all citizens in urban areas, with a particular focus on suburban districts and new developments and the clean organisation of urban freight logistics.

Work package 4 (WP4) comprises nine measures aiming to increase the safety (cluster 2) and widen the uptake (cluster 1) of walking and cycling in Madrid, Munich, Ruse, Stockholm and Turku, see table below. This report focuses on those measures within the work package that are related to widening uptake (cluster 1).

Cluster	Measure	City	Partners
1	MAD 4.1 Innovative and participative approach to traffic safety	MAD	01 AYTOMAD

1	MUC 4.2 Software-controlled safety management of the road network	MUC	16 LHM
1	RUS 4.3 Providing secure pedestrian crosswalks	RUS	27 RUSEMUN 28 CSDCS
1	RUS 4.4 Safe sidewalks with cycling facilities towards the city centre	RUS	27 RUSEMUN 28 CSDCS
1	STO 4.5 Policy for re-routing cyclists during construction work	STO	09 STO
2	MAD 4.6 Pedestrian friendly public space outside the city centre	MAD	01.AYTOMAD 02 GEA21
2	MAD 4.7 Enabling cycling outside the city centre	MAD	01.AYTOMAD 02 GEA21
2	TUR 4.8 Easy, safe and comfortable cycling and walking round the year	TUR	21TUR 25 TUAS
2	STO 4.9 Offering test fleets of e-bikes and e-fright bikes	STO	14 CYKEL 09 STO

Table 1: Overview of the measures included in WP4

2 Explanation of the work implemented in WP4 Cluster 2: Measures to increase the share of walking and cycling

The measures in this cluster aim to increase the share of walking and cycling, by making it more attractive year round, and to provide the opportunity to try out e-bikes to let people experience the advantages of cycling.

In Madrid, suburban bicycle and walking infrastructure and public places will be improved. In Turku, a new form of winter maintenance of cycling and walking paths was implemented. In Stockholm, citizens and companies were given the opportunity to test e-bikes and e-freight bikes.

2.1 MAD 4.6 Pedestrian friendly public space outside the city centre

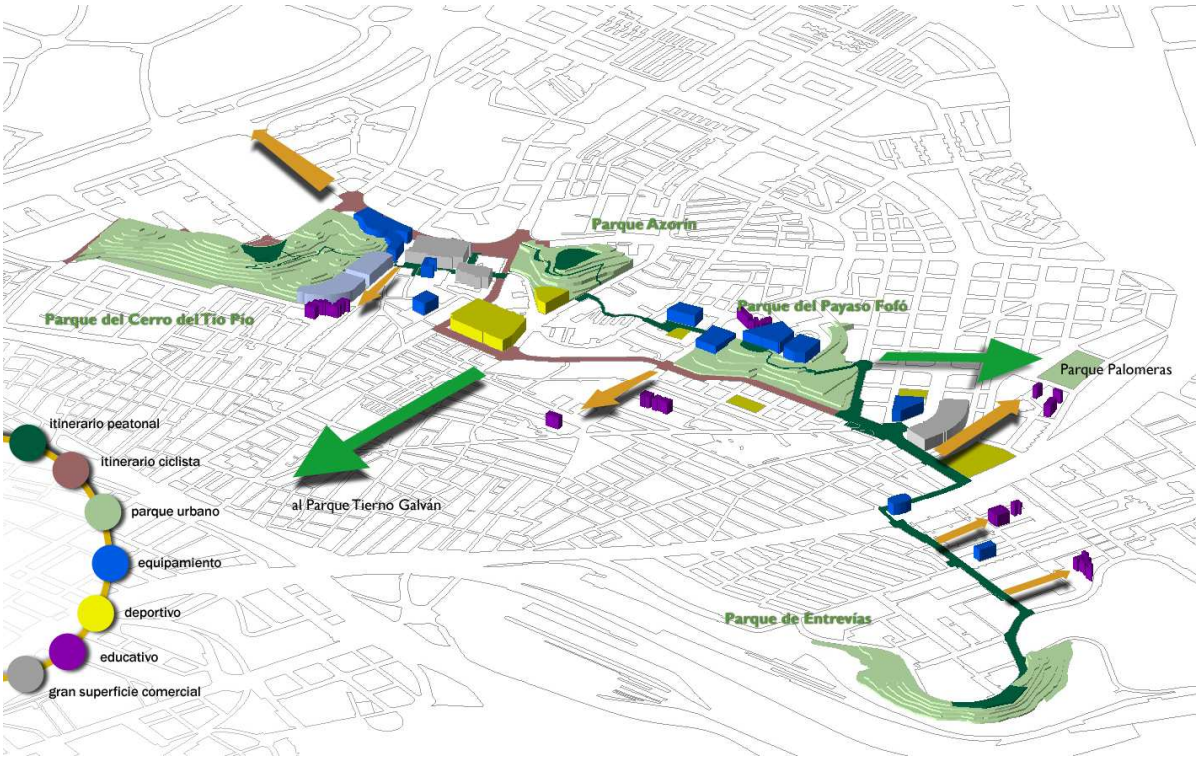

Figure 1: Viewpoints Itinerary (Vallecas Lab Area)

2.1.1 Introduction

This measure is about improving the quality of pedestrian routes in a peripheral district, the Living Lab of Vallecas, by increasing the modal share for walking, cycling and public transport in order to obtain a liveable and accessible space for pedestrian daily trips and to promote active and sustainable modes in cooperation with neighbours and local stakeholders. Through this measure, the Municipality of Madrid is seeking to upscale its previous Pedestrian Strategy focused mainly on the central area to include also city outskirts.

The main general objectives are to improve health and air quality, avoiding unnecessary car trips, shift urban mobility in outskirts from dominance of motorized travels to active trips priority, increase safety and perception of security, provide a solution to disconnected areas, improve the connection with high attraction nodes and other districts, addressing the existing demand from residents.

After a first analysis of the Living Lab walkability and the definition of an initial network of pedestrian facilities in the preparation phase (now in study to be implemented gradually), it has been decided to focus the objectives on five specific pilot actions: the Viewpoints Itinerary, the Sierra de Guadalupe mobility station (following Munich's proposal for placemaking and integrating new transport modes in the intermodal nodes), a tactic intervention in the link between the neighbourhood and the University campus, the priority for pedestrians of the Puente de Vallecas core and the awareness campaign about new Sustainable Mobility Ordinance.

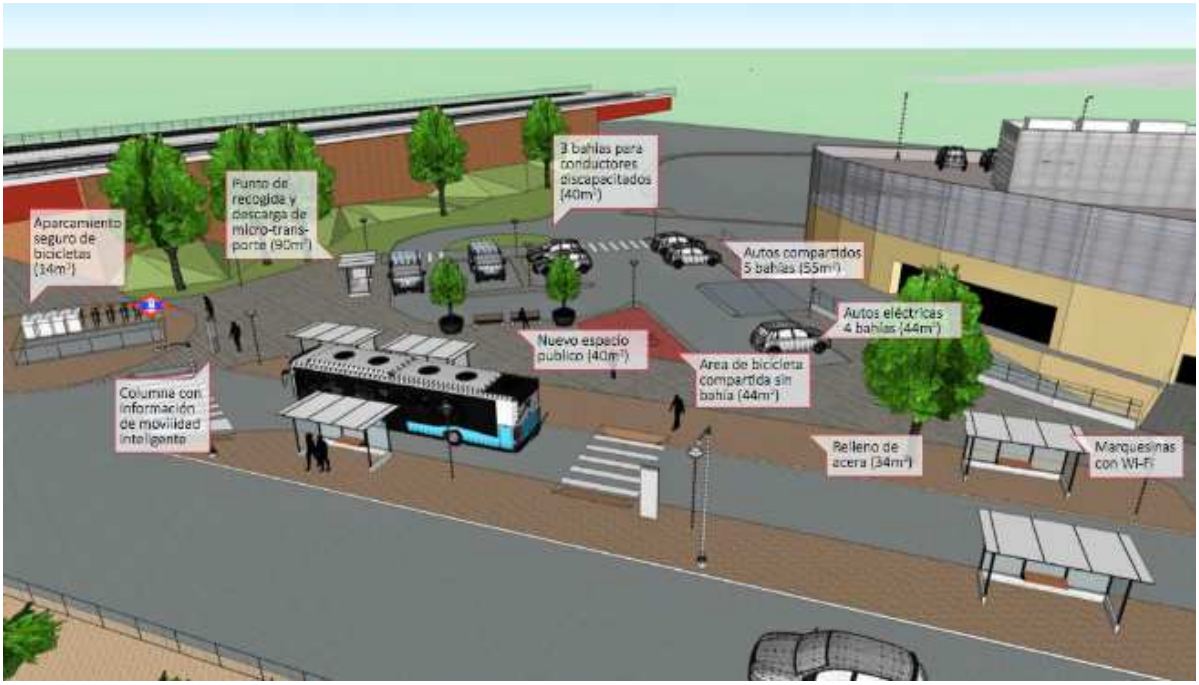

Figure 2: E-mobility Station Vallecas

1. **Viewpoints itinerary:** Implementation of a high quality pedestrian road, using physical design measures and new technology tools. Section of the streets will be redistributed by extending sidewalks, rearranging the space dedicated to the parking and circulation of vehicles and improving environmental conditions with new trees and urban furniture. The Viewpoints Itinerary has been selected because it will improve the access to key district facilities and join parks and viewpoints, will connect some areas with poor quality of urbanisation of the district, and because it is a project really appreciated by residents as a new identity landmark for Vallecas, prioritised in the participatory budget enquiry.

2. **New e-Mobility Station**: Transformation of a disconnected and car-dominated area in the main interchange node of Vallecas into a high quality public space devoted to pedestrian and social life. The e-mobility station of Sierra de Guadalupe is an ambitious project to convert this spot of public transport (PT) and pedestrian itineraries into an e-mobility node with tactic urban actions combined with the location of new mobility services. In Madrid's proposal, a key point is the link between the intermodal site and the access by active modes (walk and cycle) to this node. As a part of this initiative, a synergy has been sought with the Wayfinding approach "Reading Madrid" related with the new plan for the homogenisation and rationalisation of signage in Madrid and a pilot project is going to be applied in this node within 2019.
3. **Tactic or pop-up intervention in Arboleda Street as part of the European Mobility Week actions in 2017.** The main link between Living Lab and the University Campus of UPM has been improved while waiting to implement a final construction project to consolidate this new street design to the needs of many students and university staff using this connection from the intermodal station to the Campus Sur.
4. **New Sustainable Mobility Ordinance Awareness Campaign**. A new Mobility Ordinance for Madrid has been recently approved after a participatory process and it is operative from October 2018. In order to raise awareness about this New Ordinance, a communication campaign is going to be launched in the Vallecas Lab Area, focusing on pedestrian mobility, with the aim of showing how the new regulation framework works in favour of the pedestrians. The Ordinance prioritises the active modes, specially the walking mode, in the whole city, following the conclusions of ECCENTRIC analysis. The pilot campaign, with activities planned for the whole city, has focused on the Living Lab as a first step in the communication strategy after a really participative multi-stakeholder process in the draft writing phase.
5. **Design of a pedestrian core of Puente de** Vallecas integrating the Boulevard Peña Gorbea, the Plaza Vieja and adjacent streets.

The Viewpoints Itinerary project is currently (in fall 2018) in course of final definition phase, with a prevision of contracting and construction along 2019. The measure as a whole has been somewhat delayed because of several administrative and financial issues concerning Madrid budget implementation. It will affect the timing of the after-construction data collection for evaluation (to be planned six months after implementation of works).

Some other construction projects with a similar approach to the Viewpoints Itinerary (walkability plus accessibility, green quality, safety, identity and liveability of the street for walking and staying) have been projected in the last months in the Living Lab and they will be finished in 2019 (Constitución Square, Mendez Álvaro pedestrian connection, Peña Prieta Boulevard and the park of La Cañada in Puente de Vallecas). There are also replications in other districts. They are part of the upscaling of this measure in Madrid.

The specific challenges for this measure implementation have been the lack of budget and administrative delays in the economic contracting by the general budgets of the country, as

the investments for works are not included in ECCENTRIC financement. In short, budget issues at a local and national level.

The specific challenges for the concrete action of the e-mobility station “Sierra de Guadalupe” (Hub Vallecas) add up to the budget shortage, as well as to the difficulties to engage companies of shared mobility outside the city centre, and to the recently approved regulation of collaborative transport modes. This pilot action needs a further development before being totally implemented.

With some flexibility in the evaluation schedule, the measure has the possibility to show its positive impact within the project time period.

2.1.2 Implementation

Preparation phase

- An initial study has explored the main challenges for improving the walkability of these two districts, a proposal integrated in the Plan for Urban Regeneration Madrid (Plan Madre). For more information, web Plan for Urban Regeneration Madrid: https://planmadre.madrid.es/
- As a result, during the first semester of 2017, two key pedestrian high quality corridors linking the three areas of the Living Lab have been defined within a pedestrian network for the whole area. Construction projects for key stretches have been also prepared to explore an initial implementation in 2018 or 2019 budgets if possible, to follow the project schedule. Several connections with the main attractors in the area are part of this project (i.e. connection with the Infanta Leonor Hospital, with the Technical University, and with the other districts)
- A pilot project was focused on the strategic itinerary linking parks and viewpoints, Viewpoints Itinerary, defined in 2017 by the General Directorate of Strategic Planning and completed in January 2018 by the Works Department. The Viewpoints Itinerary has been supported as a key project for Vallecas by the residents through the participatory budgets. It is part of the Liveable Itineraries Program that will upscale for peripheral neighbourhoods this kind of interventions, after its evaluation in this pilot project. These are the streets and parks forming the itinerary: Cantalapiedra St, Alcalá de Guadaira St, María Teresa Robledo St, & Puerto de Costabona St. plus the Parks of Cerro del Tío Pío and Payaso Fofó. The project is available in the following interactive story map:

  http://madrid.maps.arcgis.com/apps/MapJournal/index.html?appid=faaa60fa83364618b7238aafd1d78145
- And the integrative technical solution for an e-mobility node in Sierra Guadalupe has been studied by an international consultancy along 2018. It includes improvements in the main walking accesses and a really needed improvement of signage in this area.
- The Sustainable Mobility Ordinance in Madrid has been approved in October 2018, after a long dialogue with stakeholders and civil society. It develops the approach of the Plan A for Air Quality and Climate Change approved in September 2017. Both documents are the framework for the measures MAD 4.6 and MAD 4.7.

Implementation phase

- After the end of the construction project of the Viewpoints Itinerary, the implementation of walking and cycling facilities and improvement of green areas will be carried out along 2019.
- The tactic or pop-up urban action has been achieved in Arboleda Street to extend sidewalks and enhance cycling connection during the Madrid European Mobility Week 2018. 1000 m2 more of side walks have been recovered. This is a key connection for students in the Campus Sur (South Campus) of the Technical University of Madrid (UPM).This is part of the initial network, linking several disconnected areas of the Living Lab described in the preparation phase diagnosis documents. A budget has been requested in 2019 for the permanent consolidation of the new Arboleda Street.
- A Wayfinding signage pilot integrated into the municipal project “Reading Madrid” is in process to be contracted and later implemented in the mobility station Sierra de Guadalupe (Hub Vallecas) during 2019.
- Final definition and implementation programme of e-Mobility station was in progress at the end of 2018, so this part of the measure will be surely delayed, despite the city is willing to implement this relevant project.
- The campaign to communicate the new Sustainable Mobility Ordinance is being prepared in the fall of 2018 and set up in the first quarter of 2019.
- The improvement of walkability at the core of one of the two districts (Puente de Vallecas) was accomplished in the last months of 2018 (Bulevar de Peña Gorbea, calle Peña Prieta and Plaza Vieja as well as part of Arroyo del Olivar and Santa Julia street). It is part of the District Regeneration Plan, aiming to recover for pedestrian priority almost an hectare of car-free space in a area with liveability and public use problems .
- Several improvements in Vallecas streets and parks will be implemented in the first quarter of 2019. Cerro del Tío Pío Park and Payaso Fofó Park, with are part of the Viewpoints Itinerary, will be remodelled with improvements in the footpaths and in the public gardening. The Cañada Park is being improved for a better accessibility. And there are also many small interventions in the improvement of sidewalks, accessibility and connections with adjacent districts (Mendez Alvaro and Moratalaz)

All these physical interventions are coordinated with improvements in the cyclability of the two districts (MAD4.7) and urban greening.

Main changes made from the original plans

- The pedestrian access to the Infanta Leonor Hospital, part of the initial network, has been discarded because of the need of a common project with regional administration and the slowness in the negotiations to carry it out during the ECCENTRIC time period. A 4-year plan is being studied jointly by both administrations.
- The construction of the pedestrian high quality corridor linking the three areas of the Living Lab, has been postponed due to lack of budget in 2017 and 2018 period. Some punctual key stretches will be built along 2019, but their evaluation is not possible under the ECCENTRIC time period.
- Instead of this, it has been decided to carry out the e-Mobility Station as explained before. The whole integration of the Technical University and the Living Lab is being

planned in collaboration with UPM (Universidad Politécnica de Madrid), and several complementary innovative initiatives are in course ('Re-Inventing cities', and 'Europan'. two urban innovation competitions with specific interventions in the area nearby).

Stakeholders involved in the different implementation steps

- Residents and neighbourhood grassroot associations have participated during the planning of the Plan for Urban Regeneration Madrid (Plan Madre), and in the election of the participative budgets of their neighbourhood through the City web for Participative Budget: www.decidemadrid.
- Different departments of the city of Madrid (Mobility and Environment Area, Sustainable Urban Development Area, Culture and Urban Landscape Area, EMT (Transport Authority and Municipal District Board) have participated in the drafting of the projects and the definition of its further maintenance after construction.
- The Board of UPM Campus Sur participated in the discussion about Arboleda Street connecting the campus with public transport in Sierra Guadalupe, and how to improve sustainable travels to this educational centre.
- Some participation and dissemination activities have been launched related with the transformation of the area, as some ECCENTRIC presentations within the framework of the USVK 2017 and 2018 (Universidad Social de Vallecas, Social University of Vallecas, a local event) and a Neighborhood Research Walk organised in 2019 with the Research Institutions sited in Vallecas, seeking to increase their interrelation with the local community.
- The municipal bus transport company (EMT), also partner in ECCENTRIC, is involved in the e-mobility station for the improvement of the space destined to this mode of public transport, as the main ally to develop this new area of sustainable mobility.
- A deep participation process has been organised to define the framework of this measure, both in the definition of A Plan and Sustainable Mobility Ordinance, as well as the Plan MADRE.

Infrastructure required for the solution to function

The e-mobility station Sierra Guadalupe requires electric charging points for electric delivery cars. It is necessary to involve the private sector for rented and shared vehicles, to take these new modes to the Sierra de Guadalupe area. This is taking place now.

A wayfinding signage pilot project, integrated into the municipal project “Reading Madrid” in Sierra Guadalupe e-mobility station, requires various signs installation by the Signage Dpt..

The city is investing its own budgets in the building of several stretches of the pedestrian network of Vallecas, prioritising the streets with high citizens support via the Participative Budgets wide process. These projects are delayed as the budgets (national and local) were blocked in 2017-18. Some local budgets are linked to the approval of national budgets.

Other related sustainable mobility solutions

The measure will be in use with other sustainable mobility solutions like the launching of rental bicycles outside the centre of Madrid, BiciMad (the electric bike-sharing system of Madrid): Its development is closely related with the measures MAD 2.8, MAD 4.7 and MAD 5.8.

The pilot project proposed by elderly groups of volunteers in measure MAD 2.8 (improvement of the plaza de la Constitución) can be considered as a improvement of the walkability in this public space.

A strategic artistic intervention (with the help of students) on Arboleda Street mostly used daily by the students of the Technical University and the high school nearby is planned summing the collaboration of the Dpt. of Public Landscape and the Campus Sur of UPM.

The upscaling and replication of the pilot projects will be integrated in the review of the SUMP contracted in the fall of 2018 by the City of Madrid.

Timeframe

- The Viewpoints Itinerary will be implemented in mid-2019.
- Parts of the e-mobility station Sierra Guadalupe, with the way finding signage, will be implemented in fall 2019.
- The Sustainable Mobility Ordinance Awareness Campaign is planned to be developed along four months, beginning in 2019 February, and it will be submitted and publicly presented at the end of 2019 May.
- The new design of Arboleda Street will be consolidated in a construction project along 2019.

2.1.3 Business model and contractual partnerships

- The measure is owned by the municipality of Madrid.
- The only relationship with a private industry will be with the concession of the rental service of sharing bicycles, cars and electric skateboards.
- The measure is being financed exclusively by the city of Madrid.

2.1.4 Critical challenges and success factors

The laboratory area is very large, so any intervention in the public space to make a high-quality pedestrian corridor requires a large budget, which must be anticipated well in advance. In this case, the changes in the national and local Contracts Act and the budget blockage in the years 2017 and 2018 has been a serious barrier in the development of this measure.

The challenges have been overcome by looking for allies in the residents and other local agents in the area, such as the Technical University of Madrid. The support of citizens in the decision-making is important for the projects to be carried out.

Key success factors and minimum requirements

According the residents' demands, there is a need for urban quality in the area. Urban quality that is linked to key areas, as the intermodal public transport node or the itinerary connecting daily facilities, like schools, senior centres, cultural centres, shops, etc and green areas.

- The pilot projects are a way to add value to the common public space in a very dense urban tissue, initially filled only with residential buildings and space for car traffic or parking. The neighbourhood has improved through the re-equipment (new social, health, cultural centres), but its public space needs a strong impulse towards a more liveable concept focused on people, on walking mode, on safety as well as on urban greening. which is possible only if the mobility concept of the whole neighbourhood is addressed.
- There is also a demand for improving the connections with near areas (Moratalaz, river Manzanares, Pacifico…) with a multimodality approach.
- A big challenge addressed by ECCENTRIC is the integration of big Madrid facilities (Technical University, Infanta Leonor Hospital.) with the Living Lab. These relevant equipments are physically located in Vallecas territory, but they are not really linked with the existing urban fabric and so they are not perceived as opportunity facilities by the local population.
- Public Transport is essential for peripheral neighbourhoods, but the space for the public transport nodes is not well designed, nor the solution of the 'last mile' for passengers (signage, safety, quality and use of space, walkability and cyclability in the access of these key nodes).
- The new opportunities for pedestrians offered by the recently approved Sustainable Mobility Ordinance are not yet well known, so the Communication Campaign is expected to help to raise new behaviours in favour of pedestrian mobility in the area.

2.1.5 Lessons learned from implementation

It is necessary to have a very well defined and connected walkable network in advance to request an important budget for its implementation. The main advice is to provide a large budget to develop the construction project. The competition for budget is quite high in two districts as these with a lot of different needs (social, employment, …).

A smaller Living Lab would have been better for making it easier to concentrate the impact of the measure.

- The time frame for an European project requires to have the results within the tasks frame. The project lasts four years but the Evaluation takes the last year, so it will be difficult to implement a complete evaluation within ECCENTRIC framework. Any budgetary or administrative barrier is really difficult to overcome.
- There are mid term strategies initiated that will be continued by the city in following years. Some innovative concepts have been introduced, like the e-mobility station, the wayfinding signalisation or the walkability and connectivity of the public space; and the framework now is ready for the challenges of the new Mobility policy needed (A Plan, Ordinance of Sustainable Mobility, Plan MADRE,)

2.1.6 Recommendations

- From the European project perspective, choose the living lab adequately in terms of size, population, and budgetary and strategic opportunities.

- From the public policy perspective, as it has been done in Madrid, search the alignment of the project with other municipal strategic plans, to add support to the implementation within a large and complex administration such as Madrid.

2.2 MAD 4.7 Enabling cycling outside the city centre

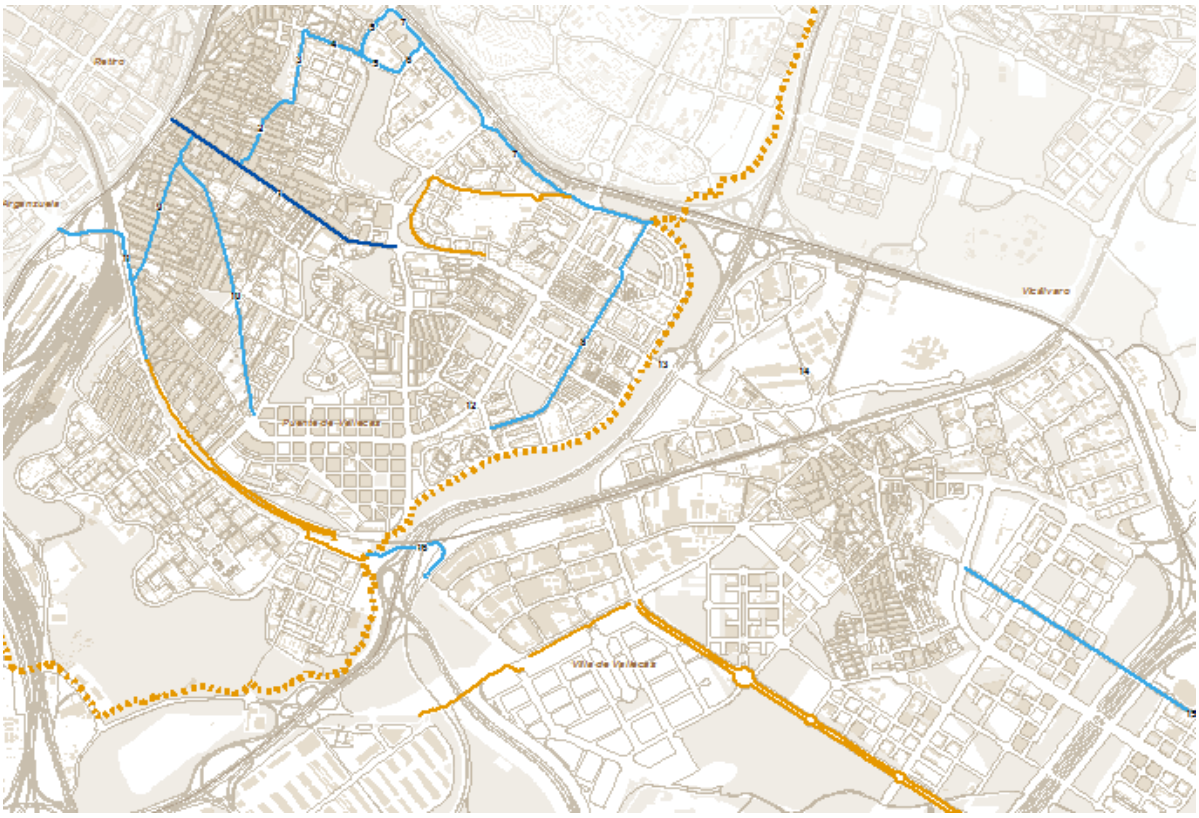

Figure 3: Estimated ciclyst network (Vallecas Lab Area)

2.2.1 Introduction

This measure aims to update and complete the Bicycle Master Plan (2008) in the Living Lab by the development of a connected cycling corridor in the three areas of the Living Lab Vallecas (Ensanche de Vallecas, Villa de Vallecas and Puente de Vallecas) linking the central areas of these neighbourhoods with public transport stations and daily facilities, improving stakeholders involvement by following a participatory approach, organised through the City web for Participative Budget: www.decidemadrid.es

The Master Plan is focused on the construction of segregated cycle paths in the main axis. From the neighbourhoods approach, as it is addressed in ECCENTRIC; there is need of complementary cycleways in secondary streets. The set up of the new Sustainable Mobility Ordinance in the fall 2018 will low the maximum speed to 30 kmh in the numerous pedestrian priority streets (narrower streets without traffic relevance), allowing the safe use of road by the cycle riders. So, a new complete scenario for cycling has been set up in the whole city.

The main objectives are to increase cycling levels and to obtain more active, autonomous and sustainable trips in the Living Lab, reducing CO2 eq emissions, and de-carbonizing mobility in Madrid City.

In this framework, three actions will be implemented:

1. Implementation of new cycling paths and cycleways in the three areas of the Living Lab to connect these areas with public transport stations, daily facilities and large district health and education services (university and hospital).
2. Transformation of the itinerary to the Technical University of Madrid, integrating a cycleway into the planned pedestrian improvements of Arboleda Street. This street connects directly the University with the e-mobility node that is being designed also as a part of measure MAD 4.6.
3. Improvement of the existing Green Ring for cycling in the Living Lab Area. The main infrastructure for cycling in Madrid has one stretch within the Living Lab and its renewal will be an opportunity to improve its functioning.

The living laboratory area is excessively large, with poor cycling infrastructure and there was initially no budget reserved for the stretches where a construction project has been defined, so it has been decided to focus on two specific actions: the cycle structures in secondary connections with 2019 budget, and a tactic pop-up urban action in Arboleda Street.

The specific challenges for this measure have been the lack of budget and the administrative delays in the economic contracting by the general budgets of the country. In short, budget issues, as well as shortage of cycle sharing companies interested in the area, and delays both in the regulation of shared transport modes and in the implementation of BiciMad, the electric bike-sharing system, outside the city centre.

BiciIMad was the target of a legal proceeding and this had a n egative impact in the planning of the initiative. The proceeding is now positively solved and this public service is going to be managed directly by the Muncipality and is expected to be extended to Vallecas Area during 2019.

2.2.2 Implementation

Key steps

- An initial cyclist network updating the Master Plan, has been defined with the aim to structure and complete the scarce cycling facilities in the Lab, and to connect with other parts of the city, including construction projects for key stretches (in order to lever up the budget for immediate construction.
- A cycleway in the main axis (Albufera Avenue) has been implemented, connecting both districts among them and with the city centre. The works on the subway in 2016 allowed the incorporation of a bus lane to reinforce surface public transport, and also a cycle lane in 2017.
- A tactic pop-up urban action in Arboleda Street included a cycleway to the extension of sidewalks during the European Mobility Week 2018. This is a low cost transformation of the itinerary to the Technical University, to be consolidated in 2019.
- The construction projects of several cycleways have been carried out in 2018 and will continue in the first months of 2019 in the following streets: Martínez De La Riva; Sierra Toledana; Rafael Alberti; Puerto de Canfranc; Monte Igueldo, Convenio, El

Bosco, y Camino del Pozo del Tío Raimundo. The priority has been decided through the level of support by citizens in the Participative budgets process.

- The cycleways and cycle paths being part of the Viewpoints Itinerary (see MAD 4.6) are defining the construction projects to be built along 2019: the following streets are included in this comprehensive intervention: Albufera Avenue (partially), Josefa Díaz, José Paulete, Camino de Valderribas, Puerto de Navacerrada and Sta. Rafaela del Sagrado Corazón. This new itinerary connects the Madrid Assembly and Football Stadium with the main Parks and views of Madrid from the Southeast periphery.
- It is foreseen that the public electric cycles BiciMad arrives to Vallecas during 2019 with an initial cycle station in the intermodal station of Puente de Vallecas.
- Several projects of cyclable access to Vallecas schools, firstly as pop-up actions and then consolidated, related to measure MAD 2.8, in collaboration with local cyclist associations (Bicillecas, Pedalibre,..).
- The initial network has been checked and adapted to the methodology defined for other districts to be integrated in the review of the SUMP contracted in the fall of 2018. It will define the cycling investments for the next years in Living Lab. The construction projects of the cycleways in Puente de Vallecas (the most intrincated area for cyclists) are being reviewed and updated (two years after) within these studies.
- A guide explaining the diverse typologies of cycle infrastructure and how to use them is going to be prepared in 2019, summarising the conclusions of this measure in the Living lab, for its use in SUMPs and other planning documents focused in peripheral urban areas. This handbook will be part of a series related with ECCENTRIC subjects.

Main changes made from the original plans

- The measure has been delayed in its implementation and the evaluation schedule has to be reformulated to make possible the analysis of the collected data. It is expected that in 2019, once the budgets are deblocked, all the projects will be developed and buit within the year.

It has not been possible to carry out in 2018 the implementation of all the projects envisaged in the initial network, due to the delays in administrative contracting as a result of the blockage of general budgets of the country and Madrid and the changes imposed by the new national Contracts Act. Instead, several cycle ways have been constructed on twelve streets of the district.

- It has not been possible to carry out the implementation of a mass-storage bike parking solutions due to lack of budget and a low use of bicycle as a mode of transport in the Living Lab.
- The construction project for the improvement of the Green Ring has been blocked in the contracting process, by a controversial demand by one of the not-winning teams. It will be recovered in 2019.

Stakeholders

Residents and cycling associations (Bicillecas) have participated during the planning of specific actions. Several cycleways have been suggested and voted by residents in the

participative budgets through. www.decidemadrid. Those consistent with the network have been built taking account of the priorities of the residents.

- Different departments of the city of Madrid (Environment, Sustainable Urban Development, Public Landscape and Municipal District Board) have participated in the drafting of the projects.
- The Technical University of Madrid (UPM) has participated in discussions about the Arboleda Street, linking its campus with public transport node in Sierra Guadalupe, and about how to improve travel to this educational centre. A workshop has been organised within a social University Course organised in Vallecas (USVK) and a Neghbourhood Research Walk has been organised in February 2019.

Figure 4: New cicleways in Vallecas Lab Area)

Other related sustainable mobility solutions

The measure will be in use with other sustainable mobility solutions like the launching of rental bicycle of Madrid outside of centre, BiciMad (the electric bike-sharing system of Madrid), and the improvements of the roads and public space undertaken within the development of measures MAD 4.6 (e-mobility station) and MAD 2.8 (acess to schools and elderly social centres).

The set up of the A Plan for Air Quality improvement and the new Ordinance for Sustainable Mobility has been really relevant for the use of bicycle in the whole city of Madrid (new use of narrow streets space.

Timeframe

- The cycleway network was partly implemented in the last months of 2018 and will be finished along 2019 in several streets of the secondary network, prioritised by the residents in participative budgets.
- The consolidation of the new Arboleda Street will begin in 2019.
- We expect that the implementation of BiciMad and the private rental bike (free floating) will begin in 2019.

2.2.3 Business model and contractual partnerships

- The measure/solution is owned by the municipality of Madrid.
- The studies and other planning activities have been financed within CIVITAS ECCENTRIC, and the infrastructures are financed exclusively by the City of Madrid.
- The only relationship with a private industry will be with the concession of the rental service of sharing bicycles, cars and electric skateboards.
- Collaboration of car-share is envisaged in the future mobility station, while it is difficult to secure this decision because peripheral location is a barrier for companies.

2.2.4 Critical challenges and success factors

The laboratory area is very large, so any intervention in the public space to make an efficient cycle structure requires a large budget, which must be anticipated well in advance. The initial situation is much less advanced than in other areas in Madrid, so the shift needs a large financing decision in a territory where there are many needs waiting for public budgets.

The challenges have been addressed looking for allies in the residents and other local agents in the area, such as the Technical University of Madrid. It is necessary the support of citizens in the decision making of the projects to be carried out. For the residents, indeed, parking is always a priority in an urban fabric where many old buildings do not have inside parking facilities.

2.2.5 Lessons learned from implementation

It is necessary to have a very well defined cycle network in advance to request an important budget in advance for its implementation. The main advice is to provide a large budget to develop the construction project. The competition for budget is hard in two districts with a lot of needs in several issues.

A smaller Living Lab would have been better for making it easier to concentrate the impact of the measure.

.

2.2.6 Recommendations

- From the European project approach, choose the living lab adequately in terms of size, population, and budgetary and strategic opportunities.

- From the public policy perspective, as it has been done in Madrid, search the alignment of the project with other municipal strategic plans, to add support to the implementation within a large and complex administration such as Madrid.

2.3 TUR 4.8 Easy, safe and comfortable cycling and walking round the year

Figure 5: Cyclists in Turku

2.3.1 Introduction

The aim in this measure is to increase the year-round traffic flows of cycling and walking by making the current infrastructure easier, safer and more comfortable to use. Special attention is given to promoting winter cycling. The need for more high-quality winter maintenance has been noticed and the city of Turku wants to invest in safe and comfortable cycling and walking round a year. The CIVITAS ECCENTRIC project enables more expensive and demanding winter maintenance methods to be tested.

The main emphasis has been on developing winter cycling, which as taken up a lot the project resources. Better maintenance methods (such as sweep salting) also serve pedestrians, since in the pilot area the pedestrians' sidewalks are also maintained better (sweep salting is done on a 3 m wide area) and the pilot area has many pedestrians.

2.3.2 Implementation

Key steps

- Collecting attitudes of citizens about cycling in 2016
- Planning + deciding the pilot route 2017

- Gathering of best practices 2017
- Tendering + choosing the contractor 2017
- First winter pilot starting from 16.10.2017, incl. information campaign
- Follow up during the winter and feedback gathering 2018
- Second winter implementation has already started

Changes made from the original plans

- Minor changes to the original pilot area were done after choosing the method (sweepsalting).
- Minor change of the pilot route (on one street the pilot area was changed from one side of the street to another) due to feedback after first winter.

Stakeholders involved in the different implementation steps

- Different organisations of city of Turku (traffic planning, environmental protection, maintenance)
- Contractor
- Local cycling association (Turpo)
- Citizens

Infrastructure required for the solution to function

- Some changes to infrastructure have been made to be able to use sweepsalting method.

Other related sustainable mobility solutions/measures

- City bikes were introduced in Turku in 2018. The city bike system works year-round.
- Development of Turku cycling (pyöräilyn kehittämisohjelma) –report has been updated with the latest information on improving winter cycling and city bikes. Also guidance on temporary traffic arrangements should be developed.

Timeframe

- Roughly one year will take to implement the measure from planning to choosing the contractor.

2.3.3 Business model and contractual partnerships

- City of Turku “owns” the measure/solution.
- Tender request were sent, and a contractor was chosen based on tenders.

- Part of the measure is financed by CIVITAS ECCENTRIC and part by city of Turku. Private companies are not participating in the funding.

2.3.4 Critical challenges and success factors

Key challenges in implementation

- New method: benchmarking and many discussions were needed to convince that it is possible to use the method in Turku. There were concerns eg. about costs and environmental impacts.
- Possible end of funding is a risk.

Key success factors and minimum requirements

- The contractor has also been enthusiastic about the project, which has led to good implementation.
- Minimum requirements are funding and a decent infrastructure.
- Active involvement of the local cycling association in giving feedback on the success of the method during the first winter. They helped to communicate the measure in public.
- This pilot has given a lot of positive feedback for the maintenance in Turku.

2.3.5 Lessons learned from implementation

- Other methods than sweepsalting should also be considered. For example if you have a lot of snow, sweepsalting could not be the best method. A new method of using sweeping and wet sand (not salt) is also tested during the second winter (on a different area than the sweep salting pilot area).
- When planning the area to be used with sweepsalting, also infrastructure (width, pavement, drainage…) should be considered.
- Learning process should be longer than one year. It is necessary to gather as feedback as possible in order to improve the process.
- The success of the measure must be actively followed and the lessons learnt must be documented.
- Cooperation with the contractor is important. The knowledge on need of resources and how to use the new method were improved during the first year.
- Sweep salting is more expensive than normal winter maintenance.
- As it was a new method, it was on itself a learning process but after all it went pretty well.

2.3.6 Recommendations

- Impact assessment on how the traffic flows have changed to be able to justify the need and use of additional funding.

2.4 STO 4.9 Offering test fleets of e-bikes and e-fright bikes

Figure 6: One of the e-bikes offered to companies and residents

2.4.1 Introduction

This measure consists in offering companies and residents, in Stockholm's suburban area Årsta, the possibility to test e-bikes for a limited period of time in order to find out whether, and to what extent, these vehicles provide a viable mobility option.

2.4.2 Implementation

Key steps

- Planning (website up and running, questionnaires for test persons)
- Investing in bikes
- Test & gathering information (both questionnaires and km travelled.)
- Study of how to make use of test bikes in future started.

Changes made from the original plans

We came to the conclusions that one of the goals (selling 300 e-bikes) is not possible for us alone. But we believe that at least 300 e-bikes have been sold in the area, due to many factors like a new bonus for those buying an e-bike from our government, the increase of good bike roads and all the test persons that shown a interest in buying a bike after the test.

Stakeholders involved in the different implementation steps

We had a co-operation with the cycle shop Velo & Oxygen for a while, promoting this possibility. And from several smaller bike companies we have had a -10% discount code on e-bikes.

Infrastructure required for the solution to function

No particular infrastructure is really required, but it helps a lot if companies where bikers work have showers and good facilities for the bikes (people are afraid of theft). The bikes can be charged at home.

Other related sustainable mobility solutions/measures.

Thanks to measure STO 4.5 the test area has been more bike friendly and fluent, increasing the will to bike.

Timeframe

Hopefully next spring the implementation is completed, so a bit over a half year.

2.4.3 Business model and contractual partnerships

- The company Cykelkonsulterna owns the measure. Cykelkonsulterna is a specialist for bike service for companies and individuals.
- The measure is financed by the private partner, Cykelkonsulterna.

2.4.4 Critical challenges and success factors

Key challenges in implementation

- Finding the best way to keep increasing the usage of e-bikes and find a financial gain for us in that.

Key success factors and minimum requirements

- All bikes put to use is a key to success. Selling more and putting more e-bikes to use. This requires good marketing and planning a smart solution for us and possible stakeholders.

2.4.5 Lessons learned from implementation

Explore first WHY this project is needed. For example, one of the goals for our project was decreasing car usage. But, from the answers in our surveys, about 90% of the test persons took the bike instead of the public transport NOT the car. It feels like it was hard to reach the car users. We tried in many ways. They feel like it is way more convenient to sit in a warm, comfortable car, park it in a garage, and listen to radio. Comfort before nature it seems.

I think our way of lending the bikes out was too expensive. We drove out the bikes to each area. And also, remember to take in account the time and costs for fixing the bikes. Maybe some kind of system where the test persons actually have to come to us to get the bike would have been better.

2.4.6 Recommendations

Make sure there is enough interest in the area, if not, find out a smart way to help the interest increase. You will have to have good guidelines for test persons and a contact person with ”opening hours” for service. Also, if the goal is to sell bikes, make sure to have a great offer to the test-users at the end of the test period.

3 Lessons learned from implementation

All measures in this cluster highlight the importance of involving citizens and other public actors to gain support and market, to increase impact overall, and to spread success stories afterwards. All measures highlight that it is important to clearly define why the project is needed, to gain initial support and budget, but also to design and execute it in a way that leads to goal fulfilment.

The majority of measures in this cluster struggled with budget or profitability issues: the Madrid measures about increasing walking and biking share, and the Stockholm e-bike measure. This highlights the importance of financial planning and negotiation, but also financial risk anticipation. For example, public budgets were frozen and limited in size in Madrid; and in Stockholm the costs of servicing and delivering the e-bikes were unexpectedly high. Even the successfully implemented cycle path maintenance measure in Turku sees funding cuts as a future risk. To ensure continued funding it might be helpful to measure the impacts of the actions, and to use the results as argumentation to ensure continued funding.

Data collection and analysis – already from the project definition phase - is important. For example, the Stockholm e-bike measure leaders were surprised by how low the direct substitution rate between cycling and car-trips was. So, their initial goal of directly replacing car trips with e-bike trips was too ambitious. In Madrid, the living-lab areas were, in hindsight, judged as too large for a concentrated impact. In Turku, the learning process and data collection is ongoing over several years, because of the importance and positive potential of thorough effect analysis.

4 Conclusions and Next Steps

The main conclusions from this cluster are:

- Importance of stakeholder engagement in every part of the process
- Importance of financial analysis, negotiation and risk management
- Importance of data collection and effect size analysis from the start

5 Sources /References

The source for the information collected in this report are the experiences reported by the measure leaders.