

High-level public transport service corridors in peripheral districts

Autumn 2018



© Municipal Transport Enterprise for Madrid (EMT)

- Bus rapid transit corridors, bus prioritisation
- Increasing modal share of public transport
- High-quality public transport services for residents, linking the city centre to peripheral districts

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement no. 690699.

Location: Madrid, Spain

Organisations involved: [Madrid Regional Transport Consortium \(CRTM\)](#)

[Municipal Transport Enterprise for Madrid \(EMT\)](#)

What is the solution?

Currently, standard bus services provided in the peripheral suburbs of Madrid show speed data well below the city average, due to traffic congestion and illegal parking. There is significant potential to increase commercial speed through traffic light optimisation as, on average, some 25% of the journey time is stopped waiting for a green light.

At the city level, the measure will develop some of the actions envisaged in the Madrid's Air Quality Plan (2017) and Sustainable Urban Mobility Plan (2013), as well as the Region's Transport Strategy (Vision 2025), in what refers to the expansion of the bus network in peripheral districts. It will, therefore, contribute to the city's goal of increasing the modal share of public transport, reduce emission levels and thereby improve air quality.

At the strategic and measure level, the corridor will facilitate the identification of the most suitable design and operational options to improve the quality of bus services provided in the southern and eastern periphery, increasing the environmental performance, reliability and speed of public transportation. Overall, the corridor is expected to provide higher quality and more attractive bus services, that are competitive with private cars, and result in an increase in public transport patronage.

How does it work?

This measure is in fact the first step for the implementation of the high level of bus service corridors in the outer city areas, partly included in Madrid's 'living lab' (South-East Corridor) - two south-eastern peripheral districts: Puente de Vallecas and Villa de Vallecas. The measure will be critical for the subsequent design and implementation of the whole corridor. Therefore, a pilot section of approximately 3.7 km will be implemented connecting the living lab with the districts of Moratalaz, San Blas-Canillejas and Ciudad Lineal, all of them in the Eastern periphery of Madrid.

Different options for segregation (physical/flexible/virtual), priority (using information and communication, ICT tools) and enforcement (ICT tools/video cameras) will be analysed. This new corridor will be connected to intermodal facilities to ease modal transfer between public transport services, and bus stops will be adapted in order to provide boarding times in line with the high level of service standards. Additionally, existing routes will be redefined to accommodate the new high-level service corridor.

In order to increase the use and efficiency of public transport in Madrid, a relevant number of previous studies of different urban corridors were carried out during recent years. These previous studies were updated for the Research and Planning phase of this measure, by developing two new studies. As part of the new studies, an inventory of the physical characteristics of the corridor was carried out. From this inventory, the most relevant constraints that could condition the proposed solutions were highlighted. Based on these constraints and their potential impacts on the action (technical and economic), as well as the strategies of the different administrations involved, the definitive section to be developed in the construction project was chosen. As of November 2018, the construction project has been completed and it defines with the necessary detail for the execution works the following aspects, among others: rearrangement of crossroads, parking facilities, new signals, adapting bus stops, connection with other intermodal public transport facilities, ICT tools, etc.

Once the construction project of the pilot section is finished, the next step would be to include the action in the 2019 budget of Madrid City Council in order to be able to tender the construction works of the pilot section within the expected period. However, it is currently not possible to execute the measure on time by the City Council due to complex administrative procedures. The corridor will therefore be included within the new SUMP, currently in the process of being reviewed, as infrastructure to be built in the near future.

Expected results

The main expected impact is an increase in bus patronage in the pilot section of the corridor, as a result of an increase in commercial speed by 10% (reaching at least 13 km/h), and an increase in the regularity of the service by 9% (reaching an average of 94%).

At the city policy level, the measure is expected to:

- Increase the modal share for public transport by 4%.
- Reduce emission levels and improve air quality by 30% (reduced energy consumption and emissions) to be in line with the Air Quality Plan objectives.

At the strategic level, the measure will facilitate the identification of the best design and operational options to:

- Improve the efficiency of the public transport service, by increasing commercial speed and regularity.
- Increase in bus usage and reliability of the public transport services in the demonstration area.
- Increase the environmental performance of the bus fleet.
- Achieve a new more attractive offer of public transport services, which can better compete with the private car.

Business model

The allocated budget for this measure is 467,192 euro, provided through CIVITAS ECCENTRIC. This funds both the Madrid Regional Transport Consortium/Authority (CRTM) and the Municipal Transport Company (EMT - bus operator).

Contact details

Alicia Velasco

Madrid Regional Transport Consortium (CRTM)

E-mail: alicia.velasco@crtm.es and eccentric@crtm.es

Websites: <http://bit.ly/2BWa0ok>

Living lab area in Madrid: <http://civitas.eu/eccentric/madrid>