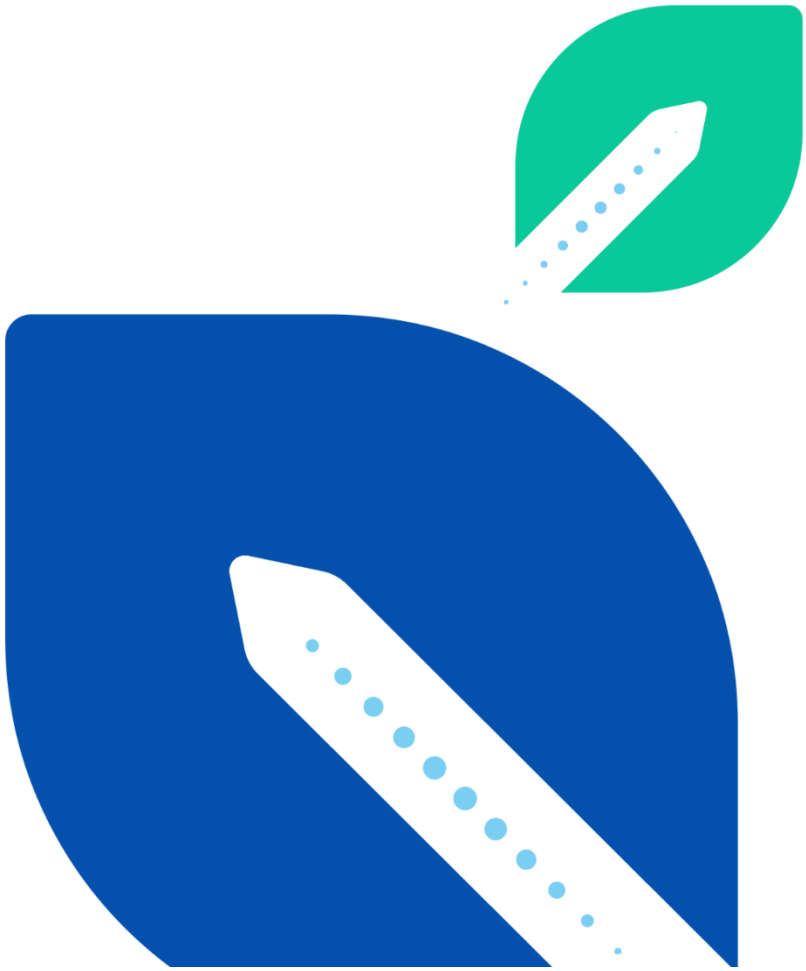
D4.2: Set-up Report Valencia

Intermodal urban passenger/freight node for collective public & private transport



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Deliverable

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1 Executive summary

The city of Valencia is fostering a change on citizen's mobility behaviours, by focusing on mobility policies towards more environmental transport modes. According to City Council statistics, the city's cycle network has been extended by more than 40% over the last 10 years, to a total length of 156 km in 2019, while also improving the interconnection between the cycle lanes of different areas and developing a cycling ring in the city centre. Furthermore, new business models for freight transport have been tested such as cargo bikes or micro-consolidation centres.

Aligned to the Valencia SUMP and the Metropolitan Transport Plan, Ferrocarrils de la Generalitat Valenciana (FGV) together with Fundación Valenciaport (FVP) and the City Council of Valencia (Ajuntament de València) will deploy an "Intermodal urban passenger/freight node for collective public & private transport"in the framework of SPROUT project.

This node will consist of two use cases:

- Case 1: integration between bikes and public transport means into an intermodal node by the installation of secure bike parking at metro station
- Case 2: integration between passenger and last-mile freight transport through the co-location of new advanced services (e-lockers) into an intermodal node (metro station)

Both pilot cases will enhance the city's mobility, as it will help to reduce traffic congestion, and reduce the greenhouse gas emissions.

2 Introduction

2.1 Aim of the deliverable

The aim of this deliverable is to be used as a reference document to guide and monitor the development of the pilot in WP4. It prepares the implementation of the SPROUT pilot in Valencia (Spain) giving detailed information in terms of:

1) the mobility solution that will be implemented and tested;
2) the location, area and context where it will be introduced;
3) the specific actions required for its implementation and the role of the crucial stakeholders involved;
4) the identification of additional stakeholders to further enrich the pilot's ecosystem;
5) and a tailored evaluation framework to assess the pilot, derived from D4.1.

2.2 How this deliverable relates to other deliverables

D2.2 provides the baseline of the current mobility situation in each of the project cities, and D3.2 and D3.3 the definition of the expected impacts of the emerging mobility solutions without policy intervention. D4.1 provides the pilots with a generic evaluation framework they can adapt to the pilot specific case. Deliverable 4.2 will be the basis for deploying the activities under T4.3, T4.4 and T4.5 that will result in the impact assessment and city-specific policy response deliverable (D4.3) and the policy implementation messages from cross-pilot results (D4.14).

2.3 Task Participants and sharing of contribution

The participants for this deliverable are the pilot leader, Fundación Valenciaport (FVP), and ZLC as T4.2 and WP4 leader. ZLC supported the pilot during the whole process for developing the deliverable. The Valencia pilot leader counted with the pilot partners which are the Valencian Region's Railway Company (*Ferrocarrils de la Generalitat Valenciana)* and Valencia City Council (*Ajuntament de València*).

2.4 Structure of Deliverable

The section that follows (Section 2) first describes the pilot mobility solution. Sub-section 2.2 gives further detailed information about the use cases. It includes a description of the area, the political framework and identified challenges for each use case. Section 3 presents the stakeholders and their role. Section 4 contains a detailed action plan and an initial description of the pilot assessment activities and indicators. Afterwards, section 5 presents the legal and ethical issues may appear and how they will be addressed, the risk mitigation plan and the communication strategy. Finally, section 6 includes a summary and conclusions of the report.

3 Valencia pilot's detailed description

3.1 Mobility solution description

Within the framework of the SPROUT project, *Ferrocarrils de la Generalitat Valenciana* (FGV) together with *Fundación Valenciaport* (FVP) and the City Council of Valencia (*Ajuntament de València*) will test a pilot to: 1) improve the integration between bikes and public transport means; 2) promote the integration between passenger and last-mile freight transport through the co-location of new advanced services.
This pilot will allow passengers to connect to several sustainable urban transport modes in an easier way, avoiding the use of private car and fostering the use of more environmentally friendly transport solutions such as bicycles, train and buses. Additionally, it aims to reduce the number of last-mile deliveries within the city, as the metro passengers will have the option of picking their parcels on the e-lockers installed on the metro station.

To achieve these objectives, the pilot in Valencia will deploy an "*Intermodal urban passenger/freight node for collective public & private transport*" (Figure 1).
This node will consist of two use cases:

- Case 1: integration between bikes and public transport means into an intermodal node
- Case 2: integration between passenger and last-mile freight transport through the co-location of new advanced services into an intermodal node.

Both pilot cases will enhance the city's mobility, as it will help to reduce traffic congestion, and reduce the GHG emissions.

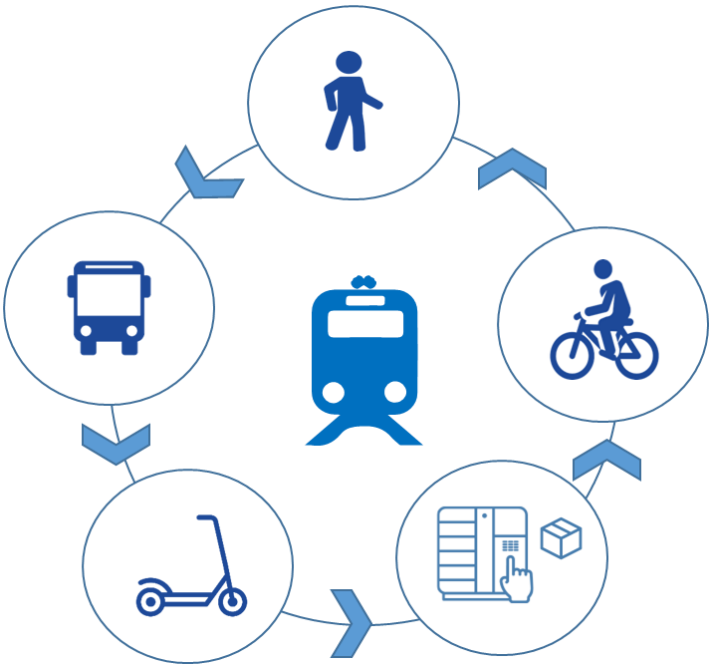


Figure 1: Intermodal urban passenger/freight node concept.

This intermodal urban node in FGV stations aims to:

1. Improve in the quality of the service provided by Metrovalencia
2. Improve intermodality in metro stations, complementing the use of public transport with the use of sustainable private transport modes (bicycle).
3. To increase the station's radius of attraction, especially in low-density residential areas or in urban stations with population (urban or dispersed) located more than 1 km from the station.
4. Promote the use of station as picking points of parcels reducing the number of last-mile vehicles in the city.

To this end, at least one of the metro stations will be selected (more information provided in section 2.2.3) to complement its services thought the co-location of new advanced services (intelligent lockers facility and secure bikes parking). The pilot will complement the current offer of FGV improving the connection between the metro and other sustainable solutions as public transport.

The following figure shows the map of the metro network of Valencia managed by FGV:

Figure 2: Metrovalencia network

As mentioned, this pilot will test two use cases into intermodal nodes. On the one hand, it will provide passengers with public parking for private bicycles (Figure 3).On the other hand, it will install an e- locker that couriers will use to deliver parcels and passengers to pick-up the parcels (Figure 4).

3.1.1 Parking for private bicycles into intermodal nodes

Concerning the parking for private bicycles, it will work as follows.
All Valencia Metro users will have the possibility to travel to the metro stations selected for the pilot with their own bicycles and leave their bicycles parked for the necessary time in the secure parking lot until they return to the station, and then pick up the bicycle on their way back to the starting point. The operation of the secure parking system will work in this way:

1. All metro users will be able to activate the option of using the bicycle parking system on their Metrovalencia ticket, for which they must register on the Metrovalencia website in the bicycle parking system (this functionality will be integrated with the Metrovalencia toll system and uses NFC MIFARE technology[1])
2. When users want to use the bicycle parking facility, they will go to the facility and use their Metrovalencia card to open the door using a reader that will be installed in the door of the parking facility.
3. When the card is swiped through the door reader, it will remain registered in the Metrovalencia system. The user may leave the bicycle parked in the facility for a maximum period of 24 hours (if it is on a weekday) and 48 hours (at weekends). When the user swipes their card through the reader, both the user number and the opening time will remain registered in the Metrovalencia database. If you exceed the maximum time allowed (24 hours on a weekday or 48 hours at weekends), an e-mail will be sent to you to inform you that you must pick up your bike.
4. On their return, users will pick up their bicycle using the same process, swiping their Metro card in the reader at the entrance and unlocking the bicycle by opening their own padlock.

During the period of pilot testing, this service will be free of charge and an economic analysis will be carried out in order to determine the fee for users after the pilot phase. In order to design this system, a benchmarking has been carried out to evaluate the experiences that exist in this respect. In particular, conversations have been held with the managers of the Bicibox[2] system in Barcelona. This system is a public network of free and safe parking for private bicycles that is distributed among the different municipalities in the metropolitan area of Barcelona.

The main ***challenges*** for these public bicycles parking is summarised below:

1. **Interest on the use**: For the pilot to be successful, the bike parking must be of benefit to users, which is why one of the main risks of this project is to make a service available to users that is not of interest to them. For this reason**,** to assess the interest of users, a survey was carried out among users, asking them about their opinion regarding the usefulness and interest in the use of bicycle parking in the stations of the Valencia

[1] Info about this technology on: https://www.mifare.net/es/
[2] https://www.bicibox.cat/es-es/Bicibox-es

underground network. As a result the 85.7% of respondents believe that it would be useful to have bike parking in some stations.

2. **Find an interesting location of the installation**: In the same way, although the service is potentially interesting, the location of the pilot has to be chosen correctly in order for the bikes parking to be useful for the users. In order to find this suitable location, a preliminary study was carried out to identify stations located in areas with low density of area with fewer connections with other modes of public transport and a question on optimal location was included in the survey carried out among metro users. Based on both inputs, Empalme and Torrent Avinguda stations were pre-selected.
3. **Users concern about the security**: Since users have to leave their bikes in this parking lot, one of the risks might be that they are afraid that their bike might be stolen. For this reason, the pilot has to be defined to be secure. To solve this challenge, the card parking opening system has been designed and each user will use their own padlocks. In addition, the preliminary study identified the stations that have space available to locate this facility and that are also in locations that have FGV camera surveillance. During the pilot, it will be assessed whether, for later deployment phases, an insurance system will be designed so that users can register their bicycles and pay an annual insurance to cover possible damage or theft.

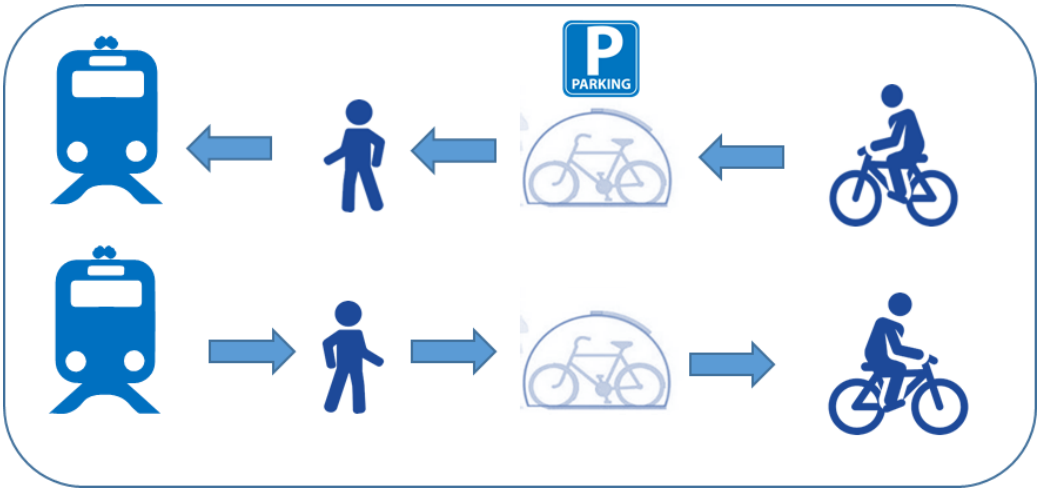


Figure 3: Intelligent parking system for intermodal nodes

3.1.2 Smart lockers into intermodal nodes

The parcel delivery service through intelligent lockers will work as follows:

1. Any user (metro or not) can register to receive their packages through the service operator's website: www.citypaq.es
2. When you register you can choose the locker where you want to receive your purchases
3. In your online purchases in stores associated with this system, you can indicate your selected locker as the destination.
4. When the package is available in the locker, the user will receive a code by SMS/mail/app to open the locker.

5. The user will be able to pick up the package using the barcode receipt to open the locker.

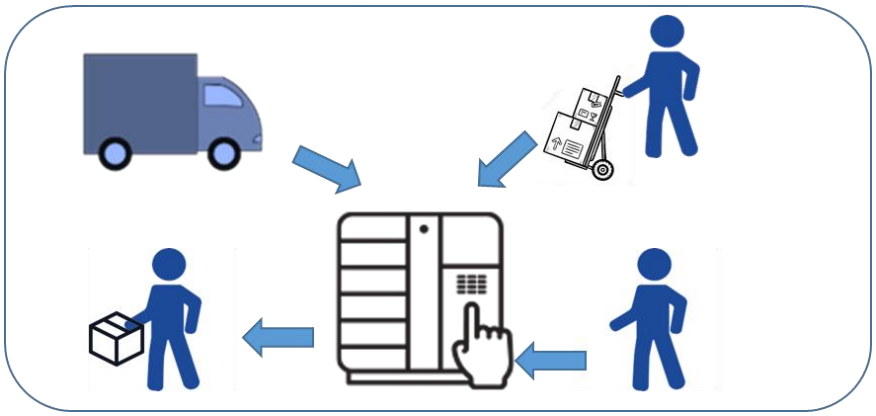


Figure 4: E-lockers system for intermodal nodes.

The main observations of the preliminary studies of this solution are detailed below:

1. **Robustness of the logistic business model**: There are different providers of e-lockers in the market, but one of the challenges of this use case is to find an operator who is able to operate this system and give users the possibility to make their shipments to this point of delivery and that enjoys the acceptance of users to be useful and successful in its implementation. To guarantee the robustness of the logistics system, a benchmarking was carried out to study the e-locker systems that are currently providing service. During this analysis a logistics operator was chosen that is already operating intelligent lockers, Correos[3], which already has agreements with other logistics operators as well as agreements with large e-commerce companies. Correos currently has more than 5,000 lockers distributed throughout Spain and has already carried out some tests for the installation of these lockers in public transport stations in Spain. In the case of Valencia, it has both public lockers (mainly in supermarkets and petrol stations) and private lockers (in residential developments or companies). The SPROUT pilot will be able to extend this system to provide service at transport nodes. In the case of Valencia, it has both public lockers (mainly in supermarkets and petrol stations) and private lockers (in residential developments or companies).
2. **User interest**: In order to guarantee the successful of the case implementation, the e-lockers should be of interest of users. For this reason, an operator with mature experience and a consolidated network of lockers has been selected to guarantee the success of the pilot. In addition, users have been asked through surveys about their interest in using it (74.4% of the responders found of interest this kind of solution to receive their parcels)
3. **Optimal location of the installation**: Another challenge of the use case is to install the e-lockers in a location that is useful for the users. An analysis to choose an optimal location an analysis has been carried out together with the transport operator. The basic requirements were: stations with higher passenger flow and no other ticket office installed in an area between 200-300 meters around. In addition, the user survey asked about the

[3] It is the Spanish state-owned company responsible for providing postal service.

locations of greatest interest to users. Colon, Xàtiva, Túria and Empalme statios resulted the station with major potential of interest.

4. **Security of lockers**: Users must see the solution as a reliable and secure solution to receive their packages. For this purpose, the transport operator (Correos) has checked the anti-theft security of its lockers and has the necessary insurance to guarantee that in case of loss or misplacement of the package it can restore the cost.

3.2 Use cases description

3.2.1 Valencia context

Valencia is located on the east coast of Spain, on the banks of the Turia River, which crosses the city from west to east and is the capital of the Valencian Community. Valencia is the third largest city in Spain after Madrid and Barcelona with a population of nearly 800,000 within its boundaries and more than 1,500,000 considering its metropolitan area. The extension of the city of Valencia reaches 98.827 km^2 and its population density is 8.015 inhabitants/km2. The 52% of the population are women and regarding[4] the age, 65% of the population is aged between 16 and 64, while 21% are over 65.

Figure 4 shows the location and population of towns into which the region of Valencia is divided as well as the counties into which it is divided:

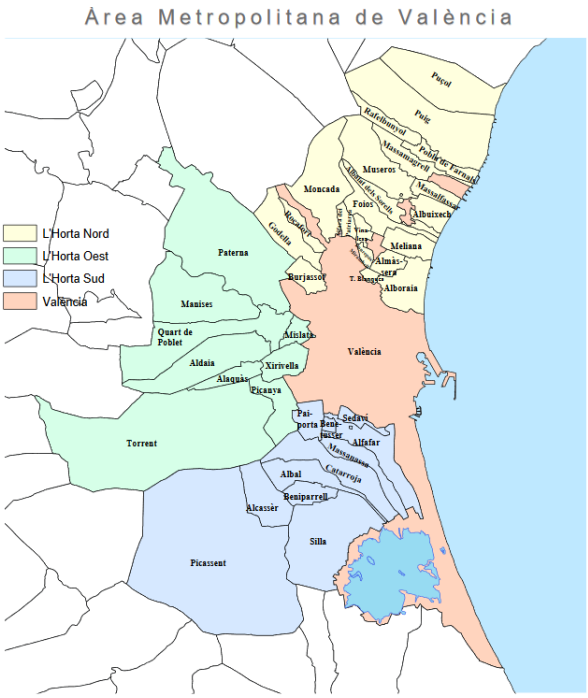


Figure 5: Valencia metropolitan area map (Source: City Council of Valencia)

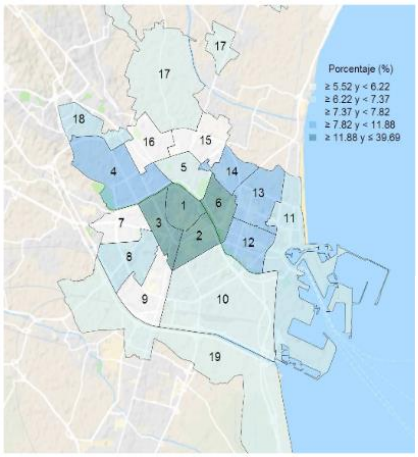
[4] Based on the information of Wikipedia and City Council of Valencia Statistics

València			L'Horta Sud			L'Horta Nord			L'Horta Nord (cont.)		
250	València	798.538	007	Albal	16.270	009	Albalat dels Sorells	3.944	166	Meliana	10.662
L'Horta Oest			015	Alcàsser	9.908	013	Alboraya	24.222	171	Moncada	21.802
190	Paterna	69.156	022	Alfafar	20.763	014	Albuixech	3.983	177	Museros	6.291
005	Alaquàs	29.341	054	Benetússer	14.668	025	Alfara del Patriarca	3.314	199	Pobla de Farnals (la)	7.840
021	Aldaia	31.492	065	Beniparrell	1.931	032	Almàssera	7.295	205	Puçol	19.455
159	Manises	30.693	094	Catarroja	27.827	074	Bonrepòs i Mirambell	3.645	204	Puig	8.566
169	Mislata	43.278	152	Llocnou de la Corona	118	078	Burjassot	37.584	207	Rafelbuñol/Rafelbunyol	8.929
193	Picanya	11.409	165	Massanassa	9.538	117	Emperador	692	216	Rocafort	7.160
102	Quart de Poblet	24.536	186	Paiporta	25.309	126	Foios	7.342	237	Tavernes Blanques	9.117
244	Torrent	81.245	194	Picassent	20.709	135	Godella	13.058	260	Vinalesa	3.380
110	Xirivella	29.108	223	Sedaví	10.245	163	Massalfassar	2.480			
			230	Silla	18.467	164	Massamagrell	15.752			
										Total Àrea Metropolitana València	**1.559.908**

Font: Explotació Estadística del Padró 2018 (www.ine.es). Per a la ciutat de València, població al Padró Municipal d'Habitants a 1 de gener de 2018.

Table 1: Inhabitants in Valencia Metropolitan Area (Source: City Council of Valencia)

After the crisis that began in 2007, the city of Valencia is experiencing an economic recovery in recent years. The Gross Domestic Product (GDP) of the Valencian Community is 110,979M euros, making it the 4th largest economy in Spain by volume of GDP. In reference to the GDP per capita, in 2018, it stood at 22,426 Euros, compared to the 25,730 Euros of GDP per capita in Spain.[5]



Actividades económicas. 2019	
Total	100,0%
Ganaderas	0,0%
Industriales	3,4%
Construcción	6,7%
Comercio y Servicios	66,8%
Profesionales y Artísticas	23,1%

Figure 6: Economic activities in Valencia (Source: City Council of Valencia).

The most important sector of the city's economy is the services and commerce sector, which accounts for 66.8% of the EPI, followed by the construction sector with 6.7%. The region and the city of Valencia are service-oriented and more than 30% of the services and shops are concentrated in the city centre. Figure 6 illustrates the density of shops and services per 100 inhabitants in 2019. As can be seen in the graph, the regions of Ciutat Vella, Extramurs and L'Eixample have the highest densities, with values of over 11.8%.

[5] City Council of Valencia Statistics

3.2.2 Transport infrastructure in Valencia

The city of Valencia has a strategic position within Spain both because of its location and because of the infrastructure network that connects Valencia with the most important economic nodes. For example, Valencia is connected by land transport with the regions that concentrate 27% of the Spanish population in less than two hours, and with the regions that produce more than 50% of the Spanish GDP in less than three hours.

There is a high-speed train that connects Madrid, the capital of Spain, with Valencia, allowing passengers to travel from the centre of the city in 1 hour and 35 minutes. There are also daily freight trains that use alternative Iberian gauge railways which, among other uses, connect the Port of Valencia with the dry ports and railway terminals in Madrid (Coslada, Abroñigal or Azuqueca). Both cities are also connected by a high capacity motorway that allows the movement of cargo and people in approximately 4 hours. To the north, Barcelona and Valencia are connected by a motorway whose travel time is less than four hours (AP-7). In addition, the A-7 motorway connects Valencia with Castellón, one of the most important cities in the Valencian Community located 70 km to the north. To the south, the city of Valencia is connected by two motorways: the AP-7, which runs parallel to the Mediterranean coast, and the A-7, which connects the inland villages of the Community of Valencia. The complete road network of the Community of Valencia can be seen in Figure 7:

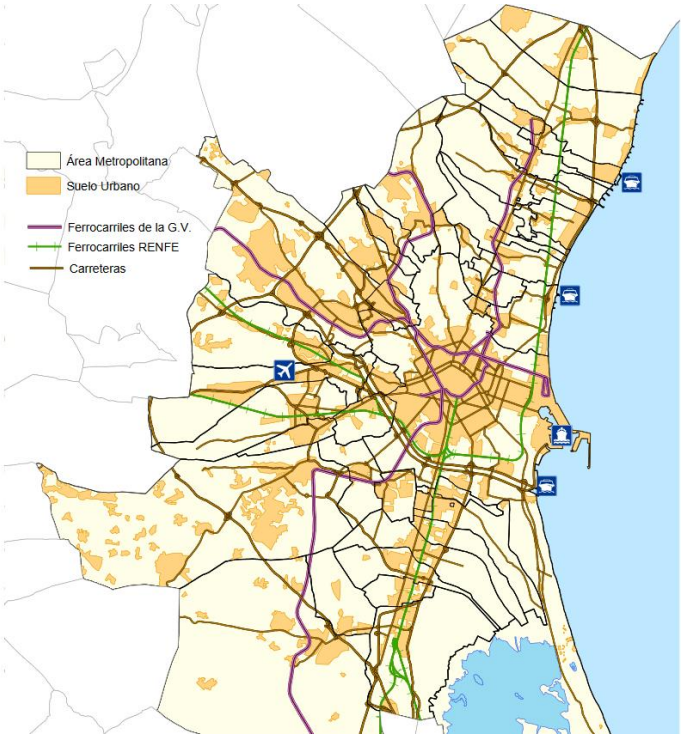


Figure 7: Transport infrastructures Valencia (Source: City Council of Valencia).

With regard to the public transport on offer in the city of Valencia, there is a wide range of services, such as bus, metro and tram. In addition, these services are complemented by a public bicycle rental service.

With regard to the metro, the Valencia network has nine metro lines and a total of 156,388 km of road network. In 2018, the demand for passengers exceeded 67 million.

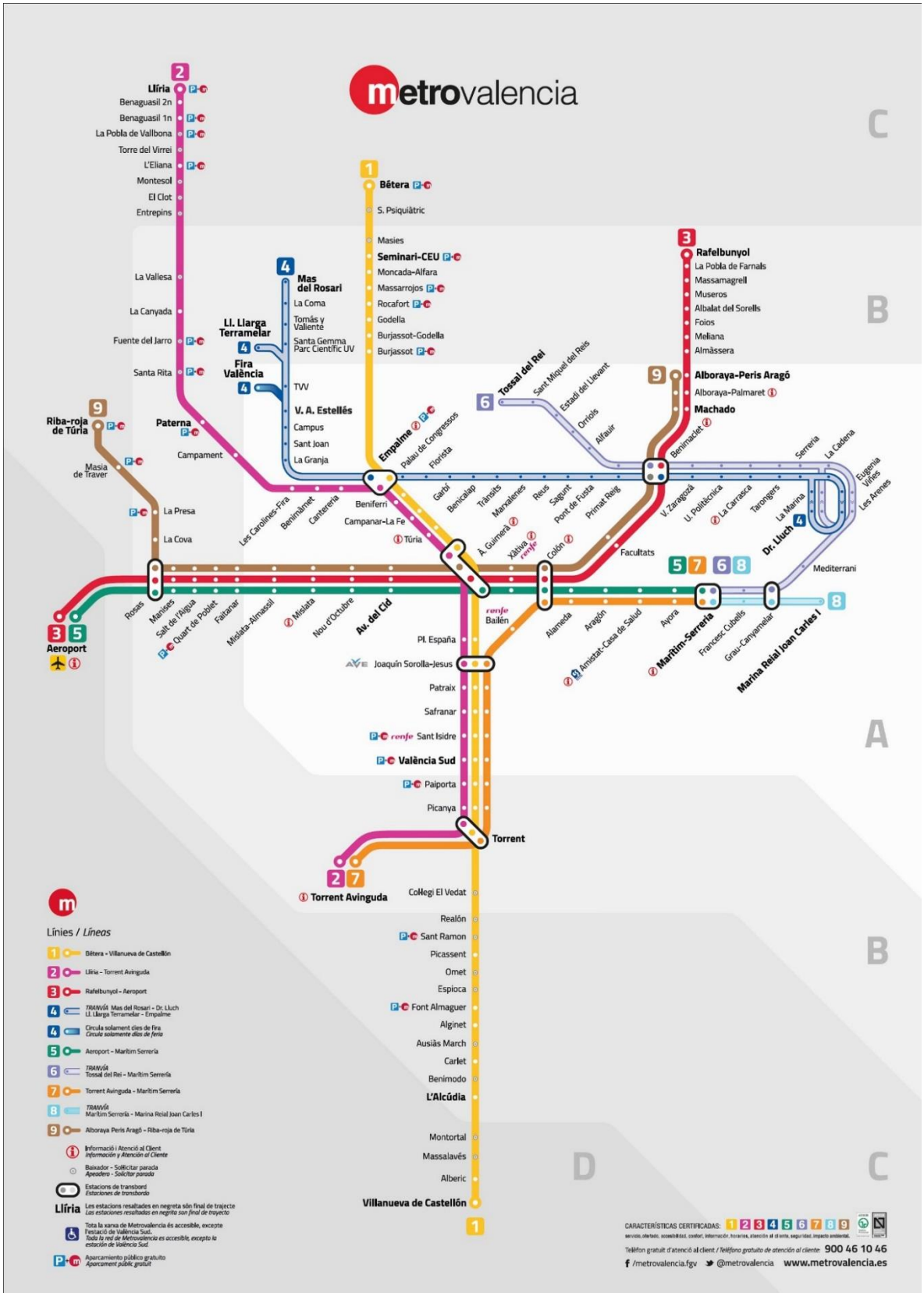
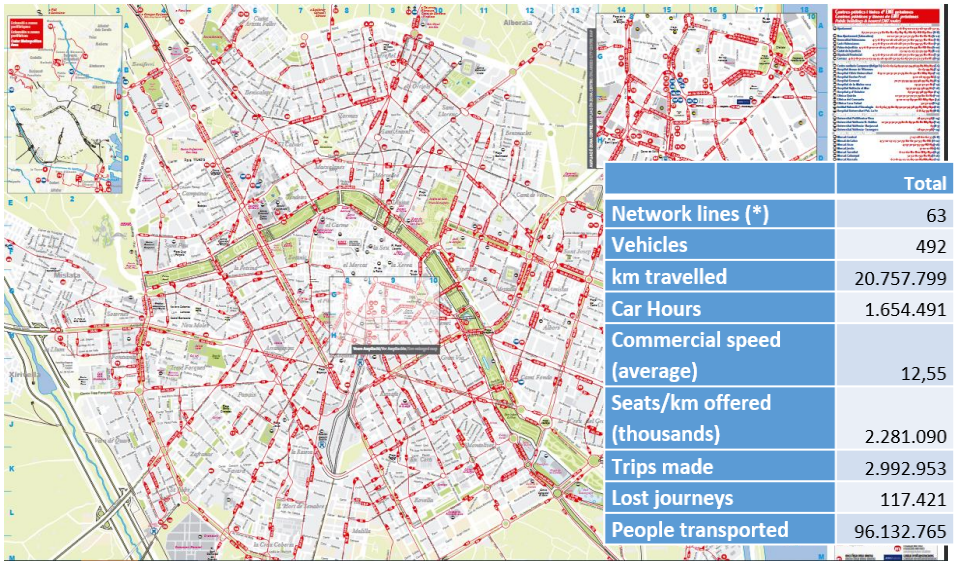


Figure 8: Metro map of Valencia Area (Source: *Ferrocarrils de la Generalitat Valenciana*).

Regarding the bus network, Valencia has 63 bus lines and a fleet of almost 500 vehicles. In 2018, more than 96,000,000 people were transported



	Total
Network lines (*)	63
Vehicles	492
km travelled	20.757.799
Car Hours	1.654.491
Commercial speed (average)	12,55
Seats/km offered (thousands)	2.281.090
Trips made	2.992.953
Lost journeys	117.421
People transported	96.132.765

Figure 9: Public Bus infrastructures of Valencia (Source: EMT - Bus Municipal Transport Company)

As regards as bike transport network, the city of Valencia is fostering a change on citizen's mobility behaviours, by focusing on mobility policies towards more environmental transport modes. According to City Council statistics, the city's cycle network has been extended by more than 40% over the last 10 years, to a total length of 156 km in 2019, while also improving the interconnection between the cycle lanes of different areas and developing a cycling ring in the city centre. Furthermore, new business models have been tested to improve the use of bikes, in particular, Valencia counts on a public bike sharing system created in 2010 with 277 stations and 2,750 bikes. Thanks to this experience, other neighbouring towns have also implemented public bikes systems. These measures have led to an increase in bicycle use of over 15% in the last year and a 2.7% decrease in total traffic in the city:

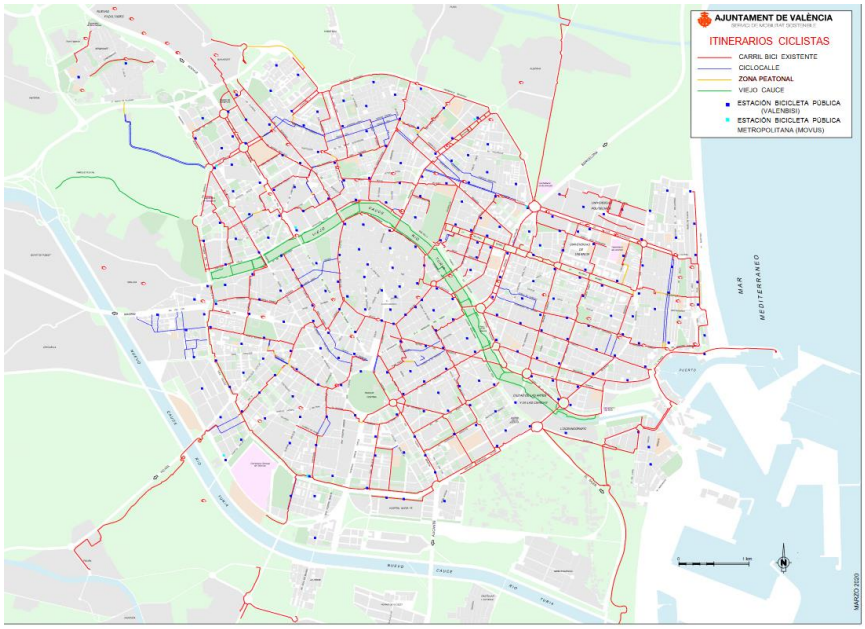


Figure 10: Bike infrastructure's of Valencia (Source: City Council of Valencia)

As detailed in the previous paragraph, Valencia is strengthening the use of the bicycle as a means of transport in the city. One limitation in the bicycle-public transport intermodality is the condition of not being able to take the bicycle on the metro during working weekdays in the underground sections of the network. In this sense SPROUT use case 1 will pilot a solution that will allow the improvement of this intermodality.

3.2.3 Pilot location

In order to select the most suitable metro station for the pilot implementation, several analyses were performed:

1. Passenger flow: the passenger annual flows were studied in order to select the most crowded nodes:

Ranking 2019	Ranking 2018	Stations	total 2018	% 2018	total 2019	% 2019
1º	1º	**XÀTIVA**	5.305.174	7,89%	5.459.784	7,862%
2º	2º	**COLÓN**	4.576.210	6,80%	4.520.931	6,510%
3º	3º	À. GUIMERÀ	2.872.207	4,27%	3.067.957	4,418%
4º	4º	BENIMACLET	2.282.972	3,39%	2.363.670	3,404%
5º	5º	TÚRIA	2.088.872	3,11%	2.044.393	2,944%
6º	6º	PL. ESPANYA	1.970.440	2,93%	2.035.060	2,931%
7º	7º	FACULTATS	1.926.036	2,86%	1.951.546	2,810%
8º	8º	AMISTAT	1.788.694	2,66%	1.817.120	2,617%
9º	9º	MISLATA	1.689.548	2,51%	1.708.658	2,461%
10º	11º	AV. DEL CID	1.537.551	2,29%	1.598.112	2,301%
11º	**10º**	**TORRENT-AVINGUDA**	1.574.934	2,34%	1.579.610	2,275%

26º	**25º**	**EMPALME**	775.448	1,15%	800.390	1,153%
		TOTAL passangers flows	**67.269.102**		**69.442.539**	

Table 2: Metro Passangers Flows (Source: Ferrocarrils de la Generalitat Valenciana)

2. Field-study:

In order to analyse the station that meet the requirement for the pilot implementation, a field visit was performed in order to assess the following aspects:

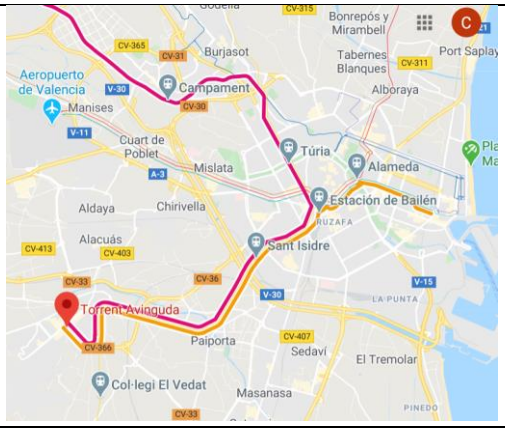
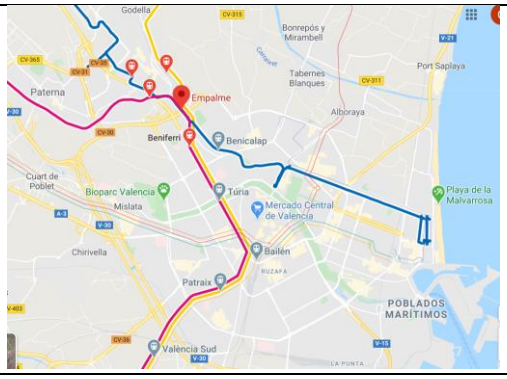
- Availability of space to locate the bike parking and the e-lockers.
- Security of the station: to analyse whether the available spaces are within the reach of existing surveillance systems.

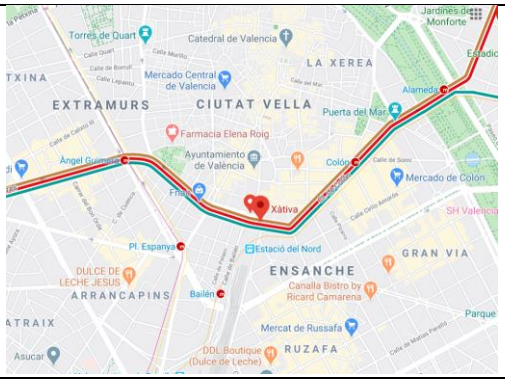
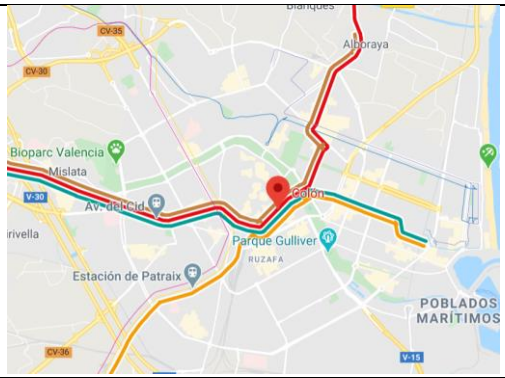
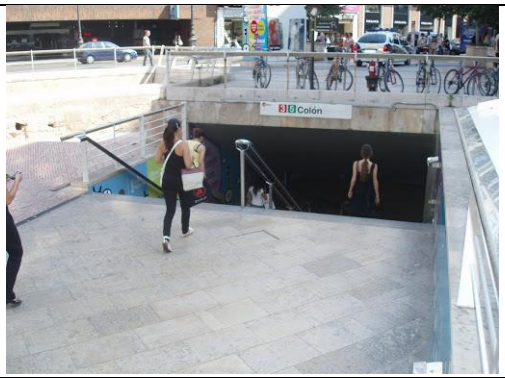
3. On-line questionnaires: in order to consider the opinion of the potential users about the location of the new facilities.

During the field visit two stations where selected as both have enough space to install the parking facilities: **Torrent Avinguda** and **Empalme**. In addition, as result of the questionnaires both stations where on the top five list of the users preferences.

As regards of the e-lockers, the field visit was carried out with Correos and based on the availability of space and the preferences of the users **Colón** and **Xàtiva** where selected as optimal locations.

As a result, the following locations were selected:

BIKE PARKING PILOT	
LOCATION 1: TORRENT AVINGUDA METRO STATION	
	
LOCATION 2: EMPALME METRO STATION	
	

E- LOCKERS PILOT	
LOCATION 1: XÀTIVA STATION	
	
LOCATION 2: COLON	
	

3.2.4 Political framework

The city of Valencia is promoting a change in citizens' mobility behaviour, focusing on mobility policies towards more environmentally friendly modes of transport. For example, the city's cycle network has been extended by more than 75% in previous years, reaching a total length of 145 km by 2018, while improving the interconnection between the cycle lanes of the different areas and developing a cycle ring in the city centre. In addition, new business models have been tested to improve bicycle use. In particular, Valencia has a public bicycle sharing system created in 2010 with 275 stations and 2,750 bicycles. Thanks to this experience, other neighbouring cities have also set up public bicycle systems. These measures have led to an increase in bicycle use of over 15% in the last year and a 2.7% decrease in the city's total traffic[6]

New business models for urban freight transport have also been tested to improve the distribution of the last kilometre using tricycles. Today, there are several companies that have implemented this type of last mile distribution that can save around two tons of CO_2 per year per tricycle according to the pilot experiences carried out in the framework of SMILE project, funded by Interreg Med Programme.

[6] Based on the City Council of Valencia information

In 2011, the regional government of Valencia established a new legal framework that aims to improve the mobility of the citizens of Valencia, as well as their quality of life, by promoting the planning and management of sustainable urban mobility.

In 2013 Valencia City Council approved the Valencia Urban Mobility Plan to promote the use of walking, cycling and public transport. As a follow-up, the city of Valencia is very interested in continuing to introduce new transport services and/or mixing them up using new business models, in order to reduce CO_2 emissions, noise and congestion in the city, both for passenger and freight transport. The identified objectives of the Sustainable Urban Mobility Planing (SUMP) are the following ones:

1) To ensure and enhance that the pedestrian remains the main protagonist of mobility in the city.
2) To consolidate and promote the expansion of the bicycle as a general and daily mode of transport for citizens.
3) Achieve a greater share of public transport participation in urban travel.
4) To review and redefine a road hierarchy in the city that allows a better organization of traffic flows through the city, so that the centre is no longer a passing route and recovers its character as an essential meeting point of the city and citizens.
5) Organising space for surface parking.
6) To encourage the decarbonisation of the transport system.
7) Make deterrence and prevention the basis of traffic discipline in the city.
8) To improve road safety and peaceful coexistence among all road users.
9) To achieve an accessible city for all citizens.
10) To improve the management of mobility.

In order to reach the aforementioned objective, the SUMP of Valencia includes the strategies below. Highlighted the ones aligned with the pilot use case that may facilitate the definition of measure to enhance the adoption:

1) Pedestrian strategies:

Strategy 1: Enhancing pedestrian movements
Strategy 2: Recovering and enhancing urban public spaces and small mobility centres
Strategy 3: Ensure safe and unhindered pedestrian mobility

2) Strategies for the bicycle

Strategy 4: Ensure adequate cycling infrastructure by maintaining, improving and consolidating the network of bicycle paths in the
Strategy 5: Facilitate and standardize the use of the bicycle as a daily and habitual mode of transport for Valencians

3) Strategies to enhance transport

Strategy 6: Improve the competitiveness of EMT Valencia's urban transport service
Strategy7: Adapting the EMT network to the new needs and demands of citizens' mobility
Strategy 8: Enhance intermodality, coordination and integration of urban and interurban public transport

4**) Strategies for the vehicle**

Strategy 9: Prioritize the city's roads under more sustainable mobility criteria
Strategy 10: Calm the traffic
Strategy 11: Reorganizing parking space
Strategy 12: Improve loading and unloading in the city

5) Cross-cutting strategies for sustainable mobility

Strategy 13: Further development of aspects of mobility management with the help of new information technologies.
Strategy 14: Integrate urban design with sustainable mobility criteria
Strategy 15: Communicate and promote sustainable mobility
Strategy 16: Decarbonize the transport system
Strategy 17: Interlinking spatial and urban planning with infrastructure

On the other hand, the Generalitat Valenciana[7] defined in July 2018 the Basic Mobility Plan for the Metropolitan Area of Valencia with the following objectives:

1. To consolidate, from its condition of mature Metropolitan Area, a polycentric urban region that facilitated agile exchanges of people and goods, essential to guarantee the development and well-being of the population.
2. To promote public transport. to improve the coverage, quality, safety and accessibility of the service to promote intermodality and transfer journeys in private vehicles to the collective transport system.
3. Recover public road space for non-mechanized modes of transport for pedestrians and cyclists, improving the quality of the urban environment to restore the streets and squares to their role as first class spaces for coexistence
4. Improve the safety of journeys, reduce accidents and focus actions by paying special attention to the most vulnerable people.
5. To remove barriers to the movement of people with reduced mobility and make it universally accessible.
6. Efficient traffic and parking management in line with policies to promote public transport and non-mechanised modes of transport.
7. Improve freight loading and distribution operations to maintain their essential function with the least possible harm to other users of public space.
8. Reduce noise pollution and ensure more efficient energy consumption in the field of mobility.
9. To gradually introduce new technologies applied to mobility
10. Provide a strategic planning document to the new Single Transport Authority.
11. To provide sustainable mobility criteria for an urban and territorial policy that supports the compact Mediterranean city.
12. To promote the widest citizen participation in the elaboration and subsequent management of the Plan.
13. To inform and educate the population, especially the youngest, on the advantages of developing more sustainable mobility habits.

[7] Generalitat Valenciana, Metropolitan Basic Mobility Plan

With these objectives, 45 proposals for short and medium-term action have been established, divided into 9 strategic lines:

1. NM Encourage non-motorised mobility (9 proposals)
2. TPS Improve and enhance metropolitan surface public transport (6 proposals)
3. TPF Improving public rail transport (1 proposal)
4. **INT Intermodality as a priority in metropolitan mobility (4 proposals)**
5. GES Management and coordination of metropolitan mobility (7 proposals)
6. TER Coordination of territorial development and mobility (3 proposals)
7. MERO: Improvement of the metropolitan logistics system (2 proposals)
8. EE Energy efficiency, sustainable mobility and environment (6 proposals)
9. *PAR Public participation and knowledge in the field of mobility (7 proposals)

In particular, the INT action line "Intermodality as a priority in metropolitan mobility" envisages the development of a network of bicycle parking facilities at public transport stops. The proposal, proposes 21 safe bicycle parking spaces (closed areas at suburban stations and 35 at metropolitan metro stops). In particular, the SPROUT pilots are framed within this line of action. Therefore, SPROUT will act as preliminary case of study to be widely implemented on the Metropolitan metro network, based on the results of SPROUT policies and recommendation will be define in order to support the full implementation of the strategy towards the implementation of the intermodality at metropolitan area (Line of Action “4”).

4 Stakeholders identification and involvement

Table 3 contains the pilot partners' contribution and likewise inputs coming from other stakeholders that will participate in the pilot activities too (see annexe 1 for further details).

Table 3. Valencia pilot stakeholders contribution.

Valencia City Council
• Support during data collection • In charge of public engagement • Validate the new regulatory framework (participate in surveys, workshops)
Regional Government
• SPROUT pilot progress follow-up as results will help in defining future policies ((participate in surveys, workshops)
Ferrocarrils de la Generalitat Valenciana (public transport operator)
• Provide the infrastructure for installing the bike parking and the e-locker • Data collection
Fundación Valencia Port (Innovation centre)
• Pilot leader: most activities involvement (coordination, deployment, data collection, policies deffinition)
Correos (Spanish public postal operator)
• E-lockers provider • Data collection • Third parties logistics operators involvement (parcels management)
Cyclist association, metro users
• Pilot's testers: potential users will be informed and recruited to participate in the different activities of the pilot (service usage, surveys, workshops) • Contacted with support of city council and through the FGV web page and social media channels to inform their use

5 Implementation and evaluation plan

This fourth section of the deliverable presents the roadmap to carry out the “Intermodal urban passenger/freight node for collective public & private transport” pilot test. The following sub-sections contain the activities and their related tasks for running the two use cases addressed by this pilot test. Additionally, they suggest some indicators to be used in order to assess their operational feasibility, financial sustainability and environmental and social impact for both the city and its citizens.

Regarding the implementation plan, the following figures show the activities timeline planned for running the two use cases of the pilot in Valencia city in 2020 and in 2021[8].

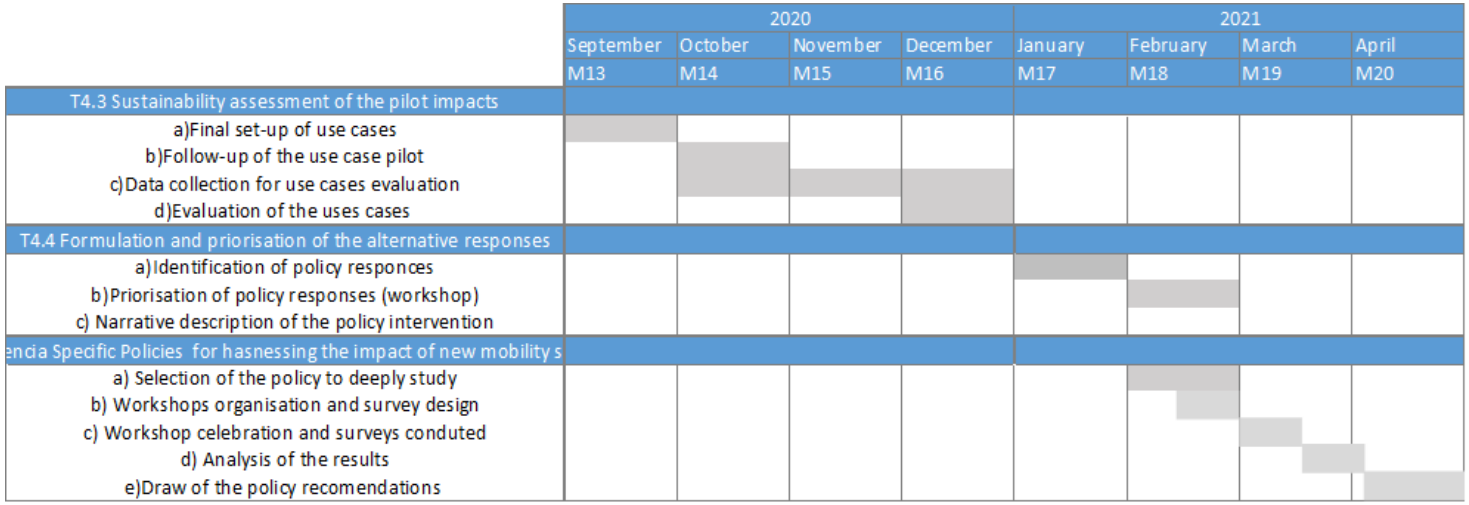


Figure 11. WP4’s activities timeline in the city of Valencia’s pilot in 2020.

[8] *Please note the timeline will be adjusted after internal discussions among the three main partner in the Valencia city’s pilot i.e. FVP, FGV and the City Council of Valencia*.

5.1 T4.3 Sustainability assessment of the pilots' impacts

As previously introduced, the pilot in Valencia will consist of two use cases to:

1) Improve the integration between bikes and the public transport by installing a bikes parking system into two intermodal nodes.
2) Promote the integration between passenger and last-mile freight transport through the co-location of new advanced services. I.e. making available to Metrovalencia users intelligent parcel lockers into two intermodal nodes.

Both use cases aim to enhance the city's mobility, as it will help to reduce traffic congestion, and reduce the GHG emissions. Therefore, the proposed indicators should measure the achievement of these objectives.

Pilot goals are in line with the urban and regional policies. On the City Council side, the city of Valencia is promoting a change in citizens' mobility behaviour, focusing on mobility policies towards more environmentally friendly modes of transport. The length (km) of cycle network has increased by more than 75% in previous years and new business models tested, resulting in an increase in bicycle use of over 15% in the last year and a 2.7% decrease in the city's total car traffic. On the regional side, pilot implementation will allow to meet the objectives defined in the Basic Mobility Plan for the Metropolitan Area of Valencia established by *Generalitat Valenciana* (Valencian Regional Government).

5.1.1 Use case 1: Description of the activities to test parking for private bicycles located in two intermodal nodes

For testing this mobility case, all users of MetroValencia will have the possibility to park their own bikes in the parking available into two selected intermodal nodes and getting them back when returning to the metro station. The user may leave the bicycle parked in the facility for a maximum period of 24 hours (if it is on a weekday) and 48 hours (at weekends). During the period of pilot testing, this parking service will be free of charge and an economic analysis will be carried out in order to determine the fee for users after the pilot phase.

The two-selected intermodal station were Torrent Avinguda and Empalme.

The three key factors in the decision-making process were:

a) space available (square metres) to install the parking facilities,
b) the users preferences expressed in the questionnaires,
c) and the security provision (FGV camera surveillance).

On the one hand, Empalme station is an interchange station for Metrovalencia Lines 1, 2 and 4. It is located in the municipality of Burjasot, next to Valencia. It is also located near the CV-35 highway that connects Valencia with Ademuz. The station has 4 tracks for stopping trains that provide passenger service, as well as one track for the tram section and another that acts as a loop for changes of direction.

On the other hand, Torrent Avinguda station is an interchange station for Metrovalencia Lines 2 and 7. It is located in Avenida Al Vedat, in the municipality of Torrent.

From the operational point of view, all metro users will be able to activate the option of using the bicycle parking system on their Metrovalencia card, for which they must previously register themselves on the Metrovalencia website (www.metrovalencia.es) in the bicycle parking system (this functionality will be integrated with the Metrovalencia toll system and uses NFC MIFARE technology[9]).

Then they will be able to use their card to open the gates using a reader that will be installed in the entrance of the parking facility. When the card is swiped through the door reader, it will remain registered in the Metrovalencia system. When the user swipes their card through the reader, both the user number and the opening time will remain registered in the Metrovalencia database. The user may take into account the maximum time for parking. If they exceed the time allowed, they will receive an e-mail to inform them about the incidence. On their way back, users will pick up their bicycle using the same process, swiping their Metro card in the reader at the entrance and unlocking the bicycle by opening their own padlock.

Regarding the stakeholders involvement, Fundación Valenciaport will coordinate the pilot testing with the support of Ferrocarrils de la Generalitat Valenciana (FGV), who provides the infrastructure for installing the two parkings, and will contribute to the data collection process too in order to evaluate the tests. The City Council will also support this evaluation process and will validate the implications on the regulatory framework.

5.1.2 Use case 1: Assessment preparation

The main objective of this preparation task is to establish how to evaluate the use case of parking for private bicycles and to assess its operational feasibility, financial sustainability and environmental and social impact for both the city and its citizens. The results will be used for identifying the policies to removed or modified and measures to be taken in order to promote the use of bicycles as sustainable mobility option.

5.1.2.1 Use case 1: Research questions

Deliverable 4.1 gave a list of research questions linked to the assessment methods for responding the questions.

Regarding the operational point of view, the installation of parking for private bicycles at the metro stations is feasible as an field analysis has been performed in order to assess the space availability, the security issues and the IT required for the use case deployment. This use case will provide sustainable mobility options to inhabitants of towns in the metropolitan area of Valencia, and it should reduce the car traffic in Valencia. Nevertheless, the pending question is how to demonstrate such environmental, social and economic expected benefits.

A key parameter is the number of users; however, the significant reduction of metro passengers due to concerns about COVID-19 must be noted.

[9] Info about this technology on: https://www.mifare.net/es/

5.1.2.2 Use case 1 in Valencia: Performance indicators, data collection and assessment methods.

The following table presents a list of KPIs to be measure in the use case 1 in order to validate the feasibility of the integration of bike and public transport trips (thus longer & more sustainable trips), facilitated by the parking stations, as real alternatives to the use of private car for going to Valencia from surrounding towns and fostering the use of more environmentally friendly transport solutions.

Indicator	Description	Type of indicator	Description of the methods, the data inputs,	Limitation	Remark (duration of the test, who)
Operators' financial sustainability					
FNPV	Financial net present value	Quantitative indicator that shows the financial performance of an investment alternative in form of monetary values.	Number of users and future fee per use.	Uncertainty due to the COVID19 pandemic. During the period of pilot testing, the parking service will be free of charge.	4 months. *Fundación Valenciaport* will coordinate the pilot testing with the support of *Ferrocarrils de la Generalitat Valenciana* (FGV).
ENPV	Economic net present value	Economic performance indicator – Quantitative indicator that shows the economic performance of an investment alternative in form of monetary values.	It results in discounted net monetary values of an investment. Direct financial and indirect (non-financial) effects included. Besides the inputs required for ENPV it also includes estimation of	Uncertainty due to the COVID19 pandemic. During the period of pilot testing, the parking service will be free of charge. Proposed fee will be	4 months. *Fundación Valenciaport* will coordinate the pilot testing with the support of *Ferrocarrils de la Generalitat Valenciana* (FGV).

			shadow prices and externalities.	fixed later.	
FRR	Financial rate of return	Quantitative indicator that reflects the profitability of potential investments from financial point of view in terms of percentage rate of return. Complementary to FNPV and used in combination with it.	Financial performance indicator – used in combination with FNPV to judge the future performance of the investment or to benchmark required rate of return. Calculated based on FNPV calculation. See D4.1, Chapter 4.1	Uncertainty due to the COVID19 pandemic. During the period of pilot testing, the parking service will be free of charge. Proposed fee will be fixed later.	The rate that produces a zero value for the FNPV
ERR	Economic rate of return	Quantitative indicator that reflects the profitability of potential investments from economic point of view in terms of percentage rate of return. Complementary to ENPV, used in combination with it.	Economic performance indicator – used in combination with ENPV to judge the future performance of the investment or to benchmark required rate of return. Calculated based on ENPV calculation. CBA.	Uncertainty due to the COVID19 pandemic. During the period of pilot testing, the parking service will be free of charge. Proposed fee will be fixed later.	It is the rate which produces a zero value for ENPV
IT system quality & use KPIs (Product's quality – ISO/IEC 25010) – Operational feasibility					

Usability	Degree to which a product satisfies users expectative effectively and effectively Increase in the volume of passengers in the station where the bike parksings are installed	Qualitative indicator from the stakeholders' opinion. Quantitative indicator base on the number of users and number of passangers	Field questionnaire. Number of users	Uncertainty due to the COVID19 pandemic. Low number of users.	4 months. FVP, FGV and Valencia City Council.
Reliability	Degree to which a product responds as expected during a period time and specific conditions	Qualitative indicator from the stakeholders' opinion.	Field questionnaire. Number of incidences in accessing to the parking.	Uncertainty due to the COVID19 pandemic. Low number of users.	4 months. FVP, FGV and Valencia City Council.
Security	Degree to which a product protects data	Qualitative indicator from the stakeholders' opinion.	Field questionnaire. Number of incidences (theft, damages, etc.).	Uncertainty due to the COVID19 pandemic. Low number of users.	4 months. FVP, FGV and Valencia City Council.
Portability	Degree to which a product is transferable	Qualitative indicator from the stakeholders' opinion.	Field questionnaire.	Uncertainty due to the COVID19 pandemic.	4 months. FVP, FGV and Valencia City Council.

5.1.3 Use case 2: Description of the activities to test the mobility solution

For testing this mobility case, any Metrovalencia user or not will have the possibility to receive a package in the lockers available in two selected intermodal nodes. The user will not pay any extra fee for using this service.

The two-selected intermodal station were **Colón** and **Xàtiva**.

The four key factors in the decision-making process were:

a) The robustness of the service provider,
b) space available (square metres) to install the lockers,
c) the users preferences expressed in the questionnaires,
d) and the security provision (FGV camera surveillance).

Colón station is an interchange station for Metrovalencia Lines 3, 5, 7 and 9. It is located in the city centre, the main shopping area of Valencia.

Xàtiva is also located in the city centre and in this case, metro lines 3, 5 and 9 run there.

Anyone can register to receive their packages through the service operator's website: www.citypaq.es. Once registered, user can indicate the selected locker as the destination in his/her online purchases in stores associated with this system. When the package will arrive to the locker, the user will receive a code by SMS/mail/app to open the locker. The user will be able to pick up the package using the barcode receipt to open the locker.

5.1.4 Use case 2: Assessment preparation

In this use case, the stakeholders have expressed the need to considers four factors for evaluating its impact:

- **Robustness of the service provider.** It was evaluated considering its previous experience and its number of lockers in Spain. They conduct a benchmarking to study the e-locker systems companies that are currently providing these kind of services. The selected company, Correos, has agreements with other logistics operators as well as agreements with large e-commerce companies. Correos has more than 5,000 lockers distributed throughout Spain and it has already carried out some tests for the installation of these lockers in public transport stations in Spain.
- **User interest**: In the previous questionnaires users have been asked through surveys about their interest in using lockers at the stations (74.4% of the responders found of interest this kind of solution to receive their parcels).
- **Optimal location of the installation**: Another challenge of the use case is to install the e-locks in a location that is useful for the users. An analysis to choose an optimal location an analysis has been carried out together with the transport operator. The basic requirements were: stations with higher passenger flow and no other ticket office installed in an area between 200-300 meters around. In addition, the user survey asked about the locations of greatest interest to users. Colon, Xàtiva, Túria and Empalme statios resulted the station with major potential of interest.
- **Security of lockers**: Users must see the solution as a reliable and secure solution to receive their packages. For this purpose, Correos has checked the anti-theft security

of its lockers and has the necessary insurance to guarantee that in case of loss or misplacement of the package it can restore the cost.

The indicators to measure these four factors are listed in the next sub-section.

Fundación Valenciaport will coordinate the pilot testing with the support of Ferrocarrils de la Generalitat Valenciana (FGV), who provides the infrastructure for installing the two e-lockers, and will contribute to the data collection process in order to evaluate the tests. The City Council will also support this evaluation process and will validate the implications on the regulatory framework.

5.1.4.1 Use case 2 in Valencia: Performance indicators, data collection and assessment methods.

The following table presents a list of KPIs to be measure in the use case 2 in order to validate the feasibility of lockers at the metro stations.

Indicator	Description	Type of indicator	Description of the methods, the data inputs,	Limitation	Remark (duration of the test, who)
Operators' financial sustainability					
FNPV	Financial net present value	Quantitative indicator that shows the financial performance of an investment alternative in form of monetary values.	Number of users and future fee per use.	Uncertainty due to the COVID19 pandemic.	4 months. *Fundación Valenciaport* will coordinate the pilot testing with the support of *Ferrocarrils de la Generalitat Valenciana* (FGV).
ENPV	Economic net present value	Economic performance indicator – Quantitative indicator that shows the economic performance of an investment alternative in form of monetary values.	It results in discounted net monetary values of an investment. Direct financial and indirect (non-financial) effects included. Besides the inputs required for ENPV it also includes	Uncertainty due to the COVID19 pandemic.	4 months. *Fundación Valenciaport* will coordinate the pilot testing with the support of *Ferrocarrils de la Generalitat Valenciana* (FGV).

			estimation of shadow prices and externalities.		
FRR	Financial rate of return	Quantitative indicator that reflects the profitability of potential investments from financial point of view in terms of percentage rate of return. Complementary to FNPV and used in combination with it.	Financial performance indicator – used in combination with FNPV to judge the future performance of the investment or to benchmark required rate of return. Calculated based on FNPV calculation. See D4.1, Chapter 4.1	Uncertainty due to the COVID19 pandemic.	4 months. The rate that produces a zero value for the FNPV
ERR	Economic rate of return	Quantitative indicator that reflects the profitability of potential investments from economic point of view in terms of percentage rate of return. Complementary to ENPV, used in combination with it.	Economic performance indicator – used in combination with ENPV to judge the future performance of the investment or to benchmark required rate of return. Calculated based on ENPV calculation. CBA.	Uncertainty due to the COVID19 pandemic.	4 months. It is the rate which produces a zero value for ENPV
IT system quality & use KPIs (Product's quality – ISO/IEC 25010) – Operational feasibility					
Usability	Degree to which a product satisfies users expectative effectively and effectively	Qualitative indicator from the stakeholders' opinion.	Field questionnaire.	Uncertainty due to the COVID19 pandemic. Low number of users.	4 months.FVP, FGV and Valencia City Council.

Reliability	Degree to which a product responds as expected during a period time and specific conditions	Qualitative indicator from the stakeholders' opinion.	Field questionnaire. Number of incidences in accessing to the parking.	Uncertainty due to the COVID19 pandemic. Low number of users.	4 months. FVP, FGV and Valencia City Council.
Security	Degree to which a product protects data	Qualitative indicator from the stakeholders' opinion.	Field questionnaire. Number of incidences (theft, damages, etc.).	Uncertainty due to the COVID19 pandemic. Low number of users.	4 months. FVP, FGV and Valencia City Council.
Portability	Degree to which a product is transferable	Qualitative indicator from the stakeholders' opinion.	Field questionnaire.	Uncertainty due to the COVID19 pandemic.	4 months. FVP, FGV and Valencia City Council.

5.2 T4.4. Formulation and priorisation of alternative policy responses

Once implemented the use cases, all the required data will be collected in order to provide inputs for the pilot assessment following the performance indicators mentioned in the above section. These indicators will serve to evaluate the pilot results and identify the gaps of the pilots (task 4.3) and besed on that analysis a preliminary definition of policy responses for a future deployment of the mobility soluctions tested in SPROUT project.will be carried out. The aim of this tasks is provide policy makers inputs for the deployment of new mobility solutions in Valencia by considering:

- The adaption and revision of existing policy instruments (in particular, the forthcoming SUMP) to include innovative solutions;
- The integration of pilot solutions into mobility plans and wider urban policies (including the metropolitan transport plan).

The activities to be performed in this task will be defined by the T4.4 leader and include:

- Identification of policy response
- Priositation of policy responses considering stakeholders' preferences (a specific workshop will be organised);
- Selection of policy responses on the basis of the degree of consensus;
- Assessment of the impacts of selected policies;
- Update narrative scenarios.

5.3 T4.5. City Specific Policies for harnessing the impact of new mobility systems

Following the formulation and priorisation of alternative policy responses, in the task 4.5 local sta In this task, local stakeholders will evaluate and draft policy responses for the implementation of new intermodal mobility services at intermodal nodes. It will consider different dimensions to respond to the following research questions.:

- ***Legal dimension***: can the city implement the specific policies on the basis of the existing legal framework?
- ***Financial dimension***: can the city cover implementation costs of the policies?
- ***Operational and sustainability dimensions***: has the city the necessary resources to support the implementation of the policies?
- ***User acceptance:*** Can the city improve user acceptance?

During this task, special attention on the *policy assessment* measuring the implementation feasibility to citywide level as the combination of several dimensions (legal, operational, financial) and the user acceptance will be paid. The indicators will be collected from the operators, policymakers and users as the control group that will respond to the surveys and participate in workshops to draw and validate the final pilot policy response.

Task 4.5 partners will support the pilots on the identification of the indicators, the questionnaires and open discussion/ workshops design, and the analysis of the responses

In order to carry out the evaluation of the policy responses, the following KPIs will be take into account:

Table 4. *List of recommended KPIs for SPROUT pilots.*

Indicator	Description	Type of indicator	Description of the methods, the data inputs,	Limitation	Remark
Policy implementation feasibility (legal)					
Legal framework compatibility	This indicator responds to que question: *Is there any regulation that hinders the policy adoption that cannot be modified (policymakers)?*	Qualitative -Policymaker. Expert opinion.	Surveys and open discussion (policymakers).	Not foreseen	
Policy implementation feasibility (operational)					
City Investment costs	This indicator responds to the question: *Do you think that the city can assume the investment costs require for widely adopting the mobility solution by the city with this policy framework?*	Qualitative -Policymaker. Expert opinion.	Surveys and open discussion (policymakers)	Expert's opinion.	Reach policymakers with financial background,
City Operational cost	This indicator responds to the question: "*Do you think that the city can assume the operational costs require for widely adopting the mobility solution by the city with this policy framework?*"	Qualitative -Policymaker. Expert opinion.	Surveys and open discussion (policymakers)	Expert's opinion.	Reach policymakers with financial background,

City Revenues	This indicator responds to the question: *Do you think that the city will increase the incomes from widely adopting the mobility solution by the city with this policy framework?*	Qualitative -Policymaker. Expert opinion	Surveys and open discussion (policymakers)	Expert's opinion.	Reach policymakers with financial background
Policy implementation feasibility (financial)					
City Financial net present value	Do you think that the city will improve the FNVP from widely adopting the mobility solution by the city with this policy framework?	Qualitative -Policymaker. Expert	Surveys and open discussion (policymakers)	Expert's opinion.	
User acceptance					
Probability of using the service	Potential users' subjective likelihood that they will use the mobility solution with the alternative policy framework	Qualitative: Users opinion	Questionnaires	Number of people asked not very representative. Users' opinion.	

6 Pilots management

6.1 Legal issues

In order to implement the pilot, the following processes have been carried out:

1) Legal tender for the bike parking purchase: As FGV is a public company the public procedures need to be followed. In this regard, the contract for purchase the bike parking needed a technical report with a benchmarking of available solution and afterwards a public contract.
2) Contract for the e-lockers implementation: a contract will be formalized between FGV and Correos agreeing on the terms under which Correos can occupy space belonging to FGV to provide parcel delivery services by means of lockers in some of the metro stations managed by FGV
3) Local data protection management specifications:
    a. The data concerning the use of the parking will be managed directly by FGV and as FVG is already managing this data base (as users of the metro network), FGV will respect the Spanish data protection law and the European General Data Protection Regulation, which will be monitor by FGV Data Protection Department.
    b. The data of the last mile delivery will be directly managed by Correos as it does usually as postal operator. The data needed for the pilot evaluation will be provide by Correos respecting the data protection law and the General Data Protection Regulation.

6.2 Risk identification and mitigation plan

The identified risks and the mitigation plan is summarised on the following table:

Table 5. Risks, contingency and mitigation actions (including COVID-19).

Task#.#	Risk description	Contingency action	Mitigation Action
Task4.3	Delays in the implementation	Try to anticipate all the technical tasks	Limit the scope of the pilot
Task 4.3	Delays on the signature of the agreements	Try to anticipate the signature	Involve political representative to speed the process
Task 4.3	Technical problems during the implementation	Definition of technical requirements before the implementation	Consult an external technical specialist
T4.3, T4.4, T4.5	Lack of stakeholders engagement	Dissemination campaign	Request high level political involvement

6.3 Communication strategy and channels

The pilot will follow the communication strategy and channels stated in the D4.1.

7 Conclusions

In the framework of SPROUT, Valencia will test an "*Intermodal urban passenger/freight node for collective public & private transport*", that consist on two use cases:

- Case 1: the installation of a bikes parking system into an intermodal node.
- Case 2: the installation of intelligent parcel lockers into an intermodal node.

This intermodal node is aimed at improving the services provided by FGV by complementing the use of the public transport (metro) with the use of private bikes and promoting the use of the station as a picking points for parcels. Thanks to this pilot, the city mobility will be enhanced helping to reduce the traffic congestion and therefore reducing the negative environmental impacts of the freight/passenger urban transport.

As the results of this pilot will serve as trigger point for the future deployment of new mobility services in Valencia, special attention should be paid to overcome the technical, regulatory, operational and legal challenges. Thanks to the results of the pilot and its assessment, policy response will be drafted by the stakeholders participating in the pilot to support the improvement of the sustainable mobility and transport measures In Valencia.

8 References

Generalitat Valenciana, Basic Mobility Plan for the Metropolitan Area. (2018). http://politicaterritorial.gva.es/es/web/movilidad-urbana/supramunicipales/-/asset_publisher/F3LkVyYiHFLR/content/plan-basico-de-movilidad-del-area-metropolitana-de-valenc-1

City Council of Valencia, Statistics, http://www.valencia.es/ayuntamiento/estadistica.nsf

SPROUT Deliverable 4.1. Pilot evaluation framework https://sprout-civitas.eu/resources/d4-1-pilot-evaluation-framework

Annexe 1: Stakeholders involvement

Table 6 gives detailed information about the stakeholders will participate in the pilot in Valencia. It explains the type of contribution and how they will be contacted if needed.

Table 6. Pilots stakeholder's identification and involvement.

Type of stakeholder	Name of specific local stakeholder organisation	Involvement
Public administration		
Governmental bodies responsible for transport planning, public works, infrastructure, environment, public space, on local, regional and metropolitan levels.	Valencia City Council	Valencia City Council and in particular the area of Mobility and Sustainable Space is the public body responsible for the development and execution of Valencia's urban mobility plan. The mobility plan describes the strategic lines, the action plans to be implemented and the specific measures and policies relating to urban mobility. The City Council will be involved on the following tasks: - support during data collection - in charge of public engagement in charge to validate the new regulatory framework
	Regional Government	The regional government, and in particular the Directorate General for Public Works, Transport and Mobility, is responsible for transport planning and logistics, planning, coordination and execution of intermodal transport in the Valencian Community, transport safety and planning, and management of the transport network and metropolitan mobility. For the development of these competences, there is the Subdirectorate General of Transport, which is responsible for planning, directing, coordinating and supervising the activity of the services under its authority, which are:

		- Public Transport Management – Service - Transport Management and Organisation Service This public authority will follow-up the progress of the pilot implementation and will define future policies to be deployed as a result of SPROUT pilot
Public Services		
Police	Local Police	The Local police is responsible for law enforcement and depends on the City Council. Local Police will be informed about the pilot.
Conventional public transport operators		
Operators of local transport	Ferrocarrils de la Generalitat Valenciana	Ferrocarrils de la Generalitat Valencianca (FGV) is a public company dependent on the Valencia Regional Government that manages and administers the metric gauge railway lines that run throughout the Valencia Region. FGV's mission is to offer citizens of the Comunitat Valenciana, sustainable public railway transport service through efficient management and maximum quality, safety, transparency and social profitability. community. The pilot of the city of Valencia, "Intermodal Urban passenger/freight node for collective public & private transport" will be tested in one of the stations directly managed by FGV. For this reason, FGV will be directly involved in the implementation of the pilot in the city of Valencia in WP4 and the tasks devoted to the development of city-specific use cases in WP3.
Technical partners		
Innovation centre	Fundacion Valenciaport	Fundación Valenciaport is a private non-profit research centre that was created in 2004, It manifests an R&D&I

		centre of excellence that not only undertakes its own academic research but also serves as a tool at the service of all agents involved in the transport and logistics chain and logistics. It main activities will be_ - coordinator of the overall pilot activities - coordination and main contributor to the design of the advanced concept of urban intermodal node - in charge of assessing the pilot results and impacts - main contributor to the formulation of new regulatory framework (policy recommendations) - in charge of developing the deployment plan
Logistic operators		
Last mile companies	Correos	The solution selected for the elockers is managed by Correos. Correos is the public company responsible of the postal service in Spain.Correos will implament the e-lockers solution, will manage all the operations related to the e-lockers and will collect the data required for the pilot evaluation
- Other logistic operators	Private operators	Correos has commercial agreements with private logistic operators to deliver the parcel on the lockers managed by Correos. These operators will participate indirectly on the pilot implementation
Potential Stakeholders		
Cyclists' and pedestrians' associations	Cyclist association	This association will be informed about the pilot to support in the dissemination activities

Metropolitan city councils	City Council of Torrent and Burjassot	As the parking for bikes will be tested in 2 metro stations of the metropolitan area, both City Councils will be informed in order to support the dissemination of the measure among their citizens
Mobility association	Mobility Committee:	The Committee is a body for citizen participation and debate, of an informative and consultative nature, to collect citizen proposals for mobility. It was set up in 2015 and has the participation of more than 40 citizen organisations, companies and public administrations, with the aim of collecting citizen proposals that will enable a modal change in mobility in Valencia. This committee will be informed about the pilot implementation
Potential Users - Residents		
Civil society organisations representing residents (e.g. neighbourhood committees)	Citizens associations	The associations of the surroundings areas will be contacted to explain the pilot

	Metro users	FGV will promote the new services among its users through its webpage, social networks and app.
Metro users		
Potential Users - Local businesses		
Federations of business owners (e.g. chamber of commerce)	Chamber of commerce	The local chamber of commerce will be informed about the pilot