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ETS INGENIEROS DE CAMINOS,  
CANALES Y PUERTOS

# MASTER'S DEGREE FINAL THESIS

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Mobility Plan of the Economic Area located in the corridor  
Silla – València, (València)

*Presented by*

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## List of abbreviations

**BIZ:** Business and Industrial Zones

**FP:** First Perimeter

**EA:** Economic Area

**IDEV:** *Infraestructura Valenciana de Dades Espacials*

**IVE:** València Institute of Building (*Institut Valencià de l'Edificació*)

**IVACE:** Valencian Institute of Business Competitiveness (*Institut Valencià de Competitivitat Empresarial*)

**MA:** Metropolitan Area

**MP:** Mobility Plan

**SIOSE:** Land Cover and Use Information System of Spain (*Sistema de Información sobre Ocupación del Suelo de España*)

**SP:** Second Perimeter

**PATECO:** *Plan de Acción Territorial del Comercio*

**TGC:** Trip-Generation Centre

**ZT:** Zone of Transport

**PMoMe:** Metropolitan Mobility Plan of València (*Pla de Mobilitat Metropolitana de València*)

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## 1. Foreword

The present document, which title is “Mobility Plan of the Economic Area located in the corridor Silla – València”, constitutes the Master’s Degree Final Thesis for a Double Degree between the Universitat Politècnica de València (UPV), in Spain, and the École des Ponts ParisTech (ENPC), in France. This work has been elaborated in the Universitat Politècnica de València with the mentoring of professor Eric Gielen and co-mentoring of professor José Sergio Palencia Jiménez. It has also been supervised by professor Gaële Lesteven, as tutor from École des Ponts ParisTech.

The object of this document is to develop a Mobility Plan in a part of the Metropolitan Area (MA) of València, in the South of the capital, formed by a continuous territory of industrial, commercial and service areas along V-31 highway (also known as “Pista de Silla”), one of the entrance to the city. The municipalities concerned by this Plan are: València, Sedaví, Benetússer, Alfafar, Llocnou de la Corona, Massanassa, Catarroja, Albal, Beniparrell, Silla, Alcàsser and Picassent. Gathering some parts of their municipal land, the corridor Silla – València is defined including the urban centres as well as the Business and Industrial Zones (BIZ). Within this corridor, the name Economic Area (EA) is used to refer to the BIZ that constitute the area of study.

The Economic Area is also integrated by a group of Trip-Generation Centre (TGC), that has been defined in the Metropolitan Mobility Plan of València (PMoMe) as *Centros Generadores de Movilidad (CGM)*. The PMoMe seeks to boost the implementation of Mobility Plans on this type of zones. Therefore, the present Mobility Plan responds to a special need and is in line with the recommendations of a specific metropolitan mobility plan.

As the Basic Plan of PMoMe emphasises, TGC are mainly accessible by motorised vehicles. Furthermore, the typology of trips to reach them differs significantly, origins vary in most cases, as CGM are located outside of the city and consequently sometimes the only alternative is to get there by car (G.V., 2018f). From a general point of view, the present document aims to reduce the car-dependence in the EA providing integrated, connected, personalised and sustainable alternatives for all type of users.

The reason for undertaking this Mobility Plan is a personal motivation for developing a subject of high relevance in the transportation domain. To me, it is necessary to have a global vision of how people moves within the MA, where specific and complex challenges can be identified as trip patterns vary significantly. I am convinced that mobility patterns must change and can be changed in order to reduce the economic, social and environmental costs that private dependence represents. Moreover, I firmly believe in the capacity of mobility planning to better look for solutions in a short, medium and long term. Consequently, this project is presented as a professional – academic project to better address a subject that, until now, has not been developed in the area of study.

The document is structured in four parts. Firstly, an introduction presents the most relevant aspect of the project in order to better describe the starting point and to have a global vision of the dimension of the area of study as well as the context in which it is encompassed or other Plans and project that might influence it. Secondly, a diagnosis is presented in order to understand the reasons for the current situation in terms of mobility. The first part includes an analysis of the mobility demand, mobility offer, as well as demographic characteristics of the corridor. After that, the diagnosis shows which are the



strengths, weaknesses, opportunities and threats of the area of study, concerning the objectives of the Plan. This chapter also includes the precise definition of the problems in terms of mobility. Thirdly, the core of the document ends up with the definition of measures that could be considered in short, medium and long term to solve the problems previously identified. Lastly, the conclusions of the Plan are outlined as well as a personal consideration of the work developed.

## 2. Context

### 2.1. The city of València and its Metropolitan Area

València, in Spain, is the third biggest city in terms of population with 791.413 inhabitants (INE 2018) and 1.892.091 (INE 2016) regarding its Metropolitan Area<sup>1</sup>. It is located in the East of the Iberian Peninsula, on the Mediterranean Sea, and is the capital of Comunitat Valenciana region, with 4.963.703 inhabitants. Compared to cities in France, València would be categorised between Marseille with 870.018 inhabitants, and Lyon with 523.164 inhabitants (1.381.249 regarding its metropolitan area) (Insee, 2018).

#### **The Metropolitan Area of València**

The Metropolitan Area (MA), as it is described in the initial document of the Metropolitan Mobility Plan of València (G.V., 2018b) is formed by 71 municipalities, Fig. 1.

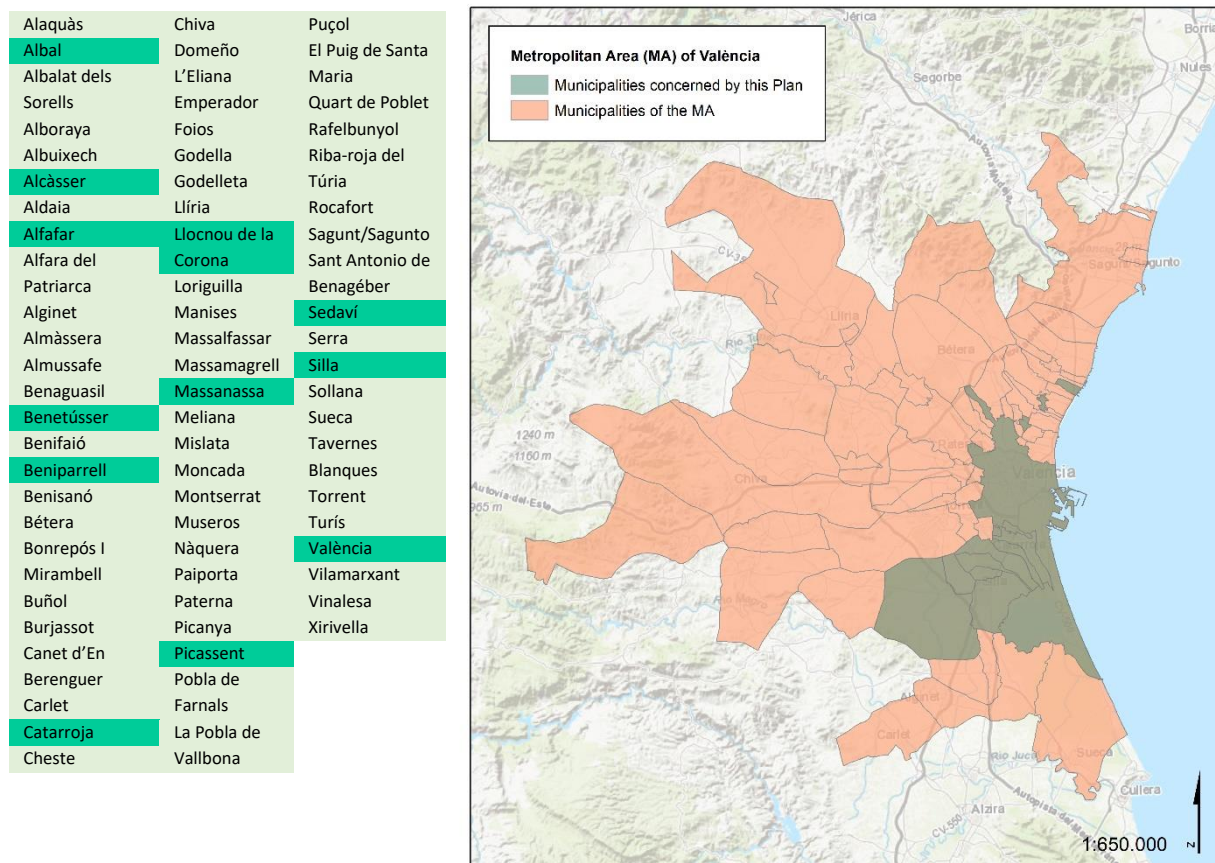


Fig. 1. Municipalities included in the Metropolitan Area of València. Note: data from Document Inicial Estratègic PMoMe (G.V., 2018b).

In this document, the definition presented above is used when referring to the Metropolitan Area (MA). Other definitions of the metropolitan area were settled before. But the Metropolitan Mobility

<sup>1</sup> When referring to Metropolitan Area, the definition used in the Mobility Plan for the Metropolitan Area of València is applied.

Plan of València has defined this one after taking into account mobility dependences with the city of València and other analysis conducted (G.V., 2018b). Consequently, and because this Plan is framed within the PMoMe, the same definition of Metropolitan Area is applied.

### **Transport infrastructure**

In terms of transport and communications, València is in a strategic location. In Europe, València is included in the Trans-European Transport Network (TENtec), precisely as one of the cities of the Mediterranean axis, linking Hungary with the South of the Iberian Peninsula, through Slovenia, Italy and France. In a national dimension, València has three main access located radially and representing structural connections with other regions of the Spanish territory, and outside of it.

Except from the East side, where the port, the Malvarosa beach and the Albufera natural park are an immutable barrier, the following roadway access distributed in an anti-clockwise direction feed València (see Fig. 2) :

- V-21 on the North in direction to Barcelona and Zaragoza,
- A-3 in direction to Madrid,

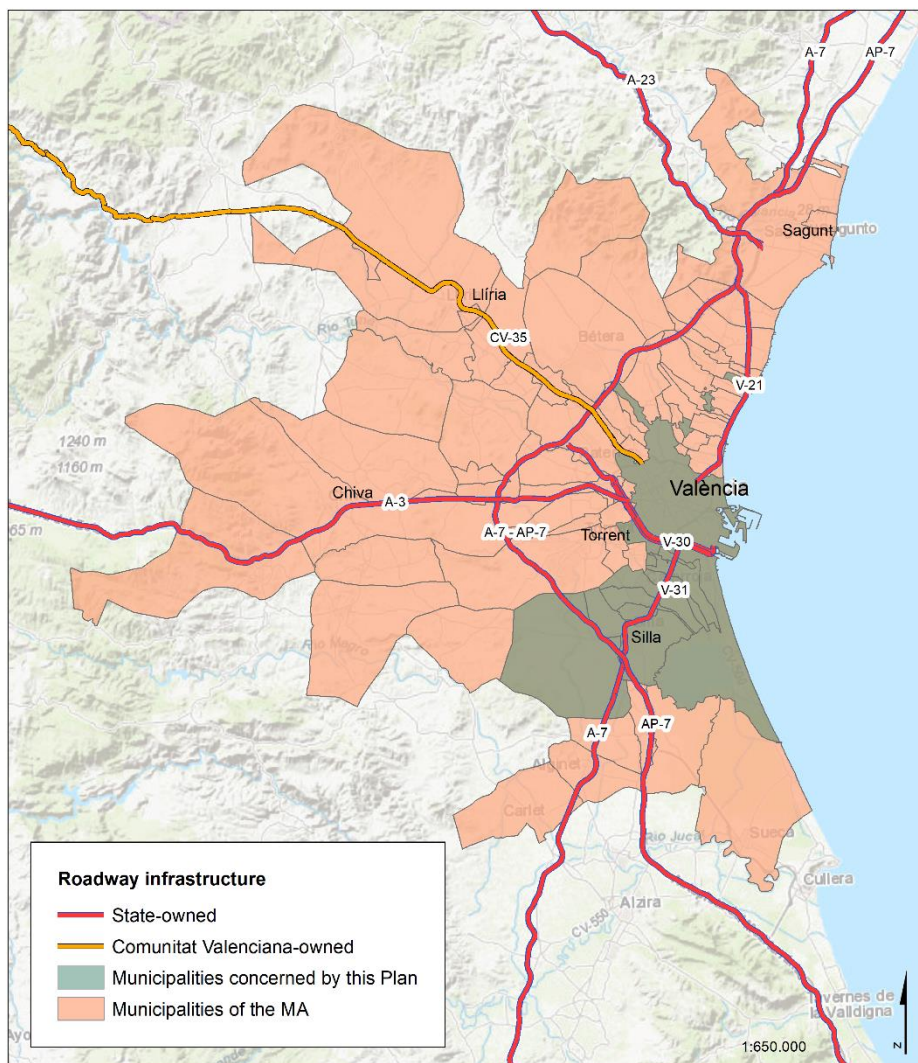


Fig. 2. Roadway infrastructure network within the MA. Note: data from PMoMe and IDEV.

- V-31 on the South in direction to Alicante, Murcia and inland to Albacete.

Moreover, by-passing the city, both AP-7 and nearer to the capital V-30 highways enable transversal movements on the periphery. V-30 also passes on both sides of the new *Turia* riverbed, from Paterna on the West to the commercial port.

In terms of railway infrastructure, the same radial axis exists, but only one of them, València-Madrid, already guarantees a high-speed connection within the national territory. The “Mediterran corridor”, applying in some part for rail connections, North with Barcelona and South with Alicante – Murcia, is not in service yet. Additionally, nowadays the regional rail system uses the same railway as intercity trains, medium-distance and long-distance in some cases. For example, the line C-1 and C-2 crossing the corridor that applies to this Plan, share the railway infrastructure with all the other trains going South (medium-distance, long-distance and freight).

### **Natural environment and landscape**

Regarding environmental aspects, the Metropolitan Area (MA) occupies a territory of high natural environment and landscape quality. It is mainly located in the Horta of València territory, which is a “historic, cultural, natural and agricultural” site in the region as it is described in the *Plan de Acción Territorial de Ordenación y Dinamización de la Huerta* (G.V., 2018g). This document aims to define which are the zones that might be preserved in order to maintain the *Huerta* landscape, and the quality of life in the metropolitan area, as it is one of the last ones in Europe. Moreover, what is also significant is the presence of the Albufera natural park, for being one of the most essential seaside humid zones of the Comunitat Valenciana region, but also of the Mediterranean basin (G.V., 2018g).



Fig. 3. Main landscape elements on the metropolitan area. Source: PAT Horta de València (G.V., 2018g).

## 2.2. Objectives

The main purpose of this Final Master's Thesis is to come up with a Mobility Plan for the Economic Area within the corridor Silla – València. This corridor is included in the South Corridor defined in the Metropolitan Mobility Plan of València (PMoMe), (G.V., 2018c).

This Plan is in line with the measure EE06 of the Basic Plan of PMoMe “Boosting the implementation of Mobility Plans in the Trips-Generation Centres”, that can be found in the chapter 7 of the “*Pla bàsic de Mobilitat de l'Àrea Metropolitana de València*” (G.V., 2018f). Therefore, the present Mobility Plan responds to a special need and is in line with the recommendations of PMoMe. The objectives established for EE06 measure are:

- *Promoting a consensus between all the agents related to the TGC and include them on the mobility planning,*
- *Equipping the TGC with an agile management mechanism for the proposed action of the Mobility Plans,*
- *Improving accessibility to public transportation,*
- *Fostering pedestrian mobility and cycling on the daily trips to TGC,*
- *Disposing a transport network that would reduce the social exclusion for mobility reason, fostering the accessibility to TGC.*

In this document, the Plan objectives are based on the ones presented above. Nevertheless, they are integrated into a dynamic dimension and consequently they have been adapted as the Plan evolves. Therefore, objectives will be concretised further on, on the diagnosis and before announcing the Strengths, Weaknesses, Opportunities and Threats.

It can be anticipated that this document seeks to propose different measures to create a new mobility panorama which will be in accordance to sustainable development principles but also intermodality or innovative solutions. Additionally, it is intended to accomplish an integrated offer of transportation. The following means of transport are all considered in this Mobility Plan: walking, cycling (and other non-motorised means of transport), public transportation, private mode transport, car-sharing and car-pooling.

Implementing sustainable criteria is essential to face climate change challenges and guarantee equal-social and self-efficient economic development. As it is defined in the guide book “Developing and implementing a sustainable urban mobility plan” (Wefering, Rupprecht, Bührmann, & Böhler-Baedeker, 2013), what would lead to elaborate a Sustainable Mobility Plan is to include, as a minimum, the following objectives:

- *“Ensure all citizens are offered transport options that enable access to key destinations and services;*
- *Improve safety and security;*
- *Reduce air and noise pollution, greenhouse gas emissions and energy consumption;*
- *Improve the efficiency and cost-effectiveness of the transportation of personal and goods;*
- *Contribute to enhancing the attractiveness and quality of the urban environment and urban design for the benefits of citizens, the economy and society as a whole.”*

This guidebook sets the guidelines in terms of urban mobility planning. Despite the fact that it does not directly refer to industrial, commercial and services areas, the objectives of this Plan are also inscribed within those of the guide book. On one hand, because of its importance and on the other hand because urban centres are next to EA, not isolated, and some institutions and business are even within in (municipal sports facilities, cemetery, educational centre or daily shopping supermarkets). Consequently, a mixt of land uses is identified within the corridor Silla – València.

## 2.3. State of the art

### 2.3.1. Existing planning documents and projects

There are several plans and projects, already finished or under development right now that might influence the present Plan. Consequently, it is vital to consider them as a way of enabling a more integrated planning development and consider the strategies they developed if they can be considered of high relevance for proposed measures that will be presented further down in this document.

#### A) *PMoMe: “Pla de Mobilitat Metropolità de València”*

##### **Status, scope and purpose:**

The PMoMe, Metropolitan Mobility Plan of València, is the current planning document of reference in terms of mobility for the Metropolitan Area. It supposes the final stage of a dynamic planning procedure that has been started when the Mobility Law of the Generalitat (G.V., 2011) was approved in 2011.

The scope of PMoMe applies to 71 municipalities, which increases the geographical extension previously defined in the 1/1991 law for metropolitan transportation planning of València (and the ordinance 85/2001) (G.V., 2018d).

The main purpose of the PMoMe is to coordinate the different policies and measures in terms of mobility within the Metropolitan Area (G.V., 2018d).

##### **Current state and evolution:**

In July 2018, the Basic Plan that has been approved is an initial version of the Plan that enables undertaking measure that do not need to go through Environmental Impact Assessment procedure. It has also been approved for obtaining a document that would enable to ensure the financial credit line coming from the Estate General Budget (G.V., 2018d). The Basic Plan is the first strategic planning document that results from the elaboration of the PMoMe (G.V., 2018e).

The PMoMe is to be approved in two years from June 2017, actually more or less as the same time as this document is written. The management and surveying stage will continue for two years from now.



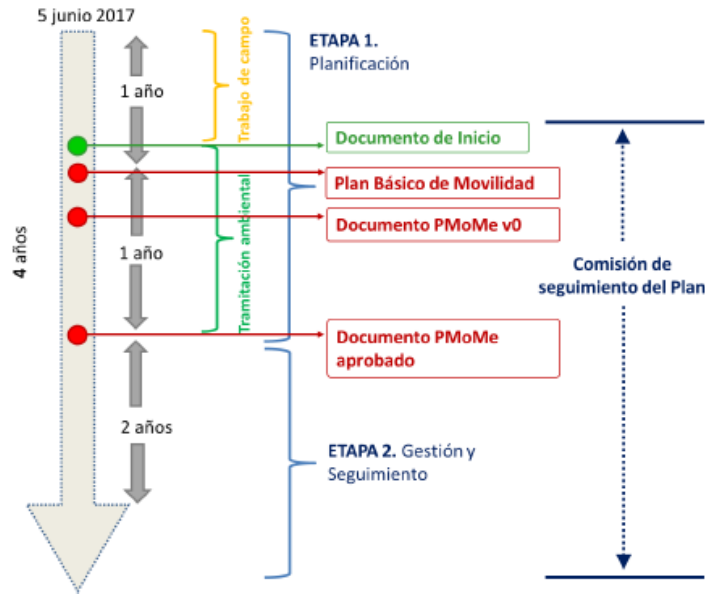


Fig. 4. Stages of the PMoMe. Source: Pla Bàsic de Mobilitat de l'Àrea Metropolitana de València.

#### Relation with this Plan:

From a general point of view, PMoMe is considered as a reference for this Plan as it is settled within a metropolitan scale and consequently it applies to more than one municipality. More specifically, this Plan focuses on a specific problem addressed in the PMoMe: Trips-Generation Centres (Centros Generadores de Movilidad). Particularly, the problems related to this type of areas are treated in the EE06 measure of the Basic Plan.

#### B) Municipal mobility planning documents

##### Status, scope and purpose:

Within the corridor Silla – València, there are several municipalities that have already developed planning documents attacking mobility. Nevertheless, the type of document differs depending on the municipality. The municipalities that have developed a Sustainable Urban Mobility Plan are: Alfafar (2015), Picassent and València. Additionally, the ones that are developing this type of document are: Silla (initiated in January 2019), Albal and Sedaví (diagnosis elaborated in 2018). Moreover, Benetússer approved in 2018 a Sustainable Urban Mobility Study. In the case of Catarroja and Beniparrel, they set the strategies in terms of mobility within their General Zoning Plan. There are no references found for the municipalities of Alcàsser, Massanassa and Llocnou de la Corona.

Those planning documents present the situation of the municipality in terms of mobility and set strategic actions in order to foster more sustainable means of transportation.

##### Relation with this Plan:

Although most of these documents refer to the urban centres, some of them take into consideration industrial estates and commercial and service areas (Alfafar). For the development of this Plan, these mobility planning documents are reviewed in order to have a global vision of which are the mobility

planning measures. Even if it generally applies to a municipal scale, it could be important to take advantage of those measures that could be used to structure the corridor Silla – València as a whole.

C) Plan de Acción Territorial de Ordenación y Dinamización de la Huerta de Valencia (PAT de la Huerta)

**Status, scope and purpose:**

The *PAT de la Huerta*, is the Territorial Action Plan set in 2018 and highlights the importance of *La Huerta* of València, which is a historical, cultural, natural and agricultural heritage of the València province. It has been elaborated with the final purpose of guarantying the protection of this area.

The scope of *PAT de la Huerta* is double. The “strict” scope concerns part or total of 40 municipalities and occupies a surface of 22.900 ha. The “extended” scope concerns 44 municipalities and occupies 63.400 ha. All the municipalities concerned by this Plan are included in the “extended” scope and 8 of them in the “strict” one: Albal, Alfafar, Benetússer, Catarroja, Llocnou de la Corona, Massanassa, Sedaví and València.

The main objective of the *PAT de la Huerta* is to “ensure conservation, regeneration and enhancement of those areas of greatest interest and which are threatened by the expansion of the urban planning”.

**Relation with this Plan:**

*PAT de la Huerta* is a planning document that must be taken into consideration due to its ambition of preserving a heritage zone where the action scope of this Plan is located. The guidelines set in *PAT de la Huerta* should be integrated when defining new mobility solutions between municipalities.

D) Anell verd (Green Ring)

**Status, scope and purpose:**

The *Anell Verd*, meaning the “Green Ring”, is a cycling and walking infrastructure on the periphery that will connect different municipalities around the capital of the Metropolitan Area. The aim of this project is to create a circular path for non-motorised means of transport that will cross the *Huerta* of València and connect some of the municipalities surrounding the capital.

**Current state and evolution:**

In January 2016, the regional authority (*Conselleria d'Habitatge, Obres Públiques i Vertebració del Territori*) called for tenders for the building project of the section Pinedo-Sedaví-Picanya-Alaquàs<sup>2</sup>. Additionally, in December 2018 was published the disposition of the call for tenders for the works contract of the North section of Anell Verd<sup>3</sup>. Nowadays, no information has been found concerning the progress status on the section Pinedo-Sedaví-Picanya-Alaquàs.

<sup>2</sup> [http://www.habitatge.gva.es/va/inicio/area\\_de\\_prensa/not\\_detalle\\_area\\_prensa?id=656057](http://www.habitatge.gva.es/va/inicio/area_de_prensa/not_detalle_area_prensa?id=656057)

<sup>3</sup> [http://www.dogv.gva.es/datos/2018/12/17/pdf/2018\\_11656.pdf](http://www.dogv.gva.es/datos/2018/12/17/pdf/2018_11656.pdf)

**Relation with this Plan:**

The Anell Verd is divided in different parts. The sections Pinedo – Sedaví and Sedaví – Aldaia cross the North side of the corridor Silla – València. This infrastructure is defined as a structuring axis within the MA and so this aspect is considered when defining measure for pedestrians and cyclists.

**E) Footbridge between Sociópolis and Sant Marcellí****Status, scope and purpose:**

The walking-cycling footbridge between Sociópolis (Horta Sud) and Sant Marcellí (València) is a pedestrian-cycling infrastructure that will allow crossing V-30 highway and new Turia river bed in safe conditions for pedestrians and cyclists.

The main purpose of the project is to give continuity to the existing cycle path CR-400 and offer a secure connection with València. The project starts in the roundabout on CV-400 and CV-407 (Sociópolis neighbourhood) and finishes in *San Marcellí*, València.

**2.4. Scope of action**

This Plan focuses in a part of the MA located within the South corridor defined on the PMoMe (G.V., 2018b) where industrial, commercial and service areas can be found.

The scope of action is double. It can be differentiated between First perimeter and Second perimeter. In both cases, some specific parts of the following twelve municipalities are concerned: Albal, Alcàsser, Alfafar, Benetússer, Beniparell, Catarroja, Llocnou de la Corona, Massanassa, Picassent, Sedaví, Silla and València. They are identified in Fig. 5, as well as the main transport infrastructure.

The First Perimeter (FP) is defined by the industrial, commercial and services land zones within highway V-30, Silla and Picassent. Additionally, it has been decided to include sports facilities as they are usually nearby these areas and though, they can add more transportation demand within the perimeter. All these areas are integrated together and considered as an Economic Area (EA) as they are working-attractive zones within a clear part of the territory of the MA. This EA is the area of study. It is considered as a geographic union of different Business Industrial Zones of Trip-Generation Centres. In this Plan the word BIZ is used, it accordance to what was adopted in the project Mobility Management for Business and Industrial Zones (MoMa.BIZpartners, 2013). This name was adopted to refer to zones where industrial and business activity takes place. In this Plan, BIZ is preferred to TGC, to avoid referring to zones (TGC) which necessarily generate significant volumes of transit.

The Second Perimeter (SP) is defined by adding to the First Perimeter part or the total of the urban centres of the municipalities listed above. Even if this Plan does not apply to urban mobility, these are added due to the fact that the BIZ of the EA are generally not separated from urban centres and therefore this can increase the opportunity to develop mobility solution from a more global perspective. SP is named on this Plan the corridor Silla – València. This territory is mainly surrounded and crossed by roadway infrastructure: V-30, V-31, CV-400 and CV-33 on the northern part, CV-33 and V-31 on the central part (Beniparell), V-31 and the railway on the south part (Silla) and V-31 and AP-7 on the southeast part (Picassent and Alcàsser).

The corridor has a geographical extension of 27,3 km<sup>2</sup>. Approximately, the following dimensions are measured: in a North-South direction, 10km along the “Camí Reial de Madrid” (ancient national road) from V-30 to AP-7; in a West-East direction, 1,5km in Beniparrell, 2,5 between CV-400 and V-31, to 5,5km between Silla and Picassent.

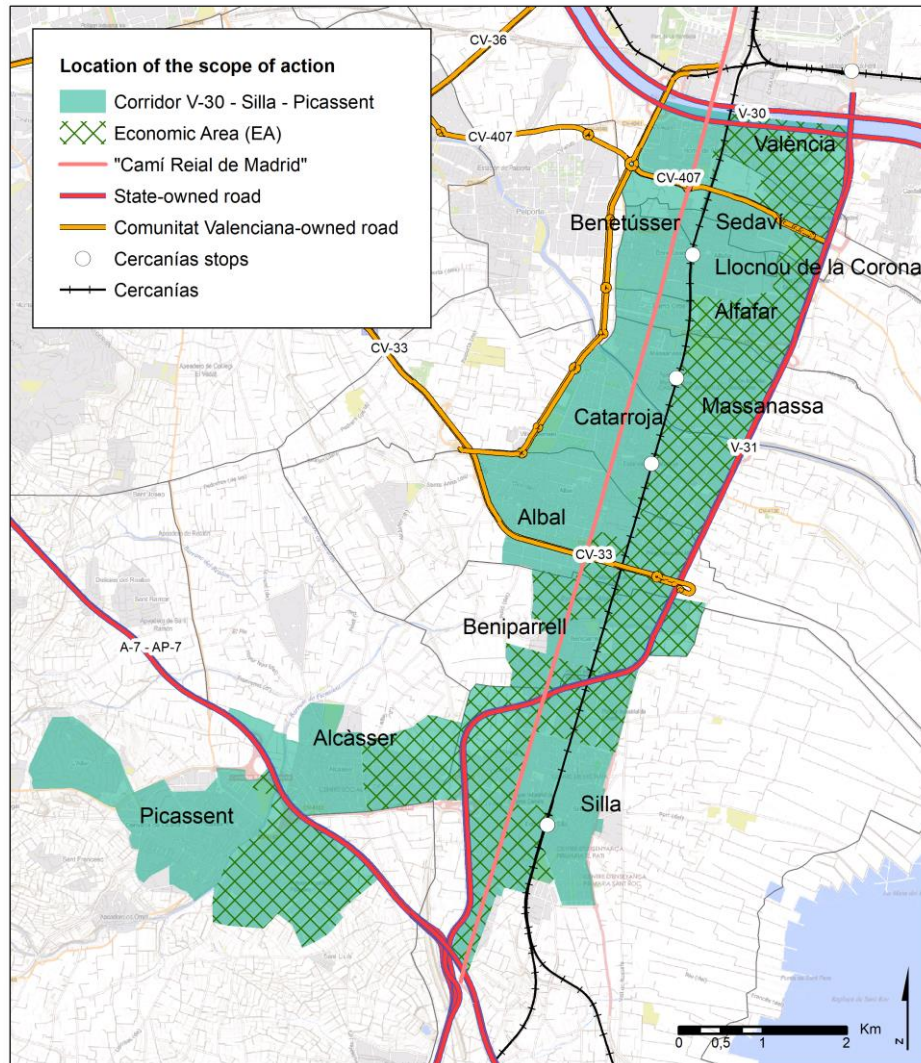


Fig. 5. Economic Area and corridor geographical extension. Note: data from PMoMe and IDEV.

This area has a high potential for developing mobility practices alternatives to private car. In part, this is justified by the dimensions; in some cases, distances are small enough for non-motorised means of transport. But public transportation usage could also progress due to the existence of two regional rail lines (Cercanías) crossing the corridor from North to South, and four interurban bus lines (Metrobus). Other alternative means of transport, such as car-sharing and car-pooling could be fostered thanks to a structuring network of high capacity.

Furthermore, this corridor is next to the Albufera natural park. The preservation of the environmental plays a role in the research for more sustainable mobility patterns.

Having introduced the Economic Area and the Corridor, the choice of this area is not related to one reason, but multiple:

- The V-31 highway, which is one of the entrances to the city of València, is the one with the highest intensity of traffic, approximately 120000 veh/day (Ministry of Public Works, 2017)<sup>4</sup>,
- The corridor is nearby the Albufera natural park, which is an environmental heritage site and of high relevance in València but also in the Mediterranean basin,
- The corridor counts from València to Silla with two lines of the regional rail system, and none of the other peripheric areas of València have this particularity,
- Part of the corridor is divided by the railway from North to South, what leads to a situation where the urban centres are on one side whereas the BIZ are on the other.

In relation with the PMoMe, the corridor corresponds considerably with two of the metropolitan functional entities presented in the figure below. This Plan integrates both of them together as they are on the same PMoMe corridor, South Corridor. Treating them as a whole enables to study the mobility situation from a more integrated point of view, even if this turns into a more complex study as Alcàsser and Picassent are slightly to the left, which may add other demand patterns from other parts of the MA.



Fig. 6. Metropolitan functional entities concerned in this Plan. Source: Document Inicial Estratègic PMoMe

<sup>4</sup> Source : <https://mapas.fomento.gob.es/mapatrafico/2017/>

## 2.5. Methodology

Developing a Mobility Plan has different phases and depending on the type of Plan and its scope of affection there might exist specific particularities. The present document is not an Urban Mobility Plan (UMP), as it applies to a territory of industrial estates, commercial and services areas and sports facilities. On the contrary, the document is a planning document adapted to specific demand mobility patterns, mainly related to work, daily shopping and sports. What differs from an UMP are the final users to whom the Plan is oriented, and, in this case, the final users are not the inhabitants within the corridor V-30-Silla-Picassent but people working, visiting and doing their shopping in the EA.

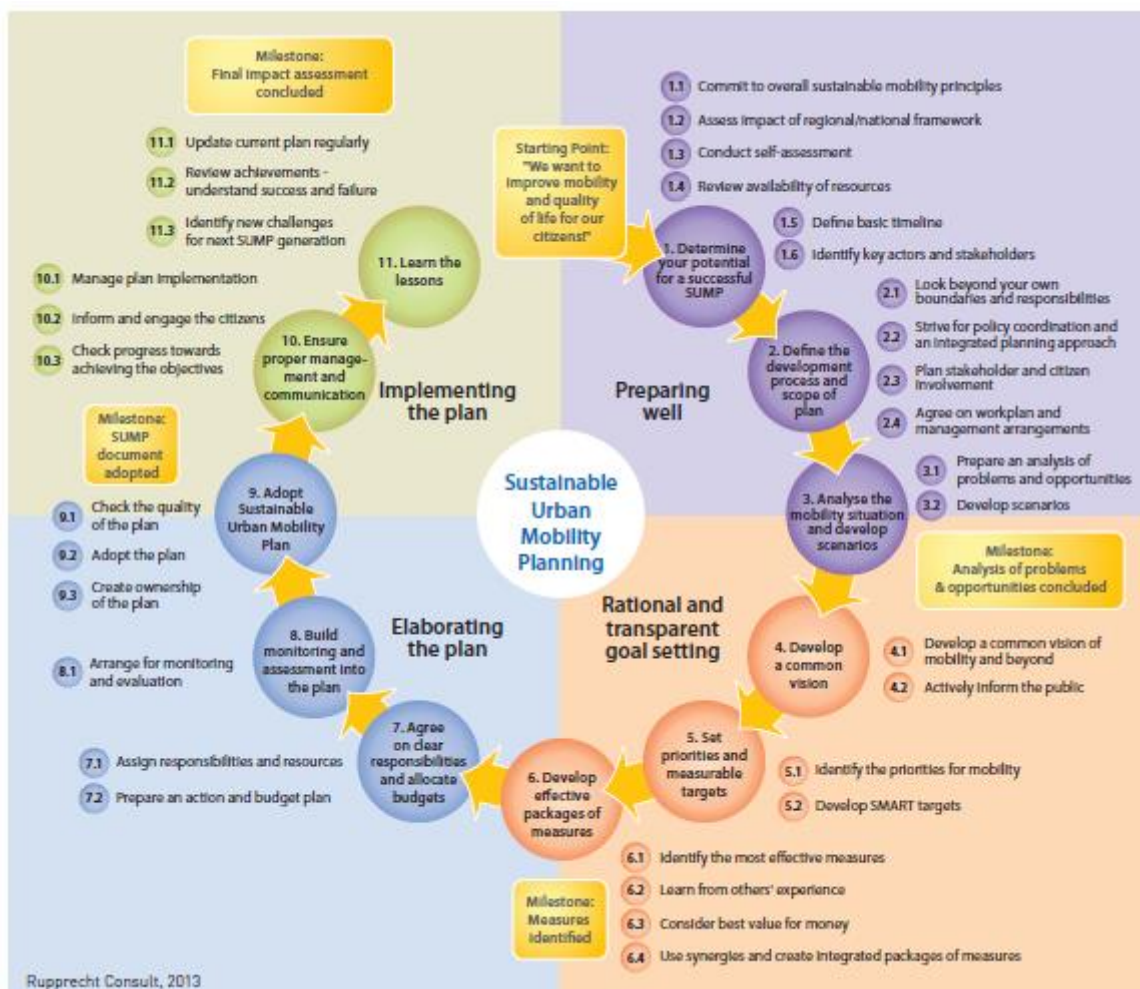


Fig. 7. Planning cycle for a Sustainable Urban Mobility Plan. Source: "Developing and implementing a sustainable urban mobility plan"

Fig. 7 shows the planning cycle for Sustainable Urban Mobility Plans (Wefering et al., 2013) promoted by the European Commission. As the name indicates, it applies for an urban scope. Nevertheless, this illustration is of high relevance to know the different parts that should be taken into consideration to implement a Mobility Plan (in general terms) with success.

Additionally, another reference to get a complementary approach of the different phases of a Mobility Plan is the one presented in the COMMERCE<sup>5</sup> Mobility Plan Guide Book (COMMERCE, 2008), also promoted by the European Commission. This guide book “is intended to be a tool to help companies to answer all practical questions raised when an MP is introduced and to encourage them to implement such an approach” (COMMERCE, 2008). The document establishes 5 phases to develop a Mobility Plan, as it shown in Fig. 8.

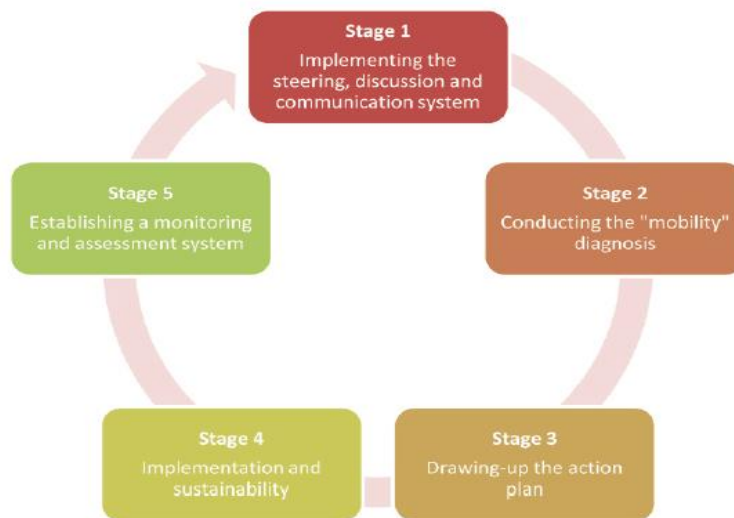


Fig. 8. Stages of the development of a Mobility Plan. Source Boxed Solutions Guide, MoMa.BIZ project.

This document is the result of the Stages 1, 2 and 3. The following steps have been followed in order to get to establish different action measures:

- 0) Obtaining the existent information in terms of mobility,
- 1) Defining the area of study,
- 2) Setting the primary objectives,
- 3) Treating the PMoMe trips survey for a trips demand analysis,
- 4) Analysing the transportation offer (all means),
- 5) Analysing the demographic characteristics,
- 6) Describing the current situation and anticipating the causes,
- 7) Redefining the objectives of the Plan,
- 8) Analysing the situation with a SWOT analysis,
- 9) Defining the problems of the area of study,
- 10) Proposing action measures,
- 11) Timing the action measures.

<sup>5</sup> COMMERCE: Creating Optimal Mobility Measures to Enable Reduced Commuter Emissions.

### 3. Analysis of the current situation

This part of the document aims to analyse the Economic Area from a mobility perspective. It is of high relevance to establish the situation, qualitatively and quantitatively, that explains the reasons why the area of study presents the current characteristics. Some aspects of the analysis are extended to the corridor Silla – València with the intention of obtaining as much key elements as possible.

#### 3.1. Demographical description of the Corridor Silla – València

The municipalities concerned by this Plan are: València, Sedaví, Benetússer, Alfafar, Llocnou de la Corona, Massanassa, Catarroja, Albal, Beniparrell, Silla, Alcàsser and Picassent.

In terms of population, these municipalities present a population which varies considerably without any pattern that could be related to the geographical position.

	Population 2018 (1)	Population density (inh./km <sup>2</sup> ) (2)	Population within the corridor 20163	Population density within the corridor (inh./km <sup>2</sup> ) (3)	Pop. Dens. Corridor / Pop. Dens. municipality
València	791.413	5.878	6.726	2.901	0,5
<b>Total</b>	150.444*	1.117	15.1994	5.568	2,5
Catarroja	27.827	2.134	26.248	10.184	4,8
Alfafar	20.763	2.056	20.420	9.409	4,6
Picassent	20.709	241	19.085	4.181	17,3
Silla	18.467	738	18.213	3.956	5,4
Albal	16.270	2.208	16.067	5.585	2,5
Benetússer	14.668	18.805	14.506	19.115	1,0
Sedaví	10.245	5.598	9.788	8.399	1,5
Alcàsser	9.908	1.100	9.661	4.229	3,8
Massanassa	9.538	1.706	9.295	5.005	2,9
Beniparrell	1.931	525	1.849	889	1,7
Llocnou de la Corona	118	2.950	136	3.246	1,1

Table 1. Population and population density. Note: data from (1) INE (Instituto Nacional de Estadística), (2) ARGOS, (3) PMoMe. \*Sum of population of the municipalities concerned by this Plan without considering València.

As it shown in Table 1, in 2018, the total population of the municipalities within the corridor was 150.444 inhabitants, which is approximately 20% of the population of the city of València (791.413).

Three of the municipalities have more than 20.000 inhabitants: Catarroja, Alfafar and Picassent. Additionally, four of them have a population which varies from 20.000 to 10.000: Silla, Albal, Benetússer and Sedaví. After them, Alcàsser and Massanassa have a population within 10.000 and 5.000. Beniparrell is between 5.000 and 1.000 and the smallest one is Llocnou de la Corona with approximately 100 inhabitants.

It is of high relevance that population gathers significantly within the corridor, as the last column of Table 1 shows. The stated number is the division between population density within the corridor, per municipality, and population density for each of the municipalities concerned in this Plan.



A clear difference is observed between urban areas, where people live, and the rest of the corridor, where the Economic Area can be identified, where there is no population on the ZT (Zones of Transport) identified. This information is obtained from PMoMe and has been determined in order to create ZT to know about mobility patterns.

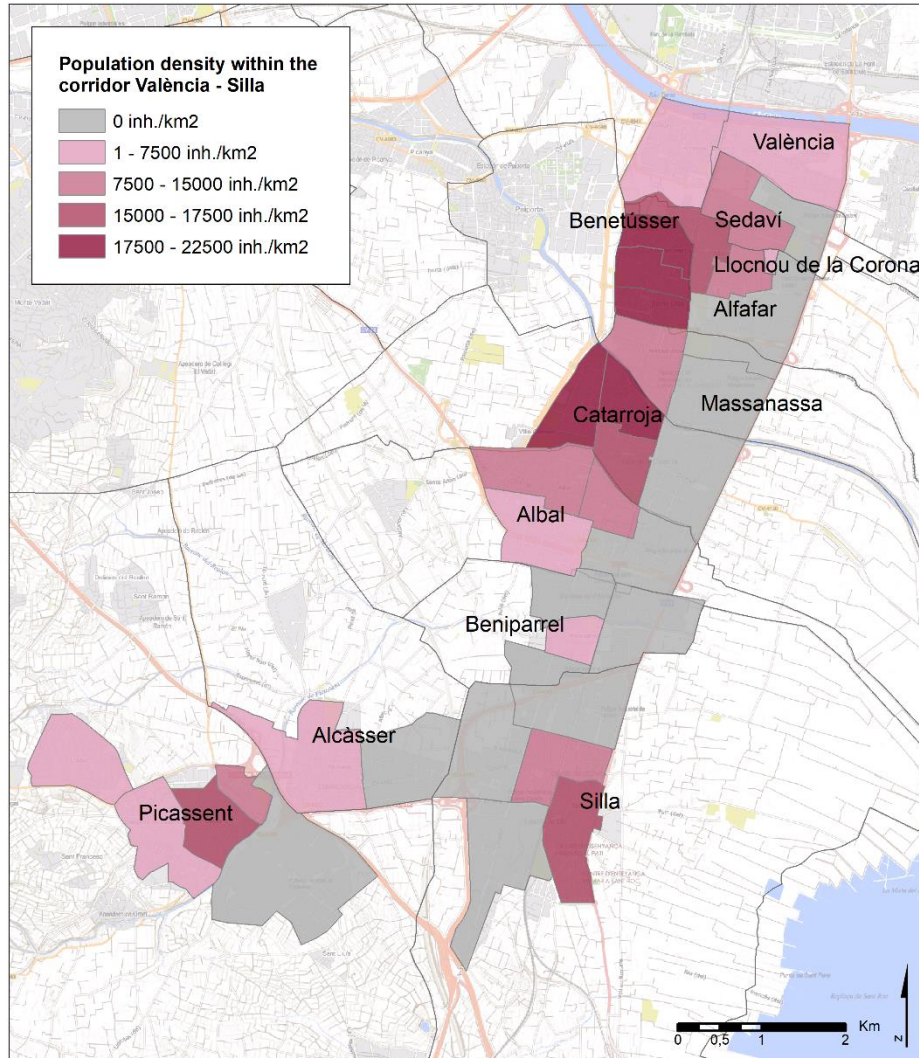


Fig. 9. Population density. Note: data from PMoMe.

The treatment of other demographic data has allowed to obtain the population variation for the 2008-2018 period, Fig. 11. It can be stated that the tendency differs in the corridor depending on the municipalities. The figure below shows this variation, Silla (-2,7%), Benetússer (-1,1%), Beniparrell (-1,2%) and València (-1,9%) are those municipalities whose population has decreased along the 10 last years. On the contrary, Alcàsser (11%), Albal (7,8%), Massanassa (8,6%) and Llocnou de la Corona (12,4%) are those that have experienced a higher increasement of the number of inhabitants. Additionally, Alfafar (0,5%) and Catarroja (4,8%) do not attempt a 5% of increasement, while Sedaví (5,1%) and Picassent (6,8 %) they do so.

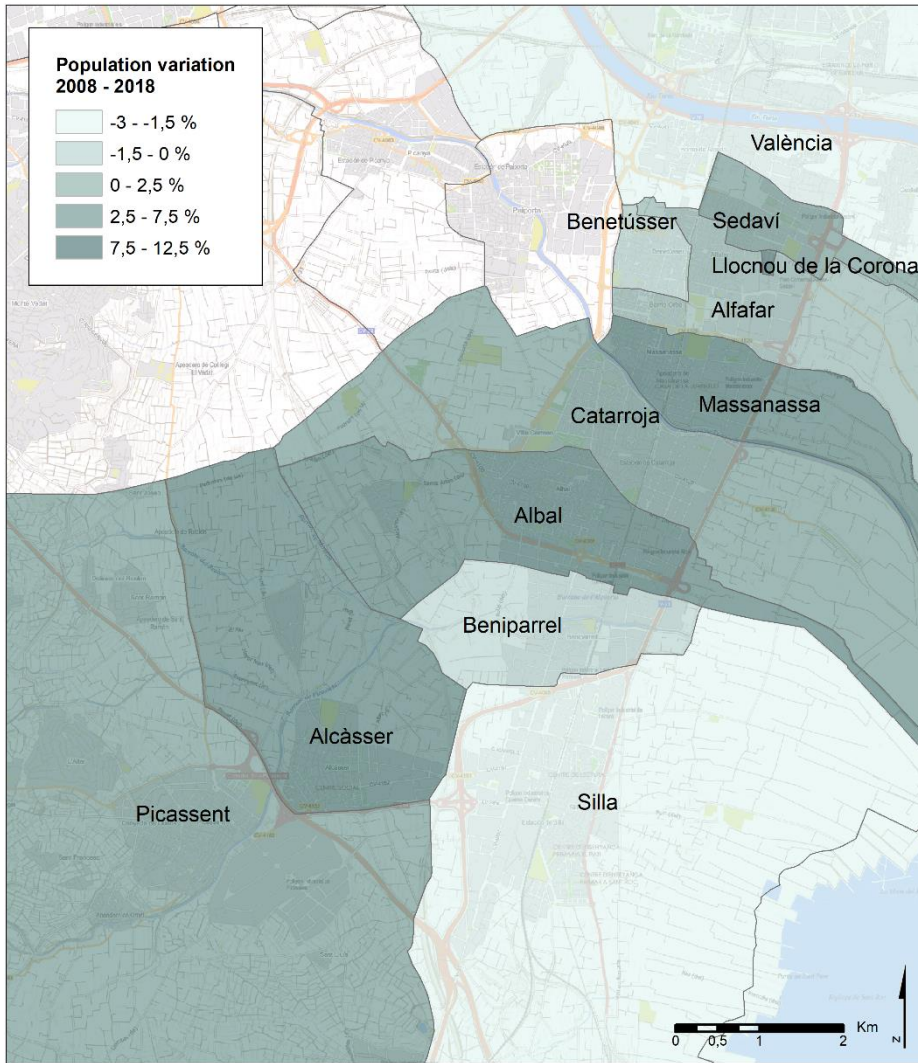


Fig. 11. Population evolution 2008-2018. Note: data from INE.

On the graphic below, the cumulated population variation of the corridor (without the city of València) is shown together with the annual variation of population from 2008 to 2018.

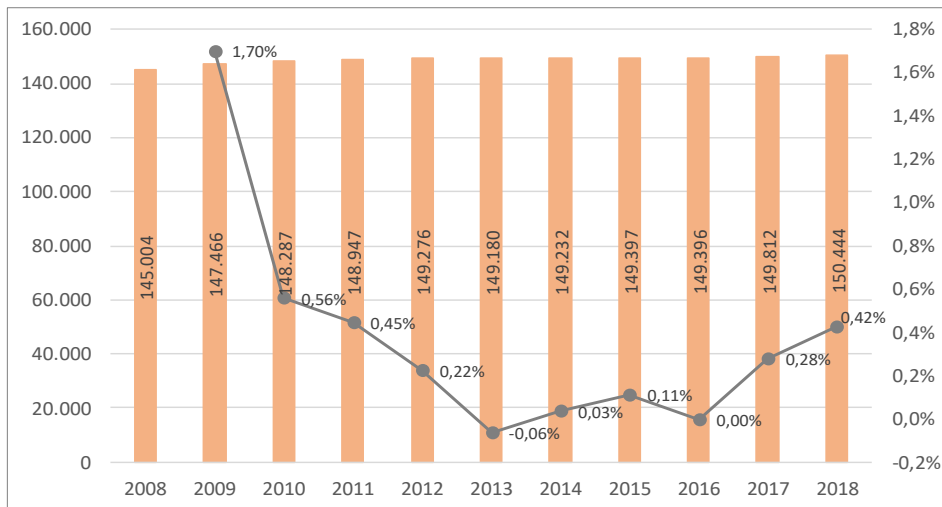


Fig. 10. Interannual population variation (2008-2018). Note: data from INE.

### 3.2. Description of the Economic Area

Having previously defined the corridor as a continuous urban area between the municipalities of València on the North, Silla on the South and Picassent on the South-West, it is time to describe the specific areas where industrial activity, commercial and services and sports and education-dedicated areas constitute the Economic Area. The description of the areas is needed in order to quantify the disfunctions and to obtain a first hypothesis of possible measures that could be undertaken to acquire better standards in terms of sustainable mobility.

To have a global idea of the corridor Silla – València, it has been identified the urban planning provided by the Generalitat Valenciana, for 2016, Fig. 12.

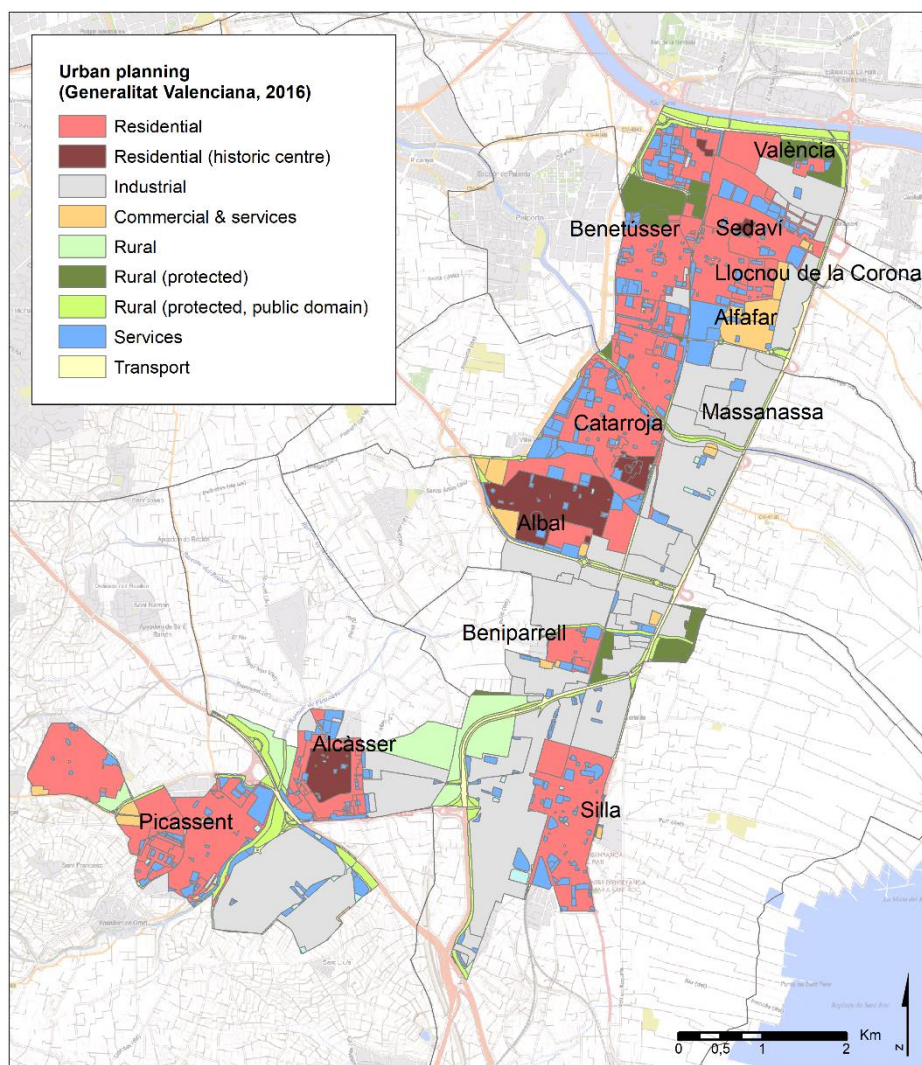


Fig. 12. Urban planning of the corridor Silla – València, 2016. Note: data from IDEV.

The total surface of the corridor Silla – València is 27,3 km<sup>2</sup>.

On Fig. 14, the Economic Area is distinguished. As it can be observed, the predominant land uses are Industrial, Commercial and Services. The total surface occupied by the EA is 13,7 km<sup>2</sup>, half of the territory of the corridor Silla -València.

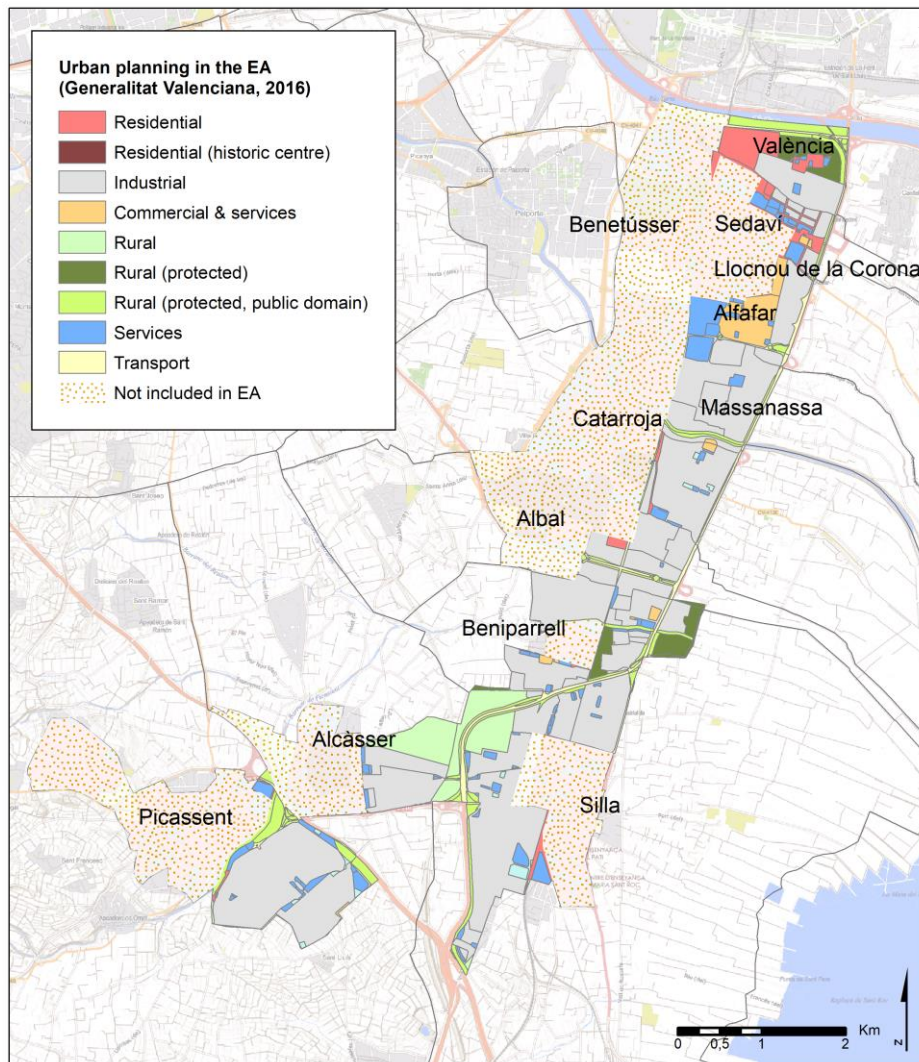


Fig. 13. Urban planning of the Economic Area, 2016. Note: data from IDEV.

### 3.2.1. Industrial estates

The industrial areas are selected from three sources of information:

- Parques Empresariales de la Comunitat Valenciana, which includes all the BIZ that exist in the region of *Comunitat Valenciana*<sup>6</sup>,
- ARGOS, which is a database of the *Comunitat Valenciana* and includes information about the industrial sites among others,
- SIOSE, a selection of the polygons which have industrial activity (SIOSE, 2018). First, are selected the ones that area primarily categorised as IPO (Industrial estate organised), IPS (Industrial estate non organised) and IAS (Isolated industry). To these, are added the areas which have a second main use that represents an industrial activity on more than 50% of its surface.

<sup>6</sup> The industrial sites can be found on the following link [http://www.ivace.es/visor\\_pol/](http://www.ivace.es/visor_pol/).

Within the corridor, there are 26 *Parques Empresariales* (business parks), Table 2.

Name	Municipality	(ZT)	Surface (m <sup>2</sup> )	Surface compared to municipality within the corridor
1- POL. IND. DE PICASSENT	Picassent	254	1.165.104	25,5%
2-EL BONY	Catarroja	227	939.000	36,4%
3-POLIGONO CANYADA DE CODONYERS (SUZI 2)	Picassent	254	498.297	10,9%
4-U.E. ESPIOCA	Silla	246	419.693	9,1%
5-L'ALTERÓ INDUSTRIAL	Silla	245	369.750	8,0%
6-L'ALTER	Alcàsser	250	326.000	14,3%
7-HORNO DE ALCEDO. URBANO CONSOLIDADO	València	162	307.537	13,3%
8-EL PLA	Alcàsser	251	304.300	13,3%
9-CARRASCAL OESTE	Beniparrell	239	271.817	13,1%
10-SECTOR 2.A	Albal	235	260.814	9,1%
11-POLIGONO SEDAVI	Sedaví	212	240.000	20,6%
12-POLIÓ	Beniparrell	241	225.850	10,9%
13-U.E. CAMI VELL D'ALCÀSSER	Silla	247	225.681	4,9%
14-VEREDA NORTE	Beniparrell	240	222.560	10,7%
15-CARRASCAL ESTE	Beniparrell	239	200.930	9,7%
16-VEREDA SUR	Beniparrell	240	175.253	8,4%
17-L'ALIAGA	Silla	247	172.122	3,7%
18-U.E. L'ALTER INDUSTRIAL	Silla	245	151.448	3,3%
19-U.E. PLA DELS OLIVARS	Silla	246	114.000	2,5%
20-SAN FRANCISCO	Beniparrell	241	86.589	4,2%
21-U.E. SHARK	Silla	246	83.964	1,8%
22-U.E. MOLI MAGALLÓ INDUSTRIAL	Silla	244	78.110	1,7%
23-U.E. MASET	Silla	245	66.023	1,4%
24-U.E. ARTIERRO/BLANQUER	Silla	245	49.038	1,1%
25-U.E. EL PRODUCTOR	Silla	245	47.435	1,0%
26-POU DE GODOFREDO	Silla	246	46.137	1,0%

Table 2. Industrial estates in the area of study. Note: data from IVACE ([http://www.ivace.es/visor\\_pol/](http://www.ivace.es/visor_pol/))

This table allows a more precise description of the business parks of the EA. The municipality of Silla is the one that has the biggest surface with 1.823.401 m<sup>2</sup> if we take into account all its industrial estates. There are three of them which have a surface between 200.000 m<sup>2</sup> and 500.000 m<sup>2</sup>: *U.E Espioca*, *l'Alteró Industrial* and *U.E Camí Vell d'Alcàsser*. After them, the following three industrial sites have a surface bigger than 100 000 m<sup>2</sup>: *l'Aliaga*, *U.E Pla dels Olivars* and *U.E l'Alter Industrial*. The last one does not have visible activity apart from two small allotment which can be identified on site. The rest have individually a smaller surface, but they are important as a whole as they are located nearby one another or nearby the ones mentioned before. These are: *U.E Shark*, *U.E Molí de Margalló Industrial*, *U.E. Maset*, *U.E El Productor*, *Pour de Godofredo* and *U.E Artierro/Blanquer*.

The biggest industrial site is the *Pol. Ind. De Picassent*, with more than 1 million square metres. Just right next to it is located the *Pol. Ind. Canyada dels Colomers*. The two of them represent a surface of 1.663.401 m<sup>2</sup>.

The municipality of Beniparrell is the third one in terms of surface dedicated to industrial use with 1 182.999 m<sup>2</sup>. Four out of six have a surface between 200.000 m<sup>2</sup> and 500.000 m<sup>2</sup>: *Carrascal Oeste*, *Polió*, *Vereda Norte* and *Carrascal Este*. The industrial sites of *Vereda Sur* and *San Francisco* are smaller.

The industrial site of *El Bony* is the only one with a surface between 500.000 m<sup>2</sup> and 1.000.000 m<sup>2</sup>. It is located in the municipality of Catarroja, on the right side of the railway and it is the only one that is connected to Catarroja with a cycle track.

Alcàsser has two industrial sites with approximately 300.000 m<sup>2</sup> each: *l'Alter* and *El Pla*. There is no data about the mobility concerned from/to the site. *El Pla* is the industrial site which is the most isolated in terms of road and public transportation infrastructure.

Both Albal and Sedaví have an industrial site with a surface between 200.000 m<sup>2</sup> and 500.000 m<sup>2</sup>: *Sector 2.A* and *Polígono Sedaví* respectively.

València has only an industrial site within the area of study, southern than V-30 highway, *Horno de Salcedo. Urbano consolidado* with approximately 300.000 m<sup>2</sup>.

The following table, Table 3, gives further information of the entities concerned by each of the business parks.

Name	Developer	Entreprise Association	Managing Entity
1- POL. IND. DE PICASSENT	---	---	Comunidad de propietarios Pol. Ind. Picassent
2-EL BONY	Catarroja's council	Asociación de Empresarios del polígono de Catarroja	Catarroja's council
3-POLIGONO CANYADA DE CODONYERS (SUZI 2)	---	---	Picassent's council
4-U.E. ESPIOCA	Silla's council	AESI	Silla's council
5-L'ALTERÓ INDUSTRIAL	Silla's council	AESI	Silla's council
6-L'ALTER	---	---	---
7-HORNO DE ALCEDO. URBANO CONSOLIDADO	Particulares	---	---
8-EL PLA	Entidad urbanística de conservación	---	---
9-CARRASCAL OESTE	---	---	---
10-SECTOR 2.A	Agrupación interés urbanístico "Braç del Vicari"	---	---
11-POLIGONO SEDAVI	---	---	---
12-POLIÓ	---	---	---
13-U.E. CAMI VELL D'ALCÀSSER	Silla's council	AESI	Silla's council
14-VEREDA NORTE	---	---	---
15-CARRASCAL ESTE	---	---	---
16-VEREDA SUR	---	---	---
17-L'ALIAGA	Silla's council	AESI	Silla's council
18-U.E. L'ALTER INDUSTRIAL	Silla's council	AESI	Silla's council
19-U.E. PLA DELS OLIVARS	Silla's council	AESI	Silla's council
20-SAN FRANCISCO	---	---	---
21-U.E. SHARK	Silla's council	AESI	Silla's council
22-U.E. MOLI MAGALLÓ INDUSTRIAL	Silla's council	AESI	Silla's council

23-U.E. MASET	Silla's council	AESI	Silla's council
24-U.E. ARTIERRO/BLANQUER	Silla's council	AESI	Silla's council
25-U.E. EL PRODUCTOR	Silla's council	AESI	Silla's council
26-POU DE GODOFREDO	Silla's council	AESI	Silla's council

Table 3. Managing corporation of the industrial estates. Note: data from IVACE ([http://www.ivace.es/visor\\_pol/](http://www.ivace.es/visor_pol/))

Additionally, ARGOS database gives more information about industrial estates that exist in the municipalities of Albal and Massanassa and that are not registered in the *Parcs Empresariales de la comunitat Valenciana* data base. The following table contains the information that should be added to the previous one to integrate all the industrial estates to the analysis.

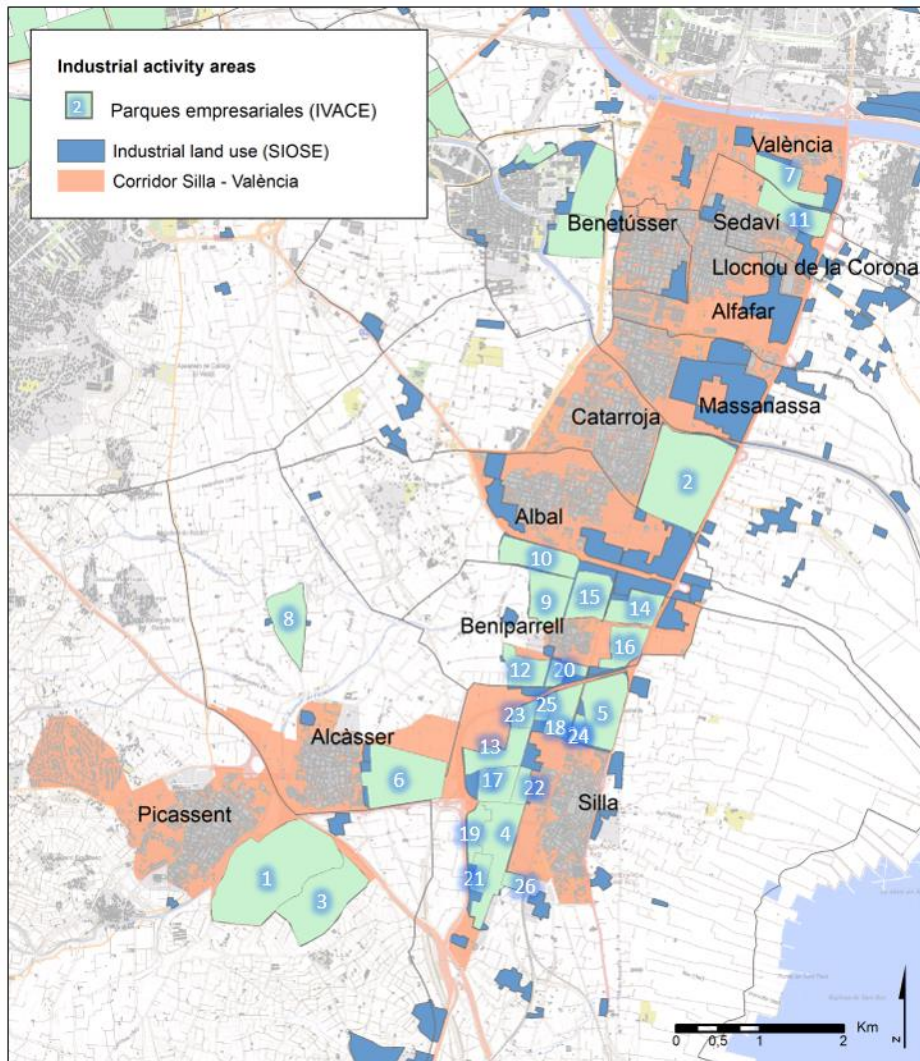


Fig. 14. Industrial areas within the corridor Silla – València.

Name	Municipality	(ZT)	Surface (m <sup>2</sup> )	Surface compared to municipality within the corridor
SECTOR IV	Albal	236	572.909	20%
JUAN PERIS	Albal	235	72.723	3%
POL. IND. DE MASSANASSA	Massanassa	222	813.473	44%
POL. IND. DE MASSANASSA	Massanassa	224		

Table 4. Industrial estates in the area of study.

### 3.2.2. Retail parks, commercial facilities or shopping malls

The recreational sites in the perimeter of the analysis are selected from two sources of information:

- PATECO, which elaborates every year a report of the shopping mall of the *Comunitat Valenciana* (PATECO, 2018),
- SIOSE. As it has been done for the industrial sites, but this time it is a selection of the polygons that include business activity (SIOSE, 2018). Firstly, are selected the ones with the category TCO (Comercial y oficinas), TCH (Complejo hotelero), TPR (Parque recreativo) and TCG (Camping). To these, are included the areas which have a second main use that represents a tertiary activity on more than 50% of its surface.

Name	Municipality	Type of centre <sup>7</sup>	Location <sup>8</sup>	SBA (m <sup>2</sup> )	ZT
CARREFOUR ALFAFAR	Alfatar	ME	Peripheric	32.696	218
MN4	Alfatar	GR	Peripheric	40.724	218
PARQUE ALFAFAR PARC (1 <sup>o</sup> fase)	Alfatar	PC	Peripheric	96.539	218

Table 5. Shopping centres in the area of study. Note: data from PATECO (PATECO, 2018).

The surface which represents a shopping centre is quantified as the GLA (Gross Leasable Area) and applies to the amount of floor space available to be rented. It is the total floor area dedicated to tenant occupancy (selling, stock, offices and technical facility). The mall, parking lot, charging/discharging zones and shared areas are not included (PATECO, 2018).

The *Comunitat Valenciana* is the third region in Spain with the highest number of shopping centres, with a total of 62 and a GLA of 1.996.542 m<sup>2</sup> (PATECO, 2018). The surface that represents the three shopping centres in the area of study sums up 169 959 m<sup>2</sup>, 8,5% of the CV.

If considering the GLA density per inhabitant, the CV is the sixth in Spain with the highest level, with 404 m<sup>2</sup> GLA / 1.000 inhabitants. Alfatar population is 20.763 inhabitants, which means 8.186 m<sup>2</sup> GLA / 1.000 inhabitants.

Additionally, to the three shopping centres already mentioned, it should also be considered the area in Massanassa located South on Alfatar Parc. In it, it can be observed a mixt of uses, tertiary and industrial.

<sup>7</sup> ME: Mediano (Medium size), GR: Grande (Big size), PC: Parque Comercial (shopping mall).

<sup>8</sup> Peripheric: shopping site which in the suburban area of a municipality. Other options are Urban (in the municipality) and Semi urban (nearby the municipality)



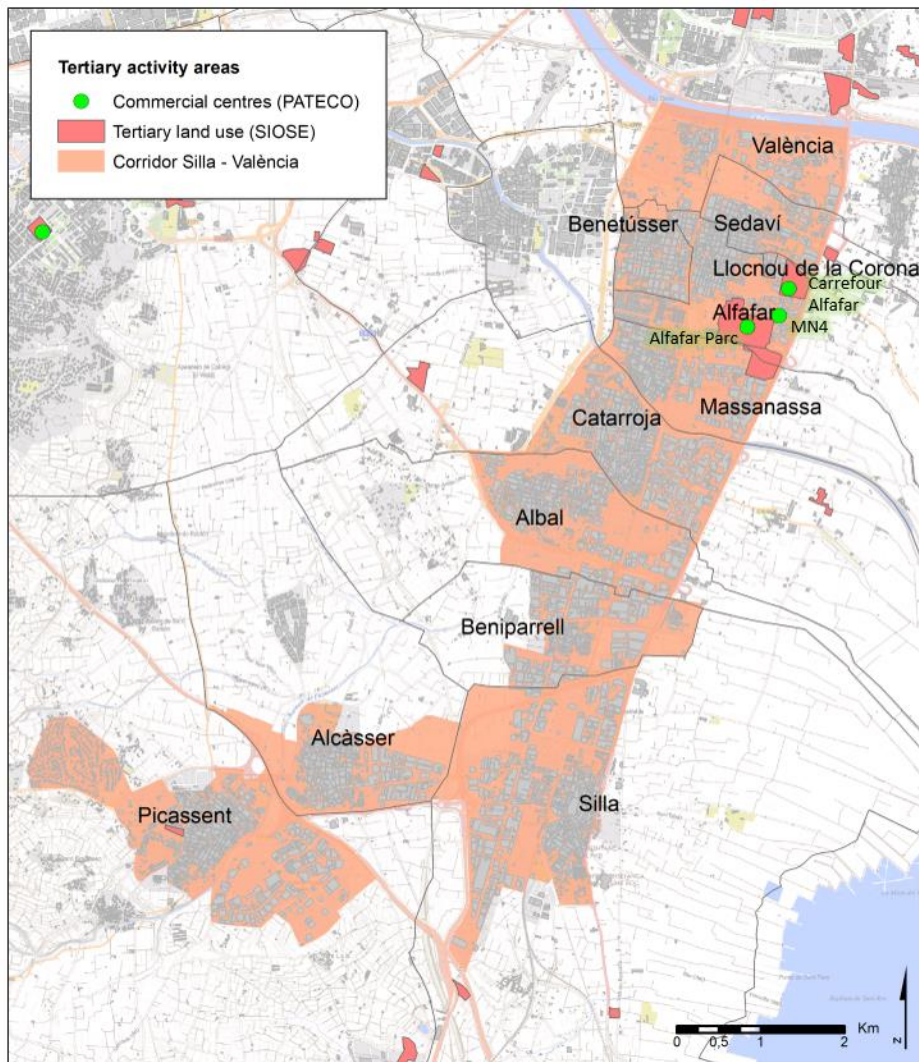


Fig. 15. Tertiary activity areas (commercial and services) within the corridor Silla – València.

### 3.2.3. Sports and education facilities

At a first stage, sport facilities and education facilities in the perimeter of action were selected from two sources of information:

- SIOSE. At It has been done previously for the industrial sites and tertiary use centres, it has been considered a selection of the polygons which represent sports and education facilities.
- ARGOS, which includes sports facilities that have been registered by the *Censo de instalaciones deportivas, 2005 (Consejo Superior de Deportes)* and education facilities corresponding for 2018-2019 and registered by *Conselleria d'Educació, Cultura i Esport*. This second database has been used to select only the education facilities that would be attended by people aged 18 years or older, who are able to use their own vehicle.

Nevertheless, it has been determined to only consider municipal sports facilities. Sports is an activity which can be a complement of the work journey and thought people might get to them at the

beginning of the day, before work, at mid-day or at the end of the day, after work. In total, there are 10 municipal facilities. Some of them are located not far away from the industrial and tertiary areas.

The education centre La Florida, high-school and university, would not be considered in the Plan as it is located aside from the main BIZ but also because it is big and important enough to be studied independently, which is not the ambition of this Plan. Nevertheless, its location will be taken into consideration once the measure will be settled in a further chapter of this document.

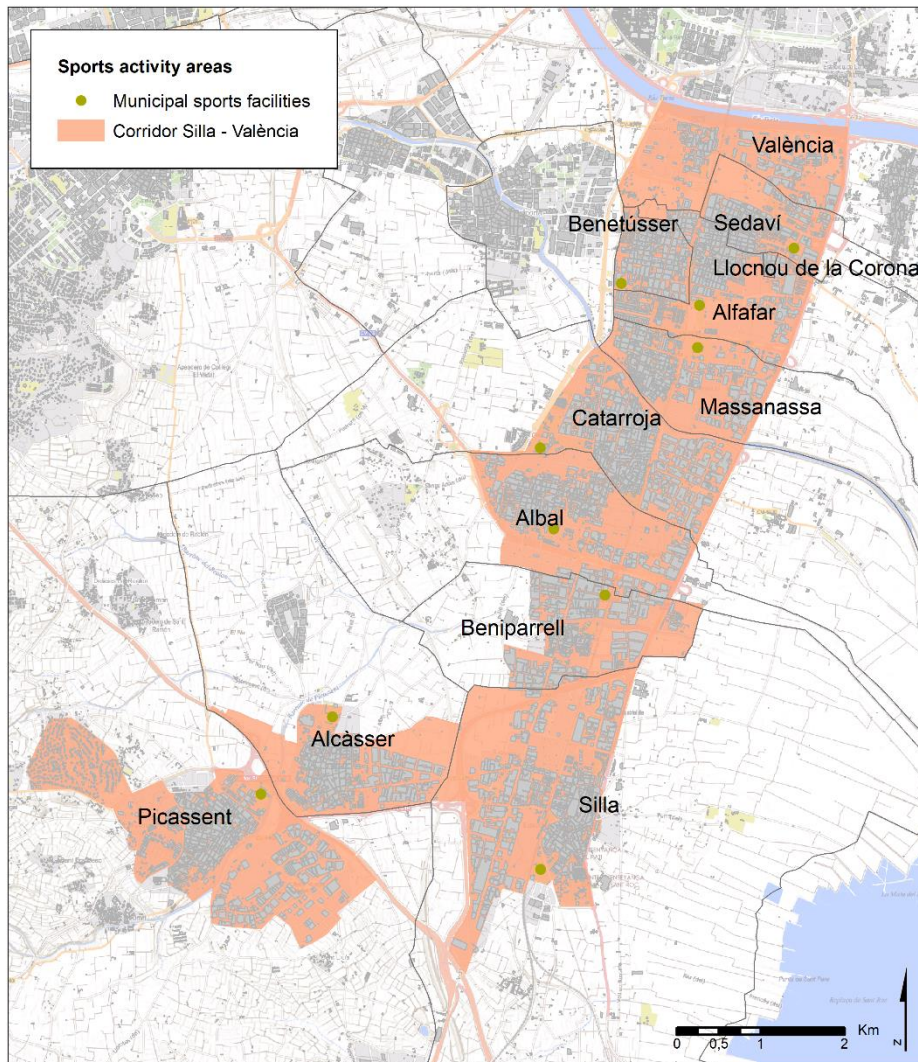


Fig. 16. Sports areas within the corridor Silla – València.

### 3.3. Trip characterisation

Mobility in the Metropolitan Area has been recently quantified, as the Mobility Plan of the Metropolitan Area of Valencia is under way. In order to analyse the mobility situation for the particular case of the area of study, the files provided on the PMoME website<sup>9</sup>. The file that has been edited in order to obtain the most important information for this Plan is the database gathering the information

<sup>9</sup> The files can be downloaded from <https://www.pmomevalencia.com/documentos>.

about the survey conducted in 2018, file “Base de datos de desplazamientos”<sup>10</sup>. A survey was conducted to a total of 19.310 people and after a statistical analysis, it has been possible to obtain the panorama of mobility within the MA. The survey identifies Origin and Destination of the trip with a georeferenced surface called ZT, for Zone of Transport. The ZT concerning this Plan are represented in the Fig. 17.

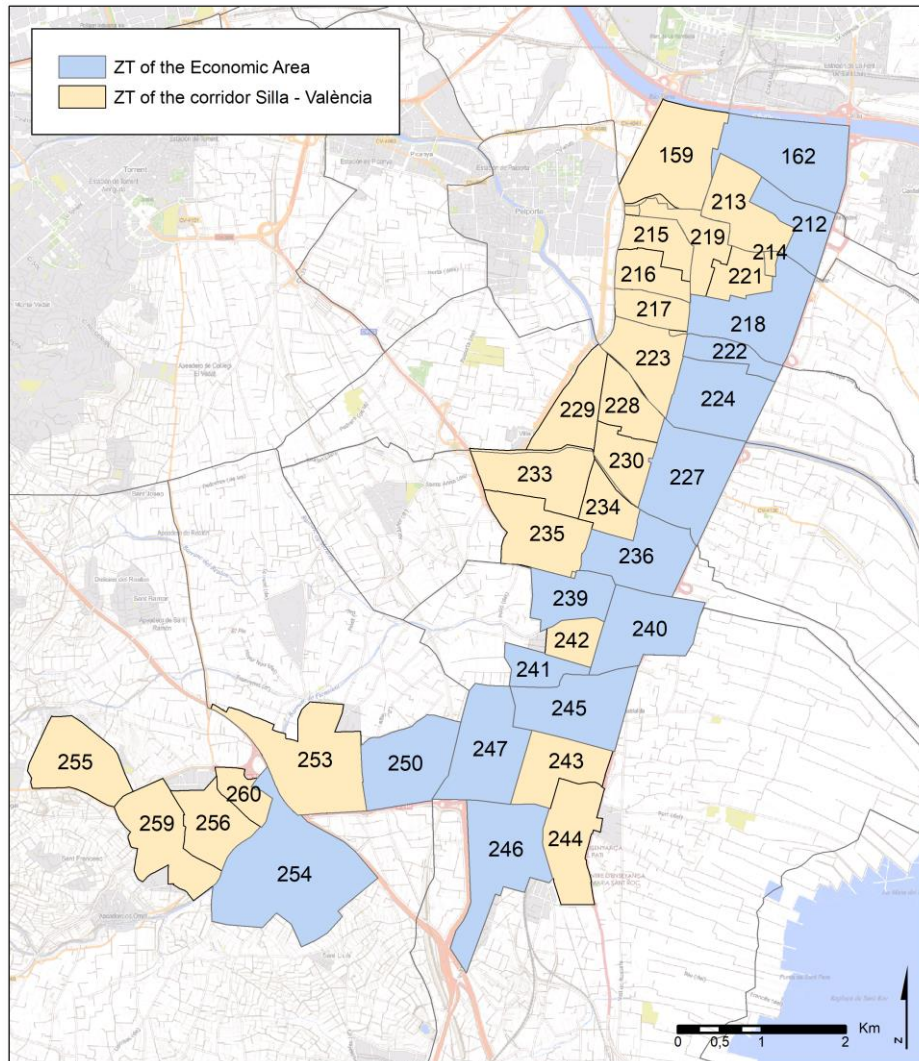
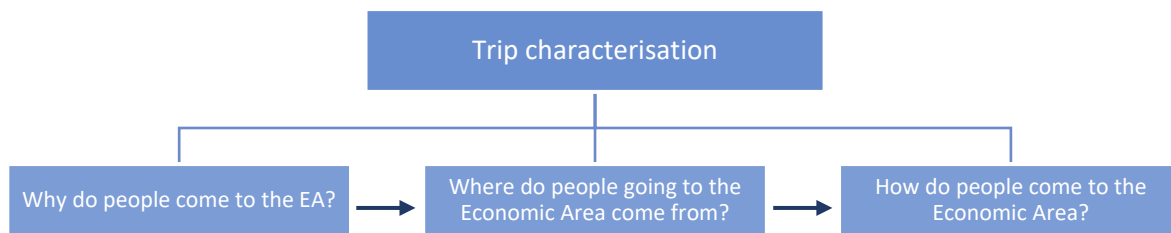


Fig. 17. ZT of the EA and the corridor Silla - València. Note: data from PMoMe.

In order to characterise the situation of the area of study in terms of mobility a double analysis has been elaborated. On one side, the mobility flows on a municipal scale have been analysed. This is necessary to specifically know to and from where the main working trips are made but also which are the main transport modes used. On the other side, after characterising these movements, a more detailed analysis has been performed focusing on the trips which take place on a ZT scale. This would lead to conclude specifically about the trips which are made from/to the ZT that mainly applied to industrial sites and recreational centres as well. The following graphic illustrates which are the three key mobility aspects.

<sup>10</sup> The file can be downloaded from <https://www.pmomevalencia.com/documentos>. Note: all the tables and graphics in chapter 3.3 have been elaborated from data in file “Base de datos de desplazamientos”.



All the mobility trips values which are presented in this document are on a daily basis. Consequently, the measurable unit is trips per day.

### 3.3.1. MA and corridor trip characterisation

In the Metropolitan Area 4.878.430 trips take place every day. Regarding València (origin or destination), more than 2.000.000 trips take place every day: 2.236.077 trips from València and 2.232.549 toward València.

Corridor	Trips	Rate
AM	4.878.430	100,0%
Valencia	2.072.143	42,5%
<b>Sur (South Corridor)</b>	<b>574.763</b>	<b>11,8%</b>
Horta Nord	542.332	11,1%
Horta Sud-Foia de Bunyol	424.527	8,7%
Horta Noroest	326.721	6,7%
Oest	310.480	6,4%
Camp del Túria	277.962	5,7%
Horta Oest	243.563	5,0%
Carraixet	105.939	2,2%

Table 6. Trips associated to each of the corridors in the Metropolitan Area.

Almost half of the trips that occur every day in the MA are performed by València residents. The city represents 42,5 % of the total.

The South Corridor, where the area of study is located, is the first corridor in terms of total volume of trips with 11,8%. Horta Nord corridor has slightly the same rate with 11,1%. The rest of the corridors are rated between 5 and 10% except form the Carraixet corridor, which is 2,2% of the total mobility.

Regarding the corridor Silla – València, the following is observed:

From	Trips	Rate	To	Trips	Rate
Total	360.052	100,0%	Total	359.063	100,0%
Catarroja	72.838	20,2%	Catarroja	72.790	20,3%
Alfajar	55.404	15,4%	Alfajar	55.063	15,3%

Picassent	47.615	13,2%	Picassent	46.675	13,0%
Silla	40.779	11,3%	Silla	40.870	11,4%
Benetússer	35.381	9,8%	Benetússer	35.082	9,8%
Albal	34.905	9,7%	Albal	34.961	9,7%
Massanassa	26.093	7,2%	Massanassa	25.840	7,2%
Sedaví	21.159	5,9%	Sedaví	21.281	5,9%
Alcàsser	19.823	5,5%	Alcàsser	20.447	5,7%
Beniparrell	5.843	1,6%	Beniparrell	5.842	1,6%
Llocnou	212	0,1%	Llocnou	212	0,1%

Table 7. Trips made to and from the municipality.

There are respectively 360.052 and 359.063 trips from and to the municipalities of the corridor. This means that 63% (to and from the corridor) regarding the total volume generated by the people in the corridor *Sur* is due to the area of study.

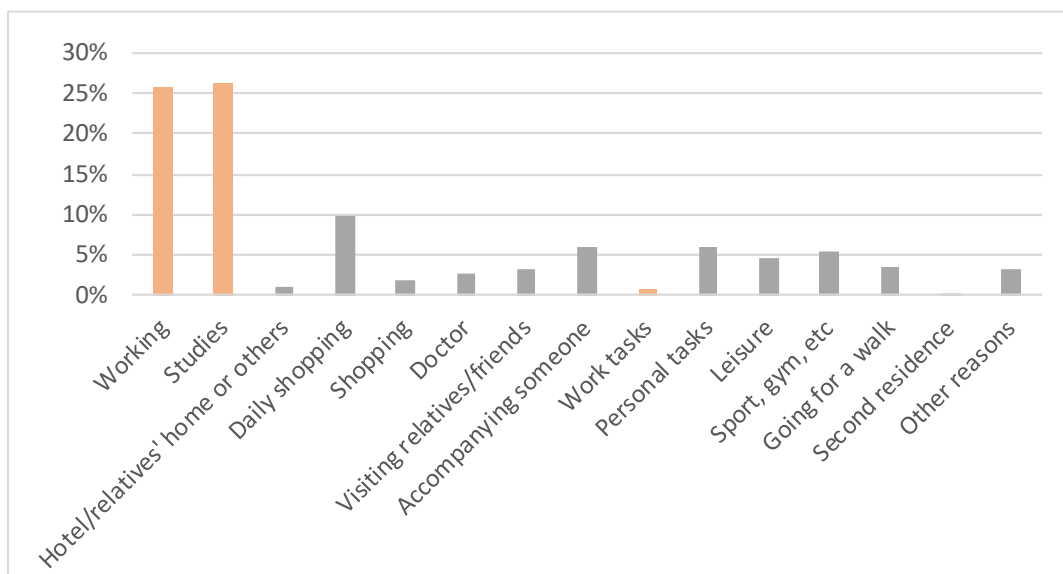


Fig. 18. Trip purpose share for the municipalities in the corridor Silla - València.

This graphic shows that the two main reason for moving are Working (25%) and Studies (25%). These types of trips represent both together half of the trips generated by the people living inside the corridor. Daily shopping represents 10% of the total. The rest of the purposes do not have a major representation.

### 3.3.2. Why do people come to the EA?

The distribution of trips to the Economic Area varies along the corridor, as it is shown in Fig. 19. It can be observed a geographical discontinuity between those ZT attracting more people, València, Sedaví, Alfafar, Catarroja, Silla and Picassent, with gaps in the middle, Albal, Beniparrell and Alcàsser.

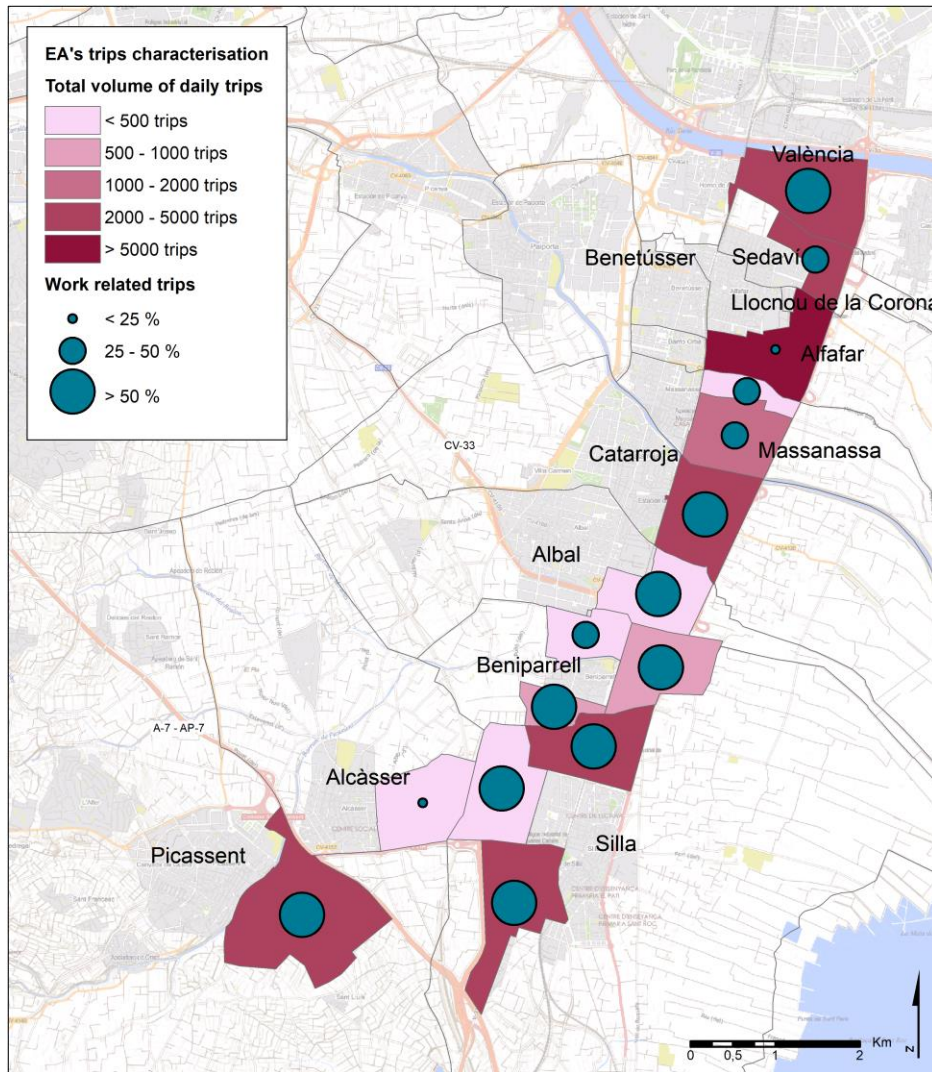


Fig. 19. Trips characterisation of the Economic Area. Note: data from PMoMe.

Of all the ZT within the EA, Picassent, Silla, Catarroja and València, are those municipalities which maintain a direct proportion between the total number of trips to the ZT and those related to working.

It can be observed that the working purpose is the most important within the EA. 9 out of the 15 ZT concerned by the EA attract commuters with a 50% or higher share. There are only two of them where working share is lower than 20%. The graphic on Fig. 20 shows this data more precisely:

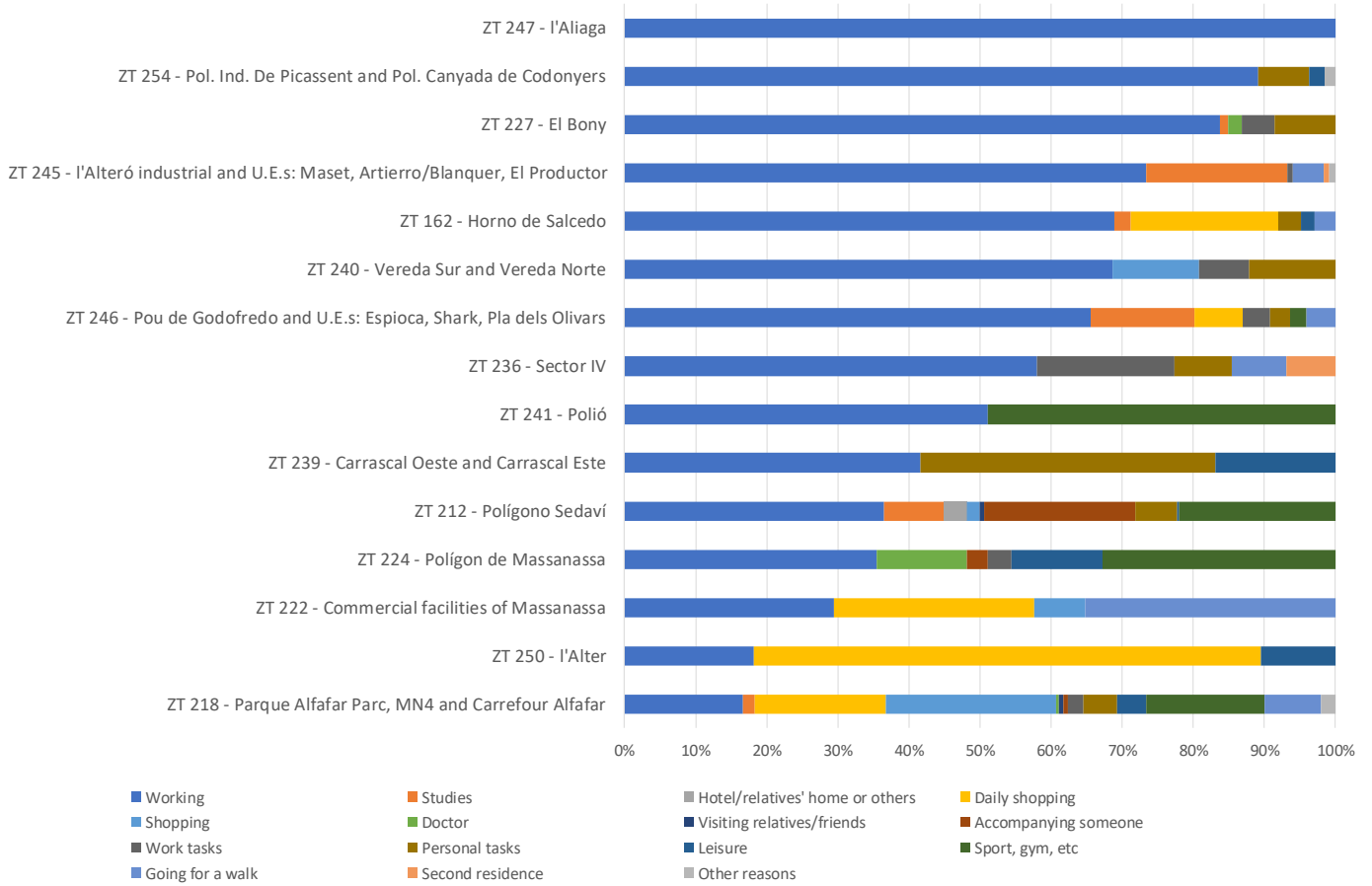


Fig. 20. Purpose for coming to the EA.

### 3.3.3. Where do people going to the EA come from?

A special analysis is conducted in order to know what is the origin of the trips with destination the EA. Details are obtained for trips due to working reasons, as they are the most significant part.

In general terms, the Economic Area is responsible for 17.202 daily commuting trips, which significate 36% out of 47.719 working trips with the corridor of study as a destination.

### 3.3.3.1. Albal

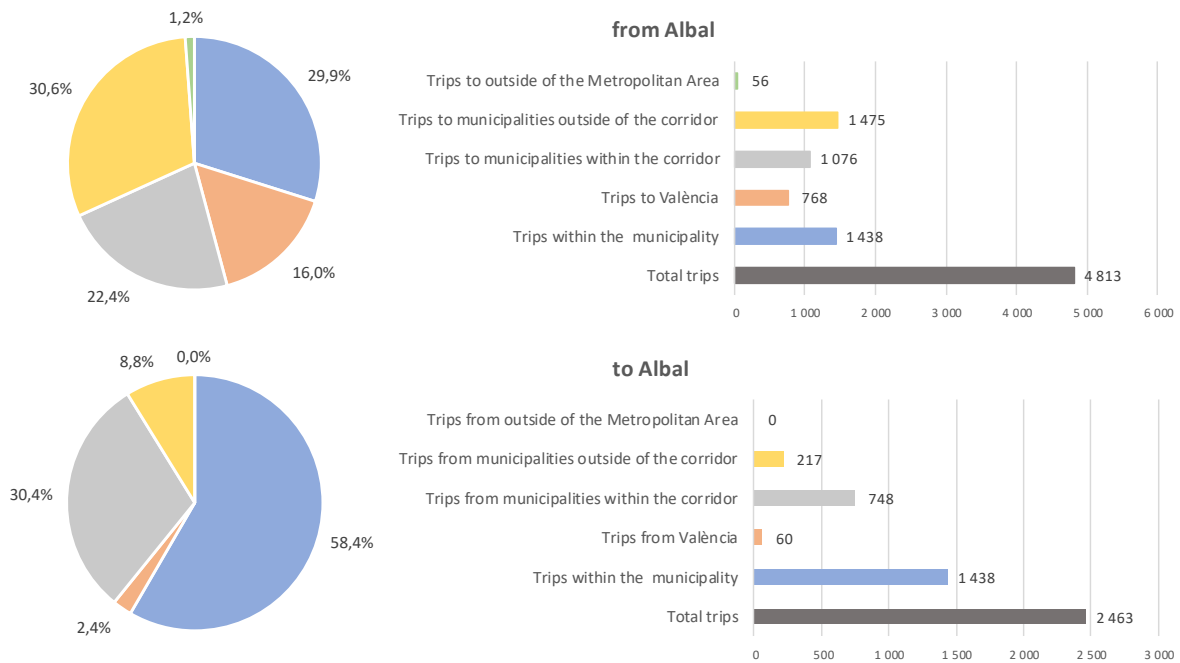


Fig. 21. Albal working trips description.

From	To	Trips	Rate
All	236	233	100,0%
Benetússer	236	156	66,9%
Rocafort	236	70	29,9%
Riba-roja de Túria	236	7	3,2%

Table 8. Working trips description to ZT of the EA in Albal.

The municipality of Albal is a destination for 2.463 commuters every day. This is approximately half of the trips which occur from Albal to other municipality for working purposes. *Pol. Ind. Sector IV* (ZT 236) would be only responsible for 233 of them, which means 9,4%.

There is another industrial site located in Albal, *Sector 2.A*, but the great majority of it is not occupied. Consequently, its area (ZT 235) is not taken into account for the analysis as the great majority of the trips would be due to the urban area of Albal located on north side of CV-33.



### 3.3.3.2. Alcàsser

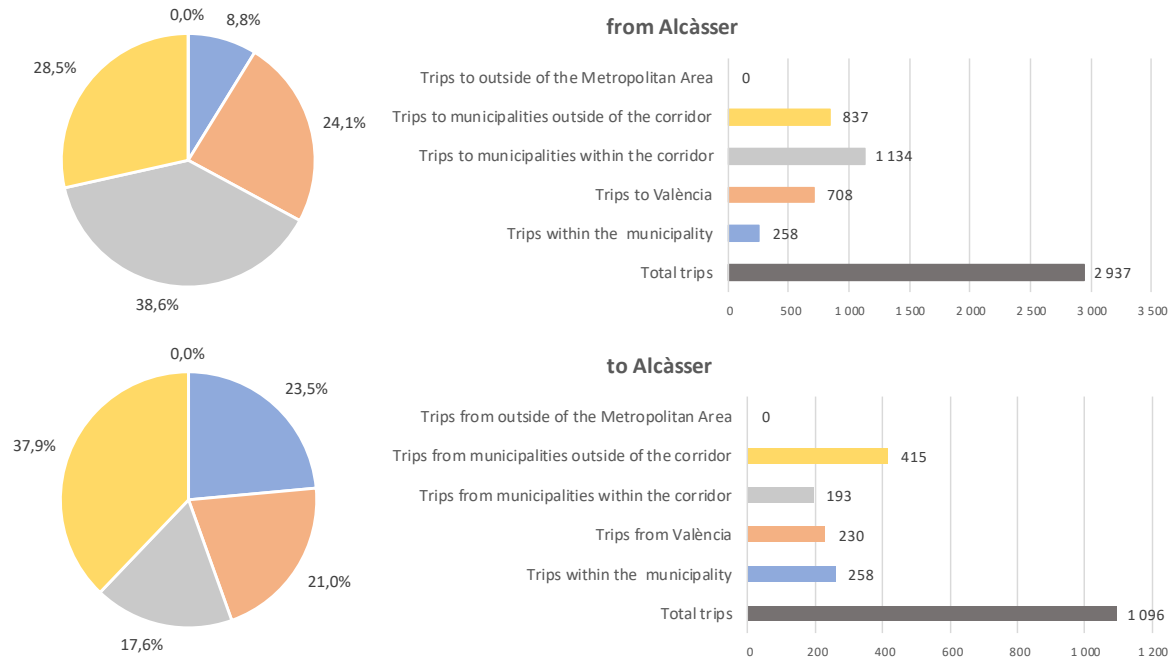


Fig. 22. Alcàsser working trips description.

From	To	Trips	Rate
All	250	86	100,0%
Puçol	250	50	57,9%
Torrent	250	36	42,1%

Table 9. Working trips description to ZT of the EA in Alcàsser.

The municipality of Alcàsser is a destination for 1.096 commuters every day. Only a small part, 7,8%, are due to trip generation area 250, the industrial site of *l'Alter*.

This is an area which is also a destination for daily shopping as there is a *Consum* supermarket on the west side.

### 3.3.3.3. Alfafar

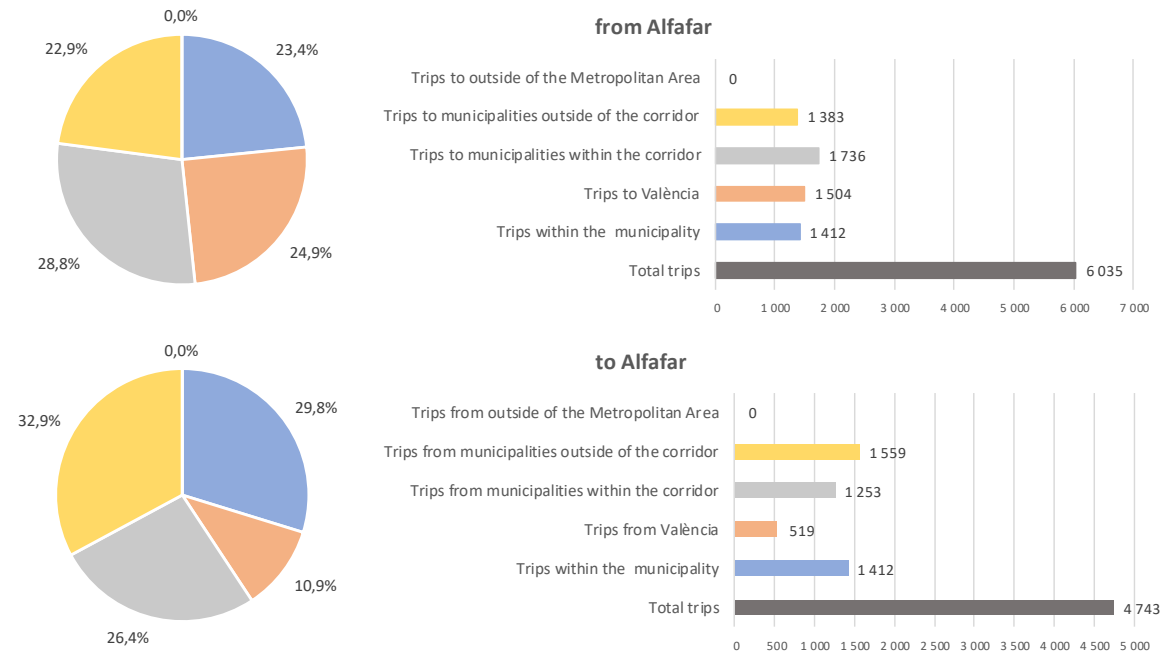


Fig. 23. Alfafar working trips description.

From	To	Trips	Rate
All	218	1.718	100,0%
Alfafar	218	555	32,3%
Alaquàs	218	346	20,1%
Manises	218	255	14,8%
Valencia	218	254	14,8%
Albal	218	176	10,2%
Museros	218	115	6,7%
Torrent	218	15	0,9%
Llocnou de la Corona	218	3	0,2%

Table 10. Working trips description to ZT of the EA in Alfafar.

The municipality of Alfafar is a destination for 4.743 commuters every day. More than a quarter, 36%, work in trip generation area 218. This is the only trip generation area that Alfafar has between V-31 highway and the railway. In this case, it is not an industrial site. It is a leisure area with a shopping centre (MN4) and several commercial facilities such as IKEA, Decathlon, Media Markt.

### 3.3.3.4. Benetússer

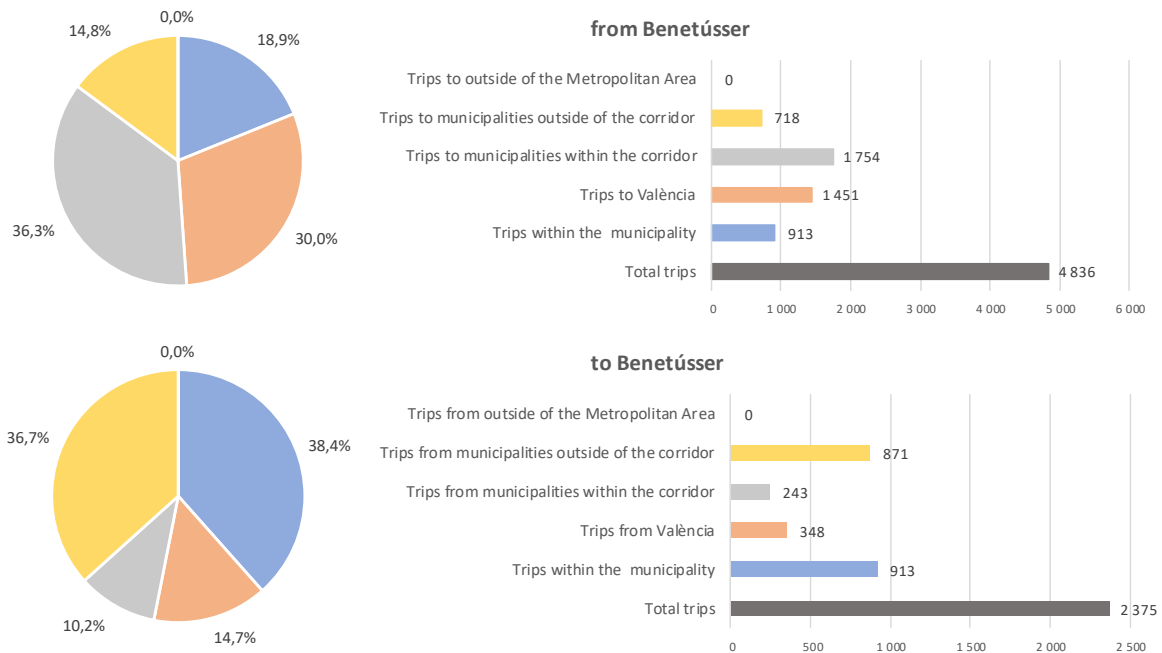


Fig. 24. Benetússer working trips description.

The municipality of Benetússer is a destination for 2.375 commuters every day. Nevertheless, Benetússer do not have major trip generation areas, industrial nor leisure ones. There is a small industrial site on the south-east limit of the municipality, right next to the railway. It would not be considered in the analysis as it does not represent a major volume of trips nor there is information about mobility that would permit to characterise trips to it.

### 3.3.3.5. Beniparrell

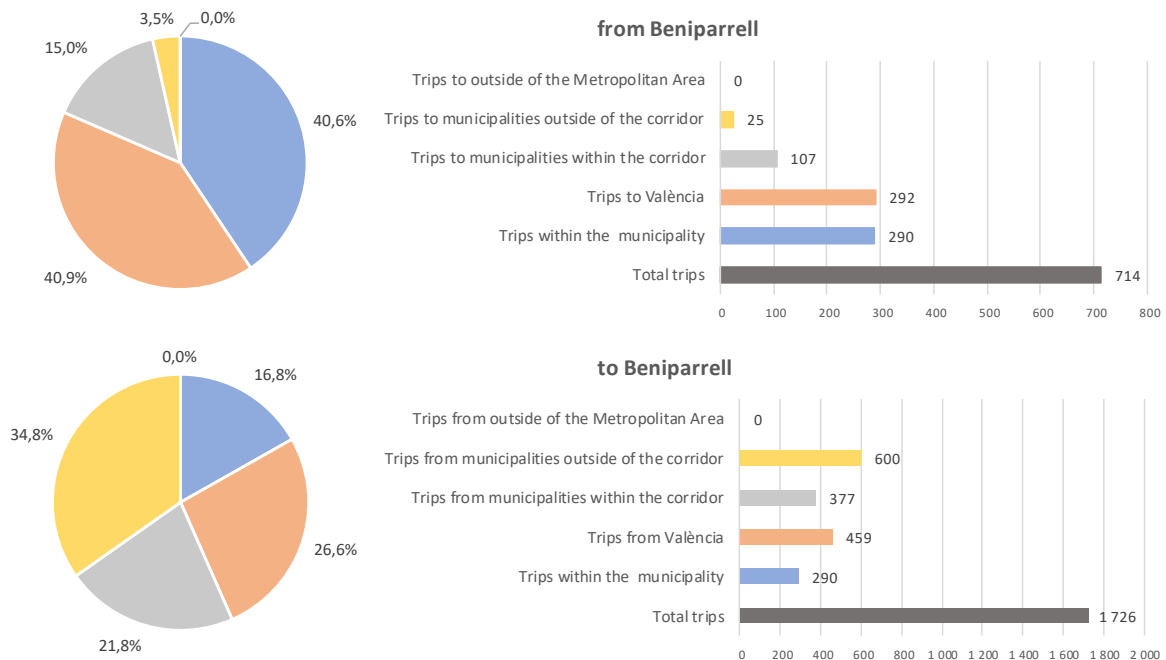


Fig. 25. Beniparrell working trips description.

From	To	Trips	Rate
All	239 ; 240 ; 241	1.096	100,0%
Valencia	240	407	37,1%
Alaquàs	241	247	22,5%
Catarroja	240	112	10,2%
Catarroja	239	105	9,6%
Picassent	239	71	6,5%
Valencia	241	52	4,7%
Alfajar	240	46	4,2%
Paterna	241	31	2,8%
Beniparrell	240	25	2,3%

Table 11. Working trips description to ZT of the EA in Beniparrell.

The municipality of Beniparrell is a destination for 1.726 commuters every day. More than a half, 64%, are due to the activity concentrated in the three ZT (239, 240 and 241). The following industrial sites are associated to these areas:

- Carrascal Oeste and Carrascal Este (ZT 239, 16%),
- Vereda Norte and Vereda Sur (ZT 240, 54%),
- San Francisco and Poliò (ZT 241, 30%).

### 3.3.3.6. Catarroja

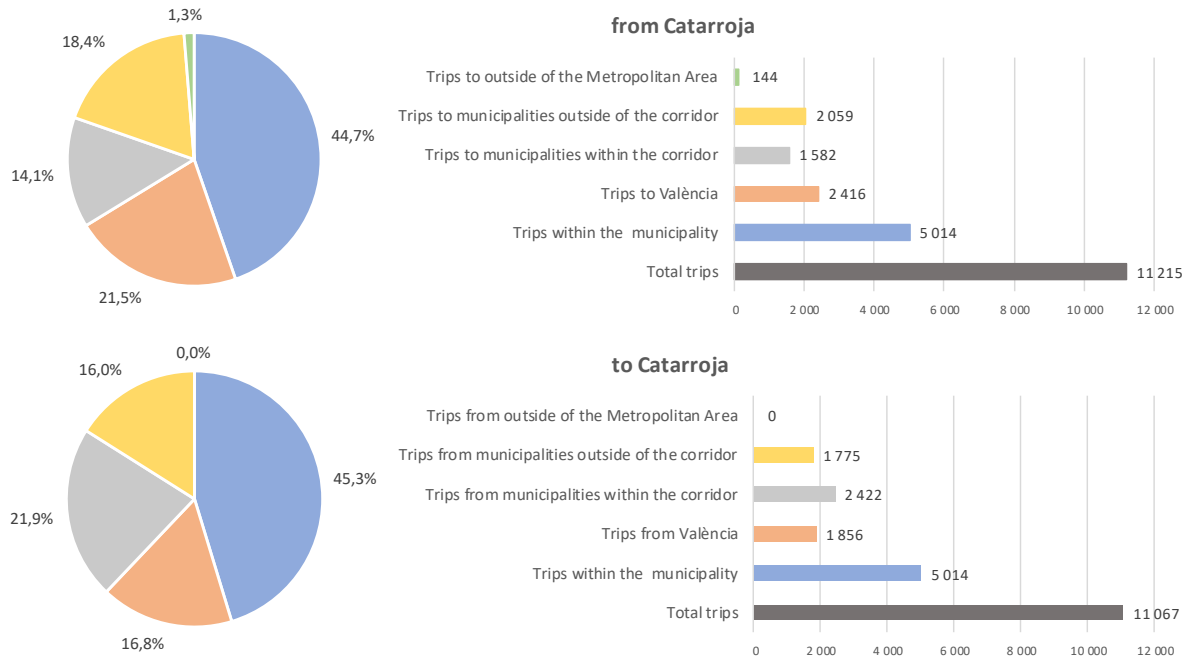


Fig. 26. Catarroja working trips description.

From	To	Trips	Rate
All	227	2.210	100,0%
Valencia	227	590	26,7%
Albal	227	355	16,1%
Catarroja	227	325	14,7%
Alaquàs	227	227	10,3%
Torrent	227	192	8,7%
Mislata	227	141	6,4%
Sueca	227	82	3,7%
Sedaví	227	74	3,3%
Paiporta	227	67	3,0%
Paterna	227	51	2,3%
Benaguasil	227	49	2,2%
Xirivella	227	42	1,9%
La Pobla de Vallbona	227	15	0,7%

Table 12. Working trips description to ZT of the EA in Catarroja.

The municipality of Catarroja is a destination for 11.067 commuters every day. The fifth part are due to the industrial site of *El Bony*, which has 939.000 m<sup>2</sup>.

### 3.3.3.7. Llocnou de la Corona

The municipality of Llocnou de la Corona cannot be considered as an attractive area for commuters due to the low population of the municipality.

### 3.3.3.8. Massanassa

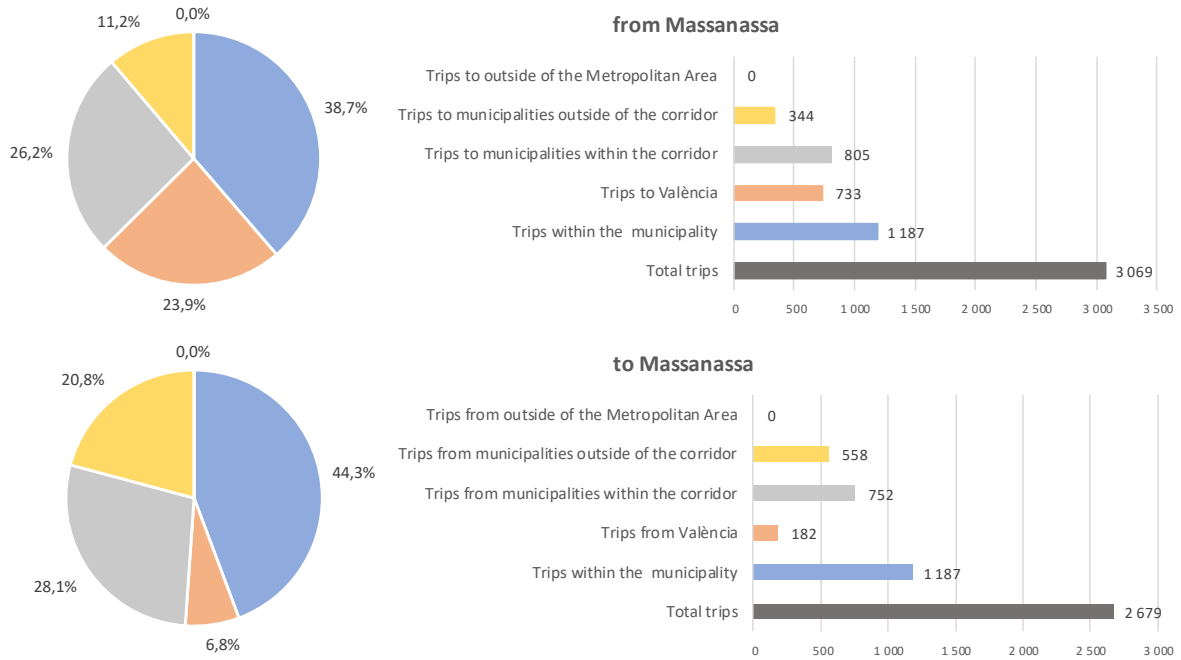


Fig. 27. Massanassa working trips description.

From	To	Trips	Rate
All	224	756	100,0%
Paiporta	224	341	45,1%
Massanassa	224	145	19,1%
Alfatar	224	93	12,2%
Valencia	224	78	10,3%
Alaquàs	224	65	8,5%
Burjassot	224	36	4,7%

Table 13. Working trips description to ZT of the EA in Massanassa.

The municipality of Massanassa is a destination for 2.679 commuters every day.

### 3.3.3.9. Picassent

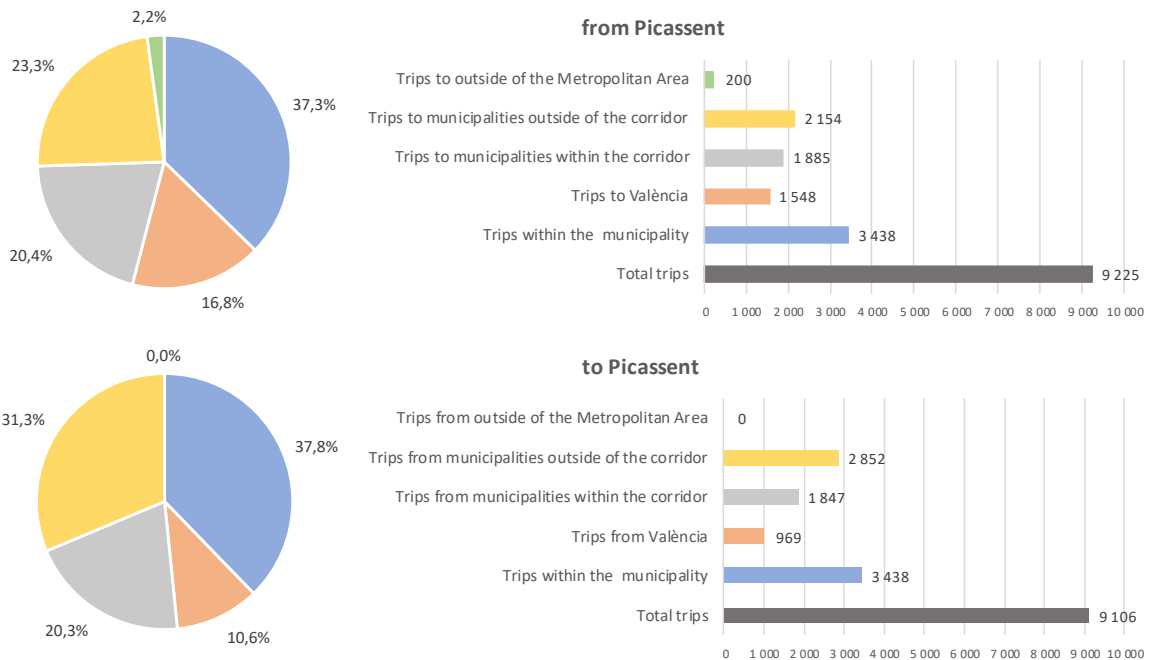


Fig. 28. Picassent working trips description.

From	To	Trips	Rate
All	254	3.504	100,0%
Sueca	254	1122	32,0%
Llíria	254	697	19,9%
Picassent	254	434	12,4%
Catarroja	254	294	8,4%
Sedaví	254	168	4,8%
Aldaia	254	111	3,2%
Alaquàs	254	101	2,9%
Silla	254	88	2,5%
Xirivella	254	79	2,3%
Alcàsser	254	69	2,0%
Burjassot	254	68	2,0%
Montserrat	254	67	1,9%
Nàquera	254	61	1,7%
Sagunto/Sagunt	254	60	1,7%
Mislata	254	44	1,3%
Alfafar	254	40	1,1%

Table 14. Working trips description to ZT of the EA in Picassent.

The municipality of Picassent is a destination for 9.106 commuters every day. The industrial sites Pol. Ind. De Picassent and Polígono Canyada de Codoneyrs (SUIZ2) are responsible for 38,4% of them.

70% of the people commuting to this area come from municipalities outside of the corridor. Particularly, half of the total trips originate in Sueca and Silla, 12% are people from Picassent and the rest, 36%, come from municipalities of the area of study.

### 3.3.3.10. Sedaví

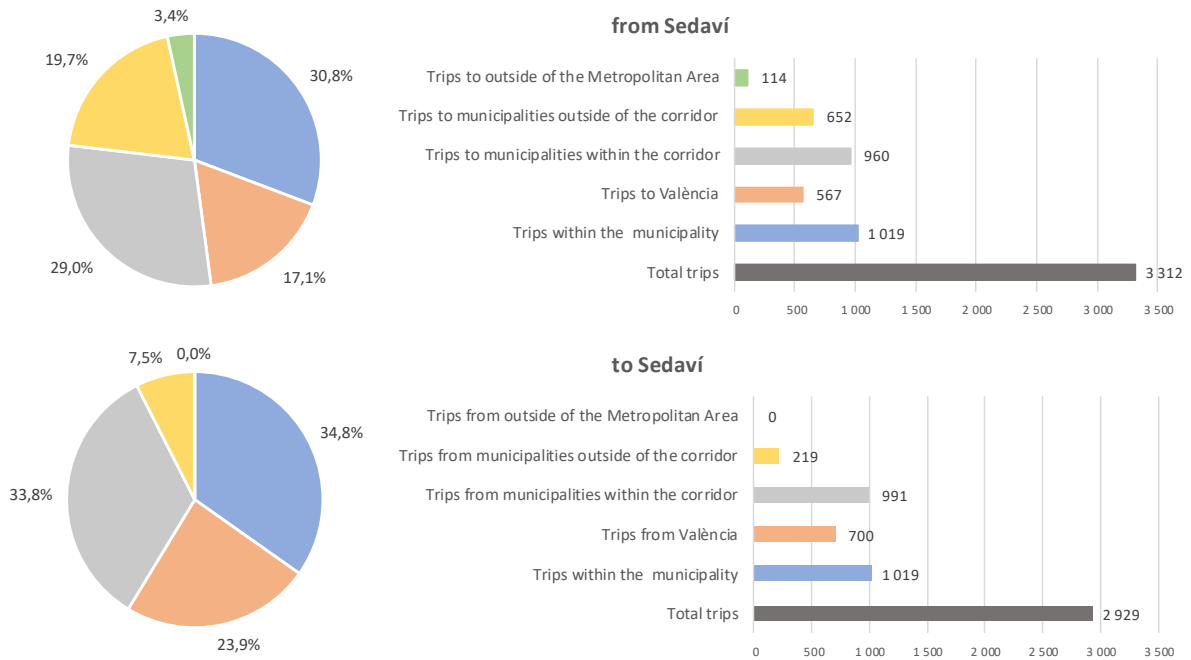


Fig. 29. Sedaví working trip description.

From	To	Trips	Rate
All	212	1.299	100,0%
Valencia	212	587	45,2%
Sedaví	212	508	39,1%
Catarroja	212	105	8,1%
Silla	212	48	3,7%
Torrent	212	24	1,9%
Turís	212	16	1,2%
Paterna	212	8	0,6%
Llocnou de la Corona	212	1	0,1%

Table 15. Working trips description to ZT of the EA in Sedaví.

The municipality of Sedaví is a destination for 2.929 commuters every day. The area where the industrial estate Polígono de Sedaví is located is responsible for 44% of them.

*Polígono Sedaví* occupies approximately 66% of the total ZT 212 surface. The rest is divided into residential area, Sedaví municipal sport facility and commercial facilities on the southeast corner.



### 3.3.3.11. Silla

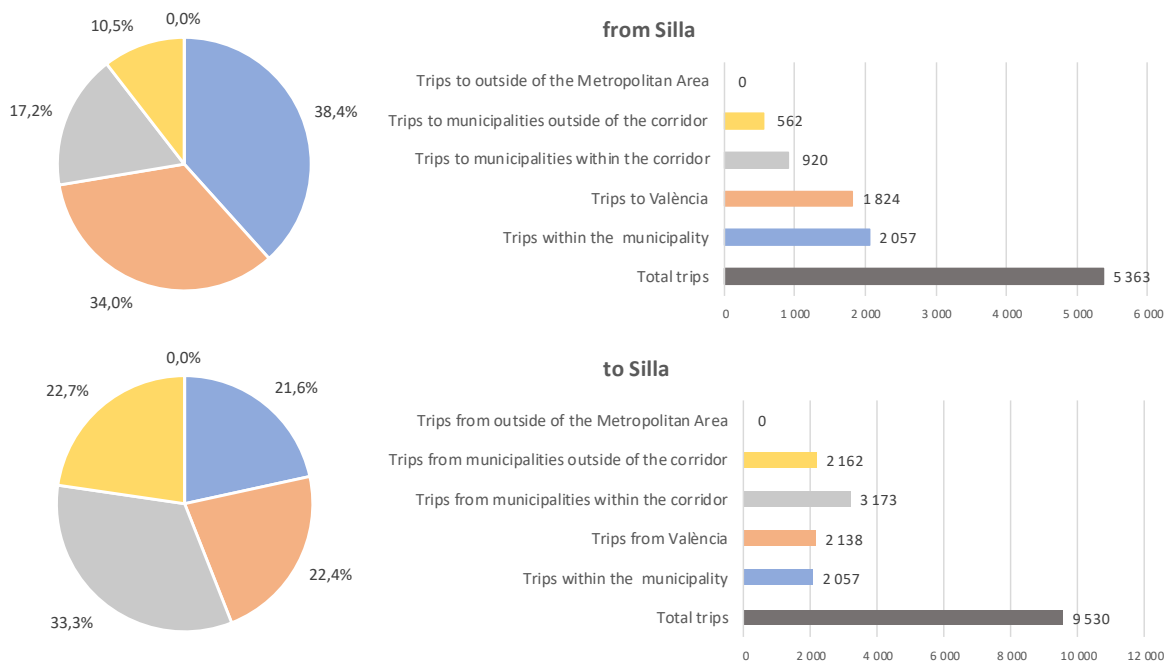


Fig. 30. Silla working trips description.

From	To	Trips	Rate
All	245 ; 246 ; 247	4.842	100,0%
Picassent	245	1249	25,8%
Valencia	245	1040	21,5%
Valencia	246	552	11,4%
Paiporta	246	331	6,8%
Benetússer	245	270	5,6%
Silla	245	219	4,5%
Torrent	245	176	3,6%
Paterna	247	169	3,5%
Silla	247	157	3,2%
Alaquàs	246	140	2,9%
Quart de Poblet	245	89	1,8%
Silla	246	88	1,8%
Burjassot	246	87	1,8%
Eliana, l'	246	73	1,5%
Valencia	247	57	1,2%
Alboraya	246	54	1,1%
Alfatar	246	46	1,0%
Albal	246	42	0,9%
Llocnou de la Corona	245	4	0,1%

Table 16. Working trips description to ZT of the EA in Silla.

The municipality of Silla is a destination for 9.530 commuters every day. Half of these working trips, 51%, are due to the activity concentrated in three ZT (245, 246 and 247). The following industrial estates are associated to these areas:

- *L'Alteró industrial, U.E. Artierro/Blanquer, U.E. El Productor and U.E. Maset* (ZT 245, 63%),
- *Pou de Godofredo, U.E. Espioca, U.E. Shark and U.E. Pla dels Olivars* (ZT 246, 30%),
- *U.E Camí d'Alcàsser and l'Aliaga* (ZT 247, 8%).

### 3.3.3.12. València

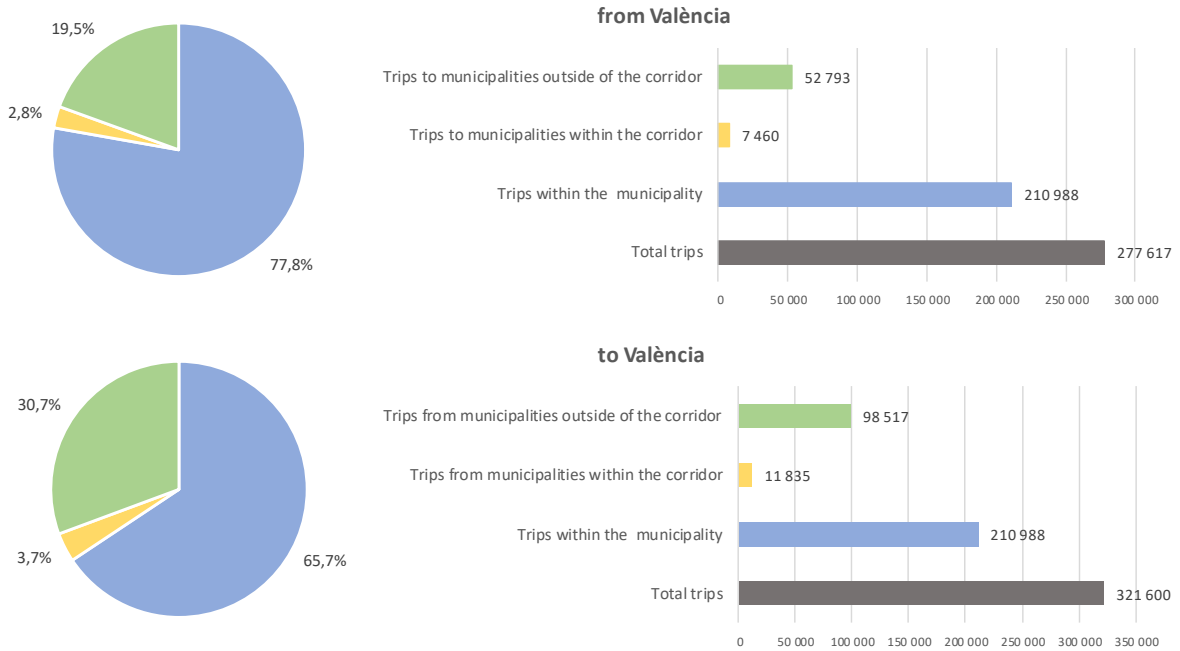


Fig. 31. València's working trips description.

The whole municipality of València shows a mobility perspective which differs significantly from the one observed in the corridor. This is due to the high volume of trips regarding the rest of the municipalities of the corridor. Therefore, the part of those trips going to the ZT concerned in this Plan is almost neglectable.

From	To	Trips	Rate
All	162	1.456	100,0%
Valencia	162	656	45,1%
Xirivella	162	233	16,0%
Foios	162	228	15,7%
Alaquàs	162	131	9,0%
Sedaví	162	84	5,8%
Aldaia	162	69	4,8%
Quart de Poblet	162	54	3,7%

Table 17. Working trips description to ZT of the EA in València.

### 3.3.4. How do people come to the EA?

If the car was used for 3 out of 4 trips when analysing working trips with destination the municipalities of the corridor, now, at EA level car use is way higher than that, Table 19 and Table 18. 16.350 out of 17.202 working trips are done by car. Far from it, people on foot and other means of transport have really low representation. Car use account for 95% of all commuting trips to the activity area studied. Except from Alfafar, Sedaví and Massanassa which have commercial and services land use areas, the rest are industrial estates. Then comes the mode share of people on foot which reach 1,7%. All the other means of transport used for commuting have a share lower.

Municipality	On foot	Car as a driver	Car as a passenger	Motorbike as a driver	Van/truck	Own bicycle	Bus (EMT València)	Company bus	Regional rail	Cabify or others	Total trips
Silla	157	4 621					64				4 842
Picassent		3 349	111	44							3 504
Catarroja		2 045		15				82	68		2 210
Alfafar		1 631	84		3						1 718
Valencia	23	1 347					87				1 456
Sedaví	115	1 184									1 299
Beniparrell		1 096									1 096
Massanassa		756									756
Albal		233									233
Alcàsser		86									86
<b>Total trips</b>	<b>294</b>	<b>16 350</b>	<b>111</b>	<b>84</b>	<b>60</b>	<b>3</b>	<b>87</b>	<b>64</b>	<b>82</b>	<b>68</b>	<b>17 202</b>

Table 19. Means of transport used by people commuting to the corridor of study.

Municipality	On foot	Car as a driver	Car as a passenger	Motorbike as a driver	Van/truck	Own bicycle	Bus (EMT València)	Company bus	Regional rail	Cabify or others	Total trips
Silla	3,2%	95,4%					1,3%				100,0%
Picassent		95,6%	3,2%	1,3%							100,0%
Catarroja		92,5%		0,7%				3,7%	3,1%		100,0%
Alfafar		95,0%	4,9%	0,2%							100,0%
Valencia	1,5%	92,5%					5,9%				100,0%
Sedaví	8,8%	91,2%									100,0%
Beniparrell		100,0%									100,0%
Massanassa		100,0%									100,0%
Albal		100,0%									100,0%
Alcàsser		100,0%									100,0%
<b>Total trips</b>	<b>1,7%</b>	<b>95,0%</b>	<b>0,6%</b>	<b>0,5%</b>	<b>0,3%</b>	<b>0,0%</b>	<b>0,5%</b>	<b>0,4%</b>	<b>0,5%</b>	<b>0,4%</b>	<b>100,0%</b>

Table 18. Mode share for people commuting to the BIZ in the corridor studied.

Non-motorised means are thought insignificant, with no more than 1,7% of people commuting on foot or with their own bicycle. Public transport share is only 1%.

Below, is presented a description of working trips mode share to the BIZ, for each of the municipalities and classified regarding the main tendencies.

- 100% of the working trips are done by car:

In Albal, all the people commuting *Sector IV* do it with their own car as drivers. There is no one coming to work by non-motorised modes. This industrial site is easily accessible from the CV-33 highway which connects to other parts of the territory such as Alaquàs and Aldaia and there is also a connection with V-31 nearby on the east-side corner.

In Alcàsser, all the people going to *l'Alter* for work use the car as a self-driver. There is no one coming to work by non-motorised modes. This industrial site is well connected to V-31 highway. There is a bus line which goes across *l'Alter* but there is no bus stop.

In Beniparrell, all the people commuting to these industrial sites do use their own car. There is a double roadway connection of high standards: CV-33 on the North side and a direct entrance coming from València on the South side.

In Massanassa, all the people commuting for either the industrial estate or the commercial facilities use their own car.

- 95% to 100% of the working trips are done by car:

In Alfafar, most people commuting do it by car as a self-driver with a rate of 95%. The rest are people coming with their own motorbike (4,9%). People using their own bicycle have a mode share of 0,2%.

In Picassent 95,6% of the working trips to the *Pol. Ind. De Picassent* and *Polígono Canyada de Codonyers (SUZI 2)* are done by car. It is worth noting that there are working trips done by car but where the person is a passenger and not a driver (3,2%). The rest are working trips done with van/truck, which might be provided by the company.

In Silla, 95,4% of the working trips are done by car, 3,2% on foot and the rest correspond to companies' buses (1,3%).

- 90% to 95% of the working trips are done by car:

In Catarroja, the biggest municipality of the corridor in terms of population, 92,5% of the working trips are done by car. It is worth noting that the regional rail appears for the first time as a mean of transport with a 3,7% mode share.

In Sedaví, the great majority of people commuting to this area uses their own car with a rate of 91,2%. Up to 8,8% are people going on foot. *Polígono Sedaví* has a direct connection to V-31 on the east side and CV-407 on the South, which connects Sedaví with CV-400 and is one of the three main transversal road connections of the area of study.

In València, 92,5% of the working trips to the industrial estate *Horno de Salcedo- Urbano Consolidado* are done by car. 5,9% mode share is associated to the bus lines systems of the municipality of València. The rest, 1,5%, are working trips on foot.

### 3.4. Public transportation system

In the area of study there are three public transportation systems:

- *Cercanías*, the regional rail system which is managed by the national rail company RENFE,
- MetroBus, the suburban bus lines for which the regional authority *Generalitat Valenciana* and specifically *Conselleria d’Habitatge, Obres Públiques I Vertebració del Territori* is responsible.
- EMT, the municipal bus lines of València which is managed by the municipality.

The document *Documento 4 – Elaboración y explotación de encuestas de transporte público* (G.V., 2018a) confirm the results obtained for the on-board mobility survey. The data published in it for each of the public transportation lines is considered for characterising the demand patterns.

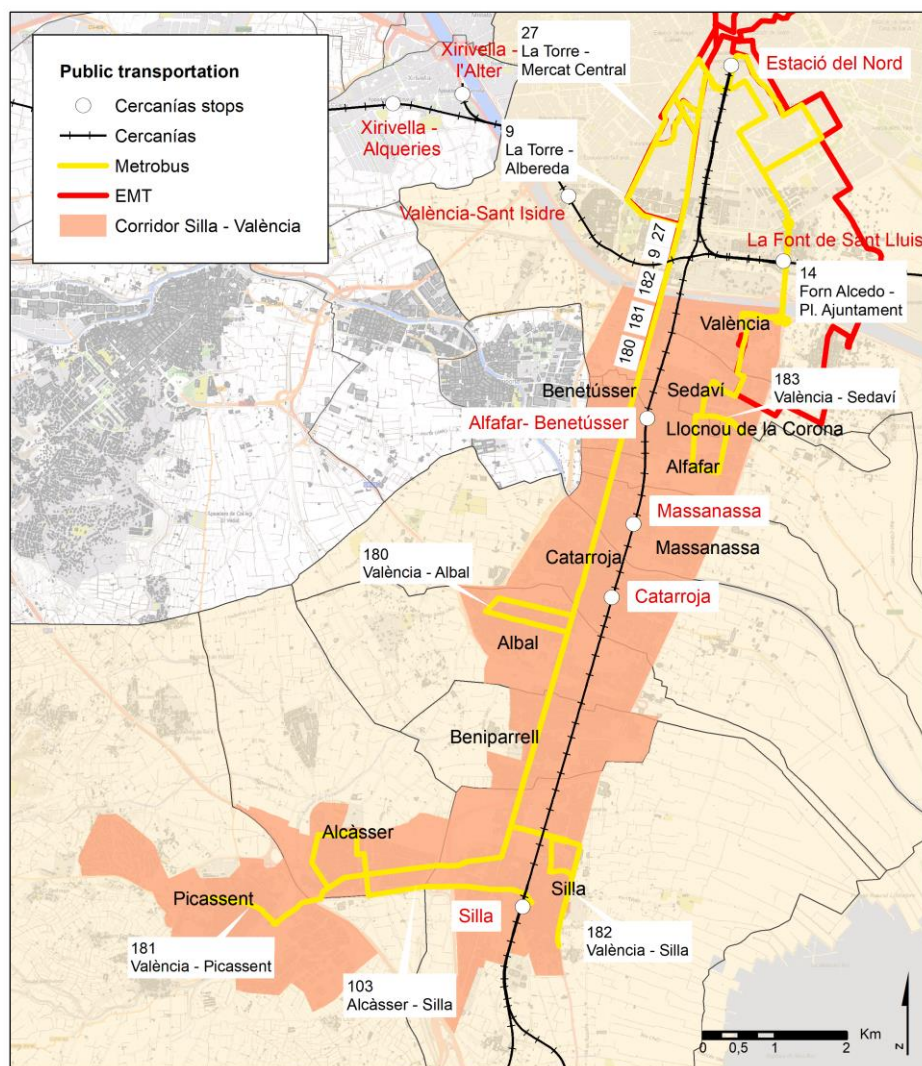


Fig. 32. Public transportation service within the corridor Silla - València. Note: data from PMoMe and IDEV.

### 3.4.1. Cercanías (regional rail)

There are two lines, C-1 and C-2, of the regional rail system which go through the area of study from the main train station of the capital València, the *Estació del Nord*. The fact that two lines connect València with the southern municipality of Silla could indicate, a priori, that the municipalities do have a good rail infrastructure linking the municipalities with the capital, and the south to other territories of the València province.

#### 3.4.1.1. Offer characterisation

Trip time is 15 minutes between València-*Estació del Nord* and Silla. Considering the stations in between, traveling times are: València – Alfafar-Benetússer, 7 minutes; València – Massanassa, 9 minutes and València – Catarroja, 11 minutes.

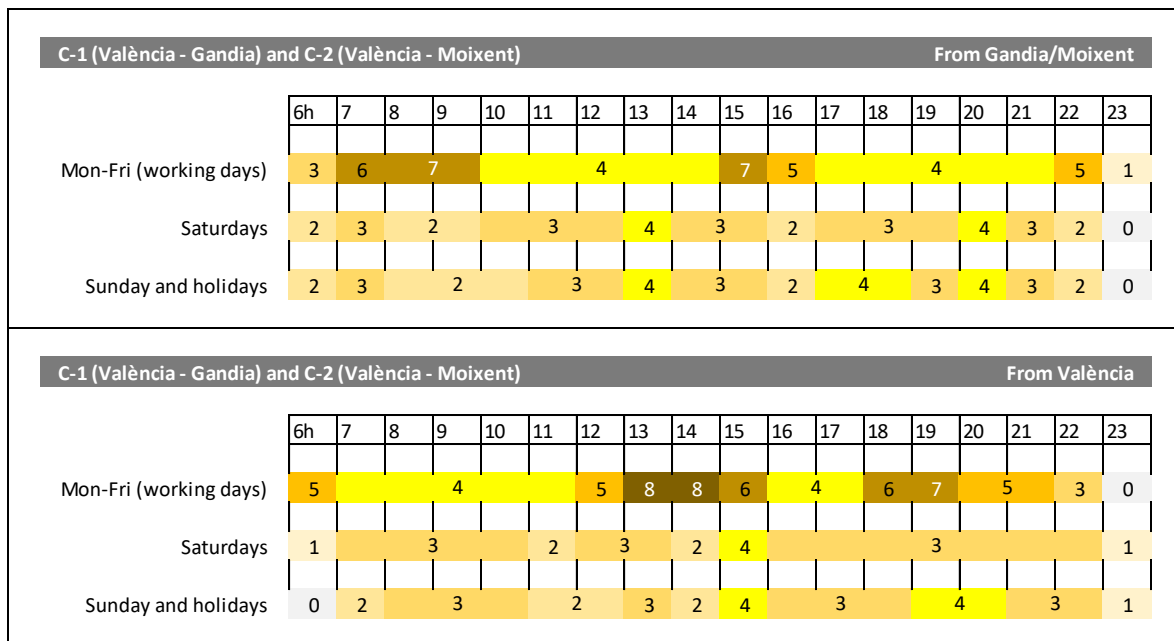


Fig. 34. Regional rail C-1 and C-2 frequency (trains/h). Note: data from RENFE (<http://www.renfe.com/viajeros/cercanias/valencia/>)

The frequency for C-1 and C-2 follows a common pattern as it varies depending on the day of the week. There is also a variation depending on the moment of the day, but it is different depending on direction. Coming from Silla (Gandia/Moixent), offer is reinforced in morning peak hours (7h-9h) but the same do not happen on the other direction. In the afternoons, the same morning pattern is followed but reverse offer is reinforced for València departures. It is important to mention that although there is a tendency morning/afternoon observed, the main reinforcement of the service is undertaken at mid-day, between 13h and 15h.

### 3.4.1.2. Demand characterisation

Even if the survey conducted for the PMoMe (G.V., 2018a) does not give specific information for the BIZ, the following results may help to understand how do people move on the regional rail C1 and C-2 between València and Silla:

- The regional rail system moves 44.805 people every day and 68% concern both lines C-1 and C-2, with 16.220 and 14.128 daily trips, respectively.
- Trips are mainly from València (18.598 trips, 41,5%) and outside of the Metropolitan Area (15.283 trips, 34,1%). For the municipalities inside the area of study, the results are the following: Silla (679 trips, 1,5%), Catarroja (495 trips, 1,1%), Massanassa (246 trips, 0,5%), Alfafar (165 trips, 0,4%), Albal (136 trips, 0,3%), Alcàsser (108 trips, 0,2%), Benetússer (90 trips, 0,2%), Picassent (83 trips, 0,2%) and Sedaví (83 trips, 0,2%).
- Regarding the train stations inside the corridor, trips origins are distributed as follow: Silla (ZT 244, 948 trips), Catarroja (ZT 230, 603 trips), Massanassa (ZT 223, 301 trips) and Alfafar-Benetússer (ZT 215, 300 trips). As it can be observed, the furthest the train station is located from the capital València, the higher is the volume of trips that the station generates.
- Consequently, that means that to each of the ZT where the stations are located, there is a supplementary quantity of trips: Silla (+39,6%), Catarroja (+21,8%), Massanassa (+22,3%) and Alfafar-Benetússer (+17,6%). This indicator is important due to the fact that there might be people willing to take the train who comes from the same municipality or even another one and who would consequently be susceptible to arriving on foot or other means of transport.
- Trips have mainly for destination València (17.296 trips, 38,6%) and the area outside of the MA (14.812, 33,1%). For the municipalities inside the area of study, the results are the following: Silla (1.553 trips, 1,5%), Catarroja (1.251 trips, 1,1%), Alfafar (571 trips, 0,4%), Alcàsser (269 trips, 0,2%), Massanassa (251 trips, 0,5%), Sedaví (184 trips, 0,2%), Albal (109 trips, 0,3%), Benetússer (90 trips, 0,2%), Picassent (77 trips, 0,2%). It is important to notice that the volume of trips is higher when considering the municipalities of the corridor as the origin of the trip.
- Regarding the train stations inside the corridor, trips destinations are distributed as follow: Silla (ZT 244, 2.038 trips), Catarroja (ZT 230, 1.333 trips), Alfafar-Benetússer (ZT 215, 975 trips) and Massanassa (ZT 270, 301 trips). In this case, Silla and Catarroja attract the highest volume of people but the tendency is reverse for Alfafar-Benetússer and Massanassa.
- In average, 38,9% of the trips done by the 5 regional rail lines are due to working purposes. More specifically these rates are 41,8% for C-1 and 40,5% for C-2.
- For only 3,1% of all the trips, both arriving and leaving the train station on foot takes less than 5 minutes. For 49,7% of the trips, only arriving or leaving the train station on foot takes less than 5 minutes, but not both. Finally, for 47,2% of the trips, both arriving and leaving the train station takes more than 5 minutes. These results would indicate that, in general, it is necessary to foster on foot access to the station.

In order to quantify how many people would be susceptible to taking the regional rail, there has been identified a 500m radius from the four stations which are inside the area of study. This is considered as the area of influence. This distance is fixed considering that someone willing to go to the station or coming from it, would take 6 minutes approximately. The walking speed is fixed to 5km/h, as it is

indicated in the report *Les outils de calcul d'accessibilité* (DREAI, 2015). The distance of 500m has been selected as a distance between 400 m and 800 m, which are the distances considered in the same report (DREAI, 2015) to design isochrones for offer and accessibility to regional rail stations.

To obtain a ratio that would estimate how many people are covered by this area, a correlation between the surface of the ZT area inside the 500m radius and the total population for this specific ZT is estimated.

$$\text{Population within 500m} = \frac{\text{Surface within 500m} \cdot \text{Population inside the ZT}}{\text{Total surface of the ZT}}$$

This leads to obtain a proportional quantity for the population within 500m. The rate of the population of the municipality within 500m is obtained regarding the total population of the municipality.

Municipality	Population within 500m	Population of the municipality	Part of the population within 500m
Alfajar	7.172	20.763	34,5%
Benetússer	6.636	14.668	45,2%
Catarroja	7.150	27.827	25,7%
Massanassa	5.289	9.538	55,5%
Sedaví	120	10.245	1,2%
Silla	7.195	18.467	39,0%

Table 20. Part of the population which is inside a 500m radius area from the regional rail station. Note: data from PMoMe.

Only municipalities which have a railway station in it are concerned by this analysis. This is normal as there are no stations in the middle of two municipalities. The municipality of Sedaví is concerned as the south-west limit is 500m from the station.

Catarroja, which is the most populated municipality in the corridor, is the one whose population is less distributed near the train station with a quarter of it, 25,7%. After it, regarding the municipalities of Alfajar and Silla, which are the second and the fourth most populated, respectively 34,5% and 39% of the population must live near the train station. Benetússer almost reach half of the population with 45,2% and Massanassa is the only municipality with more than 50% of the people concerned, 55,5%.

Regarding the BIZ that are involved in this analysis, the ratio has been obtained directly comparing the in-built surface within a 500m radius from the station to the total in-built surface of the activity are.

Municipality	ZT	Name of the area of activity	In-built surface within 500m	Total in-built surface	Part of the in-built surface within 500m
Catarroja	227	El Bony	326.778	624.093	52,4%
Massanassa	224	Pol. Ind de Massanassa	117.156	328.070	35,7%
Silla	243	U.E Molí Magalló Industrial	43.694	62.265	70,2%
Silla	246	U.E Espioca	83.335	305.589	27,3%

Table 21. Part of the in-built surface inside a 500m radius area from the regional rail station. Note: data from PMoMe.

From all the BIZ inside the area of study, there are only four industrial estates which have a quantity of its surface within a 500m distance from three out of four regional stations concerned. The regional station of Alfajar – Benetússer does not affects to any of the BIZ analysed as it is inside the urban area and they are further away from the 500m perimeter from the station.



It is worth noting that the industrial estate *El Bony* has half of its surface involved within the area of influence of the regional rail station of Catarroja. In Silla, there are two industrial estates concerned, but not accessibility on foot in less than 500m as the train station is only open to the East side and not to the other side where the industrial estates are placed. Massanassa industrial estate has 35,7% of its surface within the area of influence. It is worth nothing that part of the area accessible on foot in 7,5 minutes is still not build and free parcels still exist near the train station.

### 3.4.2. Metrobus (intercity bus)

There are five intercity bus lines which give access to the Corridor. Four of them start in València and finish in four of the municipalities of the corridor: Albal, Alfafar, Picassent and Silla. The fourth one connects two municipalities of the corridor in a transverse way, Alcàsser and Silla.

- Line 103. Alcàsser – Silla,
- Line 180. València – Catarroja – Albal,
- Line 181. València – Alcàsser – Picassent,
- Line 182. València – Beniparrell – Silla,
- Line 183. València – Sedaví – C.C.Alfafar

Lines 180, 181 and 182 go along the same street until the municipality of Albal. The buses use the *Camí Reial* street, which used to be the entrance to the city of València until V-31 highway was built. From there, only lines 181 and 182 continue along the same street to *Pl. Quatre Camins*, a roundabout in Silla where each of the two bus lines continue their way independently. Line 183 does not follow the same way than the others and takes V-31 highway to cross V-30 highway. This bus line arrives to Alfafar commercial area and has its end stop nearby IKEA.

#### 3.4.2.1. Offer characterisation

##### Bus line 103. Alcàsser – Silla:

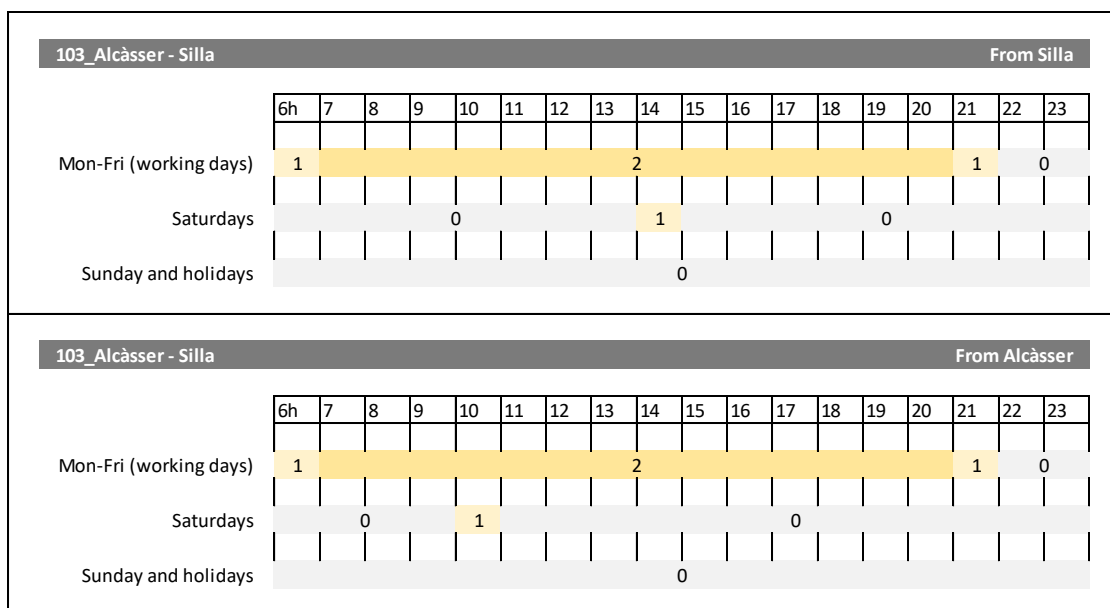


Fig. 35. Bus line 103 (bus/h). Note: data from MetroBus (<http://tarjetamobilis.es/metrobus/>)

This bus line connects the municipalities of Alcàsser and Silla. It goes through the industrial estate of l’Alter but the bus stations are not visible on terrain. The bus line seems to be oriented for people willing to go to the regional rail station of Silla. The offer is not higher than 2 bus per hour and there the service is not reinforced during peak hours.

**Bus line 180. València – Catarroja – Albal**

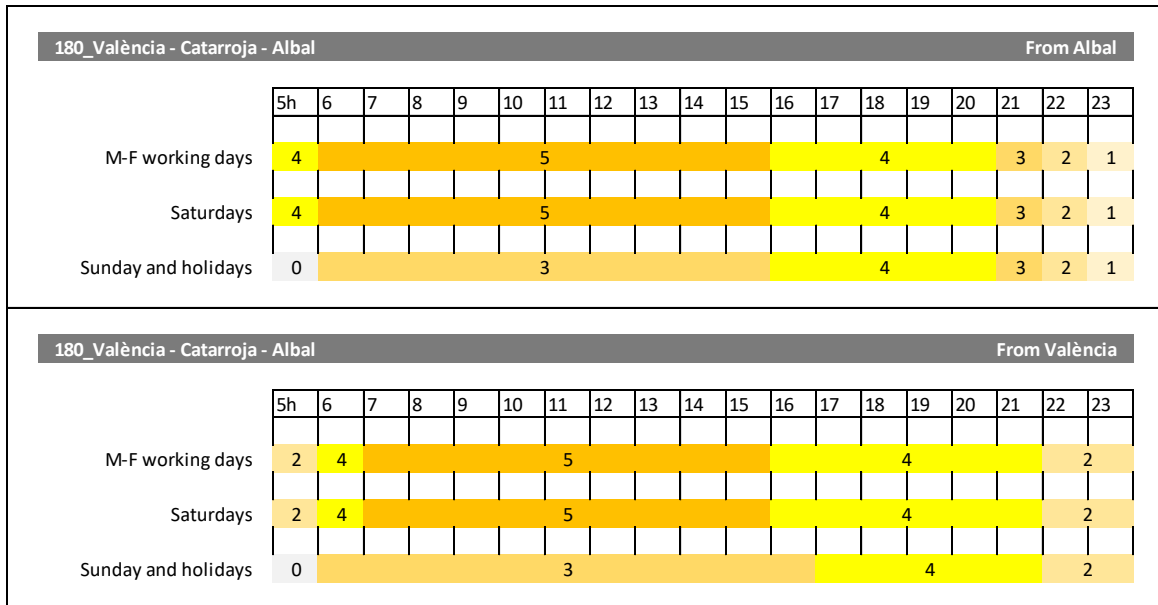


Fig. 36. Bus line 180 frequency (bus/h). Note: data from MetroBus (<http://tarjetamobilis.es/metrobus/>)

Trip time is 45 minutes from València to Albal and there are 30 stations. This is the only bus line that has a reinforced offer, with high frequency peaks of 5 bus/h. Its itinerary is the only one that does not directly serves the BIZ.

**Line 181. València – Alcàsser – Picassent**

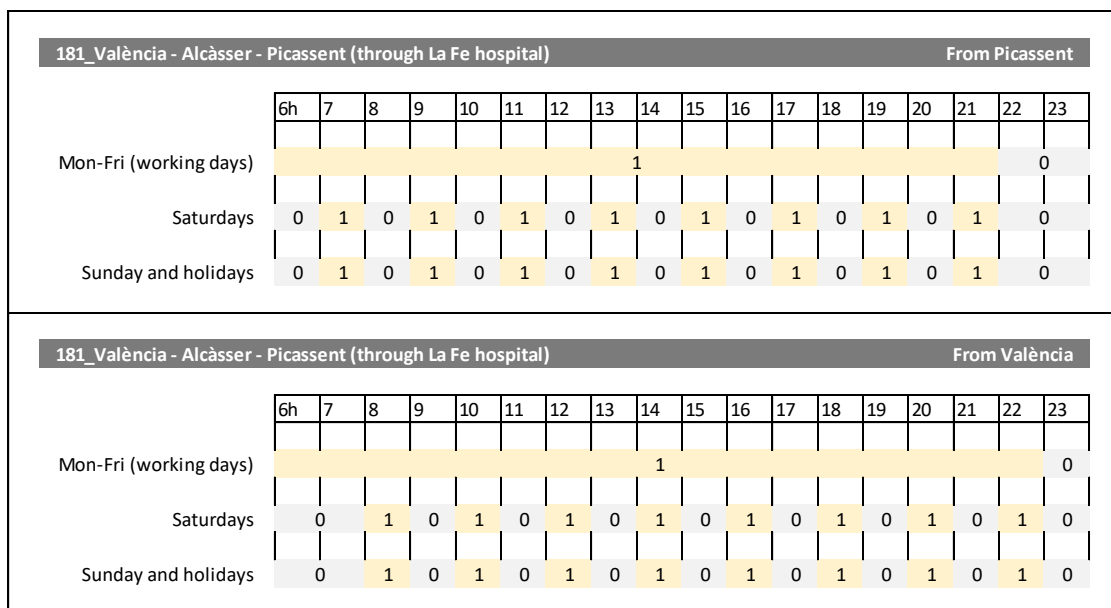


Fig. 37. Bus line 181 frequency (bus/h). Note: data from MetroBus (<http://tarjetamobilis.es/metrobus/>)

Trip time is 58 minutes from València to Picassent and there are 41 stations.

**Bus line 182. València – Beniparrell - Silla**

Trip time is 58 minutes from València to Silla and there are 41 stations.

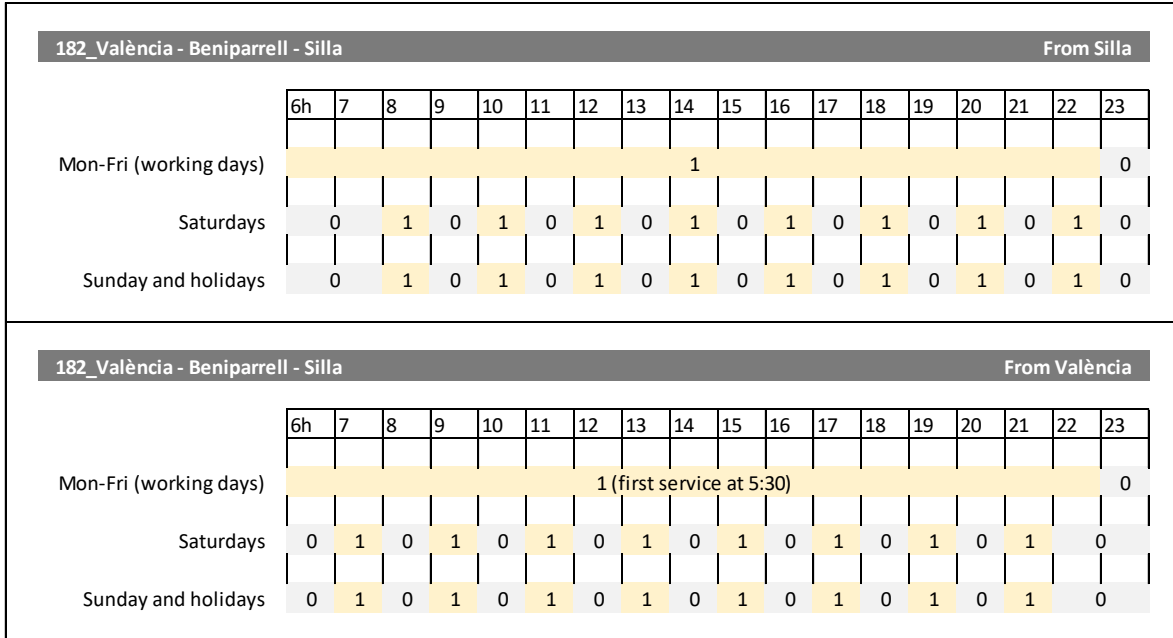


Fig. 38. Bus line 182 frequency (bus/h). Note: data from MetroBus (<http://tarjetamobilis.es/metrobus/>)

**Bus line 183. València – Sedaví – C.C.Alfatar**

Trip time is 58 minutes from València to Alfatar commercial area and there are 41 stations.

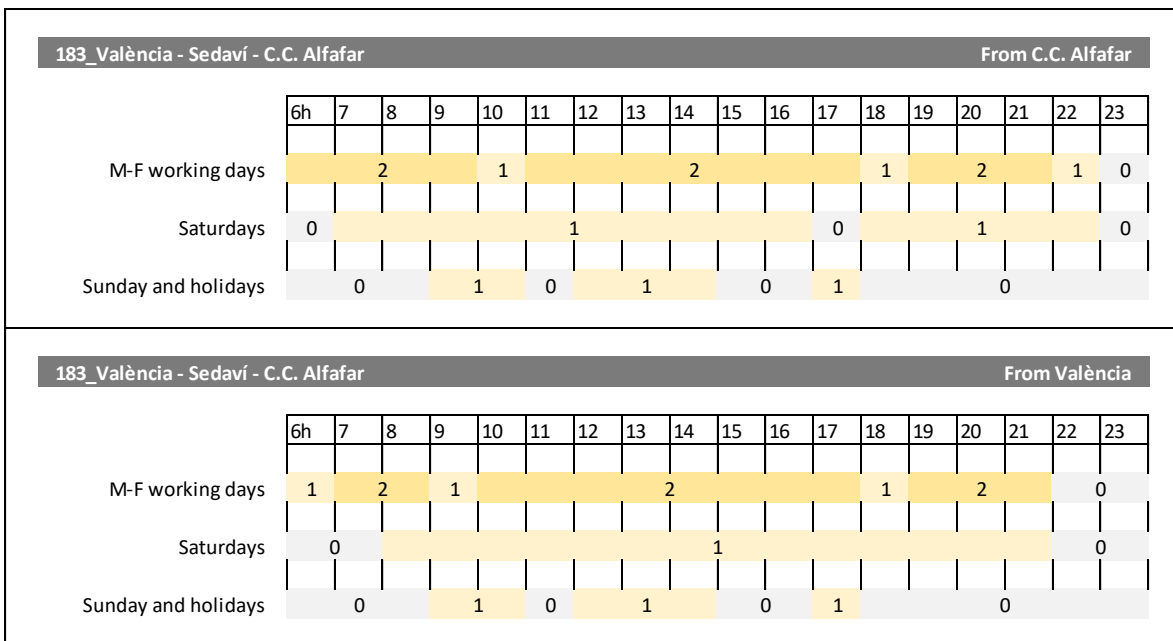


Fig. 39. Bus line 183 frequency (bus/h). Note: data from MetroBus (<http://tarjetamobilis.es/metrobus/>)

### 3.4.2.2. Demand characterisation

As it happens with regional rail indicators, even if the survey conducted for the PMoMe (G.V., 2018a) does not give specific information for the areas of activity, the following results may help to understand how people move on Metrobus bus lines in the area of study:

- The intercity bus lines move 33.664 people every day.
- One out of the four lines with more than 4.500 trips/day is on the area of study:
  - Line 180, València – Catarroja – Albal, with 4.883 trips/day represents 14,5% of the global volume of trips.
- The other lines represent, in descending order, the following shares:
  - Line 182, València – Silla, with 1.021 trips/day represents 3%,
  - Line 181, València – Picassent, with 1.020 trips/day represents 3%,
  - Line 183, València – Sedaví – C.C. Alfafar, with 624 trips/day represents 1,9%,
  - Line 103, Alcàsser – Silla, with 128 trips/day represents 0,4%.
- Trips are mainly originated in València with 36,8%. For the municipalities inside the area of study, the results are the following: Albal (4,5%), Catarroja (2,9%), Alfafar (1,3%), Massanassa (0,9%), Silla (0,8%), Alcàsser (0,6%), Benetússer (0,6%), Picassent (0,5%), Sedaví (0,5%) and Beniparrell (0,3%).
- Trips have mainly for destination the capital with 35%. For the municipalities inside the area of study, the results are the following: Catarroja (3,4%), Albal (3,2%), Alfafar (1,7%), Benetússer (1,6%), Massanassa (0,8%), Silla (0,7%), Beniparrell (0,5%), Alcàsser (0,5%), Picassent (0,4%) and Sedaví (0,3%),
- In average, 44,1% of the trips done are for commuting. More specifically, for the lines within the area of study there are the following results:
  - Line 183, València – Sedaví – C.C. Alfafar, with 624 trips/day, working purpose represents 57,7% of them,
  - Line 103, Alcàsser – Silla, with 128 trips/day, working purpose represents 55,9%,
  - Line 182, València – Silla, with 1 021 trips/day, working purpose represents 44,9%,
  - Line 180, València – Catarroja – Albal, with 4 883 trips/day, working purpose represents 41,1%,
  - Line 181, València – Picassent, with 1.020 trips/day, working purpose represents 39,4%.

In order to quantify how much surface of the BIZ would be accessible on foot in 7,5 minutes from the bus stops, the same analysis as for the regional rail stations has been done.

### Line 103 Alcàsser - Silla

Municipality	ZT	Name of the area of activity	In-built surface within 500m	Total in-built surface	Part of the in-built surface within 500m
Alcàsser	250	L'Alter	140.574	308.248	45,6%
Picassent	254	Pol. Ind. De Picassent	56.311	382.230	14,7%

Table 22. Part of the in-built surface inside a 500m radius area from the bus stops (103). Note: data from PMoMe.

Line 103 does not have a major significance in the industrial estates concerned in this analysis as it is a line with few stops mainly located in the urban area of Alcàsser. Particularly, in the municipality of Silla, the bus only stops once at the regional rail station. The industrial estates of Silla are not accessible within 500 m as there is the railway and the station is not open on the West side.

It could be mentioned that the itinerary<sup>11</sup> followed by the bus does not satisfy what it is observed in terms of demand between the municipalities of Picassent and Silla. As it is shown in 0, most of working trips to Silla would start in Picassent. Though, it is worth noting that the line does not start in Picassent and only connect Alcàsser and Silla.

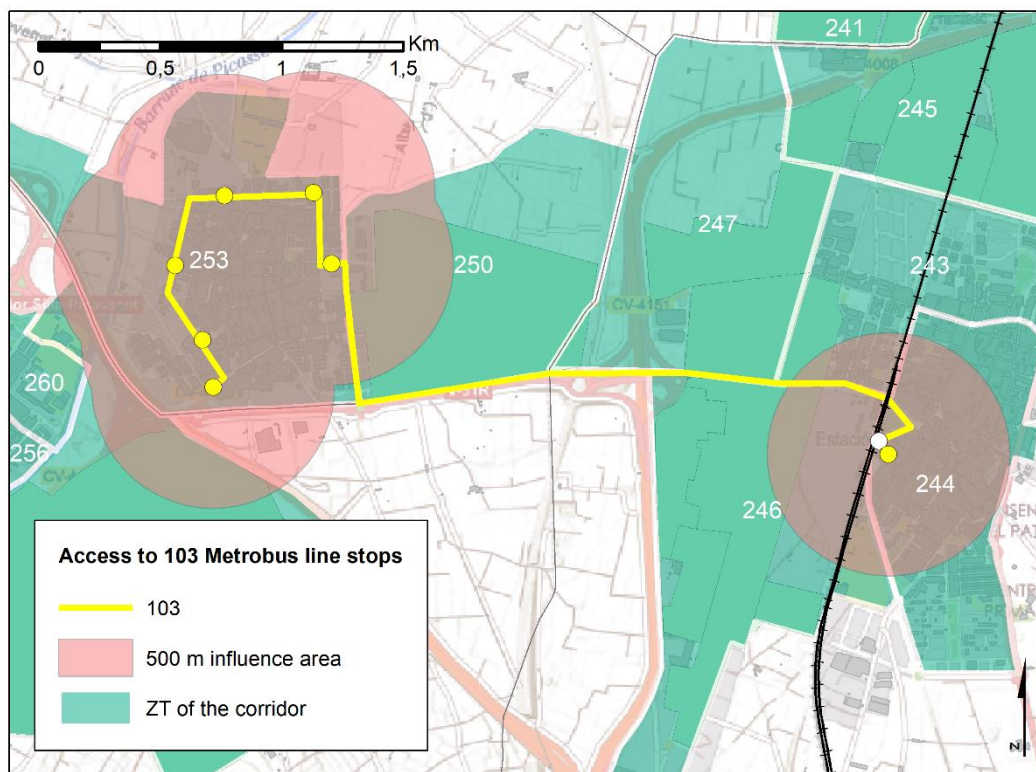


Fig. 40. 500 m access from 103 Metrobus line stations. Note: data from PMoMe and MetroBus (<http://tarjetamobilis.es/metrobus/>)

<sup>11</sup> The itinerary and number of stations of the Metrobus line 103 was unclear. The information was obtained after contacting AUVACA, the companies in charge of the line operation.

**Line 180. València – Catarroja – Albal.**

Line 180 influence area does not cover any of the main BIZ. It only serves the industrial estates of *Juan Peris*, located in the east side corner of the municipality of Albal, whose whole surface is within a 500m radius from the eastern bus station of 180 line.

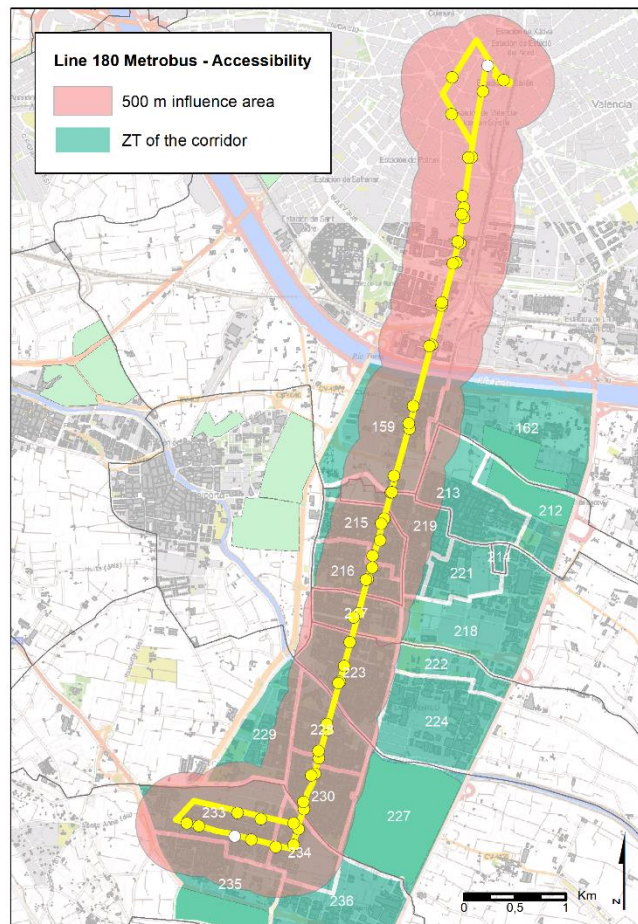


Fig. 41. 500 m access from 180 Metrobus line stops. Note: data from PMoMe and MetroBus (<http://tarjetamobilis.es/metrobus/>)

### Line 181. València – Alcàsser – Picassent

Municipality	ZT	Name of the area of activity	In-built surface within 500m	Total in-built surface	Part of the in-built surface within 500m
Albal	236	Pol. Ind Albal	93.851	271.225	34,6%
Beniparrell	239	Carrascal Oeste and Carrascal Este	444.441	444.441	100,0%
Beniparrell	241	Polió	106.249	108.614	97,8%
Beniparrell	241	San Francisco	139.892	139.892	100,0%
Silla	245	U.E. Maset	34.298	34.298	100,0%
Silla	245	U.E. El Productor	20.039	20.039	100,0%
Silla	246	U.E. Pla dels Olivars and U.E. Espioca	35.404	294.122	12,0%
Silla	247	U.E. l'Aliaga and U.E. Camí Vell d'Alcàsser	126.966	126.966	100,0%
Alcàsser	250	L'Alter	308.248	308.248	100,0%
Picassent	254	Pol. Ind. de Picassent	147.342	382.230	38,5%

Table 23. Part of the in-built surface inside a 500m radius area from the bus stops (181).

Line 181 mainly follows line 180 path until it arrives to the municipality of Albal, where it continues south down to Beniparrell. It is only when it leaves the first municipality that the bus serves a good part of the industrial estates.

Four out of six of the industrial estates in Beniparrell are accessible on foot. The exception are the ones on the East side of the railway, *Vereda Norte* and *Vereda Sur*. In Silla, four industrial estates are 100% within the area of influence: *U.E. Maset*, *U.E. El Productor*, *U.E. l'Aliaga* and *U.E. Camí Vell d'Alcàsser*. In Silla, the limit for being easily accessed is also the railway on the East side and though *l'Alteró Industrial*, which is the second biggest one in the municipality, is further than 7,5 minutes on foot. *U.E. Pla dels Olivars* and *U.E. Espioca* only have both together 12% of the surface within the area of influence.

The municipalities which have the less quantity of industrial estates within a 500 m radius from the bus stops are Albal and Picassent. In the particular case of Albal, only 34,6% of the total industrial surface is covered. The limit is fixed by the railway, which is approximately 500m from the 181 bus line, and though any plat on the East side would not be accessible on foot in 7,5 minutes. In Picassent there is only one bus stop that gives access to the *Pol. Ind. de Picassent* on foot and the surface covered represent 38,5% of the total.

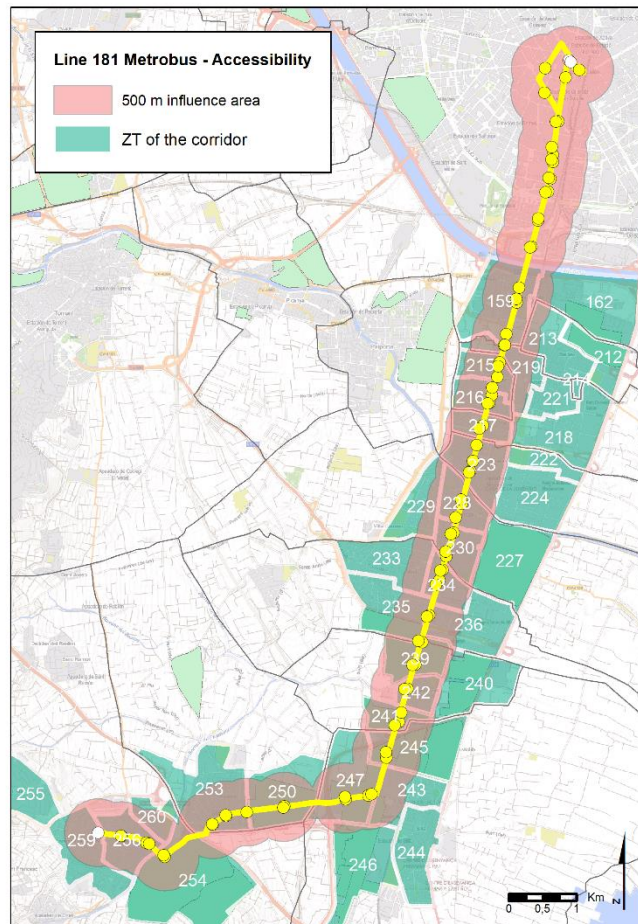


Fig. 42. 500 m access from 181 Metrobus line stops. Note: data from PMoMe and MetroBus (<http://tarjetamobilis.es/metrobus/>)

### Line 182. València – Beniparrell – Silla

Municipality	ZT	Name of the area of activity	In-built surface within 500m	Total in-built surface	Part of the in-built surface within 500m
Albal	236	Pol. Ind Albal	93.851	271.225	34,6%
Beniparrell	239	Carrascal Oeste and Carrascal Este	444.441	444.441	100,0%
Beniparrell	241	Polió	106.249	108.614	97,8%
Beniparrell	241	San Francisco	139.892	139.892	100,0%
Silla	245	U.E. Maset	34.298	34.298	100,0%
Silla	245	U.E. El Productor	20.039	20.039	100,0%
Silla	245	U.E. L'Alter Industrial	0	0	100,0%
Silla	245	U.E. Artierro/Blanquer	26.834	26.834	100,0%
Silla	245	L'Alteró Industrial	96.973	230.358	42,1%
Silla	247	U.E. Camí Vell d'Alcàsser	25.670	55.926	45,9%

Table 24. Part of the in-built surface inside a 500m radius area from the bus stops (182).

Line 182 mainly followed line 181 path until the crossroad of *d'Espioca* and *de l'Albufera* avenues. In Albal and Beniparrell, the industrial estates are equally accessible on foot, but for Silla the influenced area varies a bit. *U.E. Maset* and *U.E. El Productor* are still 100% accessible in less than 7,5 minutes, the same for *U.E. Artierro/Industrial*. The industrial state *U.E. Camí Vell d'Alcàsser* is only covered on 45,9% of its surface, the same for *l'Alteró Industrial* with 42,1%.

It is important to mention that *U.E. l'Alter Industrial*, which is almost 100% empty, is easily accessible on foot.

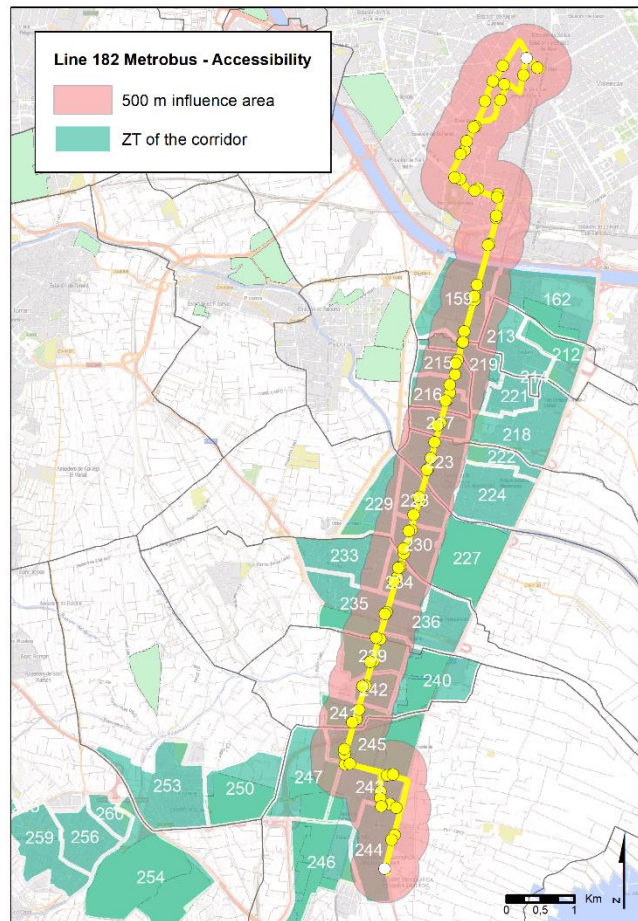


Fig. 43. 500 m access from 182 Metrobus line stops. Note: data from PMoMe and MetroBus (<http://tarjetamobilis.es/metrobus/>)



**Line 183. València – Sedaví – C.C. Alfafar – IKEA**

Municipality	ZT	Name of the area of activity	Part of the in-built surface within 500m
València	162	Horno de Alcedo	100,0%
Sedaví	212	Pol. Industrial Sedaví	100,0%
Alfafar	218	Alfafar Parc	100,0%
Alfafar	218	Carrefour Sedaví	100,0%
Alfafar	218	C.C. MN4	100,0%
Alfafar	218	Rest of tertiary land use areas	100,0%

Fig. 45. Part of the in-built surface inside a 500m radius area from the bus stops (183).

In this case, 100% of the industrial estates in València and Sedaví, as well as the leisure park in Alfafar, are covered in a 500m radius from the stations. There is only a small corner which is on the south-west corner of *Polígono Sedaví*, but it is almost insignificant.

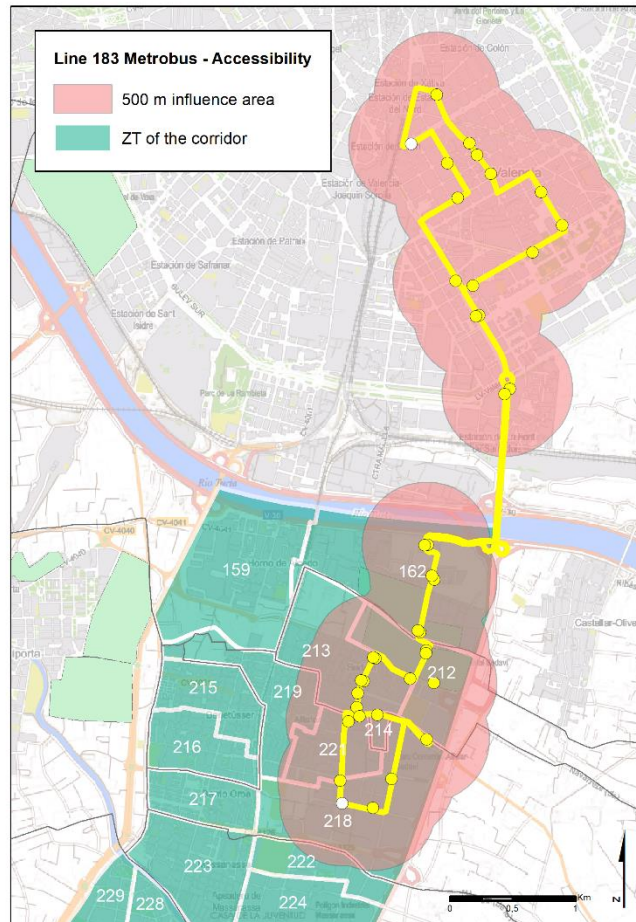


Fig. 44. 500 m access from 183 Metrobus line stops. Note: data from PMoMe and MetroBus (<http://tarjetamobilis.es/metrobus/>)

### 3.4.3. EMT (València municipal bus)

There are four bus lines which connect València with its southern part located after V-30 highway. These bus lines do not connect further south with the rest of the municipalities of the corridor, but they arrive to the limit with the municipalities of Sedaví and Alfafar.

The bus lines that are considered in this Plan are:

- Line 9. La Torre – Albereda,
- Line 14. Forn d'Alcedo – Pl. de l'Ajuntament
- Line 27. La Torre – Mercat central,
- N6 (night bus).

#### 3.4.3.1. Demand characterisation

As it happens with regional rail and Metrobus indicators, even if the PMoMe survey does not give specific information for the areas of activity, the following results may help to understand how people move on EMT bus lines that crosses V-30 and arrive to the southernmost parts of València and Sedaví.

- The bus line system of the municipality of València moves 342.397 people every day.
- The lines that serves part of the area of study, represent, in descending order, the following shares:
  - Line 9, La Torre – Albereda, with 10.359 trips/day represents 3%,
  - Line 27, La Torre – Mercat central, with 8.498 trips/day represents 2,5%,
  - Line 14, Forn d'Alcedo – Pl. de l'Ajuntament, with 4.267 trips/day represents 1,2%,
  - Line N6, with 128 trips/day represents 0,1%.
- Trips are mainly originated in València (321.820 trips, 93,9%). For the municipalities inside the area of study, the results are the following: Alfafar (1.155 trips, 0,4%), Benetússer (1.031 trips, 0,3%), Sedaví (555 trips, 0,2%), Catarroja (563 trips, 0,2%), Silla (431 trips, 0,1%), Massanassa (220 trips, 0,1%), Picassent (104 trips, 0,0%), Alcàsser (55 trips, 0,2%) and Albal (53 trips, 0,0%)
- Trips have mainly for destination València (328.940 trips, 96%). For the municipalities inside the area of study, the results are the following: Alfafar (765 trips, 0,2%), Benetússer (605 trips, 0,2%), Sedaví (510 trips, 0,1%), Catarroja (164 trips, 0,0%), Massanassa (107 trips, 0,0%), Picassent (54 trips, 0,0%) and Albal (53 trips, 0,0%).

### 3.4.3.2. Offer characterisation

#### Bus line 9. La Torre – Albereda

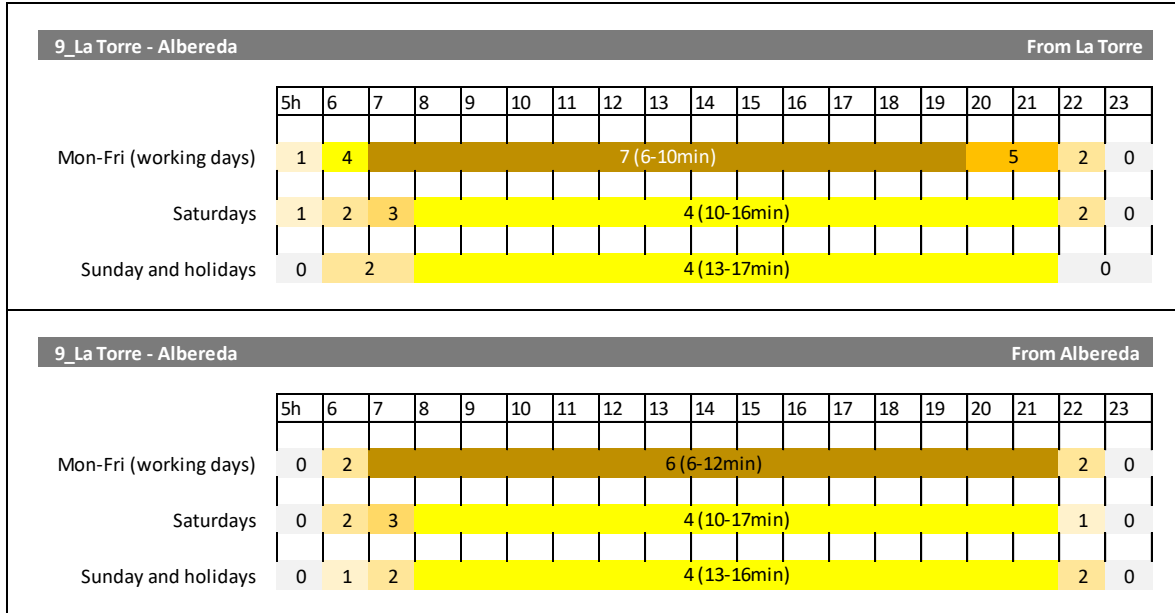


Fig. 46. Bus line 9 (EMT) frequency (bus/h). Note: data from EMT (<https://www.emtvalencia.es/geoportal/>)

#### Bus line 14. Forn d'Alcedo – Pl. de l'Ajuntament

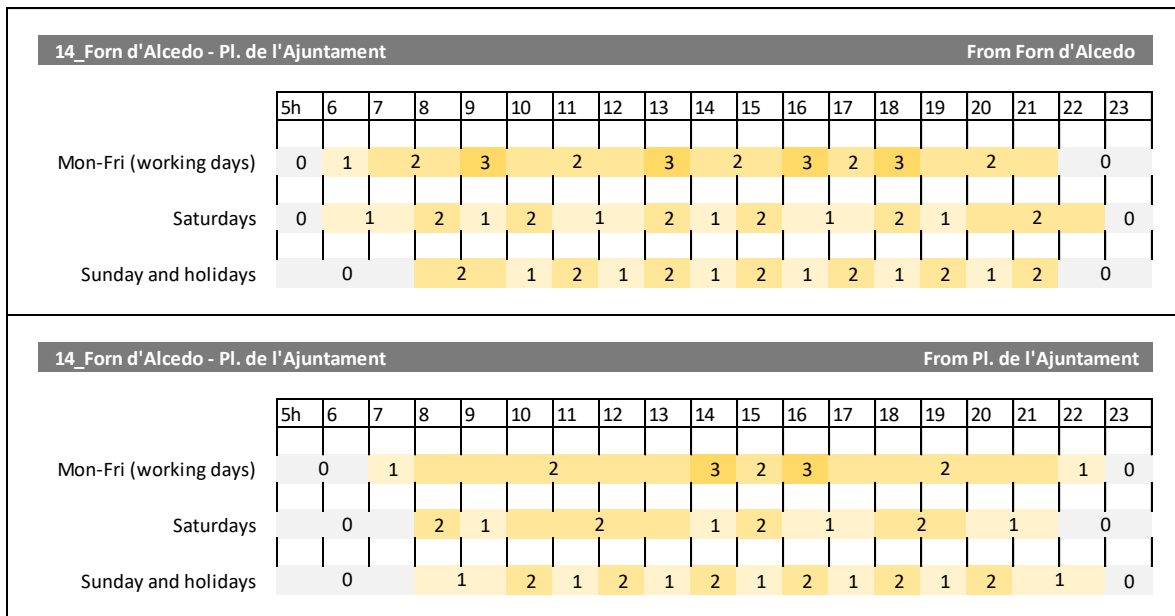


Fig. 47. Bus line 14 (EMT) frequency (bus/h). Note: data from EMT (<https://www.emtvalencia.es/geoportal/>)

**Bus line 27. La Torre – Mercat central**

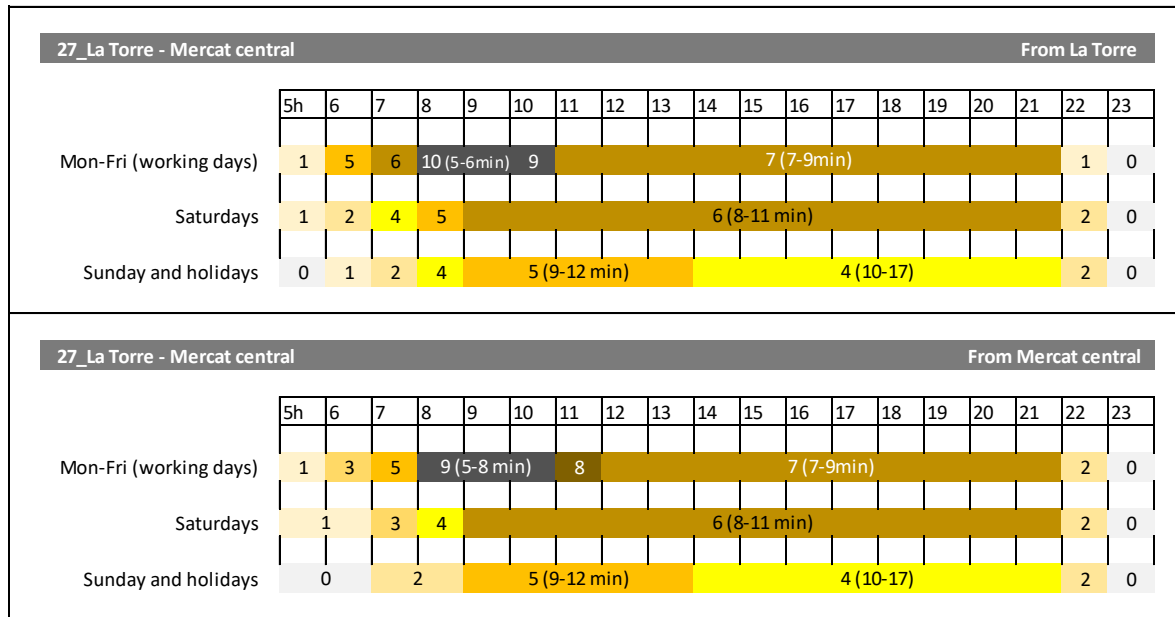


Fig. 48. Bus line (EMT) frequency (bus/h). Note: data from EMT (<https://www.emtvalencia.es/geoportal/>)

**3.5. Private-owned transport and parking**

The main road access in the South of València is the V-31 highway. It serves as an entrance to the city of València and can be considered as a structuring axis. Within the corridor of study, the CV-33 and CV-407 which give access transversally to the West of the Metropolitan Area are also important. Furthermore, the “Camí Reial de Madrid” is also a crucial axis due to the fact that it connects the urban areas of the municipalities in North-South direction, from València to Silla. It is the initial road to enter València and used to be a national road. Nowadays the municipalities which are concerned are in charge of the road.

Additionally, AP-7 is the highway bypassing València and is a structuring axis in a higher scale. The V-30 highway follows the new riverbed of Turia and is a structuring axis within the Metropolitan Area.

The following map shows the Average Daily Traffic (ADT) (both sides) in vehicles/day. It can be observed that two highways, V-30 and V-31 are taken by more than 100.000 vehicles per day. AP-7 represents half of this volume with almost 50.000 vehicles/day. Concerning the axis which directly impact the area of study, CV-400 and CV-33 have an intensity of almost 30.000 vehicles/day.

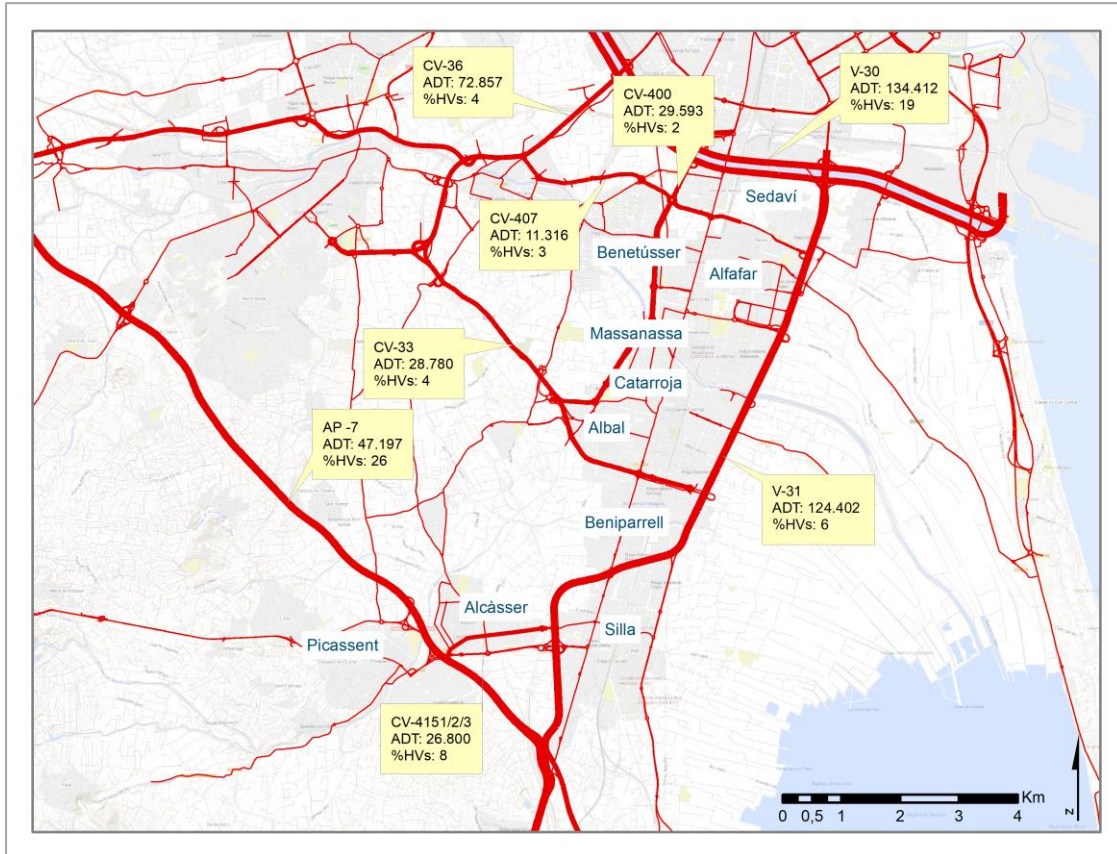


Fig. 49. Average Daily Traffic and Heavy Vehicles. Note: data from <https://mapas.fomento.gob.es/mapatrafico/2017/>

Regarding parking for private vehicles within the EA, it has been observed that there are no regulated car parks, except for those of IKEA and MN4 shopping centre. The general pattern is that people are allowed to park on the street without any restriction. As this Plan aims to study the whole EA, a car park study has not been conducted for each of the BIZ. It could be possible to confirm that private vehicle has not restrictions in terms of parking.



Fig. 50. Car parking not regulated in I.E. El Bony (left) and I.E. Massanassa (right).

### 3.6. Cycling infrastructure

The cycling infrastructure in the area of study is limited and it does not exist a network to move by bike on the BIZ which are included in this Plan.

#### **Catarroja rail station (RENFE) – Port of Catarroja cycling connection:**

There is only a cycle path which goes across one of the industrial estates, *El Bony*, in Catarroja. It has been inaugurated in 2018 and its purpose is to connect the municipality of Catarroja to the port of Catarroja, in the natural site of the *Albufera*. This cycle path crosses the activity area from East to West and could be used by people going to the industrial estate.



Fig. 51. The cycle path in the industrial estate of El Bony (Catarroja).

#### **The CV-407 cycling connection:**

In Sedaví, there is a cycle path which gives access to the South limit of the industrial estate of Sedaví and some commercial facilities. Nevertheless, it does not get into these areas and so there is not a safe connection North-South. The cycle path starts at the roundabout on CV-400 with CV-407, on the West side of the railway and connects the East side along CV-407 (*País Valencià/Vía Lv-Sedaví* avenue) route. The railway is crossed on a shared pavement for cyclists and pedestrians. Once it reaches Sedaví on the East side, the cycle path is on the pavement all along until the end and passes next to the high school of Sedaví and the cemetery. The cycle path ends up before crossing V-31.



Fig. 52. The cycle path along CV-407.

### The CR-400 cycle path:

There is only one real structuring cycle path, which follows CV-400, from Albal in the South to Sociópolis neighbourhood (València) in the North. More specifically, the cycle path starts in the *Camino de Sta. Ana* at the point where is located the Florida education centre (university and high school) and follows CV-400 to the North until it reaches the roundabout on CV-407 road. From Albal to Alfajar, there is no urbanisation on the West side of CV-400 whereas when the road reaches Benetússer, there is the municipality of Paiporta on its West side. The end of the cycle path is located at the roundabout on CV-407 with *Real de Madrid* avenue.



Fig. 53. The cycle path along CV-400.

This is a cycle path which has made a positive social impact since it was created as it is generally used for leisure activities as walking, running and cycling. It connects the municipalities on their West side. It was an infrastructure promoted by the regional administration *Conselleria de Vivienda, Obras Pùblicas y Vertebración del Territorio*, which main ambition was to offer a non-motorised connection for inhabitant in the municipalities nearby.

### **Picassent – Alcàsser cycling connection**

The next most relevant connection between municipalities is the cycle path that crosses the Picassent ravine and goes under AP-7 highway to go from Picassent to Alcàsser.



*Fig. 54. The cycle path between Picassent and Alcàsser.*

### **Local cycle paths**

Concerning the local or municipal cycling infrastructure, there are different cycle paths located within the municipalities. They usually connect the municipality to the CV-400 cycle path in a transversal way (East-West). The typology and extension depend on the municipality but in general terms there is no real connection from CV-400 on the West side of the corridor to the CV-31 on the East side and though municipal cycle path can be characterised as “pieces” of cycle path with no structuring capacity within the municipality nor the corridor.





Fig. 55. Cycle path in Benetússer (top-left), Alfafar (top-right), and Catarroja (bottom).

### Planned cycling infrastructure

The *Anell Verd*<sup>12</sup>, meaning the “Green Ring”, is a cycling and walking infrastructure on the periphery that will connect different municipalities around the capital of the Metropolitan Area. The aim of this project is to create a circular path that will cross the *Huerta* of València and that will intend to attain the following three main objectives:

- be functional,
- be integrated in the infrastructures system, to create a sustainable and healthy cycling infrastructure that will serve as an alternative to motorised vehicle to move between municipalities,
- be structuring in the Metropolitan Area, to ensure connectivity within the periphery and with València but also to enable accessibility to facilities and public transport, when possible.

This new infrastructure crosses the area of study on its North part, where there is nowadays the cycle path along the CV-407. The conditions of the existing one will be improved and what is more interesting from the point of view of mobility to and from the corridor is that there will exist a safe connection from both side of it. On the East side, a walkway will cross V-31 and on the West side, a safe connection will be ensured from Paiporta.

<sup>12</sup> The Anell Verd project documents can be downloaded from: <http://www.habitatge.gva.es/es/web/vias-ciclopeatonales/actuaciones-en-proyecto>

The second planned infrastructure that concerns the corridor is the walking-cycling connection between *l'Horta Sud* and CV-400 (València). The main purpose of the project is to give continuity to the existing cycle path CR-400 and offer a secure connection with València. The project starts in the roundabout on CV-400 and CV-407 (Sociópolis neighbourhood) and finishes in *San Marcellí*, València.

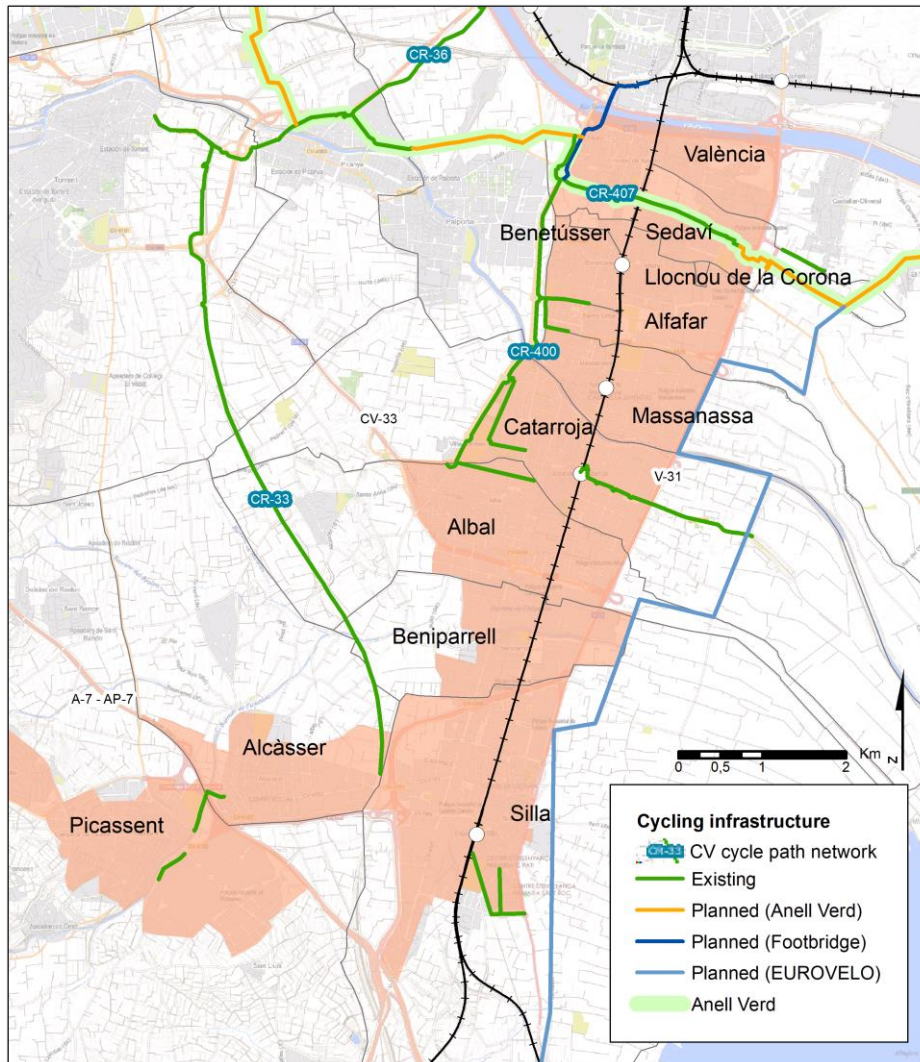


Fig. 56. Existing and planned cycling infrastructure. Note: data from PMoMe, Conselleria de Vivienda Obras Públicas y Vertebración del Territorio (Generalitat Valenciana).

### 3.7. Pedestrian infrastructure

Pedestrian infrastructure within the area of study varies depending on the BIZ analysed. In general terms, walking connections are not usually provided and most of the time continuity does not exist or is unsafe or limited.



Fig. 57. Roads within the EA with no walking and cycling connection.

One of the most relevant impacts on the EA and the corridor in terms of pedestrian mobility (non-motorised means of transport in general) is the existence of three main infrastructure which divide the territory studied into different parts creating a barrier effect. These infrastructures are:

- Railway, between V-30 highway on the North and AP-7 highway on the South (from València to Silla),
- V-31 highway, which crosses the municipalities of Beniparrell, Silla and Alcàsser,
- AP-7 highway, between the municipalities of Alcàsser and Picassent.

In order to characterise this effect, an inventory of the infrastructure of the crossings has been performed. The following aspects are identified:

- “Pavement”: it refers to the existence or not of pavement along the crossing,
- “Pedestrian crossing”: it refers to the existence or not of pedestrian crossing on both sides of the crossing that would enable accessing in safe conditions,

- “Cycle path”: it refers to the existence of a specific cycle path of shared pavement with pedestrians,
- “30 km/h speed limit”: it refers to streets or roads which have a 30km/h speed limit or lower. It is considered when there is not an infrastructure for pedestrians nor cyclists,
- “Access to activity area”: it refers to the possibility to access an activity area, directly or within a distance of 500 m.

**RAILWAY**

	Pavement	Pedestrian crossing	Cycle path	30 km/h speed limit	Access to activity area	Total
<b>Same-level crossing</b>	1	1	0	0	0	1
<b>Over-crossing</b>	4	1	1	1	5	6
<b>Under-crossing</b>	10	5	1	1	11	13
<b>Footbridge</b>	2	2	0	0	0	2
<b>Total</b>	17	9	2	2	16	22

Table 25. Characterisation of the railway crossings.

**V-31**

	Pavement	Pedestrian crossing	Cycle path	30 km/h speed limit	Access to activity area	Total
<b>Same-level crossing</b>	0	0	0	0	0	0
<b>Over-crossing</b>	0	0	0	0	3	3
<b>Under-crossing</b>	0	0	0	0	4	4
<b>Footbridge</b>	0	0	0	0	0	0
<b>Total</b>	0	0	0	0	7	7

Table 26. Characterisation of the V-31 highway crossings.

**AP-7**

	Pavement	Pedestrian crossing	Cycle path	30 km/h speed limit	Access to activity area	Total
<b>Same-level crossing</b>	0	0	0	0	0	0
<b>Over-crossing</b>	0	0	0	0	2	2
<b>Under-crossing</b>	1	1	1	0	0	1
<b>Footbridge</b>	0	0	0	0	0	0
<b>Total</b>	1	1	1	0	2	3

Table 27. Characterisation of the AP-7 highway crossings.

### 3.8. Innovation solutions

In this document, have been considered as innovative solutions the mobility solutions that have recently appeared, and are under-development in Spain, even if in some other countries these practices are more common. In this document, the following services are considered: car-sharing, car-pooling and on-demand transport. Electric vehicles are also considered as an alternative mean of transport to classic fuel or gas vehicles.

The number of charging stations within the EA is presented in the table below:

Municipality	Identification	Activity area	Adress	Nb of plugs	Type	Price
<b>Alfafar</b>	Ikea Alfafar	Commercial area Alfafar	Polígono Número Doce, 58	10	CEE 20P+E (blue-camping) 230 V/ 10 A/ 3,68 kW	Free
				10	Schuko (EU Plug) 230 V/ 10 A/ 2,30 kW	
	Parque Albufera		Plaza Alquería, 15-19	2	Schuko (EU Plug) 230 V/ 10 A/ 2,30 kW	Free
	Carrefour Sedaví		Avda. Reyes Católicos, 82	1	Schuko (EU Plug) 230 V/ 16 A/ 3,68 kW	---
<b>Catarroja</b>	Abucarr, S.L.	I.E. El Bony	Camí del Port, 15	1	Schuko (EU Plug) 220 V/ 36 A	---
	Xavitaxi	I.E. El Bony	Camino Vell de Russafa, 601A	1	Unknown	---
<b>Massanassa</b>	Nissan Montauto Massanassa	I.E. Massanassa	Avda. la Pista, 26	1	CHAdEMO (DC) 396 V/ 85A / 50,0 kW	Free
<b>València</b>	Electrotrencia Monrabal	I.E. Horno de Alcedo	Carrer Pi Blanc, 3	1	TYPE 2 7.40kW	Free
				1	Schuko (EU Plug) 2.30kW	
	Concesionario Mitsubishi MMCE Levante		Avinguda Ausiàs March, 186	1	TYPE 1 (SAE J1772) 3.60kW	---
	Renault Ginestar Silla		Avinguda Ausiàs March, 186	1	TYPE 2 22.00kW	---
				1	Schuko (EU Plug) 2.76kW	---

Table 28. Electric vehicle charging stations within the EA. Note: data from <http://www.electromaps.com/>

## 4. Diagnosis of the mobility

Once the necessary information about different pillars in terms of mobility has been identified, it is possible to define which are the most relevant aspects, positive and negative, that may need to be considered when measures will be set up in order to improve the quality of the trips in the Economic Area within the corridor Silla - València.

For the diagnosis to be presented in a logical order and to obtain a clear vision of the information included, it is divided into four parts: descriptive diagnosis, illustrative diagnosis, SWOT analysis and problems' identification. Firstly, the essential aspects previously identified are highlighted and an explanation for the situation observed is given. Secondly, the panorama previously described is presented for the different BIZ using synoptic sheets to specify each of them. Thirdly, a SWOT (Strengths, Weaknesses, Opportunities and Threats) analysis is proposed from a general point of view, gathering all the categories together. The idea of this part is to categorise the facts observed for the whole corridor, specifying when necessary for some cases. Lastly, the problems occurring within the corridor are described. For this, a schema highlighting issues and causes is used in first place, then problem sheets are elaborated. The interest of mapping the existent, the future projects (when applied) and identifying the negative aspects for the BIZ in terms of mobility is to help to have a clear view of which must be the central axes to develop and to find solutions for.

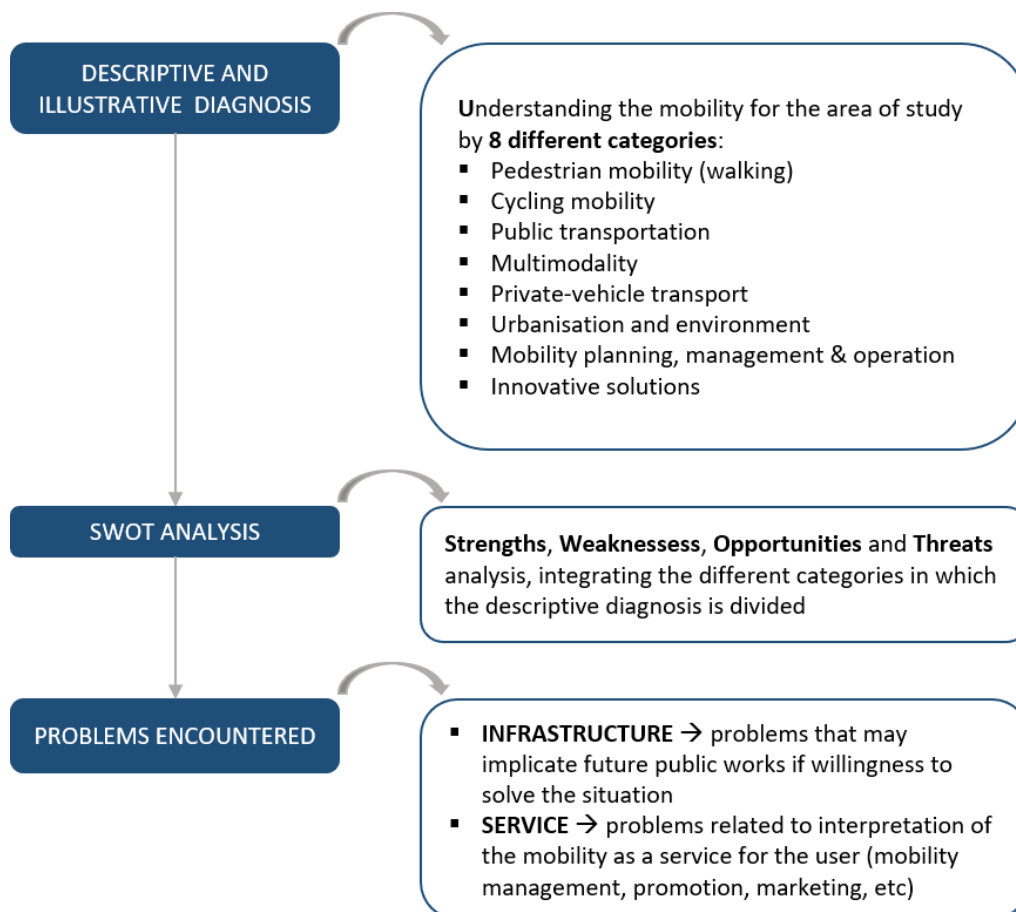


Fig. 58. Diagnosis schema.

## 4.1. Descriptive diagnosis

### 4.1.1. Pedestrian mobility

Analysis' results give a realistic idea of what mainly happens in the BIZ: almost no people go on foot from and to the industrial estates nor commercial areas. As it has been observed, walking modal share is profoundly low for the BIZ analysed, or even negligible, compared to the car usage, which is in some cases of 100%.

In terms of trips distances, it could be said that from all the people going to these areas, usually, a significant part comes from places relatively close so the distances may be relatively small in some cases. This, added to the fact that the area studied is in a plane zone, could be considered as positive aspects to develop pedestrian mobility.

However, the reality shows that pedestrian infrastructure is in deficient conditions and can highly be improved, and this could be one of the causes why people do not get to the BIZ on foot. After having observed on site the conditions of the industrial estates, it could be highlighted the fact that the design of the streets and urbanisation seems to have been planned only considering cars as a mean of transport. Thought, not all the industrial estates count with proper pavement, pedestrian crossings when necessary, nor vegetation to give shadow, which could be useful for the hottest periods. All this being beneficial for enabling walking trips.

It has also been observed that sometimes the problems do not necessarily apply to the proper industrial estate but the access. People willing to get from and to them would be in difficulties to do it on foot due to inexistent walkways, being at sometimes even dangerous.

Lastly, it is important to mention that the quality of pedestrian infrastructure depends on the municipality. That shows the rigidity produced by municipal limits, which is not what TOD principles may include.

### 4.1.2. Cycling mobility

Cycling modal share is not very different from walking. People would not use this mean of transport to get from and to the BIZ.

Distances for people commuting are at some points optimal for riding bicycles as the dimensions of the corridor are reasonable for undertaking this practice. Moreover, having a plane terrain is the perfect condition for cycling. Another beneficial aspect and something the area of study can take advantage of are the two walking and cycling project that the regional administration is developing: *Anell Verd* and the footbridge connecting València and the corridor.

One already existing cycling path is the CR-400 that goes along CV-400 and connects different municipalities from València (Sociópolis neighbourhood) to Albal on the West side of the corridor. This infrastructure should not be omitted although it is located on the opposite side to the Economic Area. Its itinerary could be taken into account for cycling measures as it is already an axis which is used by the inhabitants.

The low cycling modal share could be explained by the poor quality and low quantity of the infrastructure. The analysis conducted and the on-site visual perception let state the idea that there is still a lot that could be improved. There is not a cycling network to get from and go to the BIZ, nor to move within them. Consequently, it is difficult to enable cycling trips from the origin (municipalities) to the destination (BIZ) if this can not be done in a comfortable and secure way.

#### 4.1.3. Public transportation

In terms of public transportation, the panorama is not better than for pedestrian mobility or cycling: people use neither the regional rail nor the metropolitan bus to get to work in the industrial estates, or to go shopping in the three main commercial areas Alfafar, Massanassa and Sedaví.

The most critical aspect in terms of public transportation is that either offer and infrastructure can be improved, no matters the BIZ. In general terms, it could be stated that public transportation is not an attractive mean of transport to get from and to the BIZ.

Regarding the regional rail system, the corridor where the BIZ are located could be considerate as one of the best ones in the Metropolitan Area as there are two regional express train lines (C-1 and C-2) which pass through it. This is something that the corridor can take advantage of as the BIZ can be accessed from the stations in less than 15 minutes on foot for most of the cases.

For Metrobus, the metropolitan bus system, the panorama is more harmful. Both the service offer and the infrastructure are not adequate to trips susceptible to be done on the BIZ. In most cases, bus stations are not visible enough nor have the minimum required information that could be included to be attractive.

#### 4.1.4. Multimodality

Multimodality is not standard practice within the area studied as most of the people make direct trips. When using the public transportation system, the trips are neither multimodal as when accessing and leaving the train or bus, people do not spend more than 5 minutes to come from and get to to their origin/destination. This behaviour indicates that, for the moment, people are not interested in combining different means of transport.

Nowadays, it could be said that no practices have been implemented to enable multimodality, neither for the municipalities nor the BIZ concerned in the Plan. Concerning the regional rail system, the existence of parking lots nearby the stations do not guarantee the use for P+R (Park and Ride) as there is no control for acceding to the parking and, as observed on site, they are mainly occupied by residents. So, it could be stated that the conditions of these parking spots need to be ameliorated. Additionally, multimodality combining bicycle and the regional rail is not satisfactory as the infrastructure allowing it should be improved (bicycle parking, access to the train, entry and exit controls, etc). For the Metrobus situation, it is even more difficult as bicycles can not be transported inside the bus (PMoMe).

But what can prevent the most multimodality to develop is that an integrated offer for public transportation does not exist. The establishment of the *Autoritat de Transport Metropolitana de València*



could be considered as the first step to enable better public transit within the whole Metropolitan Area of València.

#### 4.1.5. Private vehicle transport

Private car modal share is very high, and there are multiple reasons for that.

It could be stated that the BIZ within the corridor, whether they are industrial estates or commercial areas, have always been car-oriented designed. Massive areas for parking are identified as one of the reasons why people use their car to get from and to these zones. If there is no restriction for parking, summing to the fact that public transportation conditions could improve way more, it is difficult for people to change their habits.

Additionally, BIZ are connected by a road network of high capacity, which can allow people to move with no constraints.

#### 4.1.6. Urbanisation and environment

The state of urbanisation depends on the activity area, and usually on the municipality. In all of them, the oldest ones as well as the newest, such as the area where IKEA and Decathlon are located, conditions can highly be improved to promote non-motorised trips and other alternatives to the private car.

It is remarkable how the streets have been conceived only for car/van/trucks trips: overlarge sections with little pavement, which are even inexistent at some points, lack of green vegetation to provide shadow which would be beneficial for pedestrian, as examples.

The fact that avenues and streets are large could be considered as an opportunity to implement further on a bicycle path or to reconfigure the section to restrict parking, enlarge the pavement to add greenery, etc. So, it is important to highlight that the potential exists, what is needed is to take advantage of it.

#### 4.1.7. Mobility planning, management and operation

Nowadays, there is no integrated public transportation service within the Metropolitan Area of València. This lack of service is an issue that affects the whole MA but also has an impact on the corridor studied. To move within the corridor, it would be possible to do so with only one mean of transport, regional rail or Metrobus mainly. The impact of this lack of integration is associated with the trips linking the BIZ with places of residence outside of the corridor, and most significantly with València. People coming from the capital may need to take first another public transportation service, such as the underground (MetroValencia) or the bus (EMT).

The *Autoritat de Transport Metropolità de València* is the organisation designated to improve the quality of public transportation services for the MA. Its establishment in 2018 is considered as an opportunity to enable new practices that would end up in benefiting trips of those people living or working outside of the city of València, and that might need to use more than one mean of transport.

On the negative side, it could be said that nowadays, mobility planning has only been conducted from a municipal point of view, and in none of the cases the BIZ have been included into the analysis with enough emphasis, as these are zones where people may come to work every day. Alfafar, Sedaví (still underdeveloped), Alfafar, Benetússer have their own Mobility Plan. In all of them, there is no special mention to the BIZ.

#### 4.1.8. Innovative solutions

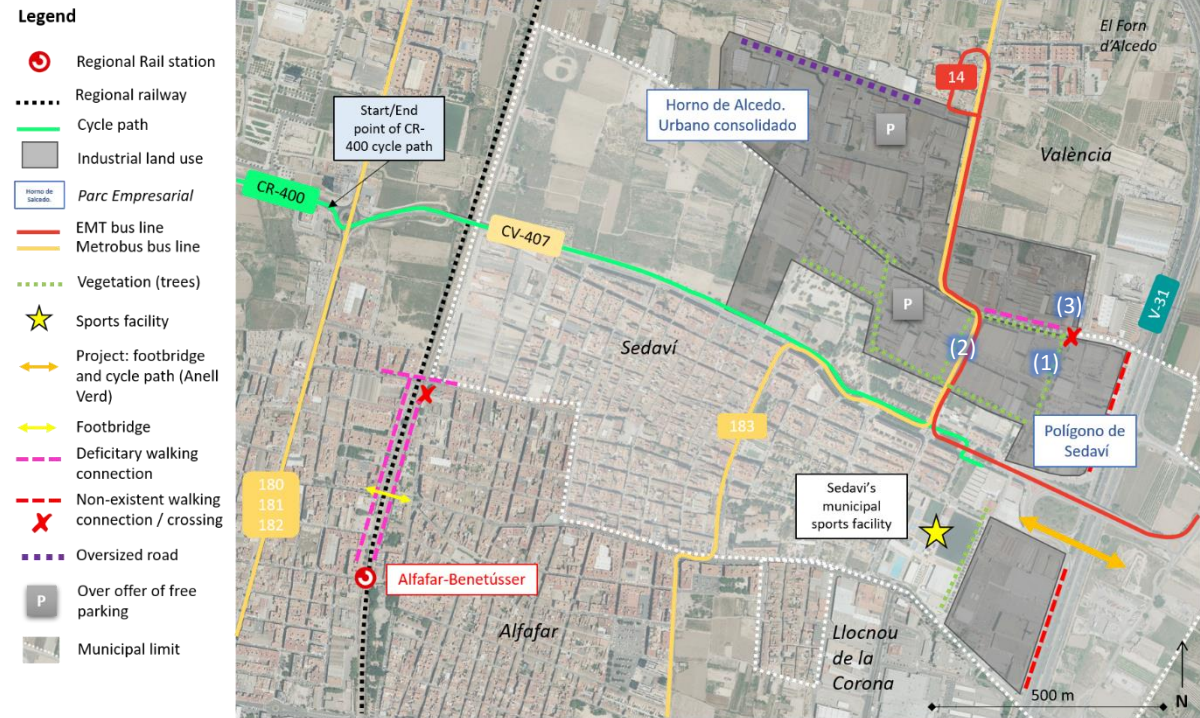
Nowadays, there are no visible indicators that new mobility practices are being materialised within the area of study. As new mobility practices, this document refers to the ones that have recently been developed or that are nowadays appearing on the market and represent an alternative to classic private vehicle. Some examples are: carsharing, carpooling and on-demand transport.

It is important to highlight the presence of electric charging stations, but they are not spread all over the corridor. They are all located on the northern part of the corridor, and 20 out of 30 are in the car park of IKEA.

## 4.2. Illustrative diagnosis

In order to better illustrate the situation within the different BIZ within the EA, a package of synoptic sheets have been elaborated. They give a specific vision of different areas of the EA. Municipalities are presented individually or gathered, depending the best distribution of space to give a clear understanding. Each sheet consists on a map where the current situation is illustrated and problems located are situated, three photos and highlights observed during the onsite visits and thanks to visual observation through Google Earth.

## València and Sedaví



### Highlights

- Cycling path along CV-407,
- Two bus lines giving access to the activity areas,
- Remarkable quantity of trees compared to other activity areas (1) – *Giner de los ríos st.*,
- Improvements along V-31 can be done in order to secure non-motorised mobility,
- Inexistent pedestrian and cycling connection between *El Forn d'Alcedo* and the industrial estates,
- Inexistent transversal secure connection West-East from *Sociópolis* to the activity areas. Important as a new footbridge is to be constructed,
- Improvements could be done in the bus stations, both EMT and Metrobus, gathering them could help to remark their presence and to give more visibility (2) – *de la Murta st.*,
- Lack of pedestrian crossings at some points (3) – *Giner de los ríos st. /Azagador de la Torre st.*

### Alfatar, Benetússer and Llocnou de la Corona

#### Legend

- Regional Rail station
- Regional railway
- Cycle path
- Deficitary cycle path
- Industrial land use
- Tertiary land use
- Metrobus bus line
- Vegetation (trees)
- Sports facility
- Footbridge and cycle path (Anell Verd)
- Deficitary walking connection
- Non-existent walking connection / crossing
- Oversized road
- Over offer of free parking
- Municipal limit



#### Highlights

- Cycling paths on the West of the railway, but not transversal continuity to the East part,
- A Metrobus line giving access to the activity areas but only one service per hour,
- Difficulties to get to the the commercial area on foot or bicycle from the the West (1) – *Camí Cementiri*,
- Railway crossings exist and are used (on the East side of the railway, the municipal sports facilities increase the need of crossing). Access to the railway crossing could be improved and should continue to the commercial areas (3) – *Camí de l'Orba*,
- Even if the newest lots have integrated cycling mobility bicycle, the most important mean of transport keeps being the car,
- Urbanisation of *Alcalde José Puertes* street is mainly oriented for cars are there do not exist dedicated infrastructure for bicycles (2) – *José Puertes st.*,
- Lack of pedestrian crossings not enabling secure crossing from the West side.

## Massanassa

### Legend

- Regional Rail station
- Regional railway
- Cycle path
- Deficitary cycle path
- Industrial land use
- Metrobus bus line
- 20 km/h speed limit or cycling street
- Vegetation (trees)
- Sports facility
- Deficitary walking connection
- Non-existent walking connection / crossing
- Oversized road
- Over offer of free parking
- Municipal limit



### Highlights

- Pedestrian and cycling connections to the industrial estate of Massanassa are not comfortable and not oriented for people coming using non-motorised means,
- The I.E. can easily be accessible from the regional rail stations as its surface is located within a radial distance of maximum 1km,
- There is space on the East part of the station for parking, but it is not regulated so it could not be considered that this parking is used mainly by people willing to take the train (1) – *Motor Sant Agustí st.*,
- The railway stations can not be accessed directly from the industrial estate. People willing to use the train station must cross necessarily from/to the West side of the railway,
- Most of the street have an overlarge transversal dimension, which is not even justified for trucks. This results in a lack of space for non-motorised mobility (2) – *Medi Ambient st.*,
- Lack of trees, only along the streets that allows to go to the cemetery from the regional rail station,
- Insecure conditions along V-31 external ways, with no organisation for traffic (3) – *La Pista av.*

### Catarroja and Albal

**Legend**

- Regional Rail station
- Regional railway
- Cycle path
- Industrial land use
- Parc Empresarial
- Metrobus bus line
- 20 km/h speed limit or cycling street
- Footbridge
- Deficitary walking connection
- Non-existent walking connection / crossing
- Oversized road
- Over offer of free parking
- Municipal limit



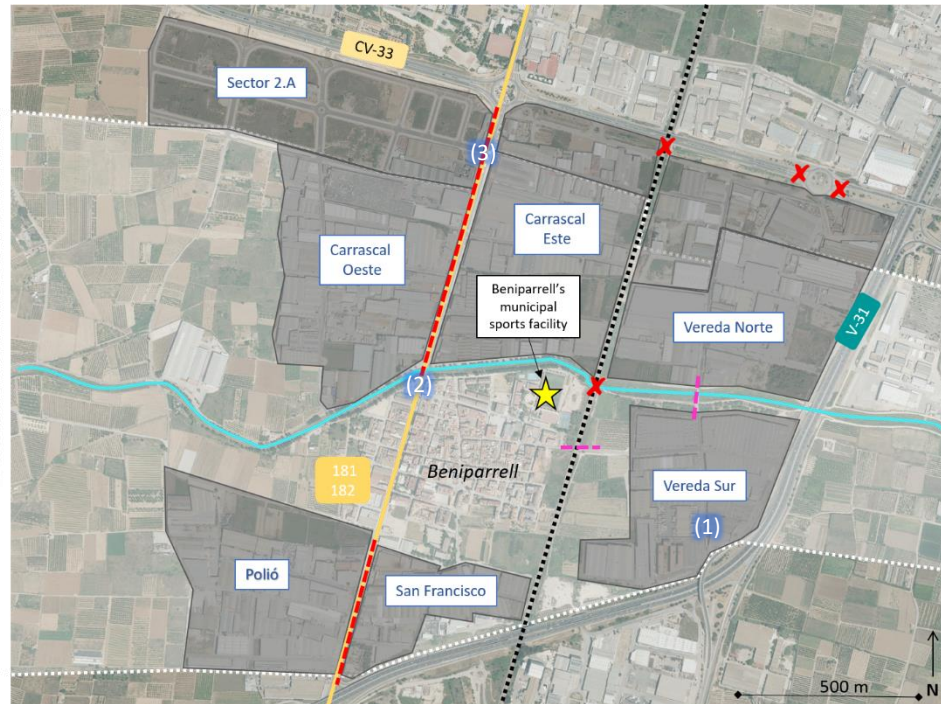
### Highlights

- El Bony is the only industrial estate within the corridor counting with a cycle path (1) – *Camí del Port*. Inaugurated in 2018, it connects the municipality of Catarroja with its port, a recreative place in the Albufera natural parc,
- The quality of urbanisation differs significantly between Catarroja (better) and Albal (worse),
- El Bony can easily be accessible from the regional rail stations as its surface is located within a radial distance of maximum 1km,
- Presence of 20km/h street connecting the regional rail station with the West side of the municipality, but lack of signalling (2) – *Banda de l'Empastre st.*,
- In Sector IV, there is no urban planning coherence, as streets are not structured,
- The railway station of Catarroja is not accessible from the East side (the best one to get to the I.E),
- Overlarge streets are also common such as lots of non-regulated and free parking lots (3) – *31 st.*,
- Illegal parking observed on the pavement in Albal.

## Beniparrell

### Legend

- ..... Regional railway
- Industrial land use
- Parc Empresarial
- Metrobus bus line
- River stream
- ★ Sports facility
- - - Deficitary walking connection
- X — Non-existent walking connection / crossing
- P Over offer of free parking
- Municipal limit



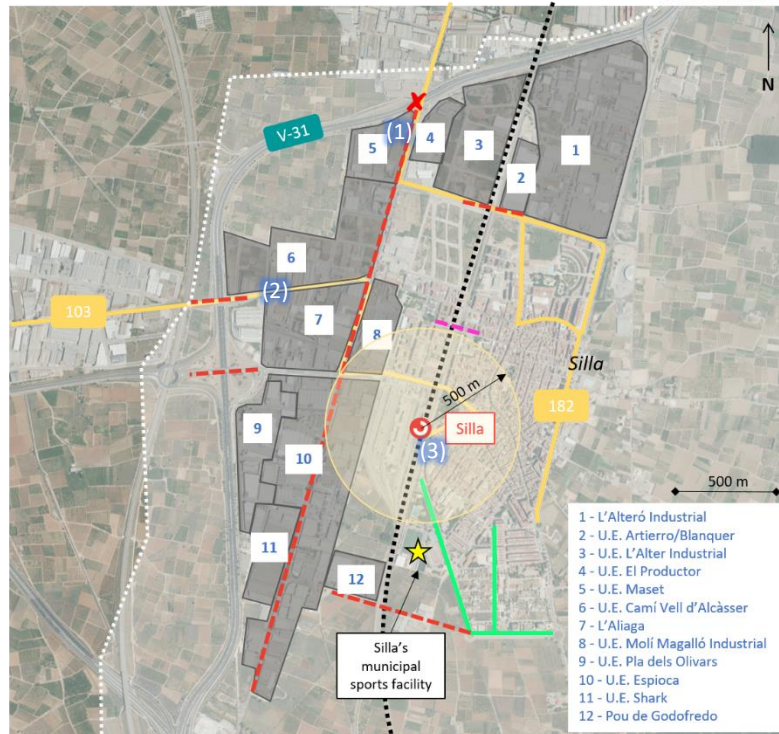
## Highlights

- Beniparrell has a good quality street traversing its urban centre which can contribute to create a better connection North-South between the two zones of activity areas, and even with other municipalities (2) – *Llevant av.*,
- Low quality of urbanisation for all the industrial states,
- Street non structured, with lack of coherent continuity and barriers appearing due to newest infrastructure projects (1) – *Camí Vereda*,
- Pedestrian and cycling connections to the industrial estates are not comfortable and not oriented for people coming on non-motorised means,
- Two Metrobus lines pass through a great part of the industrial estates giving access to them in less than 10 minutes on foot from the stations,
- Low quality of Metrobus stations, abandoned or even invisible,
- Lack of trees, everything is car oriented,
- Lack of continuity for pedestrians and bicycles along the ancient national route, *Camí Reial de Madrid*, even insecure at certain points with no pavement (3) – *Real de Madrid Norte route*.

## Silla

### Legend

- Regional Rail station
- Regional railway
- Cycle path
- Industrial land use
- Parc Empresarial
- Metrobus bus line
- Sports facility
- Deficitary walking connection
- Non-existent walking connection / crossing
- Oversized road
- Over offer of free parking
- Municipal limit



## Highlights

- Silla counts with both the offer of the regional rail and of two Metrobus lines, connecting the municipality with València and Alcàsser,
- The connection Alcàsser – Silla seems not to be comfortable as it has a low frequency and no attractive (direct) itinerary which would reduce the travel time,
- Silla is in a strategic location as it is close to roadway infrastructure (AP-7 and V-31) and it would be attractive to get to València by train from there,
- A parking lot exists outside of the regional rail stations, but it is not regulated and seems no to be dedicated for multimodality (3) – *L'Albereda walk*,
- Low quality of Metrobus stations, on the road, insecure, abandoned or even invisible (2) – *Alborache route*
- Lack on continuity for pedestrians and bicycles along the ancient national route, *Camí Real*, even insecure at certain points with no pavement,
- Low quality roadway crossing with no secure continuity for pedestrian nor bicycles (1) – *Espioca av.*



### Picassent and Alcàsser

**Legend**

- Cycle path
- - - Deficitary cycle path
- Industrial land use
- Horno de Salado. Parc Empresarial
- Metrobus bus line
- · - · - Vegetation (trees)
- River stream
- ★ Sports facility
- Footbridge
- - - Non-existent walking connection / crossing
- P Over offer of free parking
- Municipal limit



### Highlights

- Alcàsser and Picassent count with a pedestrian and cycling connection between their urban centres but non-motorised mobility is not reinforced within the industrial estates,
- No footbridge connection between Alcàsseer and Silla, insecure route with high peaks of traffic at certain moments of the day (2) – *Antic Regne de València av.*,
- The I.E. in Picassent are relatively new (more than others within the corridor) but the the urbanisation is car-oriented with larges amounts of space (3) – *Principal st.*,
- Lack of vegetation even if there are large streets with possibility to plant trees,
- Existence of a cycle path in Alcàsser but that seems to be abandoned as no trace of maintenance (1) – *Antic Regne de València av.*,

### 4.3. Objectives of the Plan

In general terms, it could be said that the measures that the Plan will propose have the ambition of reducing the car-dependance to get from and to the activity areas. From a more precised point of view, and in relation with this main objective, this plan is addressed to achieve the following objectives:

- **Enabling non-motorised means of transport to get from and go to the BIZ but also within them in a safe and comfortable way,**
- **Improving the quality of BIZ for non-motorised means of transport,**
- **Developing multimodality within the EA,**
- **Improving Metropolitan public bus system,**
- **Increasing the occupancy rate of private vehicles getting from and going to the BIZ,**
- **Adapting BIZ to new mobility practices,**
- **Improving mobility management of the BIZ within the EA.**

### 4.4. SWOT analysis

A SWOT analysis is a strategic planning technique used to help to identify Strengths, Weaknesses, Opportunities and Threats related to project planning (SWOT analysis, Wikipedia). The purpose of this part is to obtain a better understanding of which are the singularities of the area of study and highlight them. This type of analysis is a way of gathering all the previous information obtained and help to identify the future strategies and objectives (Gómez Orea, 2008 ).

Defining the characteristics of each category is important to precisely classify the aspects to highlight. One can have easily in mind what should be in each category.

When adaptating the information in the reading book (Gómez Orea 2008) to mobility planning, the SWOT categories can be defined as follow:

- Strengths and weaknesses: they identify attributes of the internal system; Strengths refer to the strong points: aspects that make an advantage for the system and that allows people having *sustainable mobility conditions*; Weaknesses refer to the weak points that result in deficient conditions in order to allow people having *sustainable mobility conditions*.
- Opportunities and Threats: they are related to the external context to the area of study and they refer to dynamic aspects that might have an influence in the way the system works (*in terms of mobility*), positively (Opportunities) or negatively (Threats); Opportunities refer to aspects that the system can take advantage from; Threats refer to aspects that can have a negative impact.

For this Plan, the SWOT analysis applies to the whole corridor and does not consider individually each of the activity areas that have been identified (industrial estate or commercial area). Nevertheless, precise detailed information is given for certain areas analysed, when necessary, to clarify certain aspects that could be different at some point.

It is important to identify the purpose of the analysis. In this Plan, the willingness is to try to reduce the use of a car (in general terms) so he SWOT analysis takes this into account.

Strengths	Weaknesses
<ul style="list-style-type: none"> <li>▪ Activity areas and urban centres define a compact functional area.</li> <li>▪ Good offer of the regional rail service (Cercanías).</li> <li>▪ Corridor’s flat terrain can facilitate the development of walking and cycling trips.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Car-oriented design of the activity areas.</li> <li>▪ Barrier effect of the infrastructures serving the corridor.</li> <li>▪ Lack of unified mobility planning outside of municipal limits.</li> <li>▪ Deficient offer and infrastructure of the Metrobus service.</li> <li>▪ Good road network structuring the corridor.</li> </ul>
Opportunities	Threats
<ul style="list-style-type: none"> <li>▪ Existing railway transformation into a regional railway in a mid-term.</li> <li>▪ Two pedestrian and cycling infrastructure projects connecting the corridor with other parts of MA’s territory.</li> <li>▪ Renovation of Metrobus concessions.</li> <li>▪ Existing strategy to preserve the surrounding natural environment (Albufera and Horta).</li> <li>▪ Roads, streets and avenues with potential for other uses than private vehicles.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Relatively low congestion levels of the road network.</li> <li>▪ Low quantity levels of multimodal trips.</li> <li>▪ Not considering car (driver) alternatives in the V-31 project.</li> <li>▪ People’s resistance to change their habits.</li> <li>▪ Law (June 2018) referring to industrial estates does not settle clear policies for sustainable mobility practices.</li> </ul>

A description of the SWOT matrix is presented here below.

Strengths
<p><b>Activity areas and urban centres define a compact urban area unit</b></p> <p>The territory where the two functional areas are located (València-Silla and Alcàsser-Picassent) is relatively small (10km on an N-S direction and between 2,5 and 5,5 km on an E-W direction). The activity areas analysed (industrial estates and commercial facilities) do not occupy an isolated territory and are most of the time really close to the urban centres. Thought, a great part of the people coming from and getting to the activity areas may not need to do daily long distances, and consequently do not spend much time on their trips.</p> <p><b>Good offer of the regional rail service (Cercanías)</b></p> <p>The corridor counts with a good offer of the regional rail service (Cercanías) as two of the lines (C-1 and C-2) pass through it. A great part of the surface occupied by the activity areas is located between 500m and 1000m from the stations.</p> <p><b>Corridor’s flat terrain can facilitate the development of walking and cycling trips</b></p> <p>The terrain of the activity areas is flat and therefore walking and cycling practices could be developed. Furthermore, the distances for the people moving within the corridor are relatively low and consequently the development of this type of mobility has a high potential.</p>
Weaknesses
<p><b>Car-oriented design of the activity areas</b></p>

The design of the activity areas is conceived to be mainly accessible by car so this could explain the high car modal share, which is even over 90% of the total. Alternative means of transport are in most of the cases negligible.

#### **Barrier effect of the infrastructures serving the corridor**

The corridor is traversed by three main infrastructures: the railway, V-31 and AP-7 highways. They produce a barrier effect which is not mitigated by the pedestrian nor cycling infrastructure, because they are deficient or even inexistent at some points.

#### **Lack of unified mobility planning within the corridor**

Until now, a mobility plan has not been implemented for the specific functional area, but some are conducted on a municipal scale. The solutions that come out from these plans tend to apply only for the specific municipality and thought they are not settled in a coherent scale to fulfil the demand of people moving within the corridor or from and to it.

#### **Deficient offer and infrastructure of the Metrobus service**

Metropolitan bus transportation (Metrobus), as it is offered right now, might expect difficulties to meet demand's expectations when moving from and to the activity areas. There is only one bus line, 180 València – Albal, that has a good level of service and that is one of the 4 most used lines within the MA. The rest of the bus lines (181, 182 and 183), which are the ones that get closer to the activity areas, are for most of them in poor conditions and the offer is not attractive (one bus per hour).

#### **Good road network structuring the corridor**

The road access structuring the corridor (V-31, CV-33, AP-7 and V-30) may also be considered as an obstacle to improve modal share other than car. People can move easily within the corridor and thought they may encounter less attractive to change to alternative means of transport (also considered as a strength).

### **Opportunities**

#### **Existing railway transformation into a regional railway in a mid-term**

The diversion for the long-distance and high-speed train is planned. For this reason, the existent railway that crosses the corridor between València and Silla will only be used by the regional rail service (Cercanías) and a better offer could be applied for this infrastructure in order to accomplish a higher modal share.

#### **Two pedestrian and cycling infrastructure projects connecting the corridor with other parts of MA's territory**

The corridor will be able to take advantage of two major pedestrian and cycling infrastructure that are already planned: Anell Verd and the footbridge connection *Sociópolis* neighbourhood and CR-400 with the city of València. Anell Verd will create a connection by bike from western municipalities located outside of the corridor such as Torrent, Aldaia, Picanya and Paiporta. The second infrastructure will enable more comfortable and safe walking and cycling trips between the northern part of the corridor and València. Both projects should be considered as structural axes to which the cycling infrastructure within the corridor should be connected.

#### **Renovation of Metrobus concessions**

Metrobus concessions were obsolete and thought it was necessary to renew them. The new contract is an opportunity to improve the service's quality and better attend the demand of people

willing to go from and to the activity areas. The new metrobus network should focus on fulfilling the specific demand for each case, as Picassent – Silla axes, which nowadays do not have any direct connection.

#### **Existing strategy to preserve the surrounding natural environment (Albufera and Horta)**

The surroundings of the activity areas are of high environmental quality (*Albufera* and *Horta* are two natural environment territories which need to be preserved, so as the *Pla d'Acció Territorial de l'Horta* states). This plan is of high relevance, and it is crucial to develop new mobility practices that would endeavour to reach a better quality of the corridor as a whole (air quality, natural environment, and so forth).

#### **Roads, street and avenues with potential for others uses than private vehicles**

Together with V-31, the corridor also has AP-7, CV-33 and V-30 as structuring axes and thought it could be considered that these road axes constitute an opportunity to implement measures to reduce the use of private cars, using the existent infrastructure. Also the streets and avenues within the industrial estates and commercial areas count with a width large enough to redistribute uses.

### Threats

#### **Relatively low congestion levels of the road network**

The MA of València does not suffer high levels of congestion, as some cities in Europe do, such as Paris and London. Therefore, people would not leave their car at home as they do not feel like they spend much time commuting.

#### **Low quantity levels of multimodal trips**

According to what it was obtained from the survey conducted for the Metropolitan Mobility Plan, people do not perform daily multimodal trips. Consequently, it could be difficult to make people change their habits.

#### **Not considering car (driver) alternatives in the V-31 project**

Not working to reduce traffic levels in V-31 highway could not be beneficial to the air quality of the area and would not be in accordance with the objectives of encouraging alternative means of transport other than the car.

#### **People's resistance to change their habits**

Peoples resistance to change their mobility habits is considered in some analysis and it is sometimes formulated as the reason why some public transportation practices do not always succeed. Even if a specific sociologic analysis has not been conducted for this Plan, it is important to highlight the fact that this aspect could impact negatively in order to look for more sustainable means of transportation.



#### **Law (June 2018) referring to industrial estates does not settle clear policies for sustainable mobility practices**

Although the "*Ley 14/2018, de 5 de junio, de gestión, modernización y promoción de las áreas industriales de la Comunitat Valenciana*" does not apply directly to mobility aspects within the industrial activity areas, there is not a clear position of how the improvement of mobility within the areas concerned could help to upgrade them, which could be considered as a need.

#### 4.5. Problems encountered

The last part of the diagnosis consists in highlighting the problems observed once the previous parts have been accomplished and taking precisely into account the analysis conducted in the first part of the Plan.

The problems have been determined by using a cause – consequence logic method. This is due to the interdependence between different problems and causes, which may lead to more than one problem. Firstly, problems encountered are presented as a schema (next page). Secondly, they are described in specific sheets.

In the schema, causes are represented in orange and problems in blue. The logical relations between causes and problems are represented with a grey arrow  and relations between problems with an orange arrow .







PROBLEM SHEET	Nº : 1
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**PROBLEM**

<b>Category:</b>	<b>PRIVATE VEHICLE MOBILITY</b>
<b>Identification:</b>	<b>Predominance of car (driver) modal share</b>

<b>Description:</b>	<p>The massive use of car as a mean of transport to get to the activity areas analysed (industrial estates and commercial areas) could be considered as the main problem and the result of different situations and aspects which could be identified by themselves as problems too because they might have proper particularities and may determine specific action measure.</p> <p>At some points, and according to what the PMoMe survey reflected for the areas concerned, the car is the only mean of transport used, reaching sometimes 100% of the total modal share.</p>	<p><b>LOCATION</b></p>
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SCOPE OF AFFECTATION	Albal	Alcàsser	Alfajar	Benetússer	Beniparrell	Catarroja	Locnou	Massanassa	Picassent	Sedaví	Silla	València
	X	X	X		X	X		X	X	X	X	X

**INDICATORS**

<b>DEMONSTRATIVE INDICES</b>
Car modal share is over 90% for all the activity areas analysed
High occupancy of car parking during week days at I.E.

**CAUSES OF THE PROBLEM**

Good road network	V-31, CV-400, CV-33 and AP-7 offer a comfortable road access
Free parking/non-regulated	Large extensions of free parking are generally offered within the areas studied
Currently the better option to perform multiple trips	Some people could not have an alternative to car if they need to do multiple trips per day
Relatively low congestion levels	The MA has low congestion levels and therefore it is convenient for people to take their private car to get to and come from the activity areas
People's resistance to change their habits	People not willing to change their mobility habits could be stated as a cause for involution

<b>Dependent problems</b>											
<b>Precedent problems</b>		2	3	4	5	6	7	8	9	10	11

<b>PROBLEM'S EVOLUTIVE TENDENCY</b>	Nowadays, there are no precise measures defined to solve this problem (apart what could be settled in the PMoMe) and therefore the number of cars will not be reduced.
<b>OBJECTIVES RELATED TO THE PROBLEM</b>	Increasing the occupancy rate of private vehicles getting from and going to the BIZ
	Adapting the BIZ to new mobility practices
	Improving mobility management of the BIZ within the EA
<b>SCOPE OF THE REQUIRED ACTION</b>	Infrastructure

**CAUSES OF THE PROBLEM**

<b>BENEFICIARIES AND CAUSERS</b>	<b>TYPE OF INVOLVEMENT</b>
Private vehicle lobby	The more the private vehicle is needed, the more the companies would take advantage from it
Municipal and regional government	Lack of willingness to develop policies to look for alternatives means of transportation
<b>AFFECTED PARTIES</b>	<b>TYPE OF INVOLVEMENT</b>
Natural environment	Pollution negative effects on the natural environment of the surroundings, such as Horta and Albufera

PROBLEM SHEET	Nº : 2
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**PROBLEM**

<b>Category:</b>	<b>WALKING &amp; CYCLING</b>
<b>Identification:</b>	<b>Deficient transversal permeability from CV-400 to V-31</b>

<b>Description:</b>	<p>CV-400 and V-31 act as a structuring axis along the border of the corridor, on the West and East respectively. They represent the limits of the territory between V-30 and Albal in a North-South direction. Along the CV-400 there is a pedestrian and cycling connection (CR-400) whereas there is none on the East side. Transversally, there are few options to connect both infrastructures in a straight and comfortable way on foot and by bicycle. Even if there are streets connecting both side of certain municipalities (Sedaví, Benetússer, Alfafar), there are not clear, comfortable and continuous itineraries that would encourage non-motorised practises. Additionally, railway barrier effect exists in these cases and increases the difficulties to move from the urban centres (left side) to the activity areas (right side).</p>	<b>LOCATION</b>

<b>SCOPE OF AFFECTATION</b>	Albal	Alcàsser	Alfafar	Benetússer	Beniparrell	Catarroja	Llocnou	Massanassa	Picassent	Sedaví	Silla	Valencia
	X		X	X		X	X	X		X		X

**INDICATORS**

**DEMONSTRATIVE INDICES**

4 out of 5 cycle paths starting on the left side of the railway do not have transversal continuity, not even getting to the railway: Benetússer, Alfafar, Catarroja, Albal
New cycling path on Alfafar Park is not linked to external cycling infrastructure
1 out of 10 transversal axis CV-400 - V-31 offer a continuous cycling connection
3 out of 10 transversal axis CV-400 - V-31 offer a continuous pedestrian connection

**CAUSES OF THE PROBLEM**

Deficient walking urbanisation	No pedestrian crossings in the main streets of some of the activity areas
Urban centres with narrow streets	The majority of the streets in the urban centres are narrow (4m for some of them) and there's no direct continuity for bicycles
Non-existent cycling infrastructure network (activity areas)	The I.E. El Bony is the only one with a cycle path, not serving the entire activity area

<b>Dependent problems</b>	1											
<b>Precedent problems</b>					5							
<b>PROBLEM'S EVOLUTIVE TENDENCY</b>	The municipalities that elaborate a SUMP could improve the transversal permeability, but it would be necessary to integrate this idea of transversal continuity from CV-400 to V-31. The SUMP of Alfafar does consider pedestrian and cycling connection on the East part of the railway.											
<b>OBJECTIVES RELATED TO THE PROBLEM</b>	Enabling non-motorised means of transport to get from and go to the BIZ but also within them in a safe and comfortable way											
	Improving the quality of BIZ for non-motorised means of transport											
	Improving mobility management of the BIZ within the EA											
<b>SCOPE OF THE REQUIRED ACTION</b>	Infrastructure											

**CAUSES OF THE PROBLEM**

<b>BENEFITIARIES AND CAUSERS</b>	<b>TYPE OF INVOLVEMENT</b>
Municipal government(s)	Lack of investment except for urban centres
No direct beneficiary	
<b>AFFECTED PARTIES</b>	<b>TYPE OF INVOLVEMENT</b>
People willing to go from the Western side of the corridor to the Eastern side (and reverse)	Difficulties to move easily

PROBLEM SHEET	Nº : 3
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**PROBLEM**

<b>Category:</b>	<b>CYCLING</b>
<b>Identification:</b>	<b>Difficulties to move by bicycle and on foot within the industrial estates and between them</b>

<b>Description:</b>	<p>In most cases, it is difficult to find logical, comfortable and secure connection for non-motorised means of transport. Short distances within the I.E. or between them in some case are possible on foot as some streets count with pavement and pedestrian crossings. Nevertheless, there is no guaranty to find a continuous walking connection in the majority of cases. This also affects the connections with regional rail and Metrobus stations.</p> <p>Cycling situation is even worse as there is a complete lack of infrastructure for them. There are no cycle paths, no cycle lanes, no 30km/h streets or cyclists-priority streets. Only I.E. El Bony has a cycle path (2018) connecting the regional rail station with the port in the Albufera natural park.</p>	<b>LOCATION</b>

<b>SCOPE OF AFFECTATION</b>	Albal	Alcàsser	Alfajar	Benetússer	Beniparrell	Catarroja	Llocnou	Massanassa	Picassent	Sedaví	Silla	València
	X	X	X		X	X		X	X	X	X	X

**INDICATORS**

**DEMONSTRATIVE INDICES**

There is only 1 cycle path within the whole EA (I.E. El Bony)
There is only 1 cycle path passing nearby activity areas (Sedaví, CV-407)

**CAUSES OF THE PROBLEM**

Deficient/non adequate cycling infrastructure	No (secure) parking for bicycles and scooters
No cycling infrastructure network	There are no other cycle paths connecting different part of an activity area except from the one in I.E. El Bony
Independent municipal land/mobility planning	None of the mobility plans (Alfajar, Sedaví, etc) have a special focus neither on their activity areas nor between them
Deficient walking urbanisation	No pedestrian crossings in the main streets of some of the activity areas
Lack of non-motorised signalling	There is no signalling system to indicate how connections between places within the corridor could be done

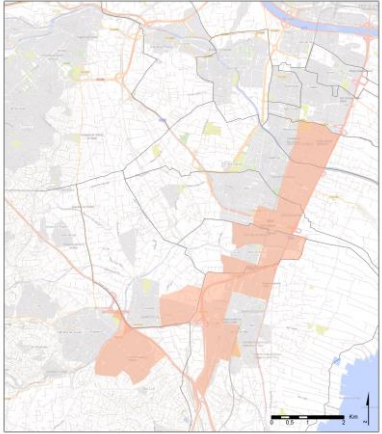
<b>Dependent problems</b>	1							7				
<b>Precedent problems</b>												

<b>PROBLEM'S EVOLUTIVE TENDENCY</b>	Nowadays, except for the municipality of Catarroja, there are no other municipalities that have a cycling connection with the activity areas. Therefore, there won't be cycling connection to and within the activity areas if the municipalities do not integrate this part of the geographical territory within their mobility planning strategy
<b>OBJECTIVES RELATED TO THE PROBLEM</b>	<p>Enabling non-motorised means of transport to get from and go to the BIZ but also within them in a safe and comfortable way</p> <p>Improving the quality of BIZ for non-motorised means of transport</p> <p>Improving mobility management of the BIZ within the EA</p>
<b>SCOPE OF THE REQUIRED ACTION</b>	Infrastructure

**CAUSES OF THE PROBLEM**

<b>BENEFICIARIES AND CAUSERS</b>	<b>TYPE OF INVOLVEMENT</b>
Private vehicle users	Private vehicle users take advantage of the lack of alternative transport infrastructure
<b>AFFECTED PARTIES</b>	<b>TYPE OF INVOLVEMENT</b>
People willing to go from and to the activity areas by bicycle	Difficulties to use the bicycle due to unsafe conditions

<b>PROBLEM SHEET</b>	Nº :	<b>4</b>
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PROBLEM	
<b>Category:</b>	<b>PUBLIC TRANSPORT</b>
<b>Identification:</b>	<b>Deficient bus system infrastructure (Metrobus)</b>
<b>Description:</b>	<div style="display: flex; justify-content: space-between;"> <div style="width: 60%;"> <p>The metropolitan bus system (Metrobus) infrastructure is of low quality for the stations in the activity areas. Except from the ones in Alfafar and giving access to commercial facilities such as IKEA, Decathlon and MNA mall, the rest can be considered as none-attractive for people willing to get to the I.E. by bus. The following aspects have been observed on site: bad design (on the street), lack of information about the bus route, lack of visibility and no reference of the bus station (inexistent).</p> </div> <div style="width: 35%; text-align: center;"> <p><b>LOCATION</b></p>  </div> </div>

SCOPE OF AFFECTATION	Albal	Alcàsser	Alfafar	Benetússer	Beniparrell	Catarroja	Llocnou	Massanassa	Picassent	Sedaví	Silla	València
	X	X	X	X	X	X	X	X	X	X	X	X

INDICATORS
DEMONSTRATIVE INDICES
Bus line 181; out of 9 bus stops within an activity area: 2 invisible, 6 ancient symbology, 1 Metrobus symbology, 0 bus shelter
Bus line 182; out of 7 bus stops within an activity area: 0 invisible, 7 ancient symbology, 0 Metrobus symbology, 1 bus shelter
Bus line 183; out of 5 bus stops within an activity area: 0 invisible, 0 ancient symbology, 5 Metrobus symbology, 3 bus shelter

CAUSES OF THE PROBLEM	
Bus stations in bad conditions or invisible	The image that some stations show in these municipalities is of being abandoned and in some cases there is not even something to mark the bus station
Lack of standardised signs for the Metrobus system	In general, there is not a common symbology and some bus stations still have the ancient panels
Bad design	Some of the stations are located on the street, with no specific space dedicated

<b>Dependent problems</b>	1										
<b>Precedent problems</b>											
<b>PROBLEM'S EVOLUTIVE TENDENCY</b>	The Metrobus concessions are about to be renewed and therefore it could be the moment to improve the quality of Metrobus infrastructure. This is a measure the regional government should implement but no information evoking this necessity was found.										
<b>OBJECTIVES RELATED TO THE PROBLEM</b>	Developing multimodality within the EA										
	Improving Metropolitan public bus system										
<b>SCOPE OF THE REQUIRED ACTION</b>	Infrastructure										

CAUSES OF THE PROBLEM	
BENEFICIARIES AND CAUSERS	TYPE OF INVOLVEMENT
Regional government	Lack of maintenance and conservation of the Metrobus infrastructure
AFFECTED PARTIES	TYPE OF INVOLVEMENT
People not having an alternative to Metrobus	Risk of social exclusion
People willing to use Metrobus	Unsatisfaction for not being able to use Metrobus

PROBLEM SHEET	Nº : 5
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PROBLEM	
<b>Category:</b>	<b>WALKING &amp; CYCLING</b>
<b>Identification:</b>	<b>Barrier effect of lineal infrastructures</b>
<b>Description:</b>	<p>The barrier effect within zones of the corridor is due to the main infrastructures dividing different municipalities or parts of the same one: railway between V-30 and Silla, V-31 highway between Silla and Alcàsser and AP-7 highway between Alcàsser and Picassent. The presence of these infrastructure is not complemented with optimal non-motorised connections. Even if it does exist some of them to give permeability from one side to another (footbridge, under/over-passes), they can highly be improved.</p> <p>From the three infrastructures, the one that counts with more transversal infrastructure is the railway. Nevertheless, in general terms the following is observed: there are not enough and they are not well designed, in bad conditions, not well placed, uncomfortable and with bad access or unsafe.</p> <p>AP-7 has an underpass and a footbridge connecting the urban centres of Picassent and Alcàsser but there is nothing oriented to improve access to the I.E. of Picassent from Alcàsser. On the contrary, there is a road junction only for motorised vehicles and with high volumes of traffics in peak hours.</p> <p>V-31 does not have any non-motorised option to cross it. From Alcàsser to Silla, two overpasses exist, dangerous for pedestrians and cyclists. Between Beniparrell and Silla there is a road junction which is even unsafe for vehicles as road suffers deterioration. Crossing on foot, bicycle or other non-motorised means is really not safe.</p>
	<b>LOCATION</b>

SCOPE OF AFFECTATION	Albal	Alcàsser	Alfajar	Benetússer	Beniparrell	Catarroja	Llocnou	Massanassa	Picassent	Sedaví	Silla	Valencia
	X	X	X	X	X	X		X	X	X	X	X

INDICATORS	
DEMONSTRATIVE INDICES	
1 out of 4 regional rail stations is open on both sides of the railway (Alfajar-Benetússer)	
Railway; out of 22 crossings: a) 17, b) 9, c) 2, d) 2, e) 16	
V-31; out of 7 crossings: a) 0, b) 0, c) 0, d) 0, e) 7	
AP-7; out of 3 crossings: a) 1, b) 1, c) 1, d) 0, e) 2	
Meaning: a) pavement, b) pedestrian crossings on both sides, c) cycling infrastructure, d) 30 km/h speed limit, e) access to activity area	

CAUSES OF THE PROBLEM	
Deficient soft mobility crossing	Except from CV-407 overpass, the rest are not 100% safe or comfortable
Railway stations do not facilitate transversal movements	Silla and Catarroja train stations are not opened on both sides
<b>Dependent problems</b>	1 2
<b>Precedent problems</b>	
<b>PROBLEM'S EVOLUTIVE TENDENCY</b>	There are multiple crossings infrastructure within the corridor. Without an integrated vision of all of them, as this Plan is intending to create, it would be difficult nowadays to solve this problem. The municipality of Alfajar propose underpassing the railway all along the municipality, but this measure is expensive. Moreover, solving the problem just for Alfajar will not affect positively the whole corridor.
<b>OBJECTIVES RELATED TO THE PROBLEM</b>	Enabling non-motorised means of transport to get from and go to the BIZ but also within them in a safe and comfortable way
<b>SCOPE OF THE REQUIRED ACTION</b>	Infrastructure

CAUSES OF THE PROBLEM	
BENEFITIARIES AND CAUSERS	TYPE OF INVOLVEMENT
Municipal government	In charge of the infrastructure to access the crossing with railway, V-31 and AP-7
Regional government	In charge of the infrastructure to cross the railway, V-31 and AP-7 (CV-33, CV-407, and corridor Silla - Picassent)
State government	In charge of the infrastructure provoking the barrier effect (railway, V-31 and AP-7)
AFFECTED PARTIES	TYPE OF INVOLVEMENT
People willing to cross the infrastructure to go from and to the activity area	Necessity to look for a longer itinerary in order to cross the infrastructure

PROBLEM SHEET	Nº : 6
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**PROBLEM**

<b>Category:</b>	<b>PUBLIC TRANSPORT</b>
<b>Identification:</b>	<b>Unequal public bus offer/non adapted to demand patterns</b>

<b>Description:</b>	<b>LOCATION</b>
<p>Metropolitan bus offer is unequal and not oriented to satisfy the demand patterns of people willing to get to work to the activity areas. The only bus lane that has a better offer (more than one bus per hour) is line 180 relying València with Albal. But this line connects urban areas and is not attractive for commuting or other trips to the I.E.</p> <p>The other two lines going South to from Albal pass across some of the I.E. in Beniparrell, Silla and Alcàsser, but the service is not reinforced during peak hours and is maintained constant during the day. Consequently, even if the access to the I.E. on foot from the Metrobus stations could be considered as attractive, the low quantity of people using these lines could be due, in part, to the non-adapted offer.</p> <p>Line 183 serving the North-East side of the corridor (urban centres, I.E. and commercial facilities) has a better offer but it is not reinforced during peak hours.</p>	

<b>SCOPE OF AFFECTATION</b>	Albal	Alcàsser	Alfagar	Benetússer	Beniparrell	Catarroja	Llocnou	Massanassa	Picassent	Sedaví	Silla	Valencia
	X	X	X	X	X	X	X	X	X	X	X	X

**INDICATORS**

<b>DEMONSTRATIVE INDICES</b>
5 bus/h on line 180 València - Albal
1 bus/h on lines 181 and 182 giving access to I.E. in Beniparrell, Silla, Alcàsser and Picassent
2 bus/h on line 183 giving access to Alfagar commercial area

**CAUSES OF THE PROBLEM**

Lack of coordination between administration entities	There is not an authority that would encourage developing practices within the MA
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<b>Dependent problems</b>	1											
<b>Precedent problems</b>												

<b>PROBLEM'S EVOLUTIVE TENDENCY</b>	The Metrobus concessions are about to be renewed and therefore it could be the moment to improve the quality of Metrobus offer, to adapt it better to the demand patterns.
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<b>OBJECTIVES RELATED TO THE PROBLEM</b>	Developing multimodality within the EA
	Improving Metropolitan public bus system
	Improving mobility management of the BIZ within the EA

<b>SCOPE OF THE REQUIRED ACTION</b>	Service
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**CAUSES OF THE PROBLEM**

<b>BENEFITIARIES AND CAUSERS</b>	<b>TYPE OF INVOLVEMENT</b>
Regional government	Lack of involvement to offer a better Metrobus service
<b>AFFECTED PARTIES</b>	<b>TYPE OF INVOLVEMENT</b>
People not having an alternative to Metrobus	Risk of social exclusion
People willing to use Metrobus	Unsatisfaction for not being able to use Metrobus

PROBLEM SHEET	Nº : 7
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PROBLEM	
<b>Category:</b>	<b>MULTIMODALITY</b>
<b>Identification:</b>	<b>Difficulties to encourage multimodal trips</b>

<b>Description:</b>	<p>It has been determined that nowadays multimodal trips represent a small part of the overall. This could be due to different reasons. Considering that the private car is the mean of transport which is used the most to get to the activity areas, it could be stated that multimodality is not attractive for daily trips.</p> <p>Depending on the type of public transport, the regional rail or the metropolitan bus, the conditions and situation are different, but in general terms it must be considered that the infrastructure enabling multimodal trips (bicycle-public transport, car-public transport, public transport-public transport) is not adapted. In terms of infrastructure, what has been observed is:</p> <ul style="list-style-type: none"> <li>- existing parking near the train stations are not regulated and so there is no guaranty that they are for people willing to combine car and regional rail</li> <li>- the cycling infrastructure is not structured to enable multimodal trips, basically because it is inexistent, and the transportation of the bicycle on the public transportation line is not comfortable enough to be attractive.</li> </ul> <p>In terms of public transportation service, the main important aspect is that there do not exist an offer of transportation integrated, connected and customised.</p>	<b>LOCATION</b>

SCOPE OF AFFECTATION	Albal	Alcàsser	Alfajar	Benetússer	Beniparrell	Catarroja	Llocnou	Massanassa	Picassent	Sedaví	Silla	Valencia
	X	X	X	X	X	X	X	X	X	X	X	X

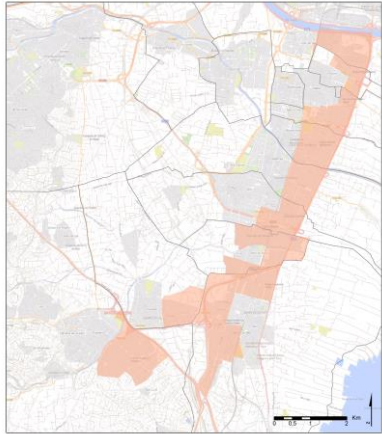
INDICATORS	
DEMONSTRATIVE INDICES	
No bicycles allowed in regional rail during peak hours, no bicycles allowed on EMT and Metrobus if they are no foldable	
None of the 4 parking next to the regional rail stations are regulated for train users	

CAUSES OF THE PROBLEM	
No "real" P+R (Park & Ride)	Parking nearby the stations are not regulated for regional rail users
Deficient infrastructure for bicycle users at railway stations	Bicycle parking inside the stations, non-adapted stairs for bicycle carrying
Bicycles on bus problem Bicycles not allowed in buses (EMT and Metrobus)	Current buses metropolitan buses are not adapted for carrying the bicycles on board
Lack of non-motorised signalling	There do not exist a signalling system to indicated how connections between places within the corridor could be done

<b>Dependent problems</b>	1											
<b>Precedent problems</b>			3						9			
<b>PROBLEM'S EVOLUTIVE TENDENCY</b>	One of the strategic axis of the PMoMe is considering intermodality as a priority within the MA. Therefore, the quality of multimodal itineraries could be improved.											
<b>OBJECTIVES RELATED TO THE PROBLEM</b>	Improving the quality of BIZ for non-motorised means of transport											
	Developing multimodality within the EA											
<b>SCOPE OF THE REQUIRED ACTION</b>	Increasing the occupancy rate of private vehicles getting from and going to the BIZ											
	Infrastructure & Service											

CAUSES OF THE PROBLEM	
BENEFITIARIES AND CAUSERS	TYPE OF INVOLVEMENT
Private vehicle lobby	The less attractive multimodal alternatives are, the more private vehicle is preferred
Municipal government, regional government, state government	Lack of coordination between different public corporations
AFFECTED PARTIES	TYPE OF INVOLVEMENT
People not having a private vehicle	Risk of social exclusion
People willing to use an alternative to private vehicle	Unsatisfaction for not having performant multimodal itineraries

PROBLEM SHEET	Nº : 8
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PROBLEM	
<b>Category:</b>	<b>URBANISATION</b>
<b>Identification:</b>	<b>Incorrect design of the public space</b>
<b>Description:</b>	<p>Activity areas, no matter if they are industrial estates or commercial areas, have a design oriented for private vehicles. The improvement that has been done in terms of urbanisation for non-motorised means within the newest areas is very weak and consequently it could be considered that people willing to come from and get to them on foot, bicycle or public transportation do encounter important difficulties.</p> <p>Fortunately, these areas count usually with large streets. Even if the result of this is not beneficial for pedestrians and cyclist at this moment, as there is a lack of space or it is inexistent, this could also be considered as an opportunity to redistribute the space (trees, cycle path, electric car parking, carsharing-vehicles parking, carpooling vehicles parking and other).</p>
	<b>LOCATION</b> 

SCOPE OF AFFECTATION	Albal	Alcàsser	Alfafar	Benetússer	Beniparrell	Catarroja	Llochnou	Massanassa	Picassent	Sedaví	Silla	Valencia
	X	X	X		X	X		X	X	X	X	X

**INDICATORS**

DEMONSTRATIVE INDICES
Deficient quality of the urbanization (general)
Two industrial estates have more than one street with trees (Pol. Ind. Sedaví and I.E. Massanassa)

**CAUSES OF THE PROBLEM**

Non-specific parking for goods & service vehicles	Working-car/vans occupying in some cases space not reserved for them (Catarroja)
Disrespectful practices of the users	Illicit parking on the pavement in Albal industrial estate (Sector IV)
Deficient walking urbanisation	No pedestrian crossing in the main streets of some of the activity areas
Lack of green infrastructure	Only the industrial estate of Sedaví has trees in a great part of its streets
Lack of coordination between administration entities	There is not an authority that would encourage developing practices within the MA

<b>Dependent problems</b>	1											
<b>Precedent problems</b>												
<b>PROBLEM'S EVOLUTIVE TENDENCY</b>	The quality of urbanisation will only be improved if there is a specific urban program for that. Nowadays, municipalities seem to be more focused on the urban centres improvement rather than the activity areas. The regional institution IVACE give financial aid for improving industrial estates.											
<b>OBJECTIVES RELATED TO THE PROBLEM</b>	Enabling non-motorised means of transport to get from and go to the BIZ but also within them in a safe and comfortable way											
	Improving the quality of BIZ for non-motorised means of transport											
	Improving mobility management of the BIZ within the EA											
<b>SCOPE OF THE REQUIRED ACTION</b>	Infrastructure											

**CAUSES OF THE PROBLEM**

BENEFICIARIES AND CAUSERS	TYPE OF INVOLVEMENT
Private vehicle lobby	If people find it easy to get to the activity areas by private car, they might continue using this mean of transport
Municipal government, regional government	Lack of involvement to improve quality of the activity areas urbanisation
AFFECTED PARTIES	TYPE OF INVOLVEMENT
Potential private stakeholders	Risk of blocking investment
Users (workers, visitors)	Unsatisfaction for pedestrian and cyclists



PROBLEM SHEET	Nº : 9
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**PROBLEM**

<b>Category:</b>	<b>MOBILITY MANAGEMENT</b>
<b>Identification:</b>	<b>Absence of an integrated mobility management policy within the Metropolitan Area</b>

<b>Description:</b>	<p>Nowadays there does not exist an integrated, connected and customised offer of public transportation. The result of this is that to come from and get to the areas of study, the most attractive mean of transport (or even the only one) is the private vehicle. The predominant axis of public transportation are the ones going to València, and even in these cases there are negative points, so the public transportation service is not adapted to all types of trips. The activity areas concerned attract people not only from the municipalities of the corridor or València, but also from other places. Consequently, this situation is a particular and complex cases which needs to integrate all the alternatives to private vehicle.</p> <p>The mobility consortium “Agencia Valenciana de la Movilidad Metropolitana” is under development. If the result of this enables to create an integrated, connected and customised offer, this could help to reduce car usage.</p>	<b>LOCATION</b>

<b>SCOPE OF AFFECTATION</b>	Albal	Alcàsser	Alfafar	Benetússer	Beniparrell	Catarroja	Llocnou	Massanassa	Picassent	Sedaví	Silla	Valencia
	X	X	X	X	X	X	X	X	X	X	X	X

**INDICATORS**

**DEMONSTRATIVE INDICES**

EMT and Metrovalencia offer an integrated monthly transportation card, but not Metrobus neither Cercanías

**CAUSES OF THE PROBLEM**

Lack of coordination between administration entities	There is not an authority that would encourage developing practices within the MA
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<b>Dependent problems</b>	1							7				
<b>Precedent problems</b>												

<b>PROBLEM'S EVOLUTIVE TENDENCY</b>	One of the objectives of the Autoritat de Transport Metropolità de València is defining the rate regime for the MA. Therefore, it should be possible to create a better public transportation service.
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<b>OBJECTIVES RELATED TO THE PROBLEM</b>	Developing multimodality within the EA
	Improving mobility management of the BIZ within the EA

<b>SCOPE OF THE REQUIRED ACTION</b>	Service
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**CAUSES OF THE PROBLEM**

<b>BENEFICIARIES AND CAUSERS</b>	<b>TYPE OF INVOLVEMENT</b>
Private vehicle lobby	If people do not have comfortable and affordable alternatives to private vehicle, they will continue using this mean of transport
<b>AFFECTED PARTIES</b>	<b>TYPE OF INVOLVEMENT</b>
People not having a private vehicle	Risk of social exclusion
People willing to use an alternative to private vehicle	Unsatisfaction for not having an attractive integrated offer of public transportation

**PROBLEM SHEET** Nº : 10

PROBLEM	
<b>Category:</b>	<b>MARKETING AND PROMOTING</b>
<b>Identification:</b>	<b>Lack of information about other means of transport rather than private vehicle or ways to encourage people to move alternatively</b>
<b>Description:</b>	<b>LOCATION</b>
<p>Nowadays, there are no visible campaigns or dedicated policies to encourage sustainable moving alternatives within the corridor. The car seems to be the best option to internal or external corridor trips.</p> <p>The public administration has not a clear position for this issue and, until now, the only positive measure comes from a private agent. In the case of IKEA, there is a service of bus relying the commercial facility with the capital.</p> <p>The València municipal initiative for carpooling does not have a real visual power.</p>	

SCOPE OF AFFECTATION	Albal	Alcàsser	Alfajar	Benetússer	Beniparrell	Catarroja	Llocnou	Massanassa	Picassent	Sedaví	Silla	Valencia
	X	X	X	X	X	X	X	X	X	X	X	X

INDICATORS
<b>DEMONSTRATIVE INDICES</b>
No signs of marketing and promotion campaign within the activity areas

CAUSES OF THE PROBLEM	
Lack of coordination between administration entities	There is not an authority that would encourage developing practices within the MA

<b>Dependent problems</b>	1										
<b>Precedent problems</b>											
<b>PROBLEM'S EVOLUTIVE TENDENCY</b>	One of the objectives of the Autoritat de Transport Metropolità de València is promoting sustainable mobility and fostering coordinated actions between different administration entities in order to promote non-motorised trips and public transportation. Therefore, it should be possible to improve this problem.										
<b>OBJECTIVES RELATED TO THE PROBLEM</b>	Enabling non-motorised means of transport to get from and go to the BIZ but also within them in a safe and comfortable way										
	Increasing the occupancy rate of private vehicles getting from and going to the BIZ										
	Improving mobility management of the BIZ within the EA										
<b>SCOPE OF THE REQUIRED ACTION</b>	Service										

CAUSES OF THE PROBLEM	
<b>BENEFITIARIES AND CAUSERS</b>	<b>TYPE OF INVOLVEMENT</b>
Private vehicle lobby	If people are not aware of alternative to private vehicle, they will continue using this mean of transport
<b>AFFECTED PARTIES</b>	<b>TYPE OF INVOLVEMENT</b>
People not having a private vehicle	Risk of social exclusion
People willing to use alternative to private vehicle	Unsatisfaction for not being aware of alternative means of transportation to private vehicle

PROBLEM SHEET Nº : 11

PROBLEM	
<b>Category:</b>	<b>INNOVATIVE SOLUTIONS</b>
<b>Identification:</b>	<b>Absence of infrastructure to encourage new mobility practices: car-sharing, car-pooling, electric vehicles, on-demand-transport</b>
<b>Description:</b>	<p>Until the moment, none of these alternatives to classic vehicles can be observed within the area of study. There are electric vehicle charging points.</p>
	<p style="text-align: right;"><b>LOCATION</b></p>

SCOPE OF AFFECTATION	Albal	Alcàsser	Alfajar	Benetússer	Beniparrell	Catarroja	Llocnou	Massanassa	Picassent	Sedaví	Silla	Valencia
	X	X	X		X	X		X	X	X	X	X

**INDICATORS**

<b>DEMONSTRATIVE INDICES</b>
31 charging points for electric vehicle, 20 of them at IKEA
No visible sites dedicated neither to car-sharing nor car-pooling
There is a platform dedicated to car-pooling: <a href="http://valencia.compartir.org/">http://valencia.compartir.org/</a>

**CAUSES OF THE PROBLEM**

New practice	Lack of adaptation to new mobility services.
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<b>Dependent problems</b>	1											
<b>Precedent problems</b>												

<b>PROBLEM'S EVOLUTIVE TENDENCY</b>	The integration of new mobility practices infrastructure, but also new private vehicle systems (e. g. electric vehicle) seems difficult to be done from a global perspective within the corridor. The regional institution IVAC gives financial aid to improve the industrial estates in that direction, but the change seems also to be possible from a local perspective, and not considering all the activity areas within the EA.
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<b>OBJECTIVES RELATED TO THE PROBLEM</b>	Increasing the occupancy rate of private vehicles getting from and going to the BIZ
	Adapting BIZ to new mobility practices
	Improving mobility management of the BIZ within the EA

<b>SCOPE OF THE REQUIRED ACTION</b>	Infrastructure & Service
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**CAUSES OF THE PROBLEM**

BENEFITIARIES AND CAUSERS	TYPE OF INVOLVEMENT
Private vehicle lobby	If there do not exist alternative to the usage of the car as a driver, they will continue to go as a self-driver
AFFECTED PARTIES	TYPE OF INVOLVEMENT
People not having a private vehicle	Risk of social exclusion
People willing to carpool	Unsatisfaction for not having easy access to carpooling stations, regulated parking, carpooling app
People willing to use carsharing services	Unsatisfaction for not being able to use this type of mobility service
People willing to use electric vehicles	Unsatisfaction due to the lack of charging stations



## 5. Plan implementation

The last part of this document aims to integrate the elements that allow the implementation of the Plan: an effective package of measures, an estimated budget plan and an action plan.

### 5.1. Package of measures

The measures presented in this document have been defined with the intention of transforming mobility patterns within the Economic Area and in order to promote sustainable alternative means of transport different to private car. Additionally, this part of the document also represents an integrated vision of what mobility is right now and what it could be in a short, medium and long term.

The measures are oriented in order to solve specific problems and to focus on a specific objective. In order to illustrate the correlation between the objectives of this Plan and the measure, the following schema is presented:



Fig. 59. Relation between objectives and measures.

As this schema anticipates, the measures presented in this Plan are mainly related to infrastructure transformation, and not oriented to change mobility service. In order to obtain more beneficial effects, it would be necessary to consider this approach. Nevertheless, the concept of mobility as a service needs to be considered within a larger scope of action, which is not intended in this Master's Degree Final Thesis. These changes in mobility may take into consideration the following four aspects (among others):

- Adapting the offer of Metrobus to demand patterns. The project developed to renew the concessions may take into account this aspect,
- Creating an integrated fare system for public transport within the ME. The transport authority (*Autorita de Transport Metropolità de València*) is in charge of developing this necessity,
- Developing a car-pooling platform for daily trips. There is already a platform from the municipality of València, and this might only be improved considering the MA as a whole
- Promoting sustainable mobility through marketing campaigns.

The definition of the measures has been conducted under the principles exposed in the guidelines promoted by the European Union of what can be done, such as: “Mobility Plan Guide book”, project COMMERCE (Creating Optimal Mobility Measures to Enable Reduced Commuter Emissions) (COMMERCE, 2008) and “Boxed Solutions: a set of guidelines”, project MoMa.BIZ (Mobility Management for Business and Industrial Zones) (MoMa.BIZ partners, 2013). Moreover, it has also been considered the Metropolitan Mobility Plan of València and finally the own knowledge and the academic and professional experience of the author of this Plan.

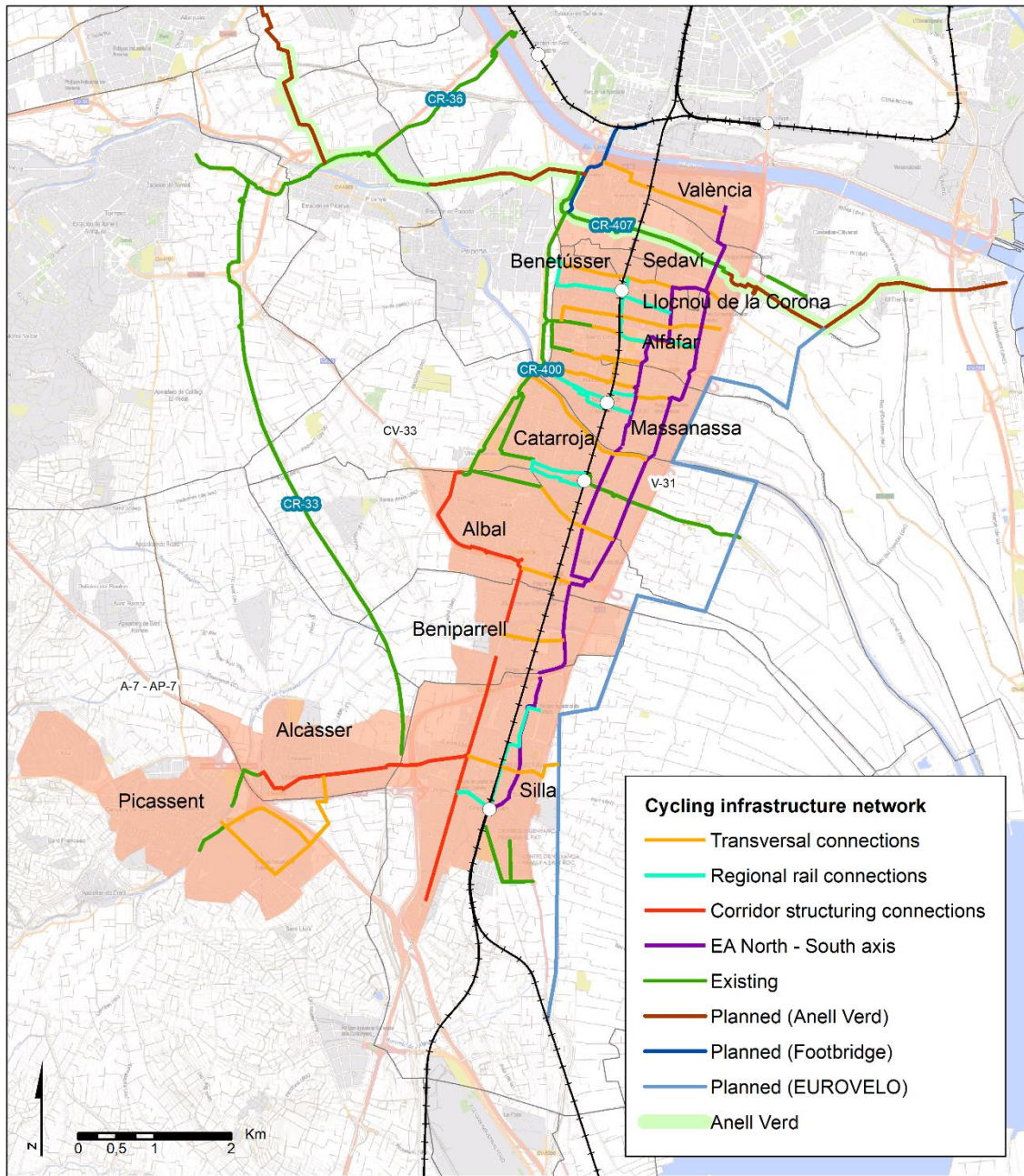
The package of measures is presented as synoptic sheets, divided into different categories:

- Measure title,
- Description. In here, the relevant aspects of the measure are described in order to have a clear vision of it and to understand which aspects should be taken into account when implementing the measure. Guidelines are defined in terms of design, location and other particularities,
- Problem to which this measure is related,
- Objectives of the Plan to which the measure is related,
- Estimated cost,
- Term. Short-term (0-5 years), mid-term (5-10 years) and long-term (10-20 years)
- Agents involved for execution and financing,
- Location and graphic description.

MEASURE 1		Cycling network within the corridor and connecting the EA with the urban centres									
DESCRIPTION											
<p>Nowadays, diverse cycle path can be found within the corridor but none of them get to the BIZ. Municipal cycle paths have been developed within the urban centres and do not connect with the EA. Cycle path CR-400 and CR-407 connect different municipalities but they do not connect the urban areas to the EA.</p> <p>This measure aims to create a structured cycling network that links the EA and the urban centres and therefore allows moving within the corridor in a safe and comfortable way. The cycle infrastructure is divided into different categories:</p> <ul style="list-style-type: none"> <li>▪ <u>Structuring axis</u>: the CR-400 and its continuity to Silla along CV-33 and “Camí reial de Madrid”, the axis Picassent – Silla through I.E. of Picassent and I.E. l’Alter in Alcàsser to “Camí reial de Madrid” along Ctra. Alborache, the North-South connection along the EA (see measure 2) and the regional rail axis (see measure 5).</li> <li>▪ <u>Transversal West-East axis</u>: the cycle path existing nowadays between Sedavi and Albal on the West side of the railway cross to the East side and getting to V-31, the Av. Dde Paiporta – Av. Dde l’Albufera axis (Alfatar), the Carrer d’Ausias March – Carrer de Josep Alba I Alba – Carrer de la Sèquia del Segon Braç – Carrer del Camí Fus axis (Massanassa), the Ronda Nord axis (Catarroja) and the Carrer Santa Ana – Avinguda de les Corts Valencianes – Calle de Pelayo – Carrer Camí d’Alter axis (Albal),</li> <li>▪ <u>Cercanías – Urban centres – EA axis</u>: cycling itineraries must be create following the most comfortable and logical connection between urban centres and BIZ. It has been done in order to create the most comfortable, logical connection between urban centres and BIZ. These itineraries must be defined at a municipal scale and must be coordinated with the bordering municipalities when necessary.</li> </ul> <p>The type of cycling infrastructure depends on its category:</p> <ul style="list-style-type: none"> <li>▪ Structuring axis → cycle path</li> <li>▪ Transversal West-East axis → cycle path or cycle street (priority for non-motorised mobility)</li> <li>▪ Cercanías – Urban centres -EA → cycle streets, reverse direction permission on narrow streets of urban centres, other typologies within AE.</li> </ul> <p>The scope of action of this measure is extended to the whole corridor Silla – València, and not only the EA, because only creating a cycling network within it will not help people getting to the BIZ, as they do not live there and come from the urban centres.</p> <p>The axis Picassent – Silla requires the construction of a footbridge to cross over V-31 between Alcàsser (<i>Antic Regne de València</i> avenue) and Silla (<i>Alborache</i> road), along VP-3065. The design of the footbridge should consider, at least, the following aspects:</p> <ul style="list-style-type: none"> <li>▪ Allow continuity for non-motorised means of transport (walking, cycling, scooters, etc) on both sides linking the infrastructure to a cycle path (see measure 1) and guaranty the comfortable and safe access,</li> <li>▪ Provide the footbridge with lighting,</li> <li>▪ Be equipped with road signs to indicate that the space should be shared between pedestrians and cyclists.</li> </ul>											
PROBLEMS TO WHICH THE MEASURE IS RELATED											
1	2	3	4	5	6	7	8	9	10	11	
OBJECTIVES OF THE PLAN TO WHICH THE MEASURE IS RELATED											
1	2	3	4	5	6	7					
ESTIMATED BUDGET		5,8 m€			TERM			SHORT and MID-TERM			
AGENTS INVOLVED FOR EXECUTION AND FINANCING											
<ul style="list-style-type: none"> <li>▪ Generalitat Valenciana. Conselleria d’Habitatge, Obres Públiques i Vertebració del Territori,</li> <li>▪ Municipalities of the corridor</li> <li>▪ Management entity of the BIZ</li> </ul>											

LOCATION AND GRAPHIC DESCRIPTION

Location of cycling infrastructure:





LOCATION AND GRAPHIC DESCRIPTION

Location of footbridge over V-31 between Alcàsser and Silla:

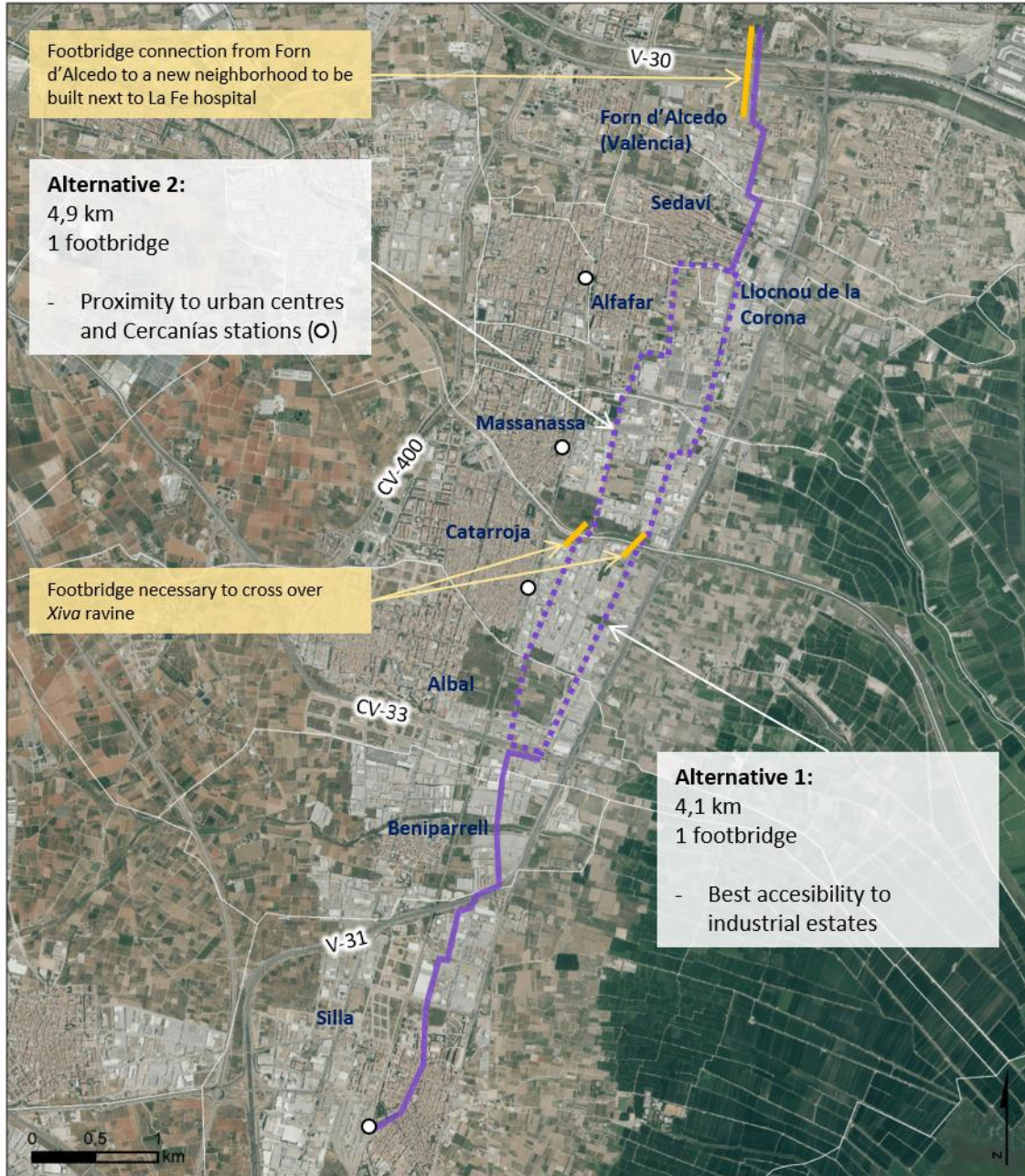


MEASURE 2		North - South walking and cycling axis along the EA, from V-30 to Silla								
DESCRIPTION										
<p>Nowadays, on the East side of the railway where the EA is located there is no sign of comfortable and safe continuity along a North – South axis and going across the BIZ.</p> <p>This measure aims to create a North-South axis, from Forn d’Alcedo to Silla, between the railway and V-31. As this infrastructure is included into the cycling network as a structural axis, a cycle path is included.</p> <p>The design of the streets must include the following characteristics (when possible)</p> <ul style="list-style-type: none"> <li>▪ Prioritise non-motorised trips considering the fact that trucks must be able to use the streets,</li> <li>▪ Reduce the number of car parks by 50% at least,</li> <li>▪ Include at least one multimodal station per activity area (see measure 10),</li> <li>▪ Include at least two charging stations for electric vehicle per activity area,</li> <li>▪ Include at least two bicycle parks (one of them secured).</li> </ul> <p>Initially, two alternative itineraries are presented. The choice needs to be made in a further detailed study.</p> <ul style="list-style-type: none"> <li>▪ Starting on Forn d’Alcedo, the cycle path follows <i>Guadalquivir</i> street on the East side, turns left on <i>Azagador de la Torre</i> avenue and then left on <i>de la Murta</i> street until <i>del País Valencià</i> avenue (CV-407, where Anell Verd is planned).</li> <li>▪ The cycle path follows South along <i>Fernando Baixauli Chornet</i> and passes next to Sedavi’s municipal sports facility.</li> </ul> <p><b>ALTERNATIVE 1:</b></p> <ul style="list-style-type: none"> <li>▪ It crosses <i>Albufera</i> avenue and goes along <i>Alcalde José Puertes</i> street crossing the commercial and service area of Alfafar until the roundabout on CV-4125.</li> <li>▪ The under-crossing for pedestrians can be used, to then continue on <i>Alcalde José Puertes</i> street, <i>Medi Ambient</i> street and turn right into <i>del Camí Fus</i> street until the corner of the cemetery of Massanassa.</li> <li>▪ From there, the cycle path continues South on <i>Camí Vell de l’Azagador</i> until <i>del Poio (or Xiva)</i> ravine where a footbridge is needed to cross it and connect South with I.E. El Bony (Catarroja).</li> <li>▪ In I.E. El Bony, the cycle path crosses the I.E. along 32 street until the limit with the municipality of Albal on <i>Camí d’Alter</i> street.</li> <li>▪ In Albal, there is not a clear axis nowadays and consequently it needs to be studied a direct connection with CV-33.</li> </ul> <p><b>ALTERNATIVE 2:</b></p> <ul style="list-style-type: none"> <li>▪ It turns right into <i>de l’Albufera</i> avenue until <i>Pep de l’Horta</i> avenue, where it gets into it until <i>Polígono Pp Rabisancho 03</i> street.</li> <li>▪ From there, and until CV-4125, the cycle path can either take the cycle path within Alfafar Parc or follow a new route on the left side of IKEA, and next to the cemetery of Alfafar.</li> <li>▪ A level crossing is needed to cross CV-4125 (also for pedestrians) and then continue along <i>del Poliesportiu</i> street until <i>del Poio (or Xiva)</i> ravine where a footbridge is needed to cross it and connect South with I.E. El Bony (Catarroja).</li> <li>▪ In I.E. El Bony, the cycle path crosses the I.E. along 29 street until Albal, where <i>Camino Viejo de Ruzafa</i> street goes straight South until <i>Camino de la Marjal</i> street and arrives on CV-33.</li> <li>▪ From there, the cycle path crosses Beniparrell’s I.E. along <i>Camí Vereda</i> street until it arrives to Silla on <i>del Perelló</i> street and <i>del Palmar</i> avenue to the roundabout on <i>de l’Albufera</i> avenue.</li> </ul> <p>The last part of the walking and cycling connection follows the <i>València</i> street to <i>del Poble</i> square, <i>del Castelle</i> street, <i>Mercat Vell</i> square, <i>de l’Albereda</i> walkway to the Cercanías station in Silla. It is recommended to integrate this route within the municipality as a shared street, with 20km/h speed limit.</p>										
PROBLEMS TO WHICH THE MEASURE IS RELATED										
1	2	3	4	5	6	7	8	9	10	11
OBJECTIVES OF THE PLAN TO WHICH THE MEASURE IS RELATED										
1	2	3	4	5	6	7				
ESTIMATED BUDGET		18,1 m€			TERM			SHORT and MID-TERM		

AGENTS INVOLVED FOR EXECUTION AND FINANCING

- Generalitat Valenciana. Conselleria d’Habitatge, Obres Públiques i Vertebració del Territori,
- Municipalities of the corridor
- Management entity of the BIZ

LOCATION AND GRAPHIC DESCRIPTION



**Current situation:**



De la Murta street, I.E. Sedavi



Medi Ambient street, I.E. Massanassa



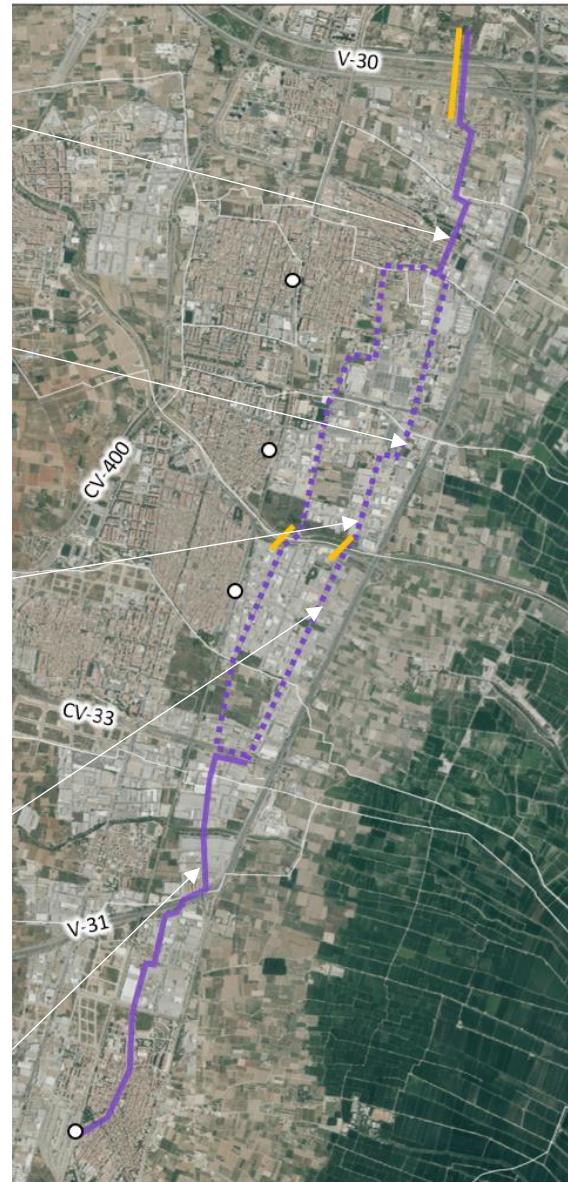
Camí Vell de l'Azagador Street, I.E. Massanassa



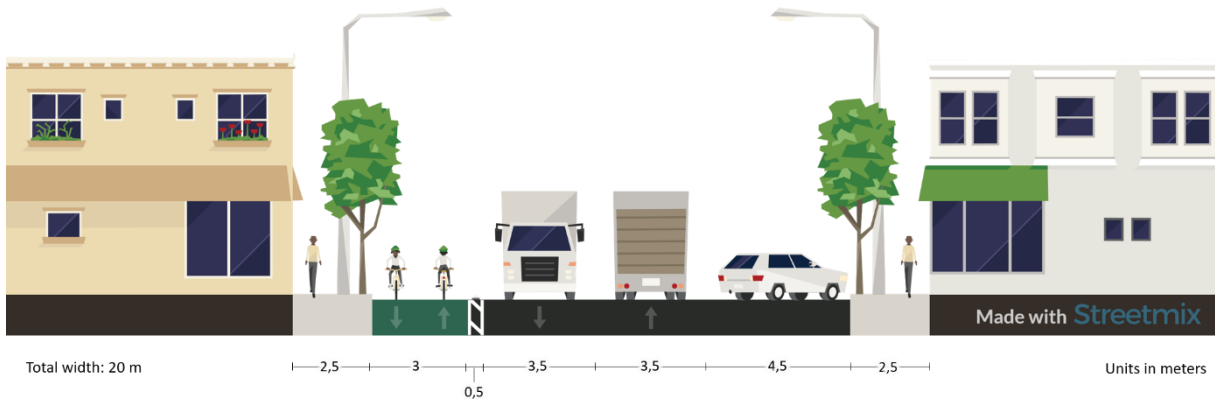
32 street, I.E. El Bony (Catarroja)



Camí Vereda Street, I.E. Vereda Sur (Beniparrell)



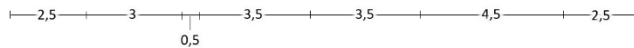
**Planned:**



This section can be generalised along the EA, between Forn d'Alcedo and Silla. In 20 m width, there is only the possibility to build car parks in one side, as there is space needed for the bicycle path. The reduction of car parks is estimated at around 50%. Trees should be included in both sides to improve the environmental quality of the North-South axis along the EA and to encourage pedestrians and cyclists to use it.



Total width: 20 m



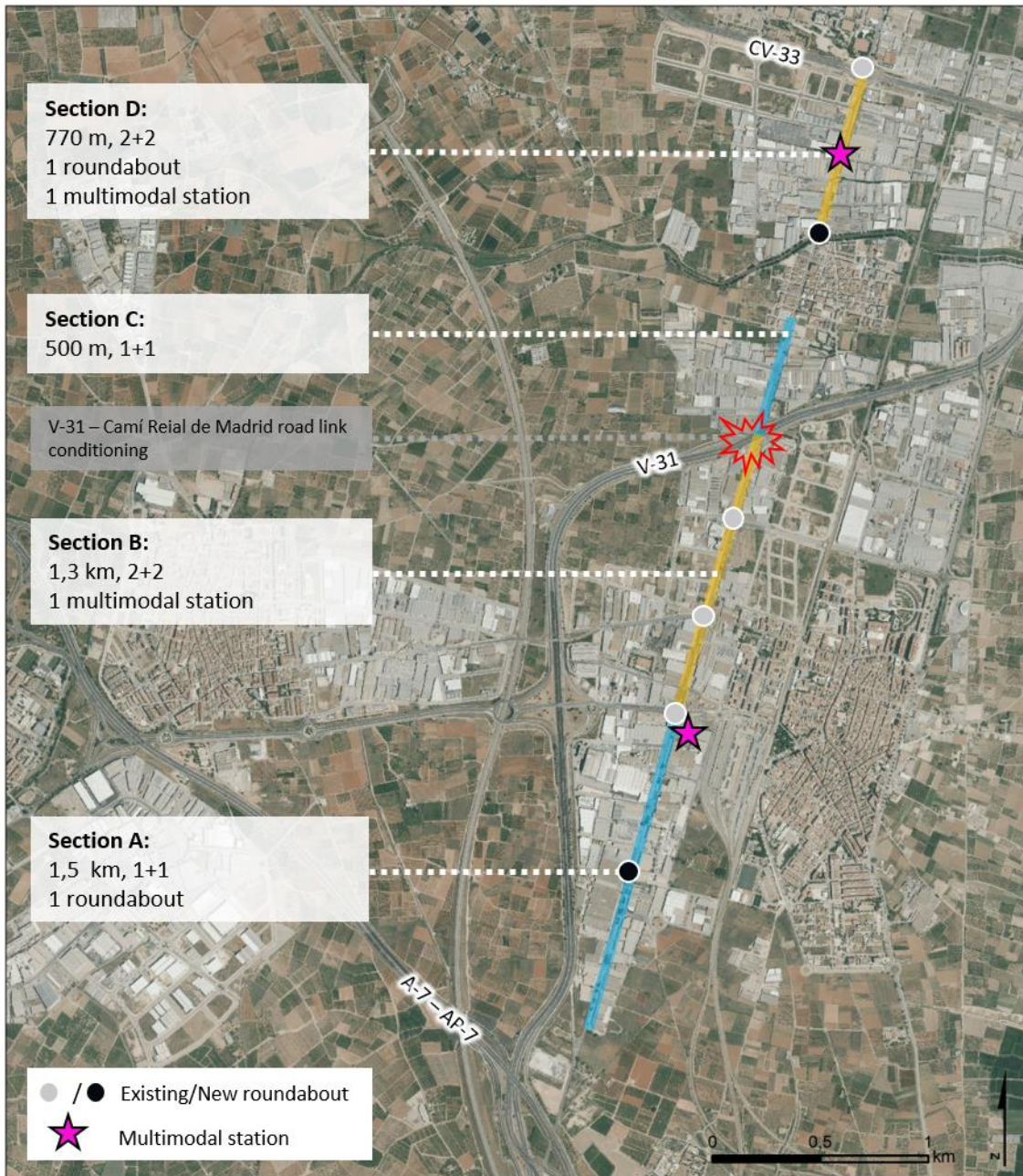
Units in meters

This section is specific for *Carrer de la Murta* street, in I.E. Sedaví. Nowadays, bus stations of line 14 EMT and 183 Metrobus are located on this street but separated one from the other by about 20 m. A mutualisation of stations is proposed, using the same bus shelter and including EMT and Metrobus specific logos and characteristic information about itinerary and schedule. The bus is supposed to stop on the automobile lane to allow passenger to get on and off it. Additionally, the enlargement of the pavement that is needed for the bus shelter offers the opportunity to create Sheffield stands for bicycle.

<b>MEASURE 3</b>	<b>Integrated Urban Plan of the EA</b>											
<b>DESCRIPTION</b>												
<p>The quality of urbanisation within the EA differs depending on the BIZ. In general, there gain may be on visual attractiveness but what is more important is to promote pedestrian mobility.</p> <p>This measure aims to set the guidelines for an improvement of the public space of the BIZ that integrates all the means of transportation.</p> <p>The design of the BIZ should consider, at least, the following aspects:</p> <ul style="list-style-type: none"> <li>▪ Allow continuity for non-motorised means of transport (walking, cycling, scooters, etc) (see measure 1),</li> <li>▪ Reduce the number of car parks to one car park per 300 built square metres,</li> <li>▪ Regulate private vehicle parking, guaranty car parks for vehicle occupied by more than one person,</li> <li>▪ Plant trees and create green areas within the I.E., between then and along the non-motorised axis (cycle path, and other streets connecting the BIZ with the urban centres (see measure 9),</li> <li>▪ Give visibility to public transportation (see measure 13).</li> </ul> <p>Nowadays the transformation of the industrial, commercial and services land depends on the municipality and therefore there is not a global vision of the whole EA. This measure is defined to create a coherence between the different parts of the EA, regarding the fact that some I.E. of commercial and services areas can grow independently. The importance of this measure is the possibility to set the guidelines for urban transformation from the perspective of mobility, and not considering that BIZ are isolated zones that occupy a piece of land within the territory.</p> <p>IVACE, a regional institution, gives financial aid for “improvement, modernisation and provision of infrastructure and services in industrial estates, industrial areas and technological enclaves of the Comunitat Valenciana”. The typology of projects eligible for this financial aid is diverse. Some of them applies to mobility. This measure can be a planning tool to help municipalities choose the initiatives from an integrated perspective.</p> <p>Additionally, this measure can help to create a symbolic vision of the whole EA as a single big Trips-Generation Area (TGC). The coordination of this measure should take into account all agents involved in the development of industrial estates (see measure 14).</p>												
<b>PROBLEMS TO WHICH THE MEASURE IS RELATED</b>												
1	2	3	4	5	6	7	8	9	10	11		
<b>OBJECTIVES OF THE PLAN TO WHICH THE MEASURE IS RELATED</b>												
1	2	3	4	5	6	7						
<b>ESTIMATED BUDGET</b>		16,6 m€			<b>TERM</b>			<b>SHORT and MID-TERM</b>				
<b>AGENTS INVOLVED FOR EXECUTION AND FINANCING</b>												
<ul style="list-style-type: none"> <li>▪ Municipalities of the corridor</li> <li>▪ Management entity of the BIZ</li> </ul>												
<b>LOCATION</b>												
This measure concerns all the Economic Area												

MEASURE 4		Improvement and refurbishment of “Camí Reial de Madrid” between Silla and Albal																				
DESCRIPTION																						
<p>The “Camí reial de Madrid” between Albal and Silla crosses different industrial estates and the urban quality of it has not been preserved.</p> <p>This measure aims to renew the <i>d’Espioca</i> avenue, <i>Llevant</i> avenue and <i>Real de Madrid Norte</i> road, between <i>Camí del Riu Magre</i> on I.E. U.E. Espioca and CV-33.</p> <p>The design of the street should include, at least, the following characteristics:</p> <ul style="list-style-type: none"> <li>▪ Allow continuity for non-motorised means of transport (walking, cycling, scooters, etc) (see measure 1),</li> <li>▪ Reduce the number of car parks by 50% at least,</li> <li>▪ One multimodal station in Beniparrell and two in Silla (see measure 10),</li> <li>▪ Two charging stations for electric vehicle per activity area,</li> <li>▪ Two bicycle parks (one of them secured),</li> <li>▪ A dynamic lane for peak hours in order to prioritise bus transit and private vehicle with 2 or more people,</li> <li>▪ Do not allow to turn left in between two roundabouts.</li> </ul> <p>Four different designs are proposed depending on the section of the “Camí Reial de Madrid”:</p> <table border="1"> <tr> <td>Section A</td> <td>1,5 km l., 28 m w., 1+1</td> <td><i>Camí del Riu Magre - Plaça Yegua (Corredor Silla – València), Silla</i></td> </tr> <tr> <td>Section B</td> <td>1,3 km l., 28 m w., 2+2</td> <td><i>Plaça Yegua (Corredor Silla – València) – V-31 link highway, Silla</i></td> </tr> <tr> <td>Section C</td> <td>500 m l., 28 m w., 1+1</td> <td><i>V-31 link highway – del Sol street, Beniparrell</i></td> </tr> <tr> <td>Section D</td> <td>770 m l., 28 m w., 2+2</td> <td><i>De Picassent ravine (Carrer del Barranc), Beniparrell – CV-33, Albal</i></td> </tr> </table> <p>Additionally, it would be recommended to study the design of two roundabouts:</p> <ul style="list-style-type: none"> <li>▪ <u>Roundabout 1</u>: Located in Silla, at the crossroads of the avenues <i>d’Espioca</i> and <i>l’Amet</i>. This roundabout would enable to cut the distance in two from the first roundabout coming from AP-7 (crossroad <i>Polígono nº 24</i> and <i>Vía Camí Reial</i>) to <i>de la Calderona</i> street,</li> <li>▪ <u>Roundabout 2</u>: Located in Beniparrell, on the North side of <i>de Picassent</i> ravine (crossroad <i>Carrer del Barranc</i>)</li> </ul> <p>The priority of this measure is transforming the Camí Reial de Madrid axis. Nevertheless, it is important to consider that transforming important avenues or streets joining this North-South axis can improve even more the quality of the industrial estates.</p> <p>*l. for long, w. for wide, 1+1 meaning one lane in each direction, 2+2 meaning two lanes in each direction.</p>											Section A	1,5 km l., 28 m w., 1+1	<i>Camí del Riu Magre - Plaça Yegua (Corredor Silla – València), Silla</i>	Section B	1,3 km l., 28 m w., 2+2	<i>Plaça Yegua (Corredor Silla – València) – V-31 link highway, Silla</i>	Section C	500 m l., 28 m w., 1+1	<i>V-31 link highway – del Sol street, Beniparrell</i>	Section D	770 m l., 28 m w., 2+2	<i>De Picassent ravine (Carrer del Barranc), Beniparrell – CV-33, Albal</i>
Section A	1,5 km l., 28 m w., 1+1	<i>Camí del Riu Magre - Plaça Yegua (Corredor Silla – València), Silla</i>																				
Section B	1,3 km l., 28 m w., 2+2	<i>Plaça Yegua (Corredor Silla – València) – V-31 link highway, Silla</i>																				
Section C	500 m l., 28 m w., 1+1	<i>V-31 link highway – del Sol street, Beniparrell</i>																				
Section D	770 m l., 28 m w., 2+2	<i>De Picassent ravine (Carrer del Barranc), Beniparrell – CV-33, Albal</i>																				
PROBLEMS TO WHICH THE MEASURE IS RELATED																						
1	2	3	4	5	6	7	8	9	10	11												
OBJECTIVES OF THE PLAN TO WHICH THE MEASURE IS RELATED																						
1	2	3	4	5	6	7																
ESTIMATED BUDGET		8 m€			TERM			SHORT and MID-TERM														
AGENTS INVOLVED FOR EXECUTION AND FINANCING																						
<ul style="list-style-type: none"> <li>▪ Generalitat Valenciana. Conselleria d’Habitatge, Obres Públiques i Vertebració del Territori,</li> <li>▪ Municipalities of the corridor</li> <li>▪ Management entity of the BIZ</li> </ul>																						

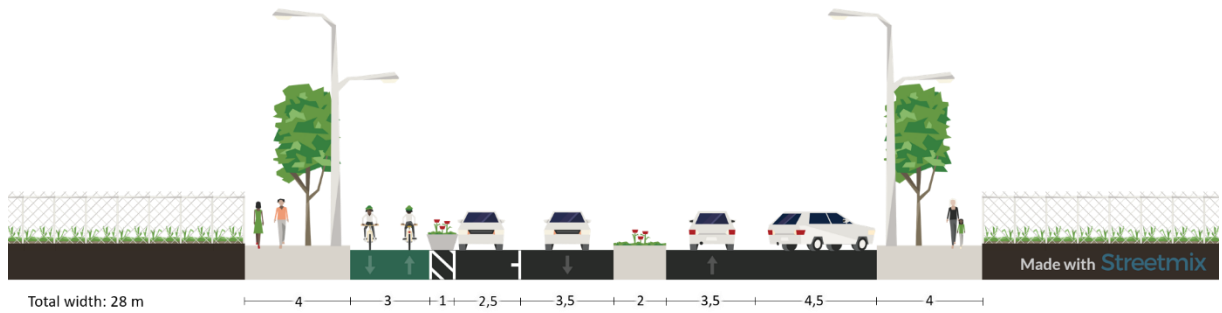
LOCATION AND GRAPHIC DESCRIPTION



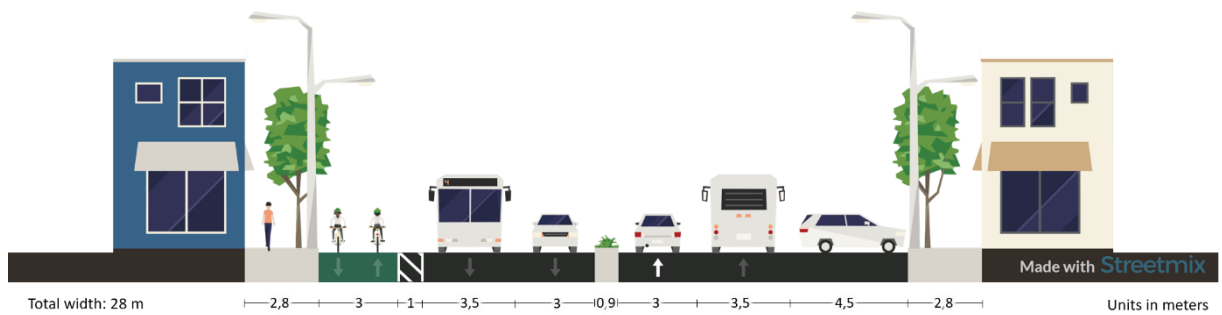


LOCATION AND GRAPHIC DESCRIPTION

**SECTION A and C**

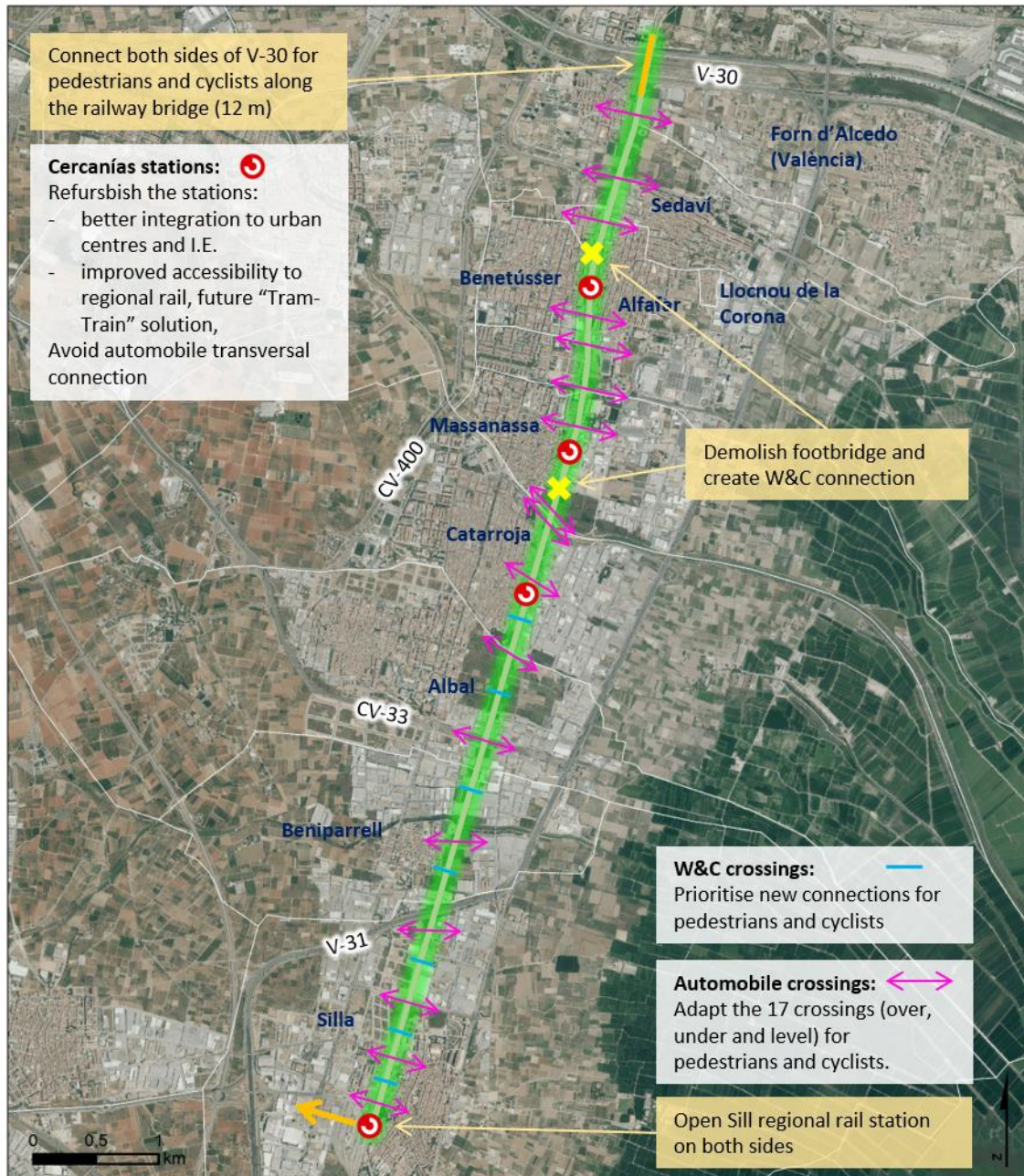


**SECTION B and D**



MEASURE 5											
Railway conversion into a “Tram-Train” infrastructure between V-30 and Silla											
DESCRIPTION											
<p>The railway infrastructure is nowadays one of the three infrastructure that provoke a barrier effect within the corridor. Nowadays, there is a railway crossing every 450 m on average over 7,5 km.</p> <p>This measure aims to settle the general guidelines for a project considering the renovation of the railway between V-30 on the North and the regional rail station in the South into a Tram-train solution that could be better integrated into the territory and reduce the barrier effect. This transformation needs to be understood as an opportunity to create a new North-South axis for public transportation and non-motorised means of transport. This solution is preferred to the railway burying because technically the transformation needed is less important and therefore it would be less expensive. Additionally, this is a measure that necessarily affects the Second Perimeter and is not only focused on the improvement of the I.E. in terms of mobility.</p> <p>A “Train-Tram” solutions is a type of rail infrastructure with special rolling stock material that can work in both systems, tramway and train.</p> <p>The design of the Train – Tram should consider, at least, the following aspects:</p> <ul style="list-style-type: none"> <li>Do not built more under nor over crossings,</li> <li>Dismantle the footbridge,</li> <li>Create level-crossings only for pedestrians and bicycles. If not necessary, do not create motorised crossings,</li> <li>Parallel to the railway, include a cycle path (double-direction) of at least 3 m width (see measure 1),</li> <li>Facilitate multimodality in each of the Cercanías stations (see measure 7),</li> <li>Guaranty pedestrian continuity on both sides of the railway, enabling comfortable and safe access to the Cercanías stations,</li> <li>Do not create a complete North – South axis for motorised means of transport.</li> </ul> <p>The “Train-Tram” solution is quite innovative in Spain. Nowadays, there is only one line in service, in Cádiz. It was introduced in Germany for the first time and its main purpose is to connect urban centres with other disconnected urban centres on the periphery or even further.</p> <p>For this specific case, Lines C1 and C2 of Cercanías are longer that what usually a Train – Tram solution is. From València to Silla, there should be a more integrated solution, speed limit adapted to urban centres and level-crossing. From Silla to Gandía (C1) and Xàtiva (C2), speed limit could be increase up to 100 km/h.</p> <p>In terms of infrastructure, these two aspects influence in the design of the whole system:</p> <ul style="list-style-type: none"> <li>New rolling stock is needed and all the platforms need to be readjusted, including those which are not between València and Silla,</li> <li>If rolling stock does not change, Cercanías stations need to consider the difference of distance between the platform, the railway and the surrounding.</li> </ul>											
PROBLEMS TO WHICH THE MEASURE IS RELATED											
1	2	3	4	5	6	7	8	9	10	11	
OBJECTIVES OF THE PLAN TO WHICH THE MEASURE IS RELATED											
1	2	3	4	5	6	7					
ESTIMATED BUDGET		234,1 m€			TERM			MID and LONG-TERM			
AGENTS INVOLVED FOR EXECUTION AND FINANCING											
<ul style="list-style-type: none"> <li>Generalitat Valenciana. Conselleria d’Habitatge, Obres Públiques i Vertebració del Territori,</li> <li>Municipalities of the corridor</li> <li>Ministry of Public Works (RENFE and ADIF)</li> </ul>											

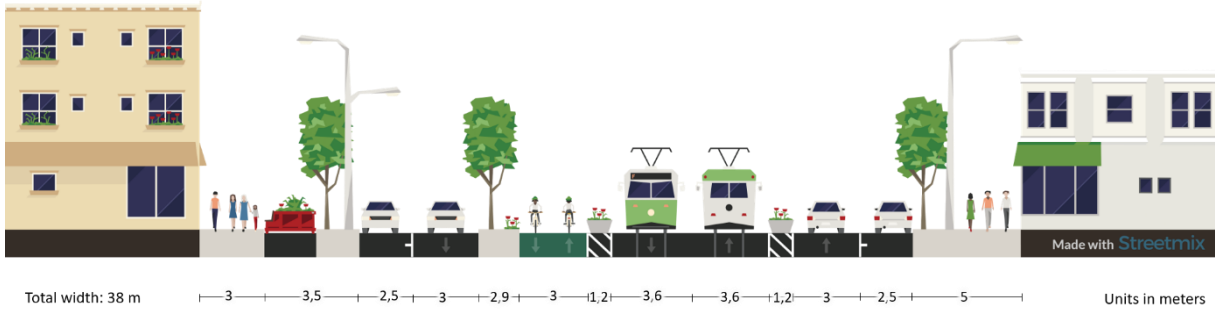
LOCATION AND GRAPHIC DESCRIPTION



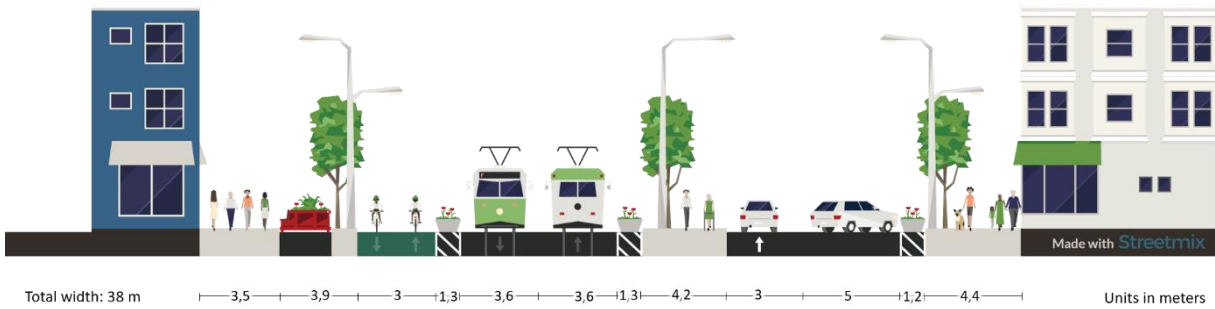
An example is presented for a 38 m section, in Alfajar – Benetússer.



One way per direction on both sides of the railway:



One way on one side of the railway:



This type of integrated solution already exists in Lyon (Rhône-Express):



The transversal connexions must be equipped with specific signs to make people aware of the train but also to prevent them walking along the railway:



In case of having more space, and no need of creating a motorised way, other options can be included:



MEASURE 6											Signs and routes for pedestrians and cyclists
DESCRIPTION											
<p>Road signs are adapted for motorised means of transport and consequently there are not any indication for walking and cycling connections as they do not follow the same roads.</p> <p>This measure aims to create a signalling strategy to be implemented in the corridor and to orientate people to BIZ, public transportation and urban centres.</p> <p>The type of furniture may vary depending on the location and the information to be provided:</p> <ul style="list-style-type: none"> <li>▪ Vertical poles with bicycle and pedestrian logo, to clarify the direction to follow in between the starting and ending point of predefined itineraries,</li> <li>▪ Synoptic map, to locate the industrial estates and commercial and services areas, as well as public institutions within the urban centres, with predefined itineraries to the main destinations as well as information about timing,</li> </ul> <p>The location of the furniture is divided into two categories:</p> <ul style="list-style-type: none"> <li>▪ <u>Vertical poles:</u> <ul style="list-style-type: none"> <li>- fixed along the itineraries, visible and with a specific design,</li> </ul> </li> <li>▪ <u>Synoptic map:</u> <ul style="list-style-type: none"> <li>- on the four Regional rail (Cercanías) stations, Metrobus stops and key locations in EA.</li> </ul> </li> </ul> <p>The definition of the signs that should be implemented does not only apply for one specific municipality. Therefore, the coordination between municipalities within the corridor as well as responsible entities for the industrial estates, commercial and services is needed.</p> <p>The design must be homogenous within the EA and corridor, no matters the municipality where signs are located.</p>											
PROBLEMS TO WHICH THE MEASURE IS RELATED											
1	2	3	4	5	6	7	8	9	10	11	
OBJECTIVES OF THE PLAN TO WHICH THE MEASURE IS RELATED											
1	2	3	4	5	6	7					
ESTIMATED BUDGET		4.000 €			TERM			SHORT and MID-TERM			
AGENTS INVOLVED FOR EXECUTION AND FINANCING											
<ul style="list-style-type: none"> <li>▪ Municipalities of the corridor</li> <li>▪ Management entity of the BIZ</li> </ul>											

GRAPHIC DESCRIPTION

To indicate directions to follow:



To locate in Metrobus stops and Regional Rail stations:



**MEASURE 7** Secured cycle parking on train stations, Metrobus stops and multimodal stations

**DESCRIPTION:**

Regional rail stations (Cercanías) are equipped with cycle parking. They are located inside the stations and it consists of Sheffield stands.

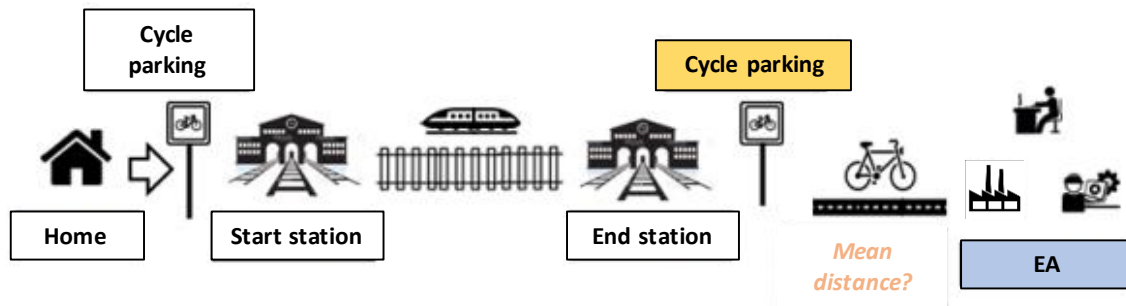
This measure aims to establish the guidance to deploy secure cycle parking (compounds or lockers) in order to encourage people to do multimodal itineraries, to improve their comfort and guaranty the security of their cycle.

The design of the cycle parking should include, at least, the following aspects:

- Appropriate signs, self-explanatory, to be easily identified,
- Compounds on Cercanías stations, where there are more potential users,
- Lockers on bus stops and multimodal stations, where less people can be expected.

The quantity of cycle parks should vary depending on the location of the station, Cercanías, Metrobus or multimodal station. Additionally, it also needs to be considered electric cycle charging. The number of compounds and lockers must be determined after doing a specific demand study, to observe how many current users exist and to estimate the potential.

The following schema shows the steps of someone going to work in the EA by bicycle from the End station. The cycle parking is used overnight. The arrival to the Start station can also be done by bicycle and therefore this person will be using two bicycle and two bicycle parking. Mean distance to be determined once the measure is set and in order to monitor and control the evolution of people’s demand and patterns.



In the case of Metrobus and multimodal stations, the usage of cycle parking could be shared between people doing a multimodal trip (overnight parking) and people going to work by bicycle (take advantage of a secured parking within the I.E.).

**PROBLEMS TO WHICH THE MEASURE IS RELATED**

1	2	3	4	5	6	7	8	9	10	11
---	---	---	---	---	---	---	---	---	----	----

**OBJECTIVES OF THE PLAN TO WHICH THE MEASURE IS RELATED**

1	2	3	4	5	6	7
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ESTIMATED BUDGET	225.000 €	TERM	SHORT and MID-TERM
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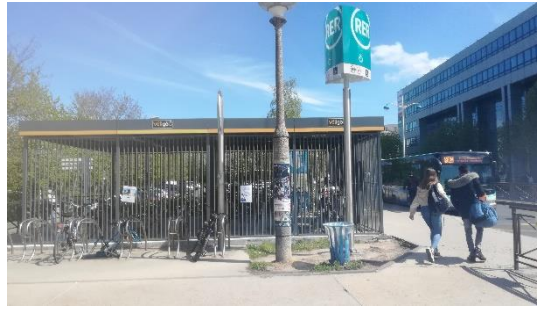
**AGENTS INVOLVED FOR EXECUTION AND FINANCING**

- Generalitat Valenciana. Conselleria d’Habitatge, Obres Públiques i Vertebració del Territori,
- Municipalities of the corridor
- Management entity of the BIZ,
- Ministry of Public Works (RENFE and ADIF)



LOCATION AND GRAPHIC DESCRIPTION

**Cycle compounds for Cercanías stations:**



Example of cycle station located next to a regional rail line (RER). *Noisy-Champs station, line RER A, Champs-sur-Marne, Île-de-France.*

Description of the cycle parking:

20 bicycle parking space + 4 charging space for electric bicycles.

The parking is outside of the stations, it is accessible 7days/7 and 24h/24, with the regional rail pass (Navigo).

Price: 1€/month or 12€/ year.

**Lockers for Metrobus stops and multimodal stations:**



Example of cycle lockers located next to a bus station. *“Busway” line 4, Nantes.*

MEASURE 8		Multimodal stations for car-sharing, car-pooling, demand-responsive transport									
DESCRIPTION											
<p>Nowadays, there is no specific infrastructure for people going to the industrial estates, commercial and services areas on car-sharing, car-pooling, nor demand-responsive transport. Therefore, even if the use of car-pooling and car-sharing can spontaneously increase, these alternative means of transport do not have a priority in order to increase the mean occupancy rate of people going to the BIZ.</p> <p>This measure aims to set the guidelines to create a network of “multimodal stations”. Multimodal stations can be defined as “spaces designed to facilitate the gathering of automobile drivers at strategic points in the territory and to encourage the use of several modes of transport in the travel chain”<sup>1</sup>. This concept is adapted to the EA with the intention of gathering as much means of transport together as possible and with the idea of designing a point of “alternative mobility” in some of the main streets of the BIZ. These will serve for people going to work in the EA but also for people going out of the corridor, for example to València, in order to reduce congestion levels in V-31 during peak hours.</p> <p>The multimodal stations design can vary depending on the size and location.</p> <ul style="list-style-type: none"> <li>▪ <b>Level 1 or Big:</b> multimodal stations with 40 car parks (car-sharing and car-pooling), of which 4 electric charging stations (36+4) and 10 secured bicycle parks, of which 2 for electric bicycles (8+2),</li> <li>▪ <b>Level 2 or Medium:</b> multimodal stations with 20 car parks (car-sharing and car-pooling), of which 2 electric charging stations (18+2) and 5 secured bicycle parks, of which 1 for electric bicycles (4+1)</li> <li>▪ <b>Level 3 or Small:</b> multimodal stations with 10 car parks (car sharing and car-pooling), of which 1 electric charging station (9+1) and 3 secured bicycle parks.</li> </ul> <p>The location of the multimodal stations should give priority to:</p> <ul style="list-style-type: none"> <li>▪ Important roadway axis (V-31, AP-7, CV-33,</li> <li>▪ Busy areas, such as supermarkets or gas stations,</li> <li>▪ Connexion to public transportation,</li> <li>▪ Cycle path connexion to urban centres.</li> </ul> <p>These guidelines may consider the dynamism of mobility solutions and adapt it to demand and other relevant aspects, such as the infrastructure to get to the stations. E.g. if there is not a cycle path, the number of secured bicycle parks can be reduced and increased further on, the multimodal stations can start with 70% of car parks and then increase it to a higher number. Moreover, the location can also vary depending of the infrastructure transformation.</p> <p>Multimodal stations can be useful for people going to the EA from municipalities of the MA located out of the corridor V-30 – Silla – València and not having a direct public transportation connexion, e.g. Torrent, Picanya, Paiport. In those cases, it can be taken advantage of the good road network existing (AP-7 and CV-33) as cars offer a more competitive travel time rather than a classic public transportation line.</p> <p>As this can be a considered a “new” measure and therefore that people may not be familiar with, it is necessary to consider developing a promotion campaign.</p> <p><sup>1</sup>This definition is given by the Seine et Marne department, Ile-de-France, France, on the “Action 5.5: Encouraging and developing car-pooling” and specifically on the best-practice sheet “Linking up Seine-et-Marne with 200 multimodal carpooling stations.”ç_</p>											
PROBLEMS TO WHICH THE MEASURE IS RELATED											
1	2	3	4	5	6	7	8	9	10	11	
OBJECTIVES OF THE PLAN TO WHICH THE MEASURE IS RELATED											
1	2	3	4	5	6	7					
ESTIMATED BUDGET			392.000 €			TERM			SHORT and MID-TERM		
AGENTS INVOLVED FOR EXECUTION AND FINANCING											
<ul style="list-style-type: none"> <li>▪ Generalitat Valenciana. Conselleria d’Habitatge, Obres Públiques i Vertebració del Territori,</li> <li>▪ Municipalities of the corridor,</li> <li>▪ Management entity of the BIZ,</li> </ul>											

GRAPHIC DESCRIPTION

Multimodal station of La Croix de Bazert, Seilhan, Département Haute-Garonne, France :



Multimodal station of Pézarches, Département de Seine et Marne, Île-de-France, France :



MEASURE 9		Metrobus stops refurbishment in the EA									
DESCRIPTION											
<p>Metrobus infrastructure, mainly bus stops, are not adapted to be used in a comfortable way by those people not having an alternative to get to industrial estates but also to those willing to use this mean of transport.</p> <p>This measure aims to propose the guidelines to improve the quality of the bus stops existing nowadays and adapting them to disable people. In case a future change is introduced on the bus lines, itinerary or number of stops, the same the recommendations could be set in order to create a homogenous infrastructure.</p> <p>The Metrobus stations are divided into different categories:</p> <ul style="list-style-type: none"> <li>▪ <u>Level 1</u>: bus stops within urban centres, bus stops connecting with other public transportation means or bus stops in those ZT with more than 2000 trips per day,</li> <li>▪ <u>Level 2</u>: bus stops in ZT with more than 500 and less than 2000 trips per day,</li> <li>▪ <u>Level 3</u>: bus stops that do not present neither the characteristics of Level 1 nor Level 3,</li> <li>▪ <u>Level 4</u>: provisional bus stops in case new potential stops can be identified and try to attract people during a limited period of time.</li> </ul> <p>The design of the bus stops depends on its category and should include at least the following characteristics in all cases:</p> <ul style="list-style-type: none"> <li>▪ Adapted signalling on the driveway to indicate the presence of a bus stop,</li> <li>▪ Specific name for the bus stop, not a generic nor the name and number of the street,</li> <li>▪ Visible Metrobus symbol homogenous to the whole bus line, from the start to the end,</li> <li>▪ Visible and up-to-date time schedule,</li> <li>▪ Adapted to disable people,</li> <li>▪ Lightening,</li> <li>▪ Shadow (trees if it is not a bus shelter).</li> </ul> <p>Additionally, the following characteristics should be considered:</p> <ul style="list-style-type: none"> <li>▪ <u>Level 1</u>: <ul style="list-style-type: none"> <li>- Bus shelter,</li> <li>- Map with information about what is included in a 500 m radius from the bus stop. It should include public institution, other mobility solutions (public transportation, electric vehicle charging stations, multimodal stations (see measure 10). QR to reach the website and be able to know about business, commercial and services location,</li> <li>- Bench,</li> <li>- Specific pavement,</li> </ul> </li> <li>▪ <u>Level 2</u>: <ul style="list-style-type: none"> <li>- Symbolic vertical structure,</li> <li>- Information about what is included in a 500 m radius from the bus stop... (same as Level 1)</li> <li>- Bench,</li> </ul> </li> <li>▪ <u>Level 3</u>: <ul style="list-style-type: none"> <li>- Symbolic vertical structure,</li> </ul> </li> <li>▪ <u>Level 4</u>: <ul style="list-style-type: none"> <li>- Symbolic vertical structure,</li> <li>- Information of why it is a provisional stop.</li> </ul> </li> </ul> <p>In order to improve multimodality and increase visibility of public transportation within the corridor, two modifications are designed:</p> <ul style="list-style-type: none"> <li>▪ Bus stop at Silla Cercanías station: build the bus stop right in front of the station,</li> <li>▪ Mutualisation of stops in I.E. of Sedaví: put together bus stops 14 (EMT) and 183 (Metrobus).</li> </ul>											
PROBLEMS TO WHICH THE MEASURE IS RELATED											
1	2	3	4	5	6	7	8	9	10	11	
OBJECTIVES OF THE PLAN TO WHICH THE MEASURE IS RELATED											
1	2	3	4	5	6	7					
ESTIMATED BUDGET			176.000 €			TERM			SHORT and MID-TERM		
AGENTS INVOLVED FOR EXECUTION AND FINANCING											
<ul style="list-style-type: none"> <li>▪ Generalitat Valenciana. Conselleria d’Habitatge, Obres Públiques i Vertebració del Territori,</li> <li>▪ Municipalities of the corridor</li> </ul>											

<b>MEASURE 10</b>	<b>Management and coordination strategy of the EA</b>										
<b>DESCRIPTION</b>											
<p>Only two of the municipalities within the EA have officially designated a developer, an enterprise association and a managing entity for their industrial estates (Catarroja and Silla), according to IVACE database. If there is not a clear identification of the roles of each of the entities concerned in the development of I.E. (economic activity, urbanism, mobility, etc) municipalities can face difficulties to improve their quality.</p> <p>This measure aims to set the general guidelines for a strategic intervention in terms of management of the industrial, commercial and services areas within the EA, that may allow it to foster more sustainable mobility practices other than private cars.</p> <p>Firstly, it is necessary to update the industrial estates, so they have all a management entity which is responsible for the good development of aspects related to mobility. Secondly, it could be considered the idea of creating a global entity which will coordinate the different municipalities when there are decisions to be made that affect the whole EA.</p> <p>The management entity of the BIZ should promote sustainable transportation and encourage the business existing within the BIZ to take part into the transformation and adaptation process to a new mobility model. For example, it would be necessary to lead the promotion to commute in another mean of transport rather than private vehicle.</p>											
<b>PROBLEMS TO WHICH THE MEASURE IS RELATED</b>											
1	2	3	4	5	6	7	8	9	10	11	
<b>OBJECTIVES OF THE PLAN TO WHICH THE MEASURE IS RELATED</b>											
1	2	3	4	5	6	7					
<b>ESTIMATED BUDGET</b>			ND			TERM			SHORT, MID and LONG-TERM		
<b>AGENTS INVOLVED FOR EXECUTION AND FINANCING</b>											
<ul style="list-style-type: none"> <li>▪ Generalitat Valenciana. Conselleria d’Habitatge, Obres Públiques i Vertebració del Territori,</li> <li>▪ Municipalities of the corridor.</li> </ul>											
<b>LOCATION AND GRAPHIC DESCRIPTION</b>											
This measure concerns all the Economic Area.											

## 5.2. Budget Plan

The budget presented in this Plan corresponds to a planning stage. Therefore, costs are estimated, and they have not been obtained with the accuracy that is needed in further stages of a project. The estimation done is based on mean values (execution cost) of similar projects or on predefined values that can be obtained in the website of the *Instituto Valenciano de la Edificación*. The sources of information vary depending on the measures. For more information, Annexe D) includes the sources of information used.

### Measure 1: Cycling network within the corridor and connecting the EA with the urban centres

	Unitary cost	Estimated length (m)	Estimated Cost	Estimated Cost per km
New cycle path (3 m width)	40,00 €/m <sup>2</sup>	2.840	341.000 €	120.000 €
New cycle path (2,5 m width)	40,00 €/m <sup>2</sup>	1.204	120.000 €	100.000 €
Cycle path on existent road (3m width)	29,00 €/m <sup>2</sup>	2.618	228.000 €	87.000 €
<i>a) North-South walking and cycling axis (Measure 2, alternative 1)</i>	29,00 €/m <sup>2</sup>	9.350	813.000 €	87.000 €
<i>b) Camí Reial de Madrid refurbishment (Measure 4)</i>	29,00 €/m <sup>2</sup>	4.168	363.000 €	87.000 €
Cycle path on existent road (2,5 m width)	29,00 €/m <sup>2</sup>	17.088	1.239.000 €	73.000 €
Cycle path on pavement/shared with pedestrians	28,00 €/m <sup>2</sup>	1.640	115.000 €	70.000 €
Shared street (20 km/h speed limit)	4,97 €/m <sup>2</sup>	7.985	18.000 €	2.000 €
<i>c) N-S walking and cycling axis (Silla urban centre)</i>	4,97 €/m <sup>2</sup>	627	1.400 €	2.000 €
<i>d) Footbridge over V-30</i>	6.484.743,97 € for 3 km	1.000	4.539.000 €	4.539.000 €
Footbridge over V-31	462.122,00 € for 150 m	650	2.003.000 €	3.082.000 €
<b>Total (without a, b, c, d)</b>		34.024	<b>4.064.000 €</b>	119.000 €
<b>Total</b>		49.170	<b>9.780.400 €</b>	199.000 €

\* cost estimated to be 70% of the footbridge between Horta Sud and València CV-400 (6.484.743,97 for 3 km)

\*\* cost estimated from the future footbridge in Massalfassar across V-21, València.

### Measure 2: North - South walking and cycling axis along the EA, from V-30 to Silla

	Unitary cost	Estimated length (m)	Estimated Cost	Estimated Cost per km
Cycle path on existent road (3m width)	29,00 €/m <sup>2</sup>	9.350	813.000 €	87.000 €
Shared street (20 km/h speed limit)	4,97 €/m <sup>2</sup>	627	1.000 €	2.000 €
Road refurbishment (20 m width)	736,36 €/m	9.350	6.885.000 €	736.000 €
Footbridge over V-30	6484743,97 € for 3 km	1.000	4.539.000 €	4.539.000 €
Footbridge on Xiva ravine	462122,00 € for 150 m	100	308.000 €	3.080.000 €
<b>Total</b>		20.427	<b>12.546.000 €</b>	614.000 €

\* cost estimated to be 70% of the footbridge between Horta Sud and València CV-400 (6.484.743,97 for 3 km)

### Measure 3: Integrated Urban Plan of the EA

	Unitary cost	Estimated length (m)	Estimated Cost
<i>Total roadway length within the EA</i>	---	119.253	
Total Road refurbishment (20 m width), 10%	736,36 €/m	11.925	8.781.000 €
Kerb, 20%	14,05 €/m	23.851	335.000 €
Pavement, 20%	30,62 €/m <sup>2</sup>	23.851	1.826.000 €
Landscaping (trees), 20%	8,61 €/tree	23.851	21.000 €
Tree pit, 20%	14,05 €/m	23.851	134.000 €
Landscaping (trees), 60%	8,61 €/tree	71.552	62.000 €
Tree pit, 60%	14,05 €/m	71.552	402.000 €
<b>Total</b>			<b>11.561.000 €</b>

Estimation is based on: 10% of the roadway does not need any change, 10% need a total refurbishment, 20% need to refurbishment pavements and landscape, and 60% need landscaping.

**Measure 4: Improvement and refurbishment of “Camí Reial de Madrid” between Silla and Albal**

	Unitary cost	Estimated length (m)	Estimated Cost	Estimated Cost per km
Cycle path on existent road (3m width)	29,00 €/m <sup>2</sup>	4.168	363.000 €	
Road refurbishment (28 m width)	1203,44 €/m	4.168	5.016.000 €	
2 small roundabout (17,5 m < R <= 22,5 m) R=22 m	31,00 €/m <sup>2</sup>	1.590	99.000 €	
Roundabout V-31 (22,5 m < R <= 40,5 m) R=25 m	35,00 €/m	1.963	69.000 €	
<b>Total</b>			<b>5.547.000 €</b>	<b>1.000,00 €</b>

**Measure 5: Railway conversion into a "Tram-Train" infrastructure between V-30 and Silla**

	Unitary cost	Estimated length (m)	Estimated Cost	Estimated Cost per km
Estimate 1 - Tram-Train project Rhône Express	121 m€ for 7 km	9.457	163.471.000 €	17.286.000 €
Estimate 2 - Road refurbishment + Railway	17.965 €/m	9.457	169.895.000 €	17.965.000 €
<i>Estimate 2.1 - Road refurbishment (30 m width)</i>	2.965 €/m	9.457	28.040.000 €	2.965.000 €
<i>Estimate 2.2 - Tramway Lyon T3 *</i>	15.000 €/m	9.457	141.855.000 €	15.000.000 €
Estimate 3 - Tram 13 express, Île-de-France	306,7 € for 18,8 km	9.457	154.280.000 €	16.314.000 €
<b>Total (mean of Estimate 1, 2 and 3)</b>			<b>162.549.000 €</b>	<b>17.188.000 €</b>

\* cost estimated for a new tramway or tram-train solution on existent railway, and without refurbishment

**Measure 6: Signs and routes for pedestrians and cyclists**

	Unitary cost	Estimated quantity	Estimated Cost
Vertical sign	75,12 €/sign	20,00	1.500 €
Synoptic map	200,00 €/sign*	6,00	1.200 €
<b>Total</b>			<b>2.700,00 €</b>

\*Estimated considering 2,5 times the size of a vertical pole

**Measure 7: Secured cycle parking on Cercanías stations, Metrobus stops and multimodal stations**

	Unitary cost	Estimated quantity	Estimated Cost
Compound	1.500,00 €	4,00	120.000 €
Locker	1.200,00 €	30,00	36.000 €
<b>Total</b>			<b>156.000 €</b>

**Measure 8: Multimodal stations for car-sharing, carpooling and demand-responsive transport**

	Unitary cost	Estimated quantity	Estimated Cost
Estimate 1 - Multimodal stations Pézarches, Dép. Seine-et-Marne, IdF	340000,00 €/station	4,00	272.000 €
<b>Total</b>			<b>272.000 €</b>

Cost estimated to be the fifth part of the Multimodal stations Pézarches, as the ones considered in this Plan will be built on an existent roadway. Cycle parking not included.

**Measure 9: Metrobus stops refurbishment in the EA**

	Unitary cost	Estimated quantity	Estimated Cost
<i>Total bus stops within EA</i>		32	
Level 1_Bus shelter, 70%*	10.565,63 €	16	118.000 €
Level 1 and 2_Vertical sign	75,12 €/sign	32	2.400 €
Landscaping (two trees per bus stop), 85% **	8,61 €/tree	32	200 €
Tree pit, 85% **	14,05 €/m	128 m	1.500 €
<b>Total</b>			<b>122.000 €</b>

\*, \*\* Estimation based on what has been observed, not all the Metrobus stations need to be completed renewed

**Measure 10: Management and coordination strategy of the EA**

Not possible to estimate at this stage

ND

**Total**
**ND**

Once estimated the cost of each of the measures elaborated in this Plan, the whole budget is estimated to be of **283,4 million of euros**.

MEASURE	IDENTIFICATION	EUROS	%
Measure 1	Cycling network within the corridor and connecting the EA with the urban centres	4.064.000 €	2,06%
Measure 2	North - South walking and cycling axis along the EA, from V-30 to Silla	12.546.000 €	6,37%
Measure 3	Integrated Urban Plan of the EA	11.561.000 €	5,87%
Measure 4	Improvement and refurbishment of "Camí Reial de Madrid" between Silla and Albal	5.547.000 €	2,82%
Measure 5	Railway conversion into a "Tram-Train" infrastructure between V-30 and Silla	162.549.000 €	82,59%
Measure 6	Signs and routes for pedestrians and cyclists	3.000 €	0,00%
Measure 7	Secured cycle parking on Cercanías stations, Metrobus stops and multimodal stations	156.000 €	0,08%
Measure 8	Multimodal stations for car-sharing, carpooling and demand-responsive transport	272.000 €	0,14%
Measure 9	Metrobus stops refurbishment in the EA	122.000 €	0,06%
Measure 10	Management and coordination strategy of the EA	ND	ND
<b>TOTAL EXECUTION BUDGET</b>		<b>196.820.000 €</b>	
13,00% General Expenses (GE)		25.586.600 €	
6,00% Industrial Profit (IP)		11.809.200 €	
Total GE + IP		37.395.800 €	
<b>TOTAL BUDGET WITHOUT VAT</b>		<b>234.215.800 €</b>	
21,00% VAT		49.185.318 €	
<b>TOTAL BUDGET WITH VAT</b>		<b>283.400.000 €</b>	

Here below, each of the measures are estimated considering GE, IP and VAT.

MEASURE	EUROS	GG	IP	BUDGET WITHOUT VAT	VAT	BUDGET WITH VAT
Measure 1	4.064.000 €	528.320 €	243.840 €	4.836.160 €	1.015.594 €	<b>5.852.000 €</b>
Measure 2	12.546.000 €	1.630.980 €	752.760 €	14.929.740 €	3.135.245 €	<b>18.065.000 €</b>
Measure 3	11.561.000 €	1.502.930 €	693.660 €	13.757.590 €	2.889.094 €	<b>16.647.000 €</b>
Measure 4	5.547.000 €	721.110 €	332.820 €	6.600.930 €	1.386.195 €	<b>7.987.000 €</b>
Measure 5	162.549.000 €	21.131.370 €	9.752.940 €	193.433.310 €	40.620.995 €	<b>234.054.000 €</b>
Measure 6	3.000 €	390 €	180 €	3.570 €	750 €	<b>4.000 €</b>
Measure 7	156.000 €	20.280 €	9.360 €	185.640 €	38.984 €	<b>225.000 €</b>
Measure 8	272.000 €	35.360 €	16.320 €	323.680 €	67.973 €	<b>392.000 €</b>
Measure 9	122.000 €	15.860 €	7.320 €	145.180 €	30.488 €	<b>176.000 €</b>
Measure 10	ND					<b>ND</b>



### 5.3. Action Plan

The action plan is set in three periods of time: short-term (0-5 years), mid-term (5-10 years) and long-term (10-20 years). The first two time divisions are defined in accordance of a long-term vision and strategy, as the “Guidelines – Developing and implementing a Sustainable Urban Mobility Plan” (Wefering et al., 2013) states. The mid-term scenario is defined regarding the Agenda 2030 of United Nations, which 17 Goals promoted are to be achieved by 2030<sup>13</sup>.

The order in which the measures are planned to be implemented, and the budget dedicated to each of them, is defined considering the impact of each of the measures but also the dependence between some of them. The package of measures is integrated as a whole and therefore some measures might not be started until others are finished or underdevelopment. The following assumptions have been made in order to set the action plan:

- Measure 5 (Railway conversion into a “Tram-Train” infrastructure between V-30 and Silla) represents 83% of the total budget, needs a major consensus between public authorities and the elaboration of previous studies and analysis. Therefore, this measure is set on a long-term basis,
- The rest of the measures, except Measure 9, will be achieved in mid-term. The whole budget dedicated to this measure is to be allocated by 2030.
- Measure 9 (Metrobus stops refurbishment in the EA) may be finished by the first 5 years from now, as it is a measure that represents a small part of the budget and by itself can already set the change within the EA by 2024,
- Measures 1, 2, 3, 4, 7 and 8 can start to be developed from now as they are related one to each other and therefore it is of high relevance to obtain an integrated development vision from the beginning,
- Measure 6 is to be implemented as the walking and cycling infrastructure is developed, which can be estimated from year 3,
- The budget for Measure 10 has not been estimated. Nevertheless, the management and coordination strategy is to be defined by the end 2020 and its implementation will carry on during the whole action plan.

The action plan is shown in detail on the chart below. The budget specified represents the budget with General Expenses, Industrial Profit and VAT, and does not consider maintenance and operation.

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<sup>13</sup> About the Sustainable Development Goals: <https://www.un.org/sustainabledevelopment/sustainable-development-goals/>

Measure	Short-term				Mid-term					Long-term										Measure's tender budget with VAT						
	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Year 11	Year 12	Year 13	Year 14	Year 15	Year 16	Year 17	Year 18		Year 19					
Measure 1		70%		4.096.000 €			30%	1.756.000 €																	5.852.000 €	
Measure 2		50%		9.033.000 €			50%	9.033.000 €																		18.065.000 €
Measure 3		50%		8.324.000 €			50%	8.324.000 €																		16.647.000 €
Measure 4		80%		6.390.000 €			20%	1.597.000 €																		7.987.000 €
Measure 5							5%	11.703.000 €																		234.054.000 €
Measure 6							40%	1.600 €																		4.000 €
Measure 7		75%					25%	56.250 €																		225.000 €
Measure 8		70%					30%	117.600 €																		392.000 €
Measure 9		100%						176.000 €																		176.000 €
Measure 10	Development										Implementation															ND
Term cost		28.463.750,00 €					32.589.250,00 €																			283.400.000 €
								61.053.000 €																		283.400.000 €

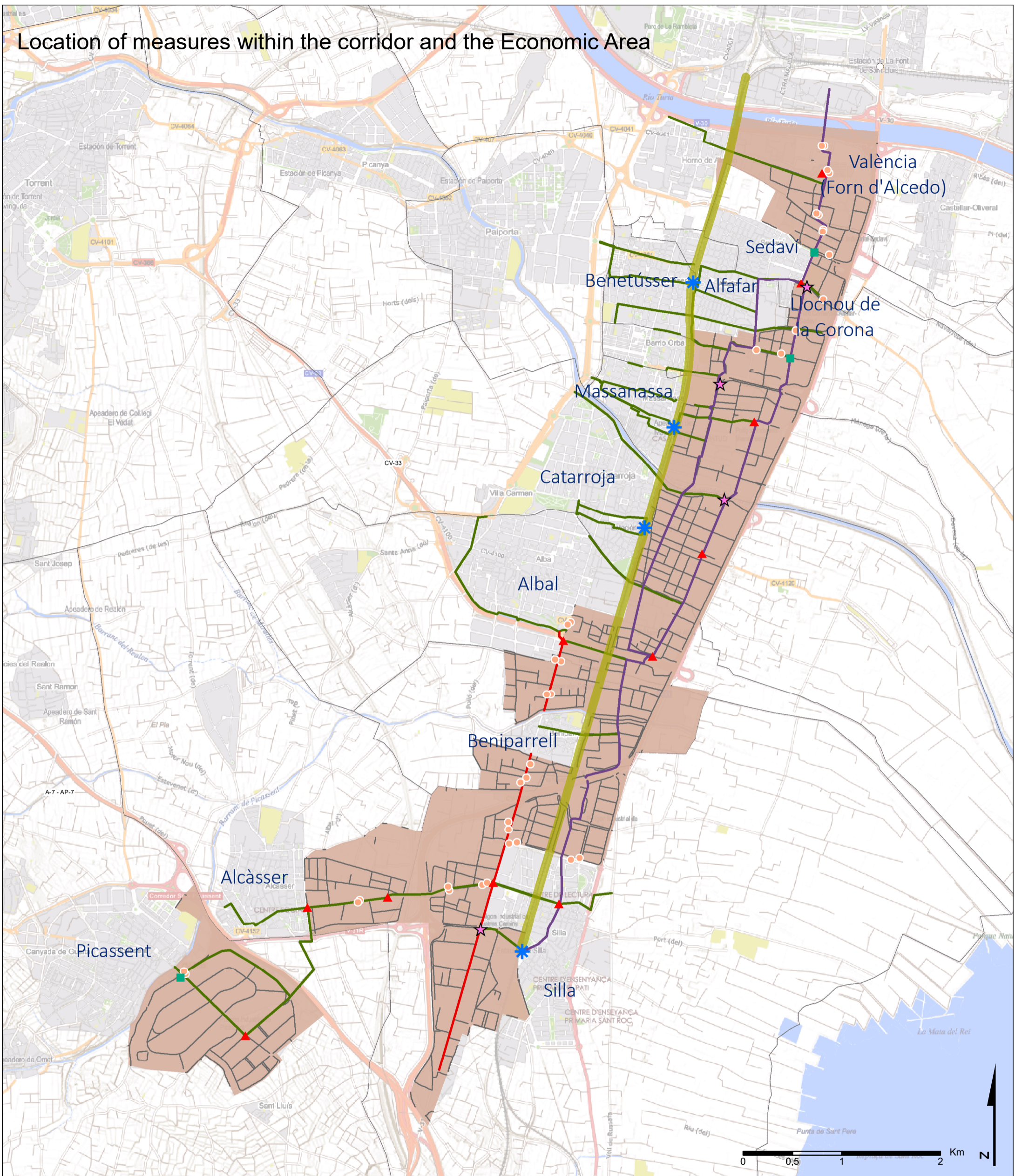


#### 5.4. Measures's plan

In order to locate all the measures together within the corridor Silla – València, the following plan is presented.



# Location of measures within the corridor and the Economic Area



## Package of measures proposed on this Plan

**Measure 1: Cycle network within the corridor and connecting the EA with the urban centres**

— 50 km of cycling infrastructure (3 m cycle path, 2,5 m cycle path, shared streets)

**Measure 2: North - South walking and cycling axis along the EA, from V-30 to Silla**

— 9,4 km of walking and cycling connection along the Economic Area

**Measure 3: Integrated Urban Plan of the EA**

— Refurbishment of the roadway within the EA (pavement, landscaping, pedestrian crossings)

**Measure 4: Improvement and refurbishment on "Camí Reial de Madrid", between Silla and Albal**

— 4,2 km improved along an important axis connection the municipalities of the corridor

**Measure 5: Railway conversion into a "Tram-Train" infrastructure between V-30 and Silla**

— 9,5 km transformed into an integrated railway infrastructure

**Measure 8: Multimodal stations, car-sharing, carpooling and demand-responsive transport**

★ 4 multimodal stations within the EA

**Measure 7: Secured cycle parking on Cercanías, Metrobus and multimodal stations**

★ 4 Compounds, 20pax, on each of the Cercanías stations (locker to be precisely defined)

**Measure 6: Signs and routes for pedestrians and cyclists**

■ Synoptic maps, to inform about the industrial estates, institutions, and timing the routes

▲ Vertical poles, to indicate the direction to follow along predefined routes

**Measure 9: Metrobus stops refurbishment in the EA**

○ Measure 9: Metrobus stops refurbishment in the EA

**Measure 10: Management and coordination strategy of the EA**

■ Management entities and business association update, improvement measures

## 6. Conclusion

This Mobility Plan is a planning tool that allows facing a great challenge in terms of mobility within the metropolitan area of Valencia. Thanks to this document, it will be possible to promote more sustainable ways of moving than the car and it will be possible to achieve a greater presence in an area where the private vehicle is currently the dominant one.

Analysing the situation regarding mobility in the Economic Area between Silla and València led to understand two very important aspects: how people move and what the current situation in terms of mobility is, in a corridor situated on a consolidated territory at the southern entrance to València. Firstly, knowing why people move to the AE, where they come from and which mode of transport is used has been essential to establish the starting point for this Plan. It has been possible to see that in the AE the reason for commuting for work related purposes is twice the mean tendency of the AM; 50% of the trips are working trips, instead of an average of 25% in the AM or even in the corridor –Silla - València. This has allowed to focus the attention on this type of mobility, and it has been proved that movements for work reasons have their origin not only in the municipality itself, but also in the corridor, as well as in the municipalities outside of it and in Valencia. Understand these patterns of mobility has later served to propose solutions in a personalized and concrete way depending on the estimated distance of the trip; foot, bicycle, public transport, carpooling, transport on demand, private vehicle. Regarding the means of transport, the analysis of the mobility survey carried out within the framework of the PMoMe has confirmed the initial hypothesis that the private vehicle is the most used vehicle to reach the EA. On average, the modal share is around 95%, compared to 75% at corridor level. Secondly, it has also been analysed the current situation regarding the different types of travel: pedestrians, bicycles, public transport, multimodality, private vehicle, town planning, innovation.

Thanks to the integration of all this information, it has been possible to determine the reasons why this point has been reached. In this way, it has been observed: the small quantity and low quality of cycling and pedestrian infrastructures in almost all BIZ, the inappropriate offer of public transport and the lack of maintenance and conservation of it, the lack of infrastructures and promotion of multimodal journeys, the low presence of alternatives to the car as a private vehicle, and the lack of a clear and shared strategy in terms of management and coordination of the mobility of the EA.

Afterwards, the plan has been implemented. The main challenge of the proposed measures is to change mobility patterns, which means reducing the number of cars travelling to the EA on a daily basis. To this purpose, it has been endeavoured at all times to guarantee ease of access to alternative modes of transport. This has been an exercise of thinking, contribution of ideas, conscious assessment of them, which highlights four aspects of significant importance. In the first place, coordination between public entities, of different scope, is imperative, as well as with companies that carry out their activities within the EA. Secondly, it is not possible to reduce the problems and measures of an area to a strict or even extended perimeter of action. Mobility goes further and raises challenges that must be addressed in a holistic and integrated way. For example, renovating Metrobus stations would be of poor use if the offer of this mode of transport is not adapted, and for this it is necessary to consider the route from the beginning to the end, not only reduce the scope of action to the AE. Thirdly, and on the basis of the two previous premises, it can be stated that the mobility of the AE, to and from it, is not limited to municipal borders, or even between neighbouring municipalities. For this reason, it is

important to consider whole journeys in order to be able to know the routes people make from the start to the end. Finally, the change in mobility patterns must be achieved so that there are comfortable, safe and economic alternatives to the private vehicle, without the latter being ignored.

The solutions proposed in this plan do not seek to keep the car apart, it is integrated in the same way as other modes of transport. The 10 measures proposed are intended to ensure that anyone who does not really need the car does not use it and can easily have another option. These guidelines can help reduce the social, economic and environmental costs of the current EA mobility model. From the social point of view, it will be ensured that the location of industrial estates and tertiary use areas are not a reason for social exclusion, that anyone who does not have an alternative to the car can also travel to his place of work. From an economic point of view, investment will be made for more sustainable modes of transport and not only for those infrastructures designed for the car. Finally, on the environmental point of view, dependence on fossil fuels can be lowered and the ecological footprint reduced.

At the end of the whole process of developing this Plan, it can be concluded that the problem has been tackled from an integrated perspective. Having worked on the basis of this global notion of mobility will ensure that, as a minimum, all EA workers or visitors are at the same level. To do so, priority has been given to the development of alternative measures to the private vehicle, and these are justified simply by the clear current imbalance in favour of the car.

Finally, the personal opinion of the author is provided. I believe that the work carried out provides concrete ideas for an area of the territory of the AM in Valencia, which will allow the current model of mobility, based on the car, to be changed in favour of a more sustainable one. I also believe that for a change, it is necessary to know how to play the game, to know how to "sell the product". In the same way that we are flooded with advertising for cars, why shouldn't we be surrounded by efficient, more sustainable, connected, healthy mobility solutions, etc? I am convinced that, if we believe in it, we can change mobility patterns. Of course, not without effort, coordination and joint work of all the agents involved in the matter (from public entities to private companies and the users of mobility infrastructures and services).

This academic project, which has been carried out after a combined programme between two universities, the Universitat Politècnica de València and the École des Ponts ParisTech, integrates the knowledge acquired in both academic institutions, which makes its content even more enriching. At the same time, it draws on my professional experience in France and thus allows me to transfer specific examples from the neighbouring country.



This document is presented to obtain the Master's Degree in Civil Engineering at the Universitat Politècnica de València and the Engineering Diploma (*Diplôme Ingénieur*) at the École des Ponts ParisTech.

València, 16<sup>th</sup> May 2019.

The author of the Master's Degree Final Thesis

Laia Llin Esteller





## 7. References

- COMMERCE. (2008). *Mobility Plan Guide Book*. Creating Optimal Mobility Measures to Enable Reduced Commuter Emissions. Intelligent Energy Europe.
- DREAI. (2015). *Les outils de calcul d'accessibilité*. Direction régional et interdépartementale de l'Équipement et de l'Aménagement d'Île-de-France.
- G.V. (2011). Ley 6/2011, de 1 de abril, de la Generalitat, de Movilidad de la Comunidad Valenciana.
- G.V. (2018a). Documento 4 – Elaboración y explotación de las encuestas de transporte público. Pla de Mobilitat Metropolità de València. Generalitat Valenciana. Retrieved from <https://www.pmomevalencia.com/documents>
- G.V. (2018b). Esborrany del Pla i Document Inicial Estratègic. Pla de Mobilitat Metropolità de València. Generalitat Valenciana. Retrieved from <https://www.pmomevalencia.com/documents>
- G.V. (2018c). *Mapa de corredores metropolitanos*. Pla de Mobilitat Metropolità de València. Generalitat Valenciana. Retrieved from <https://www.pmomevalencia.com/documents>
- G.V. (2018d). Pla Bàsic de Mobilitat de l'Àrea Metropolitana de València. Capítol 1, Capítol 2 (part 1). Pla de Mobilitat Metropolità de València. Generalitat Valenciana. Retrieved from <https://www.pmomevalencia.com/documents>
- G.V. (2018e). Pla Bàsic de Mobilitat de l'Àrea Metropolitana de València. Capítol 2 (part 2) - Capítol 6. Pla de Mobilitat Metropolità de València. Generalitat Valenciana. Retrieved from <https://www.pmomevalencia.com/documents>
- G.V. (2018f). Pla Bàsic de Mobilitat de l'Àrea Metropolitana de València. Capítol 7, part 2. Pla de Mobilitat Metropolità de València. Generalitat Valenciana. Retrieved from <https://www.pmomevalencia.com/documents>
- G.V. (2018g). Plan de Acción Territorial de Ordenación y Dinamización de la Huerta de Valencia, 204. Retrieved from <http://www.habitatge.gva.es/es/web/planificacion-territorial-e-infraestructura-verde/planes-y-proyectos>
- Gómez Orea, D. (2008). *Ordenación territorial* (2nd ed.).
- Insee. (2018). Populations légales en vigueur à compter du 1er janvier 2019, Rhône, 1. Retrieved from <http://www.insee.fr/fr/themes/theme.asp?theme=2>
- MoMa.BIZpartners. (2013). Final Publishable Report, Doc. Ref. N. 0-00-X-2003-03-0, 2003-08-31.
- PATECO. (2018). El sector de centros comerciales en la Comunitat Valenciana 2018.
- SIOSE, E. T. N. (2018). *Estructura y consulta de la base de datos SIOSE*. Retrieved from [http://www.siose.es/SIOSEtheme-theme/documentos/pdf/Estruc\\_Cons\\_Bas\\_dat\\_SIOSE\\_v3.pdf](http://www.siose.es/SIOSEtheme-theme/documentos/pdf/Estruc_Cons_Bas_dat_SIOSE_v3.pdf)
- Wefering, F., Rupprecht, S., Bührmann, S., & Böhrer-Baedeker, S. (2013). Guidelines - Developing and implementing a sustainable urban mobility plan. *European Commission*, 150. <https://doi.org/10.1023/A:1023065823358>
- Wikipedia. (n.d.). SWOT analysis. Retrieved from [https://en.wikipedia.org/wiki/SWOT\\_analysis](https://en.wikipedia.org/wiki/SWOT_analysis)



## Annexes

### A) Demographical indicators

From	Population 2018	Surface (km <sup>2</sup> )	Population density (inh./km <sup>2</sup> )	Population within the corridor 2016	Surface within the corridor (km <sup>2</sup> )	Population density within the corridor (inh./km <sup>2</sup> )	Difference municipality and corridor
Albal	16270	7,37	2208	16067	2,88	5585	2,5
Alcàsser	9908	9,01	1100	9661	2,28	4229	3,8
Alfajar	20763	10,10	2056	20420	2,17	9409	4,6
Benetússer	14668	0,78	18805	14506	0,76	19115	1,0
Beniparrell	1931	3,68	525	1849	2,08	889	1,7
Catarroja	27827	13,04	2134	26248	2,58	10184	4,8
Llocnou de la Corona	118	0,04	2950	136	0,04	3246	1,1
Massanassa	9538	5,59	1706	9295	1,86	5005	2,9
Picassent	20709	85,79	241	19085	4,56	4181	17,3
Sedaví	10245	1,83	5598	9788	1,17	8399	1,5
Silla	18467	25,03	738	18213	4,60	3956	5,4
València	791413	134,63	5878	6726	2,32	2901	0,5
<b>Total</b>	<b>150444</b>	<b>134,63</b>	<b>1117</b>	<b>151994</b>	<b>27,30</b>	<b>5568</b>	<b>2,5</b>

### B) Trip characterisation

#### 1. All trips

From	Trips	Rate	To	Trips	Rate
<i>All</i>	360.052	100,0%	<i>Total</i>	359.063	100,0%
Catarroja	72.838	20,2%	Catarroja	72.790	20,3%
Alfajar	55.404	15,4%	Alfajar	55.063	15,3%
Picassent	47.615	13,2%	Picassent	46.675	13,0%
Silla	40.779	11,3%	Silla	40.870	11,4%
Benetússer	35.381	9,8%	Benetússer	35.082	9,8%
Albal	34.905	9,7%	Albal	34.961	9,7%
Massanassa	26.093	7,2%	Massanassa	25.840	7,2%
Sedaví	21.159	5,9%	Sedaví	21.281	5,9%
Alcàsser	19.823	5,5%	Alcàsser	20.447	5,7%
Beniparrell	5.843	1,6%	Beniparrell	5.842	1,6%
Llocnou	212	0,1%	Llocnou	212	0,1%

Table 29. Trips made to and from the municipality.

Trips taking place to and from the municipalities of the corridor are 359 063 and 360 052, respectively. This means that 63% (to and from the corridor) regarding the global volume generated by the people in the corridor *Sur* is due to the area of study.

## 2. Trips inside the municipality

Municipality	Volume	Rate	Population
All	185.342	100,0%	150.444
Catarroja	42.307	22,8%	27.827
Picassent	26.087	14,1%	20.709
Alfajar	24.887	13,4%	20.763
Silla	20.312	11,0%	18.467
Albal	18.766	10,1%	16.270
Benetússer	17.923	9,7%	14.668
Massanassa	13.762	7,4%	9.538
Alcàsser	11.075	6,0%	9.908
Sedaví	8.055	4,3%	10.245
Beniparrell	2.126	1,1%	1.931
Llocnou de la Corona	42	0,0%	118

Table 30. Trips inside the municipality.

Trips generated inside the municipalities suppose 185.342 regarding 360.052 (from the corridor) and 359.063 (to the corridor). This means that in global terms 51% of the trips stay inside the municipality and thought they would not necessary concern long distances.

There is a direct correlation between population of the municipality and trips within it, except for the municipality of Sedaví. It has 10.245 inhabitants, more than Massanassa and Alfajar and less than Benetússer, and inside-the-municipality trips are less than the first two.

## 3. Trips to and from València

From	Volume	Rate	To	Volume	Rate
All	57 795	100,0%	All	57 600	100,0%
Catarroja	10 399	18,0%	Catarroja	10 304	17,9%
Silla	10 193	17,6%	Silla	9 323	16,2%
Alfajar	8 611	14,9%	Alfajar	8 503	14,8%
Picassent	7 285	12,6%	Picassent	8 642	15,0%
Benetússer	6 142	10,6%	Benetússer	6 256	10,9%
Sedaví	5 587	9,7%	Sedaví	5 577	9,7%
Albal	3 811	6,6%	Albal	4 031	7,0%
Alcàsser	2 713	4,7%	Alcàsser	2 226	3,9%
Massanassa	2 026	3,5%	Massanassa	1 729	3,0%
Beniparrell	996	1,7%	Beniparrell	977	1,7%
Llocnou de la C.	32	0,1%	Llocnou de la C.	32	0,1%

Table 31. Trips from and to València.

Trips to and from València represent 16% of the trips generated to and from all the municipalities of the corridor.

#### 4. Trips within municipalities inside the corridor

From	Volume	Rate	To	Volume	Rate
All	79.149	100,0%	All	79.149	100,0%
Alfatar	14.350	18,1%	Alfatar	14.833	18,8%
Catarroja	14.264	18,0%	Catarroja	14.353	18,2%
Benetússer	8.924	11,3%	Benetússer	8.806	11,1%
Massanassa	8.640	10,9%	Massanassa	8.621	10,9%
Albal	8.081	10,2%	Albal	7.979	10,1%
Picassent	7.108	9,0%	Picassent	5.759	7,3%
Silla	6.401	8,1%	Silla	7.113	9,0%
Sedaví	5.896	7,4%	Sedaví	5.963	7,5%
Alcàsser	3.548	4,5%	Alcàsser	4.100	5,2%
Beniparrell	1.813	2,3%	Beniparrell	1.498	1,9%
Llocnou	124	0,2%	Llocnou	124	0,2%

Table 32. Trips within the municipalities inside the corridor.

Trips between municipalities of the area of study sum up 79.149, which represents 22% of the total movements with origin or destination the area of study.

The following 20 trips are the ones with highest significance in terms of volume within the corridor of study.

From	Volume	Rate	To	Volume	Rate
Benetússer	Alfatar	3.709	Catarroja	Alfatar	2.298
Massanassa	Catarroja	3.553	Alfatar	Massanassa	2.112
Catarroja	Albal	3.534	Picassent	Alcàsser	2.054
Alfatar	Benetússer	3.512	Massanassa	Alfatar	2.024
Albal	Catarroja	3.490	Silla	Picassent	1.993
Catarroja	Massanassa	3.400	Alfatar	Silla	1.802
Picassent	Silla	2.533	Catarroja	Benetússer	1.730
Alfatar	Catarroja	2.453	Silla	Alfatar	1.718
Alfatar	Sedaví	2.370	Alcàsser	Picassent	1.433
Sedaví	Alfatar	2.322	Albal	Massanassa	1.286

Table 33. The 20 most important trips within the corridor of study.

These 20 movements suppose 49.327 trips out of 79.149 made in total, which means 62% overall.

#### 5. Trips within municipalities outside the corridor

From	Volume	Rate	To	Volume	Rate
All	35.964	100,0%	All	35.752	100,0%
Alfatar	7.483	20,8%	Alfatar	6.794	19,0%

Picassent	6.620	18,4%	Picassent	5.987	16,8%
Catarroja	5.620	15,6%	Catarroja	5.682	15,9%
Silla	3.873	10,8%	Silla	4.122	11,5%
Albal	3.688	10,3%	Albal	3.626	10,1%
Alcàsser	2.423	6,7%	Alcàsser	2.982	8,3%
Benetússer	2.256	6,3%	Benetússer	2.097	5,9%
Massanassa	1.665	4,6%	Massanassa	1.728	4,8%
Sedaví	1.417	3,9%	Sedaví	1.482	4,1%
Beniparrell	908	2,5%	Beniparrell	1.241	3,5%
Llocnou	11	0,0%	Llocnou	11	0,0%

Table 34. Trips within the municipalities outside the corridor.

Trips to and from the corridor and to and from outside of it, without taking into consideration the city of València and the outside are or the MA, represent 10% of the 360.052 (from the corridor) and 359.063 (to the corridor) global volume. This means that, in general terms, trips to and from the municipalities outside of the corridor are less than half of the corresponding volume that occurs inside the corridor.

From	Volume	Rate	To	Volume	Rate
Alfatar	Paiporta	1.334	Catarroja	Paterna	711
Alcàsser	Torrent	1.203	Picassent	Llíria	697
Picassent	Sueca	1.122	Picassent	Manises	673
Picassent	Torrent	1.084	Picassent	Almussafes	655
Alfatar	Burjassot	997	Alcàsser	Almussafes	644
Alfatar	Torrent	960	Albal	Burjassot	635
Benetússer	Alaquàs	945	Silla	Torrent	615
Albal	Torrent	917	Catarroja	Mislata	610
Silla	Cheste	874	Catarroja	Alaquàs	566
Alfatar	Alaquàs	765	Catarroja	Aldaia	518

Table 35. The 20 most important trips to municipalities outside of the corridor, inside the MA and without València.

From	Volume	Rate	To	Volume	Rate
Paiporta	Alfatar	1.334	Almussafes	Alcàsser	708
Torrent	Alcàsser	1.138	Llíria	Picassent	697
Sueca	Picassent	1.122	Burjassot	Alfatar	682
Torrent	Picassent	1.084	Almussafes	Picassent	655
Torrent	Albal	917	Burjassot	Albal	635
Alaquàs	Benetússer	905	Cheste	Alcàsser	624
Cheste	Silla	874	Mislata	Catarroja	610
Torrent	Alfatar	809	Alaquàs	Catarroja	566
Torrent	Silla	718	Alaquàs	Beniparrell	561
Paterna	Catarroja	711	Aldaia	Catarroja	518

Table 36. The 20 most important trips from municipalities outside of the corridor, inside the MA and without València.

These 20 movements (Table 35) suppose 16.526 trips out of 35.964 made in total from the corridor, which means 46% overall. The 20 trips included in Table 36 represent 15.533 out of 35.752 made in total to the corridor, which means 43% overall. It can be observed that it does not happened the same

as with the trips having place inside the corridor, where there was a bigger concentration between certain municipalities as the first 20 trips represent 62% overall. The tendency observed here brings to light that there would be trips

### 6. Trips within the area outside the MA

From	Volume	Rate	To	Volume	Rate
All	1802	100,0%	All	1217	100,0%
Albal	559	31,0%	Albal	559	45,9%
Picassent	515	28,6%	Picassent	200	16,4%
Catarroja	248	13,8%	Catarroja	144	11,8%
Sedaví	204	11,3%	Sedaví	204	16,8%
Benetússer	136	7,5%	Benetússer	0	0,0%
Alfajar	73	4,1%	Alfajar	46	3,8%
Alcàsser	64	3,6%	Alcàsser	64	5,3%
Llocnou	3	0,2%	Llocnou	3	0,2%
Beniparrell	0	0,0%	Beniparrell	0	0,0%
Massanassa	0	0,0%	Massanassa	0	0,0%
Silla	0	0,0%	Silla	0	0,0%

Table 37. Trips within the area outside the MA.

Trips to and from outside of the Metropolitan Area are much less than the rest. It should be due to the fact that there were no people interviewed in the survey that lived outside of the MA and thought there are only quantified the trips for people that live inside the MA but that might go outside of it and back.

### 7. Conclusions

In mean terms, trips occurring from or to the municipalities consider in the area of study, present the following particularities:

- 55 % of the trips are made inside the municipalities,
- 16% of the trips are related to València, the capital of the Metropolitan Area,
- 22% of the trips are due to movements inside the corridor of study,
- 10% of the trips occur from or to municipalities outside of the corridor,
- 5% of the trips concern people moving from or to the outside of the MA.

#### ii. Trip details for every municipality of the corridor

The following graphics detail mobility of the municipalities of the corridor, one by one, for all purpose of trips.



### 1. Albal

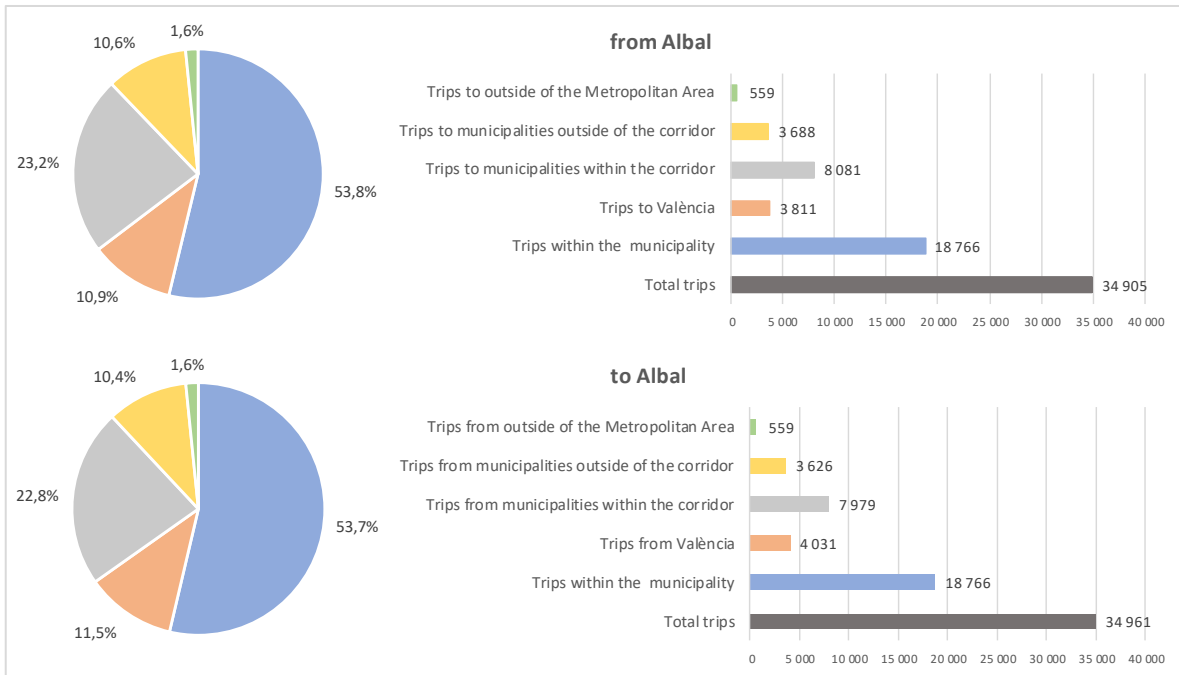


Fig. 60. Albal trips description.

### 2. Alcàsser

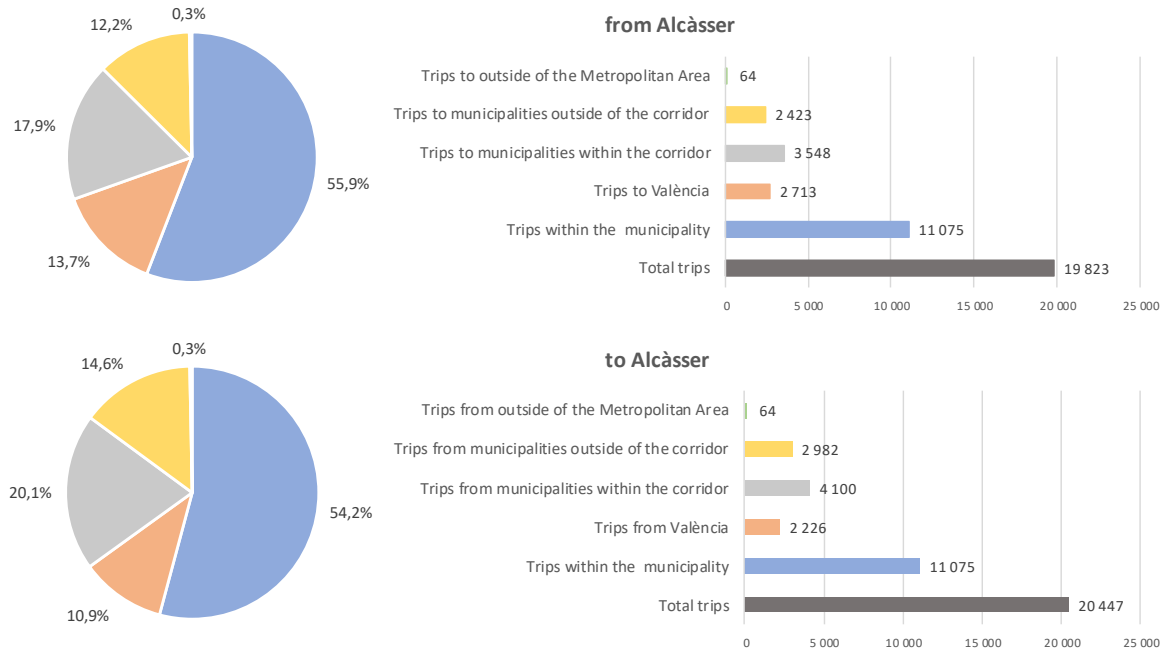


Fig. 61. Alcàsser trips description.

### 3. Alfafar

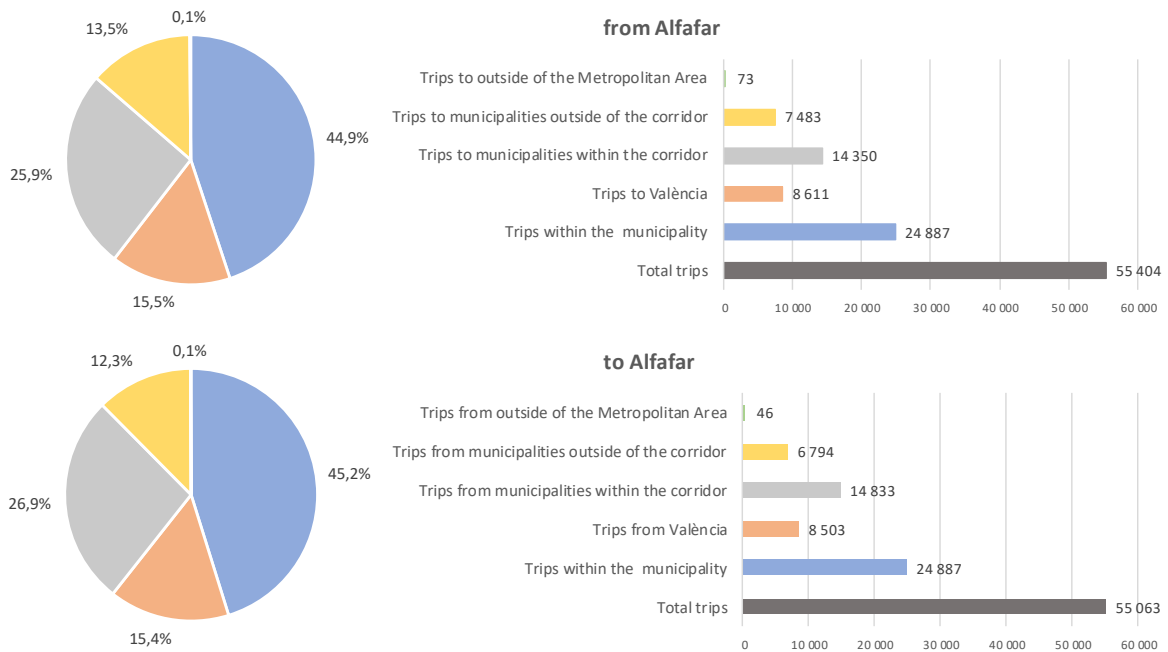


Fig. 62. Alfafar trips description.

### 4. Benetússer

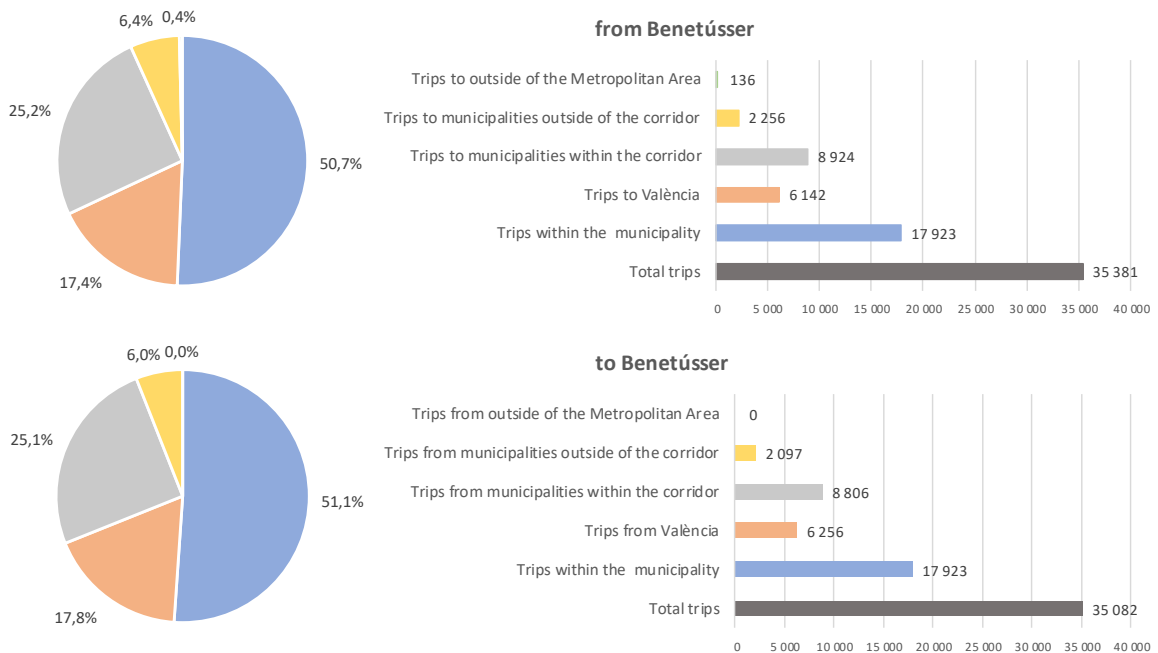


Fig. 63. Benetússer trips description.

### 5. Beniparrell

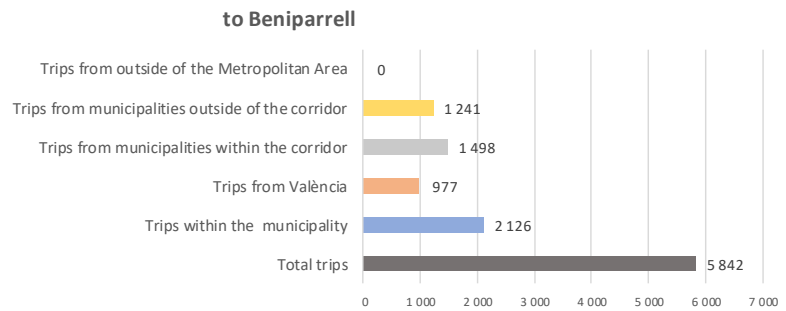
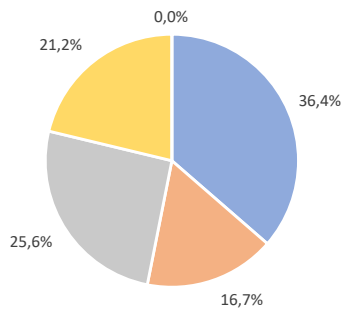
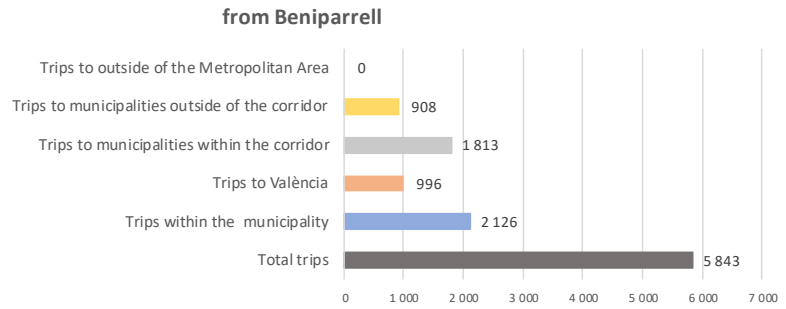
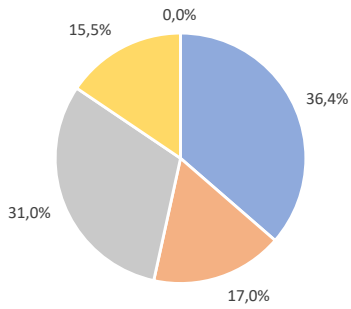


Fig. 64. Beniparrell trips description.

### 6. Catarroja

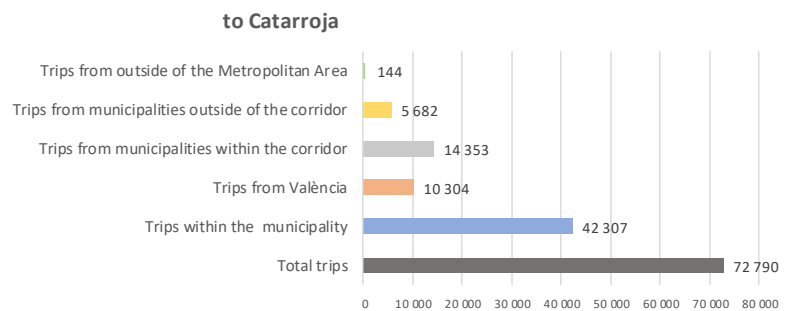
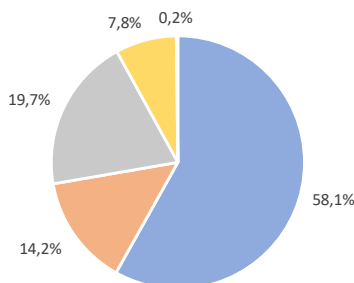
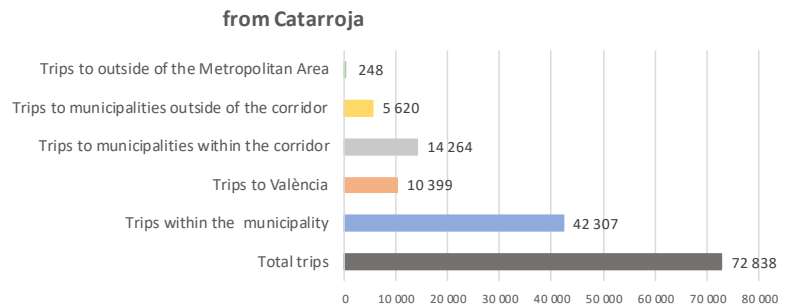
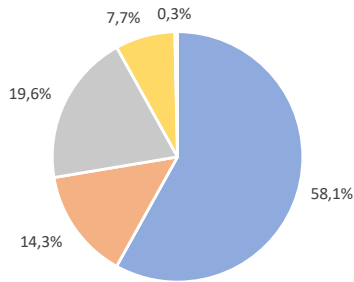


Fig. 65. Catarroja trips description.

### 7. Llocnou de la Corona

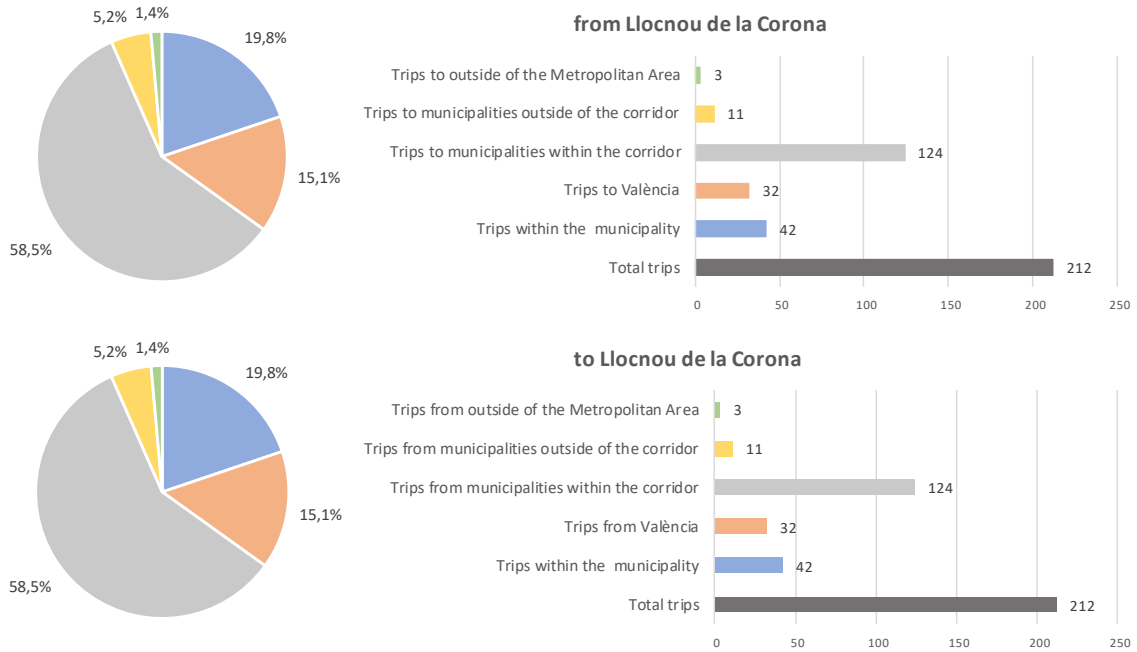


Fig. 66. Llocnou de la Corona trips description.

### 8. Massanassa

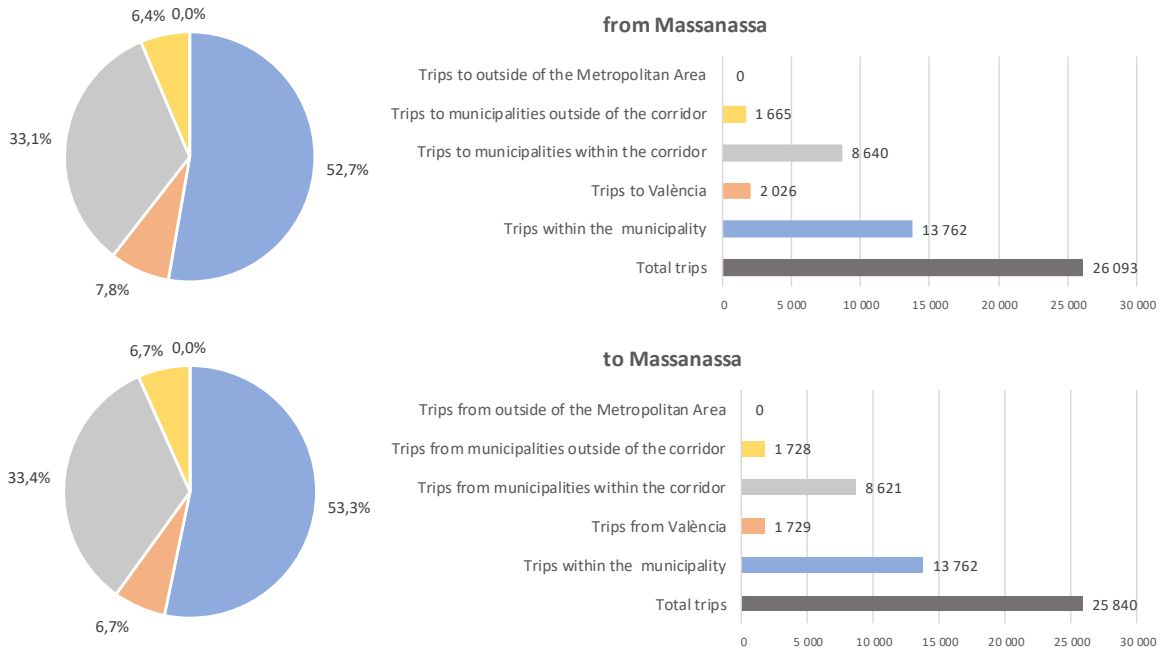
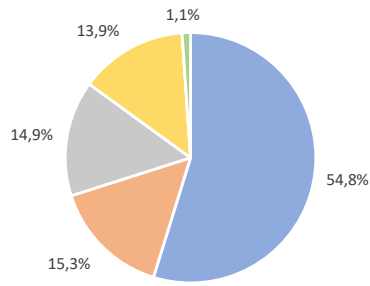
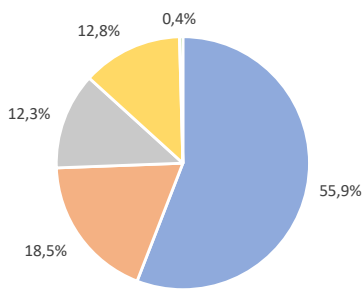
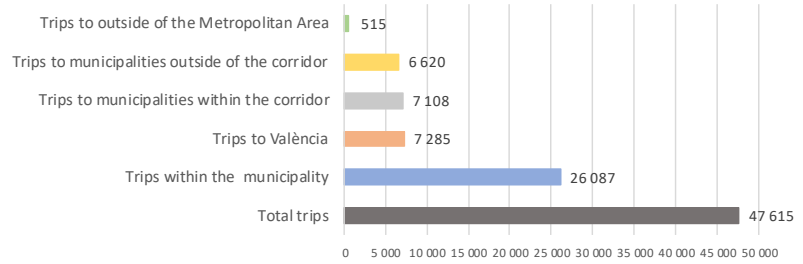


Fig. 67. Massanassa trips description.

### 9. Picassent



#### from Picassent



#### to Picassent

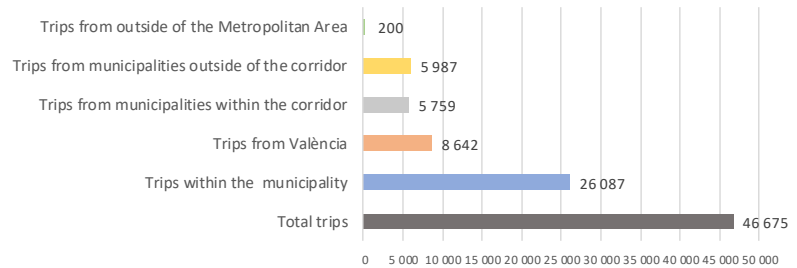
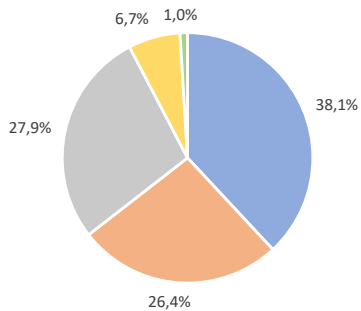
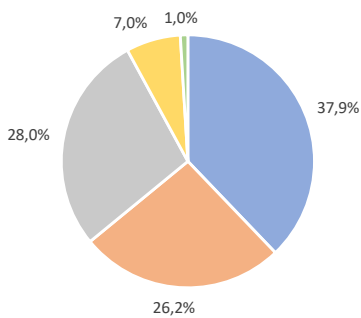
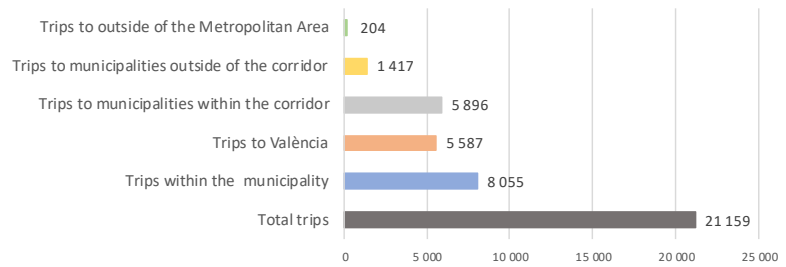


Fig. 68. Picassent trips description.

### 10. Sedaví



#### from Sedaví



#### to Sedaví

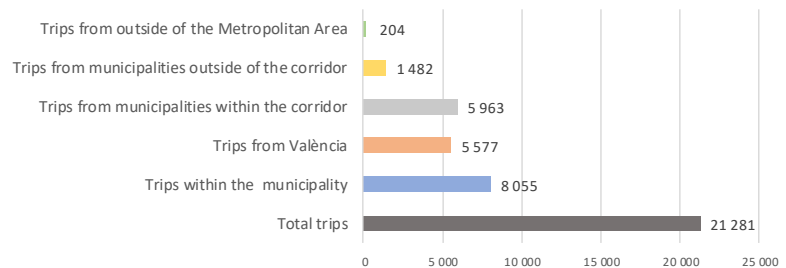


Fig. 69. Sedaví trips description.

### 11. Silla

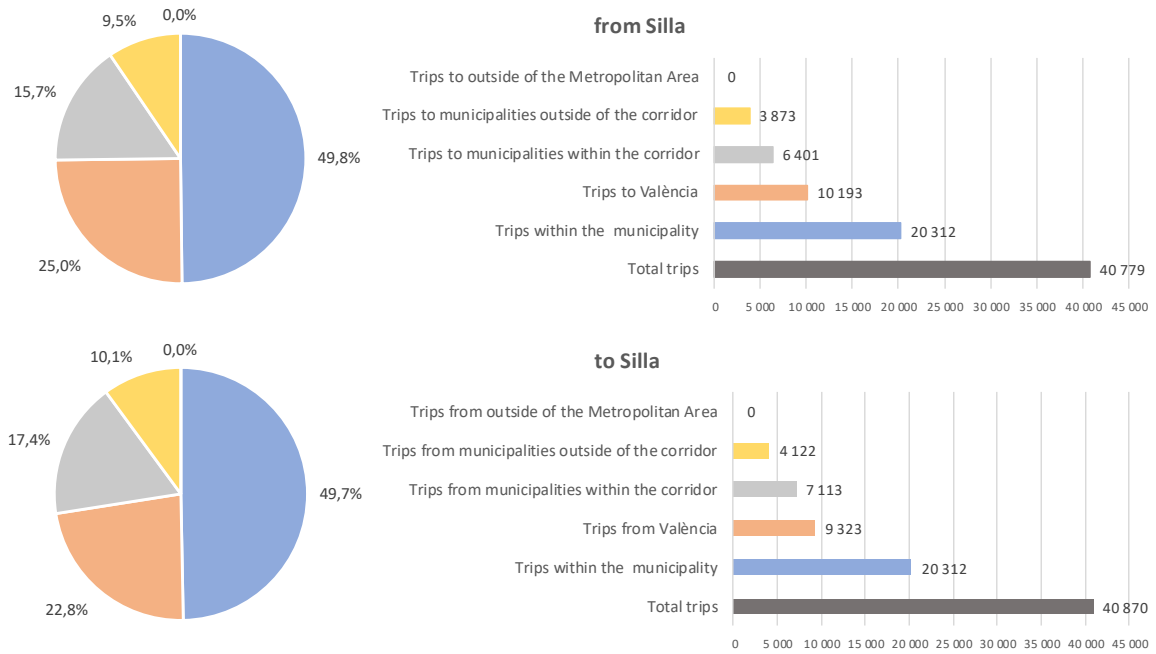


Fig. 70. Silla trips description.

### 12. València

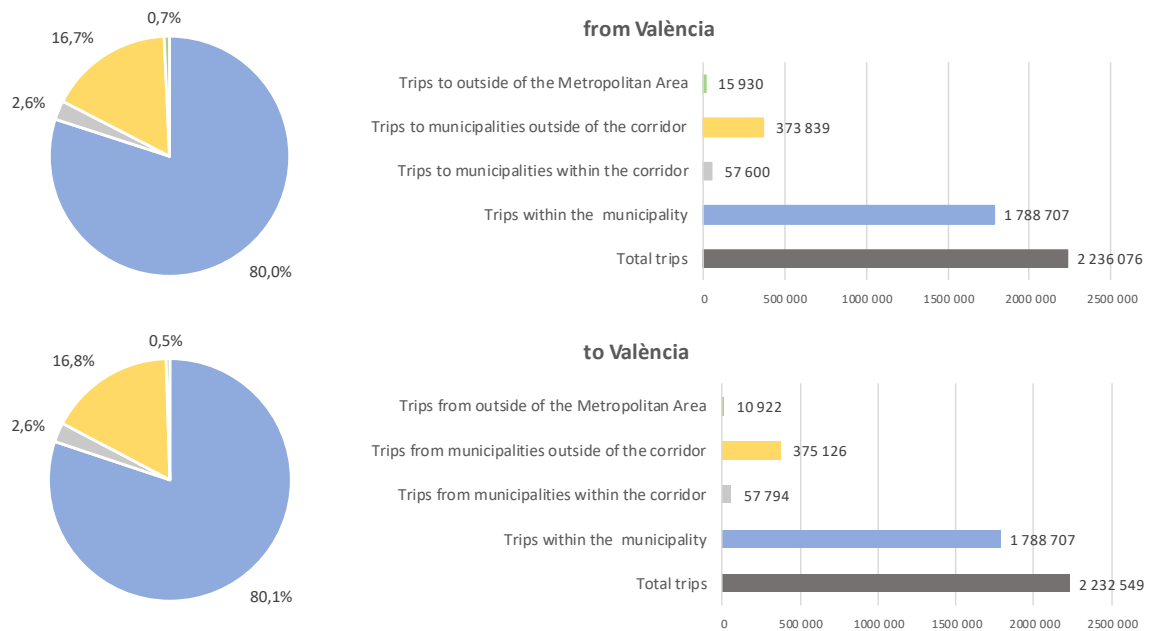


Fig. 71. València trips description.

### iii. Mobility flows for working purposes

Working purpose trips are important for this specific analysis since the areas concerned do consist in activity areas and consequently, they are commuting attractive zones. Moreover, working trips represents in mean terms 25% of the total trips generated in the MA and thought a specific analysis is of high necessity.

Corridor	Trips	Rate
<i>Global</i>	676.366	100,0%
Valencia	275.209	40,7%
<b>Sur</b>	<b>84.273</b>	<b>12,5%</b>
Horta Nord	75.279	11,1%
Horta Sud-Foia de Bunyol	61.401	9,1%
Horta Noroest	48.107	7,1%
Camp del Túria	42.435	6,3%
Oest	41.915	6,2%
Horta Oest	29.389	4,3%
Carraixet	105.939	2,7%

Table 38. Working trips associated to each of the corridors in the Metropolitan Area.

In the Metropolitan Area of València occur 676.366 working trips every day. València residents are responsible for 275.209 of them. From the global trips occurring in the whole Metropolitan Area, the volume corresponding for the municipality of València represents 40,7%.

The Sur (South) corridor, where the area of study is located, is the first corridor in terms of working trips with 12,5%. Horta Nord corridor has slightly the same rate with 11,1%, as it occurs when analysing all purposes trips. The rest of the corridors are rated between 5 and 10% except form the Carraixet corridor, which acquires 2,7% of the global mobility.

#### 1. Working trips

From	Trips	Rate	To	Trips	Rate
<i>All</i>	51.598	100,0%	<i>All</i>	47.719	100,0%
Catarroja	11.215	21,7%	Catarroja	11.067	23,2%
Picassent	9.225	17,9%	Picassent	9.106	19,1%
Alfagar	6.035	11,7%	Alfagar	4.743	9,9%
Silla	5.363	10,4%	Silla	9.530	20,0%
Benetússer	4.836	9,4%	Benetússer	2.375	5,0%
Albal	4.813	9,3%	Albal	2.463	5,2%
Sedaví	3.312	6,4%	Sedaví	2.929	6,1%
Massanassa	3.069	5,9%	Massanassa	2.679	5,6%
Alcàsser	2.937	5,7%	Alcàsser	1.096	2,3%
Beniparrell	714	1,4%	Beniparrell	1.726	3,6%
Llocnou	79	0,2%	Llocnou	5	0,0%

Table 39. Working trips made from and to the municipality.

From the global 84.273 working trips generated by people living in corridor Sur, 51.598 are originated by the municipalities of the corridor and 47.719 are due to people working inside it. This represents 61,2% and 56,6% respectively which could be explained due the fact that the furthest municipality is only 12km in straight direction from València.

## 2. Working trips inside the municipality

Municipality	Volume	Rate	Population
All	17.068	100,0%	150.444
Catarroja	5.014	29,4%	27.827
Picassent	3.438	20,1%	20.709
Silla	2.057	12,1%	18.467
Albal	1.438	8,4%	16.270
Alfajar	1.412	8,3%	20.763
Massanassa	1.187	7,0%	9.538
Sedaví	1.019	6,0%	10.245
Benetússer	913	5,3%	14.668
Beniparrell	290	1,7%	1.931
Alcàsser	258	1,5%	9.908
Llocnou	42	0,2%	118

Table 40. Working trips inside the municipality.

Working trips generated inside the municipalities suppose 17.068 regarding 51.598 (from the corridor) and 47.719 (to the corridor). This means that 33% and 36% of the trips, respectively, stay inside the municipality and thought they would not necessary concern long distances.

In this case, there can not be observed the same direct correlation as it was seen for all purpose trips. There is more than one exception which do not follow a direct tendency between population and working trips within the municipality. Alfajar, which is the second municipality in terms of population is the fifth in working trips generation within it. Massanassa, which population is half the Alfajar's one, is right behind Alfajar in inside-municipality working trips and before Sedaví and Benetússer that have more inhabitants than it.

## 3. Working trips to and from València

From	Volume	Rate	To	Volume	Rate
All	11.835	100,0%	All	7.461	100,0%
Catarroja	2.416	20,4%	Catarroja	1.856	24,9%
Silla	1.824	15,4%	Silla	2.138	28,7%
Picassent	1.548	13,1%	Picassent	969	13,0%
Alfajar	1.504	12,7%	Alfajar	519	7,0%
Benetússer	1.451	12,3%	Benetússer	348	4,7%
Albal	768	6,5%	Albal	60	0,8%
Massanassa	733	6,2%	Massanassa	182	2,4%
Alcàsser	708	6,0%	Alcàsser	230	3,1%



Sedaví	567	4,8%	Sedaví	700	9,4%
Beniparrell	292	2,5%	Beniparrell	459	6,2%
Llocnou	24	0,2%	Llocnou	0	0,0%

Table 41. Working trips to and from València.

Working trips to València (11.835) are higher than from it to the corridor of study (7.461). The previous table shows that working trips are not compensated in both directions which could be logical as València is a more important attractive pole for working reasons. This correlation is observed for each of the municipalities of the corridor except from Silla, Sedaví and Beniparrell where there are more working trips to them from València than reverse.

Working trips to València represent 23% of the total working trips with the corridor as an origin. In the other direction, working trips from València to the corridor represent 15% overall.

#### 4. Working trips within municipalities inside the corridor

From	Volume	Rate	To	Volume	Rate
All	11.998	100,0%	All	11.999	100,0%
Picassent	1885	15,7%	Picassent	1847	15,4%
Benetússer	1754	14,6%	Benetússer	243	2,0%
Alfatar	1736	14,5%	Alfatar	1253	10,4%
Catarroja	1582	13,2%	Catarroja	2422	20,2%
Alcàsser	1134	9,5%	Alcàsser	193	1,6%
Albal	1076	9,0%	Albal	748	6,2%
Sedaví	960	8,0%	Sedaví	991	8,3%
Silla	920	7,7%	Silla	3173	26,4%
Massanassa	805	6,7%	Massanassa	752	6,3%
Beniparrell	107	0,9%	Beniparrell	377	3,1%
Llocnou	39	0,3%	Llocnou	0	0,0%

Table 42. Working trips within the municipalities inside the corridor.

Working trips from municipalities of the area of study and to other municipalities of the corridor sum up 11.998, which represents 23% of the total movements with origin in the area of study, the same as for the working trips with have València as a destination.

The following 20 trips are the ones with highest significance in terms of volume within the corridor of study.

From	To	Trips	From	To	Trips
Picassent	Silla	1.651	Silla	Picassent	385
Albal	Catarroja	760	Alcàsser	Catarroja	352
Benetússer	Silla	738	Catarroja	Silla	325
Alcàsser	Sedaví	579	Benetússer	Alfatar	299
Massanassa	Catarroja	561	Benetússer	Catarroja	292
Sedaví	Alfatar	520	Sedaví	Picassent	281
Catarroja	Picassent	504	Benetússer	Picassent	270
Silla	Massanassa	438	Alfatar	Catarroja	247

Alfatar	Silla	413	Massanassa	Alfatar	244
Alfatar	Albal	404	Alfatar	Benetússer	243

Table 43. The 20 most important working trips within the corridor of study.

These 20 movements suppose 9.508 working trips out of 11.998 made in total, which means 80% overall.

### 5. Working trips within municipalities outside of the corridor

From	Volume	Rate	To	Volume	Rate
All	10.217	100,0%	All	11.228	100,0%
Picassent	2.154	21,1%	Picassent	2.852	25,4%
Catarroja	2.059	20,2%	Catarroja	1.775	15,8%
Albal	1.475	14,4%	Albal	217	1,9%
Alfatar	1.383	13,5%	Alfatar	1.559	13,9%
Alcàsser	837	8,2%	Alcàsser	415	3,7%
Benetússer	718	7,0%	Benetússer	871	7,8%
Sedaví	652	6,4%	Sedaví	219	2,0%
Silla	562	5,5%	Silla	2162	19,3%
Massanassa	344	3,4%	Massanassa	558	5,0%
Beniparrell	25	0,2%	Beniparrell	600	5,3%
Llocnou	8	0,1%	Llocnou	0	0,0%

Table 44. Working trips within the municipalities outside the corridor.

All purpose trips to and from the corridor and to and from outside of it, without taking into consideration the city of València and the outside area or the MA, represent 10% of the 360.052 (from the corridor) and 359.063 (to the corridor) global volume. This time, in terms of working trips, the share is higher: 20% out of 51.598 (from the corridor) and 23% out of 47.719 (to the corridor) are due to outside of the corridor working trips. This means that there is a higher dependency with the external municipalities for working purposes than for the global trips which are daily generated.

It is also significant that both types of working trips, within the corridor and outside of it (without València nor the area outside the MA) have the same share, between 20 and 23%.

From	Volume	Rate	To	Volume	Rate
Picassent	Almussafes	655	Alfatar	Alaquàs	314
Alcàsser	Almussafes	644	Silla	Sueca	307
Picassent	Manises	624	Albal	Aldaia	301
Alfatar	Quart de Poblet	482	Catarroja	Massalfassar	294
Catarroja	Aldaia	468	Albal	Manises	280
Catarroja	Paterna	424	Catarroja	Paiporta	275
Alfatar	Almussafes	421	Massanassa	Aldaia	252
Alcàsser	Almussafes	348	Sedaví	Picanya	227
Catarroja	Riba-roja de Túria	330	Sedaví	Torrent	227
Picassent	Aldaia	315	Alcàsser	Alaquàs	214

Table 45. The 20 most important working trips to municipalities outside of the corridor, inside the MA and without València.

These 20 movements suppose 7.401 working trips out of 10.217 made in total, which means 72% overall.

From	Volume	Rate	To	Volume	Rate
Sueca	Picassent	1.122	Sueca	Catarroja	327
Llíria	Picassent	697	Torrent	Silla	296
Alaquàs	Benetússer	692	Benifaió	Silla	274
Mislata	Catarroja	610	Manises	Alfafar	255
Carlet	Silla	508	Alaquàs	Beniparrell	247
Torrent	Alfafar	431	Torrent	Beniparrell	231
Paiporta	Silla	384	Alaquàs	Silla	228
Alaquàs	Alfafar	346	Alginet	Alcàsser	221
Paiporta	Massanassa	341	Paiporta	Alfafar	212
Alaquàs	Catarroja	328	Torrent	Catarroja	201

Table 46. The 20 most important working trips from municipalities outside of the corridor, inside the MA and without València.

These 20 movements suppose 7.538 working trips out of 11.228 made in total, which means 67% overall.

## 6. Working trips within the area outside the MA

From	Volume	Rate	To	Volume
All	517	100,0%	All	0
Picassent	200	38,7%	Picassent	0
Catarroja	144	27,9%	Catarroja	0
Sedaví	114	22,1%	Sedaví	0
Albal	56	10,8%	Albal	0
Llocnou	3	0,6%	Llocnou	0
Alcàsser	0	0,0%	Alcàsser	0
Alfafar	0	0,0%	Alfafar	0
Benetússer	0	0,0%	Benetússer	0
Beniparrell	0	0,0%	Beniparrell	0
Massanassa	0	0,0%	Massanassa	0
Silla	0	0,0%	Silla	0

Table 47. Working trips within the area outside the MA.

If all purpose trips to and from outside of the Metropolitan Area are significantly low compare to the total number of trips, working purposes trips are even lower. As before it should be due to the fact that there were no people interviewed in the survey that lived outside of the MA and thought people commuting from outside the MA to inside it where not identified.

iv. Modal share for working trips

Over 47.718 moving for working to the municipalities of the area of study, 46.936 (98%) do only one trip. For that reason, analysing only the first mean of transport used to commute would give a solid analysis of how people move when the area of study is not on the origin of trips, but it is a destination, except from people working in the same municipality where they live.

Municipality	On foot	Car as a driver	Car as a passenger	Motorbike as a driver	Van/truck	Own bicycle	Bus (EMT València)	Municipal bus	Bus (MetroBus)	Company bus	Metro	Regional rail	Taxi	Cabifor others	Total trips
Catarroja	2 572	6 746	214	660	15	572			58		162			68	11 067
Silla	1 340	7 893							64		233				9 530
Picassent	1 787	6 751	226	79	44				58	80				79	9 105
Alfajar	747	3 744		223		3	27								4 743
Sedaví	834	2 055			40										2 929
Massanassa	1 085	1 595													2 679
Albal	442	1 989				32									2 463
Benetússer	688	1 340					87	19					241		2 375
Beniparrell	50	1 401		231					42						1 725
Alcàsser		1 032	64												1 096
Llocnou de la Corona	5														5
València (ZT 162)	23	1 347					87								1 457
<b>Total trips</b>	<b>9 573</b>	<b>35 893</b>	<b>504</b>	<b>1 193</b>	<b>100</b>	<b>607</b>	<b>201</b>	<b>19</b>	<b>42</b>	<b>180</b>	<b>80</b>	<b>396</b>	<b>241</b>	<b>147</b>	<b>47 718</b>

Fig. 72. Means of transport used by people working on the area of study.

From all the means of transport used for working purposes to the municipalities of the area of study, most of the people uses their own car, as it is shown in the previous table.

In first place, 35.893 out of 47.718 commuting trips would be done by car. Analysing the biggest municipalities, such as Catarroja, Picassent and Alfajar, where 45% (5.014 working trips), 38% (3.438 working trips) and 30% (1.412 working trips) of the commuting trips are done within the municipality, respectively, the car reaches shares up to 61%, 74% and 79% mode share.

Municipality	On foot	Car as a driver	Car as a passenger	Motorbike as a driver	Van/truck	Own bicycle	Bus (EMT València)	Municipal bus	Bus (MetroBus)	Company bus	Metro	Regional rail	Taxi	Cabifor others	Total trips
Catarroja	23,2%	61,0%	1,9%	6,0%	0,1%	5,2%			0,5%		1,5%				100,0%
Silla	14,1%	82,8%							0,7%		2,4%				100,0%
Picassent	19,6%	74,1%	2,5%	0,9%	0,5%				0,6%	0,9%				0,9%	100,0%
Alfajar	15,7%	78,9%		4,7%		0,1%	0,6%								100,0%
Sedaví	28,5%	70,2%			1,4%										100,0%
Massanassa	40,5%	59,5%													100,0%
Albal	17,9%	80,8%				1,3%									100,0%
Benetússer	28,9%	56,4%					3,7%	0,8%					10,2%		100,0%
Beniparrell	2,9%	81,2%		13,4%					2,4%						100,0%
Alcàsser		94,1%	5,9%												100,0%
Llocnou de la Corona	100,0%														100,0%
València (ZT 162)	1,58%	92,5%					6,0%								100,0%
<b>Total trips</b>	<b>20,0%</b>	<b>72,4%</b>	<b>1,1%</b>	<b>2,5%</b>	<b>0,2%</b>	<b>1,3%</b>	<b>0,2%</b>	<b>0,0%</b>	<b>0,1%</b>	<b>0,4%</b>	<b>0,2%</b>	<b>0,8%</b>	<b>0,5%</b>	<b>0,3%</b>	<b>100,0%</b>

Fig. 73. Mode share for commuting trips to the municipalities in the area of study.



Modal share is highly dominated by the car, with 72,4%. Far from it, people go to work on foot, 20%, and the rest are small shares which do not obtain more than 2% each.

Non-motorised modes (on foot and own bicycle) only represent 21,3%. 78,7% is thought the share of motorised means of transport.

Public transport share is only 1,3%.

C) Characterisation of infrastructure crossings

RAILWAY	Identification	Municipality	Type	Pavement	Pedestrian crossing on both sides access	Cycling infras.	30 km/h speed limit	Access to activity area	Comments
	1 Ctra. Molí de Pala	Valencia	Under-crossing	0	0	0	0	1	
	2 CV-407	Sedaví	Over-crossing	1	1	1	0	0	1 València municipal limit on the West side
	3 Gómer Ferrer park	Alfafar	Same-level crossing	1	1	0	0	0	0 Pedestrian inf. to improve
	4 Healthcare centre Alfafar footbridge	Alfafar	Footbridge	1	1	0	0	0	0 Cars parked near access, uncomfortable
	5 Alfafar-Benetússer regional rail station	Benetússer	Under-crossing	1	1	0	0	0	0 Only for non-motorised means of transport
	6 Avinguda Alfafar	Benetússer	Under-crossing	1	0	0	0	0	1 Benetússer municipal limit on the West side
	7 Camí de l'Orba	Alfafar	Under-crossing	1	1	0	0	1	1 Access to sports facility
	8 CV-4125 (IKEA)	Alfafar	Over-crossing	1	0	0	0	1	1 Access to sports facility
	9 Massanassa I.E.	Massanassa	Under-crossing	1	1	0	0	1	1 Access to sports facility. 40 km/h speed limit
	10 Massanassa regional rail station	Massanassa	Under-crossing	1	1	0	0	1	1 Only for non-motorised means of transport
	11 Carrer del Pollesportiu	Massanassa	Over-crossing	1	0	0	0	1	
	12 Ronda Nord	Catarroja	Over-crossing	1	0	0	1	1	
	13 El Bony I.E.	Catarroja	Under-crossing	0	0	0	1	1	1 20 km/h speed limit. Non-motorised under-crossing 150m South
	14 Catarroja regional rail station	Catarroja	Under-crossing	1	1	1	0	1	1 Only for non-motorised means of transport
	15 Catarroja footbridge	Catarroja	Footbridge	1	1	0	0	0	
	16 Calle de Pelayo	Albal	Under-crossing	0	0	0	0	1	1 Unsafe conditions for non-motorised means of transport
	17 CV-33	Albal	Over-crossing	0	0	0	0	1	
	18 Beniparrell I.E.	Beniparrell	Under-crossing	1	0	0	0	1	
	19 Camí Vell de Silla	Silla	Over-crossing	0	0	0	0	0	
	20 Avinguda de l'Albufera	Silla	Under-crossing	1	0	0	0	1	1 Over-capacity infrastructure
	21 Av. País Valencià	Silla	Under-crossing	1	0	0	0	1	
	22 Parc de l'Estació	Silla	Under-crossing	1	0	0	0	0	
	<b>Total of railway crossings with this characteristic</b>			<b>17</b>	<b>9</b>	<b>2</b>	<b>2</b>	<b>16</b>	
	<b>Total of railway crossings without this characteristic</b>			<b>5</b>	<b>13</b>	<b>20</b>	<b>20</b>	<b>6</b>	
		<b>Total</b>							
		Same-level crossing	1	1	1	0	0	0	
		Over-crossing	6	4	1	1	1	5	
		Under-crossing	13	10	5	1	1	11	
		Footbridge	2	2	2	0	0	0	

Comments:

0 equivalent to NO, 1 equivalent to YES ; 30 km/h speed limit only does not apply for footbridge  
Between V-30 and Silla regional rail station there are 7,6 km. There is a railway crossing every 450 m.

Identification	Municipality	Type	Pavement	Pedestrian crossing on both sides access	Cycling infras.	30 km/h speed limit	Access to activity area	Comments
1 CV-4008	Silla	Over-crossing	0	0	0	0	1	Beniparrell municipal limit on North side . Secondary way V-31 highway.
2 Camí Vereda	Silla	Under-crossing	0	0	0	0	1	Beniparrell municipal limit on North side
3 Railway	Silla	Under-crossing	0	0	0	0	1	Beniparrell municipal limit on North side . Inexistent connexion
4 Camí Vell de Silla	Silla	Under-crossing	0	0	0	0	1	Beniparrell municipal limit on North side
5 V-31 under-crossing	Silla	Under-crossing	0	0	0	0	1	Unsecure for non-motorised means of transport, dangerous
6 VP-3065	Silla	Over-crossing	0	0	0	0	1	Alcàsser municipal limit on West side.
7 CV-4152 (Corredor Silla-Picassent)	Silla	Over-crossing	0	0	0	0	1	Alcàsser municipal limit on West side.
<b>Total of railway crossings with this characteristic</b>								
<b>Total of railway crossings without this characteristic</b>								
			<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>7</b>	
<b>Total</b>				7	7	7	7	0
Same-level crossing			0	0	0	0	0	0
Over-crossing			3	0	0	0	0	3
Under-crossing			4	0	0	0	0	4
Footbridge			0	0	0	0	0	0

Identification	Municipality	Type	Pavement	Pedestrian crossing on both sides access	Cycling infras.	30 km/h speed limit	Access to activity area	Comments
1 Barranc de Picassent	Alcàsser/Picassent	Under-crossing	1	1	1	0	0	There is a footbridge to cross Barranc de Picassent
2 CV-4153 (Corredor Silla-Picassent)	Alcàsser/Picassent	Over-crossing	0	0	0	0	1	
3 Picassent I.E.	Picassent	Over-crossing	0	0	0	0	1	Non-conditioned under-crossing for any mean of transport, a abandoned
<b>Total of railway crossings with this characteristic</b>								
<b>Total of railway crossings without this characteristic</b>								
			<b>1</b>	<b>1</b>	<b>1</b>	<b>0</b>	<b>2</b>	
<b>Total</b>				2	2	3	1	
Same-level crossing			0	0	0	0	0	0
Over-crossing			2	0	0	0	2	
Under-crossing			1	1	1	0	0	
Footbridge			0	0	0	0	0	

Comments:  
 0 equivalent to NO; 1 equivalent to YES ; 30 km/h speed limit only does not apply for footbridge

## D) Budget references

Costs have been obtained from different sources of information:

- *Instituto Valenciano de la Edificación*. <https://www.five.es/productos/herramientas-on-line>
- © CYPE Ingenieros S.A. <http://www.generadordeprecios.info>
- Conselleria de Vivienda, Obras Públicas y Vertebración del Territorio: [www.habitatge.gva.es/va/web/vias-ciclopeatonales](http://www.habitatge.gva.es/va/web/vias-ciclopeatonales)
- About Rhône Express (Lyon) costs. [https://rhonexpress-concessionnaire.fr/IMG/pdf/dossier\\_de\\_presse\\_rhonexpress\\_mai\\_2018 - v10.pdf](https://rhonexpress-concessionnaire.fr/IMG/pdf/dossier_de_presse_rhonexpress_mai_2018_-_v10.pdf)
- About tramway costs: <https://ecocitestrasbourg.org/IMG/pdf/certu-cout-km-tram-bhns.pdf>
- About Tram 13-express costs: <http://stcyr-stgermain.tram13-express.fr/>
- About cycling infrastructure costs (Measure 7): [http://actions-incitatives.ifsttar.fr/fileadmin/uploads/recherches/geri/velo/sem/2017-10/20171009Fabre-LandryGe%CC%81riVe%CC%81loBa%CC%800 B R.pdf](http://actions-incitatives.ifsttar.fr/fileadmin/uploads/recherches/geri/velo/sem/2017-10/20171009Fabre-LandryGe%CC%81riVe%CC%81loBa%CC%800_B_R.pdf)