

Green Mind project

GREEN and smart Mobility INDustry
innovation

4.4.3. Policy Recommendation document in Andalusia ,

January 2021

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1. STARTING POINT: MAIN INFORMATION SOURCES

1.1. The Green Mind Project Testing services and its results in Andalusia

1.2. Interviews with local and regional stakeholders

1.3. Analysis of regional strategic plans

1.1. The Green Mind Project Testing services and its results in Andalucía

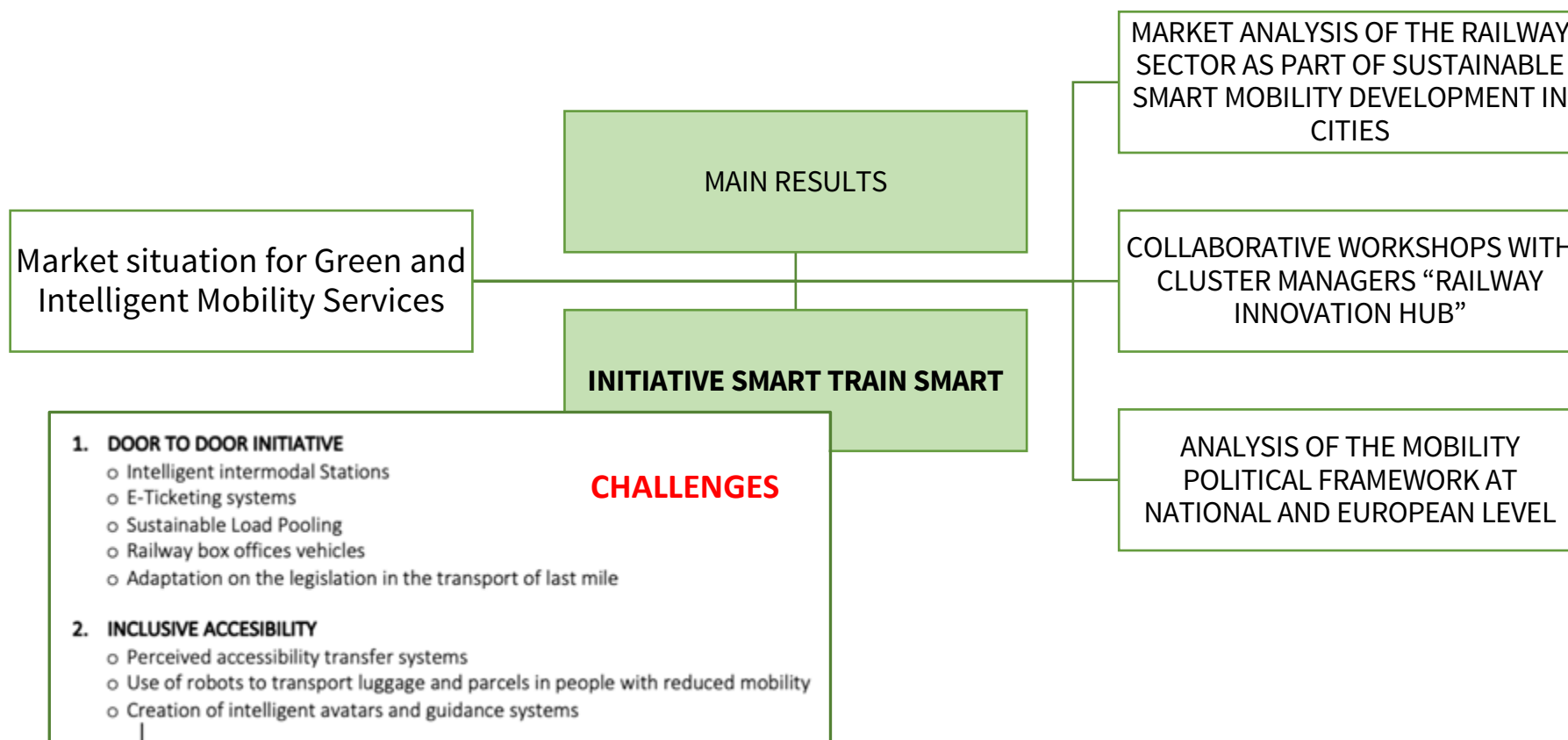
Between 2018 and 2021, the Green mind project in the framework of the **Pilot (WP3. Testing)** has provided three pilot services:

- Market situation for green and intelligent mobility
- Selection of public funds/grants
- B2B matching

In Andalucía, one of the 8 regions involved in the project, **most of the pilot services provided have been directed to resolve, through cooperation between SMEs, a real mobility challenge for the railway sector.** Moreover the project has been a tool to join two clusters, Andalucía Smart City as partner of the project and Railway Innovation HUB, being this one of the main outputs of cooperation projects.

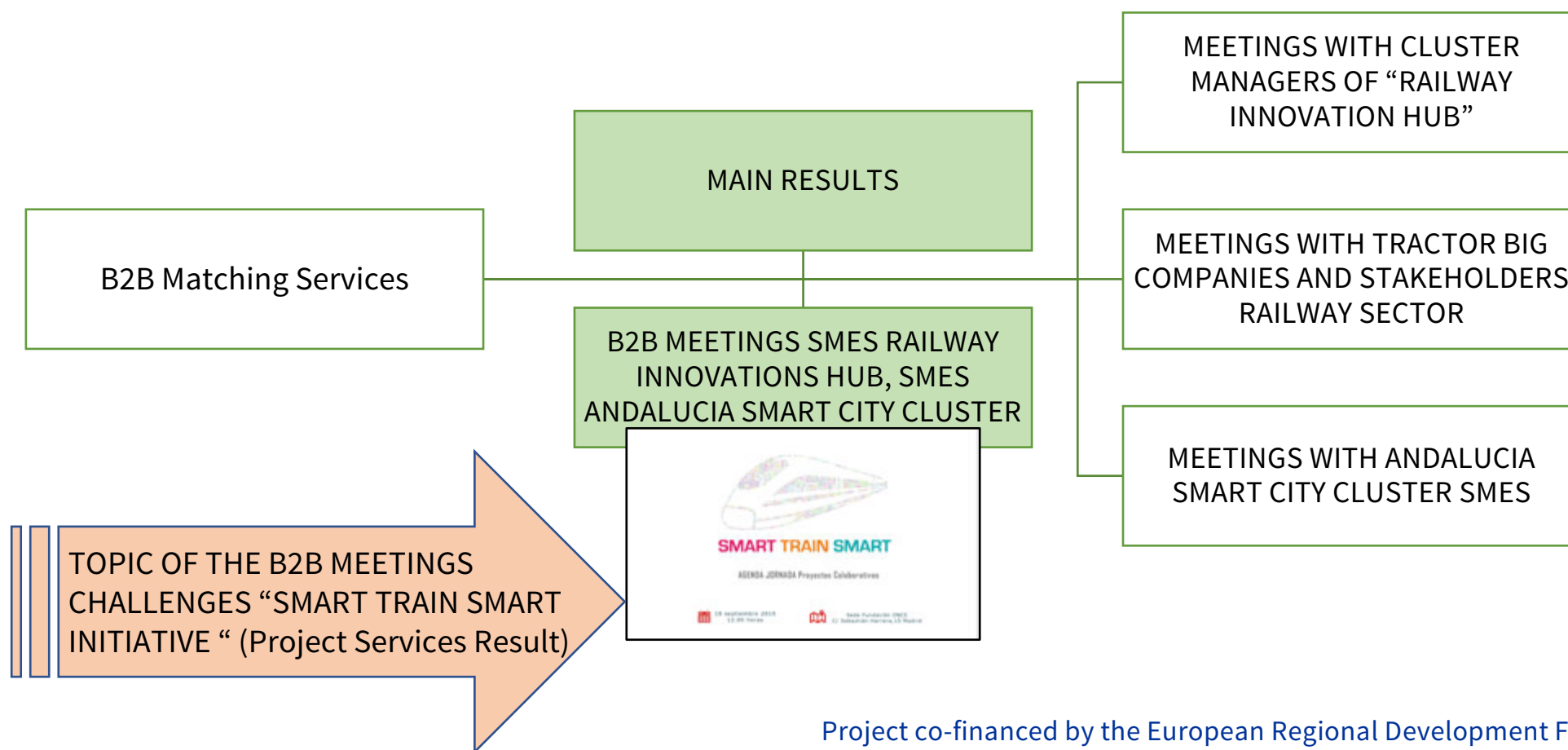
1.1. The Green Mind Project Testing services and its results in Andalucía

Main results of the Market situation for green and intelligent mobility used



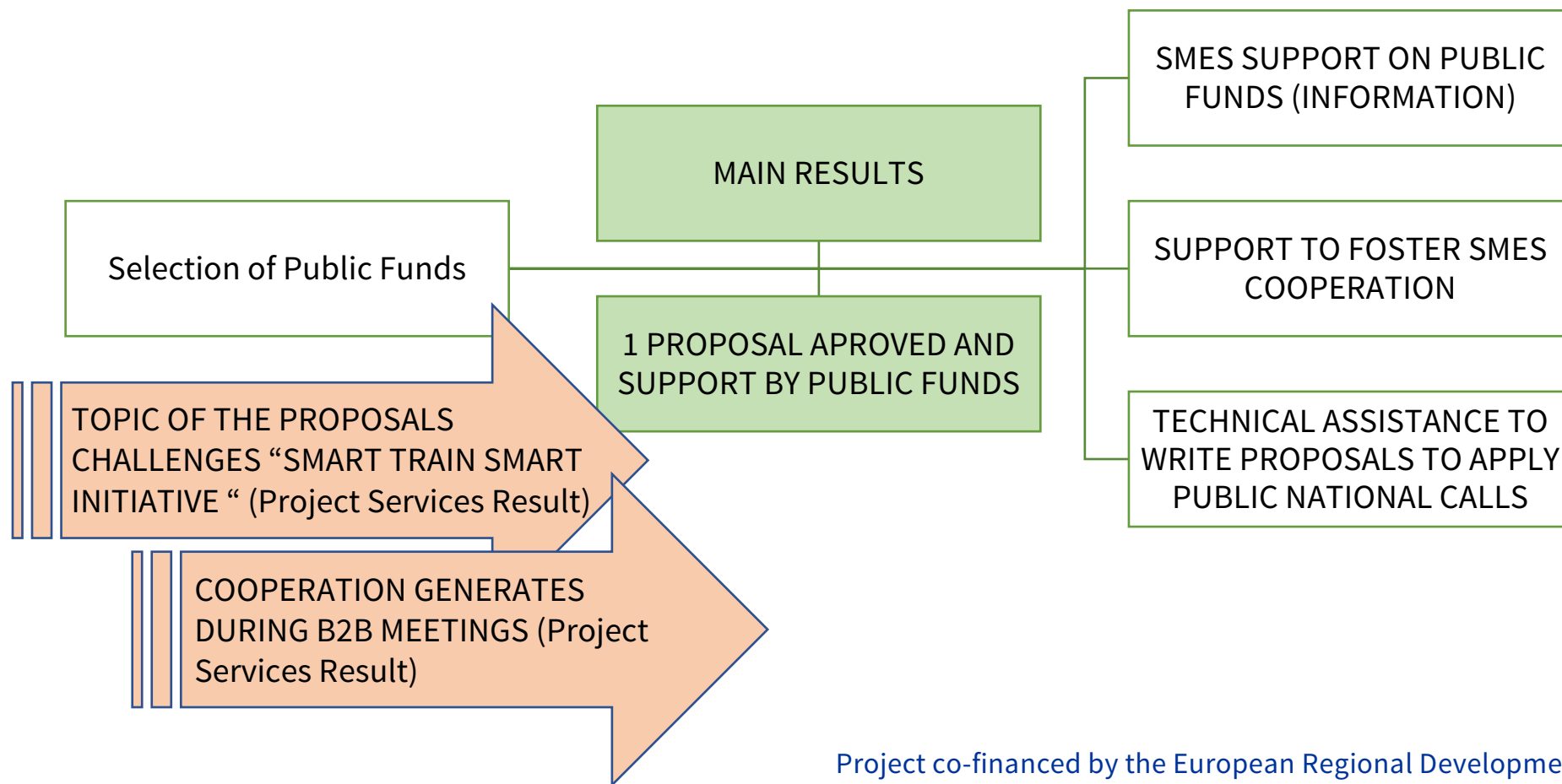
1.1. The Green Mind Project Testing services and its results in Andalucía

Main results of the B2B Matching



1.1. The Green Mind Project Testing services and its results in Andalucía

Main results of Selection of Public funds



1.2. Interviews with local and regional stakeholders

Between September and December 2020 **thirteen meetings have been kept with regional and local stakeholders**, mainly councilors and technicians working in Town Halls and Diputaciones (provincial government):

- *Fuengirola City Council*
- *Alhaurin de la Torre City Council*
- *Villanueva de Tapia City Council*
- *Alhaurin El Grande City Council*
- *Añora City Council*
- *Puerto Real City Council*
- *Yunqueras City Council*
- *Granada City Council*
- *Velez-Malaga City Council*
- *Rota City Council*
- *Punta Umbria City Council*
- *Diputacion of Granada*
- *Diputacion of Cadiz*

1.2. Interviews with local and regional stakeholders

During these interviews some of the **questions made to the representatives** of the City Councils have been:

- *Which have been the main **challenges of mobility to be faced** in your city during the pandemic / as a consequence of the pandemic ?*
- *Which **measures on mobility** have been taking in your city during the pandemic?*
- *Will these changes promote **new models of urban mobility**?*
- *Which tools are being/going to be used to **promote green and smart mobility** in your city?*
- *How are **citizens** facing changes on mobility?*
- *Which is the paper of **SMEs** in your city to support mobility changes?*

1.3. Analysis of Regional Strategic Plans

1.3.1. Diagnosis on the Smart Situation of Andalucía as a region. 38 cities, 1 Union of cities and 8 Diputaciones has participated in the analysis (it means 5% of the total number of cities in Andalucía-778)



andalucía smart
Plan de Acción de la Estrategia de Innovación y Desarrollo Smart
Diagnóstico de la situación smart de Andalucía
 Septiembre 2018

< 10.000 habitantes

- Ayuntamiento de Adra
- Ayuntamiento de Alhaurín
- Ayuntamiento de Bormis
- Ayuntamiento de Galarza
- Ayuntamiento de Huelva
- Ayuntamiento de Ispaña
- Ayuntamiento de Monda
- Ayuntamiento de Nueva Carteya
- Ayuntamiento de Oliva del Río
- Ayuntamiento de Puerto de Guzmán
- Ayuntamiento de Puerto Serrano
- Ayuntamiento Santa Bárbara de Casa

10.000-50.000 habitantes

- Ayuntamiento de Alcaz la Real
- Ayuntamiento de Andújar
- Ayuntamiento de Armiña
- Ayuntamiento de Cuevas de Almanzora
- Ayuntamiento de Jódar
- Ayuntamiento de La Palma del Condado
- Ayuntamiento de La Rinconada
- Ayuntamiento de Mairena del Alcor
- Ayuntamiento de Priego de Córdoba
- Ayuntamiento de Puerto Real
- Ayuntamiento de Sanlúcar la Mayor
- Ayuntamiento de Tarifa
- Ayuntamiento de Vejar

50.000-100.000 habitantes

- Ayuntamiento de Benalmádena
- Ayuntamiento de El Ejido
- Ayuntamiento de El Puerto de Santa María
- Ayuntamiento de Mijas
- Ayuntamiento de Rosales de Mar
- Ayuntamiento de Utrera

> 100.000 habitantes

- Ayuntamiento de Córdoba
- Ayuntamiento de Granada
- Ayuntamiento de Málaga
- Ayuntamiento de Sevilla

Mancomunidad

- Mancomunidad de municipios de Los Pedroches

DIPUTACIONES PROVINCIALES

- Diputación de Almería
- Diputación de Cádiz
- Diputación de Córdoba
- Diputación de Granada
- Diputación de Huelva
- Diputación de Jaén
- Diputación de Málaga
- Diputación de Sevilla

> 200.000 habitantes

- Ayuntamiento de Córdoba
- Ayuntamiento de Granada
- Ayuntamiento de Málaga
- Ayuntamiento de Sevilla

Mancomunidad

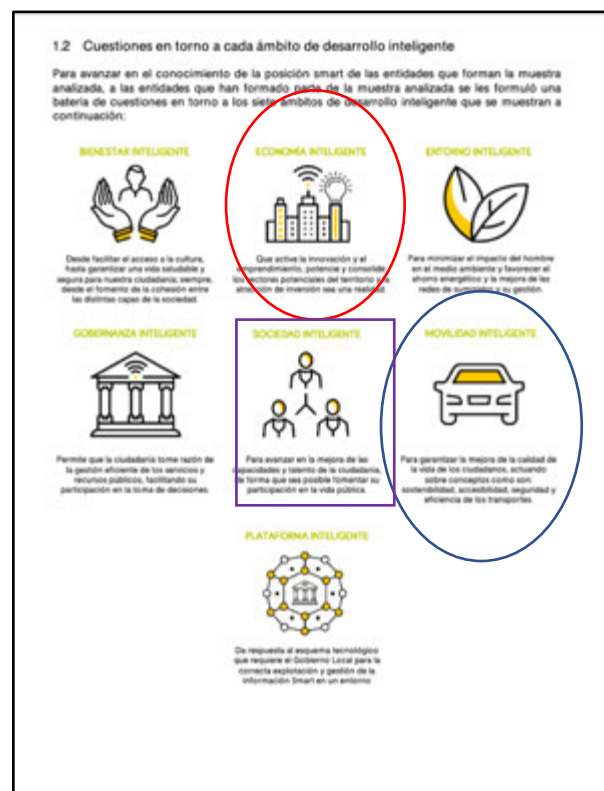
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DIPUTACIONES PROVINCIALES

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- Diputación de Málaga
- Diputación de Sevilla

1.3.1. Diagnosis on the Smart Situation of Andalucía as a region

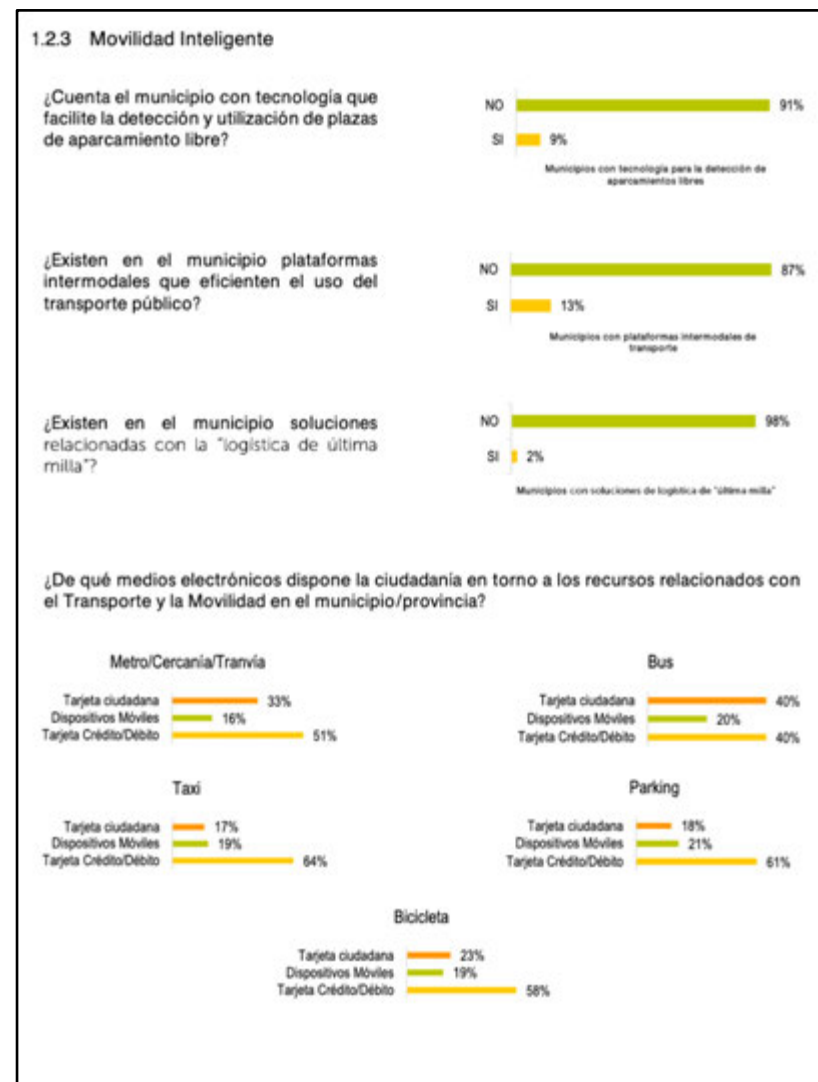
To make an analysis lined with the Green Mind Project it has been considered three of the seven scopes of the Diagnosis: **Mobility, Economy and Society**



1.3.1. Diagnosis on the Smart Situation of Andalucía as a region

Respect on **Mobility** **Diagnosis**
Indicators used have been:

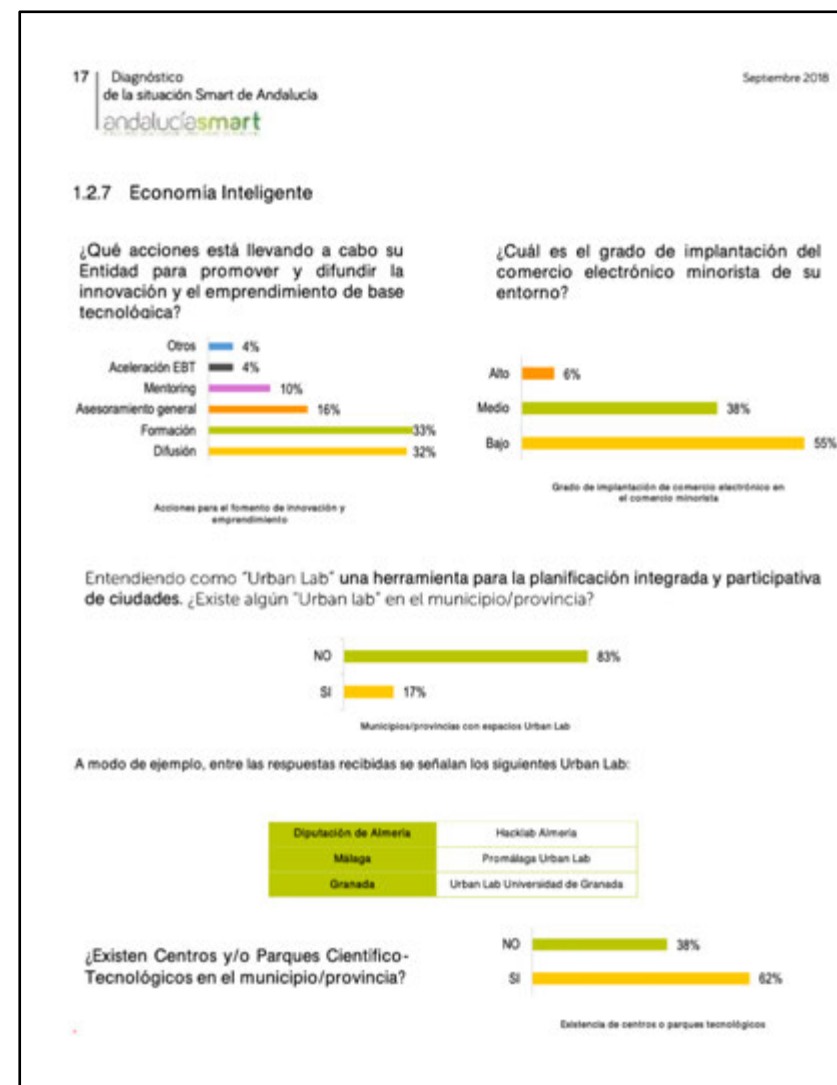
- *Parking technology*
- *Intermodal platforms-Public transport*
- *Last Mile solutions*
- *Facilities for Public Transport: Mobile devices, Credit card, Citizens card*



1.3.1. Diagnosis on the Smart Situation of Andalucía as a region

Respect on **Economy** **Diagnosis**
Indicators used have been:

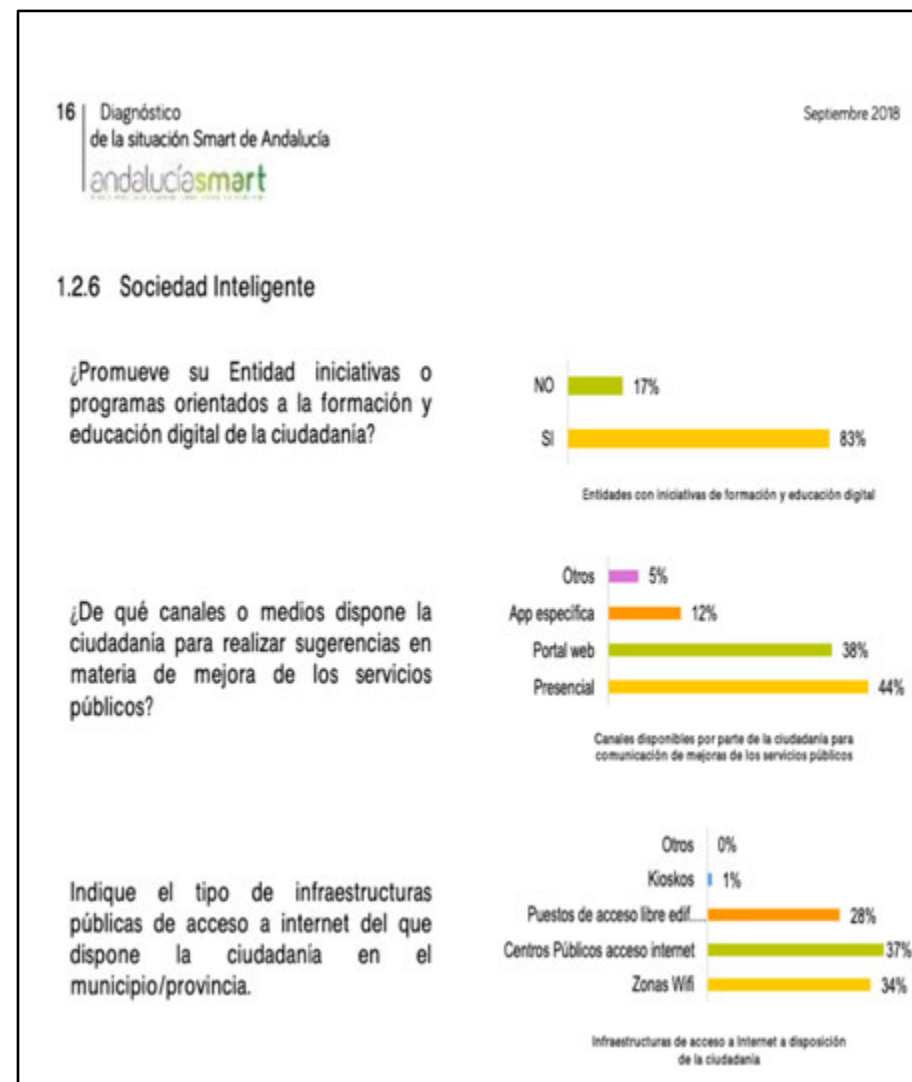
- *Promotion and diffusion about innovation and entrepreneurship*
- *Urban labs*
- *Technological centers / Scientific Parks*



1.3.1. Diagnosis on the Smart Situation of Andalucía as a region

Respect on **Society** **Diagnosis**
Indicators used have been:

- *Digital Training for Citizens*
- *Bi-directional Communication tools*
- *Internet Public Access*



1.3.2. Sustainable Development Strategy Mobility and Innovation

To make an analysis lined with the Green Mind Project it has been considered two of the Strategic Areas of the Strategy : **Mobility; Innovation and ICTs**

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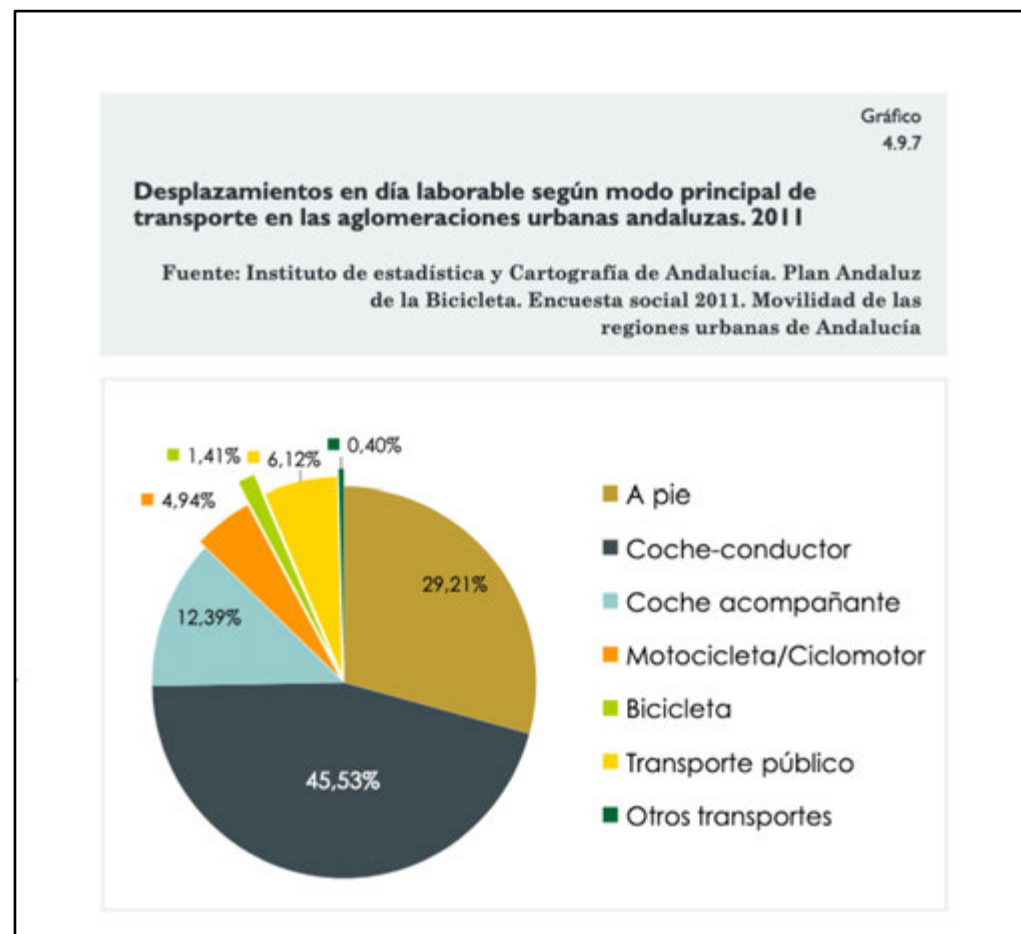
http://www.juntadeandalucia.es/medioambiente/portal_web/web/participa/opina_participa/planes/edas_2030.pdf

1.3.2. Sustainable Development Strategy Mobility and Innovation

Strategic Area: Mobility

Daily displacement are mainly made by private cars (45,53%)

Public transport and bicycle are the less used means of transport



1.3.2. Sustainable Development Strategy Mobility and Innovation

Strategic Area: Mobility

Holiday displacement are mainly made by private cars (91,95%)

Tabla 4.9.3

Movilidad motorizada generada por las personas residentes en Andalucía, millones de personas al año

Fuente: Estadísticas Oficiales de Viajeros. Estudios de Movilidad en diversos ámbitos metropolitanos de Andalucía. Consejería de Obras Públicas y Transportes. Movilia 2007. Ministerio de Fomento.

DÍAS FESTIVOS Y VACACIONES		
MODO	Millones	%
Transporte público	47	6
Vehículo propio	720	91,95
Otros	16	2,04
TOTAL	783	100

DÍAS LABORABLES		
MODO	Millones	%
Bus	322,8	20,89
FF.CC	28,8	1,86
Vehículo privado	1.169	75,66
Avión	18	1,17
Barco	6,4	0,41
TOTAL	1.545	100

1.3.2. Sustainable Development Strategy Mobility and Innovation

Strategic Area: Mobility

Trucking is mainly made by road (52,51%)

The use of the Railway is under 1%

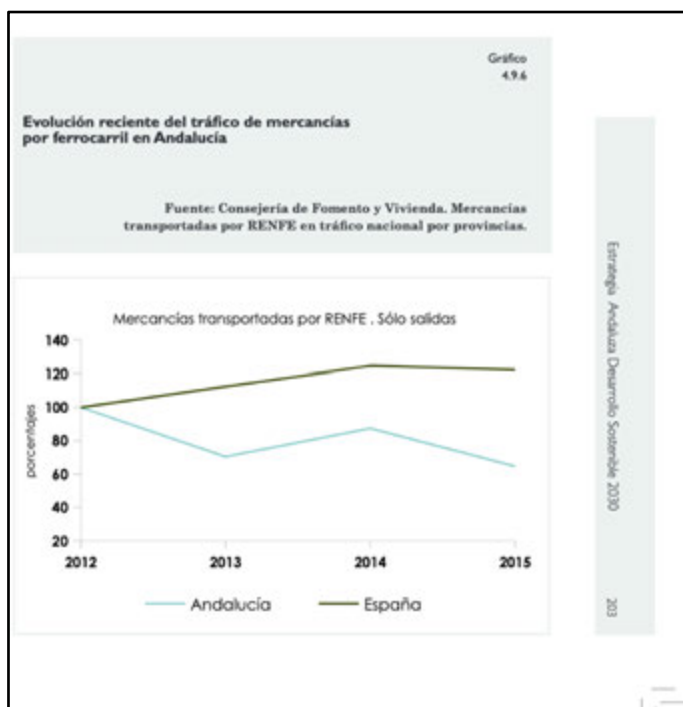


Tabla 4.9.2


Modo de transporte de mercancía en Andalucía (tm) 2014

Fuente: Plan de Infraestructuras para la Sostenibilidad del Transporte en Andalucía 2020.

MODO	tm	%
Carretera	147.948.972	52,51
Ferrocarril	1.617.912	0,57
Portuario	132.198.615	46,92
Aeroportuario	8.183	0
TOTAL	281.773.682	100

MOVILIDAD

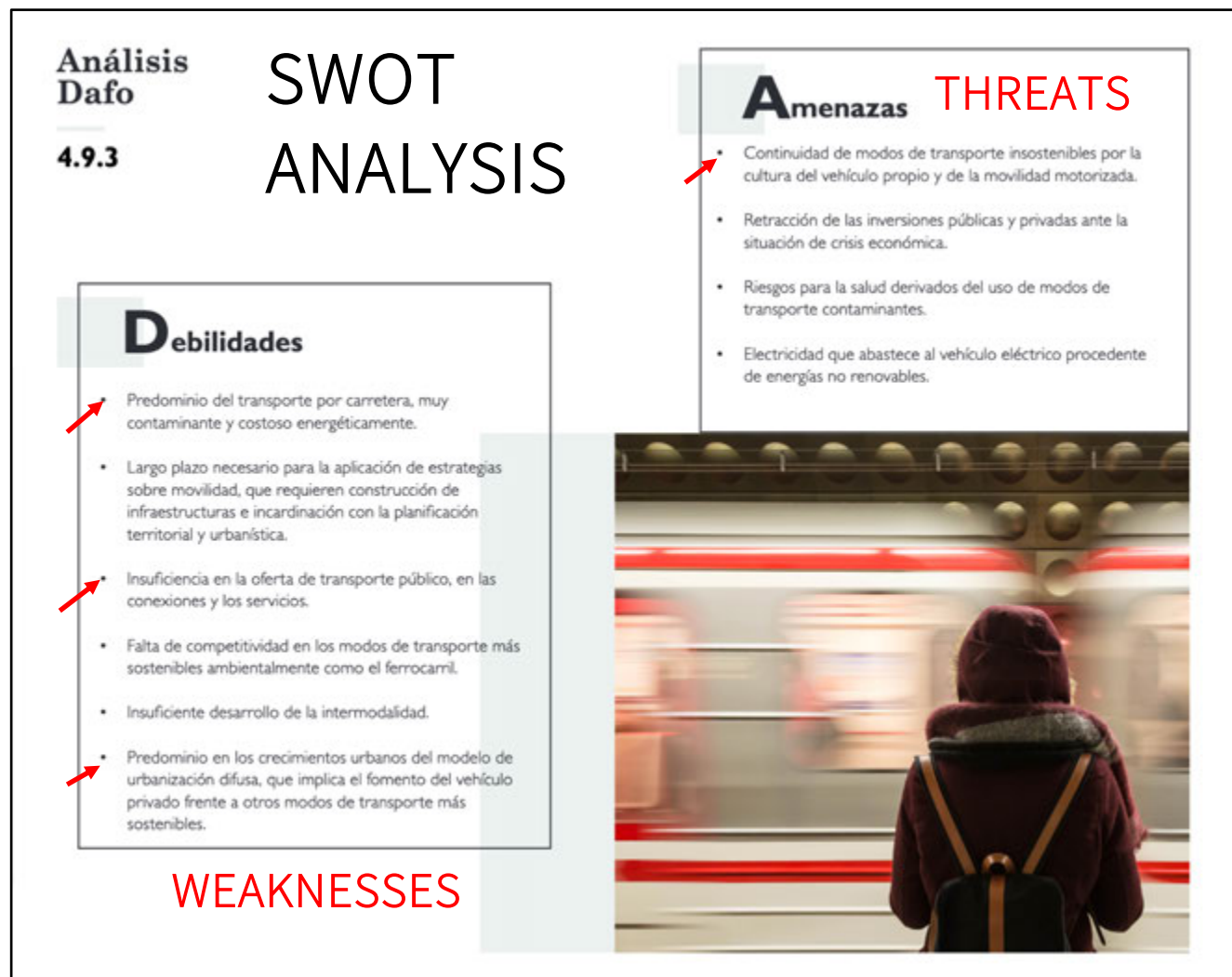
202



1.3.2. Sustainable Development Strategy Mobility and Innovation

Strategic Area: Mobility

- Too much use of the public car
- Low offer of public transport
- Difuse urban desing in cities: use of private cars



1.3.2. Sustainable Development Strategy Mobility and Innovation

Strategic Area: Mobility

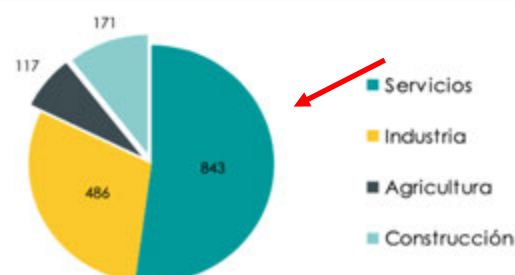
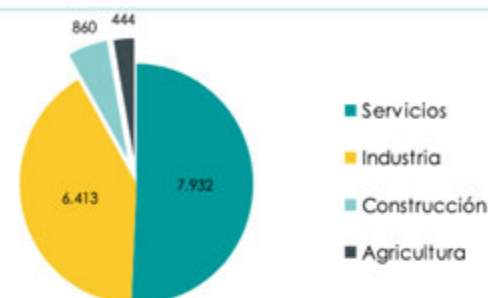
- Intensive R&D on sustainable mobility
- Great climate conditions: use of non-motorized modes of transport
- Social awareness



1.3.2. Sustainable Development Strategy Mobility and Innovation

Strategic Area: Innovation and ICTs

Enterprises with more innovative activities are those of Services Sector



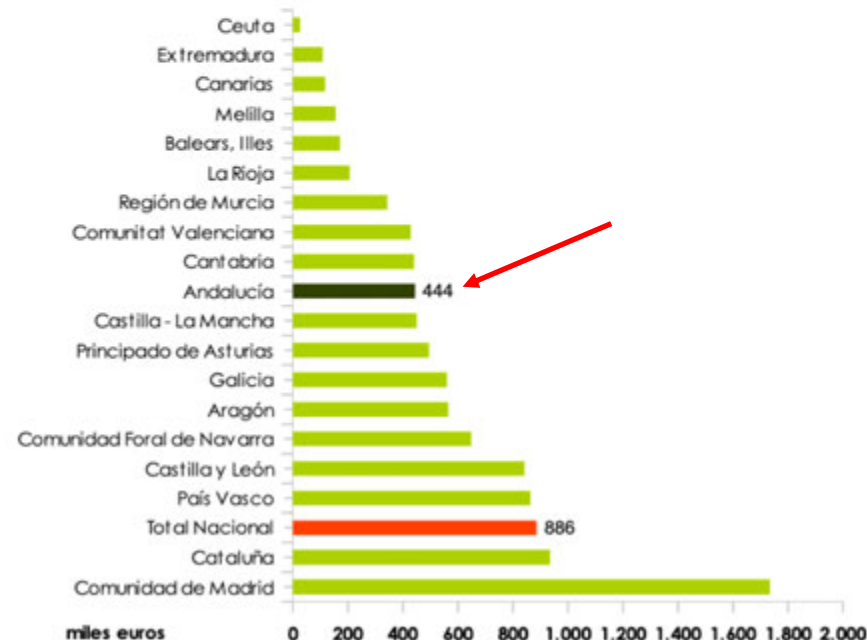
1.3.2. Sustainable Development Strategy Mobility and Innovation

Strategic Area: Innovation and ICTs

Average expense on innovation made by Enterprises in Andalusia is one of the lowest in Spain

Gasto Medio en Innovación 2016 de las empresas con actividad innovadora

Fuente: Instituto Nacional de Estadística.
Encuesta sobre Innovación en las empresas 2016.

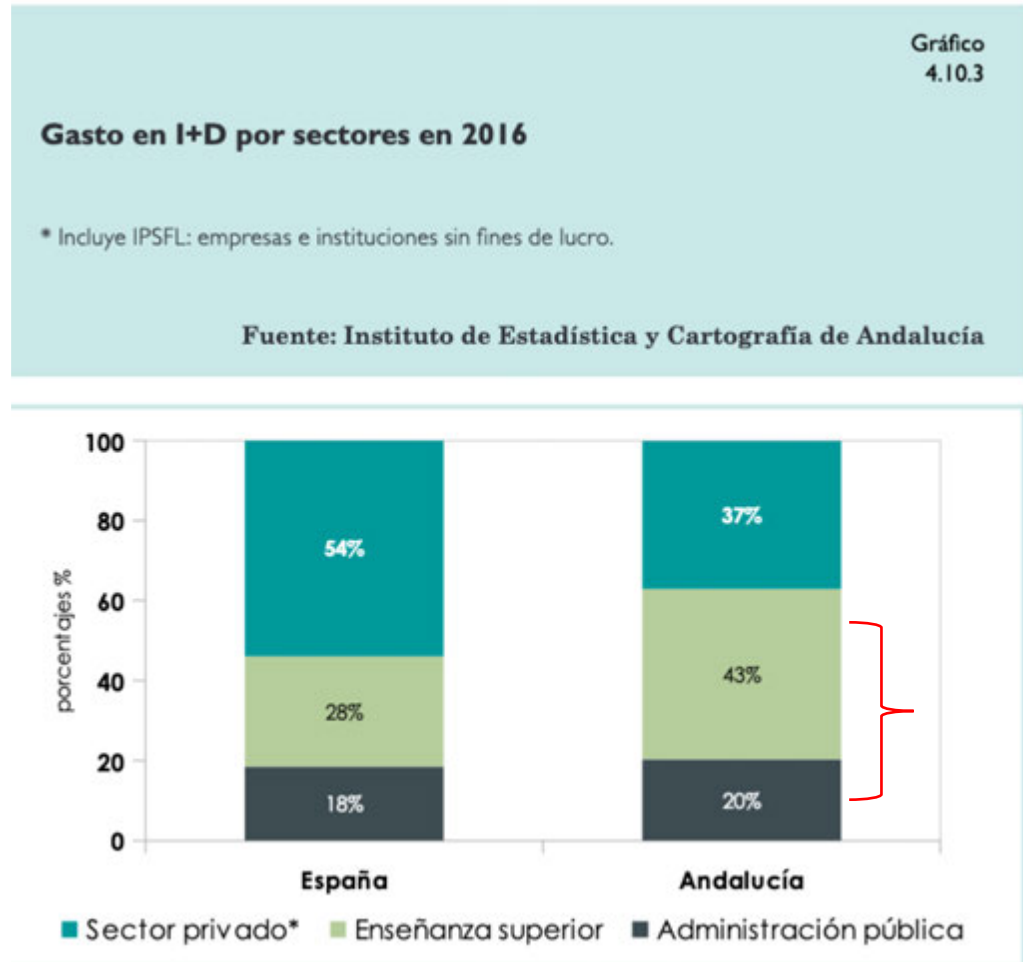


1.3.2. Sustainable Development Strategy Mobility and Innovation

Strategic Area: Innovation and ICTs

In Andalucía expense on Research & Development is mainly made by public sector (Public administration + Academia)

In Spain private sector is the one which makes more expense on Research & Development activities



2. RECOMMENDATIONS: OVERVIEW

Policy recommendations are made using success cases

- To decrease the use of private vehicles
- To increase the use of public transport
- To promote the development of mobility strategies with the participation of industry, citizens, clusters and other innovation agents
- To encourage the use of public transport
- Public funding to resolve challenges on mobility for both public administration and industry

2. RECOMMENDATIONS: OVERVIEW

- To reinforce communication with citizens
- To promote the use of electric vehicle
- To promote cycling
- To promote new transport alternatives
- Share public transport services between cities
- To increase facilities for SMEs to do R&D
- To support innovation agents such as clusters to increase competitiveness of SMEs
- To foster SMEs collaboration

2.1. RECOMMENDATIONS TO DECREASE THE USE OF PRIVATE VEHICLES AND INCREASE THE USE OF PUBLIC TRANSPORT

A successful case - Stockholm with its **vehicle tax** and **improvement in public transport**, it manages to reduce traffic congestion and contamination. To this end, it has implemented an **anti-traffic jam tax system** that has managed to reduce pollution from vehicle traffic emissions by approximately 14% and the use of private cars by approximately 25%. All this taking into account that **the city has been concerned with notably improving its public transport services** and the integrated transport systems that circulate through the city. It is also important to note that **the collection of taxes from private vehicle users** has not only managed to reduce traffic jams and pollution, but **has also been very well received by citizens as the city has made sure to reinvest efficiently revenue from such taxes on your own transportation and mobility system**. (Houghton, Reiners, & Lim, 2010)

2.1. RECOMMENDATIONS TO DECREASE THE USE OF PRIVATE VEHICLES AND INCREASE THE USE OF PUBLIC TRANSPORT

A successful case – London encourages citizens to use public transport. It has managed to be successful in its campaigns to motivate citizens to use more the public transport service, including the subway, taxi and in which mainly the use of the bus stands out, with an increase of 40% since 1999 , which shows a long-term mobility plan that is currently reaping its fruits. This change has been feasible thanks to the improvement plans in public transport that include much more rates and payment solutions attractive to users, improvement in road infrastructure, quality, safety and efficiency in the services provided by buses; All this accompanied by measures such as anti-traffic tolls in the urban center of London that seek to reduce the entry of private vehicles and give priority to the circulation of public transport. (Houghton, Reiners, & Lim, 2010)

2.2. RECOMMENDATIONS TO PROMOTE NEW TRANSPORT ALTERNATIVES

A successful case – Santander highlights its interest in promoting public transport as its main means of travel among its citizens.

Two projects that stand out in this city are the following:

- Project to motivate the sharing of the private car: promoting the meeting of people who are interested in sharing a private vehicle to go to a common route in the city, so that people can move between different parts of the city in a healthy and environmentally friendly way.
- The TUSBIC project: It is a project conceived as a bicycle loan service, so that people can move between different parts of the city in a healthy and environmentally friendly way. (Enerlis, Ernst and Young, Ferrovial and Madrid Network, 2012)

2.3. RECOMMENDATIONS TO PROMOTE CYCLING

A successful case – Copenhagen “Cycle Superhighways” to further promote the use of cycling as a healthy alternative to car- use and public transport, is developing a **network of 28 Cycle Superhighways**. The routes offer fast, comfortable and safe service, and **connect residential areas with places of work or study**. A group of 23 municipalities work with the Capital Region to increase the number of commuters on two wheels across municipal boundaries. Car drivers who opted to use the Cycle Superhighways and take the bike instead experienced health benefits associated with a decrease in body fat of between 0.6 to 2%. (PASTA Project, Handbook of good practice case studies for promotion of walking and cycling)



2.3. RECOMMENDATIONS TO PROMOTE CYCLING

A successful case – France “Cycling kilometric allowance” launched a new action plan dedicated to active travel (walking and cycling). Part of this was a **Cycling Kilometric Allowance for commuters cycling to work. Those using their own bike receive €0.25 per kilometre cycled and up to €200 annually.** This amount is exempt from both companies’ social security contributions and taxes (the allowance was first trialled with private companies). Results from the pilot phase, in which 18 companies were involved, showed a 50% increase in the number of active cyclists. The programme has since been rolled out beyond private companies to the public sector as well. (PASTA Project, Handbook of good practice case studies for promotion of walking and cycling)



2.4. RECOMMENDATIONS TO REINFORCE COMMUNICATION WITH CITIZENS

A successful case – Burgos “Sustainable mobility marketing”

The Municipality of Burgos disseminated the CIVITAS philosophy and its related activities throughout Burgos and aims at **raising their profile in the daily economic and domestic lives of the population**. This measure centres on the dissemination of activities that will promote different topics (sustainable transport, use of collective buses, bikes and car pooling, use of new fuels like biodiesel, improve the access and security of the citizens....)



Sustainable Development Goals



Goal 11 - Make cities and human settlements inclusive, safe, resilient and sustainable

2.5. RECOMMENDATIONS TO PROMOTE THE DEVELOPMENT OF MOBILITY STRATEGIES WITH PARTICIPACION

A successful case – Burgos “Mobility Forum”

Potential beneficiaries and stakeholders become directly involved in the consensus building process and in the overall development of a clean and sustainable mobility and transport policy for Burgos. The main activities concern the organisation of events, conferences, platforms and Internet-based web sites.

Effective communication was a key condition for winning public support for the demand management policies planned (e.g. access restriction, parking management, etc.) in Burgos. Furthermore the Mobility Forum provided the possibility of involving the public (e.g. individual public transport clients, press or advocacy groups, etc.) in the decision-making process underlying mobility policy strategies at an early stage and creates an opportunity for their active involvement throughout the implementation and monitoring stages.

2.5. RECOMMENDATIONS TO PROMOTE THE DEVELOPMENT OF MOBILITY STRATEGIES WITH PARTICIPACION

A successful case – Nantes “Civitas Vivaldi”

Over the last two decades, Nantes has made the way that people move in the city far more sustainable. This was in part thanks to its involvement in CIVITAS VIVALDI from 2002-2006.

Even now, close to 20 years later, **the city is still feeling the positive impact of participation.** VIVALDI exposed Nantes to sustainable mobility measures applied in other European cities: it used this experience to adapt its own urban mobility policy and launch new initiatives. It also helped **create a framework for stakeholder engagement and facilitating the involvement of political leaders - this accelerated innovation in the city.**

Motivated by VIVALDI, Nantes developed a multimodal mobility policy with ambitious objectives for cycling, alongside actions to reduce private car use.

2.6. RECOMMENDATIONS TO PROMOTE THE USE OF ELECTRIC VEHICLES

Policy or program	Model city	Details	Other cities with action
City fleet goal	Los Angeles	Half of city fleet electric as of 2017	Oslo, Amsterdam, San Jose, New York, San Diego, Shenzhen, Tianjin
Taxi electrification	Beijing	Replacing all 69,000 city taxis with electric vehicles through government subsidies	Taiyuan, London, Amsterdam, Hangzhou, Tianjin, Shenzhen, Qingdao
Electric car sharing program	Paris	Autolib' program contains 4,000 cars and 6,000 charge points	Shanghai, Los Angeles, Amsterdam, London, Hangzhou, Beijing, Shenzhen, Tianjin, Qingdao, Taiyuan
Public bus electrification	Shenzhen	All buses zero-emission by October 2017	Los Angeles, London, Shanghai, Beijing, Tianjin, Hangzhou, Qingdao, Taiyuan
Free public charging	Oslo	Free charging with renewable energy at all Level 2 charge points	Stockholm, Bergen
EV-friendly building and parking codes	London	1 in 5 new parking spaces must have an EV charge point	San Francisco, Los Angeles, New York, Shenzhen, Hangzhou, Beijing, Shanghai, Qingdao
Special road or lane access	San Francisco	Electric vehicles may use carpool lanes and pay reduced bridge tolls	Los Angeles, San Jose, Oslo, Shenzhen, Bergen, San Diego, Beijing, Shanghai, Tianjin, Hangzhou, Taiyuan
Vehicle registration benefits	Shanghai	Electric vehicles bypass expensive license plate auction system	Beijing, Shenzhen, Tianjin, Hangzhou

2.7. RECOMMENDATIONS TO SHARE PUBLIC TRANSPORT BETWEEN CITIES

A successful case – “CIVITAS Modern”

In every city the MODERN teams recognized the importance of collaboration and knowledge sharing and thus fostered coherent ways of operating. The mutual support given in the definition of the tendering processes for the e-ticketing measures in Craiova, Brescia and Coimbra is emblematic of the cooperative attitude cultivated amongst the partners and the people of MODERN. MODERN project conjugated state-of-the-art strategic planning to operational demonstrative measures introducing a broad range of innovative solutions, encouraging transferability and knowledge sharing amongst cities, pursuing robust evaluation activities while disseminating to leverage its efforts. Notwithstanding all the thoroughness pursued during the project lifetime, the single partners as well as the consortium as a whole, had to face certain challenges that were in most cases successfully tackled.

2.8. RECOMMENDATIONS TO FOSTER COOPERATION BETWEEN SMES

A successful case – “CLUSTERS”

Clusters are **interconnecting systems** between private and public sector entities such as firms and institutions. A cluster usually comprises a group of companies, suppliers, service providers, associated institutions like testing and quality control institutions, educational institutions, vocational training schools, and trade companies/distributors/associations in a particular field. These **groups within a cluster are linked by externalities and complementarities**. In our economy, productivity affects competitiveness. Productivity measures the firms' competitiveness in a particular field. Industrial companies can be highly productive if they use sophisticated technology, high-tech production methods, and offer unique products and services. **Clusters affect competition by increasing the competitiveness of companies acting in their respective fields.**

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2.8. RECOMMENDATIONS TO FOSTER COOPERATION BETWEEN SMES

A successful case – “GREEN MIND ROJECT”

Pilot services devoted to SMEs allow linking SMEs through B2B Marching events (Service-WP3). This link in terms of cooperation in our experience both as a cluster and as a partner of the Project is more effective when there is a real market need to be faced (Market Intelligence service-WP3). Of course the later support in terms of public funding (service-WP3) is a great additional value to encourage real cooperation.