TOPICAL REPORT

# Observatorio del Transporte y la Logística en ESPAÑA

# Mobility and Transport in COVID-19 times

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# EXECUTIVE SUMMARY

This year (**2020**) has been **marked by the appearance of the SARS-CoV-2 virus**, commonly known as COVID-19, which spread at high speed after the first known cases until it became a pandemic that has had tragic consequences on the population, with more than 62 million infections and 1.4 million deaths[1] at the time this report was drawn up.

The virus begins to spread across Europe in March, in what is known as the first wave of the pandemic. At that time, the different countries began to implement a series of measures to try to contain the spread of the virus, **the most prominent being the limitation of mobility and free movement of people**, where transport and mobility played an unprecedented role. This crucial and essential role of transport and mobility is not only motivated by restrictions on the mobility of people, but also by the **importance of freight transport and logistics in this context**, where guaranteeing the supply of essential products for people or medical supplies in hospitals are just some examples that illustrate this great relevance.

Faced with this health emergency situation, European institutions and countries were aware, from the very outset, that the **global problem posed by the virus required a joint and coordinated response within the European Union.** It is therefore worth highlighting the coordinated action that has led to denying entry to residents of third countries in most Union countries, as well as re-establishing controls at internal borders.

In addition to this coordinated action, each country **internally established the measures it considered most appropriate to try to limit the spread of the virus.** However, many of them are common in the countries analysed, although their scope and duration differ. During the first wave, in particular, it was common practice to establish restrictions on opening or closing times of non-essential shops and the hotel sector, as well as the suppression of events and face-to-face teaching. On the contrary, in relation to the adoption of home confinement, this measure was not implemented in countries such as Germany or Sweden during the first wave of infections.

All these restrictions and limitations, together with the changes and transformations produced as a consequence of the pandemic, have had a **great impact on transport and mobility.** That is why it has been necessary, since the beginning of the pandemic, to carry out continuous monitoring of mobility which, in Spain, was based on the analysis of the **evolution of general mobility** using origin-destination matrices extracted through the application of Big Data technology and the evolution of a series of mobility indicators of the different means and areas of transport obtained through the collaboration of numerous agents. This information has been very useful when assessing the effectiveness of the measures adopted and has been essential in the decision-making process, enabling an analysis of the impact on mobility during 2020.

A few figures show, for example, that in the **first week after the declaration of the first state of alarm**, mobility stood at a level of just **37%** (in terms of passenger-km) compared to the levels corresponding to a typical reference week[2], **reaching 27% in the hibernation week (week of March 30).** Since that week, and largely motivated by the progressive adaptation of the restrictions adopted and especially by the de-escalation process, the **level of mobility increased to 89% in the week after the end of the first state of alarm** (week of June 22) and continues to increase, but **without exceeding the levels of February**, until mid-August, where a turning point is observed and mobility drops again to represent 66% in the last week analysed in the report (week of 9-15 November).

On the other hand, the different transport modes and segments are also analysed and significant decreases can also be observed, as shown in the following table.

[1] According to data obtained from the European Union Centre for Disease Prevention and Control until November 2020.

[2] The week of Friday 14th to Thursday 20th February

**Table 1. Summary of the percentage of variation in passenger transport (number of passengers) and freight (tons) by mode[3]**

| SEGMENT | MODE | PERCENTAGE OF VARIATION (%) | | |
|---|---|---|---|---|
| | | MAXIMUM | LAST PERIOD | ANNUAL ACCRUAL |
| Passengers | Bus | **-91.0%** Variation between April 2020 and April 2019 | **-45.4%** Variation between October 2020 and October 2019 | **-46.2%** Variation Jan.-Oct. 2020 in relation to Jan.-Oct. 2019 |
| | Train | **-78.1%** Variation between 2nd Q 2020 and 2nd Q 2019 | **-44.3%** Variation between 3rd Q 2020 and 3rd Q 2019 | **-47.1%** Cumulative variation until 3rd Q 2020 in relation to 2019 |
| | Air | **-99.5%** Variation between April 2020 and April 2019 | **-85.3%** Variation between October 2020 and October 2019 | **-73.2%** Variation Jan.-Oct. 2020 in relation to Jan.-Oct. 2019 |
| | Maritime | **-96.5%** Variation between April 2020 and April 2019 | **-69.7%** Variation between October 2020 and October 2019 | **-63.6%** Variation Jan.-Oct. 2020 in relation to Jan.-Oct. 2019 |
| | Metro | **-91.1%** Variation between April 2020 and April 2019 | **-46.7%** Variation between October 2020 and October 2019 | **-46.0%** Variation Jan.-Oct. 2020 in relation to Jan.-Oct. 2019 |
| Freight | Road | **-11.2%** Variation between 2nd Q 2020 and 2nd Q 2019 | **-5.6%** Variation between 3rd Q 2020 and 3rd Q 2019 | **-6.8%** Cumulative variation until 3rd Q 2020 in relation to 2019 |
| | Train | **-30.6%** Variation between 2nd Q 2020 and 2nd Q 2019 | **-15.7%** Variation between 3rd Q 2020 and 3rd Q 2019 | **-20.8%** Cumulative variation until 3rd Q 2020 in relation to 2019 |
| | Air | **-60.1%** Variation between April 2020 and April 2019 | **-21.0%** Variation between October 2020 and October 2019 | **-27.3%** Variation Jan.-Oct. 2020 in relation to Jan.-Oct. 2019 |
| | Maritime | **-25.1%** Variation between May 2020 and May 2019 | **-5.5%** Variation between October 2020 and October 2019 | **-10.2%** Variation Jan.-Oct. 2020 in relation to Jan.-Oct. 2019 |

*Source: own elaboration with data from the INE (National Statistical Institute of Spain) Passenger Transport Statistics, INE Railway Transport Statistics, EPTMC, AENA S.M.E., S.A and Puertos del Estado*

Clearly the **passengers segment is the most affected.** Within this segment, international modes have received the greatest impact (air and maritime) due to changes in mobility patterns and the need for quarantine in many countries. On the other hand, **the freight segment saw better performance of road and maritime transport,** compared to other modes.

This **major impact on mobility and transport has led to the implementation of a series of measures** with different objectives, but all of them of great relevance. A first objective has been to manage the mobility of people in the best possible way, through actions on several fronts.

In the first place, important actions have been carried out to adapt the **supply of transport services to current needs** where, in addition to applying **reductions in the supply** of services or managing the conditions in which

[3] In the passenger segment, bus data includes regular interurban transport, railway data includes long-distance, medium-distance and commuter services carried out by all railway companies, and for metropolitan transport (metro icon) it includes that carried out by bus, metro and rail (commuter).

they must be provided, **initiatives have been implemented** to promote the purchase of bicycles and scooters, pedestrianisation of streets and the increase in bus and bike lanes aimed at moving towards more sustainable mobility.

Likewise, resources have been allocated to **regain people's confidence in relation to safety in public and collective transport, as well as the safety of users and workers,** adopting **measures** such as the use of masks, daily disinfection of vehicles, stations and facilities, improvement of sales channels, contactless payment or the installation of thermographic cameras and hydrogel machines, among others. This objective also includes **information and communication measures**, among which are the signalling of itineraries and safety distances at transport nodes or the publication of guides, recommendations and communication campaigns with instructions on how to make a trip.

As mentioned above, a second objective of the measures consisted of **guaranteeing and facilitating the distribution of freight**, which was particularly important in the early stages of the pandemic. To this effect, some of the measures adopted have provided transporters' with access to the services necessary for the exercise of their activity, enabled them to extend the validity of permits, licenses and authorisations to continue their activity, or to guarantee the distribution of the goods on international itineraries by designating priority lanes at borders.

On the other hand, another series of measures aimed at **maintaining the productive fabric and employment in the transport sector** have been implemented, highlighting the initiatives to maintain employment. These include aid in terms of temporary suspension of contracts and temporary reduction of working hours (ERTEs) or those aimed at self-employed workers, as well as other initiatives to ease the economic situation of companies (guarantee lines, fund to support the solvency of strategic companies, postponement of the payment of rent or leases, etc.).

Additionally, it is very interesting to be able to reflect on how all the **changes and transformations that have occurred as a consequence of the COVID-19 pandemic are going to affect transportation and mobility in the future.** It is therefore worth highlighting aspects that have changed during these months, such as teleworking, face-to-face teaching, development of online services, changes in mobility patterns, new consumption patterns, health safety in transport and digitisation and new technologies, among others. Thinking about how these changes will affect future mobility and transport will be a great help for the design of public policies.

Finally, the **impact of the pandemic on the world economy is widely known and Spain is no exception.** In addition, as we have already seen, this impact has greatly affected transport and mobility. However, taking into account the global nature of this phenomenon, the European Union has provided various aids, among which is the **Next Generation EU Recovery and Resilience Facility (RRF).** In this context, the **"Recovery, Transformation and Resilience Plan"**, presented on 7 October by the Prime Minister, will guide the implementation of nearly **72 billion euros** - approximately 50% of the resources available for Spain through the Next Generation EU- instrument between **2021and 2023.** The Plan, which is structured around four cross-cutting axes - ecological transition, digital transformation, gender equality, and social and territorial cohesion - represents an opportunity for the **transformation of transport and mobility and for the entire economy in general.**

# INTRODUCTION

In December 2019, the first news arrived about people infected by the **SARS-CoV-2 virus in Wuhan (China).** In January 2020, all Chinese provinces registered cases of contagion by this disease and in February the virus had already spread to other countries (the first affected being Korea and Italy). The spread of the virus continued to affect many more countries and finally, **on 11 March, the World Health Organisation called the situation caused by the virus an international pandemic.**

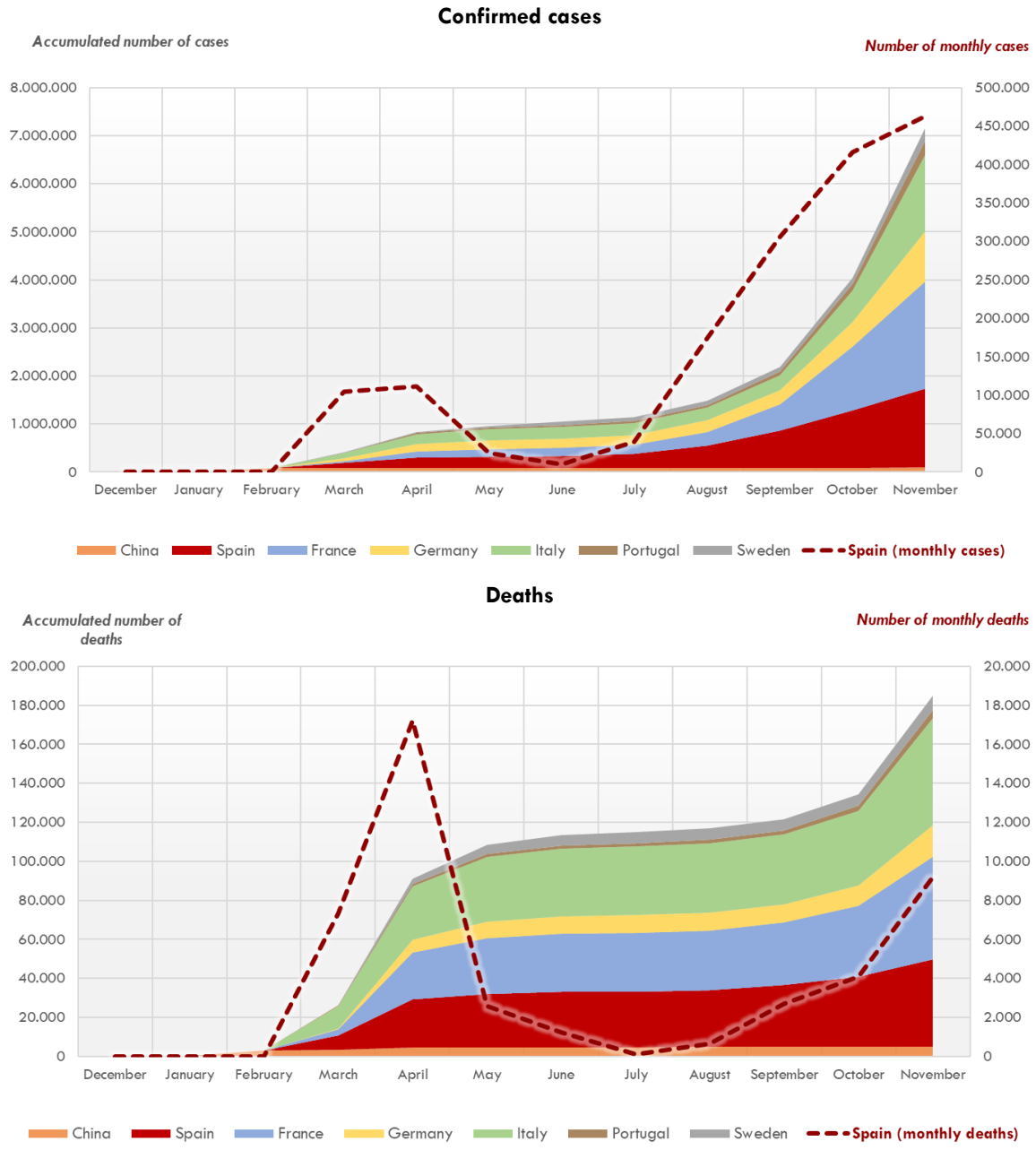
In Europe, the virus spread quite intensely during the month of March, showing a significant increase in the number of infections and deaths, and all sectors of society were affected. The authorities of European countries began to adopt measures to stop the spread of the disease, to reduce its effects and to find a solution, and **one of the main tools in the fight against the virus was the limitation of the mobility and free movement of people.**

**The right and the possibility to move are important in our society**, allowing people to go to their jobs, go to the doctor, travel wherever they want, visit family and friends, buy food or any other activity that requires going from one place to another, whatever time this may take. On the other hand, transport constitutes an element of social and territorial cohesion, essential for the logistics of supply and distribution of freight, and it allows international trading of goods produced in our country. Transport itself is also relevant in economic terms, both for its impact on other economic activities and for its own contribution to the country's wealth and employability (it represented 4.42% of GDP at constant prices in 2019 and generated around 960,000 jobs in that year).

Undoubtedly, transport and mobility are a vital activity for society and limiting it has possibly made people more aware of their need to travel. It has also highlighted the sacrifice involved in even partially renouncing freedom of movement.

In this situation, this loss had a positive counterpart and the restriction of movements, together with other actions and recommendations, such as those carried out by the health authorities, led to the **flattening of the curve of infections and deaths** from April onwards. In particular, the following graphs show that both the monthly number of confirmed cases and the number of deaths decreased significantly as of April. However, the arrival of the second wave brought a new increase in infections and deaths, which led to the establishment of new measures to restrict mobility in order to try and contain the spread of the virus. The following graphs show the above.

**Graph 1. Evolution of the accumulated number of confirmed cases and deaths from COVID-19 in different countries and the number per month in Spain. December 2019 - November 2020**




*Source: own elaboration of the Observatory of Transport and Logistics in Spain (OTLE) with data from the European Union Centre for Disease Prevention and Control*

Additionally, management of the pandemic has involved the adoption of measures aimed at **guaranteeing the well-being of people in such special circumstances and transport has played a strategic role** in that objective. It has been made clear that a health emergency situation can put **the supply of goods and services to the population** at risk, which is why logistics and the distribution of freight are of particular importance. Issues such as the supply of basic necessities (food, medicines, hygiene products, etc.) and medical supplies (masks, gloves, medicinal gases, etc.) are just some examples that show **the importance of logistics and the transportation of freight**, both nationally and internationally, in this scenario.

In the harshest months of the pandemic, it was also necessary to **ensure uninterrupted mobility for all people who had to continue working**, maintaining the service provided by collective public transport and guaranteeing the operation of transport so that it could continue to play its role in the chain of value.

It was also necessary to **guarantee the return of citizens who were away from their place of residence** (sometimes even from other countries) at the beginning of the pandemic, so that transport could continue providing a service of great social interest despite the limitations imposed.

These examples and many others show the different approaches of the decisions and actions taken, which were not only restrictive measures, but also guarantee and reinforcement provisions. Similarly, it was not only about seeking adaptation to the situation, but also overcoming difficulties and implementing solutions that would allow safe mobility and transport.

After the containment of the **first wave of the pandemic**, many European countries gradually reduced the restrictions imposed, through various plans and measures aimed at reactivating and normalising the economy. However, the absence of a vaccine or effective treatment against the virus has made it necessary to maintain certain security measures (social distancing, use of a mask in established cases, etc.) to try and minimise the risks of contagion and strike a balance between economic recovery and health protection.

**The end of the summer period gave way to the beginning of the second wave** and revealed the need to re-adopt more effective measures, among which was the potential restriction of mobility. Transport and mobility continue to be one of the sectors most affected by the COVID-19 crisis on this occasion but after the experience gained and the lessons learned, a major difference is evident with respect to the first wave. In the case of mobility, more discretionary limitations were imposed in order to ensure compatibility between mobility levels and maintaining a certain level of economic activity.

Since March, the management of the pandemic, the measures to combat it and the adaptation of society itself to the new situation, have had a major impact on mobility. **The purpose of this report is to analyse how mobility and transport in Spain have been affected as a result of the pandemic**, as well as to point out the main measures required in the transport framework to adapt to the situation. In addition, the impact of this pandemic may be producing certain changes and transformations in mobility patterns that should be noted, as some could become consolidated in the future. Therefore, it was decided that this edition of the OTLE was to address this analysis of great relevance in the current context, structuring the report as follows:

- **Chapter 2** reviews the different **mobility restriction measures** decreed in different European countries to later focus on Spain and summarise the main measures implemented.
- **Chapter 3** analyses **how the measures** adopted and **the pandemic** in general **have impacted mobility**. To do this, an in-depth analysis of general mobility is carried out first of all and then it is specified by modes (road, rail, air and maritime), segments (passengers and freight) and areas (national and international) whenever possible.
- **Chapter 4** elaborates on how **mobility has been managed in Spain.** The different actions, mechanisms and recommendations that have been implemented to guarantee and control mobility under health safety conditions are outlined, as well as those aimed at the recovery of the sector.
- Finally, **Chapter 5** includes a series of **reflections for the future** concerning the impact of the pandemic on mobility and the changes and transformations that it may produce in the future.

It should be noted that, as has become customary in the various topical reports prepared in the OTLE, the objective of this report is not to provide a detailed technical description of the different proposed topics. The main purpose is to be able to offer the reader an overview of the impact that COVID-19 has had and is having on mobility and in the transport sector, as well as the possible changes and transformations that may occur in the future as a consequence of the pandemic.