# Citizen-Centered Mobility Model of Catalonia

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**Abstract.** The mobility is becoming ever more complex in a changing environment with the emergence of new means of transport and mobility solutions. In this ecosystem in flux, authorities responsible for mobility must plan for the arrival of such changes, considering the desired mobility model to be attained, one where sustainability, health, digitalisation, and equity, among other aspects, take a prominent role; and all this without disregarding the public, who must be placed at the centre. The digitalisation occurring in society today offers a wide range of solutions; these digital solutions must consider that there is a percentage of the population who are non-digital and that its deployment must the different types of territories, urban and rural.

The analysis set out in this article examines the case of the Barcelona Metropolitan Region, describes the characteristics of its citizens from a standpoint of mobility and their acceptance of new trends, identifies existing aims and strategies regarding mobility in the region, and specifically distinguishes the digitalisation strategy in this European region. Finally, this analysis must consider the changes brought about by the COVID-19, in which certain habits have been altered, and where digitalisation has played and will continue to play a sizeable role.

## 1 Existing Planning Elements

The mobility ecosystem has been undergoing changes in recent times. For example, new factors have emerged, such as shared mobility systems, the concept of mobility-as-a-service, scooters, or the return of the bicycle to the city. In addition, certain pre-existing means of transport, with the aid of digital tools, have developed new functionalities that are becoming new transport solutions for the general public.

This is why good mobility planning elements are required, and also why the authorities responsible for mobility must make good use of them. In the case of the Barcelona Metropolitan Region, since 2008 its transport authority, Autoritat del Transport Metropolità, has periodically drafted a mobility master plan for the territory, a document that lays out the objectives and lines of action in reference to the mobility policy in this region of over 5 million inhabitants. In its most recent version for the 2020–2025 period, the plan encompasses 5 broad two-fold objectives for the planned mobility model, which are described below with more specific goals within each objective.


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**Sustainable and Healthy Mobility**

- Shift towards more sustainable modes of transport, keeping the distance of journeys to a minimum
- Lower energy consumption and less impact of mobility on climate change
- Improved public health and minimisation of social costs
- Encouraging the public's physical activity

**Efficient and Productive Mobility**

- Increased efficiency of the transport model, fostering the socio-economic optimisation of the system
- New jobs with particular emphasis on new technology sectors
- Fostering of new business models that leverage opportunities emerging from the circular and innovative economy

**Safe and Reliable Mobility**

- Reduced accident rates and improved perception of safety
- Reliable public transport system responsible to its users
- Promotion of safe, quality spaces for active modes

**Inclusive and Egalitarian Mobility**

- Total accessibility of the mobility system
- A mobility system that meets the different needs of the entire citizenry
- Incorporation of a gender- and age-based perspective across the entire mobility system

**Smart and Digital Mobility**

- Bringing new mobility technology to the general public and business community
- Boosting a digital mobility that services the mobility needs of the public at large
- Readying the mobility system for the challenges brought on by mobility automation

This set of goals is to be met through the realisation of around one hundred measures, divided into 10 pillars of action. The interrelationships between these objectives and measures are shown below (Fig. 1):

Of all the actions contained in the Mobility Master Plan, digitalisation and the actions intended for the public at large play a highly significant role. On the one hand, digitalisation is a widely expanding tool that can optimise and facilitate the development of many of the above actions.

On the other, the solutions intended for the general public are considered essential to achieving the success of the objectives set. Similarly, putting citizenship centre stage is also a key element in achieving the objectives of inclusiveness and equity that have been set. These objectives will be achieved by implementing initiatives to guarantee physical and digital accessibility to the system and designing solutions to meet citizens'

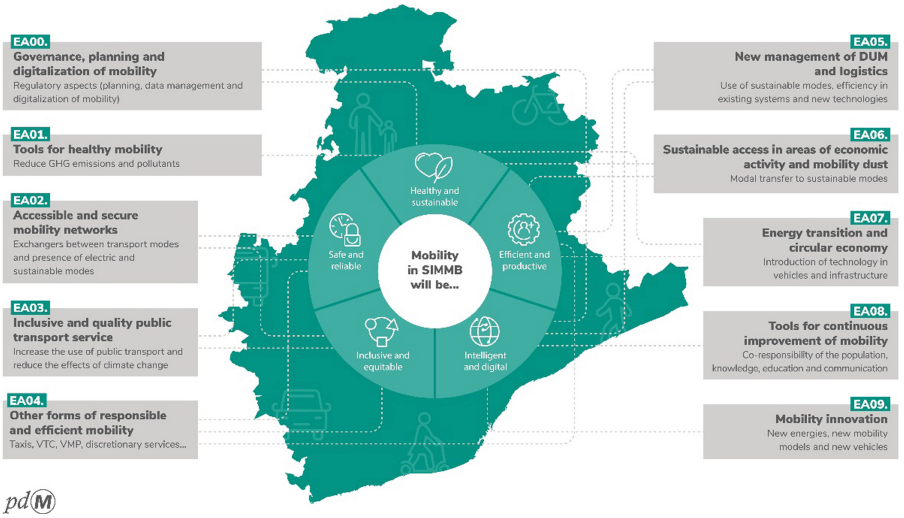


**Fig. 1.** Objectives and measures of the Mobility Master Plan 2020–2025 for the Metropolitan Region of Barcelona

needs, such as the appropriate charges and digital solutions providing solutions to real problems, and conceiving actions for vulnerable collectives by facilitating access and training in the use of digital tools.

## 2 Citizen Mobility and Attitude Towards Changes

Broad knowledge of the public's mobility habits and characteristics are important to developing the right mobility policy, with the aim that these solutions are in their interests. This is why since 2003 the planning authorities of the Barcelona Metropolitan Region have regularly performed a weekday mobility survey of more than 10,000 residents across the region, which makes a detailed analysis of their mobility, the evaluation of the different mobility solutions and certain aspects related to future changes.

The latest data available in the 2021 survey report active mobility to be by far the most used form of mobility in the Barcelona Metropolitan Region, as it accounts for 47.9% of the total number of trips. This is followed by the data from private vehicles, which has a share of 37.1% of all journeys; and finally, public transport, with a 15% share (Table 1).

However, new actors have emerged on this mobility scheme, of little importance in absolute numbers at the moment, but with sizeable growth in recent years. To give an example, in 2017, the number of trips in the Barcelona Metropolitan Regions that were made using a scooter or equivalent systems is estimated to be 13,000, while the figure for the same category for 2021 is 110,000 trips, or in other words, 9 times higher in just 4 years.

In the case of this explosive growth, the consequences have included a significant increase in the number of disputes with pedestrians because, although they still only

**Table 1.** No. of trips and modal split in the Metropolitan Region of Barcelona (Metropolitan Transport Authority of Barcelona, 2021). https://www.omc.cat/en/w/working-day-mobility-surveys-emef-

| Mode of transport | No. of trips | % |
|---|---|---|
| Walking | 8,214,153 | 45.5% |
| Cycling | 308,482 | 1.7% |
| Wheelchair | 14,403 | 0.1% |
| Scooter or equivalent | 110,402 | 0.6% |
| Active Mobility - Total | 8,647,440 | 47.9% |
| Bus | 998,527 | 5.5% |
| Metro | 931,732 | 5.2% |
| Rail | 649,003 | 3.6% |
| Other Public Transport | 125,565 | 0.7% |
| Public Transport - Total | 2,704,826 | 15.0% |
| Car | 5,707,550 | 31.6% |
| Motorbike | 729,357 | 4.0% |
| Van, truck and other private | 264,400 | 1.5% |
| Private Vehicles - Total | 6,701,307 | 37.1% |
| Total | 18,053,573 | 100% |

represent under 1% of the total number of trips, they happen to be concentrated in certain parts of the city and also interact with pedestrians on the pavement, where areas of tension are generated and mounting problems. It must be taken into account that many of these new forms of mobility are based on digital solutions.

Consequently, as the above data indicate, we are faced with very rapid changes, ones to which the planning authorities must react in order to correctly introduce these systems in the urban and metropolitan ecosystems, while also taking into consideration the acceptance and interest of the end users.

This aspect has also been analysed in the Metropolitan Region in recent years, with the support of complementary studies which have explored the public's acceptance of the changes and solutions put forth in this evolving mobility ecosystem. Knowledge of the receptivity to these changes and solutions by society at large is considered essential to ensure that planning authorities can anticipate the public's mobility patterns in the future.

The most recent edition of one of these complementary studies is from 2019, which provides some relevant data to be able to identify the public's interests and habits and future mobility trends, the majority of which are linked to the digitalisation of mobility. The data collected are based on a total of 3,000 interviews with citizens of the Barcelona Metropolitan Region.

Conducting these types of studies can help identify different types of citizens according to their mobility habits and also evaluate aspects such as the improvement of public transport, the implementation of low-emission zones, the use of digital tools, the introduction of new means of transport, as well as aspects of new consumer habits, such as online commerce, among other aspects.

For the purposes of this article, some of the most significant aspects of digital mobility solutions have been identified in the aforementioned studies, as well as the public's opinion of them within the consideration of a user-centric digital solution. The study data show a sizeable increase in users who use tools to keep informed about the functioning of the different transport options, rising from 32% in the 2017 edition to over 50% in that of 2019. This increase is basically due to purely digital tools, specifically in those controlled by large international corporations, such as Google or Waze (Table 2).

**Table 2.** Information channels most used by citizens to plan their trips in the Metropolitan Region of Barcelona (Metropolitan Transport Authority of Barcelona, 2021).

| Information channel | % (2019) | Information channel | % (2017) |
|---|---|---|---|
| Google Maps | 58.4% | Google Maps | 55.2% |
| Other Local Apps | 32.5% | Other Local Apps | 38.9% |
| TV-Radio | 24.1% | TV-Radio | 32.5% |
| Social Network | 12.7% | Social Network | 14.5% |
| Waze | 12.3% | Waze | 8.2% |
| Mobility websites | 9.3% | Apple Maps | 5.1% |
| Apple Maps | 5.7% | Moovit | 4.6% |
| Moovit | 4.7% | Wazypark | 1.7% |
| Mou-te (ATM Barcelona & Government of Catalonia app) | 3.0% | Others | 0.3% |
| Smou | 1.7% | | |
| Others | 0.9% | | |

Analysing the data from the same study, there is also evidence of positive changes with regard to the interest of the public in mobility solutions such as Mobility as a Service and the use of sharing systems, both based on digital tools. In this regard, the use of shared mobility services rose from 30% in 2017 to 40% in 2019, while the concept of Mobility as a Service, which already had a high level of interest in 2017 among 57% of users, increased to 61% in 2019.

Finally, it is worth noting that the study explored the public's opinion with regard to the use of the data generated by these digital tools in order to have available information on citizens' mobility habits. When they were asked explicitly about this issue, more than 70% accepted that their data were used, provided they were appropriately processed, while 48% expressed the view that it is important that such collection and data analysis should be performed by a public body, while 38.3% said it should be done by a

public-private partnership. The studies and surveys that provide insight into the mobility and attitudes of the general public in light of these changes are not the only source of information, however, as it is precisely the digital tools themselves which have become complementary elements in characterising mobility.

In 2017, the Barcelona Metropolitan Transport Authority created the first mobility matrices that describe the flow of people and goods using mobile telephone data, a source of information has been consolidated in recent years with the monitoring of mobility flows through individuals' mobile phones. The creation of mobility matrices as a planning element presents advantages and drawbacks with respect to the use of surveys. On one hand, it is worth mentioning the positives of being able to identify a greater number of movements, which provides for greater capillarity; however, more qualitative information and demand segmentation data are lost, as is what the purpose of the trip might be or the modal distribution. That said, telephone data provides for more immediate availability as compared to survey data, so during the COVID-19 pandemic, for example, it was a useful source of data for many planning entities to track mobility and its evolution, as the Barcelona Metropolitan Transport Authority did.

## 3 The Impact of COVID-19 on Certain Mobility Habits

As mentioned at the beginning of the article, COVID-19 has been a disruptive factor causing changes in mobility, socialisation and consumption habits, and even today we do not know for sure if such changes will persist, structurally-speaking. Triggered by the public health pandemic, these changes have largely taken place due to the presence of digital solutions, whether to support the changes in people's habits or in the use of new means of transport. From the start of the pandemic, the Barcelona Metropolitan Transport Authority has taken an interest in being aware of these changes and forecasts of transport use by the public at large as well as the impact of COVID-19. To do so, it has carried out several studies both amongst public transport users and the region's business community in search of insights into the changes expected in mobility as a result of the new situation generated by the COVID-19 pandemic.

The first of these studies was conducted by the Mobility Observatory of Catalonia (2020a) during the spring and summer of 2020, which identified the changes in the habits of transport users. The second study of Mobility Observatory of Catalonia (2020b) analysed aspects of the changes in habits linked to work commuting from a corporate standpoint.

The study of the change of habits of transport users showed a predisposition to change in the months that followed the onset of the COVID-19 pandemic. Users showed concern about the use of collective transport systems, at the same time as they took a positive view of individual means of transport, both mechanised varieties and those of active mobility.

When asked about the degree of confidence generated by the different means of transport, underground railway was the one that reflected the lowest degree of confidence, while bicycles and private vehicles were those that had the highest level. The initial predictions for a modal change foresaw decreases in the use of public transport of up to 20% with respect to the number of users prior to the pandemic. These figures, in the

end, seem not to have materialised, as in the case of the Barcelona Metropolitan Region, the percentage of public transport use stands at 90% of the pre-pandemic figure.

The study of the business community revealed a fairly high willingness to implement teleworking as a means of reducing the number of trips, but a more lukewarm response to other solutions, such as flexible schedules. The key to the success of the sudden and widespread implementation of teleworking was the use of established digital tools, which managed to maintain productivity levels without the need to travel.

The initial results reflected a strong interest in teleworking, but this has subsequently receded, stabilising in values which, in the case of the Barcelona Metropolitan Region, stand around 13% of the population who perform some kind of teleworking to a greater or lesser extent. These opinion surveys have been complemented by mobile telephone data analysis, which has provided for the monitoring of the changes in citizens' mobility habits, noted in the previous section.

Thus, the changes in the mobility ecosystem, the knowledge of the general public's willingness to accept new digital tools, and the acceleration of the changes as a result of COVID-19, have forced authorities to draw up a road map of digitalisation within their planning elements, as it has become a fundamental tool in the management and range of mobility solutions on offer.

## 4 The Mobility Digitalisation Strategy

This is why since 2020 there have been initiatives to define the mobility digitalisation strategy in the Barcelona Metropolitan Region. Within the framework of Catalonia as a whole, the Mobility Digitalisation Agenda in Catalonia has been put forward. The Mobility Digitalisation Agenda in Catalonia (ADMC) is a document whose aim is to provide a strategic vision of how to implement the digitalisation process for mobility in Catalonia over a 10-year period (2020–2030), so it is useful to identify relevant aspects from it that will have an impact on the future of mobility in this European metropolis.

The aim of the agenda is to offer an overview of the various challenges related to the digitalisation of mobility in Catalonia, and how these challenges may be related and prioritised. The contents of this agenda are set out in a number of overall objectives, resulting in 7 lines of actions that encompass 26 measures. Taking into account the speed of the changes occurring in the digital field, documents of this kind must be understood as a living document; this means their contents must be reviewed periodically to ensure their relevance and the validity of the mobility digitalisation strategy with regard to the new challenges posed by the emergence of new solutions and technologies throughout its time horizon.

According to the reflections contained in the Agenda and considered relevant in terms of designing a user-centric digital mobility system, the following objectives must be encompassed. Firstly, to lead a digital transformation of the mobility system as a means of moving towards a more sustainable, productive, efficient, inclusive and digital mobility model.

On the other hand, digital technologies must be fostered in mobility in order to offer users greater efficiency and a better experience, and enhance the capabilities and competitiveness of service operators and mobility infrastructures. Furthermore, the objectives

must include greater availability for mobility operators to the necessary resources and factors (ICT infrastructure, regulation, knowledge and training in digital technologies, data, energy needs, etc.) to encourage the digitalisation of their services, assets and organisational models. During the digitalisation process, a digital mobility system must be developed in a manner that guarantees the security and privacy of information, system interoperability, business competence and universal access for the society at large and throughout the region.

In terms of promoting digitalisation, there must be an adaptation of the existing business and industrial fabric within the new mobility network, encouraging both the attraction and development of new innovators and sector leaders in digital technology, steering them towards the improvement of mobility services, infrastructure and teams.

In this context of mobility digitalisation, it is essential to further the business community's global competitiveness in mobility and logistics services. Digitalisation must consider the individual as its core element, which is why education, information and awareness-raising must be fostered among the general public in the use of the new digital mobility models, so as to leave no one behind and with the aim that these solutions be used by the greatest number of people.

In order to achieve this objective, the necessary complementary actions must be implemented to ensure that potentially vulnerable users are not excluded. Thus, in addition to the actions on the agenda, which must design solutions encompassing vulnerable collectives and guaranteeing accessibility in digital terms, parallel work should be carried out with other governmental departments to identify collectives which, despite the simple and user-friendly design, may be excluded. These tasks should be designed to include as many users as possible and they should be coordinated with those responsible for education (children), social welfare (elderly people) and immigration (newly-arrived citizens). Finally, a governance model must be promoted for mobility digitalisation based on the coordination between the mobility authorities and digital policies, as well as collaboration with and between private sector entities.

The Agenda considers this feasible to achieve these objectives, provided a set of actions is developed encompassed by the following lines of action:

- Data management and modelling
- Infrastructure to enable digital transformation
- Digital mobility planning and management
- User-centric mobility
- A logistics system based on new technologies
- Participation of the business community in leading the digitalisation
- Managing the change and the digital transformation

As can be seen, these 7 lines of action include one based on user-centric mobility, with the understanding that its basic goal is that mobility should be digital and user-focused, as we have attempted to develop from the beginning of this article.

An analysis of these lines of action provides an insight of the trends currently at work within the sphere of mobility digitalisation. The first proposes the management and modelling of data, as it is important to design a system that integrates information

from the mobility systems in digital format as the foundation for the future mobility management and its advanced planning.

This system must guarantee data standardisation, a shared use and both security and privacy. To do so, certain aspects must be developed, such as the data necessary to define the mobility system, greater insight in terms of gender, vulnerable sectors, etc.; standardise the format and process of data collection: and at the same time integrate mobility data into a common point of access to facilitate planning, management and the innovation of new services: Finally, there must the assurance of data security and privacy. There is a clear need to identify different types of citizens while also guaranteeing the security and privacy of their data, which are fundamental to establish a user-centric solution which considers their interests and protects their rights, as indicated in the analysis of the studies conducted in previous sections.

The second line of action, infrastructure to enable the digital transformation, seeks to identify and develop the infrastructures that will provide for the digital transformation of mobility, by means of data collection and guaranteed coverage of the wireless connection. The developments proposed in this second line of action include the following aspects, such as the SMART infrastructures: Sustainable, Multifunctional, Automatic, Resilient and Technified; having the necessary infrastructure for data capture, and finally guaranteeing standardised connectivity throughout the territory to support digital mobility applications.

The third of these lines of action proposes digital mobility planning and management. With regard to this objective, it foresees the creation of a digital inventory of the current transport infrastructure network as the basis for optimising the planning and management of mobility services and supporting an agile, coordinated and data-based decision-making system. Specifically, it proposes to develop aspects such as improving the planning of mobility options and including the requirements of minority groups in decision-making (gender, age, etc.), a coordination of efforts and insights from the authorities responsible for mobility planning and management, the availability of advanced analytical tools to support evidence-based decision-making, optimising the use of the public space with agile, real-time responses, as well as a digital transformation as the facilitator of environmental and public health goals. As it can be seen in this third line of action, once again there appears the need to include the requirements of minority groups in decision-making, and thus consider user-centric solutions that include all groups of citizens.

The fourth line of action is fully linked to the subject of this article, as it advocates a mobility model that is centred on the individual. It sets out to fulfil this aim through fostering **new digital services** to enhance the **user experience** and **personalise** information, improve support services and offer flexible payments. This is why it specifically foresees the enhancement of new mobility services (new modes of transport), offers new customised products (MaaS - Mobility as a Service, route planners, etc.) and improves the experience of the mobility user while making the payment system more flexible. Thus, the introduction of new personalised services that enhance the experience is a significant aspect to consider in a user-centric digital model. As seen at the beginning of the article, the general public shows a strong willingness to adopt new means of transport and in some cases, these now-introduced means are growing exponentially.

The fifth line of action proposes a logistics system based on new technologies and empowering their use in the area of logistics to meet the new challenges faced by the sector and ensure greater efficiency in the transport and distribution of goods, including last-mile distribution. One might think this lies outside the public interest, despite the rise in online shopping in recent years, also noted in the studies on changing habits previously mentioned in this article; but the measures included in this line of action will surely have a greater impact on the public interest than what one might initially expect.

The sixth line of action proposes the participation of the business community in driving digitalisation forward. In this case, it seeks the support and promotion of the business and research communities of the mobility and ICT industries to develop knowledge and business opportunities in the digitalisation of mobility and the understanding of its effects on the environment. It specifically sets out to stimulate the creation of the research and entrepreneurial fabric to advance digitalisation within an appropriate legislative framework.

The final line of action promotes the management of change and digital transformation, and to do so, a cross-sectional change management model must be defined (taking due account of users, transport workers, private companies and government bodies) to ensure the deployment and operation of the new digital processes, training the agents involved and informing and raising awareness of users regarding the new mobility. This strategy sets out to facilitate the transition towards the digitalisation of mobility, helping vulnerable groups in coping with the changes, raising awareness among users about the use of the data and application of the new technologies, and providing information about the improvements and new transport services/methods.

Thus, the agenda addresses various issues that concern the public according to the studies mentioned earlier in the article. The awareness of the use of data and their proper management will be of great consequence in the deployment of digital mobility solutions.

## 5 A User-Centric Mobility Model

As can be seen in the agenda's lines of action, users' needs and some of the concerns or changes they expect are present throughout it. A response must be given to these needs so that the public finds the services they require, in a streamlined and straightforward manner, they are offered optimal routes for the trips they take, have full information, including with regard to incidences, so that they receive the support they need in any circumstance (Fig. 2).

In the agenda, these requirements are specifically found in line of action 4, as this is the one devoted to a user-centric digital mobility model. It is proposed to implement this through 3 actions, which will be explored below, as these are the ones that can be most effective in meeting the needs of the general public.

### 5.1 New Mobility Products, Personalised for the User

The customisation of mobility products requires greater wireless connectivity in public transport and the incorporation of added-value products, so users may enjoy a better travel experience. Examples of this are the on-route information and entertainment systems,

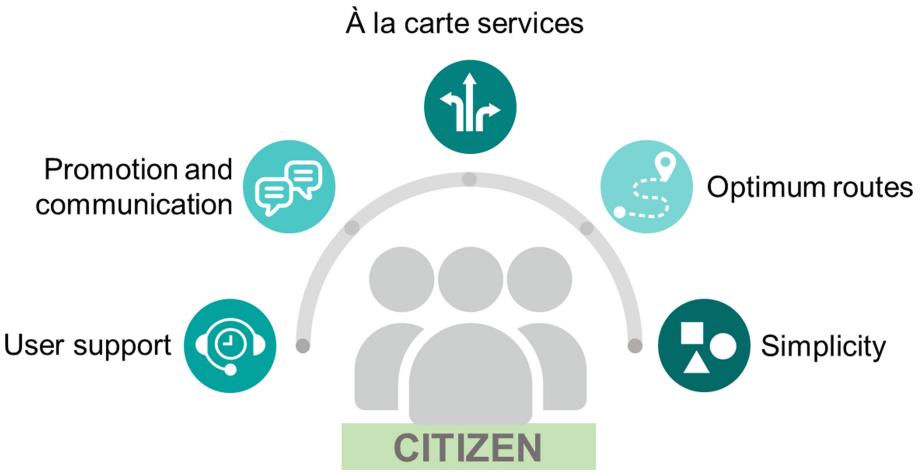


**Fig. 2.** Characteristics of the services in a user-centric mobility model

MaaS services, and hyper-personalised trip planning tools, which offer the best mobility solutions at any given moment depending on the traveller's needs.

These must serve to improve the user experience when they use public mobility services, in an integrated manner. In order to implement these measures, partnerships should be considered with telecommunication infrastructure operators and mobile phone carriers to study the viability of offering free/discounted Internet access on public transport (Fig. 3).

Finally, it is worth considering that product personalisation can be done by either the public or private sector, so it is important to weigh the option of opening the tender of mobility services dependent on the public administration (including the ticketing system) so that third parties can analyse and make combinations to create new products (custom route planners, MaaS, etc.).

These measures must be reviewed periodically in accordance with the emergence of new technologies that enable new products to be developed for mobility users who have new requirements, which is why it is important to have the involvement of the private sector, as it is known for its great dynamism and a true need for improvement.

### 5.2 Implementing a Digital Payment System

Digitalisation is a basic tool to enable payment systems on different means of transport. Digital solutions can customise fares to the public's needs and also introduce MaaS. In addition, the implementation of digital payment accelerates and facilitates the creation of new mobility products that are tailored to the user's needs. At the same time, it can generate a large amount of data that provide insight into the public's movements and habits and thus lead to better planning and management of their mobility (Fig. 4).

Digital payment systems have spread around the world in recent years, albeit in coexistence with traditional systems; but each year an increasing number of cities adopt


**Fig. 3.** Passengers in "Estació de França" station in Barcelona


**Fig. 4.** A citizen entering public transport with his mobile phone in the commuter trains network in Barcelona

these types of digital solutions, proving that the era of digital solutions has come to stay, with ever-improving features.

### 5.3 New Mobility Services

Finally, the third of the measures included in this line of action provides for greater availability of information on the supply and demand of mobility systems in order to generate new services and/or business models by third parties (flexible, on-demand services, etc.). This accessibility has to provide for the emergence of new and innovative mobility services that add value to users. This is why it is proposed to open up the information with regard to both supply and demand.

In terms of supply, it is suggested to disclose the information on tenders for mobility services dependent on the public administration (including the ticketing system) so that third parties can analyse and make combinations to create new services. As far as demand is concerned, it is suggested to disclose the information from users (surveys, validations) so that third parties can analyse it and propose new mobility services (new shared mobility services, flexible on-demand services, etc.). This disclosure of the data that new mobility services must allow must further ensure the requirements the public demands in terms of data protection and that their interests are safeguarded.

## 6 Conclusions

As can be seen, people's mobility is in a process of change due to the transformation our society is undergoing, a process that only accelerated with the pandemic. Digitalisation is an indispensable tool to deal with these changes, one that is in constant development and requires close and constant monitoring by the relevant stakeholders in the sphere of mobility. The public shows a readiness to use new mobility solutions, where the digital factor is of great importance. At the same time, new means of moving around or planning for trips have become commonplace, causing sizeable changes and an increased presence in society at large.

This is why it is important to monitor the public's behaviour and habits, to gain insights of their mobility practices and changes. This monitoring can combine various types of tools, but always with the same aim: to find a suitable solution for the general public, and that in light of how the market is developing, digitalisation plays a crucial part. However, monitoring and analysis of mobility habits is not enough to find the right solution; there must be a strategy to find a sustainable, healthy model, where digitalisation and the public will play a prominent role. It is considered that experiences such as the one implemented in Catalonia may be of interest to other regions, as in a globalised, hyperconnected world, citizens' behaviour is becoming increasingly similar. The driving force of an agenda for the digitalisation of mobility can help tap into certain very broad objectives that not only place the focus on individuals but also the transport of goods, and address issues of infrastructure, management and governance. Among the most significant aspects of this agenda, the ones we believe will attain a user-centric digital mobility model and take into account society as a whole, are the personalisation of solutions, a responsible use of data, and the need for public-private partnership to

find the most suitable products. The coming years are likely to evolve rapidly in terms of mobility solutions and the habits of the general public, so it is important for all stakeholders to work in the same direction in their reliance on the digital tools available and consider user-centric solutions.

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