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Conference Paper

Mobility and e-Tourism: Analysing e-Mobility Adoption in Spanish Rural Tourism

ITS 33rd European Conference 2025: "Digital innovation and transformation in uncertain times", Edinburgh, UK, 29th June – 1st July 2025

Provided in Cooperation with:

International Telecommunications Society (ITS)

Suggested Citation: Fernández-Bonilla, Fernando; Ruíz-Rúa, Aurora; Gijón, Covadonga; Martínez de Ibarreta Zorita, Carlos (2025) : Mobility and e-Tourism: Analysing e-Mobility Adoption in Spanish Rural Tourism, ITS 33rd European Conference 2025: "Digital innovation and transformation in uncertain times", Edinburgh, UK, 29th June – 1st July 2025, International Telecommunications Society (ITS), Calgary

This Version is available at:

<https://hdl.handle.net/10419/331268>

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Mobility and e-Tourism: Analysing e-Mobility Adoption in Spanish Rural Tourism

Fernando Fernández-Bonilla, Aurora Ruíz-Rúa, Covadonga Gijón and Carlos Martínez de Ibarreta Zorita.

Abstract

Touristic mobility is a major contributor to greenhouse gas emissions, particularly due to the dominance of private vehicle. This study explores the determinants of sustainable transport choices among domestic tourists in Spain, focusing on how individual, territorial, and digital factors influence the adoption of public and low-emission transport modes. Using the Resident Tourism Survey (INE, 2016–2024), we estimate logistic and ordered regression models that incorporate sociodemographic variables, trip characteristics, and e-tourism indicators. Results reveal a strong association between digital planning and sustainable modal choice, particularly in urban and coastal destinations. Additionally, cultural and educational travel activities are more likely to be linked to public transport use, while leisure activities show a higher dependence on private modes. Socioeconomic factors like income, education, and age also significantly affect transport behaviour. This research highlights the need for territorialised, integrated policies to promote sustainable mobility in tourism, especially in rural areas. Enhancing digitalisation, improving public transport access, and tailoring strategies to specific regional and profiles are key to enabling a greener transition in tourism mobility.

Keywords: e-Tourism, Rural, e-Mobility, Sustainability, Logit Model.

1. Introduction

Tourism accounts for around 10% of global greenhouse gas emissions, with an ever-increasing carbon footprint driven by transport, consumption, and hospitality (Lenzen, Sun, Faturay, Ting, Geschke & Malik, 2018). Mobility, particularly private mobility, is the main harmful environmental component of tourism, with more than 70% of tourist trips, both international and domestic, made by car (Peeters & Dubois, 2010).

In Spain, this dependence on private vehicles is particularly entrenched in rural tourism, where the lack of public transport infrastructure has led to an increase in their use. There are also negative impacts from water consumption, which in particularly dry areas can account for 6% of local domestic consumption (Gössling, Peeters, Hall, Ceron, Dubois, Lehmann, & Scott, 2012). Therefore, the sustainability of tourism must transform users' mobility patterns, especially in rural destinations.

For this reason, it is necessary to study tourist mobility from a quantitative perspective, identifying the determinants of mode choice among tourists, as Domènech, Miravet, and Gutiérrez, (2023) have done, although they only focus on dense urban environments and do not include contextual variables. On the other hand, delving deeper into rural areas, Scuttari and Isetti (2019) study efforts to bring electromobility to rural areas, emphasising not only the personal characteristics of tourists (Domènech et al., 2023), but also other variables that explain their behaviour.

Understanding demand is essential for studying change and modal choice. E-Tourism (Scuttari & Isetti, 2019) is fundamental to understanding these modal shifts, as it allows for integrated approaches and better planning, and is the path towards sustainable modal choice.

These studies suggest a lack of integrated approaches that combine quantitative methods with digital tools and spatial data in tourism research. Taking all the above into account, this study seeks to identify the individual, territorial, and contextual factors that explain the use of private or public transport options and their sustainability in domestic tourist trips by residents in Spain. This answers the research question: What individual, contextual, and territorial factors explain the use of public transport and sustainable modes of transport in tourist travel in Spain, and how do these patterns vary according to the type of destination and tourist activity?

This work is particularly relevant as it provides an up-to-date answer to a cutting edge and highly relevant issue in the Spanish context, where some regions, such as Castilla-La Mancha, have embarked on a process of digitalisation and are seeking to implement rural tourism, which requires adequate mobility infrastructure to grow sustainably and safely in the long term. In addition, the use of large-scale microdata, such as the Resident Tourism Survey (INE, 2024), and the combination of

statistical and visual analyses allow for a multi-scale interpretation of tourism sustainability, differentiating it according to the type of destination.

The sections will be divided into a theoretical introduction, followed by section 3 on data and methodology, section 4 on results and, finally, section 5 on discussion and conclusions.

2. Theoretical background

To understand more precisely the role of transport in the sustainability of tourism and how to study it, it is essential to consider the relationship between mobility and sustainability, the factors influencing the choice of transport mode for tourism, the role of the territory (rurality, accessibility, inequality) and tourism activities related to mobility.

Mobility is one of the main vectors of environmental impact in tourism, mainly due to transport and the emissions it produces, with air and road transport being the main contributors to the ecological footprint (Gössling & Peeters, 2015). This pattern of intensive resource consumption in tourism makes it an unsustainable activity in terms of sustainability. For this reason, and given its growth prospects, tourist mobility needs to be rethought (Gössling & Peeters, 2015).

Various institutions, such as the Spanish Government and some autonomous communities (Junta de Castilla la Mancha, 2024), are advocating a transition to more sustainable models that include means such as trains, buses, active transport and shared options. Chávez Dagostino, Cifuentes Lemus, Andrade Romo and Espinoza Sánchez (2006) argue that the ecological footprint can be a useful tool for anticipating and assessing the impact of tourism, promoting proactive planning that minimises pressure on ecosystems.

The OECD (2024) supports this idea, indicating the importance of measuring the proportion of tourists arriving by sustainable transport as a key indicator of regional sustainability, showing that local governance and indicators can facilitate sustainable modal choice. Leung, Spenceley, Hvenegaard, & Buckley (2019) emphasise that the design of protected area infrastructure must integrate eco-economic criteria, avoiding damage to habitats and increasing environmental pressure.

Numerous studies highlight how individual factors such as age, gender, level of education and income influence mobility decisions in tourism contexts. For example, participation in car sharing is associated with changes in vehicle ownership and use patterns, with impacts depending on the intensity of use and the user profile (Amatuni, Ottelin, Steubing, & Mogollón, 2020). Generational and gender differences influence the perceived sustainability of transport, with young people believing that shared models are the most economical options, while older people focus on traditional forms of public transport. These differences can be seen in micro-mobility studies, where preferences

for bicycles or electric scooters vary according to age and gender, as well as being modulated by factors such as accessibility, risk perception and convenience (de Bortoli, 2021).

Digitalisation is also a facilitator of sustainable modal choices. E-tourism allows for more efficient route planning, encourages more responsible decisions and provides information on environmental footprint options (Salas-Olmedo, Moya-Gómez, García-Palomares, & Gutiérrez, 2018). Social media, collaborative platforms and geolocation make it possible to characterise tourist profiles and identify areas of high tourist interest and their different activities. E-tourism also integrates fare planning options into public transport, influencing users' decisions to save money, especially those with greater price elasticity (Sticher & Blattler, 2024).

Rural areas in Spain face significant challenges in terms of connectivity and equity. Structural inequalities shape territorial connectivity and limit the mobility of residents and tourists, making them dependent on private vehicles. In many inland destinations, especially in peripheral areas, there is no real alternative to the car (Cànoves, Blanco-Romero & Díaz-Soria, 2020; Scuttari & Isetti, 2020). This increases inequality and the environmental impact of rural tourism. In this regard, Spain's 2030 Sustainable Tourism Strategy seeks to address this imbalance by promoting a more cohesive model and improving public transport accessibility in rural areas (Secretariat of State for Tourism, 2019).

The choice of travel mode is strongly influenced by the type of trip and its motivation (Scuttari & Isetti, 2019). Cultural trips tend to favour sustainable modes of transport. In addition, mobility patterns in the place of residence are maintained, meaning that those who use sustainable transport in their daily lives will be more likely to use it outside their home whenever possible (Zamparini, Domènech, Miravet, & Gutiérrez, 2022). Tourism mobility policies must consider users and territorial contexts, promoting accessibility to more rural destinations.

3. Data and Methodology

This study is based on microdata from the Resident Tourism Survey (ETR/FAMILITUR) produced by the Spanish National Statistics Institute (INE, 2024). This official survey provides nationally representative information on trips made by the resident population in Spain, including trips for tourism and other purposes. This survey collects information on key aspects of tourist mobility: the means of transport, the destination, the type of trip, the activities carried out at the destination and a set of socio-demographic variables of the traveller. The study period is 2016-2024, focusing on domestic trips to maintain the homogeneity of the territorial and institutional context.

This study has two main dimensions: the use of public transport in trips, a binary dependent variable, and the penetration of different public and low-emission transport modes, such as train, bus or shared

mobility, an ordinal variable. Considering this, logistic and ordered regression models, both global and specific to rural contexts, were estimated. The models control for socio-demographic variables, trip characteristics and degree of trip digitisation (Long & Freese, 2006; Train, 2009). The models include quadratic terms to capture possible non-linear effects, and year variables to capture significant variations. The final sample contains over 490,000 observations. Estimates were made with robust standard errors and assessed with goodness-of-fit measures such as pseudo- R^2 , percentage correct classification (PCCP) and area under the ROC curve (AUCR).

Table 1 presents the basic descriptive statistics of the main variables used in the analysis. It is observed that approximately 17.6% of tourist trips are made by public transport, while the sustainable transport index (which includes modes such as train, bus or shared mobility) shows a moderately low mean, indicating a predominance of private forms of transport.

[Table 1 goes around here]

The sample has a gender balance and an average age close to 50 years. Most of the travellers have a medium or high level of education and reside in medium or high-density areas. Income level and employment status also show a wide dispersion, suggesting adequate heterogeneity for profile analysis. The degree of digitalisation in travel organisation (level of e-tourism) is relatively low, which may be linked to the rural environment of many destinations.

Table 2 shows that most tourist trips are made by private transport, and within the sustainable options, the most used modes are train and bus. Shared mobility and active travel (walking, cycling) represent a tiny proportion. These data reflect a structural pattern of private car dependency in Spanish domestic tourism, especially in rural contexts.

[Table 2 goes around here]

Tables A.1 and A.2 show the bivariate correlations between explanatory variables and the two main dependent variables: public transport use and the sustainable mobility index. Negative associations are observed between public transport and variables such as income level and employment status, suggesting that individuals with more resources and autonomy tend to avoid public transport. In contrast, public transport is positively associated with age and certain types of travel (such as study or business). The sustainable transport index shows a similar pattern, although with weaker correlations in general. In terms of multicollinearity, the correlation matrices do not show severe problems.

[Table A.1 goes around here]

[Table A.2 goes around here]

This descriptive analysis provides a solid basis for understanding who uses public or sustainable means of transport in the context of national tourism, the extent to which they do so, and what individual, economic and territorial characteristics are associated with this choice. The information gathered allows progress towards a more precise characterisation of tourist mobility profiles, especially in rural environments, and guides the formulation of explanatory models that incorporate both structural patterns and recent dynamics of mobility change.

4. Results

This section is structured in two analytical blocks. The first presents a characterisation of sustainable mobility in tourism in Spain and the second analyses the determinants of the choice of sustainable public transport in tourism.

4.1. Descriptive evidence on the use of sustainable mobility

Figure 1 combines two graphs illustrating the use of public transport according to the type of tourist destination. The first graph shows the proportion of users versus non-users by destination, showing that trips to rural areas have the lowest level of public transport use, well below the figures observed in urban or sun and beach destinations.

[Figure 1 goes around here]

The second graph breaks down the types of transport used. In urban and beach destinations, sustainable modes such as train and bus have a significant presence, while in rural environments their use is marginal. Shared mobility is almost absent in these contexts, underlining the structural limitations of the rural environment for the adoption of sustainable alternatives.

Figure 2 shows the distribution of types of tourist mobility by Autonomous Community. A strong predominance of private transport is evident in practically all regions, although with notable variability. In island regions such as the Balearic Islands, the Canary Islands and Ceuta, the use of highly polluting means of transport, such as air or sea, is significantly higher for structural reasons of connectivity.

[Figure 2 goes around here]

Some regions, such as Madrid, Catalonia and Galicia, have higher proportions of sustainable public transport, such as bus or train, while others, such as Castilla-La Mancha or Extremadura, show a mobility almost exclusively dependent on private vehicles. This territorial diversity reinforces the

need for a regionally differentiated approach to promote sustainable tourism mobility.

Figure 3 on the left graph compares the evolution of public transport use between all trips and those organised through e-tourism. An increasing trend can be observed in both cases, abruptly interrupted during the 2020 pandemic, followed by a progressive recovery. However, public transport use is systematically higher for digitally managed trips, suggesting a correlation between digitisation and modal sustainability.

[Figure 3 goes around here]

The right-hand panel shows the monthly evolution of the different types of public transport. For all trips, train and bus show stable and equivalent values. In contrast, for trips with a high e-tourism component, there is an increasing preference for train over bus, and an even lower share of high-polluting transport. This pattern may reflect both greater environmental awareness and better multimodal planning in the digitised profiles.

Figure 4 presents a comparative analysis between the use of transport types according to the type of accommodation used: market (hotels, tourist flats) versus non-market (own or family/friends' homes). In both cases, private transport remains the dominant option, but its weight is clearly higher for non-market trips (86.8% versus 73.8%). Market accommodation is associated with a higher use of public transport, especially train and bus, and with a higher presence of cleaner options. This could reflect a greater accessibility of conventional tourist destinations and a traveller profile more willing to plan or combine different modes.

[Figure 4 goes around here]

4.2. Explanatory models of digital behaviour

Table 3 presents the results of three logit models that estimate the probability of using public transport for tourist trips, as a function of socio-demographic, economic and trip variables. Model 1 considers the full sample, model 2 restricts the sample to those with access to private transport, and model 3 focuses exclusively on trips to rural destinations. All models offer high predictive power.

[Table 3 goes around here]

In all three models, gender is significant, indicating that women are less likely to use public transport, especially in rural destinations. Age has a negative, non-linear effect: the older the age, the lower the probability of use, although this is attenuated at older ages, i.e. the most likely to use public transport are young people and the elderly, groups with a higher propensity to use public transport, students

and retired people.

Educational level also has a significant and negative impact on the likelihood of using public transport compared to the reference group, with no education, although these differences tend to be attenuated in the rural model. This difference could be explained by a higher availability of private mobility.

Population density shows that users in more densely populated areas are more likely to use public transport, although the effect is reduced in rural areas, model 3. As for income level, a non-linear negative effect is observed: the higher the income, the lower the probability of using public transport, but it does not decrease linearly. Employment status is also significant: retired people and students are more likely to use public transport, while employed or unemployed people tend to use it less. These relationships hold in all models.

The level of e-tourism clearly has a positive influence, with people who organise their trips more autonomously being significantly more likely to use public transport. However, in the rural model, this pattern is diluted, the impact of e-tourism is reduced, which can be interpreted as lower digital penetration in these environments or lower transport availability.

The use of hotels as accommodation is associated with a lower probability of using public transport in all models, which can be interpreted as an indicator of more affluent travellers and a higher propensity to spend more on fuel. Rural destinations are strongly associated with a lower probability of using public transport, in line with the structural limitations of coverage in these areas. The year variables show significant temporal variation, with a very sharp drop in public transport use coinciding with the pandemic, and a recovery in the following years.

Table 4 presents the results of ordered regressions estimating the probability of using sustainable transport modes for tourist trips. All three models consider the above subsamples, and all show high explanatory power, especially the rural model.

[Table 4 goes around here]

Gender has a marginal effect: in the general models, women are slightly less likely to use sustainable transport, although the effect disappears in the rural model. Therefore, no major gender differences are observed in contexts where access depends more on supply than on preference.

Age has a negative impact on the probability of using sustainable modes. This pattern disappears in rural areas, where age has no significant effect. With respect to educational level, a clear relationship is observed in the general model: the higher the level of education, the higher the probability of using sustainable transport, with more marked effects for university studies. However, this pattern does not

hold for subsamples such as age and gender.

Population density is positively associated with sustainable transport use. Income level shows an inverse curvilinear relationship: higher incomes are more likely to use sustainable transport, but this effect is attenuated at very high levels. In the rural model, income has a higher weight than in the other models, suggesting that the use of sustainable transport in areas with lower transport supply requires greater economic capacity.

The level of e-tourism shows an important influence, in all models, people who organise their trips online are more likely to use sustainable transport, although this effect decreases in rural areas. Regarding the type of trip, trips for work or study are systematically associated with a higher probability of using sustainable transport. This finding reinforces the idea that sustainable transport is most often used for functional trips, while leisure is still linked to private modes.

The use of hotel accommodation reduces the likelihood of using sustainable transport in all models. Trips to the beach are strongly associated with a low probability of sustainable transport use, this holds for trips to rural destinations. This difference reinforces the focus of the paper: modal patterns are not only explained by supply, but also by the contextual characteristics of the destination.

Table 5 presents two logit models (estimated on subsamples of rural trips) that analyse how different tourism activities are associated with the use of public transport and with the ordinal variable of sustainable transport.

[Table 5 goes around here]

In general terms, activities associated with a cultural, social or institutional profile (cultural visits, religious tourism, congresses or gastronomic activities) tend to be positively associated with the use of public or sustainable transport. On the contrary, more individualised, recreational activities or those requiring complex trips, such as golf, hunting, relaxation, or access to theme parks, are negatively associated with the use of sustainable modes. This suggests a strong dependence on the private car for these experiences, which are also often located in areas poorly connected by public transport. Some nature or sport activities, such as hiking or trekking, show ambiguous effects.

In summary, the type of activity undertaken acts as an indirect determinant of mobility, reflecting both the accessibility conditions of the environment and the preferences and logistical capabilities of the visitor.

5. Discussion and Conclusions.

This paper empirically studies sustainable public mobility, identifying socio-demographic, contextual and territorial variables that explain the use of public transport and its modes of sustainability in resident tourism in Spain. The micro-data analysis shows that modal choice has a strong individual component conditioned by structural and infrastructure inequalities and travel characteristics.

As in Amatuni et al., 2021 and de Bartoli (2021), gender, age, education level and other variables such as income and employment status are significant in the probability of using more sustainable modes of transport. But policies aimed at fostering modal sustainability must go beyond the individual and behavioural approach, focusing on material and infrastructural constraints, especially in rural destinations, where transport supply and accessibility predominate (Cànoves et al., 2020).

The role of private car ownership and the level of digitisation of travel are not the only issues that stand out. E-tourism allows for a greater inclination towards sustainable public transport, possibly related to planning. This is in line with other research pointing to the existence of synergies between digitalisation and sustainability in tourism, with direct implications for the design of green transition policies (Scuttari & Isetti, 2019; Szymańska, et al., 2021).

This study finds a profound heterogeneity between regions, with a lower propensity in rural destinations and regions with lower rail or public service density. Urban and coastal destinations, which are more densely populated, present more diversified modal options. The type of activity to be carried out at the destination is also very relevant. Cultural, educational or institutional activities are associated with public transport, and more traditional practices are linked to private transport (Zamparini et al., 2022). Linking modal choice not only to the traveller or the destination, but also to the content of the trip.

Another variable showing very different styles of tourism would be the ownership of accommodation, with those staying in non-commercial, usually rural dwellings or second homes being highly dependent on private transport. Overall, the findings support the need for a territorialised and integrated approach to sustainable tourism and mobility policies.

With all this in mind, it is imperative in the future to move towards planning that improves infrastructure, enhances digitalisation and improves access to sustainable means of transport in rural contexts. Regional case studies such as Castilla-La Mancha (Junta de Castilla la Mancha, 2024), where tourism digitisation plans are being implemented, and practical cases such as the implementation and elimination of AVE services in rural areas, can provide valuable information to validate and contextualise the results obtained. Contributing to the formulation of more effective and environmentally sustainable strategies.

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Figure 1. Public Transport by Destination

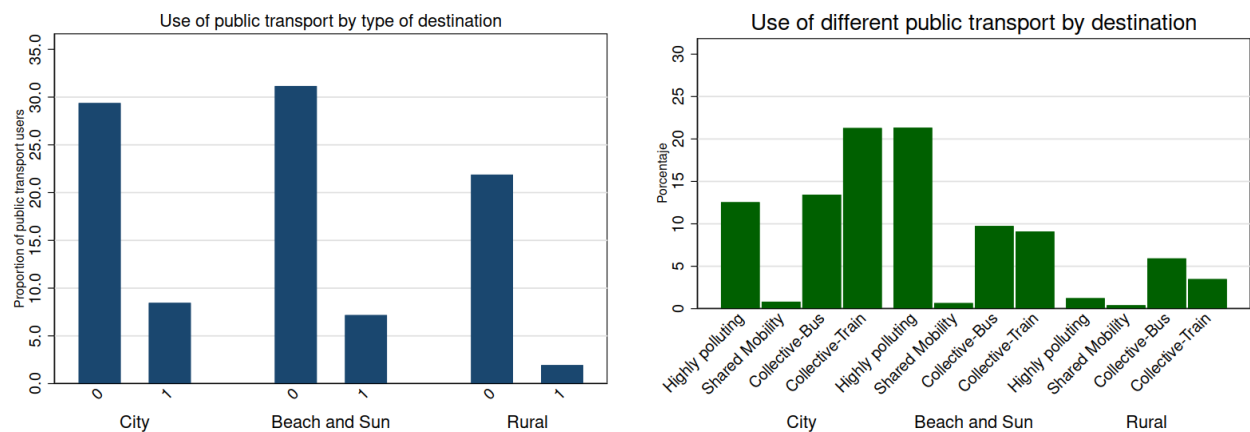
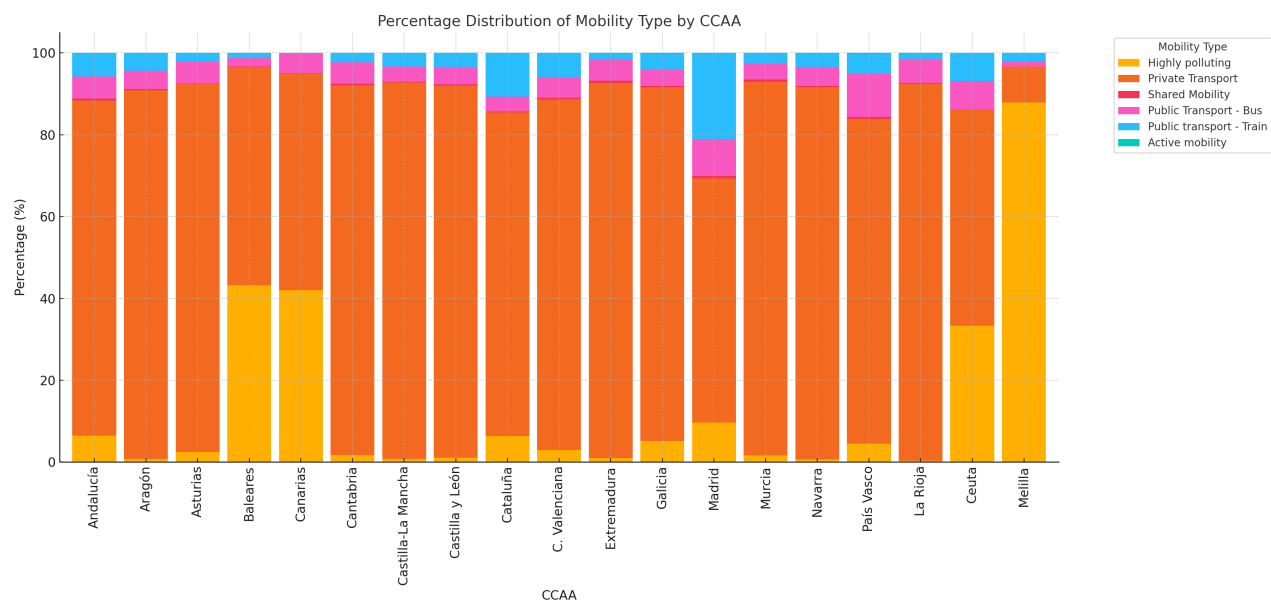
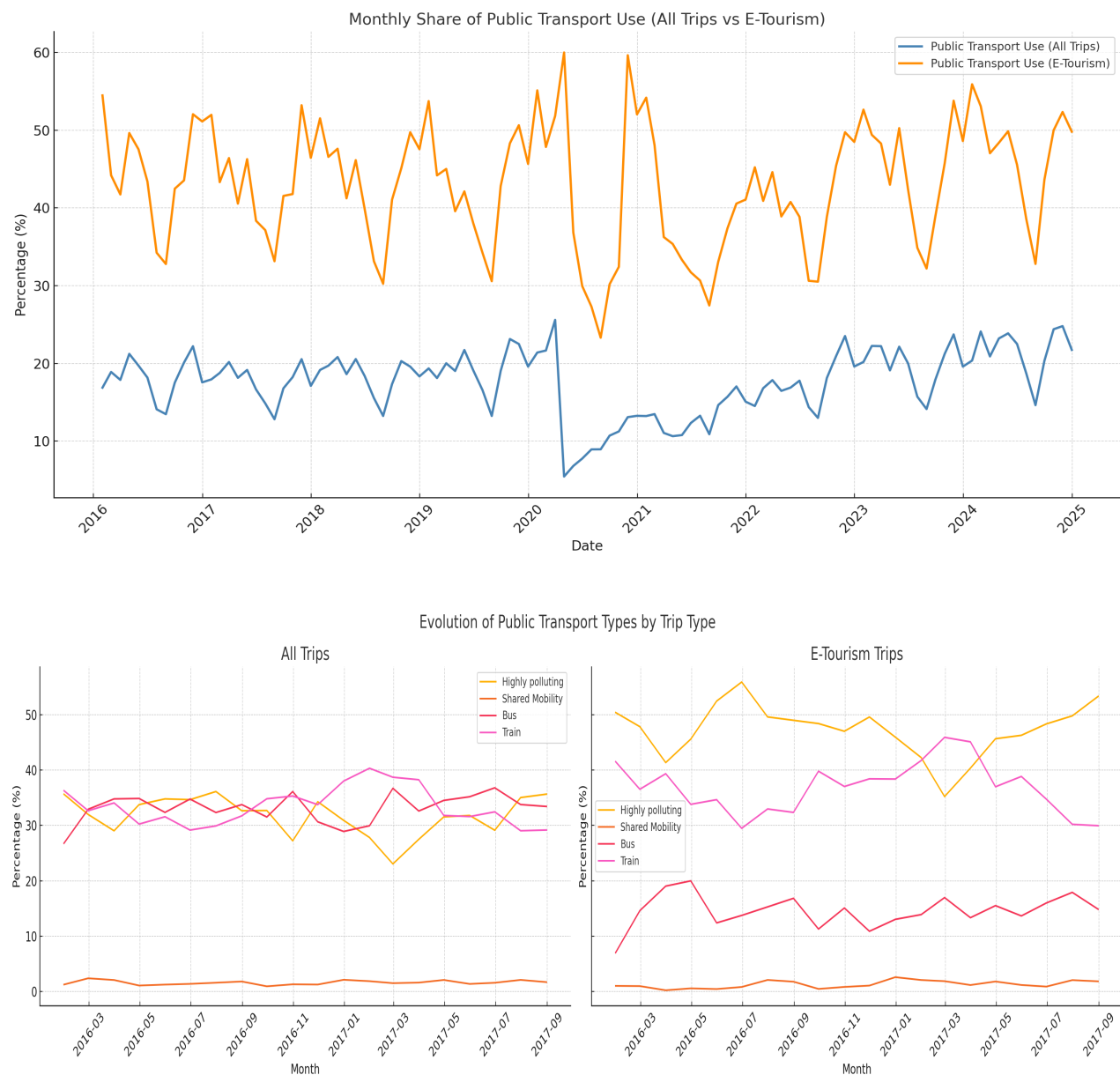


Figure 2. Type of mobility by Autonomous Community



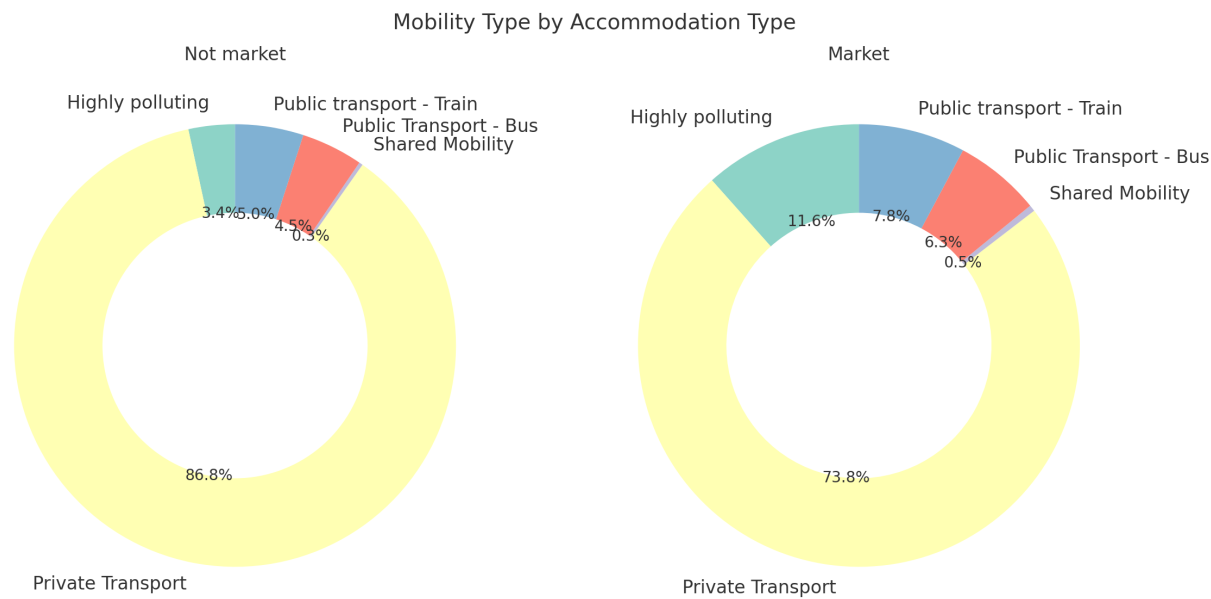
Note: Figure generated with assistance from Chat GPT (Open AI)

Figure 3. Evolution of usage of public transport in e-tourism



Note: Figure generated with assistance from Chat GPT (Open AI)

Figure 4. Evolution f usage of public transport by Accommodation



Note: Figure generated with assistance from Chat GPT (Open AI)

Tabla 1. Mean Statistics

Variable	Obs	Mean	Std. Dev.	Min	Max
Pub. Transport	482992	0.175812	0.380661	0	1
Sust. Transport	84916	1.617375	1.271287	0	3
Gender	491472	0.501182	0.499999	0	1
Age	491472	49.79939	14.879	15	85
Educ. Level	489813	3.276236	0.931222	1	4
Population Density	491472	2.441445	0.739204	1	3
Income	491472	3.354374	1.323656	1	6
Laboral Status	489813	3.262608	1.09276	1	4
Level of e-tourism	178041	1.061037	0.923159	0	2
Type of Trip	491472	1.70871	1.191693	1	4
Priv. Acc.	491472	0.342005	0.474382	0	1
Destination	491472	1.860659	0.768255	1	3
Year	491472	2019.749	2.63924	2016	2024

Table 2. Frequencies of mobility for tourism variables

Variable	Frecuence	Porcentage
Public Transport	482992	100.00%
No	398076	82.42%
Yes	84916	17.58%
Sustainable Mobility	84916	100.00%
Airplane or boat	29825	35.12%
Shared Mobility	1605	1.89%
Bus	24722	29.11%
Train	28764	33.87%
Transport	483318	100.00%
Airplane or boat	29825	6.17%
Private Transport	398076	82.36%
Shared Mobility	1605	0.33%
Public Transport	24722	5.12%
Train Public Transport	28764	5.95%
Active Transport	326	0.07%

Table 3. Models on Public Transport

Variable	Public Transport Odd-Ratios (Std. Err.)	Public Transport (Private Acc) O-R (Std. Err.)	Public Transport (Rural) O-R (Std. Err.)
Gender	0.672*** (0.010)	0.678*** (0.010)	0.551*** (0.025)
Age	0.918*** (0.003)	0.920*** (0.003)	0.915*** (0.009)
Age ²	1.001*** (0.000)	1.001*** (0.000)	1.001*** (0.000)
Educ. Level			
Primary education	0.752*** (0.030)	0.747*** (0.030)	0.746** (0.085)
Secondary education	0.711*** (0.028)	0.706*** (0.028)	0.794* (0.093)
University	0.757*** (0.030)	0.753*** (0.030)	0.767** (0.087)
Population Density			
Medium	1.107*** (0.025)	1.106*** (0.026)	0.887 (0.064)
High	1.400*** (0.029)	1.408*** (0.030)	1.197** (0.078)
Income	0.578*** (0.014)	0.586*** (0.015)	0.562*** (0.043)
Income ²	1.068*** (0.004)	1.067*** (0.004)	1.051*** (0.011)
Laboral Status			
Retired	1.296*** (0.041)	1.301*** (0.042)	1.393*** (0.123)
Unemployed	0.734*** (0.027)	0.722*** (0.027)	0.629*** (0.071)
Employed	0.809*** (0.022)	0.809*** (0.022)	0.613*** (0.050)
Level of e-tourism			
With Assistance	0.778*** (0.017)	0.789*** (0.017)	0.669*** (0.047)
Autonomous	1.871*** (0.029)	1.911*** (0.031)	1.051 (0.051)
Type of trip			
Business trip	5.722*** (0.125)	5.751*** (0.126)	3.718*** (0.283)
Study	4.482*** (0.249)	4.516*** (0.251)	6.261*** (0.885)
Others	2.169*** (0.034)	2.192*** (0.034)	1.714*** (0.085)
Hotel	0.004*** (0.000)	-	0.002*** (0.000)
Destination			
Beach	0.911*** (0.013)	0.918*** (0.013)	-
Rural	0.308*** (0.007)	0.305*** (0.007)	-
Years			
2017	0.993 (0.027)	0.995 (0.027)	0.945 (0.080)
2018	0.960 (0.026)	0.960 (0.026)	0.956 (0.079)
2019	0.922** (0.025)	0.925** (0.025)	0.920 (0.077)
2020	0.519*** (0.019)	0.515*** (0.019)	0.439*** (0.054)
2021	0.573*** (0.018)	0.579*** (0.018)	0.482*** (0.049)

2022	0.829*** (0.023)	0.836*** (0.024)	0.750** (0.068)
2023	0.866*** (0.024)	0.880*** (0.024)	0.712*** (0.064)
2024	0.944* (0.026)	0.950* (0.026)	0.866 (0.075)
Constant	1242.761*** (117.251)	4.054*** (0.340)	1483.222*** (404.048)
Obs.	170592	131910	27252
pseudo-R ²	0.414	0.135	0.550
PCCP	81.10%	75.89%	90.13%
AUCR	0.878	0.751	0.919

Note. Estimated probabilities are presented. Robust standard errors are shown in parentheses. Statistical significance: *p < 0.001, p < 0.01, p < 0.05. Values greater than 1 indicate a higher probability of reporting a higher level of digitisation in the reservation; values less than 1 indicate a relatively lower probability.

Table 4. Models on Sustainable Public Transport

Variable	Sustainable Transport Index (STI) Odd-Ratios (Std. Err.)	STI (Private Acc) O-R (Std. Err.)	STI (Rural) O-R (Std. Err.)
Gender	0.958** (0.014)	0.915*** (.020)	1.076 (0.051)
Age	0.965*** (0.003)	0.970*** (.004)	1.015 (0.009)
Age ²	1.000*** (0.000)	1.000*** (.000)	0.999 (0.000)
Educ. Level			
Primary education	1.051 (0.033)	0.884** (.043)	1.122 (0.098)
Secondary education	1.124*** (0.036)	0.915* (.046)	1.149 (0.108)
University	1.365*** (0.044)	0.997 (.049)	1.525*** (0.138)
Population Density			
Medium	1.044 (0.025)	0.888** (.032)	1.144 (0.091)
High	1.325*** (0.029)	1.130*** (.036)	1.757*** (0.119)
Income	1.117*** (0.025)	0.985 (.035)	1.417*** (0.100)
Income ²	0.968*** (0.003)	0.983** (.005)	0.933*** (0.010)
Laboral Status			
Retired	0.881*** (0.025)	0.911* (.039)	0.799** (0.064)
Unemployed	0.939* (0.030)	0.935 (.053)	0.777** (0.073)
Employed	0.763*** (0.019)	0.747*** (.030)	0.665*** (0.051)
Level of e-tourism			
With Assistance	0.472*** (0.015)	0.727*** (.026)	0.607*** (0.071)
Autonomous	0.629*** (0.010)	0.945* (.025)	1.210*** (0.063)
Type of trip			
Business trip	1.306*** (0.038)	1.373*** (.046)	1.601*** (0.209)
Study	1.099 (0.062)	1.109 (.079)	1.607** (0.270)
Others	0.780*** (0.012)	0.722*** (.017)	0.870** (0.042)
Hotel	0.652*** (0.010)	-	0.735*** (0.038)
Destination			
Beach	0.340*** (0.005)	0.273*** (.006)	-
Rural	0.806*** (0.018)	0.851*** (.032)	-
Years			
2017	1.050 (0.029)	1.054 (.043)	0.878 (0.070)
2018	0.983 (0.027)	1.009 (.040)	0.734*** (0.058)
2019	0.987 (0.027)	0.985 (.040)	0.787** (0.064)
2020	0.878*** (0.032)	0.831** (.051)	0.798* (0.089)
2021	0.946 (0.031)	0.862** (.043)	0.830 (0.083)

2022	1.040 (0.032)	0.976 (.043)	0.903 (0.082)
2023	1.187*** (0.034)	1.087* (.046)	1.126 (0.101)
2024	1.173*** (0.033)	1.047 (.043)	0.807* (0.069)
Obs.	170592	131910	27252
pseudo-R ²	0.414	0.135	0.550
PCCP	81.10%	75.89%	90.13%
AUCR	0.878	0.751	0.919

Note. Estimated probabilities are presented. Robust standard errors are shown in parentheses. Statistical significance: *p < 0.001, p < 0.01, p < 0.05. Values greater than 1 indicate a higher probability of reporting a higher level of digitisation in the reservation; values less than 1 indicate a relatively lower probability.

Table 5. Models on Sustainable Public Transport and Touristic Activities

Variable	Public Transport	Sustainable Transport
	(Rural)	Index
T. Activities	Odd-Ratios (Std. Err.)	O-R (Std. Err.)
Golf	0.040** (0.043)	3.153 (3.832)
Sport	0.846 (0.191)	0.481* (0.177)
Navigation	1.145 (0.275)	0.600 (0.200)
Water-Sports	0.570 (0.204)	0.778 (0.265)
Hunting	0.166*** (0.070)	5.712*** (1.874)
Trecking	0.765*** (0.049)	0.937 (0.061)
Adventure	1.031 (0.268)	0.914 (0.345)
Equestrianism	1.416 (0.553)	1.399 (0.660)
Other Sports	1.147 (0.150)	0.835 (0.086)
SportingEvents	0.864 (0.180)	1.030 (0.192)
Cultural tours	1.922*** (0.108)	1.230** (0.081)
Shows	1.265* (0.120)	0.984 (0.091)
Other	1.247* (0.115)	1.109 (0.111)
Guide City Tours	1.241*** (0.066)	0.925 (0.056)
Rural activities	0.640*** (0.044)	0.825* (0.071)
theme parks	1.363* (0.214)	0.335*** (0.074)
relax	0.437*** (0.067)	1.253 (0.292)
Gastronomical	1.039 (0.076)	1.068 (0.102)
Leisure activities	1.072 (0.070)	1.127 (0.069)
Religion	1.517*** (0.146)	0.932 (0.076)
Conferences	1.447** (0.200)	1.146 (0.253)
Natural areas	0.826** (0.051)	0.727*** (0.051)
Family	0.898 (0.057)	1.076 (0.082)
Shopping	1.339*** (0.075)	0.853** (0.052)
Obs.	26104	7748
pseudo-R ²	0.573	0.032
PCCP	90.43%	
AUCR	0.928	

Note. Estimated probabilities are presented. Robust standard errors are shown in parentheses. Statistical significance: * $p < 0.001$, $p < 0.01$, $p < 0.05$. Controlled by socio-demographic variables.

Annexes

Tabla A.1. Correlation Matrix Public Transport

	Pub. Transport	Gender	Age	Educ. Level	Population Density	Income	Laboral Status	Level of e- tourism	Type of Trip	Priv. Acc.	Destination	Year
Pub. Transport	1.000											
Gender	-0.108	1.000										
Age	0.112	-0.007	1.000									
Educ. Level	-0.084	-0.017	-0.164	1.000								
Population Density	0.081	-0.027	0.037	0.155	1.000							
Income	-0.148	0.123	-0.081	0.362	0.111	1.000						
Laboral Status	-0.201	0.114	-0.244	0.349	0.013	0.248	1.000					
Level of e- tourism	0.035	-0.010	-0.175	0.192	0.074	0.166	0.160	1.000				
Type of Trip	0.163	-0.010	0.146	-0.064	-0.024	-0.052	-0.164	-0.006	1.000			
Priv. Acc.	-0.612	0.115	-0.057	0.083	-0.068	0.193	0.176	0.017	-0.058	1.000		
Destination	-0.149	-0.011	0.018	-0.032	0.008	-0.023	-0.010	-0.045	-0.027	0.089	1.000	
Year	-0.025	-0.007	0.055	0.037	0.091	0.133	0.042	0.144	0.014	0.032	0.013	1.000

Tabla A.2. Correlation Matrix Sustainable Mobility

	Sust. Transport	Gender	Age	Educ. Level	Pop. Density	Income	Laboral Status	Level of e- Tourism	Type of Trip	Priv. Acc.	Dest.	Year
Sust. Transport	1.000											2019
Gender	-0.057	1.000										2019
Age	0.059	-0.053	1.000									2019
Educ. Level	-0.059	0.020	-0.213	1.000								2019
Population Density	0.031	-0.017	-0.012	0.188	1.000							2019
Income	-0.167	0.147	-0.145	0.399	0.124	1.000						2019
Laboral Status	-0.137	0.090	-0.237	0.418	0.076	0.288	1.000					2019
Level of e-tourism	-0.208	0.031	-0.259	0.308	0.098	0.291	0.288	1.000				2019
Type of Trip	-0.074	0.002	0.165	-0.073	-0.055	-0.028	-0.159	-0.029	1.000			2019
Priv. Acc.	-0.197	0.098	0.019	0.061	-0.033	0.192	0.097	0.077	0.079	1.000		2019
Destination	-0.106	-0.033	0.043	-0.078	0.020	-0.074	-0.066	-0.075	0.001	-0.003	1.000	2019
Year	-0.030	0.004	0.026	0.060	0.090	0.134	0.073	0.170	0.011	0.036	-0.002	2019