



## Article

# The Usage of Public Transport and Impact of Satisfaction in the European Union

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**Abstract:** The main objective of this paper was to analyse comprehensively the urban public transport usage, satisfaction levels and the satisfaction impact on usage of public transport in European Union (EU) countries. Results revealed that the usage of urban public transport in all EU countries is rather low and significantly depends on economic development level. The satisfaction levels measured as comfort and safety, ticket price, frequency and reliability and amenities at stops and stations significantly differed among EU countries as well. In a half of the EU countries, the satisfaction with ticket price and the time to the station had significant impacts on usage of urban public transport. Meanwhile, the satisfaction with reliability, public transport frequency and comfort and safety had significantly influenced urban public transport usage only in one-third of EU countries. In the majority of EU countries, women and older respondents more often tended to use urban public transport. Next to improvement of public transport service, a variety of policy measures should be applied, from awareness rising and image improvement to the review of pricing policies both of public transport and of parking fees.

**Keywords:** public transport usage; satisfaction level; European Union; sustainability; economic development level

## 1. Introduction

The transport sector contributes to air pollution, energy consumption, greenhouse gas emissions [1–4], traffic congestion, road accidents, increased noise [5] and related health impacts. Hence, the promotion of urban public transport (UPT) usage should contribute to the reduction of these problems [6–11] and has the potential benefit of enhancing social inclusion [12–14] and contributes to seeking sustainability [11,15–17]. Thus, the UPT service is the main aspect of a sustainable transportation system in the world including in European Union (EU) countries [10,18].

However, referring to the Eurostat [19] and the European Platform on Mobility Management [20] reports, the share of public transport in 2011 and 2012 in EU countries was only 16–17% of the total passenger travel. Therefore, the main aims of the European transport policy are to increase public transport usage and to decrease the usage of private cars [21]. The European Commission supported a big project A MEasurement Tool to determine the quality of the Passenger EXperience (METPEX), which aims to measure the determinants of the passengers' experience and service quality including public transport [22,23]. This project encompassed eight EU cities and the results were presented in a vast number of research studies [18,23–29]. However, to the best of our knowledge, at the country level the UPT satisfaction and usage were scarcely analysed. Furthermore, none of research analysed the situation and determinants of public transport usage in all EU countries jointly. Therefore, the aim of this paper is to analyse comprehensively the urban public transport usage, satisfaction levels and the

satisfaction impact on usage of public transport in the EU. This analysis can make a great contribution to the formation and implementation of successful sustainable transport policy in all EU countries.

## 2. Literature Review

### 2.1. UPT Satisfaction and Its Categories

The measurement of UPT satisfaction is described as a consequence of the quality offered by the urban transport system service [30]. However, authors analysing UPT satisfaction and transport sector quality considered various categories. Efthymiou and Antoniou [31] separated satisfaction factors into quality of service, transfer quality and service production. Chica-Olmo et al. [32] summarized quality components in two categories: (a) the technical dimension and (b) the functional dimension or “comfort” and “services supply factors”. Ngoc et al. [33] classified satisfaction into four categories: comfort and security, service quality, planning quality and reliability. Comparing the users’ satisfaction of public transport, Felleson and Friman [34] found that satisfaction is affected by four factors: (a) comfort, (b) staff, (c) system and (d) safety. Lois et al. [35] classified factors as transfer conditions, information, safety and security, emergency, design and image of services and comfort. Şimşekoğlu et al. [36] separated quality attributes into flexibility, convenience and safety and security. In their literature review, Chowdhury and Ceder [37] summarised factors as (a) safety and security, (b) reliability, (c) transfer time (walking and waiting), (d) information systems for users, (e) ticketing and fare systems, (f) comfort and (g) amenities at interchanges/stations. Friman and Gärling [38] and Gärling et al. [39], analysing the quality of UPT service, suggested we include and evaluate the satisfaction level as a critical indicator of UPT service quality [32] encompassing the image of the operator, travellers’ expectations and the perceived service quality [10,40,41].

Thus, the literature review reveals that there is no one classification of UPT satisfaction categories. In this paper we suggest the classification of satisfaction into four categories: (1) frequency and reliability, (2) comfort and safety, (3) price of tickets and (4) amenities at stops and stations. Furthermore, considering that expectations of users (or satisfaction of UPT service) vary significantly among different countries [33], it was important to analyse how different categories of service satisfaction influence UPT usage in various EU countries.

The impact of UPT service quality [16,42–45] and separate components of service quality on the general satisfaction of public transport services and the characteristics of commuters [10,32,46–50] are extensively analysed. Considering EU countries Chica-Olmo et al. [32] and Lois et al. [35] analysed the satisfaction of public service quality factors in Spain, Mouwen [51] in the Netherlands, Abenoza et al. [10], Cats et al. [31] and Jenelius [52] in Sweden and Fiorio et al. [45] in 33 European cities. Meanwhile, the impact of satisfaction regarding public transport services on usage of UPT has been analysed rather scarcely [16,51,53].

### 2.2. The Determinants of Usage of UPT

The usage of UPT very much depends on the service quality, accessibility and affordability. Hence, the improvement of service quality is the main component of UPT usage [1,2,16,36,54,55]. Considering the studies concerning EU countries, Woods and Masthoff [5] compared public transport usage, car driving and cycling experience in Finland, Spain and Italy. However, the primary question for transport operators and authorities, which UPT service quality attributes are the most important for people and could contribute to the enhancement of UPT usage in EU countries, remains [33]. Additionally, in line with good levels of service quality, extensive coverage was the most essential component of the public transport system [5,10,21,37,56]. Brons and Rietveld [57] found that low accessibility negatively influenced the overall assessment of public transport usage. Therefore, it is vital to continue to invest not only in a reliable, comfortable, safe and flexible, but also an accessible UPT [50,58]. Access to public transport is evaluated as perceived walking time to and from stops and stations [37,59,60]. The distance (time) to stations is particularly important for old people [61] and UPT interchanges [21]. Meanwhile,

Şimşekoğlu et al. [36] found that time from home to nearest stations insignificantly influenced the usage of public transport in Norway.

Socio-demographic variables are also essential aspects in terms of UPT usage [37,50,62]. According to Eurobarometer reports [63], women and young people (particularly students) were the major user groups of public transport. Buehler and Pucher [64] have found a slight growth in use among young men. Meanwhile, Woods and Mashthoff [5] found no significant age and gender differences for usage of public transport in three EU countries. Şimşekoğlu et al. [36] revealed that age, but not gender, influences the usage of public transport in Norway.

### 3. Methods and Data

The satisfaction and UPT usage in the EU were analysed referring to the “Europeans’ satisfaction with urban transport” survey which was performed by Eurobarometer in 2014 [65]. The survey provided the information about individuals’ attitudes and tendencies of behaviour related to urban public transport. Respondents from all EU countries participated in the Eurobarometer survey. Therefore, this survey is very useful providing the data about public transport usage in the whole of the EU. The respondents in separate EU countries were interviewed via telephone. The survey encompassed respondents from different demographic and social groups. The detailed interview method and confidence level of intervals were presented in the European Commission report [65]. In our analysis we included all EU countries except Luxemburg (AT—Austria, BE—Belgium, BG—Bulgaria, CY—Cyprus, CZ—Czech Republic, DK—Denmark, EE—Estonia, ES—Spain, FL—Finland, FR—France, GE—Germany, GR—Greece, HR—Croatia, HU—Hungary, IE—Ireland, IT—Italy, LV—Latvia, LT—Lithuania, MT—Malta, NL—Netherlands, PL—Poland, PT—Portugal, RO—Romania, SK—Slovakia, SL—Slovenia, SE—Sweden, and UK—United Kingdom).

Our study provides more in-depth analysis, applying the factor analysis the satisfaction categories (constructs) were distinguished and using the regression analysis the determinants of UPT were analysed. The UPT usage was estimated by the answers to the question: “How often do you travel by urban public transport: bus, metro, tram, etc.” The responses were from 1—daily/almost daily to 7—never. To evaluate the impact of economic development on UPT usage (mean level of UPT usage in separate country) the GDP per capita in purchasing power parity (constant 2011 international dollars) in 2014 was used. To evaluate this relationship, the Spearman correlation coefficient was applied.

The satisfaction of UPT service by applying factor analysis was separated into four categories: comfort and safety, frequency and reliability, ticket price and amenities at stops and stations. The items of satisfaction scales are presented in Table 1. All constructs were measured using a five-point Likert scale ranging from very satisfied to very dissatisfied. The reliability statistics by applying Cronbach’s alpha are presented in Table 2. The Cronbach’s alphas vary from 0.55 to 0.87. To denote strong reliability among measures Cronbach’s alpha for constructs must exceed the cut-off point of 0.7 [66,67]. Thus, from the analysis, Germany, Portugal, Finland, Latvia, Cyprus and Malta were excluded because the values were less than 0.7, which revealed that analysed constructs were unreliable. For the latter two countries, there was a lack of ticket price satisfaction data.

To evaluate the determinants of urban public transport (UPT) usage, a generalized linear model was applied. This method was used because the model has the possibility of including the categorized factors such as gender and it helps to assess the factors that influence UPT usage the most and directly. Referring to the proposed model presented in Figure 1, we analysed the impact of satisfaction levels, time from home to the nearest station or stop (1—less than 10 min to 4—more than an hour) and social-demographic variables such as age and gender on UPT usage.

**Table 1.** Items of UPT (urban public transport) service satisfaction scales.

Construct	Items
Frequency and reliability	<ul style="list-style-type: none"> <li>I am satisfied with the frequency of service</li> <li>I am satisfied with punctuality and reliability</li> </ul>
Comfort and safety	<ul style="list-style-type: none"> <li>I am satisfied with the routes taken by the different urban lines</li> <li>I am satisfied with passenger security</li> <li>I am satisfied with the cleanliness and good maintenance of vehicles carriages</li> </ul>
Price of tickets	<ul style="list-style-type: none"> <li>I am satisfied with the ease of buying tickets</li> <li>I am satisfied with the price of the tickets</li> <li>I am satisfied with availability of tickets for a journey using several modes (e.g., tram, metro, bus, local trains)</li> <li>I am satisfied with possibilities to take routes by the different urban lines</li> </ul>
Amenities at stop and station	<ul style="list-style-type: none"> <li>I am satisfied with the provision of information about timetables</li> <li>I am satisfied with amenities for passengers at stops and stations (e.g., shelter, seats)</li> <li>I am satisfied with the cleanliness and good maintenance of stops and stations</li> </ul>

**Table 2.** The Cronbach's alpha of scales.

	Frequency and Reliability	Comfort and Safety	Amenities at Stop and Station	Price of Tickets
FR (n = 1004)	0.71	0.77	0.74	0.70
BE (n = 1000)	0.77	0.74	0.70	0.70
NL (n = 1002)	0.81	0.82	0.75	0.76
GE (n = 1000)	0.62	0.65	0.68	0.64
IT (n = 1001)	0.79	0.74	0.78	0.70
DK (n = 1008)	0.76	0.82	0.73	0.70
IE (n = 1000)	0.85	0.81	0.79	0.75
UK (n = 1007)	0.79	0.71	0.70	0.70
GR (n = 1000)	0.78	0.77	0.77	0.74
ES (n = 1001)	0.75	0.74	0.74	0.72
PT (n = 1002)	0.67	0.60	0.58	0.56
FL (n = 1005)	0.59	0.66	0.64	0.72
SE (n = 1000)	0.75	0.76	0.76	0.74
AU (n = 1001)	0.76	0.76	0.73	0.73
CY (n = 501)	0.69	0.53	0.57	No data
CZ (n = 1000)	0.73	0.74	0.70	0.74
EE (n = 1000)	0.71	0.79	0.79	0.75
HU (n = 1003)	0.75	0.76	0.71	0.74
LV (n = 1001)	0.55	0.62	0.67	0.56
LT (n = 1000)	0.78	0.72	0.73	0.72
MT (n = 500)	0.83	0.80	0.74	No data
PL (n = 1001)	0.81	0.84	0.83	0.80
SK (n = 1003)	0.85	0.87	0.83	0.83
SL (n = 1023)	0.78	0.83	0.82	0.78
BG (n = 1000)	0.79	0.81	0.74	0.72
RO (n = 1025)	0.79	0.79	0.70	0.75
HG (n = 1005)	0.79	0.81	0.79	0.79

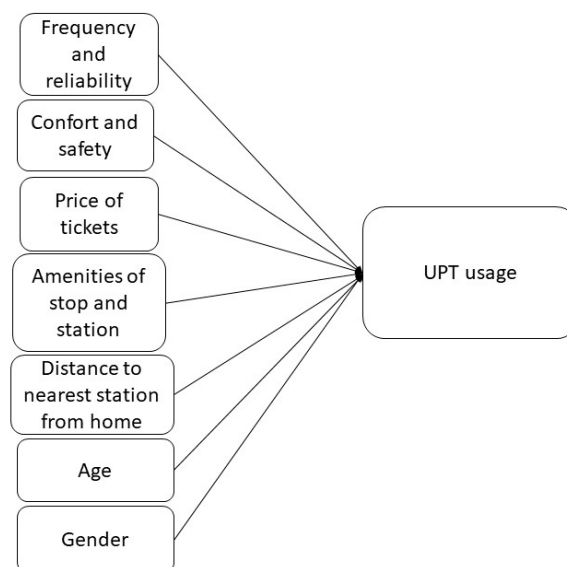


Figure 1. Proposed model.

## 4. Results and Discussion

### 4.1. The Tendencies of UPT Usage and Satisfaction

The level of UPT usage is rather low in EU countries. Across the EU, only 15.7% of respondents stated that they used UPT almost daily, and 11.1% said several times per week. Even 25% of respondents declared that they never used UPT and 10.9% used it only once per year or less. This shows that the promotion of UPT in EU countries still is a very serious challenge seeking a sustainable transportation system.

Nevertheless, a large variation was observed in terms of UPT usage within EU countries. Hungary, Latvia, the Czech Republic and Romania are the countries where the level of UPT usage was the highest. Meanwhile, in Cyprus, the level of UPT usage was the least: 62.7% of respondents never used UPT. In France and the Netherlands, citizens seldom used UPT as well (Figure 2). Therefore, particularly in these countries, more attention should be paid to trigger and enhance the usage of UPT.

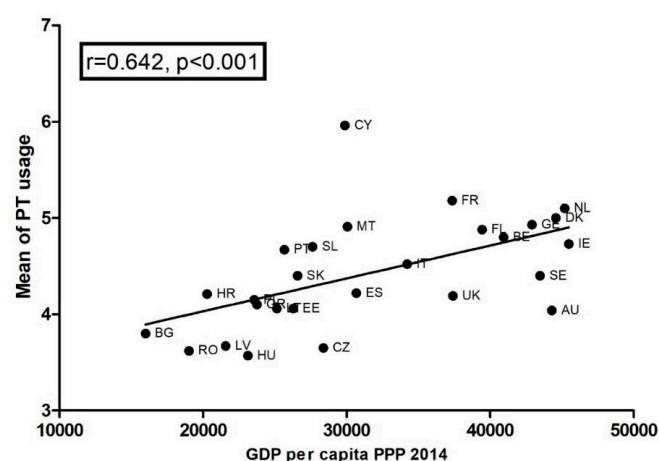


Figure 2. Relationship between mean values of UPT usage (1—daily/almost daily, 7—never use PT) and GDP level.

Furthermore, the results showed that the level of UPT usage significantly depended on the level of economic development of the country (Figure 2). Thus, in richer EU countries, citizens tended to more seldomly use UPT compared with less affluent EU countries. This result contradicts the findings

of Invardson and Nielsen [68]. However, their study focuses on 48 European metropolitan areas in large cities and only in economically developed countries. In our study, the poorest EU countries, such as Romania, Bulgaria and Croatia were included, where the GDP level was more than two times less than in established EU countries, and we analysed the impact of general economic development level of countries on the mean of UPT usage. One of the reasons that in poorer EU countries citizens used more UPT could be that in these countries not all people could afford to have a car, particularly very young and old people.

Furthermore, in poorer countries, usually, a family has only one car, and UPT is a good alternative for respondents without access to a car. Eurobarometer [63] and Friman et al. [50] highlighted that major user groups of UPT households are without access to cars. Moreover, the cost of public travel is cheaper and UPT services are attractive relative to private vehicles [17,69], especially in lower-income countries. However, the problem could emerge when less developed EU countries achieve the income level of more established EU countries. Therefore, considering the growing mobility it is important to integrate actions involving change of travelling behaviour of residents and a significant increase in the share of journeys by UPT. To reach those targets various UPT attributes must be addressed and considered.

The accessibility and quality of UPT service are within the main factors, which can enhance the level of UPT usage or promote residents to rethink their traveling behaviour. In terms of time to the nearest station from home, the time to get to the nearest stop differed among EU countries. In Bulgaria, Sweden, Denmark and the Netherlands most of the respondents stated that from home to the nearest station it takes  $\leq 10$  min. Meanwhile, in Croatia, Slovenia and France, the time from home to the nearest station was the longest (Figure 3).

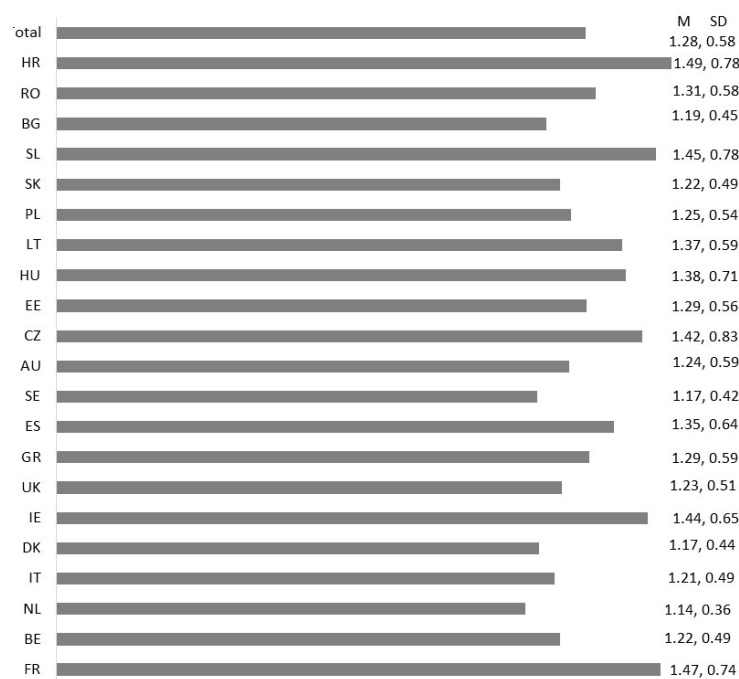


Figure 3. The time to the nearest UPT station from home in EU countries.

The time to the nearest station is particularly important for people with physical disabilities. For older people, walking time to stops should not exceed five minutes [61]. However, it is recommended that the standard distance between stations should be between 1 and 1.4 km [56]. Thus, the reduction of the time from home to the nearest stop and station is rather difficult and requires compatibility with all parties.

Analysing the satisfaction level of separate UPT quality categories, the results showed that the satisfaction level of reliability, public transport frequency, comfort and safety, ticket price and amenities

at stops and stations also significantly differed among EU countries. From Figure 4, we see that in countries such as the Czech Republic, United Kingdom, Austria and Estonia where citizens were somewhat satisfied with frequency and reliability, they also were satisfied with comfort and safety and amenities of stops and stations. These results reveal that some governmental institutions and UPT companies in the EU invest and develop separate quality aspects simultaneously. However, respondents were the least satisfied with these categories in Bulgaria, Italy and Greece. Therefore, in the latter countries, particular attention should be paid to the improvement of these UPT quality categories.

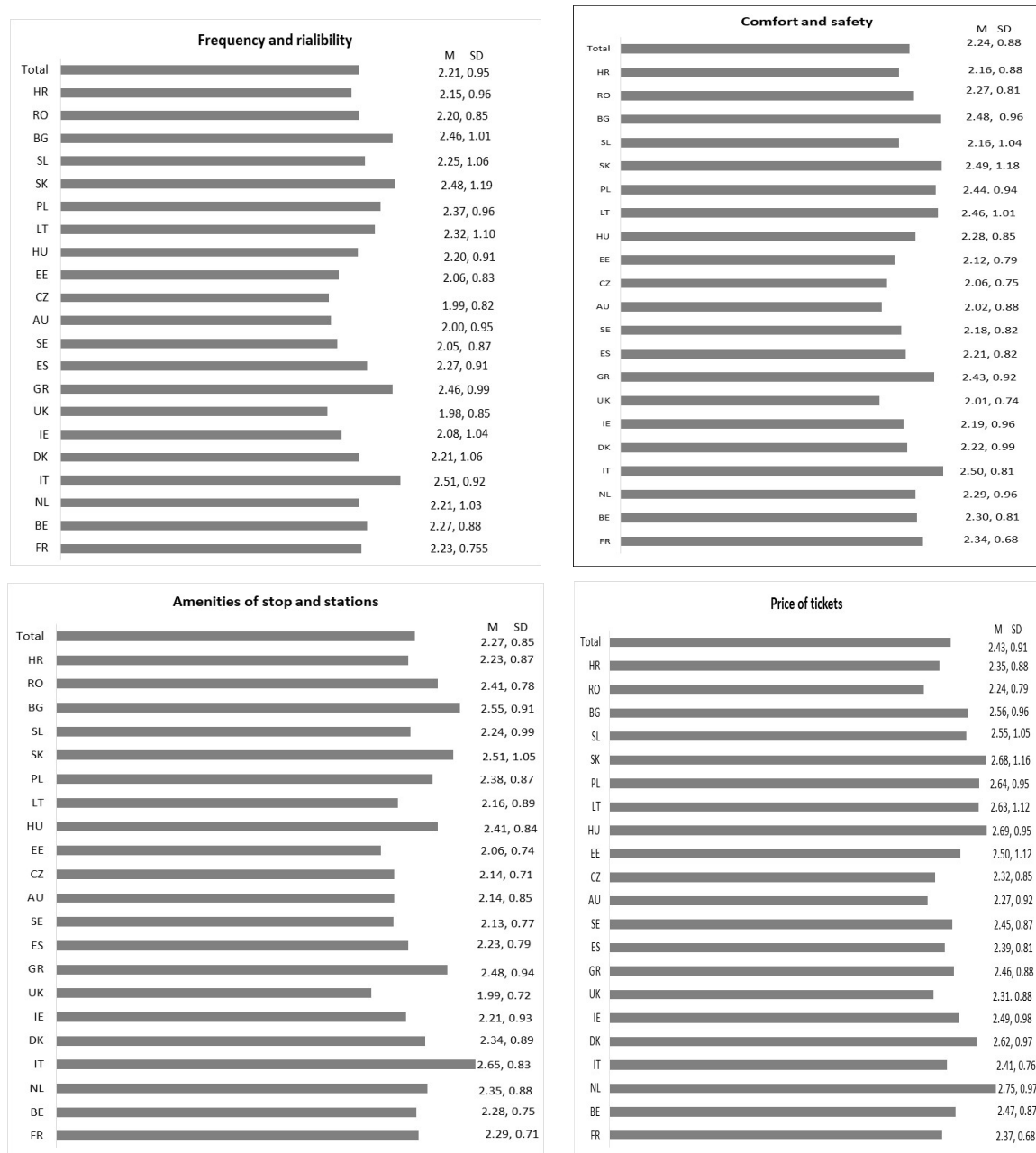


Figure 4. The level of UPT satisfactions in EU countries.

In terms of satisfaction with the ticket price, from all categories of satisfaction, respondents were the least satisfied in the Netherlands, Slovakia and Hungary. Citizens stated that they were rather satisfied with price level only in Austria and Romania. However, to enhance the level of UPT usage, one does not need to improve all quality categories at once. In the next section, we evaluate which of



the UPT service satisfaction categories are the most important for people and could contribute to the enhancement of UPT usage in EU countries the most.

#### 4.2. Determinants of UPT Usage in EU Countries.

Applying the regression analysis, results revealed that not all satisfaction categories are essential to UPT usage behaviour. Furthermore, in different EU countries, the dissimilar determinants significantly influenced UPT usage. Therefore, to enhance the ridership of UPT, each EU country should also consider its peculiarities. As we see from Table 3, in half of the EU countries (11 of 21 countries), age significantly influenced UPT usage. Thus, in these EU countries, older people tended to use UPT more. Furthermore, in half of the EU countries, women used UPT more often. How to promote the usage of UPT for young people and men is a challenge. The main suggestions could be to increase the image of UPT users and introduce some economic or administrative incentives (e.g., limitation of car usage in the city centre, park and ride schemes).

Table 3. Regression results of UPT usage.

	Amenities at Stop and Station	Price of Tickets	Frequency and Reliability	Comfort and Safety	Time to the Nearest Station from Home	Age	Gender	R <sup>2</sup>
FR	0.005	0.416	0.080	−0.050	0.464	0.233	0.003	0.098
BE	0.149	0.083	0.062	0.419	0.262	0.094	−0.346	0.080
NL	−0.095	0.171	0.260	0.331	−0.123	0.165	−0.198	0.169
IT	0.019	0.432	−0.177	0.185	0.092	0.047	−0.298	0.034
DK	−0.126	0.183	0.296	0.321	0.262	0.116	−0.742	0.191
IE	0.301	−0.107	0.146	0.224	0.475	0.190	−0.238	0.151
UK	0.118	−0.229	−0.045	0.759	0.470	−0.030	−0.028	0.071
GR	0.173	0.698	−0.396	0.202	0.393	0.195	−0.649	0.164
ES	0.042	0.566	−0.221	0.221	0.473	0.175	−0.688	0.113
SE	0.003	0.841	0.024	0.015	0.305	0.171	−0.560	0.184
AU	0.136	0.795	−0.142	0.090	0.379	0.038	−0.083	0.167
CZ	0.045	0.318	0.285	0.185	0.597	0.026	−0.417	0.160
EE	0.406	0.224	0.199	0.193	0.444	−0.002	−0.469	0.187
HU	−0.098	−0.178	0.111	0.695	0.409	0.178	−0.201	0.113
LT	−0.051	0.460	0.122	−0.054	0.086	0.026	−0.133	0.271
PL	0.410	−0.034	0.279	0.414	0.567	0.115	−0.334	0.211
SK	0.304	0.136	0.263	0.277	0.046	0.061	−0.326	0.224
SL	0.259	0.556	−0.001	−0.025	0.162	0.060	0.052	0.182
BG	0.110	0.655	−0.232	0.418	0.341	−0.063	−0.248	0.164
RO	0.020	0.302	0.066	0.214	0.557	0.158	−0.179	0.099
HR	0.061	0.426	0.129	0.145	0.065	0.069	−0.730	0.123

Grey colour reveals that the impact of a variable on UPT usage was significant  $p < 0.05$ .

The time from home to the nearest station significantly affects UPT usage in half of the EU countries (11 of 21 countries). The shorter time needed to reach the stop could reduce the total travel time by UPT and it is especially important for people with disabilities [61]. Alternatively, it is a good opportunity to enhance the activity of people. However, to revise the stops and station system is of importance particularly where the time significantly influences UPT usage (e.g., the Czech Republic, Poland, and Romania). Public and other stakeholders should be involved in this process.

Considering other satisfaction categories, the satisfaction of ticket price in half of the EU countries (11 of 21 EU countries) significantly and positively influenced UPT usage. Thus, pricing could be one of the key attributes that attract UPT usage [37,70]. Other authors also revealed that the price level is particularly important in Spain [14] and in the UK [71]. In Greece, increased ticket prices resulted in the reduction of UPT usage [31]. Dickinson and Wretstrand [72] stated that in Sweden adoption of free urban public transport trial periods might be an efficient tool to increase UPT ridership. However, in other EU countries, the satisfaction based on ticket price cannot guarantee the enhancement of UPT usage. Analysing the fare-free public transport programme in Tallinn (Estonia), Hess [73] found that



public transport “free” exhibited a lower-than-expected increase in ridership. As we see from our results for Estonia, ticket price satisfaction insignificantly influenced the usage of UPT. Thus, we should not expect that the reduction of the ticket price would contribute directly to the enhancement of UPT usage in all EU countries. Other factors might be of importance. For example, the usage of the single ticket approach during all travel by different means of UPT could be much easier for passengers [21]. Furthermore, in the case of price, it is found that costs of using private vehicles in terms of fuel prices or parking costs were related to higher public transport ridership [68]. Thus, it is essential to consider introducing road pricing and higher parking charges simultaneously [17,73] with improvement of other UPT attributes because UPT prices might not be as influential as some results suggest.

A large number of studies have shown that frequency and reliability are important attributes for the satisfaction of urban public transport users [31,33,52,53,74] and are very important for journey time and interchanges [37,70]. Comfort and safety are important factors in influencing the usage and UPT service satisfaction as well [16,32,33,36,44,53,75]. However, in our case, frequency and reliability, as well as comfort and safety, significantly influenced UPT usage in only one-third of EU countries (7 of 21). This could be because the travel mode used could be considered as a habitual behaviour, carried out without deliberate thinking, automatically, due to repeated use [16,36,76]. Dissatisfied passengers due to the lack of transport alternatives have no way of expressing their dissatisfaction [51].

Facilities at the stop were even less significant. The amenities of stops and stations significantly affected UPT usage in only five EU countries: Ireland, Slovenia, Slovakia, Poland and Estonia. According to the other authors’ findings, the condition of stations and stops was identified as the strongest factor influencing the overall satisfaction level with urban public transport services [10,77] and influenced satisfaction with the trip [50]. Outwater et al. [78] found that bus stops with modern amenities can significantly determine individuals’ choice of transportation modes particularly in adverse weather conditions [79]. The EU has highlighted the requirement for developing and promoting new approaches towards station design [80]. However, this activity might be effective only in the countries where the impact of amenities at stops and stations significantly influenced the usage of UPT. In other words, other UPT attributes which determine UPT usage more significantly should be addressed first or in parallel to enhance UPT.

## 5. Conclusions and Policy Implication

The promotion of UPT usage in the EU is one of the primary tools to reduce environmental impact, traffic, road accidents and noise level, and to seek sustainability in general. So far, EU countries regarding UPT satisfaction are seldom jointly analysed. Research shows that the level of UPT usage in the EU is rather low, and people seldom use public transport. In addition, the usage of UPT significantly is related to the economic development level, and in richer EU countries individuals are less linked to using public transport. It could be related to higher affordability of personal cars in developed countries and the cheaper cost of UPT travel in less-affluent EU countries. These aspects should be considered, as economies of less-affluent countries tend to grow and car ownership increases. Nevertheless, the limitation of this paper is that the usage of UPT is assessed based on self-reported usage. Therefore, data on ridership from UPT companies should be used for specific country, region or city analysis.

We suggest classifying satisfaction to comfort and safety, frequency and reliability, amenities of stops and stations and ticket price. Though all satisfaction categories differed across EU countries, the satisfaction with the ticket price almost in all EU countries was the least. Thus, policymakers, especially on the municipality level, and UPT service providers all over EU should pay particular attention to ticket price level; if these prices were lower, the usage of UPT could be more attractive. On the other hand, UPT services often are already subsidized. Existing experiences (e.g., free ridership programmes) of other countries, should be considered before making decisions regarding the price reductions or refuse. In each case, all satisfaction categories influencing the usage of UPT should be considered and analysed to assess the most important ones. Municipalities and service providers should consider

public consultations as a tool for UPT enhancement, especially for selecting satisfaction categories to be addressed first. In addition, easy to access and timely transport information, as well as pricing schemes, single ticket approach and e-tickets should be considered by UPT service providers.

Analysing the determinants of UPT usage, we find dissimilar determinants significantly influencing the UPT usage in different EU countries. In half of the EU countries, the time to the nearest stations and the satisfaction of ticket price had significant impacts on the usage of public transport. Addressing these aspects (especially distance to the nearest stop) of UPT might improve the situation in most cases. Meanwhile, the satisfaction with frequency and reliability and comfort and safety significantly effected one-third of EU countries, and only in five EU countries did the amenities of stops and stations influence UPT usage. This might be the case that some attributes are already rather good. Furthermore, these results reveal that improvement of UPT service and separating its categories may not always lead to the enhancement of UPT usage. National peculiarities and UTP usage determinants should be taken into account while making UPT promotion decisions.

Noteworthy, travel mode use could be regarded as a habitual behaviour; dissatisfied passengers due to the lack of transport alternatives have no way of expressing their dissatisfaction and continue to use UPT. Furthermore, the dissatisfaction leads to an increase in the use of personal cars; therefore, next to UPT improvements, municipalities should think about other incentives, such as parking fee and park and ride schemes. However, measures, such as park and ride, in order to be effective should be profoundly considered and analysed before implementation.

If quality of urban public transport mostly is the responsibility of local policymakers, municipalities and service providers, the overall promotion of UPT should be part of national and EU policies. This could include enhancing the image of public transport users (especially young ones and men) and incentives for lower car use (e.g., higher road and fuel prices), as well as raising awareness about health and environmental impacts.

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