Multimodality for people and goods in urban areas

FP7 . CP 284906

WP6.1 – D6.4 Multimodal services acceptability final report

Month 21

Editor: Fabienne Gandon / Pertimm
Nathalie Dubus, Christele Tarnec / Orange
Nicole de Koning / TNO
With the most valuable help of Amel Attour/Université de Lorraine

Project co-funded by the European Commission within the Seventh Framework Programme (2008-2013)

Project funded by the European Commission under the 7th European Framework Programme for RTD - ICT theme of the Cooperation Programme.

Instant Mobility WP6.1
Multimodal services acceptability - Final report

WP6	Multimodal services acceptability – Final report - v14
Authors	Fabienne Gandon - Pertimm Nathalie Dubus – Orange Nicole de Koning - TNO Amel Attour – Université de Lorraine, Ecole des Mines de Nancy
Short Description	Final report for multimodal services acceptability, on three topics; real time and anywhere location, contextualization / personal data storage, and ranking the service. This report presents the global results of all citizen surveys and professional drivers surveys.
Dissemination level (select)	PU Public
Date	Draft date (by authors) 19/11/2012 – Delivery date (final version)
Status	Draft report
Contributions by:	Christelle Tarnec - Orang
Internal review by	Frederik Cederstav,Volvo Merja Penttinen, VTT
External review by	
Internally accepted by	
Date of acceptance	

Document history

Version	Date	Author /Reviewer	Description
1.0	19/11/2012	F. Gandon	Initial version
3.0	17/12/2012	F. Gandon	
4.0	17/12/2012	F. Gandon	Integration of Amel Attour analysis
5.0	26/12/2012	N. Dubus	Integration of Nicole de Koning analysis + remarks from Christèle and Volvo
6.0	02/01/2013	F. Gandon	Additional changes from Volvo Review comments, legends updates, conclusion integration
7.0	07/01/2013	N. Dubus	Integration of Merja and Nicole comments
8.0	09/01/2013	F. Gandon	Legends updates, new updates in appendix 9 and conclusion
9.0	11/01/2013	F. Gandon	Somes fixes
10.0	11/01/2013	F. Gandon	Abstract update
11.0	21/01/2013	F. Gandon	Final fixes from all partners
12	21/01/2013	F. Gandon	Foot note update
13	21/01/2013	F. Gandon	Fix missing figure
14	21/01/2013	F. Gandon	Fixes

Deliverable Abstract

This document represents the final deliverable of task 6.1. This task “Demand-driven multimodal services acceptability” aims to evaluate the acceptability for a generalization of demand-driven multi-modal transportation services based on real-time traveller localization and advanced preferences. In particular, it studies the social and functional acceptability of the proposed system and its various consequences for three major topics:

- real time and anywhere location,
- contextualization / personal data storage,
- ranking the service.

This task aims to define priorities and recommendations for Instant Mobility framework.

This deliverable represents the final report on Instant Mobility multimodal services acceptability and includes two main sections. The first one is devoted to a scientific analysis of the citizen surveys whereas the second section describes the professional drivers’ survey and its analysis.

The analysis showed that perceived usefulness and perceived security are the two main determinant factors that positively influence intentional acceptability of citizen travelers. Meanwhile, the descriptive statistical results and the econometrical analysis highlighted that the four populations of citizen travelers’ behavior studied are characterized by some different behaviors and needs. The choice for a new service can rely on specificities or on the general needs and acceptability criteria (perceived usefulness and perceived security).

The analysis on professional drivers mainly rely on the Dutch survey. The services are considered as useful and satisfying. The services obtaining the highest scores are ‘‘plan your route’ and ‘reschedule your route using traffic information’. In all response, the sense of freedom remains important as this topic had also been identified as important for the citizen travelers within the privacy and traceability criteria.
The willingness of the Dutch respondents to share data depends on the purpose. The Dutch respondents are most prepared to share location data to get navigation advice and to share data with the planner of their company to plan routes more efficiently. The respondents are less prepared to share location data to share loads with other companies or for eco optimized driving.
Respondents seem to have different views about eco-driving but since we only have a small group of respondents in France, it is not possible to do any breakdown per region.

Acknowledgements

“This study could not have been written without the help of Nicole De Koning and Amel Attour. A special thank to Amel for her kind contribution and dedication: she has provided much of the input of section 1, the method and the detailed results analysis for the citizen survey chapter. That was a huge work.”

Nathalie Dubus, WP6 leader
Fabienne Gandon, T6.1 Leader

Table Of Content

Table of Figures

Table of Tables

1. Introduction

This deliverable refers to task 6.1 “Demand-driven multimodal services acceptability”. This task aimed to evaluate the social acceptability for a generalization of demand-driven multi-modal transportation services based on real-time traveller localization and advanced preferences. In particular, it studied the social and functional acceptability of the proposed system and its various consequences for three major topics:
real time and anywhere location,
contextualization / personal data storage,
services ranking.

The goal of this task is to define some priorities and recommendations for Instant Mobility framework.

The methodology adopted to carry on this task was to define two series of questionnaires depending of the target group: one for citizen travelers and one for professional drivers. This document describes more precisely this methodology and the reasons why it has been defined so.
The first survey has been organized in three cities[1] (Roma-ATAC, Istanbul-ISBAK, Nice-NCA) with partners of the project thanks to online questionnaires. Later, a fourth one (Trondheim) has been carried out successfully. These four surveys have been published in local languages[2]. Communication plans had been defined to advertise the surveys in order to benefit from as many respondents as possible. A fifth survey is published in English on the Instant mobility website. A Spanish version has been implemented for Toledo but they did not have the opportunity to publish it in time for this report.
In a second phase, the study for professional drivers has been carried on. The organization of those surveys was different from the first ones as the population to address can’t be reached by the same means. Local professional organizations, clusters, companies have been contacted and each case needed a specific approach.

Results of task 6.1 should be used as recommendations for the technical specifications carried out in WP4 “Future internet Enablers”, in phase 2 for the real experimentation (call Future Internet of the specific programme "Cooperation" of the 7th Framework Programme).
The criteria of social acceptability for the three topics of this study will help task 6.2 “Instant Mobility Data Business Cases” in the definition of the business models.

This deliverable is composed of the following chapters:
Section 1: Deep citizen survey analysis, integrating and updated academic background
Section 2: Professional drivers survey analysis
Section 3: Recommendations

[1] The three selected partners are involved in T6.1 and have resources allocated to this task. Trondheim integrated the group without resources allocated.
[2] See the questions of the survey in the first Deliverable D6.1 *Multi modal services acceptability report primary report*.

From the results of the first wave of citizen surveys, the European Commission suggested that a larger, more open survey could be designed to address a wider population. A light citizen survey has thus been designed (see Appendix 5). Its format had to be shorter than the initial version, less questions, no open question. For its promotion we had no additional budget to find out new means of communication and advertising. It has been published on personal accounts on linkedIn and contacts have been initiated with French[3] and Belgian[4] press to have an advertisement of this survey on their website or their paper publications. We had no feedback from any of them. As we received no response to this suvey, no analysis has been carried out. Without a good communication plan and budget to promote a survey, without close to public interactions, it is hard to have responses to a survey.
As the previous citizen survey analysis has shown that the panel of respondents is valid and representative (see 2.1.2), it is not a problem for extracting valuable conslusions from the citizen survey.

2. Section 1: Citizen survey

The present section presents a comparative analysis of the determinants for Instant Mobility services' (Instant Mobility's) acceptability by the citizen traveler of four cities. It aims to complete the deliverable of task 6.1 which had proposed a preliminary report of Instant Mobility multimodal services acceptability.
The document presents the results of the analysis of Instant Mobility multimodal services acceptability which has been realized thanks to questionnaires electronically self-administered in the four partner cities of the project: Istanbul, Roma, Nice and Trondheim. The questionnaire, administered in the mother language of the city where it had been administrated, has been distributed to a targeted population of citizen traveler of the four cities.
The presented analysis of the final survey of 6517 individuals aims to identify the determinant factors of Instant Mobility acceptability. It also compares the profile, real and intentional behaviors of the four populations of cities travelers in order to know if it is relevant or not to design IM applications according to the local citizens' profile of the territory where the applications could be deployed.
In the first part of this document, we present the theoretical analytical framework of the study. The second part presents the research method which is the foundation of the questionnaire. In the third part, the data and the descriptive results of the survey are presented before analyzing them using descriptive statistical tools and several econometrics methods in chapter 2.5.

2.1 Theoretical background and the research method

Many theoretical and empirical approaches have been mobilized by the literatures analyzing the choice of ICT services adoption and use. The main approaches distinguish five groups of factors: perceived utility, perceived ease, acquired competences, demographic and socioeconomic factors,

[3] 20 Minutes, Metro, Direct Soir, L'Express, FémininBio, IledeFrance.fr
[4] Lesoir, La Dernière Heure, La Belgique Libre, RTL

and lifestyle. The three first groups explain adoption from a technical perspective and are generally based on the technology acceptance model (TAM) proposed by Davis (1989) and Davis et al. (1989). This is an adaptation of the theory of reasoned action (TRA) developed by Fishbein and Ajzen (1975) using attitude and subjective norms as the two factors that affect behavioral intentions. The two others groups encompass TAM factors of a technology adoption in a multidimensional setting in terms of sociocultural, gender, and income criteria. Based on these five groups, the research methodology of the present study had been built.

2.1.1 The theorical analysis of new technologies and services adoption

In their analyses of adoption determinants of new technologies or services, many empirical studies in information management have considered the TAM model which focus on the attitudinal explanations of intention to use a specific technology or service consisting of six concepts: external variables, perceived usefulness, perceived ease of use, attitudes toward use, intention to use, and actual use. In most studies on internet and mobile ICTs services use and adoption as the recent empirical research analyzing mobile-payment adoption, TAM hypotheses have been supported :
Perceived ease of use can strengthen perceived usefulness (Adams et al. 1992 ; Davis 1989 ; Davis et al. 1989 ; Heijden et al. 2003; Igbaria et al. 1997 ; Karahanna and Straub, 1999 ; Liao et al.2007 ; Lin and Lu, 2000 ; Moon and Kim, 2001 ; Taylor and Todd, 1995)
Perceived usefulness and perceived ease of use have significantly positive effects on user attitudes (Davis et al. 1989; Lin et Lu, 2000; Moon et Kim, 2001 ; Taylor and Todd, 1995) ;
Perceived usefulness has significantly positive effects on behavioral intention (Davis et al. 1989; Lin and Lu, 2000 ; Moon and Kim, 2001 ; Taylor and Todd 1995) ;
Attitude also has significantly positive effects on behavioral intention (Davis et al., 1989; Heidjen et al. 2003; Lin and Lu, 2000; Moon and Kim, 2001; Taylor and Todd 1995).

The main characteristic of TAM model is its capacity to explain adoption from a technical perspective. But as Malhotra and Galetta (1999) highlighted it, the main limitation of TAM is the lack of explicit accounting for social influences affecting adoption. As Van Biljon and Kotzé (2008) showed in a contextualized mobile phone adoption analysis in an extended TAM framework, social influence (expressed as the pressure exerted on the individual by the opinions of others), facilitating conditions, or the necessary infrastructure, perceived usefulness, or the extent to which a user believes that he or she will benefit from using the mobile phone, and perceived ease of use are determinant. They also identify a couple of factors, named ‘mediating factors’, that have an influence on mobile phones adoption and use. These factors are: preferences and beliefs about mobile phones (including image), demographic factors like age, gender, education, etc.; and socioeconomic factors, such as occupation and income.

In fact several studies focusing on internet digital divide of 2000’s and its factors in developed as in developing countries or those which had contextualized mobile phone adoption in an extended technology acceptance model (TAM) framework, encompass perceived usefulness and perceived easiness factors in a multidimensional setting in terms of sociocultural, gender, and income criteria.

2.1.2 The socio-economic variables’ influence on ICTs adoption

The adoption and use of ICTs by households in developed and developing countries have mobilized numerous academic literature. As the digital economy firstly transformed traditional

market by the extraordinary development of electronic commerce, an important course of empiric studies mainly focused at the end of 90's and during 2000's on ICT services adoption, usage, intensity and impact (Azari, Pick, 2004, 2005 ; Liu, San, 2006 ; Quibria et al. 2003). These studies ascertained the **primary role of socioeconomic factors** (Kiesler et al., 1997 ; Hoffmann and Novak, 1996 ; Pitkow et al., 1998; Johnson et al. 1999) which have been commonly admitted as main factors of the digital divide. Though the geographic localities, units of analysis, methodological designs and research questions are varied in the survey studies, it has be shown that **demographic variables** (age, gender, education, and organizational tenure) are related to the adoption and use of microcomputers and internet services (Pick, Azari, 2007). More than socioeconomic factors, according to a French survey study of end users of e-commerce services, localization, household size, social network and lifestyle influence the adoption of ICTs by households (Le Guel et al. 2005). By contrast, at the counties level in the U.S., the most important factors were scientific/technical work environement, income, federal grant funds, college education and ethnicity (Azari, Pick, 2004, 2005). According to Quibria et al. (2003), the most important factors of ICTs uses are **income, education level of the users** (in particular higher educated people, scientific and technical education, and specialized IS training) and infrastructure (the quality of the network). In a recent study on domestic digital divide in Western Europe, the role of socioeconomic factors has been established (OECD, 2010). The education level has a positive and significant influence on daily internet use. In contrary, the number of persons in household and the high age of the users have a negative influence on daily internet use.
More generally, according to Rogers (1995), since these socio-economic factors are related to an individual's innovativeness, they affect the rate of new innovations adoption and diffusion. These socio-economic variables have been widely applied to investigate a number of objects and issues within information management and systems discipline such as the computer, internet and its services (electronic commerce, electronic administration, etc.), and mobile internet service due to the current digital and 'internet of things' economy. **Also adopters of an existing and related innovation or technology are likely to adopt emerging technologies and services as they possess a higher level of awareness** about new developments and skills to perform behavior. This is mainly by Roger's theory, the **Innovation Diffusion Theory (IDT),** which explains that until we have tested a new invention it is very hard to assess how good it is. It seems to be the most important single factor explaining the adoption of new technologies. Most of the other variables (age, education, income level etc) correlate strongly with each others – and are not explaining the phenomenon as well as single factors.

Together TAM (and indirectly TRA/TPB) and IDT are one of the most used models (Venkatesh et al. 2003). In the recent studies on mobile services adoption and use (in particularly mobile payment adoption), it has been argued that **perceived usefulness and perceived ease of use directly determine the intention of use** (Chen, 2008; Schiertz et al. 2010). Including perceived compatibility (acquired competences) from IDT and a last factor called perceived security (or risk), most of mobile services adoption studies confirms that all these factors predict intention to use with perceived security as a significant factors and perceived compatibility as the most important of the different factors. Contrarily, comparing people who had already used mobile payment services, Kim et al. (2010) do not validate compatibility as the most important factor but rather came to the conclusion that perceived usefulness and perceived ease of use are the most significant factors. In a very recent study, Hauff et al. (2011) showed that compatibility, perceived usefulness and perceived security are determining the intention of mobile payment security use while subjective norm and perceived ease of use are not. They also compared factors mobile payment adoption between older (more than 35 years) and younger (less than 35 years) users and concluded that perceived security is very important for the older consumer but not supported for

the younger ones. Furthermore, they showed that perceived security had a lower impact than compatibility and perceived usefulness.
Given the wide applications of technical, acquired competences and socio-economic factors, the analysis of Instant Mobility users' intention of adoption must consider these groups of factors.

2.2 Research method

Figure 1 depicts our research framework.

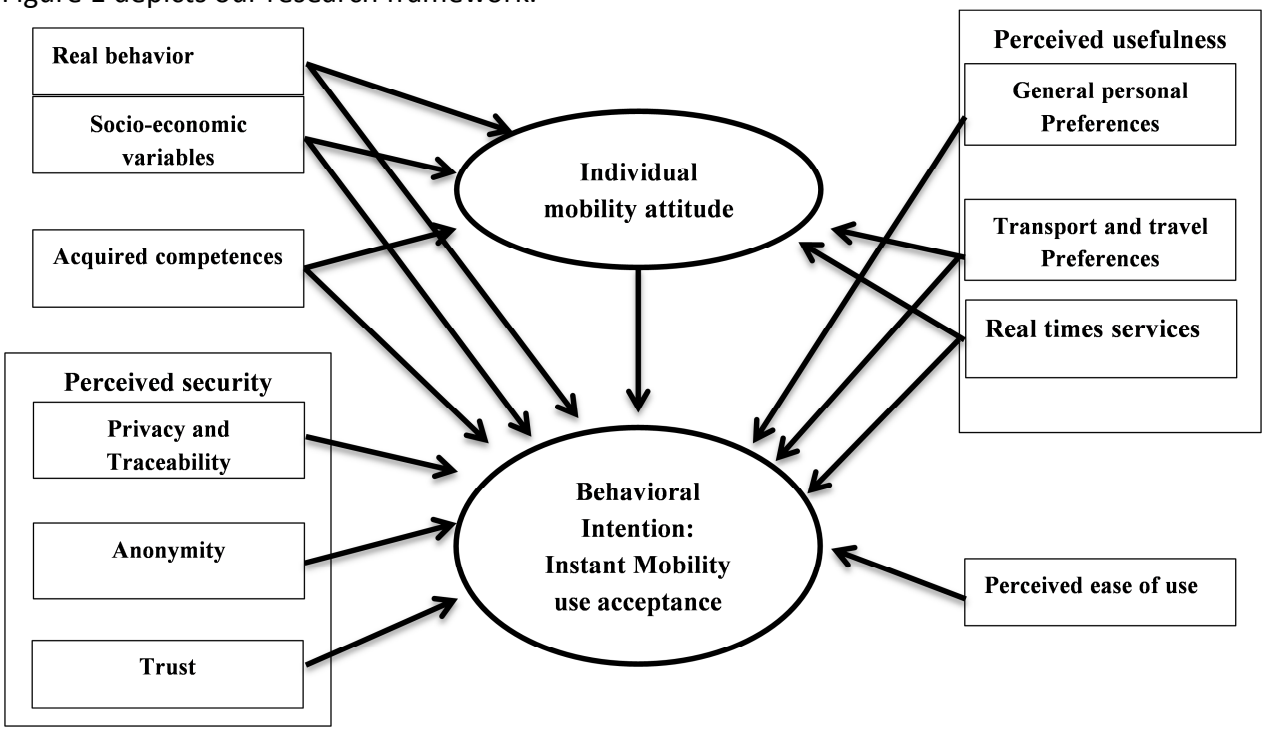

Figure 1: Research framework

We explored the influence of selected socioeconomic factors on individual mobility attitude and on Instant mobility services adoption. And we tested which factors mainly determine the intention of Instant Mobility services use. The variables and their operational definitions are summarized in Table 1.

Variable	Operational definition	Measurement	Items	References
Socio -economic profile	Socio-economic and demographic characteristics of the citizen traveler	- Gender - Age - Education level		Roger (1995) Le Guel *et al.* (2005) Azari, Pick, (2004, 2005) Quibria *et al.* (2003) OECD (2010)
Perceived usefulness	The degree of influence of using Instant Mobility services on the behavioral attitude from citizen traveler's subjective thoughts. It is measured in this study by the level of usefulness of real times services and of criteria of preferences taken into account by the services.	The usefulness of real times services - Be guided to a destination all along my trip - Calculate the best route for me - Access personalized information - Have all the information gathered and provided when I need it - Make my travels more quickly Usefulness of preferences criteria proposed in a relevant itinerary - General preferences (trip duration, price, arrival time, etc.) - Transport preferences (number of connections, connections easiness, waiting time for connections) - Ride sharing preferences (gender, smoking environment, number of seats requested, drive experience, etc.) Criteria useful to assess the rate of a used services - General (adequacy of the route, accuracy of information on travel solutions of IM) - For public transports (frequency, on-time, accessibility, comfort, security) - Ride-sharing (comfort of the vehicle, punctuality of the driver, sense of security, driving behavior) - Switch between several mean of transport (complementary services, real time information received during the trip, accuracy and availability of information and guidance at connection nodes)	0 : not useful 1 : little useful 2 : neutral 3 : useful 4 : very useful	Davis (1986) Dishaw and strong (1999)
Perceived ease of use	The degree of ease of a precise service perceived by the citizen traveler. In this study it is measured by the conditions précised by the citizens traveler when he accept under condition the use of a specific service which requires an action from the user	Conditions of accepting to register personal preferences : - Only if it is easy and quick to enter these personal preferences Reasons of not accepting to evaluate the services and transports means - It is too complicated	0 : No 1 : yes	Davis (1986) Dishaw and Strong (1999) Moon and Kim (2001)
Perceived Security	The personal evaluation on scenario risk, which is one's estimable probability and	Conditions criteria to accept a specific IM services (location, recording travel, recording preferences)	0 : No 1 : yes	Fishbein and Ajzen (1980)

	controllable degree for the uncertainty of the scenario. In this study the definition is: the citizen trust the service or not. According to Ganesan, trust is a necessary ingredient for a long term orientation because it shifts the focus to future conditions.	- Privacy and Traceability criteria - Anonymity - Trust on the service		Ganesan (1994) Gefen (2000) Ezen (2008)
Acquired competences	The definition in this study is the citizen travel profile and their level of information need in their daily travel and the / or his uses of similar services available on a web-site	Tools used to help you in finding information you need about means of transport in your daily travel - Navigation system in your vehicle - A mobile allowing me to access to websites or applications - Calling a dedicated phone number that provides vocal information - Information available in the station or on the road - Printed information - The radio	0 : No 1 : yes	Roger (1995) Kim *et al*. (2010) Hauff *et al.* (2011)
Real behavior	The Activity that is acted under a specific scenario or situation for a specific purpose. The definition in this study is the citizen travel profile and their use of similar services in a web-site version	After using collective transport, giving feedback on the service (frequently, regularly, occasionally, rarely, ever) When using collective transport or car sharing or vehicle rental services, registering personal preferences on web-site behavior (frequently, regularly, occasionally, rarely, ever)	0 : No 1 : yes	Ajzen (1989)
Individual mobility attitude		Kind of transport mainly used in daily travel - Own personal (car, motorbike, bike, walking ...) - public transport - Ride-sharing as a traveler - Ride-sharing as a driver	0 : No 1 : yes	Roger (1995)
		Need to find information about means transport	frequently, regularly, occasionally, rarely, ever	
Behavioral intention	Possible action adopted by an individual to a specific objective. In this study the definition is: the citizen traveler's intention of using Instant Mobility transport multimodal services.	Acceptancy of location during self-daily travels in IM system Acceptancy of recording your travel Acceptancy of registering personal preferences Acceptancy of evaluating IM services and the transport means	0 : No 1 : yes 2 : Under some conditions	Ajzen and Driver (1992), Sheeran and Orbell (1999), Armitage and Conner (2001)

Table 1: Variables and their operational definitions

To our knowledge, there are no, or possibly very few systematic global (cross-country) analyses of the determinant factors of mobile internet services adoption, spanning both developed and developing countries. Many of the recent studies analyzing mobile internet services adoption or use, in particularly on mobile payment, have a country focus. The most existing cross-country studies address computer, internet (electronic service) adoption and digital divide. The present research aims to identify factors determinant of multimodal transport services thanks to a cross-countries analysis conducted in two European urban cities (Roma and Nice in Italy and France), an urban city of a developing country (Istanbul in Turkey) and an urban city of a developed European country (Trondheim is in central Norway).

The target population was all Internet web users in the four cities. Given that self-administered survey are arguably the most widely used form of data collection, and as Davis (1999) showed, web-based questionnaire research are comparable with results obtained using standard procedures. The computerized web interface may also facilitate self-disclosure among research participants. So, electronic self-administered questionnaire has been chosen as it is an appropriate canal of distribution to the present research. Furthermore, it provides a quantitative description of attitudes, experiences and opinions of the sample population. This method is also an efficient way of gathering data using a standard set of questions. It also permits to diffuse the questionnaire to a target population: ICTs users (internet services).

The aim of the survey was to investigate the acceptance of Instant Mobility services. In that goal, two major groups of users have been identified: citizen travelers and professional drivers. The present study focuses on the first groups of users. This group is highly heterogeneous. Anybody travelling can belong to this group. Even a professional of the road (truck driver, bus drivers …) can be considered as a citizen traveler as long as this is not for his job purpose. Considering the heterogeneousness of citizen travelers group of users, the approach of this study might present a wide variety of answers. But, as we choice to administrate the questionnaire electronically, it had been necessary to address this group of users in some well-defined areas. The questionnaire had been administrated online in the four cities partners of Instant mobility project. It had been published on the web site of ATAC[5] (for Roma), ISBAK[6] (for Istanbul), Nice Metropolis' web site[7], City of Trondheim[8]. According to the well traffic on the websites where the surveys had been published, the questionnaire had been online during four weeks in each city[9].
6517 responses were received and the national profile of the respondents is the following: 1766 respondents are Roma citizens, 3096 are Istanbul citizens, 293 are Nice citizens and 1362 Trondheim citizens. Considering the size of the population of each city, the rate of answer to the

[5] Agenzia del trasporto autoferrotranviario del Comune di Roma

[6] Istanbul Transportation Telecommunication and Security/Technologies Industry and Trade Inc. ISBAK is a private company, a subsidiary company of Istanbul Municipality. It is an operator for traffic and transportation related projects and is responsible for alternative energy sources traffic data collection equipment, real-time traffic data gathering and broadcasting via Internet/radio/TV/mobile devices/etc. The city is the main client of ISBAK (with other cities in Turkey)

[7] More precisely, in the case of Nice, the survey had been published on several websites: city of Nice, metropolis website, common intranet for the city of Nice and the metropolis, tramway website, vélos bleus website, autos bleus website, ligne d'azur website, ceparou for searching itineraries.

[8] The questionnaire has been administrated by email to citizen who have a transport card (40 000 citizens).

questionnaire have a nearly the same rate of answer (except Nice where the sample is the lowest). The main purpose is to compare the route profile and determinant factors of Instant Mobility applications by citizens of each four cities. The inegal weight of the samples between cities do not skew our analyses.

	Population (nb. Hab)	Density (hab/km²)	Surface (km²)
Istanbul (2011)	13 483 052	2 523	5 343
Roma (2011)	2 783 300	2 165	1 285.3
Nice (2010)	340 735	71.92	4 738
Trondheim (2008)	165 191	483	342.24

Table 2: Figures in the four cities

2.3 Presentation of data

This section presents and discusses the descriptive results of the survey. It shows that there are relevant differences between Roma, Istanbul, Nice and Trondheim citizens' travelling behaviour profile and behavioral intention of Instant Mobility services' acceptance. **Globally, Instant Mobility services will be well accepted under conditions that privacy and traceability criteria are respected.** Citizens intention to evaluate and to give feedback on the Instant Mobility services they would use is also well accepted. However, the analysis of citizens real behavior highlight some differences between them intentional and real behavior. Based on these descriptive results and on the literature several assumptions have been posed.

2.3.1 The socio-economical profile of the respondents

The socio-economical profile of the respondents according to the four cities is the following (cf. table 13 in Annex 1, page 35). Very few respondents are professional drivers: respectively 5.5% (Nice), 4.2% (Istanbul), 2.4% (Roma) and 1.7% (Trondheim).

In each city, male citizens are more numerous than female in response to the survey. In Trondheim and Roma, the rate of women and man participation to the survey is more equal (in Roma 55.9% respondents are men and 44.1% are women. In Trondheim, 54.4% respondents are men and 45.5% are women.). However, in Nice and in particular in Istanbul there is a strong imbalance (in Istanbul 90.1% respondents are men and only 9.9% are women. In Nice, 63.5% respondents are men and 36.5% are women.). According to this first result, a particular attention must be given to the influence of the gender variable on the probability that a user accepts or not to use Instant Mobility applications. In fact, the socio-economical profile of respondents puts the hypothesis that according to the national or local origin, differences in ICT services's uses between men and women are observed (here the use of web-sites) and can have a significant influence on their adoption behavior of mobile applications.

In all the cities, the participation part of high educated citizens (citizens who have a university diploma or a Phd) is more important than citizens with an upper secondary school or compulsory school diploma. As the survey has been administered electronically, the samples have a well representativeness of the ICT users. Also, very few non graduated citizens have responded to the survey. For example, in Roma, 2.7% of respondents have a compulsory school diploma, 42.1% an upper secondary school diploma, 39.6% a university level of education and 15.3% are graduated with the higher university degree (PHD or MSc). In Istanbul, a stronger participation for university graduated can be observed (62.1% of respondents). And the rate of university graduated citizens is

also important in Nice and Trondheim with, respectively 28.3% citizens with a university level of education and 52.6% with a higher degree (Master or PHD) in Nice and 33% and 49% in Trondheim. This is not surprising according to percentage of graduates to the population at the typical age of graduation: 43.4% in Norway, 35% in Italy and 15.2 % in Turkey. Furthermore as it has been highlighted by a recent OECD report which studies the determinants of ICT use in European countries, high educated citizens have a higher intensity of ICT use[10]. In section 4, we statistically test the role of this variable on citizens intention acceptability of Instant Mobility service.

A good repartition by age of the respondents is observed in the four samples. A weak participation of young citizens (under 25 years) in the four cities is observed. The participation of citizen older than 55 years is also not very high. There is a strong difference part in participation of the citizens older than 55 years between Trondheim citizens and Istanbul citizens in the one hand and Roma and Nice citizens on the other hand. The part of 26-35 years Istanbul citizens is more important (48.5%) than in the three others countries (21.1%, 32.1%, 25.3% in respectively Roma, Nice and Trondheim). The part of participation of the 26-35 years, 36-45 years, 46-55 years is well equilibrate in Roma and Trondheim (21.1%, 28.9%, 25.5% for Roma and 25.3%, 20.1%, 19.5% for Trondheim). In Nice, like in Roma, the part of 26-35 years citizens is the highest. But the part of 36-45 years (26.6%) is in the same tendency as in Roma (28.9%) and in Istanbul (28.6%). The amount of 46-55 years (19.1%) respondents is near to the amount of 46-55 years participants in Trondheim (19.5%).

2.3.2 The Daily travel profile of the four citizen populations

The majority of city's respondents are not drivers that offer ride-sharing. Daily travel behavior of Istanbul citizens is quite different from Roma, Nice and Trondheim citizens. The amount of drivers that offer ride-sharing today is for example less important in Istanbul sample than in in Roma, Nice and Trondheim samples (88.7% for Roma respondents, 85.7% for Nice respondents, 89.8% for Trondheim and 66.4% for Istanbul). However the part of Istanbul respondents that use their personal means of transport in their daily travel is largely higher (73.9%) than in Roma, Nice and Trondheim respondents (respectively, 30%, 53.9% and 26.5%). Istanbul citizens use less public transport (15%) than Roma citizens (69, 4%). The part of public transport use in Nice citizens' (43.3%) and Trondheim citizens' (42.8%) daily travel is similar. Comparatively to Trondheim citizens, Nice citizens use more personal transport (26.5% for Trondheim and 53.9% for Nice). Cycling or walking as a daily travel transport mode only practiced by Trondheim citizens (28.4%).

And globally, very few in these four cities declare being a ride sharing traveler or ride sharing driver (0.3%).

[10] http://www.oecd-ilibrary.org/education/taux-d-obtention-d-un-diplome-tertiaire_20755139-table1

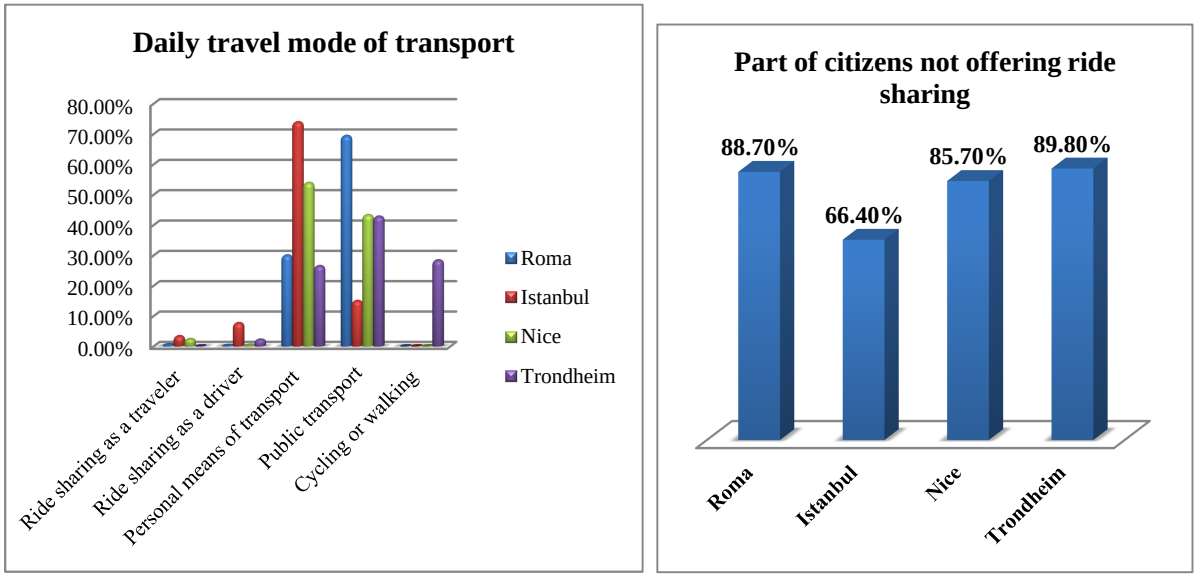

Figure 2: Daily travels

More precisely, as we can see in Figure 2, personal and public transport modes are the types of transport that are most common in Roma, Nice, Istanbul and Trondheim citizens. Figure 2 confirms that ride-sharing is more practiced in Istanbul than in the three other cities. Considering Roma, Nice and Trondheim sample, the difference between ride-sharing provider and not ride sharing provider is more important for Roma citizens than Nice and Trondheim citizens.

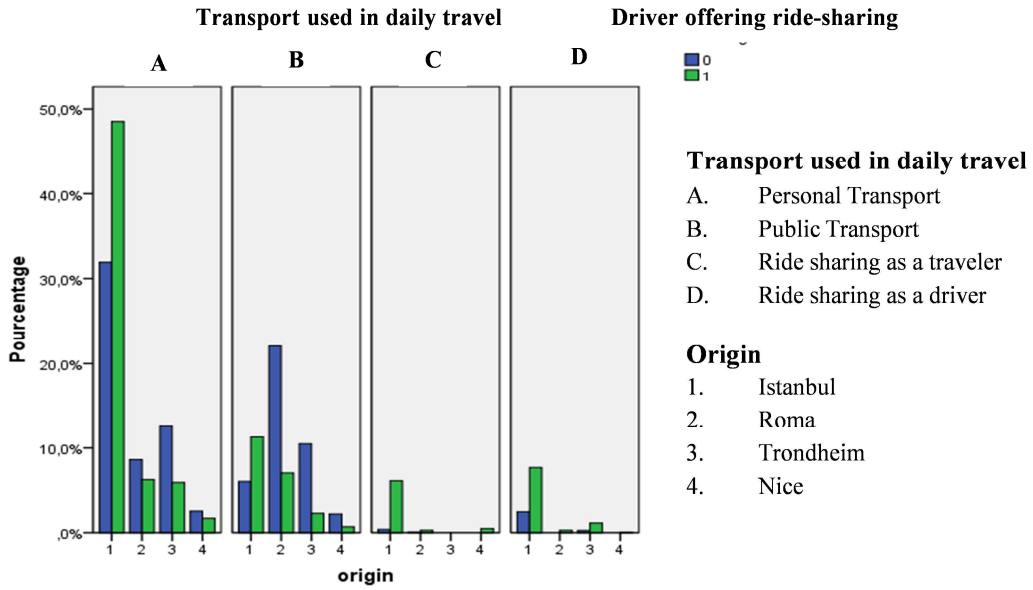

Figure 3: Transport used in daily travels

Furthermore, as we can read in Figure 3 and Figure 4, the main mode of transport of citizens that are providers of ride sharing is personal or public transport, particularly for Roma citizens. Furthermore, the part of citizens that are ride sharing provider and use ride sharing, as a traveler or as a driver, are more important in Istanbul, Nice and Trondheim than in Roma. 45.2% of Roma citizens who responded being ride sharing provider use personal transport and 50.8% use public transport in their daily travel. Also, the majority of citizens that not provide ride-sharing in Roma and Trondheim are users of public transport in their daily travel (respectively, 91.8% and 94%). In Nice, provider ride sharing citizens are users of personal transport (53.4%) or users of public transport (46.6%). One probably reason of the high part of Istanbul citizens who provide ride

sharing transport is probably their main kind of transport in their daily travel which is 'personal travel' (73.9%). As we can read in Figure 4, the part of personal transport users among Istanbul citizens who provide ride sharing is higher than in the three other cities. Also, the part of ride sharing provider among Istanbul citizens who provide ride sharing in their daily travel is largely more important than in Roma and Nice (10.5% in Trondheim against 2% in Roma and 2.4% in Nice) but slightly lower than in Trondheim (10.5% in Istanbul against 11.9% in Trondheim). The rate of Istanbul ride sharing providers who are ride sharing traveler in their daily travel is dramatically lower than in Nice (8.4% in Istanbul and 16.7% in Nice) but clearly more important than in Roma (2% of Roma providers of ride sharing are ride sharing travelers in their daily travel).

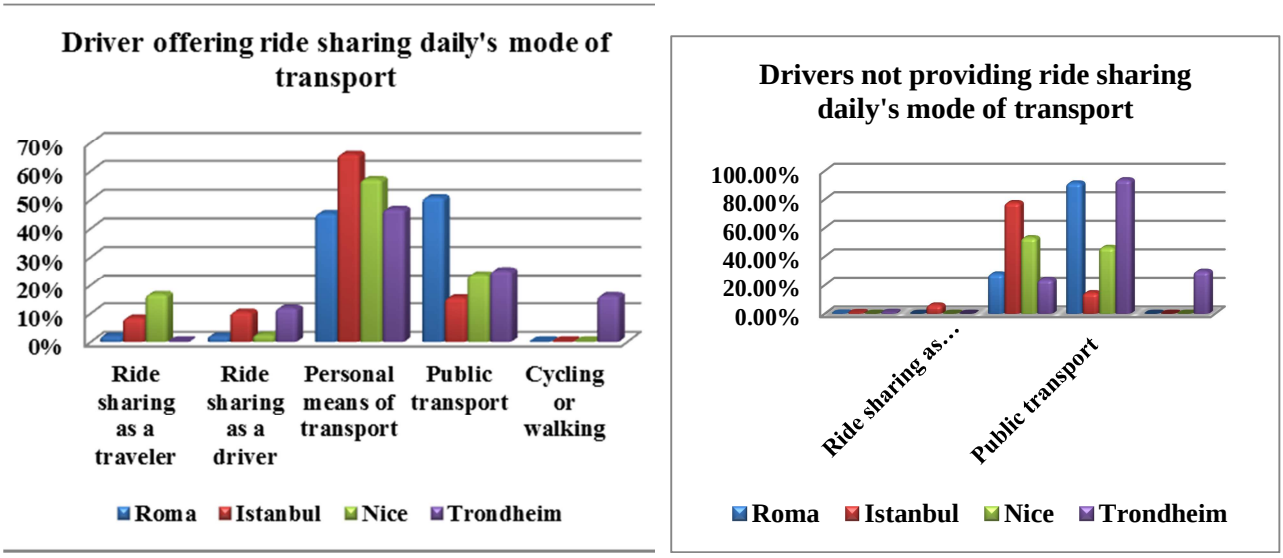

Figure 4: Ride-sharing

Interesting differences can also be observed concerning citizens' need to find their own route or information about means of transport between the four cities. As we can see in the Figure 5, the part of Istanbul respondents who frequently need to find their own route or information about means of transport (80.6%) is largely more important than Roma (38.3%), Nice (18.4%) and Trondheim (6.5%) respondents. In Roma, the majority of respondents frequently (38.3%) or regularly (28.6%) need to find their own route or information about means of transport. In Trondheim, most of the citizens occasionally (34.5%) or rarely (25.5%) need to find their own route or information about means transport. The part of Trondheim respondents that frequently (6.5%) or regularly (24.9%) need to find their own route or information about means of transport is the lowest of three others cities. We also observed that the part of citizens who never need information to find their own route is higher in Trondheim (8.4%) and Nice (6.5%) than in Roma (4.2%) and Istanbul (0.7%).

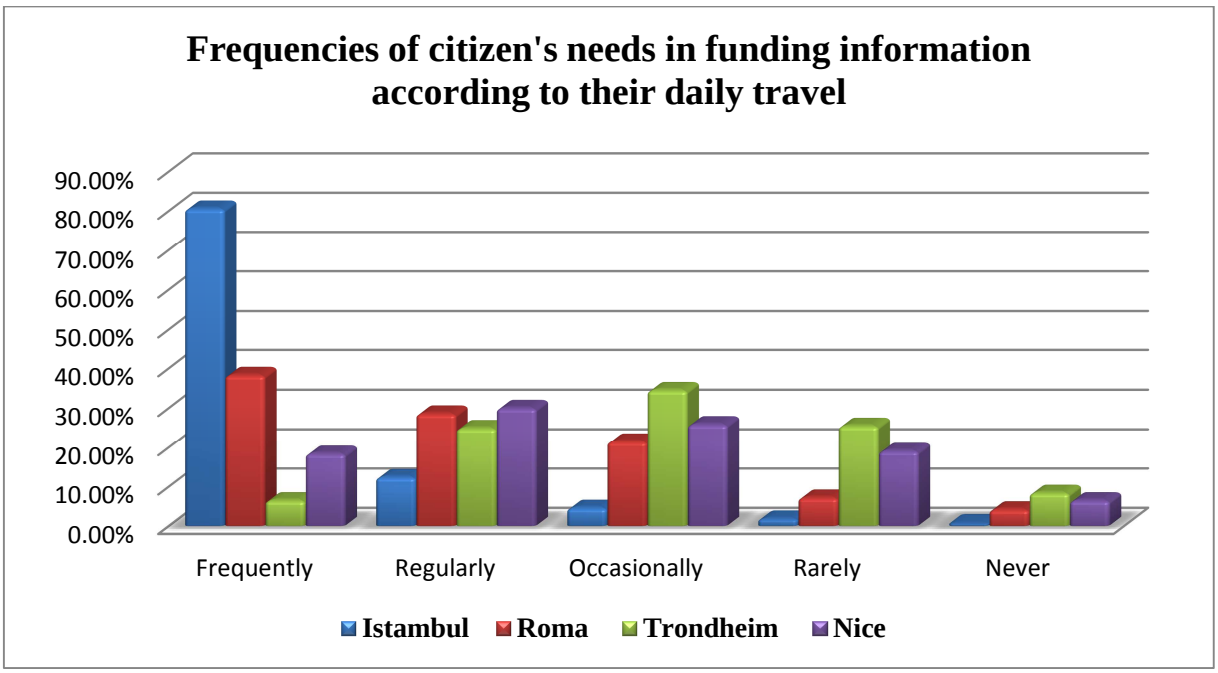

Figure 5: Needs for information

The tools used to help finding the information about their route or about means of transport such as availability or timetables or get information on traffic and disturbance is globally mobile device. This allows to access websites or applications for the majority of the four populations (cf. Appendix 1, Table 21, page 68). What is quite interesting to underline is that in each citys' most used tool by citizens is a mobile that allows them to access websites or applications (or the mobile and also one another of the proposed tools).

2.3.3 IM applications' acceptability of location and travel recordness

According to their different daily travel profile and their transport mode, we can expect that the four cities populations' needs and acceptability of a multimodal mobile application may show some differences. As we can read in Figure 6, globally, transmission of their position in Instant Mobility system has a satisfactory level of acceptability, principally if the application respect some criteria (privacy and traceability particularly). The higher acceptability of the 'position transmission' application is observed in Trondheim and Nice with, respectively, 32.10% of the Nice respondents and 31.30% of Trondheim respondents who accept, without any conditions, to be geo localized. In the four cities, the majority of respondents are ready to be geo localized but under some conditions. We also observe similar level of acceptance of the application that proposes to the users the possibility to record their travel. But, in the difference of the location transmission application acceptability, the reject rate of the recordings travel application is higher. For example, 21.8% of Trondheim respondents declare not accepting that their travels can be recorded against only 5.5% respondents who reject to be geo localized.

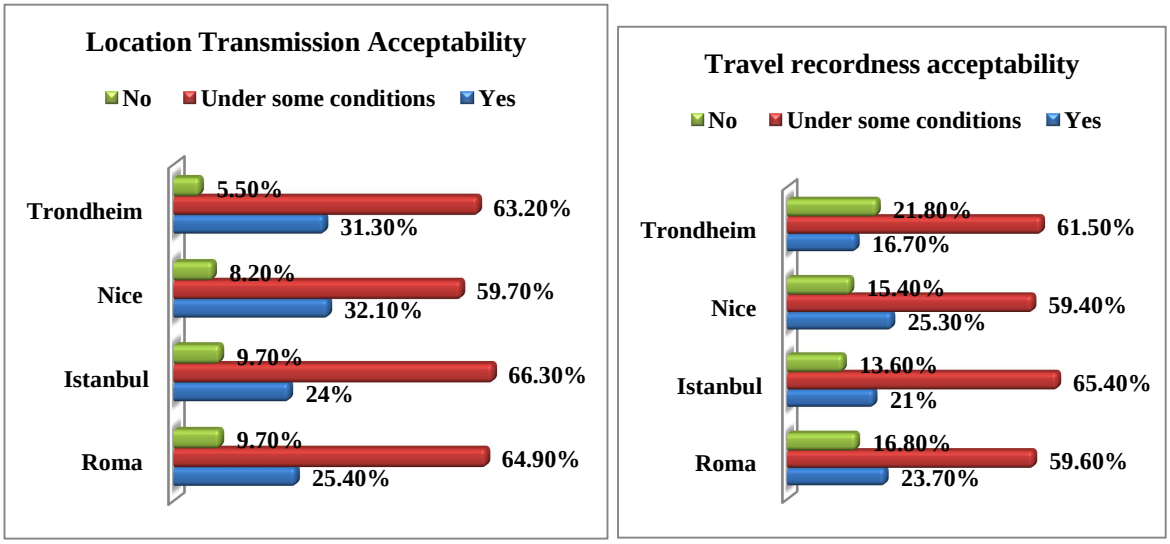

Figure 6: Location transmission & travel recordness acceptability

According to Table 3, globally, real times services are considered for a large majority of the four citizen populations as useful or very useful. 80.4% Istanbul citizens and 64.4% Roma citizens consider very useful the service that guided them to a destination all along their trip. They are also more numerous to evaluate the possibility that a service makes their travels more quickly and in better conditions very useful (79.8% in Istanbul and 74.7% in Roma) than in Trondheim (54.9%) and Nice (57%). Furthermore Roma citizens are more demanding in terms of the information gathered and provided to them (61.2%) than the three other citizens population (41.3% for Istanbul, 49% for Trondheim and 36.2% for Nice). These levels of Roma citizens' exigency may be explained by their main mode of transport (public transport). Istanbul citizens and in particular Nice citizens are characterized by a higher part of citizens who perceive it as less useful to have all the information gathered and provided when they need it whereas they are the two citizen populations who meanly use their personal transport in their daily travels.

Average usefulness of	Istanbul	Roma	Trondheim	Nice	Total
Real time services[11]	4,36	4,53	4,22	4,37	4,38

Table 3: Average usefulness

In all four cities, analyzed individually, the main conditions to accept the transmission of location for recording their travel are to remain anonymous and the conditions which limit the time and the possibility of recording the travel. The trust criterion seems to be the less important condition of acceptability. Considering that respondents can give several answers to the questions "to which extent are you willing to accept transmission of your data?" and "to which extent would you be willing to accept your travels to be recorded", it is possible to confirm that trust criterion is not the main condition of acceptability of Instant Mobility services. Privacy and traceability criteria have are more important than anonymity criteria which may influence citizens' behavior of adoption if

[11] The five real time services are: be guided to a destination all along my trip, calculate the best route for me (according to my needs and preferences), access personalized information (in case of unforeseen events), have all the information gathered and provided when I need it, make my travels more quickly and in better conditions.

it is coupled to one or more criteria of privacy and traceability. These conclusions result from the following analysis.

According to the several combinations of answers given by the respondents, two multivariate variables describing the different criteria or couple of criteria chosen by the respondents have been built. Table 4 and Table 5 describe the multivariate variable built for describing the different conditions under which citizens may accept to transmit their location and to record travel.

Description of conditions of location transmission Acceptability variable's items	
1	**Privacy and Traceability** – Only when the system knows my position only during my travel – Only if the system does not keep track of my travels after my trip – Only if I can chose on which journeys (e.g. some journeys only, my professional travels…)
2	**Anonymity** – Only if I remain anonymous
3	**Trust** – Only if I trust the service
4	**Privacy and traceability (1) + Anonymity (2)**
5	**Privacy and traceability (1) + Trust (3)**
6	**Privacy and traceability (1) + Anonymity (2) + Trust (3)**

Table 4: Location transmission Acceptability

Description of conditions of record Travel acceptability variable's items	
1	**Privacy and Traceability** – Only when the system only registers travels upon my acceptation – Only if these information are recorder for a limited time that I know – Only when I am able to easily delete any particular travel at any time
2	**Anonymity** – Only when the system benefits from this information anonymously
3	**Trust** – Only if I trust the service
4	**Privacy and traceability (1) + Anonymity (2)**
5	**Privacy and traceability (1) + Trust (3)**
6	**Privacy and traceability (1) + Anonymity (2) + Trust (3)**

Table 5: Travel recordness acceptability

As we can read in Figure 7, the majority of travelers in each city would accept the transmission of their location or to record their travel data by Instant Mobility applications if **the services respect several condition criteria jointly.** Offering an application which respects only the anonymity of the users or in which users just trust the services may have a less probability of acceptance than services that respect privacy and traceability criteria, particularly if privacy and traceability are jointly proposed when it is possible to use the services anonymously. The trust criterion is not an important condition of acceptability. A very small part of respondents in all the four cities declared that they will accept to be geo localized or to record their travel if they only trust the service. The part of respondents who have chosen several criteria of privacy and traceability plus a new criterion are also less numerous than those who declare that their main conditions are privacy and traceability plus anonymity. Roma citizens seem to be the most sensitive to using the services anonymously and some divergences could be observed for Nice citizens.

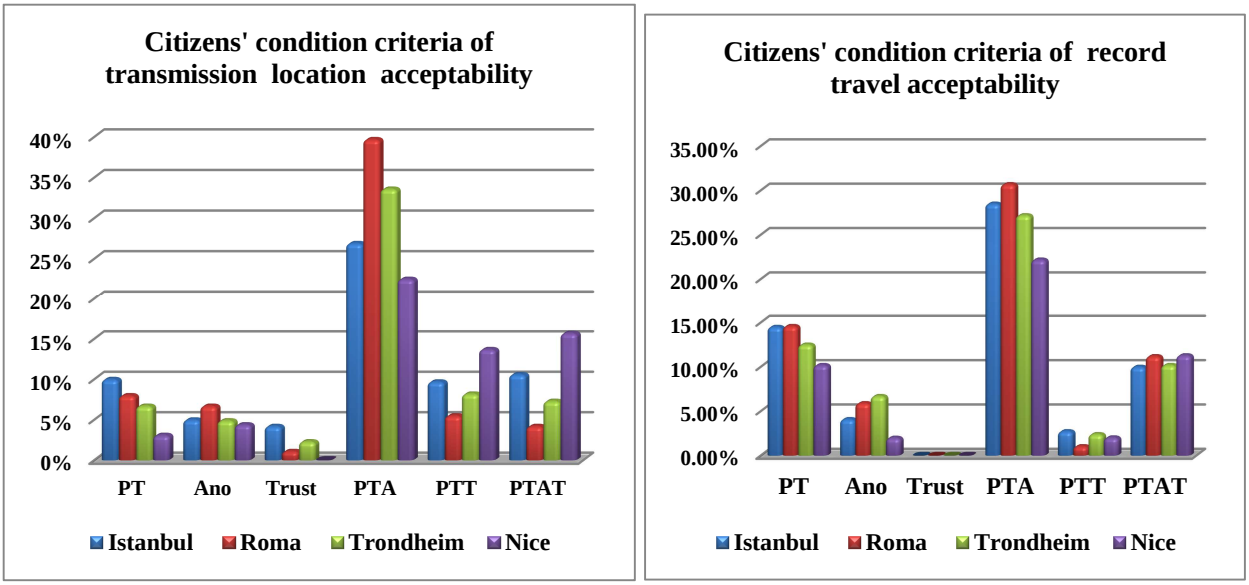

Figure 7: Citizen's condition acceptability criteria

PT: Privacy and Traceability, Ano: Anonymity, Trust: Trust, PTA: Privacy and Traceability and Anonymity, PTT: Privacy and Traceability and Trust, PTAT: Privacy, Traceability, Anonymity and Trust.

2.3.4 Web real behavior and behavioral intention towards registering personal preferences and evaluating in IM applications

Registering personal preferences is clearly well accepted by the four citizen populations (cf. Figure 8). This behavioral intention is not surprising according to their evaluation of the real time service 'Access personalized information' (in case of unforeseen events)[12]. Whereas the service is well accepted, a large majority will adopt the service under conditions. More precisely, citizens are sensible that several criteria of privacy and traceability may be respected by the service[13]. The following Table 6 describes the criteria conditions and we give the descriptive results in Figure 8. As we can read, the main conditions of acceptability are privacy and traceability criteria (only) or privacy and traceability plus the criteria of easiness or privacy and traceability plus the criteria trust. Roma citizens seem to be the most interested in having a service which respect several criteria of personal privacy and traceability. It is also interesting to read in Figure 8 that provided alone, the criteria of easiness may not be determinant in the acceptability of the services.

[12] Cf. Appendix 2, Figure 39, page 71

[13] We built a multivariate variable describing the different criteria or couple of criteria chosen by the respondents when they answer to the question "under which conditions will you accept to register your personal preferences".

Description of conditions of Register personal preferences acceptability variable's items	
1	**Privacy and Traceability** – I want to be able to easily modify / delete my personal preferences at any time – Only if these personal preferences are recorded for a limited time that I know – I want to choose to share or not my personal preferences – I want to be free to answer to some questions only
2	**Easiness** – Only if it is easy and quick to enter these personal preferences
3	**Trust** – Only if I trust the service
4	**Privacy and traceability (1) + Easiness (2)**
5	**Privacy and traceability (1) + Trust (3)**
6	**Easiness (2) + Trust (3)**
7	**Privacy and traceability (1) + Easiness (2) + Trust (3)**

Table 6: Criteria conditions

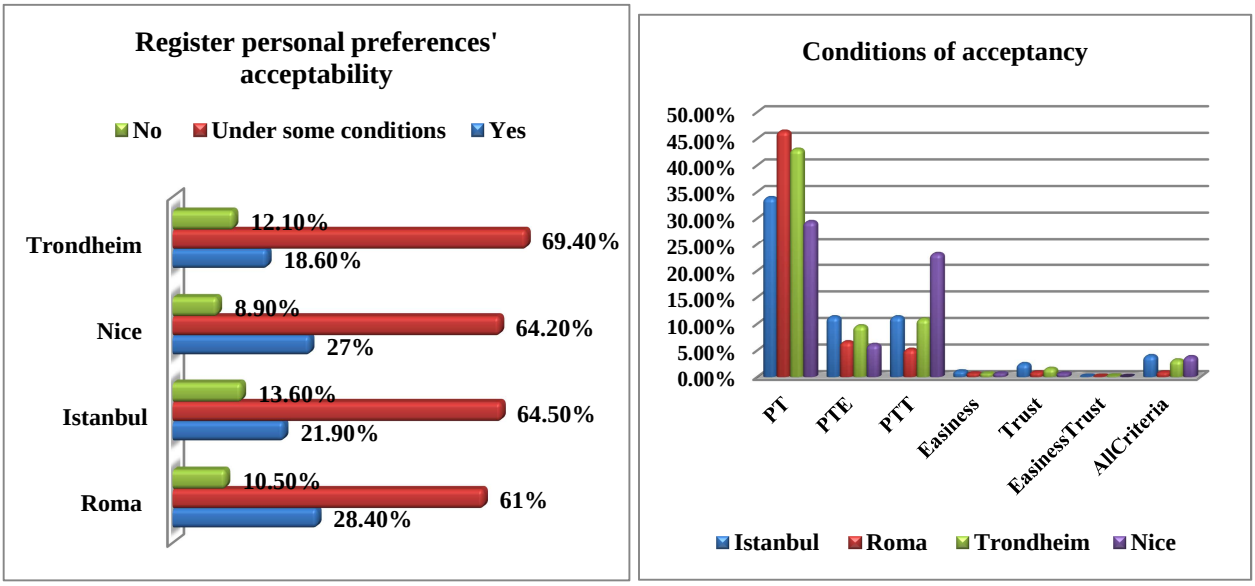

Figure 8: Personal preferences registration acceptability

PT: Privacy and Traceability, Trust: Trust, PTE: Privacy and Traceability and Easiness, PTT: Privacy and Traceability and Trust.

We also observe (Table 7) that services with criteria informing users about the number of connections, the easiness of connections and the waiting time for connections have a high level of usefulness for all citizen population. The two others type of preferences of the services, general personal preferences and ride sharing preferences, have a lower but a good usefulness level for each citizens population in exception of Trondheim citizens for whom the two types of preferences have the lower average.

Average of preferences indices	Istanbul	Roma	Trondheim	Nice	Total
General personal preferences	3,84	3,62	3,3	3,34	3,65
Connections preferences	4,32	4,3	4,33	4,31	4,32
Ride sharing preferences	3,94	3,14	2,8	3,45	3,53

Table 7: Average preferences indices

As we can read in Figure 9, the analysis of citizens' use of similar web services conduct to put in perspective the part of citizens who accept to register their personnal preferences in a mobile application. 49.4% of Nice citizens are not interested in registering their preferences in a web site and 29.9% don't use such services. 45.4% of Istanbul citizens also don't use such services and 31.3% are not interested in registering their preferences. In the Trondheim and Roma sample, we can observe a similar behavior. Respectively, 36.9% of Roma respondents and 36.5% of Trondheim respondents are not interested and respectively 17.6% and 24.9% don't use such services. However, Roma citizens (17%) register more frequently (17%) or regularly (12%) their personnal preferences than Istanbul citizens (5.6% and 5.8%) or Nice citizens (2.1% and 4.2%). 11.3% of Trondheim citizens frequently register their personnal preferences in a web sites and 10.9% regularly do it.

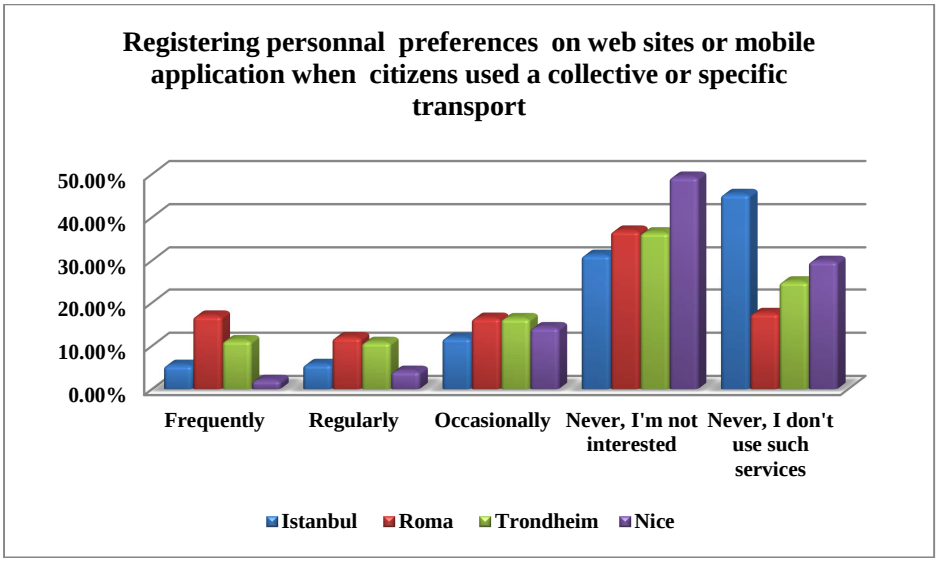

Figure 9: Personal preferences registration

Giving feedback or evaluating a service

Globally, citizens are very favorable to evaluate Instant Mobility services after they used a service, and particularly Roma and Nice citizens. The main criteria that are significantly considered as useful to assess are relevancy of the route proposed by Instant Mobility and real time information received during the trip[14]. However, if we take a look at their behavior in giving feedback in a web site or a blog about public transport services or car sharing or vehicle rental services, we observe that in all cities, citizens generally don't give feedback on a service (like collective transport, car sharing or vehicle rental services) mainly because they are not interested in giving their opinion

[14] These results have been validated by correlation and tests of significant independences.

(Roma (52.3%), Trondheim (48.8%) and Nice citizens (57.2%))[15]. The two mean and significant reasons why respondents mostly wouldn't evaluate Instant Mobility's applications the services and the transport means they have just used are principally because they are not interested in giving feedback or because they consider that it will take them too long[16]. For Istanbul citizens, the main reason is that they don't use such services (46%). Their real behavior is significantly influencing their intentional acceptability of evaluating Instant Mobility's services.

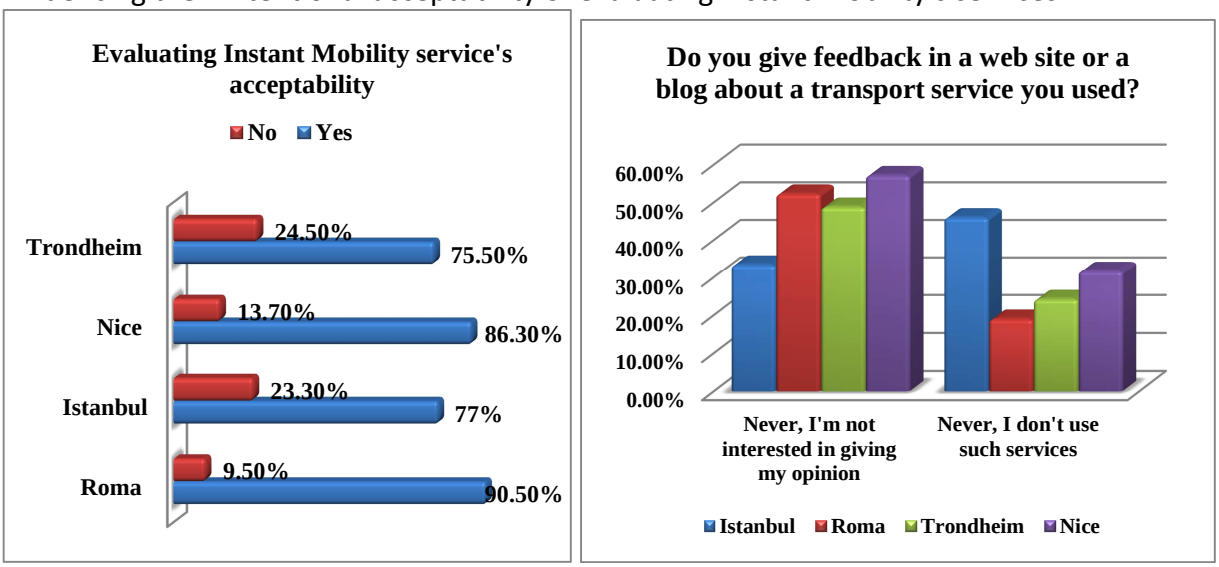

Figure 10: IM services' acceptability

2.4 Assumptions

Several assumptions based on our research framework and on the analysis can be posed. Two groups of assumptions are defined. The first one aims to identify which factors mainly influence the citizen travelers' behavioral intention towards Instant Mobility services' acceptability. The second group of assumptions' main objectives is to compare the four populations of citizen traveler's socio-economic, real daily travel, preferences and real behavior profile and the influence on their behavior intentional behavior towards Instant Mobility services' acceptability.

[15] These results have been validated by correlation and tests of significant independences.
[16] These results have been validated by correlation and tests of significant independences.

We summarize the two groups of assumptions as follows:

Assumptions about the influence of determinant factors on intentional behavior towards Instant Mobility services	
Assumption 1	There is a significant influence of "user socio-economical profile" on "Instant Mobility Services" acceptability
Assumption 2	There is a significant influence of "user individual mobility profile" on "Instant Mobility Services" acceptability
Assumption 3	There is a significant influence of "Perceived usefulness" on "Instant Mobility Services" acceptability
Assumption 4	There is a significant influence of "Perceived easiness" on "Instant Mobility Services" acceptability
Assumption 5	There is a significant and positive influence of "Perceived security" on "Instant Mobility Services" acceptability
Assumption 6	There is a significant and positive influence of "real behavior" on "Instant Mobility Services" acceptability
Assumption 7	There is a significant and positive influence of "Acquired competences" on "Instant Mobility Services" acceptability

Table 8 First group of assumptions (determinant factors)

Assumptions about the 4 population of citizen traveler's socio-economic, route, preferences and real behavior and their intentional behavior	
Assumption 8	Gender has a significant influence on Istanbul citizen travelers' intentional behavior towards IM
Assumption 9	The probability that Istanbul youngest traveler population accept IM services is significantly higher than the three other population of citizen
Assumption 10	The probability that Roma and Trondheim citizen traveler (oldest populations) accept IM services is significantly higher than the two other population of citizen
Assumption 11	High level education has a significant and similar influence on the four population of citizen travelers' intentional behavior towards IM
Assumption 12	Ride sharing profile of Istanbul citizen travelers is significantly different from the three others populations of citizen travelers
Assumption 13	The probability that Istanbul citizen travelers who accept to use IM services are users of personal transport in their daily travel is significantly higher than the three other populations of citizen
Assumption 14	The probability that Roma citizen travelers who accept to use IM services are users of public transport in their daily travel is significantly higher than the three other population of citizen
Assumption 15	The probability that Istanbul citizen travelers who accept to use IM services has frequently need to find information about their route in their daily travel is significantly higher than the three other populations of citizen
Assumption 16	The probability that Roma citizen travelers who accept to use IM services has frequently or regularly need to find information about their route in their daily travel is significantly higher than the three other populations of citizen
Assumption 17	The probability that Trondheim citizen travelers who accept to use IM services has rarely need to find information about their route in their daily travel is significantly higher than the three other populations of citizen
Assumption 18	The use of mobiles that allow to access websites or applications or the use of mobile plus another tool helping in finding information about their route or about means of transport have a significant influence on the four populations of citizen travelers
Assumption 19	The probability that the use of mobiles that allowss to access websites or applications

	and the use of mobile that allows to access to websites or applications plus another tool is significantly different between Trondheim and the three other populations of citizen traveler and also between Roma and the three other populations of citizen traveler
Assumption 20	Privacy and traceability criteria and privacy and traceability plus anonymity have a significant and positive influence on the probability to accept IM services for the four population of citizen
Assumption 21	Anonymity only is not a significant criteria of IM services' acceptability
Assumption 22	Trust only is not a significant criteria of IM services' acceptability
Assumption 23	Roma citizen travelers are significantly more sensible to the criterion of anonymity than the three others population of citizen travelers
Assumption 24	Usefulness of real time services has a positive and significant influence on the probability of the four populations of citizen travelers' IM services' acceptability
Assumption 25	Privacy and Traceability criteria, Privacy and Traceability plus easiness, and Privacy and Traceability plus Trust have a positive and significant influence on the probability of the four populations of citizen travelers' IM register services' acceptability
Assumption 26	Easiness only is not a significant criteria of IM register services' acceptability
Assumption 27	Usefulness level of preferred connections services have a higher positive and significant influence than usefulness level of general preferred services on the probability of the four populations of citizen travelers' IM services' acceptability
Assumption 28	The Internet behavior in registering ride-sharing preferences have not a significant influence on the probability to accept using IM services for the 4 populations of travelers

Table 9 Comparison between the 4 populations

2.5 Econometrical analyses

There are several statistical and econometrical methodologies currently used to test the relationship between behavioral determinant factors and users' intentional behaviors. Recent studies utilized regression analysis to show what the most important factors that influence ICTs uses. Logit regressions are the most used one (Quibira et al. 2000; Le Guel et al. 2005, etc.). In this studies, the analysis of our conceptual model and the several assumptions described in the last section is based on a logit regression model that includes five groups of independent variables (the seven first variables of our research method presented in Figure 1: Research framework and four dependent variables relatively to intentional behavior of the four populations of citizen travelers. The present section presents the four regressions model, their dependent and independent variables, and the sample mobilized.

2.5.1 The multinomial regression model analyzing the Instant Mobility services' acceptability under conditions of the four populations group of travelers

As it has been presented in section 2, the majority of citizen travelers of the four cities accept to transmit their location and a very part do not. As the main objective of this study is to identify what are the main determinants of acceptability of Instant Mobility services and also to analyze the differences between the four populations of citizen travelers, we focus on the sample of respondents that accept to transmit their location under conditions and defined four dependent variables.

The Transmission of Location dependent variable

The dependent variable takes the following form:

y = 0, when the respondents refuse to transmit his location;

y = 1, when the respondents accept to transmit his location.

The travel registering dependent variable

The dependent variable takes the following form:
y = 0, when the respondents refuse to register his travel;
y = 1, when the respondents accept to register his travel.

The personal preferences registering dependent variable

The dependent variable takes the following form:
y = 0, when the respondents refuse to register his preferences;
y = 1, when the respondents accept to register his preferences.

The independent variables

The independent variables of the two first logit regressions are described as following.

Determinant factors of our research framework		Unit of measure
Socio-economic variables	**Gender** Male	0 : no 1 : yes
	Educational Level Compulsory School Upper secondary school University Higher university degree (PHD…)	0 : no 1 : yes
	Age Under 25 years 25 - 35 years 35 - 45 years 45 - 55 years	0 : no 1 : yes
Individual mobility attitude	Driver offering ride-sharing	0 : no 1 : yes
	Main daily transport – Personal transport (car, …) – Public transport	0 : no 1 : yes
	Frequency of need to find information about route or main transport	0 : no 1 : yes
Acquired competences	**Tools used in daily travel** – Mobile – Mobile and Navigation system – Station or road – All kinds of tools	0 : no 1 : yes
Perceived usefulness	Real time services General personal preferences Connections preferences Ride sharing preferences	Average of the level usefulness of each services
Perceived Security	Privacy and Traceability Privacy, Traceability, Anonymity Pivacy, Traceability, Anonymity, Trust	0 : no 1 : yes

The independent variables of the third logit regression (personal preferences registering) are describe as following.

Determinant factors of our research framework		Unit of measure
Socio-economic variables	**Gender** Male	0 : no 1 : yes
	Educational Level Compulsory School Upper secondary school University Higher university degree (PHD…)	0 : no 1 : yes
	Age Under 25 years 25 - 35 years 35 - 45 years 45 - 55 years	0 : no 1 : yes
Individual mobility attitude	Driver offering ride-sharing	0 : no 1 : yes
	Main daily transport – Personal transport (car, …) – Public transport	0 : no 1 : yes
	Frequency of need to find information about route or main transport	0 : no 1 : yes
Acquired competences	**Tools used in daily travel** – Mobile – Mobile and Navigation system – Station or road – All kinds of tools	0 : no 1 : yes
Perceived usefulness	Real time services General personal preferences Connections preferences Ride sharing preferences	0 : no 1 : yes
Perceived Security	Privacy and Traceability Privacy, Traceability, Anonymity Pivacy, Traceability, Anonymity, Trust	0 : no 1 : yes
Real behavior	Frequency of registering their preferences in similar services available on web-site (frequently, occasionally, regularly)	0 : no 1 : yes
Perceived ease of use	Easiness criterion of acceptability	0 : no 1 : yes

2.6 The determinant factors of IM acceptability: discussion of the econometrical results

The following section presents and discusses our econometrical regression analysis. All results are presented from Table 22 to Table 28 in Appendix 3, page 70.

2.6.1 Perceived security and Perceived usefulness main determinants factors of the transmission location acceptability

Concerning the intentional behavior of the four populations of citizen travelers, the logit regressions show that perceived usefulness, perceived security and socio-economic variables have a significant influence on the probability that a respondent accepts to transmit his location. **Assumptions 1, 3 and 5 are validated** while assumptions 2, 4, 6 and 7 are rejected. We also observed that Istanbul, Trondheim and Nice citizen travelers' intention to accept transmitting their location is significantly influenced by Privacy and Traceability plus anonymity while Roma citizen travelers' intention to accept transmitting their location is just positively significantly influenced by Privacy and Traceability criteria. More generally, **the probability that Istanbul, Roma and Nice citizen travelers accept to transmit their location increases with Privacy and Traceability conditions criteria.** Perceived usefulness has also a significant influence on citizen travelers' intention to accept the transmission of their location. In each city, the registration of previous travels has an important and negative significant influence on the probability that citizen travelers accept to transmit their location. We also observe that the significant usefulness of preferences criteria is not the same for each population of citizen travelers. The probability that Istanbul citizen travelers accept to transmit their location is positively and significantly influenced by the perceived usefulness of the possibility of Instant Mobility's services

- making their travels more quickly and in better conditions,
- estimation of duration of their trip
- indicate their favorite destination
- being informed on the waiting time for connections.

Concerning Roma citizen travelers, their intentional acceptability of transmitting their location is positively and significantly influenced by:

- the possibility to be guided to a destination all along their trip,
- the possibility to make their travels more quickly and in better conditions,
- having information about the environmental impact.

For Trondheim citizen travelers, only the perceived usefulness of the estimation of their trip's duration has a positive and significant influence on their intention acceptability of transmitting their location. They are negatively influenced by the possibility that animal may be accepted in ride-sharing services. Furthermore, the Trondheim respondents that claimend to be professional drivers have a positive and significant influence on the acceptability to transmit location.
Nice citizen travelers' probability to transmit their location is however negatively and significantly influenced by the possibility that the services permit access to personalized information which is confirmed by their criteria conditions of acceptability.

2.6.2 The determinant factors on intention of registering travel in Instant Mobility's services

According to the logit regressions on the influence of our research method variables, the main factors influencing the acceptability of registering IM users' travel are perceived usefulness, perceived security, acquired competences, individual mobility profile and *socio-economic* variables. As we can read in Table 23, in Appendix 3, page 72, **the most important factors are perceived usefulness and perceived security** which are determinants of all the four populations of citizen travelers' intentional behavior of registering their travel acceptability. Assumptions 3 and 5 are so validated. Acquired competences and individual mobility profile factors have a significant influence on only Istanbul and Roma citizen travelers' acceptability of registering their travel in Instant Mobility's applications. And socio-economic variables, more precisely age (youngest users), have a positive and significant influence on Trondheim citizen travelers' intentional behavior.

Youngest Trondheim citizen travelers (less than 25 years) have a positive intentional acceptability in registering their travel in Instant Mobility's application. In Istanbul, professional drivers and citizens who offer ride-sharing positively and significantly influence the intentional acceptability of registering their travels probability. However, citizen travelers that are users of navigation systems and of mobiles that allow them to find their route or information about means of transport in their daily travel have a strong significant probability to not accept registering their travel, certainly because they are strongly sensible to privacy, traceability, anonymity and trust criteria. Roma citizen travelers for whom radio and mobile are the main tools used in order to find their route or information about means of transport in their daily travel have also a negative intentional acceptability to register their travels in Instant Mobility's application. However, contrary to Istanbul and Trondheim citizen travelers' acceptability of registering their travel which it is negatively influenced by their perceived security variables; if Instant Mobility's applications respect anonymity, trust, privacy and traceability together, the probability that Roma citizen travelers accept to register their travel in Instant Mobility's services increases positively and is strongly significant.

Perceived usefulness of real times services and of relevant itineraries' preferences criteria are clearly the most determinant factors for all the four population of citizen travelers. As it is shown in Table 10, perceived usefulness of the services influences the intentional acceptability of the four populations of citizen travelers.

		Istanbul	Roma	Trondheim	Nice
Real times services	**Be guided to a destination all along my trip**		Positive***		
	Calculate the best route		Positive**	Positive***	
	Access personalized information	Positive*	Negative***	Negative**	Negative*
	Make my travel more quickly				Negative*
Useful Preferences précised in proposed relevant itineraries	**Estimation duration of the trip**			Positive***	Positive*
	Price	Positive*		Positive**	
	Arrival time		Negative**	Negative**	
	Walking distance			Positive**	Positive***
	Comfort			Positive*	
	Cleanliness			Negative*	
	Environmental impact			Negative*	Negative*
	Favorite destination		Positive***		Negative*
	Previous travel registered	Positive*	Positive*	Positive*	Positive***
	Accessibility			Negative*	
	Animal accepted			Negative*	
	Waiting time for connections	Positive**			
	Gender		Positive*	Negative***	Negative***
	Smoking environment		Negative***		
	Driver experience		Positive***		
	Vehicle				Positive*
	Spoken languages			Positive***	
	Driver reputation on Instant Mobility	Positive**	Positive***		

Table 10: Perceived usefulness

*Legend: * p<0.05; ** p<0.01; *** p<0.001*

2.6.3 The determinant factors on intention of registering preferences in Instant Mobility services

Intentional acceptability to register personal preferences is mainly influenced by perceived usefulness and perceived security for all the four population of citizen travelers. **Perceived security has a negative influence on intentional acceptability. In contrary, perceived usefulness has mostly a positive influence.** In this group of determinants, the services that are perceived useful are not different from one population of citizen travelers to one another. For example, the

mode of transport, the waiting time for connections and the smoking environment are the three significant criteria that influence positively the Istanbul citizen travelers' intention acceptability to register their personal preferences in Instant Mobility's application. For Roma citizen travelers, the main criteria are estimated duration of trip, the mode of transport and the favorite destinations. For Trondheim travelers, estimated duration of trip, price and driver experience are the significant and positive useful criteria. For Nice citizen travelers, walking distance is the main criteria and at a lesser extent, environmental impact positively influences users' acceptability. Specifying ride-sharing driver or ride-sharing traveler gender has a negative influence on travelers' acceptability.

Real behavior, acquired competences, easiness and educational level are also determinants. These factors are however not determinants for all the four populations of travelers. Real behavior positively influences Istanbul travelers' intentional behavior. The probability that Istanbul citizen travelers accept to register their personal preferences in Instant Mobility's application increases positively and significantly with the citizen frequent use of similar services in web-sites version. Acquired competences, more precisely the use of navigation system and mobile devices that allow finding information about the citizen's route or his mode of transport choice positively influence Nice citizen travelers' intentional acceptability. However it negatively influences Istanbul citizen travelers' intentional acceptability. Roma travelers who accept to register their personal preferences are mostly citizens with a higher education (upper secondary level as high educated level).

2.7 Conclusions and Recommendations for citizen travelers

The purpose of the present study is to identify what are the main determinants of Instant Mobility services acceptability by citizen travelers. More precisely, based on a research method defined in support of empirical and theoretical studies on technology adoption and on ICTs services adoption and use, the main focus of the present study was to analyze the role of 7 groups of acceptability factors (perceived usefulness, perceived easiness, perceived security, user individual mobility profile, real behavior, acquired competences and socio-economic profile) on citizen travelers' intentional behavior. The econometrical regressions (logit) clearly show that **perceived usefulness and perceived security are the two main determinants that positively influenced intentional acceptability of citizen travelers**. The 5 others groups of criteria have also a significant influence. They are interesting to be considered in the design of an offer in case of specifying Instant Mobility services according to the local citizen travelers who are targeted. In fact, as the descriptive statistical results and the econometrical analysis highlighted, the four population of citizen travelers' behavior studied here are characterized by some different real behaviors and needs.

In conclusion, two strategies are possible and will stimulate the adoption of Instant Mobility services. Local governments can choose:

- To design a service according to their local citizen travelers profile, needs and preferences. Table 10 will help in designing a specific application for each city.
- To design a service with "general" functions, useful all over urban cities where Instant Mobility services will be deployed. In this second case, it is important to design Instant Mobility services in respect of the two main determinant factors of intentional acceptability that the present study highlighted.

Considering security factors, privacy and traceability plus anonymity are the most influent factors. Providing privacy and traceability criteria may be sufficient but in order to optimize the adoption and use of Instant Mobility services it will be better to add the possibility to use the

service anonymously. However, anonymity criteria alone will not stimulate the adoption of Instant Mobility's services.

The evaluation of several criteria usefulness contributed to highlight some the following useful services:

- Preciseness of a trip (to be guided, calculate the best route, the best mode of transport) and of a favorite destination
- Information about time (estimation of duration of a trip, transfer time), price and environmental impact.

If Instant mobility aims to encourage ride-sharing in urban services, the services have to consider giving information about the driver experience and his reputation on Instant Mobility services. It is also very important to avoid giving information about gender of the driver or traveler. These criteria have a strongly negative impact on intentional acceptability.

Endly, which strategy between the two proposed is the best? The answer to this question depends on the identification of the mean actors of the Instant Mobility's ecosystem. The strategy would change If it's the territory, the city, or one of the consortium industrial operators of the ecosystem. Some evidences could be highlighted based on the analysis of Instant Mobility's business model.

Some exchanges with persons involved in this domain opened the door to using the prescriptive role of social media and participatory and conversational communications to develop new services and manage the communities involved in the project.

The objectives on the social networks could be, in a non-chronological order:

- **Develop notoriety/popularity, arouse interest and generate a desire to belong** (marketing/communications function of social networks) to the social web as a source of information and decision support for consum'actors; change behaviours; "word of mouth" effect.
- **Generate participation**: create interacting communities of citizens, policy makers, service providers sharing the same interests (service, ride sharing, same workplace, same neighbourhood, hobbies, etc.) to develop a new, ecological, collaborative way of travelling
- **Collect data supplied by users to create collective value**: detection of new needs and emerging services, creation of new services by big data analytics, etc.
- Automatic sensors for traffic management (via smartphones, cars, Twitter) combined with human sensors (e.g. Waze) to develop reality mining, combining "big data" sources to influence local authorities to encourage new uses.
- **Match supply and demand**, for example for ride sharing, by using channels that are already engrained in internet users' habits (social networks represent 22% of the time spent on the internet worldwide). Achieve sufficient scale for the network to be functional (e.g. Zimride, Lyft in California, Avego).

3. Section 2: professional driver survey

3.1 Professional driver survey analysis

3.1.1 Introduction

A number of Instant Mobility services target the professional driver. These professional drivers are active in freight transport and parcel delivery. Examples of these Instant Mobility services are:

- Plan your route
- Guide you along your route
- Reschedule your route using traffic information
- Reschedule your route using new incoming delivery/pick up orders
- Organise parcel/load sharing between colleagues and perhaps other companies to improve sector efficiency
- Provide eco-driving support to help you to drive efficiently to limit the fuel consumption

These services all require sharing of location data. In order to investigate the acceptability of these new services an online survey was designed. The respondents were asked their opinion about these services, specific functions of these services and their willingness to share location data.

We also wanted to know more specifically when drivers are willing to share location data. We analyzed whether there are differences between the respondents who would like to share data (the 'proponents'), the respondents who might want to share data ('the doubters') and the respondents who do not want to share data (the 'opponents') with regard to the following elements:

1. Background of the driver;
2. Work of the driver;
3. Usage of (specific functionality of) a fleet management system;
4. Opinion about the usefulness of the following services;
5. Acceptability of these services.

The survey consisted of 22 questions. Answering the survey took at most 10 minutes. The survey consisted of the following elements:

- Opinion about the Instant Mobility services (question 1 and 2);
- Background information about the work of the driver; e.g., routes, use of fleet management system and use of navigation system (questions 7 up to and including 10);
- The willingness to share location data (questions 11a up to and including 11d);
- Background information about the driver, e.g., age, years of experience, owner of the company (questions 12 up to and including 17);
- More specific questions about a number of new services (questions 18 up to and including 22).

A Dutch, Spanish, French and English version of the survey have been designed. An analysis has been done on the Dutch (N=168) and French responses (N=27). The amount of responses on the Spanish (N=13) was too small to do any quantitative analysis. There were no responses at all on

the English version. See appendix 7 for an overview of the locations where the surveys have been distributed and/or published.

3.1.2 Research among Dutch freight vehicle drivers

3.1.2.1 Experimental design and procedure

3.1.2.1.1 Publication of the survey

The survey was published in the Dutch driver forum (http://www.chauffeursforum.nl (from October 30th to November 14th). This forum has 7000 members. This forum has approximately 47.000 unique visitors every month. The survey was also sent to all members via e-mail (Friday November, 2nd).

3.1.2.1.2 Participants

Background of respondents

A total of 168 respondents answered the survey; 96% of them were male and 4% of them female. In 2008, 91% of the Dutch professional drivers are male (Source: Wegvervoer en logistiek: Visie 2015. Onderzoek naar het toekomstperspectief van de sector beroepsgoederenvervoer over de weg en logistiek, Prof. Dr. Chris Peeters et al, 2009).

The average age is 47, with a minimum of 18 and a maximum of 90 years old. Compared with the sector the respondents are a bit older. The age group from 35-39 is a bit smaller compared with the sector. The age groups 50-54 and 60-64 are a bit larger.

Age	Respondents (percentage)	Sector (percentage)*
15-19	0,6	0,5
20-24	2,4	6,0
25-29	5,4	8,0
30-34	7,1	11,0
35-39	8,3	16,0
40-44	16,7	18,0
45-49	16,7	15,0
50-54	17,3	12,0
55-59	11,9	10,0
60-64	10,7	4,0
65-70	1,8	0,5
71+	1,2	0,0

Table 11: Age of the respondents

Most of the respondents are experienced drivers. Of the respondents 64% has more than 15 years of experience in freight transport. A total of 25% has 6 to 15 years of experience in freight transport (see Figure 11).

Figure 11: The amount of experience of the respondents

Most of the respondents (92%) are employees. Only 8% of the respondents are owners of the company they work at (see Figure 12).

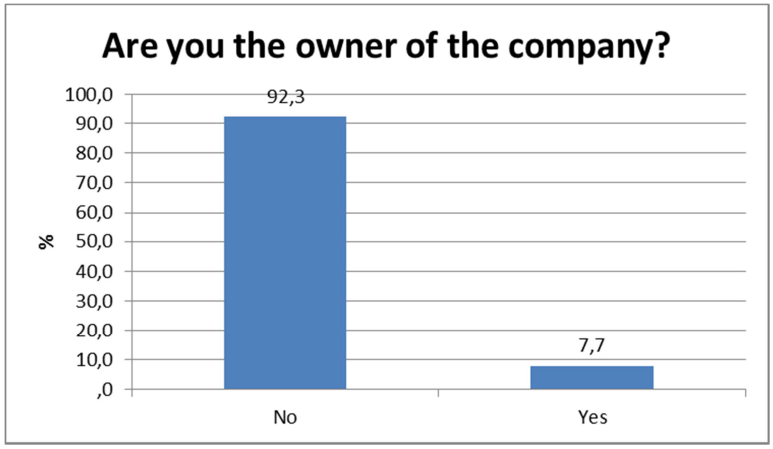

Figure 12: Owners of the company

Companies

The respondents work for different sizes of companies (see Figure 13). The largest group (38%) work for companies with 21 to 100 trucks. Almost a third (32%) work in companies with a maximum of 10 trucks. Of the respondents 16% work for companies with 11 to 20 trucks. The smallest group (14%) work for companies with more than 100 trucks.

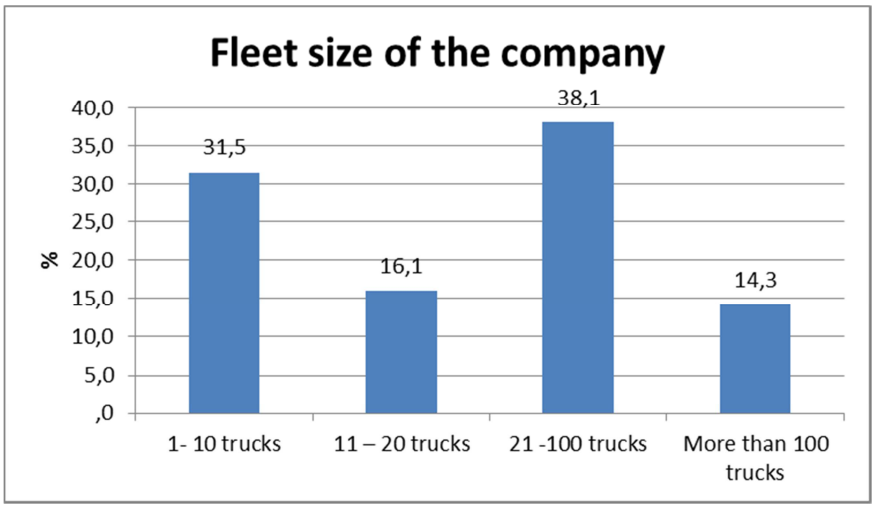

Figure 13: Fleet size of the company

Work

The work of the majority of the respondents (78%) consists of national transport. 74% of the respondents do international transport and 42% of the respondents do local transport. Note that respondents can do multiple types of transport (see Figure 14).

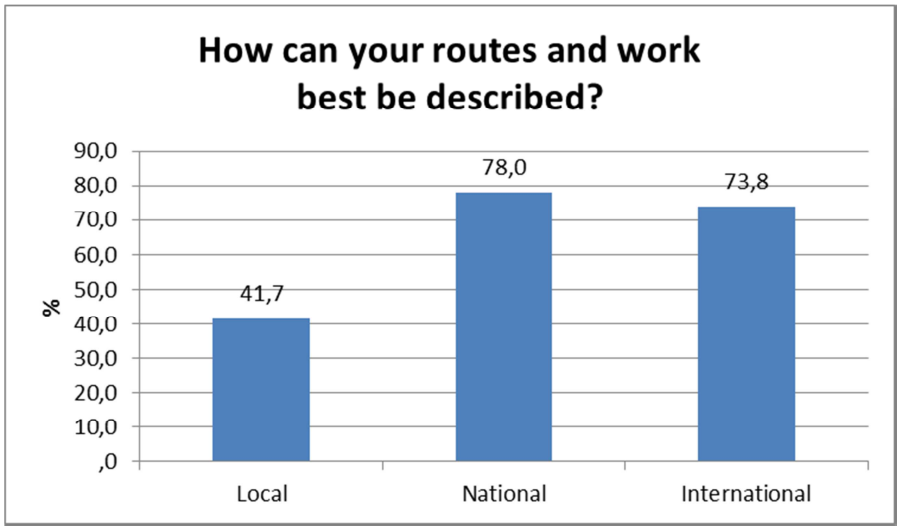

Figure 14: Type of work; local, national and international

The type of routes that the respondents drive vary. More than a third (36%) of the respondents have in their work both the same routes and different routes. Almost a third (29%) have almost always different routes (see Figure 15). Only a small group (5%) drive almost always the same routes (see Figure 15)

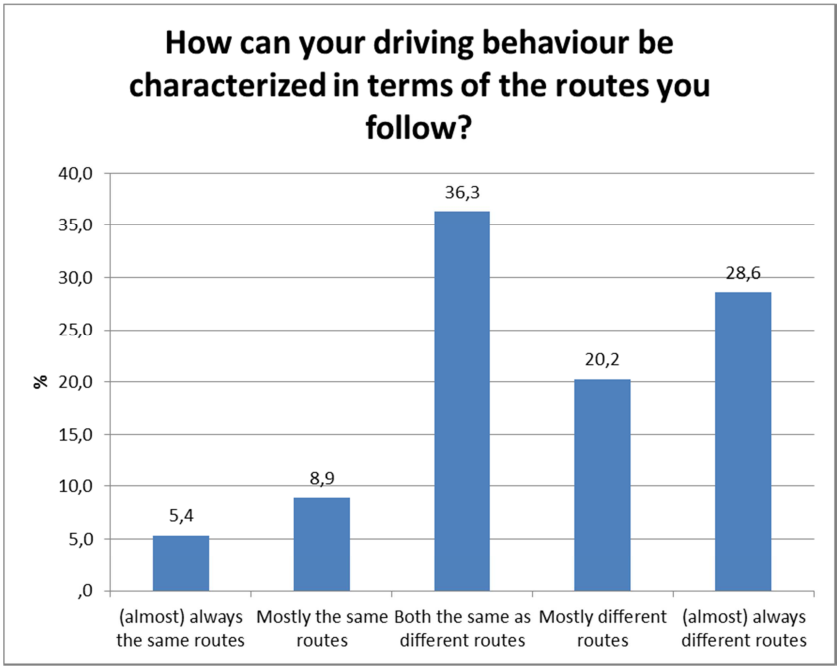

Figure 15: The type of routes

For more than half of the respondents (58%) the workload at their company is 'average'. Almost a third (32%) say that the workload is high or even very high.

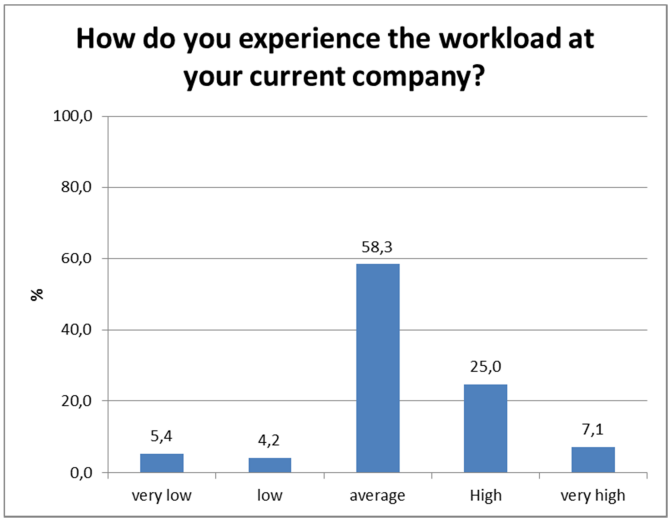

Figure 16: Workload

3.1.2.1.3 Research questions

We would like to know what the opinion is of professional drivers about a number of new services. All of these services require the sharing of location data.
We also want to know more specifically when drivers are willing to share location data. We analyzed whether there are differences between the respondents who would like to share data (the 'proponents'), the respondents who might want to share data ('the doubters') and the respondents who do not want to share data (the 'opponents') with regard to the following elements:

1. Background of the driver
    - age
    - years of working experience
2. Work of the driver
    - type of routes (the same routes or different routes)
    - type of transport (local, national or international)
    - fleet size of the company
    - experienced work load
3. Usage of (specific functionality of) a fleet management system:
    - Navigation
    - Planning
    - Traffic information
    - Messaging between driver and office
    - Order handling
    - Ecofeedback
4. Opinion about the usefulness of the following services:
    - Plan your route
    - Guide you along your route
    - Reschedule your route using traffic information
    - Reschedule your route using new incoming delivery/pick up orders
    - Organise parcel/load sharing between colleagues and perhaps other companies to improve sector efficiency

- Provide eco-driving support to help you to drive efficiently to limit the fuel consumption

5. Acceptability of these services
   - Usefulness
   - Satisfaction

To investigate the differences between the proponents, doubters and opponents two types of statistical analyses (ANOVA and Chi-square analysis) have been executed. More information can be read in Appendix 9.

3.1.2.2 Results

3.1.2.2.1 Usage of information for navigation

Fleet management system

We asked the respondents whether they used a fleet management system. Both drivers who use (45%) a fleet management system and who do not use a fleet management system (55%) are represented in this study (see Figure 17).
In 2011, 30% of the companies use a fleet management system (TLN Automatiseringsenquete 2011: Stijging aantal gebruikers, niet iedereen tevreden, Transport & Logitiek, 09, 2011).

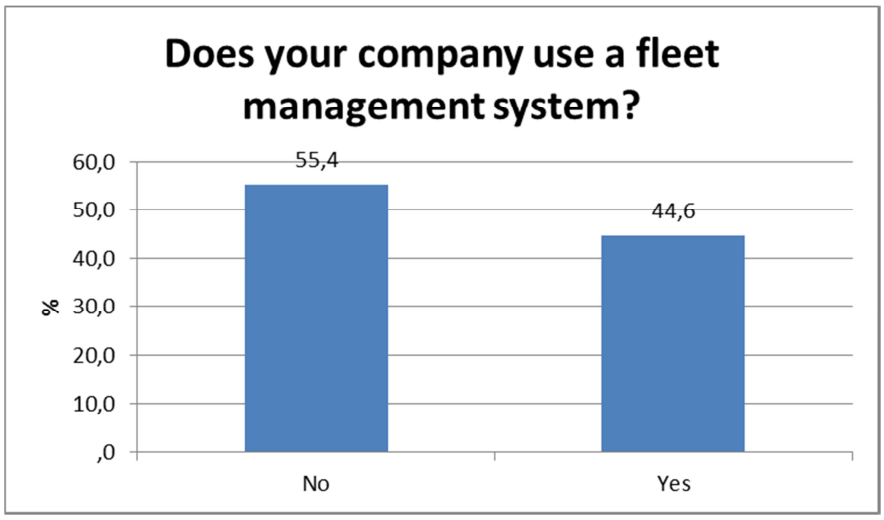

Figure 17: Usage of a fleet management system

The respondents who use a fleet management system also indicated which functionality of the system they use (see Table 12).

	Never	Seldom	About half the times	Usually	Always
Planning	9	7	12	25	47
Messaging between driver and office	3	17	7	23	51
Order handling	17	9	8	25	41
Traffic information	45	16	15	12	12
Navigation	15	15	20	25	25
Ecofeedback	39	20	8	20	13

Table 12: Use of fleet management system (in percentages)

The fleet management system is used as follows:

- *Planning:* 72% of the respondents use the planning functionality usually or always.
- *Messages between driver and office:* The majority of the drivers who use a fleet management system (74%) use the messaging functionality usually or always.
- *Order handling:* The order handling functionality is used by 66% of the respondents usually or always.
- *Traffic information:* A large group never uses the traffic information (45%). Almost a quarter (24%) uses the traffic information usually or always. A possible explanation is that drivers use the traffic information that is provided to them on the radio (see Table 13).
- *Navigation:* From the respondents who use a fleet management system half of the respondents (50%) use the functionality usually or always.
- *Eco feedback:* The eco feedback is never used by 39% of the respondents. A third (33%) uses the eco feedback usually or always.

Paper maps, route instructions and traffic information

In addition to the fleet management system respondents also use other tools. The table below provides an overview (see Table 13):

Tools	Respondents that use this tool (percentage)
Paper maps	52%
Route instructions on paper provided by the planner	16%
Traffic information on the radio	58%
Asking route instructions, at the planner or a colleague	27%

Table 13: Usage of tools

Half of the respondents use paper maps (52%) and more than half of the respondents use traffic information on the radio (58%). Only 16% uses instructions on paper, presented by the planner.

Navigation device

A very large group (92%) uses a navigation system during work. Figure 18 shows for the respondents who do not use a navigation device (N=15) why they don't use any navigation device. The most mentioned reason by these respondents is that they can find their way perfectly without these devices.

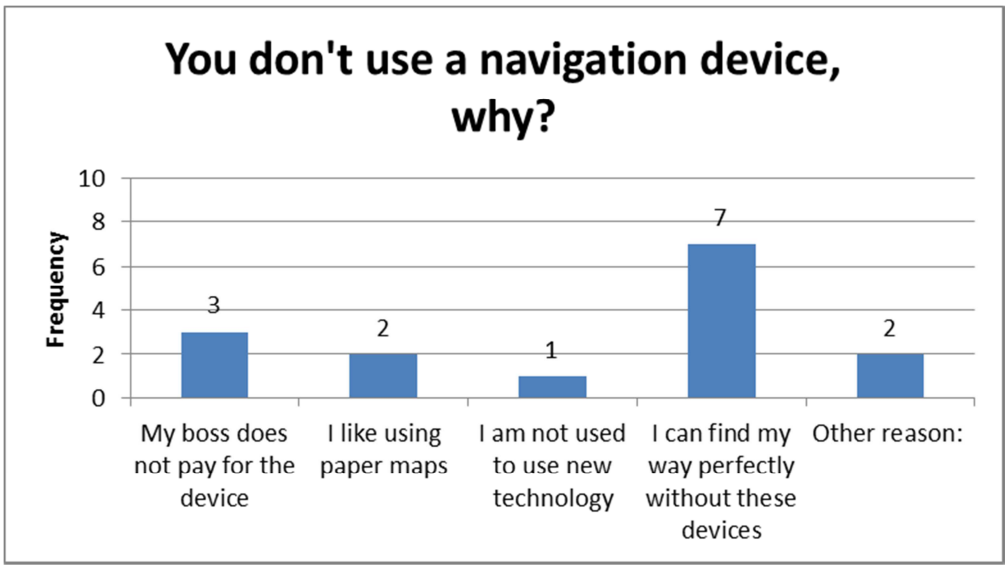

Figure 18: Reasons why respondents do not use a navigation device

3.1.2.2.2 Acceptability of Instant Mobility services

The figure below (see Figure 19) shows how useful the respondents find some services for their own purpose. There are no large differences between the services. The services 'plan your route' and 'reschedule your route using traffic information' get the highest scores (3,9 on a 6-point scale). Provide eco-driving support gets the lowest score (3,5 on a 6-point scale).

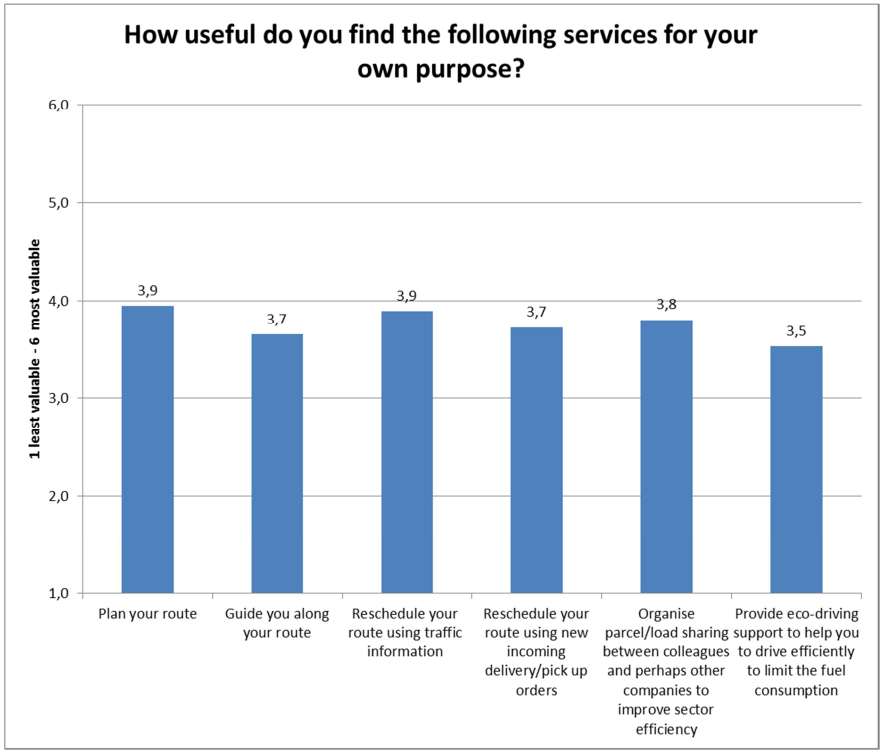

Figure 19: The usefulness of a number of services

We also asked the drivers whether they had any ideas for new services/support that was not included in this survey. Appendix 8 shows the ideas for new services/support that the drivers provided themselves. The respondents gave their opinion/ideas about:

- The profession of being a driver: a number of respondents indicated the importance of letting the driver think for himself instead of 'operating' the driver from a distance
- Facilities: facilities like parking places and internet were mentioned.
- Information: many ideas were related to better information. E.g., information about weather conditions, traffic jams, restaurants, working hours and opening times.
- Facilities: these ideas include 'uniformed extended load and unload times at clients', 'ways to get into touch with customers quickly' and 'Load and unload times (mentioned a couple of times)'

We used the Van der Laan scale to assess the acceptability of these upcoming services. (Van Der Laan, J., Heino, A. and De Waard, D., A simple procedure for the assessment of acceptance of advanced transport telematics, Transportation Research Part C: Emerging Technologies, Volume 5, Issue 1, February 1997, Pages 1–10). This is a way to measure driver acceptance of new technology. It uses nine 5-point rating-scale items. These items load on two scales, a scale that indicates the usefulness of the system, and a scale designating satisfaction. The official nine items are:

1. Useful – Useless
2. Pleasant – Unpleasant
3. Bad – Good
4. Nice – Annoying
5. Effective – Superfluous
6. Irritating – Likeable
7. Assisting – Worthless
8. Undesirable – Desirable
9. Raising alertness – Sleep-inducing

The Usefulness scale is the sum of item 1 + 3 + 5 + 7 + 9 divided by 5 (so it has a range from -2 to +2), the Satisfying scale is the sum of items 2, 4, 6, and 8, divided by 4.

The respondents are positive about the services that are described above and on which they have been questioned. They score positively on both scales; the usefulness and satisfaction (see Figure 20).

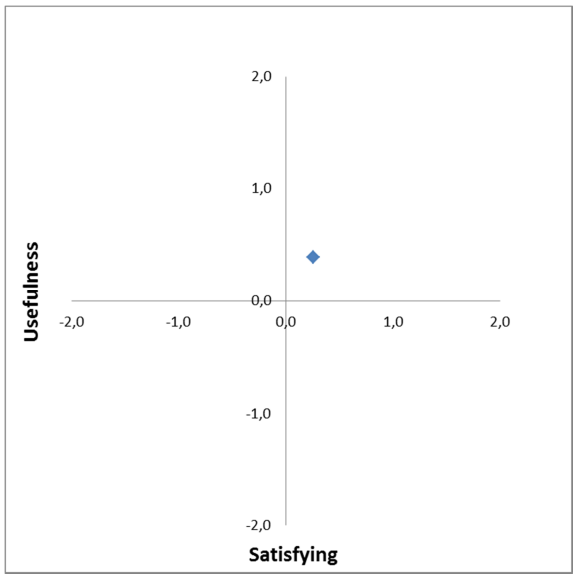

Figure 20: The acceptance of new mobility services (Van der Laan scale)

Most efficient route

The respondents indicated which functionality is important for them in a service that advises about the most efficient route. The respondents find it important to be able to 'overrule the advised route and pick an alternative'; this function gets the highest score (see Figure 21). Also the functions 'being able to see why a specific route has been advised and what the alternative routes are' and 'being able to turn off the system are' considered important. They can thus be considered as acceptability criteria for Instant Mobility services.

The least important functionality according to them is that information about their location should only be available for the service and not for their employer or the planner.

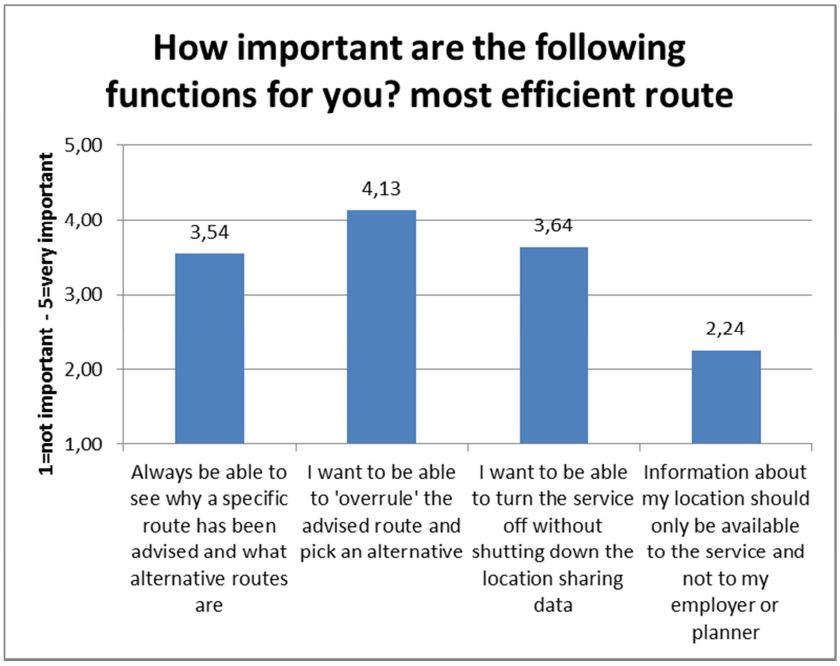

Figure 21: Most efficient route

It's remarkable that the acceptance lowers if the itinerary is changed for missions later on the day. More than half of the respondents (61%) think it is acceptable that the itinerary of the current mission is changed. A smaller percentage (43%) find it ok if it's on the next mission, and the smallest percentage (35%) think it's ok if it is a mission later in the day (see Figure 22).

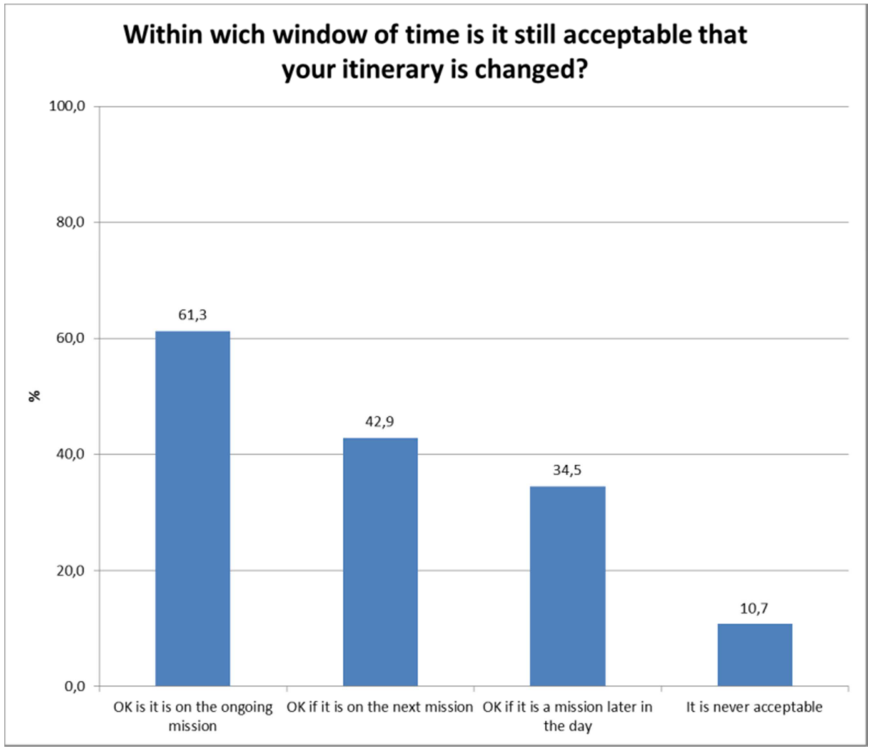

Figure 22: Acceptance of changed itineraries

The respondents find it important to be notified on changes to the itinerary (mean of 4.0 on a 5-point scale). They also find it important to know why the itinerary has changed (mean of 4.0 on a 5-point scale.)

These results show how important it is to provide explanations to the users. It should be integrated in the requirements of the Instant Mobility platform.

Eco optimized driving

The need for being coached to drive more efficient is relatively low (see paragraph "Acceptability of Instant Mobility services"). Eco-optimized driving has the lowest score of the proposed services. The most important function of an eco-optimized service is 'being in control and being able to overrule the service'. The least important function is that the information about the location should only be available to the service and not to the boss. These results are comparable with the results for the 'most efficient route' service.

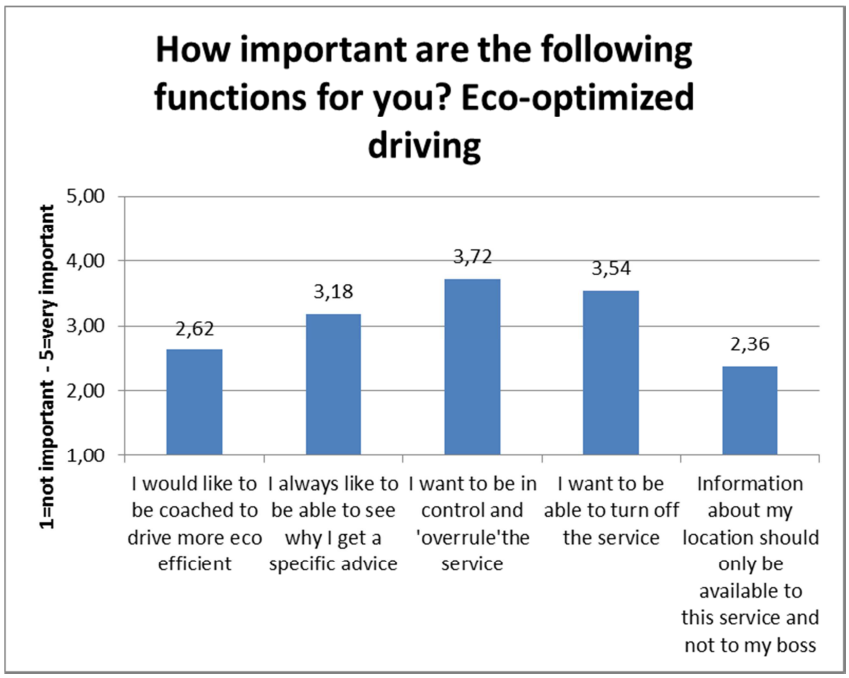

Figure 23: Eco-optimized driving

3.1.2.2.3 Sharing data

Keeping track of location

Half of the respondents (56%) indicate that their employer keeps track of their position in real time. Almost a third (30%) communicates via telephone and/or radio (see Figure 24).

Figure 24: Keeping track of location of the driver

Especially in the small companies the employer does not keep track of the location of the driver (see Figure 25).

Figure 25: My employer does not know my location and size of the company

Sharing data for different purposes

Shows whether respondents are prepared to share their location data for the following purposes:

- Personal navigation
- Sharing location data with your company to plan routes more efficiently
- Sharing location data to other companies to share loads
- Get advised about eco optimized driving

Of the Dutch respondents almost a quarter (24%) might be prepared or is prepared (44%) to share location data for personal navigation (44%). 71% is prepared to share data to plan routes more efficiently. Of the respondents 21% is prepared to share location data to share loads with other companies. Almost half of the respondents (49%) is not prepared to share the data for this purpose. Approximately a third (34%) of the respondents is prepared to share location data to get advised about eco optimized driving, 40% is not prepared to share data for this purpose.

Purpose	No (percentage)	Perhaps (percentage)	Yes (percentage)
Personal navigation	32	24	44
Sharing location data with your company to plan routes more efficiently	18	11	71
Sharing location data to other companies to share loads	49	30	21
Get advised about eco optimized driving	40	26	34

Table 14: Sharing location data

We also want to know more specifically when drivers are willing to share location data. We analyzed whether there are differences between the respondents who would like to share data (the 'proponents'), the respondents who might want to share data ('the doubters') and the respondents who do not want to share data (the 'opponents'). This is further explained in Appendix 9.

Sharing location data for personal navigation

These are some of the explanations given by respondents who want to share data for personal navigation:

- *Because of the type of our load it is important that the planner knows where we are.*
- *Expensive load*
- *Safety*
- *When there is taken care of privacy*
- *Is also easy for your colleagues.*
- *It prevents unnecessary telephone calls.*

The respondents who do not want to share give the following explanations:

- *Big brother is watching you' feeling*
- *It is at the expense of your freedom.*
- *I'm a human and not an object.*
- *I'm able to define my own route.*

We find a number of significant differences between the proponents and opponents of sharing location data for personal navigation:

- The proponents judge the service **'plan your route' more useful** than the opponents;
- The proponents **use the fleet management navigation** mo**re often** than the opponents*;*

The drivers who doubt whether they would share these data have on average a smaller fleet size than proponents and opponents. No differences were found between the groups (the doubters, proponents and opponents) with respect to the other elements (see also Appendix 9 for an overview).

Sharing location data with company to plan routes more efficiently

These are some of the explanations given by respondents who want to share data to plan routes more efficiently:

- *So that customer service can inform the client*
- *When I'm signed up then I can be loaded or unloaded immediately and that saves time*
- *An employer should know this during work time*
- *Prevents the hassle of calling 'where are you and when will you arrive'*
- *Doing more work by a better planning is earning more money*
- *What I think is less important than the company's interest*

The respondents who do not want to share give the following explanations:

- *I decide for myself what I do*
- *Is not necessary at our job, my employer lets me do my own job*
- *Routes can only be planned efficiently by the experienced driver*
- *It is at the expense of your freedom*

We find a number of significant differences between the proponents and opponents of sharing location data for more efficient route planning.

The proponents and doubters are more positive about the upcoming services than the opponents:

- The respondents who would like to share location data (answer: 'yes') or who might want to share location data (answer: 'maybe') to plan routes more efficiently judge **the upcoming services more useful** (see paragraph 'Acceptability of Instant Mobility services') than the respondents who would not like to share the location data.
- The respondents who would like to share location data (answer: 'yes') or who might want to share location data (answer: 'maybe') to plan routes more efficiently judge **the upcoming services more satisfying** (see paragraph 'Acceptability of Instant Mobility services') than the respondents who would not like to share the location data.

The proponents more **often use the navigation** functionality of the fleet management system, the **planning** functionality and the **messaging functionality** between the driver and the office. The opponents use this functionality less often and work more often at a company with a **smaller fleet size** than the proponents and the doubters.

No differences were found between the groups (the doubters, proponents and opponents) with respect to the other elements (see also Appendix 9 for an overview).

Sharing location data to other companies so that loads can be shared

A couple of respondents indicate that sharing data to share loads is something for their employers to decide. These are some of the explanations given by respondents who want to share data for this purpose:

- *The other companies should be trustable.*
- *When it is enough profitable*

The respondents who do not want to share give the following explanations:

- *Other companies do not need to know who my clients are.*
- *Other companies might steal your customers by using a lower price.*
- *What's for me stays for me.*
- *We already lost a couple of large customers by this kind of things.*

We found significant difference between the way the proponents, doubters and opponents judge the upcoming services:

- The opponents of sharing location data to other companies judge **these services less useful** and **less satisfying** than proponents and doubters.

No differences were found between the groups (the doubters, proponents and opponents) with respect to the other elements (see also Appendix 9 for an overview).

Sharing location data for eco-optimized driving

Respondents give the following explanations for sharing data for eco-optimized driving:

- *Always good for nature.*
- *I have no experience but I would like to try it.*
- *Less costs is always better.*

The respondents who do not want to share give the following explanations:

- *Eco optimized driving means loss of time, thus more trucks and less eco-friendly in the end.*
- *A computer does not see the realtime situation at the road.*
- *I use cruise control and that already saves a lot of fuel.*
- *I want to have still a little bit of freedom.*
- *I know how I can drive as economical as possible.*

We found significant differences between the different groups:

- The proponents and doubters are more positive about the upcoming services. They judge them as **more useful and satisfying** than the opponents judge these services.

The proponents and doubters more often use the **planning functionality** of the fleet management system**, the traffic information functionality** and the **eco-feedback functionality.**

No differences were found between the groups (the doubters, proponents and opponents) with respect to the other elements (see also Appendix 9 for an overview).

3.1.3 Research among French drivers

3.1.3.1 Experimental design and participants

3.1.3.1.1 Publication of the survey

Appendix 7 gives an overview of the locations where the survey has been published.

3.1.3.1.2 Participants

Background of respondents

Note that the French survey was answered by a relatively small group. So we should be reticent in generalizing these results. Further research should be done to define whether these results are valid for all French drivers.

A total of 27 respondents answered the survey. 93% of them were male, 7% were female. The average age is 41, with a minimum of 24 and a maximum of 62 years old.

Almost a third (30%) of the respondents has more than 15 years of experience. In total 41% of the respondents has 6 to 15 years of experience (see Figure 26).

Figure 26: The amount of experience of the respondents

Almost a third of the respondents are owner of the company they work at (see Figure 27).

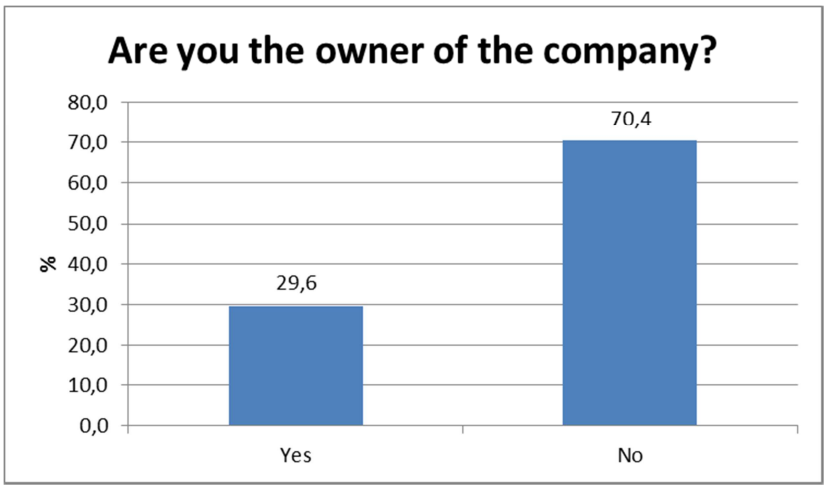

Figure 27: Owners of the company

Companies

The respondents work mostly for large companies. Almost half of them (48%) work for companies with 21 to 100 trucks, 22% of the respondents work for companies with more than 100 trucks (see Figure 28).

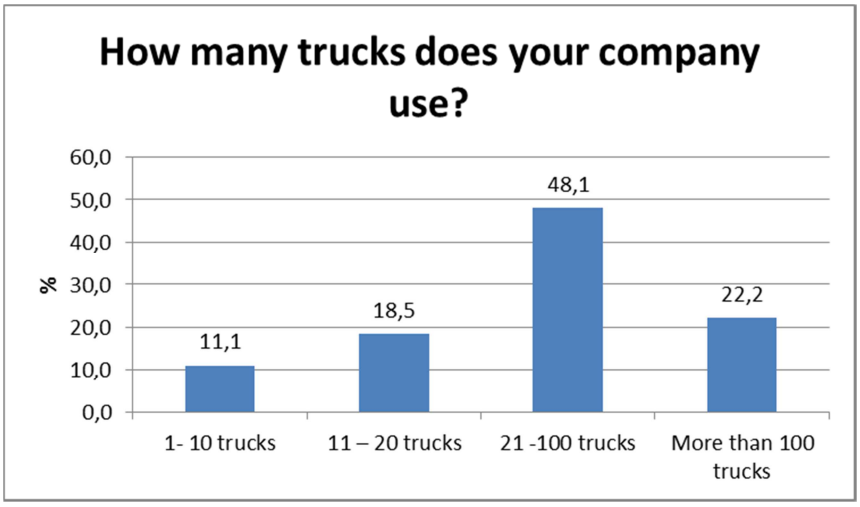

Figure 28: Fleet size of the company

Work

The work of most of the respondents (89%) consists out of local transport. 74% of the respondents do national transport and 30% do international transport. Note that respondents can do multiple types of transport (see Figure 29).

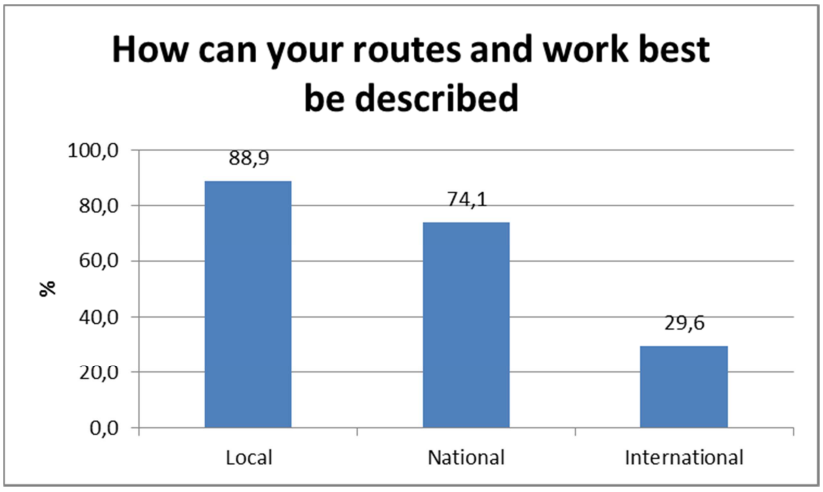

Figure 29: Type of work; local, national and international

The routes of the respondents vary. Most of them drive both the same and different routes (44%), The smallest group (4%) drives almost always different routes (see Figure 30).

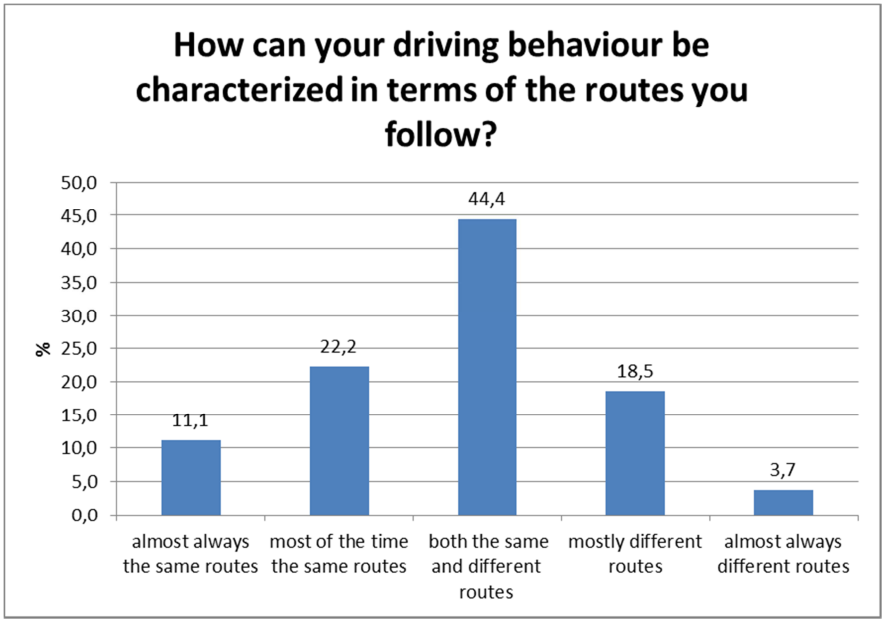

Figure 30: The type of routes

For almost half of the respondents (48%) the workload is average. 44% of the respondents perceive the workload as high or very high (see Figure 31).

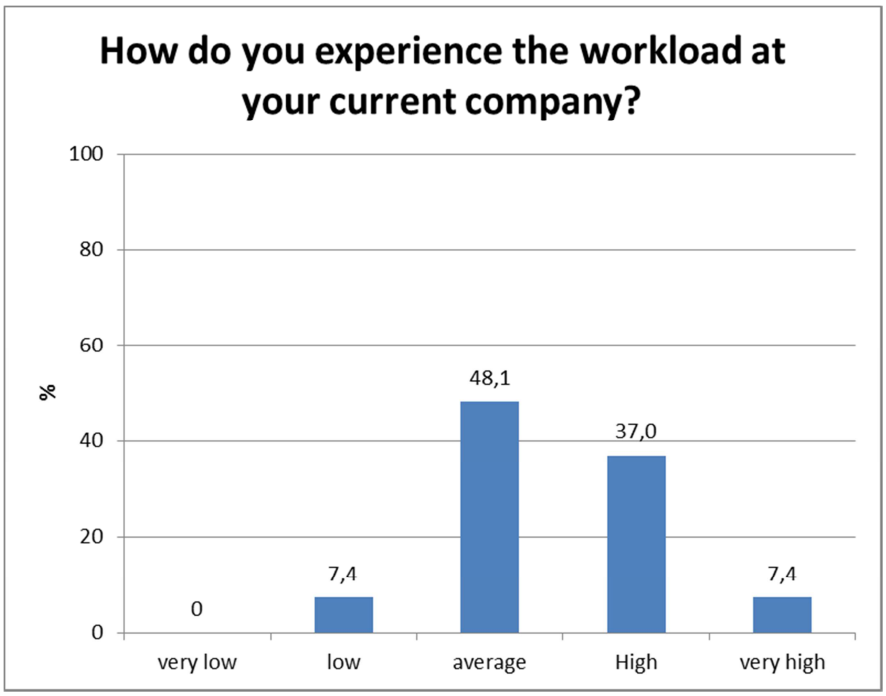

Figure 31: Experienced workload

3.1.3.1.3 Research questions

We would like to know what the opinion is of professional drivers about a number of new services. All of these services require the sharing of location data.

We also want to know more specifically when drivers are willing to share location data. Since we had a relatively small amount of responses we were not able to analyze whether there are any differences between the respondents who would like to share data (the 'proponents'), the respondents who might want to share data ('the doubters') and the respondents who do not want to share data (the 'opponents') with regard to elements like background of the driver, age, years of working experience, etc.

3.1.3.2 Results

3.1.3.2.1 Usage of information for navigation

Fleet management system

The majority of the respondents (81%) use a fleet management system (see Figure 32).

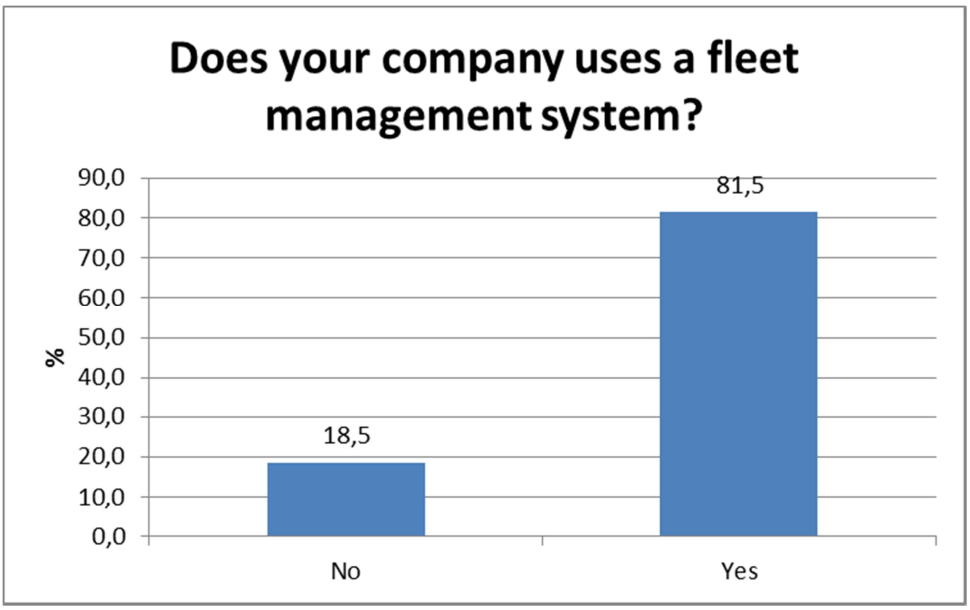

Figure 32: Usage of a fleet management system

The respondents who use a fleet management system also indicated which functionality they use (see Table 15).

	Never	Seldom	About half the times	Usually	Always
Navigation	32	5	9	18	36
Planning	32	9	0	4	55
Traffic information	59	22	5	9	5
Messaging between driver and office	0	14	4	36	46
Order handling	32	4	9	14	41
Ecofeedback	32	13	0	23	32

Table 15: Use of fleet management system (in percentages)

The fleet management system is used as follows:

- *Navigation*: almost a third (32%) never uses the navigation functionality. More than a third always uses this functionality (36%).
- *Planning:* almost a third (32%) never uses this functionality. More than half of the respondents (55%) always uses this functionality.
- *Traffic information*: 59% never uses this functionality. Only a small percentage (5%) always uses this functionality.
- *Messaging between driver and office*: this functionality is used by many of the respondents. 72% of the respondents use this functionality usually (36%) or always (46%).
- *Order handling*: almost a third of the respondents (32%) never use this functionality. 41% of them uses this functionality always.
- *Eco feedback:* almost a third of the respondents (32%) never use this functionality. Also almost a third (32%) uses this functionality always.

Paper maps, route instructions and traffic information

In addition to the fleet management system respondents also use other tools. The table below provides an overview (see Table 16):

Tools	Respondents that use this tool (percentage)
Paper maps	41
Route instructions on paper provided by the planner	48
Traffic information on the radio	30
Asking route instructions, at the planner or a colleague	52

Table 16: Usage of tools

Paper tools are still important. 41% of the respondents use paper maps and almost half of the respondents (48%) use route instructions on paper.

Navigation device

74% of the respondents use a navigation device during work. The respondents who do not use a navigation device (N=8) explained why they do not use it:

- My boss does not pay for it: 4 respondents
- I like using paper maps: 2 respondents
- I can find my way perfectly without these devices: 2 respondents

3.1.3.2.2 Acceptability of Instant Mobility services

The following figure (see Figure 33) shows how useful the respondents find a number of services for their own purposes. 'Provide eco-driving support' gets the highest score (4,7 on a 6-point scale). The lowest score gets 'Organize parcel/load sharing' (3,2 on a 6-point scale).

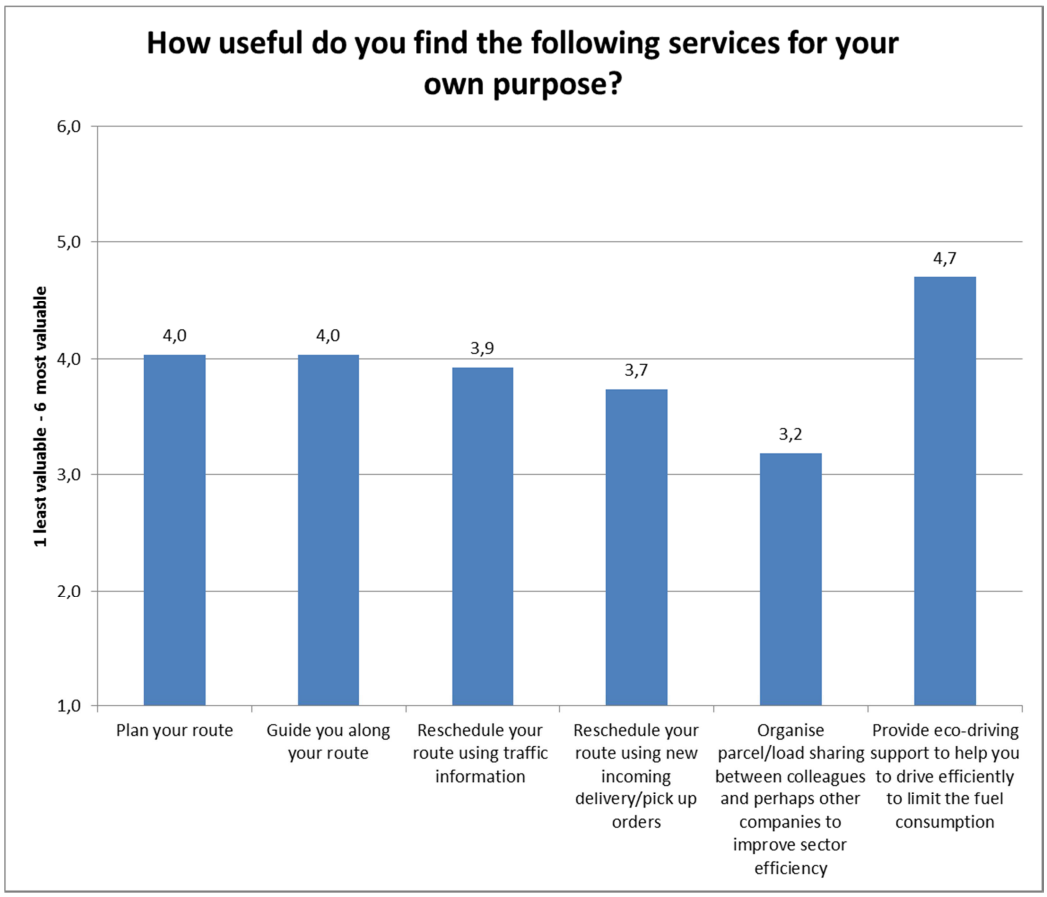

Figure 33: The usefulness of a number of services

We also used the Van der Laan scale to assess the acceptability of the upcoming services (see the explanation earlier for the Dutch data). The respondents think that the services are useful and satisfying (see Figure 34).

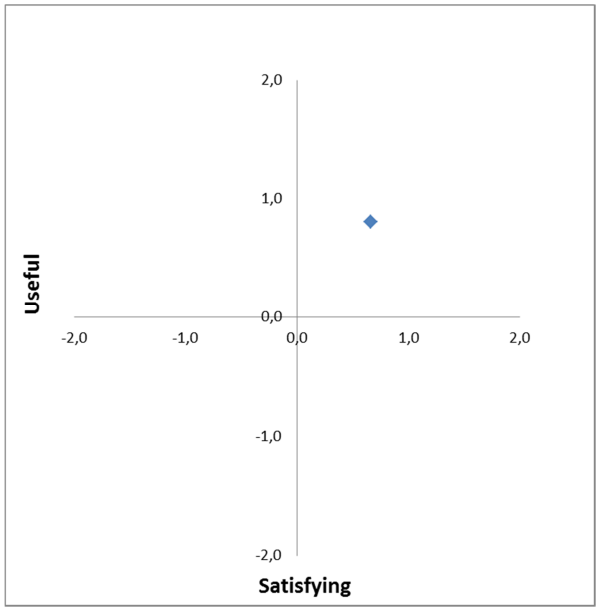

Figure 34: The acceptance of new mobility services (Van der Laan scale)

Most efficient route

The respondents indicated which functionality is important for them in a service that advises about the most efficient route. The most important function for them is 'being able to overrule the advised route and pick an alternative' (3,67 on a 5-point scale). The least important functionality according to them is that information about their location should only be available for the service and not for their employer or the planner (see Figure 35).

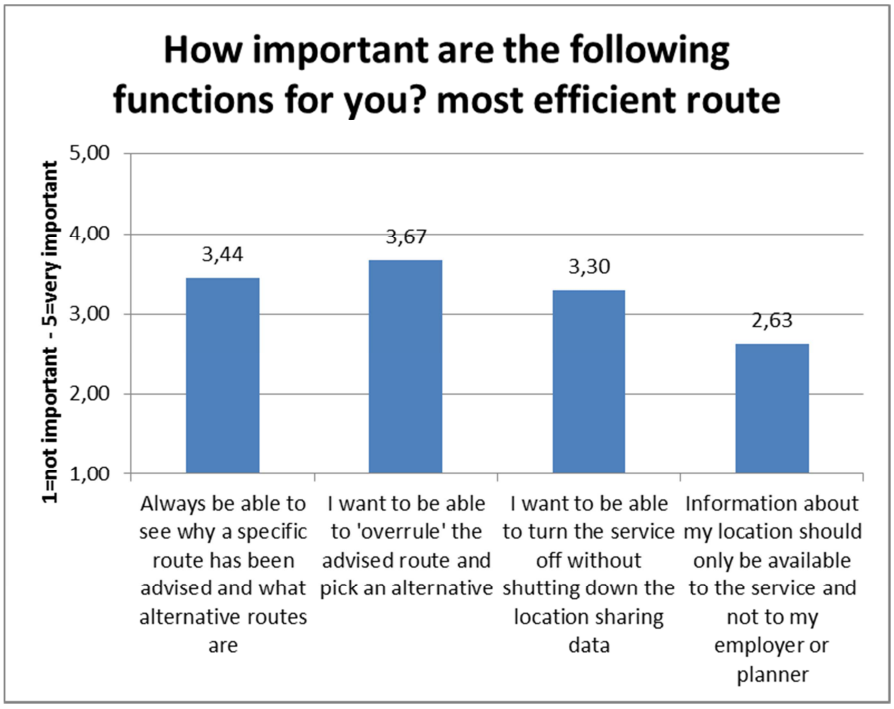

Figure 35: Most efficient route

It's remarkable that the acceptance lowers if the itinerary is changed for missions later on the day. 74% of the respondents think it is acceptable that the itinerary of the current mission is changed. A smaller percentage (56%) find it ok if it's on the next mission, and the smallest percentage (48%) think it's ok if it is a mission later in the day (see Figure 36).

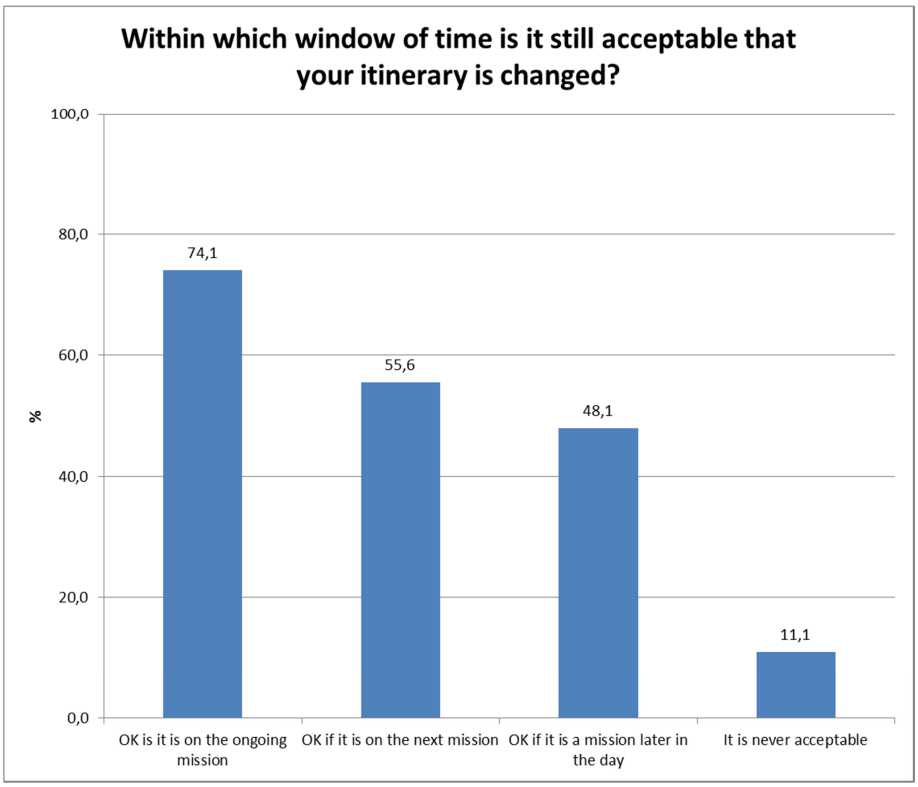

Figure 36: Acceptance of changed itineraries

The respondents find it important to be notified on changes to the itinerary (mean of 4.1 on a 5-point scale). They also find it important to know why the itinerary has changed (mean of 3,6 on a 5-point scale.)

Eco-optimized driving

The need for being coached to drive more efficient is relatively high (4,04 on a 5-point scale). This is also shown in the paragraph 'Acceptability of Instant Mobility services'). The second highest score is being able to see why a specific advice is given.

The least important function of an eco-optimized service is 'being in control and being able to overrule the service' (see Figure 37).

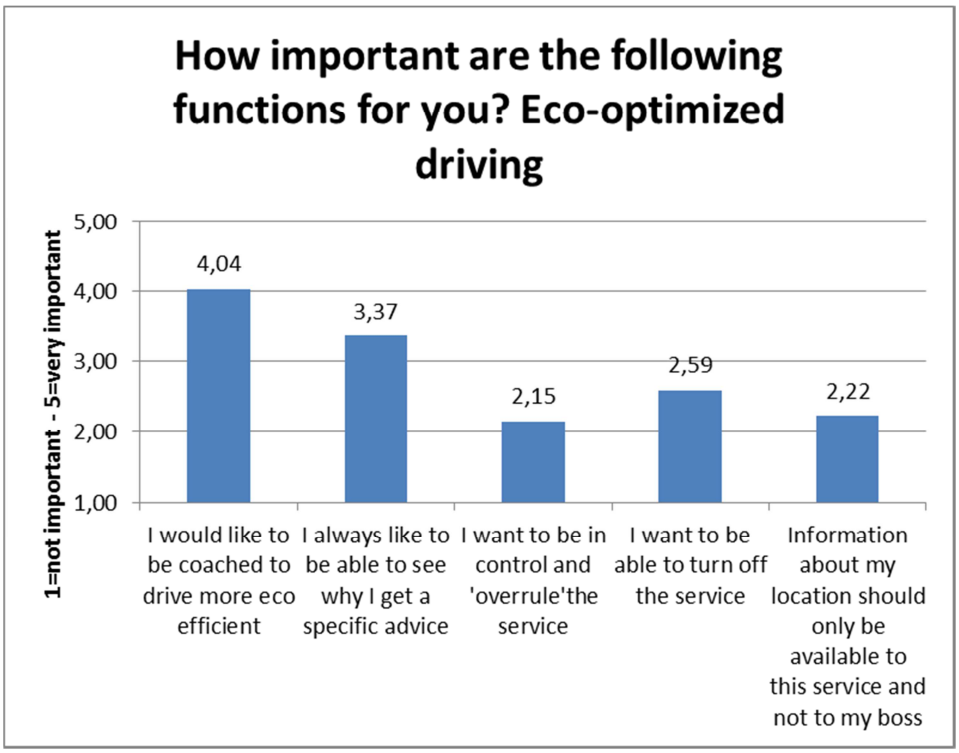

Figure 37: Eco-optimized driving

3.1.3.2.3 Sharing data

Keeping track of location

All respondents indicate that their employer keeps track of their location. For 63% of the respondents their employer can keep track of their position in realtime. For more than half of them (52%) their employer can change their route via their in car navigation device (see Figure 38).

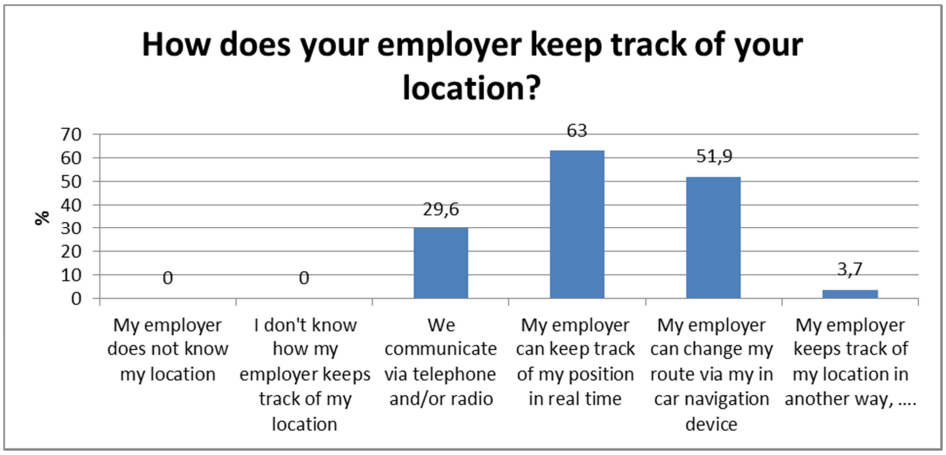

Figure 38: Keeping track of location

Sharing data for different purposes

Shows whether respondents are prepared to share their location data for the following purposes:

- Personal navigation
- Sharing location data with your company to plan routes more efficiently
- Sharing location data to other companies to share loads

- Get advised about eco optimized driving

A large group of the respondents is not prepared to share location data for personal navigation (74%). A large group (85%) is prepared to share data to plan routes more efficiently

Of the respondents 19% is prepared to share location data to share loads with other companies. 63% of the respondents (49%) is not prepared to share the data for this purpose. A large percentage (71%) of the respondents is prepared to share location data to get advised about eco optimized driving.

Purpose	No (percentage)	Perhaps (percentage)	Yes (percentage)
Personal navigation	74	7	19
Sharing location data with your company to plan routes more efficiently	7	7	85
Sharing location data to other companies to share loads	63	19	19
Get advised about eco optimized driving	7	22	71

Table 17: Sharing location data

Since we had a relatively small amount of responses we were not able to analyze whether there are any differences between the respondents who would like to share data (the 'proponents'), the respondents who might want to share data ('the doubters') and the respondents who do not want to share data (the 'opponents') with regard to elements like background of the driver, age and years of working experience.

3.2 Recommendations / Conclusions for professional drivers

This paragraph presents the conclusions about the acceptability of the services, the functions of these services and sharing of location data. Note that the French survey was answered by a relatively small group. So we should be reticent in generalizing these results. Further research should be done to define whether these results are valid for all French drivers.

Acceptability of Instant Mobility services

The Instant Mobility services score well on acceptability. The Dutch respondents perceive the new services as useful and satisfying. The services 'plan your route' and 'reschedule your route using traffic information' get the highest scores from these respondents. Eco-optimized driving gets the lowest scores.

The French respondents also perceive the new services as useful and satisfying. They are somewhat more positive than the Dutch respondents. The eco optimized driving gets highest score from French respondents. The services 'plan your route' and 'reschedule your route using traffic information' get the second highest score from French respondents. The service 'Organize parcel/load sharing' gets the lowest score.

Most efficient route service: functionality

The respondents indicated which functionality is important for them in a service that advises about the most efficient route. The Dutch respondents find it important to be able to 'overrule the advised route and pick an alternative'; this function gets the highest score. This is also the most important function for the French respondents.
Also the functions 'being able to see why a specific route has been advised and what the alternative routes are' and 'being able to turn off the system' are considered important by the Dutch respondents. These functions should be part of a 'most efficient route' service to fulfill the needs of the users of this service.
The least important function for the Dutch respondents is that information about their location should only be available to the service and not to their employer. This is also the least important function for the French respondents.

The acceptability of a change of the itinerary lowers if the itinerary is changed for missions later on the day. More than half of the Dutch respondents (61%) think it is acceptable that the itinerary of the current mission is changed. A smaller percentage (43%) find it ok if it's on the next mission, and the smallest percentage (35%) think it's ok if it is a mission later in the day. The acceptability of a change of the itinerary lowers also for the French respondents if the itinerary is changed for missions later on the day.

The service should notify its users on changes to the itinerary and let them know why the itinerary has changed. Both the Dutch and the French respondents find this functionality important.

Eco-optimized driving service: functionality

The most important function of an eco-optimized driving service for the Dutch respondents is 'being in control and being able to overrule the service'. The least important function is that the information about the location should only be available to the service and not to the boss. For the French respondents it is important that they are coached to drive more eco efficient and that they can see why a specific advice is given in the eco-optimized driving service. The least important function for them is 'being in control and being able to overrule the service'.

Acceptability of sharing data

Of the Dutch respondents almost a quarter (24%) might be prepared or is prepared (44%) to share location data for personal navigation (44%). 71% is prepared to share data to plan routes more efficiently. Of the respondents 21% is prepared to share location data to share loads with other companies. Almost half of the respondents (49%) is not prepared to share the data for this purpose. Approximately a third (34%) of the respondents is prepared to share location data to get advised about eco optimized driving, 40% is not prepared to share data for this purpose.

A large group of the French respondents is not prepared to share location data for personal navigation (74%). A large group (85%) is prepared to share data to plan routes more efficiently. Of the respondents 19% is prepared to share location data to share loads with other companies. 63%

of the respondents is not prepared to share the data for this purpose. A large percentage (71%) of the respondents is prepared to share location data to get advised about eco optimized driving.

Differences between Dutch proponents, doubters and opponents for sharing data

We did not find any differences between the Dutch respondents who would like to share data (the 'proponents'), the respondents who might want to share data ('the doubters') and the respondents who do not want to share data (the 'opponents') with respect to the following elements:

- Background of the driver: age and years of working experience;
- Work of the driver: type of routes, type of transport and experienced work load
- Usage of fleet management system: order handling;
- Usefulness of specific services: Guide you along your route, Reschedule your route using traffic information, Reschedule your route using new incoming delivery/pick up orders, Organize parcel/load sharing and Ecodriving.

We did find differences with respect to:

- Work of the driver: fleet size of the company;
- Usage of fleet management system: navigation, planning, traffic information, messaging between driver and office and ecofeedback;
- Usefulness of specific services: plan your route;
- Acceptability of the upcoming services: usefulness and satisfaction.

We found a number of significant differences between the Dutch proponents and opponents of sharing location data for **personal navigation.** The proponents judge the 'plan your route' more useful than the opponents and they use more often the navigation functionality of the fleet management system. The drivers who doubt whether they would share these data have meanly the smallest fleet size.

The proponents and doubters **of sharing location data with the company to plan routes more efficiently** are more positive about the upcoming services than the opponents. They judge them more useful and more satisfying.

The proponents use more often the navigation functionality of the fleet management system, the planning functionality and the messaging functionality between the driver and the office. The opponents use this functionality less often and work more often at a company with a smaller fleet size than the proponents and the doubters.

The opponents of **sharing location data to other companies so that loads can be shared** judge the upcoming services less useful and less satisfying.

The proponents and doubters of sharing data to get advice about eco-optimized driving are more positive about the upcoming services. They judge them as more useful and satisfying than the opponents judge these services. The proponents and doubters use more often the planning functionality of the fleet management system, the traffic information functionality and the eco-feedback functionality.

4. Section 3: global recommendations and conclusions

This document presented the results of the empirical analysis of the acceptability of Instant Mobility services. We performed a comparative analysis of the determinant factors for Instant Mobility services' acceptability by the citizen travelers of four cities. These four cities are partner cities of the Instant Mobility project: Istanbul, Roma, Nice and Trondheim. We also investigated the acceptability of Instant Mobility services by Dutch and French professional drivers. Note that we only had a limited amount of French responses for the professional drivers' survey. So further research is needed to define whether these results are representative of the French professional driver population.

4.1 Citizen travelers

The study analyzed the role of seven groups of acceptability factors (perceived usefulness, perceived easiness, perceived security, user individual mobility profile, real behavior, acquired competences and socio-economic profile) on citizen travelers' intentional behavior. The analysis showed that perceived usefulness and perceived security are the two main determinant factors that positively influence intentional acceptability of citizen travelers.

The five other groups of criteria also have a significant influence and should be considered in the design of an offer in case of specifying Instant Mobility services according to the local citizen travelers targeted.

As the descriptive statistical results and the econometrical analysis highlighted it, the four populations of citizen travelers' behavior studied are characterized by some different behaviors and needs.

In conclusion, two strategies are possible and will stimulate the adoption of Instant Mobility services. Local governments can choose:

- To design a service according to their local citizen travelers profile, needs and preferences. Table 12 will help in designing a specific application for each city.
- To design a service offering "general" services functions that are useful all over urban cities where Instant Mobility services will be deployed. In this second case, it is important to design Instant Mobilit services in respect of the two main determinant factors of intentional acceptability that the present study highlighted.

Considering security factors, privacy and traceability plus anonymity are the most influent factors. Providing privacy and traceability criteria may be sufficient but in order to optimize the adoption and use of Instant Mobility services it would be better to add the option to use the service anonymously. However, the respect of anonymity criteria alone will not stimulate the adoption of Instant Mobility services.

The evaluation of several usefulness criteria contributed to highlight the following useful services:

- Preciseness of a trip (to be guided, calculate the best route, the best mode of transport) and of a favorite destination

- Information about time (estimation of duration of a trip, waiting time for connections), price and environmental impact.

If Instant Mobility aims to encourage ride-sharing in urban services, the services have to consider giving information about the driver experience and his reputation on Instant Mobility platform. It is also very important to avoid giving information about gender of the driver or traveler. These criteria have a strong negative impact on intentional acceptability.

4.2 Professional drivers

The Instant Mobility services score well on acceptability by the Dutch professional drivers. The Dutch respondents perceive the new services as useful and satisfying. The services 'plan your route' and 'reschedule your route using traffic information' get the highest scores from these respondents, eco-optimized driving gets the lowest.
The respondents indicated which functionality is important for them in a service that advises about the most efficient route. To stimulate the adoption of the Instant Mobility services these functions should be provided. The Dutch respondents find it important to be able to 'overrule the advised route and pick an alternative'. The functions 'being able to see why a specific route has been advised and what the alternative routes are' and 'being able to turn off the system' are considered important. These functionalities refer to the sense of freedom that is also often required by citizen travelers, as well as the need to understand what's going on. The service should notify its users on changes to the itinerary and let them know why the itinerary has changed.

The most important function of an eco-optimized driving service for the Dutch respondents is 'being in control and being able to overrule the service'. The results of the citizen survey also show that the Instant Mobility services will be well accepted under the condition that privacy and traceability criteria are respected. This need for being in control is a general need that applies to many information technology services.

The willingness of the Dutch respondents to share data depends on the purpose. The Dutch respondents are most prepared to share location data to get navigation advice and to share data with the planner of their company to plan routes more efficiently. The respondents are less prepared to share location data to share loads with other companies or for eco optimized driving.
In sharing data, we identified three groups of Dutch respondents:

- The ones who would like to share data: the 'proponents'
- The ones who might want to share data: 'the doubters'
- The ones who do not want to share data: the 'opponents'.

We did not find any differences between the Dutch respondents who would like to share data (the 'proponents'), the respondents who might want to share data ('the doubters') and the respondents who do not want to share data (the 'opponents') with respect to the following elements:

- Background of the driver: age and years of working experience;
- Work of the driver: type of routes, type of transport and experienced work load
- Usage of fleet management system: order handling;

- Usefulness of specific services: Guide you along your route, Reschedule your route using traffic information, Reschedule your route using new incoming delivery/pick up orders, Organize parcel/load sharing and Ecodriving.

The Dutch opponents are characterized by their belonging to smaller fleet size companies and a smaller usage of functionality of fleet management systems (e.g. navigation, planning and messaging functionalities). They are not convinced with the new services in terms of usefulness and satisfaction.
The Dutch proponents and doubters belong to companies with larger fleet size. They have a higher usage of the functionality of a fleet management system (e.g. navigation, planning and messaging functionalities). They consider the upcoming services as more useful and more satisfying.

This information can help decision makers in the design of their offer for Dutch professional drivers and the way they approach their target group.

5. References

Azari R., Pick J.B., 2004, Socio-economic influence on information technology: the case of California, in Quingley, M. (ed.), *Information Security and Ethics: Social and Organizational Issues*, Idea Group Publishing, Hershey, PA, p.48-72.

Azari R., Pick J.B., 2005, Technology and society: socioeconomic influences on technological sectors for United States counties, *International Journal of Information* Management, 25, 1 (2005), p.25-37.

Chen L.D., 2008, "A model of consumer acceptance of mobile payment", *International Journal of Mobile Communications*, 6(1), p.32-52. Doi: 10.1504/ijmc.2008.015997.

Davis F.D., 1989, "Perceived usefulness, perceived ease of use and user acceptance of information technology", *MIS Quarterly*, 13, p.319-340.

Davis F.D., Bagozzi R.P., Warshaw P.R., 1989, "User acceptance of computer technology: a comparison of two theoretical models", *Management science*, 35, p.982-1003.

Deroin V., 2010, "Diffusion et utilization des TIC en France et en Europe en 2009", Culture&Chiffres 2010-2, www.culture.gouv.fr/deps

Eze U.C., Gan G., Ademu J., Tella S., 2008, "Modelling user trust and mobile payment adoption: a conceptual framework", Communications of the IBIMA, Volume 3, 2008, p.224-231.

Hauff J., Stalfors P., Nykvist R., 2011, "Consumer acceptance of mobile payment services. An empirical study of factors explaining Swedish consumers intention of use mobile payment services", Handelshögskolvan Vid Göteborgs unversity working paper, **https://gupea.ub.gu.se/bitstream/2077/25614/3/gupea_2077_25614_3.pdf.**

Hoffmann D.L., Kalsbeek W.D., Novak T.P., 1996, "Internet and web use in the United States: baselines for commercial development", Document de travail, eLab Research Laboratory.

Kiesler S., Kraut R., Mukhopadhyay T., Scherlis W., 1997, "Recent results from a field trial of residential internet use, http://homenet.hcii.cs.cmu.edu/progress/orview8697.html

Kim C., Mirusmonov M., Lee I., 2010, "An empirical examination of factors influencing the intention to use mobile payment", *Computers in Human Behavior*, 26(3), p.310-322, doi:10.1016/j.chb.2009.10.013.

Le Guel F., Pénard T., Suire R., 2005, « Adoption et usage marchand de l'internet : une étude économétrique sur les données bretonnes », *Economie et Prévision,* n°167, p.67-82.

Liu M.C., San G., 2006, Social learning and digital divides: a case study of internet technology diffusion. Kyklos 59, 2 (2006), p.307-321.

Malhotra Y., Galetta D.F., 1999, "Extending the technology acceptance model to account for social influence: theoretical bases and empirical validation", *Proceedings of the 32nd Annual Hawaii International Conference on System Sciences,* Hawaii.

OECD, 2010,

Pick J.B., Azari R., 2007, "Worlwide digital divide: influences of education, workforce, economic, and Policy factors on Information Technology", SIGMIS-CPR'07, April 19-21, 2007, St.Louis, Missouri, USA.

Pitkow J., Kehoe C., Rogers J., 1998, "GVUs Ninth www user survey report", Georgia Thec Research Corporation, Office of Technology Licensing.

Quibria M.G., Ahmed S.N., Tschang T., Reyes-Macasaquit M.L., 2003, Digital divide: determinants and policies with special reference to Asia. *Journal of Asian Economics*, 13, p. 811-825.

Rogers E.M., 1995, *Diffusion of Innovations*, New York: Free Press.

Rogers E.M., 2001, "Evolution: diffusion of innovations", in J.S. Neil & B.B. Paul (eds), *International Encyclopedia of the Social & Behavioral Sciences*, p.4982-4986. Oxford: Pergamon.

Rogers E.M., Mahler A., 1999, “The diffusion of interactive communication innovations and the critical mass: the adoption of…”, *Telecommunications Policy*, 23(10/11), p.719-740.

Schierz P.G., Schilke O., Wirtz B.W., 2010, “Understanding consumer acceptance of mobile payement services: an empirical analysis”, *Electronic commerce research and applications,* 9(3), p.209-216, doi: DOI: 10.106/j.elerap.2009.07.005

Van Biljon J., Kotzé P., 2008, “Cultural factors in a mobile phone adoption and usage model”, *Journal of Universal Computer Science,* 14(16), p.2650-2679.

Venkatesh A., Morris M.G., Davis G.B., Davis F.D., 2003, “User acceptance of information technology: Toward a unified view”, *MIS Quarterly,* 27(3), p.425-478.

6. Appendix

6.1 Appendix 1: CITIZENS/The socio-economical and daily travel profile of the respondents

Citizens' socio-economic profile		Roma	Istanbul	Nice	Trondheim
Professional driver	Yes	2.4%	4.2%	5.5%	1.7%
	No	97.6%	95.8%	94.5%	98.2%
	Total	**100%**	**100%**	**100%**	**100%**
Gender	Male	55.9%	90.1%	63.5%	54.4%
	Female	44.1%	9.9%	36.5%	45.5%
	Total	**100%**	**100%**	**100%**	**100%**
Highest level of education	Compulsory School	2.7%	0.9%	6.8%	1.1%
	Upper secondary school	42.1%	11.7%	9.2%	16.4%
	University	39.6%	61.2%	28.3%	33%
	Higher University degree (PhD…)	15.3%	26%	52.6%	49%
	None above	0.3%	0.2%	3.1%	0.4%
	Total	**100%**	**100%**	**100%**	**100%**
Age	Under 25	7.8%	10.2%	13.7%	14.3%
	26 to 35	21.1%	48.5%	32.1%	25.3%
	36 to 45	28.9%	28.6%	26.6%	20.1%
	46 to 55	25.5%	9.8%	19.1%	19.5%
	More than 55	16.7%	2.9%	8.5%	20.9%
	Total	**100%**	**100%**	**100%**	**100%**

Table 18: Citizens' socio-economic profile

Citizens' route profile		Roma	Istanbul	Nice	Trondheim
Driver offering ride-sharing	**Yes**	11.3%	33.6%	14.3%	10.2%
	No	88.7%	66.4%	85.7%	89.8%
Transport used in daily travel	**Personal means of transport**	30%	73.9%	53.9%	26.5%
	Public transport	69.4%	15%	43.3%	42.8%
	Ride sharing as a traveler	0.5%	3.4%	2.4%	0%
	Ride sharing as a driver	0.2%	7.7%	0.3%	2.2%
	Cycling or walking	0%	0%	0%	28.4%

Table 19: Citizens' route profile

When you use services as a collective transport, car sharing or vehicle rental services					
Give feedback on the service used in a web site or a blog	**Frequently**	4.1%	8.2%	2.7%	0.6%
	Regularly	3.3%	5.7%	6.1%	1.1%
	Occasionally	13.1%	14.8%	18.1%	9.4%
	Rarely	0%	0%	0%	0%
	Never, I'm not interested	33.4%	52.3%	48.8%	57.2%
	Never, I don't use such services	46%	19%	24.2%	31.7%
Register personal preferences on web sites or mobile application	**Frequently**	5.6%	17%	11.3%	2.1%
	Regularly	5.8%	12%	10.9%	4.2%
	Occasionally	11.9%	16.5%	16.4%	14.3%
	Rarely	0%	0%	0%	0%
	Never, I'm not interested	31.3%	36.9%	36.5%	49.4%

	Never, I don't use such services	45.4%	17.6%	24.9%	29.9%

Table 20: Feedback and personal preferences

Need Information and Tools used		**Roma**	**Istanbul**	**Nice**	**Trondheim**
Need to find your own route or information about means transport	**Frequently**	38.3%	80.6%	18.4%	6.5%
	Regularly	28.6%	12.4%	30%	24.9%
	Occasionally	21.5%	4.6%	25.9%	34.5%
	Rarely	7.2%	1.8%	19.1%	25.5%
	Never	4.2%	0.7%	6.5%	8.4%
Tools used to help finding the needed information	**(1) Navigation system in your vehicle**	6.3%	3.9%	6.8%	2.9%
	(2) Mobile that allows to access to websites or applications	31.4%	38.2%	19.8%	32.7%
	(3) Call a dedicated phone number that provides vocal information	1.4%	0.6%	10.2%	2.5%
	(4) Information available in the station or on the road	18%	1.5%	3.8%	21.5%
	(5) Printed information	3.6%	0.3%	4.1%	0%
	(6) The radio	3.1%	2.6%	4.1%	5.1%
	(2) + (4)	3.8%	1.9%		
	(1) + (2)	16.9%	27%	20.1%	1.4%
	(2) + (6)	9.5%	1.6%	18.1%	18.8%
	(2) + (4) + (6)	2.5%	12.7%	8.9%	9.9%
	(2) + (3)	0%	0.1%	0.7%	2.0
	All tools	3.7%	9.6%	3.4%	3.2%

Table 21: Need Information and Tools used

6.2 Appendix 2: Citizens/ The usefulness of real time services

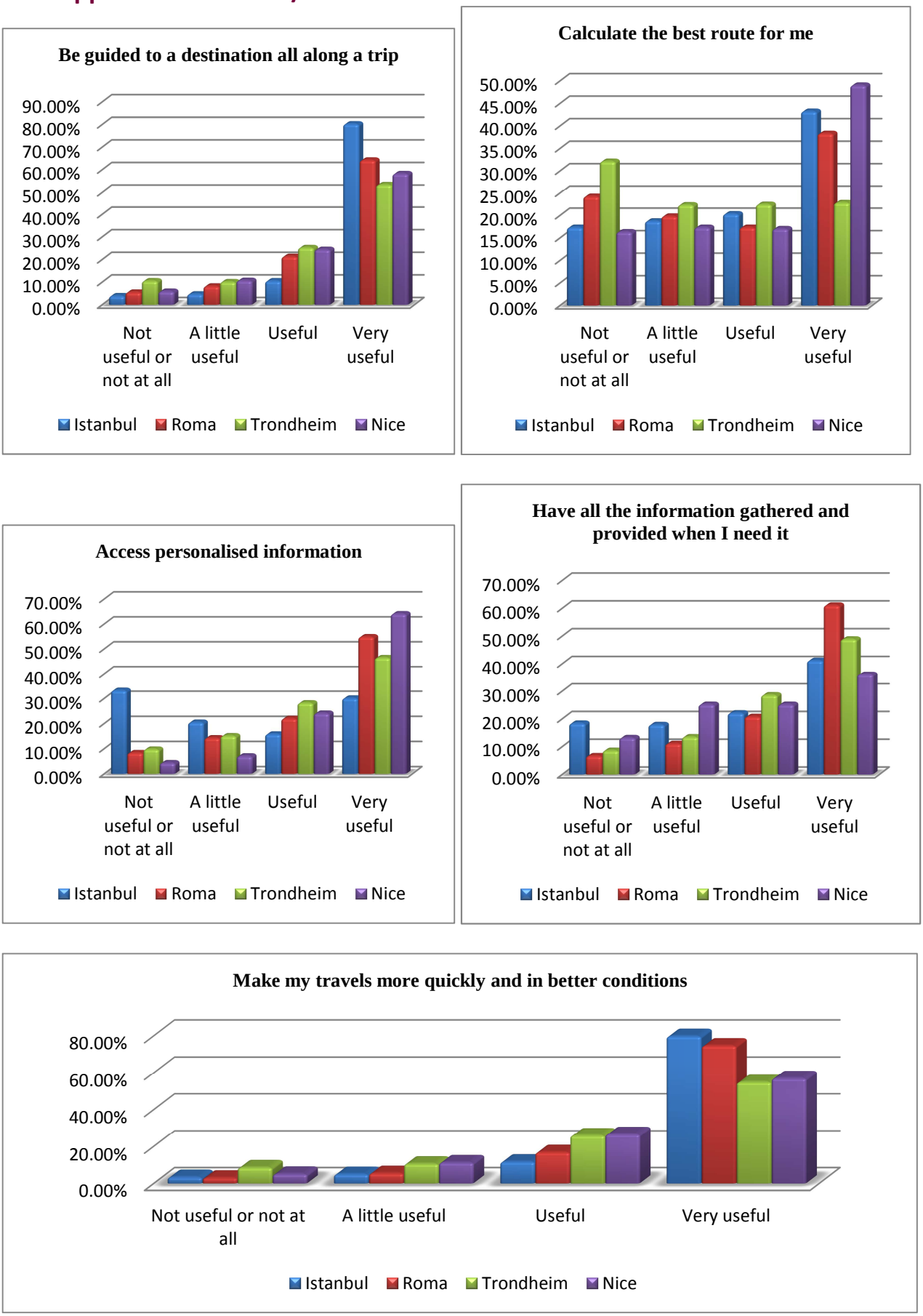

Figure 39: Usefulness of realtime services

6.3 Appendix 3: Citizens/ The 3 econometrical logit regression results

Dependant variable : Acceptability of location transmission	Istambul	Roma	Trondheim	Nice
Socio-economic characteristics				
Homme	-0.132	0.024	0.033	0.607
Moins de 25 years	-0.425	0.426	0.485*	0.550
25 - 35 years	-0.357	0.229	0.357	0.054
35 - 45 years	-0.316	0.019	0.434*	-0.544
45 - 55 years	-0.220	-0.015	0.195	-0.735
Compulsary School	1.313	1.113	0.364	0.84
Upper secondary school	0.976	1.359	-0.182	-0.493
University	0.703	1.218	0.022	-1.063
Higher university degree (PHD…)	0.746	1.168	-0.163	-1.178
Individual mobility profile				
Driver offering ride-sharing	-0.022	-0.151	-0.110	0.829
Personnal transport (car, …)	-0.174	-0.370	0.206	0.455
Public transport	0.006	-0.494	0.128	1.094
Need to find route or information				
Frequently	-0.992	0.046	0.142	0.305
Regularly	-0.831	0.015	-0.111	0.168
Occasionally	-0.830	0.064	-0.100	0.127
Rarely	-0.947	-0.120	-0.250	-0.395
Acquired competences				
Mobile	0.100	-0.266	-0.064	-0.124
Mobile and Navigation system	-0.029	-0.227	-0.459*	0.615
Station or road	-0.008	-0.170	-0.117	0.352
Mobile and Station or radio	-0.953*	0.610	-0.610	0.423
All kinds of tools	-0.000	-0.187	-0.487	1.562
Perceived security				
Privacy and Traceability	0.209	-0.591*	-0.917***	1.415
Privacy, Traceability, Anonymity	-0.874***	-0.077	-0.336*	0.795
Pivacy, Traceability, Anonymity, Trust	-0.773***	-1.901***	-0.036	0.701
Perceived usefulness				
Be guided to a destination all along my trip	0.429*	1.208***	0.120	0.373
Calculate the best route	-0.062	-0.253	0.211	-0.097
Access personalized information	0.116	-0.271	-0.268	-2.760*
Have all the information gathered and provided when I need it	-0.004	0.224	0.158	0.523
Constant	1.273	-0.543	0.294	2.673
N	3132	1766	1326	293
chi2	187.306	114.395	50.291	59.780
df_m	31.000	31.000	31.000	31.000
aic	4022.256	2027.695	1819.173	303.989

Table 22: Logit regression-Transmission of location

*legend: * p<0.05; ** p<0.01; *** p<0.001*

Dependent variable : Acceptability of register travel	Istanbul	Roma	Trondheim	Nice

Socio-economic characteristics				
Homme	0.222	0.134	-0.109	0.070
Moins de 25 years	-0.424	0.226	0.583*	2.179
25 - 35 years	-0.389	-0.018	0.319	0.219
35 - 45 years	-0.279	-0.182	0.299	0.906
45 - 55 years	-0.196	-0.132	0.068	0.264
Compulsary School	0.279	1.379	-0.380	-14.905
Upper secondary school	-0.202	1.425	-0.473	-14.392
University	-0.655	1.392	-0.347	-16.607
Higher university degree (PHD…)	-0.798	1.378	-0.471	-16.438
Driver offering ride-sharing	0.186*	0.051	-0.117	-0.956
Professional driver	0.652**	0.585	-0.614	1.832
Personnal transport (car, …)	-0.228	0.139	0.176	-3.112
Public transport	-0.102	-0.145	0.206	-1.553
Ride-sharing as a traveler	-0.166	0.369	-	-
Need to find route or information				
Frequently	-1.249	-0.120	-0.407	-1.095
Regularly	-1.346	-0.018	-0.672	-0.152
Occasionally	-1.432	-0.290	-0.629	-2.117
Rarely	-1.391	-0.494	-0.731	-2.287
Acquired competences				
Mobile	0.029	0.11	0.069	2.655*
Navigation system	0.424	0.393	0.249	4.963**
Mobile and Navigation system	-0.339**	-0.160	-0.068	2.264*
Mobile and Navigation system and Info station	-0.094	0.170	-0.041	0.574
Station or road	0.864*	0.016	-0.629	0.285
Mobile and Station or road	0.221	-0.181	0.312	4.370*
Real behavior				
Frequently register preferences in web similar services	0.533**	0.104	0.277	1.281
Regularly register preferences in web similar services	0.072	0.477	-0.616	3.431*
Not interested by registering preferences in web similar services	-0.134	-0.1338	-0.177	0.949
Perceived security				
Privacy and Traceability	-0.221	0.695***	-1.358***	1.510
Privacy, Traceability, Anonymity	-0.523***	1.474***	-1.427***	1.999*
Privacy, Traceability, Trust	-1.049***	1.407***	-0.401	2.435
Perceived usefulness				
Real Time services				
Be guided to a destination all along my trip	0.057	1.183***	-0.488	2.568
Calculate the best route	0.012	0.386**	0.372*	-2.220*
Access personalized information	0.208*	-0.754***	-0.842***	-2.311*
Have all the information gathered and provided when I need it	0.048	-0.319	0.228	1.403
Make my travel more quickly	0.149	0.704*	0.338	-2.236
Usefulness preferences registered				
Estimated duration of the trip	0.145	-0.205	1.262***	2.885
Price	0.170	0.068	0.614***	-1.106
Arrival time	0.253*	-0.753**	-0.689**	1.875

Walking distance	-0.279	0.104	0.509**	2.716***
Comfort	-0.172	-0.067	0.404*	-0.236
Cleanliness	-0.137	0.229	-0.481*	0.482
Security	0.148	0.028	-0.243	0.295
Mode of transport	-0.049	0.427	-0.251	1.642
Environmental impact	0.038	0.178	-0.397*	-1.490*
Favorite destination	0.097	0.557***	-0.220	-2.160*
Previous travel registered	0.254**	0.306*	0.383*	2.294**
Accessibility	0.166	-0.292	-0.360*	0.504
Animal accepted	-0.009	0.058	-0.278	1.268
Number of connections	-0.084	-0.533	0.398	-0.146
Connections easiness	-0.366	-0.022	0.056	-0.804
Waiting time for connections	0.731**	0.022	-0.522	
Gender	0.032	0.331*	-0.394**	
Smoking environment	0.187	-0.624***	0.092	
Number of seats requested	-0.100	-0.308	0.418*	-0.320
Driver experience	-0.026	0.779***	0.333	1.169
Vehicle	-0.159	0.156	0.185	-0.185
Spoken languages	-0.155	-0.102	-0.697**	0.059
Driver reputation on Instant Mobility	0.423**	0.635	0.185	-0.078
Constant	1.634	-2.540	1.454	14.200
N	3132	1766	1326	293
chi2	312.335	426.016	283.643	132.045
df_m	60.00	59.000	57.000	55.000
aic	4027.991	1939.835	1622.399	234.663
Lroc	0.8133	0.8655	0.8502	0.9372

Table 23: Logit regression-Acceptability for registering travel

Dependent variable : acceptability to register personal preferences	**Istanbul**	**Roma**	**Trondheim**	**Nice**
Socio-economic characteristics				
Homme	0.106	-0.138	-0.172	-1.004
Moins de 25 years	-0.169	0.145	-0.148	2.075
25 - 35 years	-0.093	0.004	-0.054	-0.395
35 - 45 years	0.067	-0.074	0.050	-0.092
45 - 55 years	0.151	0.040	-0.037	-0.660
Compulsary School	-12.855	1.981	0.168	0.066
Upper secondary school	-13.418	2.539*	0.106	-0.162
University	-13.525	2.433*	0.137	-1.710
Higher university degree (PHD…)	-13.712	2.327*	0.118	0.366
Driver offering ride-sharing	-0.114	-0.152	-0.009	-0.610
Professional driver	0.248	0.880*	0.223	0.354
Personnal transport (car, …)	-0.201	-14.749	0.033	-10.888
Public transport	0.041	-14.865	0.166	-10.039
Ride-sharing as a traveler	0.217	-14.383	-	-10.854

Need to find route or information				
Frequently	-0.660	0.013	0.755	-1.781
Regularly	-0.630	-0.003	0.582	-1.492
Occasionally	-0.971	0.192	0.611	-2.261
Rarely	-0.182	-0.168	0.531	-2.337
Acquired competences				
Mobile	-0.027	0.054	0.253	1.116
Navigation system	0.086	0.002	-0.042	1.758
Mobile and Navigation system	-0.351**	-0.178	0.290	2.396
Mobile and Navigation system and Info station	0.101	0.032	0.570	-0.130
Station or road	0.356	-0.009	0.009	1.147
Mobile and Station or road	0.265	0.032	-0.177	-0.130
Real behavior				
Frequently register preferences in web similar services	0.488**	-0.070	-0.261	2.109
Regularly register preferences in web similar services	-0.080	0.387	-0.946	0.706
Not interested by registering preferences in web similar services	-0.147	0.066	-0.093	-0.318
Perceived security				
Privacy and Traceability	-0.505***	-0.093	-0.786***	0.390
Privacy, Traceability, Trust	-0.713***	-1.507***	0.127	-1.125
Perceived easiness				
Privacy and easiness	-0.875***	-0.128	-0.786***	
Easiness	0.085	0.514	-1.808*	2.167
Perceived usefulness				
Real Time services				
Be guided to a destination all along my trip	-0.012	0.771**	0.195	0.708
Calculate the best route	0.113	0.130	0.020	-1.103
Access personalized information	0.049	-0.059	-0.263	-0.582
Have all the information gathered and provided when I need it	0.030	-0.029	0.145	-0.230
Make my travel more quickly	-0.081	0.310	0.072	-1.396
Usefulness preferences registered				
Estimated duration of the trip	0.134	0.013	0.878**	1.642
Price	0.131	-0.148	0.343*	-0.977
Arrival time	-0.122	-0.424	-0.217	0.226
Walking distance	-0.075	-0.119	0.250	2.233***
Comfort	-0.075	0.030	0.239	-1.156
Cleanliness	-0.134	0.014	-0.261	0.959
Security	0.025	-0.005	-0.140	0.125
Mode of transport	0.417*	0.714**	0.085	-
Environmental impact	-0.008	0.088	-0.114	1.234
Favorite destination	-0.004	0.356*	-0.101	-0.239
Previous travel registered	0.146	-0.189	-0.381*	0.149
Accessibility	0.076	-0.146	-0.099	0.193
Animal accepted	0.041	-0.080	-0.139	0.296
Number of connections	0.179	-0.517	0.201	0.649
Connections easiness	-0.133	-0.173	0.068	2.310*
Waiting time for connections	0.492*	0.492	-0.399	-1.051

Gender	-0.088	0.068	-0.323*	1.840
Smoking environment	0.203*	-0.226	0.173	-1.456*
Number of seats requested	-0.177	-0.037	0.166	-0.367
Driver experience	-0.172	0.279	0.466*	1.158
Vehicle	0.072	0.359	-0.112	0.599
Spoken languages	0.052	-0.101	0.250	-0.328
Driver reputation on Instant Mobility	0.140	0.233	-0.056	-1.149
Constant	14.216	11.861	-0.909	9.223
N	3132	1766	1326	293
chi2	222.190	151.770	123.33	114.616
df_m	62.000	60.000	59.000	59.000
aic	4087.905	2157.757	1743.556	291.265
Lroc	0.8609	0.8103	0.8143	0.9155

Table 24: Logit regression-Acceptability for registering personal preferences

*Legend: * p<0.05; ** p<0.01; *** p<0.001*

	Istambul	**Roma**	**Trondheim**	**Nice**
	Ref.			
Socio-economic characteristics				
Homme		-1.405***	-1.541***	-1.313***
Moins de 25 years		-2.048***	-1.654***	-0.768**
25 - 35 years		-1.825***	-1.996***	-0.986***
35 - 45 years		-1.087***	-1.700***	-0.740**
45 - 55 years		-0.341	-0.761***	-0.164
Compulsary School		1.558*	0.342	0.354
Upper secondary school		1.634**	0.799	-1.173*
University		0.268	0.101	-1.560**
Higher university degree (PHD…)		0.266	1.167*	-0.493
Daily travel profil				
Driver offering ride-sharing		-0.717***	-0.959***	-0.639***
Personnal transport (car, …)		0.911***	-1.589***	0.633*
Public transport		2.904***	0.118	1.934***
Need to find route or information				
Frequently		-1.778****	-4.101***	-2.522***
Regularly		-0.712*	-1.952***	-0.951**
Occasionally		-0.033	-0.773*	-0.059
Rarely		-0.526	-0.431	0.095
Information Tools used				
Mobile		-0.297**	0.317*	-0.885***
Mobile and Navigation system		-0.601***	0.227	-0.578**
Station or road		0.813***	1.436***	0.365
All kinds of tools		-0.609**	-0.221	-0.865**
Preferences indices				
Real time services		4.458***	4.418***	5.046***

General personnal preferences		-5.333***	-7.112***	-7.888***
Connections preferences		2.154***	2.042***	-1.886***
Ride sharing preferences		-0.117*	-0.246***	-0.155
Conditions criteria				
Privacy and Traceability		-0.171	-0.374*	0.928**
Privacy, Traceability, Anonymity		0.603***	0.288**	0.172
Pivacy, Traceability, Anonymity, Trust		-0.051	0.040	-0.060
Constant		0.009	5.086***	-1.693*
N	4233			
chi2	2117.822			
df_m	81.000			
aic	4985.417			

Table 25: Istanbul citizens acceptability for transmission location comparing to the three others cities : a multinomial regression

*Legend: * p<0.05; ** p<0.01; *** p<0.001*

	Istambul	**Roma**	**Trondheim**	**Nice**
		Ref.		
Socio-economic characteristics				
Homme	1.405***		-0.136	0.092
Moins de 25 years	2.048***		0.394*	1.280***
25 - 35 years	1.825***		-0.171	0.839***
35 - 45 years	1.087***		-0.613***	0.347
45 - 55 years	0.341		-0.420**	0.177
Compulsary School	-1.558*		-1.216	-1.205
Upper secondary school	-1.633**		-0.835	-2.807***
University	-0.267		-0.167	-1.828**
Higher university degree (PHD…)	-0.266		0.901	-0.759
Daily travel profil				
Driver offering ride-sharing	0.717***		-0.242	0.078
Personnal transport (car, …)	-0.911***		-2.500***	-0.278
Public transport	-2.904***		-2.787***	-0.970**
Need to find route or information				
Frequently	1.778***		-2.323***	-0.744*
Regularly	0.712*		-1.240***	-0.239
Occasionally	-0.911***		-0.740***	-0.026
Rarely	-2.904***		0.095	0.621*
Information Tools used				
Mobile	0.297**		0.615***	-0.588***
Mobile and Navigation system	0.601***		0.828***	0.024
Station or road	-0.813***		0.624***	-0.448*
All kinds of tools	0.609**		0.389	-0.256
Preferences indices				
Real time services	-4.458***		-0.040	0.588
General personnal preferences	5.333***		-1.778***	-

				2.555***
Connections preferences	-2.154***		-0.112	-0.268
Ride sharing preferences	0.117*		-0.128*	0.272***
Conditions criteria				
Privacy and Traceability	-0.171		-0.204	-0.757**
Privacy, Traceability, Anonymity	-0.603***		-0.315**	-0.775***
Pivacy, Traceability, Anonymity, Trust	0.051		0.091	0.112
Constant	-0.009		5.077***	1.684*
N	4233			
chi2	2117.822			
df_m	81.000			
aic	4985.417			

Table 26: Roma citizens acceptability for transmission location comparing to the three others cities: a multinomial regression

*legend: * p<0.05; ** p<0.01; *** p<0.001*

	Istambul	**Roma**	**Trondheim**	**Nice**
Socio-economic characteristics			ref	
Homme	1.541***	0.136		0.228
Moins de 25 years	1.654***	-0.394*		0.886***
25 - 35 years	1.996***	0.171		1.010***
35 - 45 years	1.700***	0.613***		0.960***
45 - 55 years	0.761***	0.420**		0.597**
Compulsary School	-0.342	1.216		0.012
Upper secondary school	-0.799	0.835		-1.972***
University	-0.101	0.167		-1.661**
Higher university degree (PHD…)	-1.167*	-0.901		-1.660**
Daily travel profil				
Driver offering ride-sharing	0.959***	0.242		0.320
Personnal transport (car, …)	1.589***	2.500***		2.222***
Public transport	-0.118	2.787***		1.817***
Need to find route or information				
Frequently	4.101***	2.323***		1.579***
Regularly	1.952***	1.240***		1.001***
Occasionally	0.773*	0.740***		0.714*
Rarely	0.431	-0.095		0.525
Information Tools used				
Mobile	-0.317*	-0.615***		-1.202***
Mobile and Navigation system	-0.227	-0.828***		-0.805***
Station or road	-1.436***	-0.624***		-1.072***
All kinds of tools	0.221	-0.389		-0.645*
Preferences indices				
Real time services	-4.418***	0.040		0.628

General personnal preferences	7.112***	1.778***		-0.776
Connections preferences	-2.042***	0.112		-0.156
Ride sharing preferences	0.246***	0.128*		0.400***
Conditions criteria				
Privacy and Traceability	0.374*	0.204		-0.554*
Privacy, Traceability, Anonymity	-0.288**	0.315**		-0.460***
Pivacy, Traceability, Anonymity, Trust	-0.40	-0.091		0.021
Constant	-5.086***	-5.077***		-3.393***
N	4233			
chi2	2117.822			
df_m	81.000			
aic	4985.417			

Table 27: Trondheim citizens acceptability for transmission location comparing to the three others cities: a multinomial regression

*legend: * p<0.05; ** p<0.01; *** p<0.001*

	Istambul	**Roma**	**Trondheim**	**Nice**
Socio-economic characteristics				
Homme	1.313***	-0.092	-0.228	
Moins de 25 years	0.768**	-1.280***	-0.886***	
25 - 35 years	0.986***	-0.839***	-1.010***	
35 - 45 years	0.740**	-0.347	-0.960***	
45 - 55 years	0.164	-0.177	-0.597**	
Compulsary School	-0.354	1.205	-0.012	
Upper secondary school	1.173*	2.807***	1.972	
University	1.560**	1.828**	1.661**	
Higher university degree (PHD…)	0.493	0.759	1.660**	
Daily travel profil				
Driver offering ride-sharing	0.639***	-0.078	-0.320	
Personnal transport (car, …)	-0.633*	0.278	-2.222***	
Public transport	-1.934***	0.970**	-1.817***	
Need to find route or information				
Frequently	2.522***	0.744*	-1.579***	
Regularly	0.951**	0.239	-1.001***	
Occasionally	0.059	0.026	-0.714*	
Rarely	-0.095	-0.621*	-0.525	
Information Tools used				
Mobile	0.885***	0.588***	1.202***	
Mobile and Navigation system	0.578**	-0.024	0.805***	
Station or road	-0.365	0.448*	1.072***	
All kinds of tools	0.865**	0.256	0.645*	
Preferences indices				
Real time services	-5.046***	-0.588	-0.628	
General personnal preferences	7.888***	2.555***	0.776	

Connections preferences	-1.886***	0.268	0.156	
Ride sharing preferences	-0.155	-0.272***	-0.400***	
Conditions criteria				
Privacy and Traceability	0.928**	0.757**	0.554*	
Privacy, Traceability, Anonymity	0.172	0.775***	0.460***	
Pivacy, Traceability, Anonymity, Trust	-0.060	-0.112	-0.021	
Constant	-1.693*	-1.684*	3.393***	
N	4233			
chi2	2117.822			
df_m	81.000			
aic	4985.417			

Table 28: Nice citizens acceptability for transmission location comparing to the three others cities: a multinomial regression

*legend: * p<0.05; ** p<0.01; *** p<0.001*

6.4 Appendix 4: Citizen survey in Norsk

Spørreskjema: Instant Mobility

Instant Mobility er et europeisk forskningsprosjekt der offentlige myndigheter fra fire europeiske byer (Roma, Istanbul, Nice og Trondheim) samarbeider med flere tjenesteleverandører og forskningsinstitutt. Målsetningen er å vurderehvilke fordeler et bedre mobilt internett kan deg knyttet til transporti by.

Hva mener du om tjenester somgir deg oppdatert og tilrettelagt reiseinformasjonpå turen ved å kombinerestedsinformasjon (som hvor du er og hvor du skal) med trafikkinformasjon?

Denne undersøkelsen vil kun ta 10 minutter! Takk for at du svarer.

Del 1 - Om deg

Sp 1) Er du en yrkessjåfør (lastebilsjåfør, drosjesjåfør, bussjåfør ...)?
ja / nei

Sp 2) Er du
Mann / kvinne

Sp 3) Hvor gammel er du? _____år

Sp 4) Hva er utdanningsnivået ditt?
Grunnskole / Videregående skole / Høyskole / Universitet(master) eller annen høyere utdannelse
ingen av de overnevnte

Sp 5) Tilbyr du samkjøring til andre?
ja / nei

Del 2 - Dine daglige reiser – i dag

Sp 6) Hvordan reiser du til daglig?(Du kan velge flere svar)
egenbil, motorsykkel eller moped / sykkel eller går / kollektivtrafikk / samkjøring (sitter på)

Sp 7) Trenger du noen ganger å finnealternative ruter, ruter for kollektivtrafikk eller å finne informasjon om trafikk og hendelser? (bare ett svar)
ofte (minst en gang om dagen) / regelmessig (minst en gang i uken) / av og til (minst en gang i måneden) / sjelden (mindre enn en gang i måneden) / aldri

Sp 8) Hva bruker du for å finne informasjon?
(Du kan velge flere svar)

- Et navigasjonssystem i bilen
- En mobil medinternett og apps
- Ringer vegtrafikksentral eller finner trafikkinformasjon på visningstavler langs vegen
- Trykt informasjon (rutehefter eller kart)
- Trafikkprogram på radio

Sp 9) Når du reiser kollektivt, samkjører eller leier bil, velger du noen gang gi tilbakemelding om tjenesten i en nettside eller en blogg? (Kun ett svar)
hyppig (nesten alltid) / regelmessig (en av tre eller fire)/ av og til (en av ti)/ sjelden (mindre enn en av ti) / aldri, jeg er ikke interessert i å gi min mening / aldri, jeg ikke bruker slike tjenester

Sp 10) Når du reiser kollektivt, samkjører eller leier bil, trenger du noen gang å registrere personlig informasjon på internettsider eller via mobiltelefon somhjemmeadresse, dine favorittreisemål, dine rutevalg, …? (Kun ett svar)
hyppig (nesten alltid) / regelmessig (en av tre eller fire) / av og til (en av ti) / sjelden (mindre enn en av ti) / aldri, jeg er ikke interessert i å gi informasjon / aldri, jeg bruker ikke slike tjenester

Del 3: Morgendagens løsninger med tjenester fra Instant Mobility

Tenk deg at du har en ny tjeneste som gir deg mulighet til å finne bestereiserute for deg. Tjenesten kan gi deg oppdatert informasjon om hendelser og forsinkelser i trafikken, veiledning for å nå reisemåletsamt alternative reiseruter. Denne tjenesten må få informasjonom dine reisevalg og kunne bruke din posisjon for å gi riktig informasjon

Alle spørsmålene nedenfor refererer til disse fremtidige tjenestene.

Sp 11) Hvilke av de følgende tjenester basert på aktuelt sted og personlige reisevalg ville du vurdere å være nyttige? Vennligst ranger følgende tjenester på en skala fra 0 «Ikke nyttig i det hele tatt» til 5 «Veldig nyttig»

- Beregne den beste ruten for meg (etter mine ønsker og reisemiddelvalg)
- Bli veiledet til reisemål langs turen min
- Tilrettelagt informasjon om alternative reisemuligheter ved uventede hendelser.
- Ha all informasjonen samlet og vist når jeg trenger det
- Gjøre mine reiser raskere og bedre

Sp 12) Vil du godta at tjenesten bruker din posisjon i sine beregninger?
ja, alltid / under gitte forhold / nei, aldri

Hvis “under gitte forhold”
I hvilken grad er du villig til å godta bruk av posisjonsdata? (Du kan velge flere svar)

- systemet vet min posisjon bare under reisen min
- systemet lagrer ikke mine reiser etterpå
- jeg forblir anonym
- hvis jeg kan velge at enkelte reiser ikke registreres
- bare om jeg kjenner systemet og jeg er trygg på det
- annet, presiser: .....

Hvis “nei aldri”
Kan du fortelle hvorfor? (Åpent svar) ……

Sp 13) Med fremtidige tjenester som Instant Mobility, kan dine gjennomførte reiseruter og reisemiddelvalg brukes til å identifisere dine vaner. Dette kan brukes for å foreslå relevante reiseruter for deg (favoritt turer, favoritt reisemiddel ...). For å gjøre det, ville du være villig til å akseptere dine reiser som skal registreres?
ja, alltid / under gitte forhold / nei, aldri

Hvis “under gitte forhold”
I hvilken grad er du villig til å godta lagring av dine data? (Du kan velge flere svar)

- systemet registrerer kun reiser når jeg godtar det
- systemet bruker kun anonymisert informasjon
- systemet lagrer reisedata kun en begrenset tid
- kun når jeg kan slette enkeltreiser når som helst
- bare om jeg kjenner systemet og jeg er trygg på det
- annet, presiser: .....

Hvis “nei aldri”
Kan du fortelle hvorfor? (Åpent svar) ……

Sp 14) Personlige preferanser: Hvilke kriterier ville du vurdere å være mer nyttig når systemet skal foreslå deg mer relevante ruter? Vennligst ranger følgende kriterier på en skala fra 0 «Ikke nyttig i det hele tatt» til 5 «Svært nyttig»
Generelle preferanser

- Estimert varighet av turen
- Pris
- Gangavstand
- Ankomst tid
- Komfort (støy, temperatur, ledige plasser ...)
- Renslighet
- Sikkerhet
- Transportmåte(tog, buss, bil, tur, sykkel ...)
- Miljøpåvirkning (CO2-utslipp, ...)
- Favoritt reisemål
- Tidligere registrertereiser
- Tilgjengelighet (universell utforming, barnevogn, sykkel ...)
- Om dyr er tillatt

Personlige preferanser: Hvilke kriterier ville du vurdere å være mer nyttig når systemet skal foreslå deg mer relevante ruter? Vennligst ranger følgende kriterier på en skala fra 0 «Ikke nyttig i det hele tatt» til 5 «Svært nyttig»
Preferanser ved bytte av transportmiddel

- Antall bytter
- Enkel tilgjengelighet ved bytte
- Ventetid ved overganger

Ønsker ved samkjøring

- Kjønn
- Røykfritt miljø
- Antall seter tilgjengelig
- Førers kjøreerfaring
- Kjøretøy (tilstand, bagasjeplass, type kjøretøy ...)
- Språk (ett teller flere)
- Sjåførs tidligere evalueringer (innen Instant Mobility)

Sp 15) Vil du være villig til å registrere dine personlige preferanser iInstant Mobilitet, enten på et nettsted eller via din mobiltelefon for å få tilgang til mer relevante reiseruter, oppdatert informasjon og mer tilpassede alternativer (transportmiddel, favorittruter ...)?
ja, alltid / under gitte forhold / nei, aldri

Hvis "under gitte forhold"
I hvilken grad er du villig? (Flere svar mulig)

- jeg ønsker å kunne endre/slette mine personlige preferanser når som helst
- bare om systemet lagrer data for en begrenset periode
- bare hvis det er enkelt og raskt å skrive inn de personlige preferansene
- jeg vil velge om informasjonen skal kunne deles
- jeg vil kunne velge å besvare kun noen spørsmål
- bare om jeg kjenner systemet og jeg er trygg på det
- annet, presiser: .....

Hvis "nei aldri"
Kan du fortelle hvorfor? (Åpent svar) ……

Sp 16) En evalueringssystem gir deg muligheten til å rangere de tjenestene du har brukt. Du og andre reisende kan dra nytte av disse anbefalingene i fremtidige reisevalg. Hvilke kriterier ville du vurdere som mer nyttig å evaluere? Vennligst ranger følgende forslag på en skala fra 0 «Ikke nyttig i det hele tatt» til 5 «Veldig nyttig»
Generelt

- Om ruten foreslått av Instant Mobility oppfyller dine forventninger?
- Nøyaktighet, tilstrekkelighet av informasjon om reiseforslag fra Instant Mobilitet

For kollektivtrafikk

- Frekvens
- Forsinkelser
- Tilgjengelighet
- Komfort (renslighet, folkemengde, støy, temperatur)
- Sikkerhet

Spørsmål 16 fortsetter:
Hvilke kriterier vil du vurdere som mer nyttig å evaluere? Vennligst ranger følgende forslag på en skala fra 0 «Ikke nyttig i det hele tatt» til 5 «Veldig nyttig»
For samkjøring

- Behagelig kjøretøy
- Hvor presis sjåføren er
- Følelse av trygghet, kjøreatferd

Når jeg bytter transportmiddel

- Tilleggstjenester (som parkering osv)
- Sanntidsinformasjon som mottas under turen
- Nøyaktighet og tilgjengelighet av informasjon og veiledning ved overganger

Ved bruk av tilfartsparkering

- Tilgjengelige parkeringsplasser
- Sanntidsinformasjon om når neste buss kommer
- Informasjon om tilgjengelige parkeringsplasser ved reisemål

Sp 17) Som en reisende, ville du være villig til å evaluere tjenestene og transportene du nettopp har brukt?
Hovedsakeligja / hovedsakelig nei

Om "hovedsakelig nei"
Hvis du svarte "hovedsakelig nei" – vil du fortelle hvorfor?

- det innebærer bedømmelse av en annen person
- jeg er ikke interessert
- det tar for mye tid
- det er for vanskelig
- annet, presiser: .....

Sp 18) Hva skal til for at du vil evaluere de tjenester og transportene du nettopp har brukt? (Du kan velge flere svar)

- jeg kan raskt og enkelt starte opp evalueringsprogrammet
- evalueringen er enkel å fylle ut
- jeg kan svare anonymt
- jeg kan se tidligere evalueringer fra andre
- annet, presiser: .....

Hvis personen svarte "Ja" på spørsmålet "Tilbyr du samkjøring til andre?"
Sp 19) Hvordan ønsker du at andre skal evaluere deg når du tilbyr dem samkjøring?Vennligst ranger følgende forslag på en skala fra 0 «Ikke nyttig i det hele tatt» til 5 «Veldig nyttig»

- Behagelig kjøretøy
- Hvor presisjeg er
- Følelse av trygghet, kjøreatferd

Andre kriterier? ……

Slutt på spørreundersøkelsen - Takk for hjelpen!

6.5 Appendix 5: Citizen Light survey

6.5.1 English version

Instant Mobility is a European Project that studies the opportunities and improvements that future internet technology may bring in your urban mobility (for example car, bus, tram, bike, walking, etc.).
This project brings together public organizations in European cities (Roma, Istanbul, Nice, Trondheim, Toledo), solution providers and research institutes.

Imagine that you have a service that offers you the means to find your complete itinerary in an optimized way and that is adapted to your personal requirements and preferences. It could also give you permanent and real time feedback and information on traffic (road works, parking, and events), guidance for your current journey and alternative itineraries. This service needs to get real time data on your position and your preferences.
We are interested in your opinions and experiences about some services that use information about your location during your trip and your personal data.

This questionnaire will only take a few minutes! Thanks for answering.

Q1- Which of the following services would you consider to be more useful? Please rate the following services on a scale from 0 « Not useful at all » to 5 « Very useful » (Each item is ranked from 0 to 5)

- Be guided to a destination all along my trip
- Calculate the best route for me (according to my needs and preferences,eg. quicker, better conditions)
- Access personalised targeted information (when I need it, eg. in case of unforeseen events during my journey)

Q2 – Would you be willing to accept this service to get real time data on your position and your preferences? Please rate the following options on a scale from 0 « Not at all » to 5 « Absolutely yes » (Each item is ranked from 0 to 5)

- Real time location data transmission
- Full travel follow-up (itinerary, mean of transports)without storage
- Full travel storage (for a limited time)
- Personnal preferences registration

Q3 -To which extent are you willing to accept transmission of your data? Please rate the following options on a scale from 0 « Not at all » to 5 « Absolutely yes » (Each item is ranked from 0 to 5)

- Only if I can easily turn on and off the function transferring my data.
- Only if the system uses data on the spot and does not store it
- Only if the system stores data for a limited time that I know
- Only if I can delete my data easily, at any time
- Only if I remain anonymous
- Only if I can choose which data is shared (e.g. some journeys only, my professional travels …)
- Only if I trust the service
- Other

Q4 - As a traveller, would you be willing to evaluate (note, comment, opinion) the services and the transports means you have just used?(Only one answer)
Mostly yes / Mostly no

Q5 - You answered “mostly no”, could you precise why? (Several answers possible)

- It involves judgments about a person, for instance for ride-sharing
- I'm not interested in evaluating the service
- It will take me too long
- It is too complicated
- It is never used, users do not get benefits from this
- Other

Q6 - You answered “mostly yes”, to which extent would you be willing to evaluate the services and the transports means you have just used? (Several answers possible)

- I can easily and quickly access the assessment tool

The assessment tool is easy to use

- I can evaluate anonymously
- I can see the ratings of other members / users of Instant Mobility
- Other

Thank you for your contribution

6.5.2 French version

Instant Mobility est un projet de recherche européen sur 2 ans regroupant des organisations publiques de villes européennes (Rome, Istanbul, Nice, Trondheim, Tolède), des fournisseurs de services et des instituts de recherche. Ce projet vise à étudier et évaluer les opportunités et les améliorations que la technologie de l’Internet du futur peut apporter à vos déplacements urbains.

Imaginez un nouveau service qui vous offre les moyens de trouver un itinéraire parfaitement adapté à vos besoins et préférences personnelles. Il pourrait également vous donner en permanence des informations sur le trafic actuel (travaux routiers, un parking, des événements ...), des conseils pour votre déplacement en cours et des variantes d’itinéraires. Ces services ont besoin de votre position en temps réel et de vos préférences.

Nous sommes intéressés par votre opinion sur ces nouveaux services et les données qu’ils utilisent.

Ce questionnaire ne vous prendra que quelques minutes! Merci d'y répondre.

Q1- Quels services considérez-vous comme les plus utiles ? Merci de les noter de 0 "Pas utile du tout" à 5 "Très utile" (Each item is ranked from 0 to 5)
Guidage vers ma destination tout au long de mon trajet
Fourniture du meilleur itinéraire pour moi (selon mes besoins et préférences, ex; le plus rapide, avec les meilleures conditions de voyage ...)
Accès à des informations personnalisées et ciblées (adaptées à mes besoins et aux circonstances au cours de mon trajet)

Q2 – Comment accepteriez-vous que ces services utilisent certaines de vos données ? Merci de noter les options suivantes de 0 "Pas du tout" à 5 "Oui absolument" (Each item is ranked from 0 to 5)
Transmission des données de position en temps réel
Suivi du trajet complet sans enregistrement (itinéraire, mode de transport ...)
Enregistrement des données sur le trajet complet (pour une durée limitée ...)
Enregistrement des préférences personnelles

Q3 - A quelles conditions accepteriez vous la transmission de vos données ? Merci de noter les options suivantes de 0 "Pas du tout" à 5 "Oui absolument" (Each item is ranked from 0 to 5)
Seulement si je peux facilement activer ou non la fonction de transmission des données
Seulement si le système exploite les données sans les enregistrer
Seulement si le système n'enregistre ces données que pour une durée limitée
Seulement si je peux supprimer mes données facilement, quand je le souhaite
Seulement si les données restent anonymes
Seulement si je peux choisir les données que je partage (ex. certains trajets seulement, mes parcours professionnels ...)
Seulement si j'ai confiance dans le service
Autres conditions que celles listées

Q4 - En tant que voyageur, seriez-vous prêt à évaluer (note, commentaire, opinion) les services et les moyens de transport que vous venez d'utiliser ? (Only one answer)
Plutôt oui / Plutôt non

Q5 - Vous avez répondu "Plutôt non", pourriez vous préciser pourquoi ? (Several answers possible)
Cela implique, pour le co-voiturage par exemple, le jugement d'une personne
Je ne suis pas intéressé par évaluer le service
Cela prend trop de temps
C'est trop compliqué
Ce n'est jamais utilisé, les utilisateurs n'en bénéficient pas
Autre raison que celles listées

Q6 - Vous avez répondu "Plutôt oui", à quelles conditions évalueriez-vous les services et les moyens de transport que vous venez d'utiliser ? (Several answers possible)
Je peux facilement et rapidement accéder à l'outil de notation
L'outil est simple à utiliser
Je peux faire ma notation anonymement
Je peux voir les notes des autres utilisateurs / membre de Instant Mobility.
Autres conditions que celles listées

Merci de votre contribution

6.5.3 Dutch version

Instant Mobility is een Europees project dat onderzoekt welke mogelijkheden en verbeteringen toekomstige internet technologieën bieden voor het reizen binnen een stad en tussen steden. Hierbij wordt er gekeken naar reizen met de auto, het openbaar vervoer, per fiets en te voet.

Aan het project werken diverse organisaties mee; publieke organisaties in een aantal Europese steden (Rome, Istanbul, Nice, Trondheim en Toledo), aanbieders van internet technologieën en onderzoeksinstituten.

Steltuzichvoor dat u beschikt over een dienst die u in staat stelt om uw reisroute op een eenvoudige manier te vinden waarbij de dienst optimaal is afgestemd op uw persoonlijke eisen en voorkeuren. Deze dienst geeft actuele feedback en informatie over het verkeer (zoals wegwerkzaamheden, parkeergelegenheid en gebeurtenissen), advies over uw huidige route en alternatieve routes.
Deze dienst maakt gebruik van actuele informatie over uw locatie en uw voorkeuren.

We zijn geinteresseerd in uw mening over een aantal diensten die gebruik maken van informatie over uw locatie gedurende uw reis en van uw persoonlijke gegevens.

Het invullen van de vragenlijst kost slechts enkele minuten. We stellen uw medewerking zeer op prijs.

Q1- Welke van de volgende diensten vindt u waardevol? Beoordeel de volgende diensten op een schaal van 0 “niet waardevol” tot 5 “zeer waardevol”.
Gedurende mijn hele reis geleid worden naar een bestemming
Bepalen van de beste route voor mij (waarbij gebruik wordt gemaakt van mijn wensen en voorkeuren zoals de snelste route, de kortste route of de route met de minste afslagen)
Bieden van gepersonaliseerde informatie over mijn route wanneer ik dit nodig heb (bijvoorbeeld bij onvoorziene gebeurtenissen, ongelukken en wegwerkzaamheden)

Q2. In hoeverre bent u bereid om deze dienst gebruik te laten maken van actuele gegevens over uw locatie en voorkeuren? Geef uw oordeel op een schaal van 0 “zeker niet” tot 5 is “zeker wel”.
Actuele gegevens over uw locatie
Gegevens over uw reis (route, vervoermiddel); deze gegevens worden niet opgeslagen
Gegevens over reis (route, vervoermiddel); deze gegevens worden gedurende een beperkte tijd opgeslagen
Registratie van uw persoonlijke voorkeuren (bijvoorbeeld: vervoermiddel dat uw voorkeur heeft, snelste route, meest voordelige route)

Q3. In hoeverre bent u bereid om gegevens te delen? Geef uw oordeel op een schaal van 0 “helemaal niet” tot 5 “helemaal wel”

- Alleen als ik het delen van mijn gegevens eenvoudig aan en uit kan zetten
- Alleen als de dienst de gegevens gebruikt tijdens mijn reis maar deze niet opslaat
- Alleen als de dienst de gevensopslaat voor een beperkte duur die mij bekend is
- Alleen als ik de gegevens eenvoudig kan verwijderen, op elk moment
- Alleen als ik anoniem blijf
- Alleen als ik kan bepalen welke gegevens worden gedeeld (bijvoorbeeld alleen gegevens over werkreizen)
- Alleen als ik de dienst kan vertrouwen
- Anders, namelijk

Q4. Bent u bereid om de diensten en vervoermiddelen waar u als reiziger gebruik van heeft gemaakt te beoordelen?
Meestal wel / Meestal niet

Q5 U heeft “meestal niet” geantwoord. Kunt u toelichten waarom? (meerdere antwoorden mogelijk)

et betreft een oordeel over een persoonbij carpool diensten
Ik ben niet geinteresseerdin het beoordelen van diensten
Het kost me teveel tijd
Het is te complex
Er wordt nooit iets mee gedaan, andere gebruikers hebben er geen voordeel van
Anders, namelijk

Q6. U heeft “meestal wel” geantwoord. Onder welke voorwaarden zou u bereid zijn om de diensten en vervoermiddelen waar u gebruik van heeft gemaakt te beoordelen? (meerdere antwoorden mogelijk)
Ik heb eenvoudig en snel toegang tot de evaluatie tool
De evaluatie tool is makkelijk te gebruiken
Ik kan mijn oordeel anoniem geven
Ik kan het oordeel zien van andere gebruikers
Anders, namelijk

Dank voor uw medewerking

6.6 Appendix 6: Professional driver survey

6.6.1 French version

Bienvenue au sein de notre enquête auprès des professionnels de la route.
Instant Mobility est un projet de recherche européen sur 2 ans. Ce projet étudie les moyens d'améliorer l'efficacité du transport de frêt. Plusieurs villes européennes sont impliquées dans ce projet (Rome, Istanbul, Nice, Trondheim, Tolède).
Ce questionnaire concerne les conducteurs professionnels du domaine des transports de frêt et de messagerie. Nous aimerions connaître votre opinion et votre expérience à propos des services du futur qui se baseraient sur la localisation et l'avis des conducteurs en temps réel : par exemple des services de guidage et d'aide à la conduite la plus écologique possible.
Ces nouveaux services pourront recalculer votre itinéraire en fonction de nouvelles demandes de livraison afin d'optmiser vos trajets. Ils pourraient également permettre d'organiser des lieux de partage de colis entre collègues ou même entre conducteurs de différentes sociétés.

Ce questionnaire vous prendra environ 10 minutes. Toutes les réponses seront traitées avec le plus grand sérieux et resteront anonymes. Les résultats concerneront des groupes de personnes et en aucun cas des individus.

Q1. Dans votre travail, jugez-vous utile ces futurs services? Merci d'ordonner les services suivants de 1 (Très utile) à 6 (Peu utile) en n'utilisant chaque valeur qu'une seule fois.

Planifier votre trajet
Vous guider le long de votre trajet
Recalculer votre trajet en tenant compte des informations de trafic
Replannifier votre trajet compte tenu des nouvelles demandes de livraison/chargement

Proposer des transferts de colis ou partage de livraison avec des collègues ou d'autres entreprises pour améliorer l'efficacité du secteur
Fournir une aide à l'éco conduite pour réduire la consommation

2. D'une manière générale, comment évalueriez-vous globalement ces futurs services (Planification / recalcul de votre itinéraire, guidage, proposition de transfert de colis, aide à l'éco-conduite ...)?

Utile - - - - -	Inutile
Agréable	Désagréable
Mauvais	Bon
Attrayant	Ennuyeux
Pertinent	Superflu
Agaçant	Agréable
Aidant	Sans intérêt
Non attractif	Attractif
Augmentant mon attention	Provoquant de la somnolence

Votre contexte de travail
Les questions suivantes sont relatives aux caractéristiques de votre travail

3. Comment qualifieriez-vous les trajets que vous effectuez habituellement?
Pratiquement toujours les mêmes trajets
Généralement les mêmes trajets
A la fois des trajets identiques et différents
Généralement des trajets différents
Quasiment toujours des trajets différents

4. Comment décririez-vous vos trajets dans le cadre de votre travail? Mes trajets sont généralement:
Distance moyenne: ... kilomètres
Nombre d'arrêts: Peu nombreux / Assez nombreux / A la fois peu et assez nombreux / généralement peu mais parfois nombreux / généralement nombreux, parfois peu nombreux
Transports locaux : Oui/non
Transports nationaux : Oui/non
Transports internationaux : Oui/non

5. Utilisez-vous un système de gestion de flotte dans votre entreprise? (Un gestionnaire de flotte fournit des fonctions de navigation, planification, des informations sur le trafic, une messagerie, de la gestion de commandes, aide à l' éco-conduite ...)
Oui / Non

6. Quelles fonctions du système de gestion de flotte utilisez-vous ? A quelle fréquence ? (choix entre jamais / rarement / environ une fois sur deux / souvent/ toujours)
Navigation
Planification
Information sur le trafic
Messagerie entre le conducteur et le bureau
Gestion des commandes
Retour de données sur son mode de conduite

7. Quelle genre d'information utilisez-vous pour vos trajets dans le cadre de votre travail ?
J'utilise des cartes papier
J'utilise des instructions papier issues de mon donneur d'ordre
J'utilise l'information trafic de la radio pour planifier ou rectifier mes trajets
Je sollicite des avis sur mon trajet auprès de mon donneur d'ordre ou d'un collègue
Je n'utilise aucun des moyens énoncés

8. Utilisez-vous l'information issue d'un système de navigation pendant votre travail?
Oui / Non
[Si non -> Q9, Si oui -> Q10]

9. Vous n'utilisez pas de système de navigation, pourquoi ?
Mon employeur ne n'a pas fourni de système de navigation
Je prefère utiliser des cartes papier
Je ne suis pas habitué aux nouvelles technologies
Je peux parfaitement trouver mon chemin sans ces systèmes
Autre raison:
Merci de préciser:

10. Comment votre employeur connaît-il votre position ?
Mon employeur ne connaît pas ma position
Je ne sais pas comment mon employeur connaît ma position
Nous communiquons par téléphone et/ou radio
Mon employeur peut connaître ma position en temps réel
Mon employeur peut connaître mon itinéraire via mon système de navigation
Mon employeur connaît ma position par un autre moyen

Les questions suivantes sont relatives au type de données que vous pourriez ou non partager, selon l'usage. Merci d'expliquer vos réponses.
Accepteriez-vous de partager ...?

11a. Information de localisation de vos trajets personnels uniquement
Oui / Non / Peut-être
Pourriez-vous expliquer votre réponse _____

11b. Information de localisationde vos trajest professionnels, partage avec votre propre société, afin de les aider à planifier vos itinéraires plus efficacement, de manière à ce que votre donneur d'ordre vous voit et estime votre heure d'arrivée
Oui / Non / Peut-être
Pourriez-vous expliquer votre réponse _____

11c. Information de localisationde vos trajest professionnels, partage avec d'autres sociétés afin d'organiser des échanges de colis
Oui / Non / Peut-être
Pourriez-vous expliquer votre réponse _____

11d. Informations pour être assisté en matière d'éco conduite
Oui / Non / Peut-être

Pourriez-vous expliquer votre réponse _____

12. Quel est votre sexe?
Masculin / Féminin

13. Quel est votre âge? …….. Ans

14. Combien d'années d'expérience avez-vous dans le domaine du transport de marchandise?
0 - 1 an
2 - 5 ans
6 - 10 ans
11 – 15 ans
Plus de 15 ans

15. Quelle est la taille de la flotte de votre société?
1- 10 vehicules
11 – 20 vehicules
21 -100 vehicules
Plus de 100 vehicules

16- Etes-vous le propriétaire / gérant de cette société?
Oui / Non

17. Comment trouvez-vous la charge de travail dans votre société actuelle?
Très élevée, je dispose de peu de temps pour effectuer mes tournées
Elevée
Moyenne, le rythme des tournées est globalement bon
Faible
Très faible, je dispose d'assez de temps pour effectuer mes tournées

Services
Nous aimerions connaître votre opinion sur un certain nombre de services utilisant les données temps réel et les données de localisation GPS ou de votre façon de conduire.

Meilleur itinéraire

18. A quel point ces fonctions sont-elles importantes pour vous ? Notez les de 1 à 5.
(1 = pas important du tout, 2 = de peu à modérément important, 3 = modérément important, 4= important, 5 = très important)
Je veux toujours savoir pourquoi un itinéraire a été conseillé et quels sont les itinéraires alternatifs
Je veux pouvoir rejeter l'itinéraire proposé et choisir une alternative.
Je veux pouvoir éteindre le système de navigation (par ex. lorsque je connais très bien l'itinéraire) sans désactiver le partage de ma localisation avec les autres.
L'information sur ma localisation devrait être disponible pour le service et non pas pour mon employeur ou mon donneur d'ordre

L'éco-conduite
L'éco-conduite n'a pas pour vocation de diminuer la distance totale des trajets mais de réduire la consommation de carburant pendant la conduite en aidant le conducteur à conduire plus

efficacement. L'application contribue à réduire les émissions et la pollution sonore dans les villes. De plus, ce type de conduite, favorise un environnement de trafic plus calme et prévisible, par la réduction des décélérations et accélérations des véhicules. Cette application améliore également les rendements commerciaux de l'opérateur de transport par une réduction des coûts de carburant.

19. A quel point les fonctions suivantes sont-elles importantes pour vous? Notez les de 1 à 5.
(1 = pas important du tout, 2 = de peu à modérément important, 3 = modérément important, 4= important, 5 = très important)
J'aimerais être aidé pour conduire de façon plus éco efficace
Je souhaite toujours savoir pourquoi le sytème me donne un conseil
Je veux contrôler le service et pouvoir le contourner
Je veux pouvoir arrêter le système
L'information sur ma localisation ne devrait être disponible que pour le système et pas pour mon employeur

Services : itinéraires optimisés
Vous pourriez avoir des itinéraires replanifiés pour s'adapter aux circonstances et également faciliter des échanges de colis entre véhicules.

20. Dans quel délai estimez-vous acceptable la modification de votre itinéraire ?
OK si c'est pendant la mission en cours (en allant chercher quelque chose)
OK s'il s'agit de la mission suivante
OK si cela concerne une mission planifiée plus tard dans la journée
Ce n'est jamais acceptable

21. A quel point les fonctions suivantes sont-elles importantes pour vous? Notez les de 1 à 5.
(1 = pas important du tout, 2 = de peu à modérément important, 3 = modérément important, 4= important, 5 = très important)
Je veux être prévenu des modifications de trajet
Je veux connaître les raisons pour lesquelles le trajet a été modifié

22. De quel autre service, non mentionné dans cette enquête, auriez-vous besoin ou apprécieriez-vous dans votre travail quotidien?

6.6.2 English version

Welcome to the Questionnaire for freight vehicle drivers
Instant Mobility is a European project. This project studies improvements that can be used to make freight transport more efficiently. Some European cities are also involved in this project (Roma, Istanbul, Nice, Trondheim, Toledo).
This questionnaire focuses on professional drivers who are active in freight transport and parcel delivery. We are interested in your opinions about upcoming services. These services are able to use real time location data that drivers generate, to give drivers real time advice. For instance, about which route to follow, and how to drive the route as energy efficient as possible. These services can also reschedule your route using new incoming delivery/pick up orders, making your work more efficient. Or they can organise parcel/load sharing between colleagues and perhaps other companies to improve sector efficiency.

Finishing this questionnaire will take about 10 minutes of your time. All answers will be treated with utmost care and will be anonymous. Reports are made of groups of people, not of individuals.

1. How useful do you find the following services for your own purpose?
Please order the following services from 1 « Most useful » to 6 « Least useful ». Use the values only once.
Plan your route
Guide you along your route
Reschedule your route using traffic information
Reschedule your route using new incoming delivery/pick up orders
Organise parcel/load sharing between colleagues and perhaps other companies to improve sector efficiency
Provide eco-driving support to help you to drive efficiently to limit the fuel consumption

2. Overall, how will you evaluate these new upcoming services in general (Planing/rescheduling route, guiding you, organising parcel/load sharing, eco-driving support ...)?

Useful - - - -	Useless
Pleasant	Unpleasant
Bad	Good
Nice	Annoying
Effective	Superfluous
Irritating	Likeable
Assisting	Worthless
Undesireable	Desirable
Raising Alertness	Sleep-inducing

Background
The following questions are about some characteristics of your work

3. How can your driving behaviour be characterized in terms of the routes you follow?
Almost always the same routes
Usually the same routes
Both the same and other routes
Usually other routes
Almost always other routes

4. How can your routes and work best be described?
My routes are usually:
Average distance: ... kilometers
Stops: few / many / few and many equally / mostly few, sometimes many / mostly many, sometimes few
Local transportations: yes/no
National transportations: yes/no
International transportations: yes/no

5. Is a fleet management system used in your company? (A fleet management system provides functionality for navigation, planning, traffic information, messaging, orderhandling and ecofeedback.)
Yes / No

6. Which functionalities of the fleet management system do you use? And how often? (choose value in never / seldom / about half the times / usually / always)
Navigation
Planning
Traffic information
Messaging between driver and office
Orderhandling
Ecofeedback

7. What kind of information do you use during work for navigation?
I use paper maps
I use route instructions on paper given to me by my planner
I use traffic information on the radio to plan or adjust my route
I ask route instructions, at the planner or at a colleague
I do not use any of the information mentioned

8. Do you use route information provided by a navigation device during work?
Yes / No
[If Q8 = No -> go to Q9], If Q8 = Yes -> go to Q10]

9.- You don't use a navigation device, why?
My boss does not pay for the device
I like using paper maps
I am not used to use new technology
I can find my way perfectly without these devices
Other reason:

10. How does your employer keep track of your location?
My employer does not know my location
I don't know how my employer keeps track of my location
We communicate via telephone and/or radio
My employer can keep track of my position in real time
My employer can change my route via my in car navigation device
My employer keeps track of my location in another way, ….

The following questions deal with the kind of data that you would, or would not, like to share, and for what purposes. Could you please explain your answers.

11a. Location data, only for personal navigation
Yes / No / Maybe
Could you please explain your answer _____

11b. Location data with your own company, to help them plan routes more efficiently, so that the planner can see where you are and when you are estimated to arrive at your destination
Yes / No / Maybe
Could you please explain your answer _____

11c. Location data to other companies so that you can share loads

Yes / No / Maybe
Could you please explain your answer _____

11d. Location data so that you get advised about eco optimized driving
Yes / No / Maybe
Could you please explain your answer _____

12. What is your gender?
Male / Female

13. What is your Age? ……years

14. How many years of work experience do you have in freight transport?
0 - 1 year
2 - 5 years
6 - 10 years
11 – 15 years
More than 15 years

15. What is the fleet size of your company?
1- 10 vehicles
11 – 20 vehicles
21 -100 vehicles
More than 100 vehicles

16. Are you the owner of the company?
Yes / no

17. How do you experience the workload at your current company?
Very high, there is little time to realize the rides
High
Average, planning of rides is good on the average
Low
Very low, there is enough time to realize the rides

Services
We would like to know your opinion about a number of services using real-time data from your GPS-location or data about your way of driving.

Most efficient route

18. How important are the following functions for you. Please rate them from 1 to 5.
(1 = not important at all, 2 = of little importance, 3 = moderately important,
4 = important, 5 = very important)
I always want to be able to see why a specific route has been advised and what the alternative routes are.
I want to be able to 'overrule' the advised route and pick an alternative.

I want to be able to turn the service off (e.g. in situations where I know the route very well) without shutting down the location data sharing.
Information about my location should only be available to the service and not to my employer or planner

Eco-optimized driving
Eco-optimized driving is not about lowering the total travel distance, but is about reducing fuel consumption while travelling, by helping the driver to drive efficiently. The application contributes to reducing emissions and noise pollution within cities. Furthermore it aids to a calmer and more predictable traffic environment by reducing acceleration / deceleration of vehicles. At the same time the application provides commercial benefits to the transport operator in terms of reduced cost of fuel.

19. How important are the following functions for you. Please rate them from 1 to 5.
(1 = not important at all, 2 = of little importance, 3 = moderately important, 4 = important, 5 = very important)
I would like to be coached to drive more eco efficient
I always like to be able to see why I get a specific advice
I want to be in control and 'overrule' the service
I want to be able to turn off the service
Information about my location should only be available to this service and not to my boss

Services: most efficient itinerary
You may have itineraries and routes rescheduled due to changed circumstances making it more efficient to switch transport missions among different vehicles.

20. Within which window of time is it still acceptable for you that your itinerary is changed?
OK if it is on the ongoing mission (about to pick something up)
OK if it is the next mission
OK if it is a mission later in the day
It is never acceptable

21. How important are the following functions for you? Please rate them from 1 to 5.
(1 = not important at all, 2 = of little importance, 3 = moderately important, 4 = important, 5 = very important)
I want to be notified on changes to the itinerary
I want to get information on why the itinerary has changed

22. What other services, not mentioned here in this questionnaire would you appreciate/ need in your daily work?

6.6.3 Dutch version

Welkom bij de Vragenlijst voor chauffeurs in het vrachtvervoer en de pakketbezorging
Instant Mobility is een Europees project. Het project onderzoekt de mogelijkheden om het vrachtvervoer nog efficiënter te maken. Ook een aantal Europese steden (Rome, Istanbul, Nice, Trondheim en Toledo) zijn betrokken bij het project.

Deze vragenlijst richt zich op chauffeurs die werkzaam zijn binnen het vrachtvervoer en de pakketbezorging. We zijn geïnteresseerd in uw mening over een aantal nieuwe diensten. Deze diensten maken gebruik van actuele locatiegegevens om chauffeurs advies te geven. Bijvoorbeeld over welke route het beste kan worden gevolgd en hoe er zo 'energie efficiënt' mogelijk kan worden gereden. Deze diensten kunnen ook een route herplannen door gebruik te maken van gegevens over nieuwe aflever/-ophaal orders. Ook kunnen deze diensten het vracht- en pakketvervoer organiseren tussen collega's en wellicht ook tussen bedrijven om zo de vervoersector nog efficiënter te maken.

Het invullen van deze vragenlijst kost ongeveer 10 minuten. Wij gaan zeer zorgvuldig om met de gegevens die u ons ter beschikking stelt. Wij benadrukken dat uw antwoorden op geen enkele wijze in verband kunnen worden gebracht met uw persoon. Uw antwoorden worden anoniem verwerkt en er wordt alleen op het niveau van groepen gerapporteerd.

1. Hoe waardevol vindt u onderstaande diensten?
Beoordeel de volgende diensten op een schaal van 1 "meest waardevol" tot 6 "minst waardevol". Gebruik iedere score slechts één keer.
Plannen van de route
Van het vertrekpunt naar uw bestemming geleid worden
Herplannen van de route met behulp van verkeersinformatie
Herplannen van de route door gebruik te maken van informatie over nieuwe aflever/-ophaal orders
Organiseren van het vracht- en pakketvervoer tussen collega's en wellicht ook tussen bedrijven om zo de vervoersector nog efficienter te maken
Bieden van 'eco-driving' ondersteuning om u te helpen brandstof te besparen

2. In het algemeen, hoe beoordeelt u deze diensten (plannen/herplannen van route, leiden langs route, organiseren van het vracht- en pakketvervoer, onderdersteuning bij 'eco-driving')

Waardevol	-	-	-	-	Niet waardevol
Prettig					Niet prettig
Slecht					Goed
Leuk					Vervelend
Effectief					Overbodig
Irritant					Aantrekkelijk
Ondersteunend					Waardeloos
Niet wenselijk					Wenselijk
Roept aandacht op					Slaapverwekkend

Achtergrond
De volgende vragen gaan over een aantal kenmerken van uw werk

3. Hoe kan uw rijgedrag het beste worden beschreven wat betreft de routes die u volgt?
(Bijna) altijd dezelfde routes
Meestal dezelfde routes
Zowel dezelfde als wisselende routes
Meestal wisselende routes
(Bijna) altijd wisselende routes

4. Hoe kunnen uw routes en het werk het beste worden beschreven?

Mijn routes zijn meestal:
Gemiddelde afstand: ... kilometers
Aantal haltes: weinig/veel/evenveel weinig als veel/meestal weinig, soms veel/meestal veel, soms weinig
Lokaal transport: ja/nee
Nationaal transport: ja/nee
Internationaal transport: ja/nee

5. Wordt er gebruik gemaakt van een 'fleet management systeem' in uw bedrijf? (Een 'fleet management systeem' bevat functionaliteit voor navigatie, planning, verkeersinformatie, berichten, orderafhandeling en ecofeedback: feedback om brandstof te besparen).
Ja / Nee *(go to question -> 7)*

6. Welke functionaliteit van het 'fleet management systeem' gebruikt u? En hoe vaak? (nooit/zelden/ongeveer de helft van de tijd/meestal/altijd)
Navigatie
Planning
Verkeersinformatie
Berichten tussen chauffeur en kantoor
Orderafhandeling
Ecofeedback

7. Welke informatie gebruikt u tijdens uw werk voor navigatie?
Ik gebruik papieren kaarten
Ik gebruikt route instructies op papier die ik heb gekregen van de planner
Ik gebruik verkeersinformatie op de radio om mijn route te plannen en aan te passen
Ik vraag route instructies, aan de planner of aan een collega
Ik gebruik geen van de bovengenoemde informatie

8. Maakt u gebruik van route informatie via een navigatiesysteem tijdens uw werk?
Ja / Nee
[If Q8 = No -> go to Q9, If Q8 = Yes -> go to Q10]

9.- U maakt geen gebruik van een navigatiesysteem. Kunt u toelichten waarom niet?
Mijn baas betaalt niet voor het device
Ik maak graag gebruik van papieren kaarten.
Ik ben niet gewend om nieuwe technologie te gebruiken.
Ik kan mijn route prima vinden zonder deze devices.
Anders, namelijk

10. Op welke manier is uw werkgever op de hoogte van uw locatie?
Mijn werkgever kent mijn locatie niet
Ik weet niet hoe mijn werkgever op de hoogte is van mijn locatie
We communiceren via de telefoon en radio
Mijn werkgever kan mijn actuele locatie zien
Mijn werkgever kan mijn route veranderen via het navigatiesysteem in mijn auto
Mijn werkgever houdt zich op een andere manier op de hoogte van mijn locatie, namelijk…

De volgende vragen betreffen het soort gegevens dat u wel, of niet, zou willen delen, en de doeleinden waarvoor u deze gegevens zou willen delen.
11a. Locatie gegevens, alleen voor persoonlijke navigatie
Ja / Nee / Misschien
Kunt u uw antwoord toelichten _____

11b. Locatie gegevens binnen uw bedrijf zodat de planner op de hoogte is waar u bent en wat u verwachte aankomsttijd is, zodat routes (nog) efficiënter gepland kunnen worden
Ja / Nee / Misschien
Kunt u uw antwoord toelichten _____

11c. Locatie gegevens met andere bedrijven zodat u ladingen kunt delen
Ja / Nee / Misschien
Kunt u uw antwoord toelichten _____

11d. Locatie gegevens zodat u geadviseerd kunt worden over 'eco optimized driving' (waardoor u brandstof bespaart)
Ja / Nee / Misschien
Kunt u uw antwoord toelichten _____

12. Wat is uw geslacht?
Man / Vrouw

13. Wat is uw leeftijd? ……jaar

14. Hoeveel jaar ervaring heeft u in het vrachtvervoer?
0 - 1 jaar
2 - 5 jaar
6 - 10 jaar
11 – 15 jaar
Meer dan 15 jaar

15. Over hoeveel wagens beschikt uw bedrijf?
1- 10 wagens
11 – 20 wagens
21 -100 wagens
Meer dan 100 wagens

16. Bent u de eigenaar van het bedrijf?
Ja / Nee

17. Hoe ervaart u de werkdruk binnen uw huidige bedrijf?
Erg hoog, er is weinig tijd om de ritten uit te voeren
Hoog
Gemiddeld, de planning van de ritten is over het algemeen goed
Laag
Erg laag, er is voldoende tijd om de ritten uit te voeren

Diensten

We willen graag uw mening over een aantal diensten die gebruik maken van actuele gegevens over uw locatie of over uw manier van rijden.
Meest efficiënte route

18. Hoe belangrijk zijn de volgende functies voor u? Beoordeel ze op een schaal van 1 tot 5.
(1 = helemaal niet belangrijk, 5 = zeer belangrijk)
Ik wil altijd kunnen zien waarom een bepaalde route wordt geadviseerd en wat de alternatieve routes zijn.
Ik wil in staat zijn om de geadviseerde route te negeren en een alternatieve te kiezen.
Ik wil in staat zijn om de dienst uit te zetten (bijvoorbeeld in situaties waarin ik goed op de hoogte ben van de route); mijn locatiegegevens mogen wel nog steeds worden doorgegeven
Gegevens over mijn locatie mogen alleen beschikbaar zijn voor de dienst en niet voor mijn werkgever of de planner

Eco-optimized driving
Eco-optimized driving is erop gericht om het brandstof verbruik te verminderen. De dienst draagt zo bij aan milieubescherming en het verminderen van geluidsoverlast in steden. Tevens zorgt het voor een rustiger en beter voorspelbar verkeer door het verminderen van het optrekken en remmen door auto's. Door een vermindering van het brandstofverbruik worden kosten bespaard.

19. Hoe belangrijk zijn de volgende functies voor u. Beoordeel ze op een schaal van 1 (helemaal niet belangrijk) tot 5 (zeer belangrijk).
Ik zou graag worden gecoached om meer 'eco efficient' te rijden.
Ik wil altijd kunnen zien waarom ik een bepaald advies krijg.
Ik wil in controle blijven en de dienst kunnen negeren.
Ik wil de dienst uit kunnen zetten.
Gegevens over mijn locatie moet alleen beschikbaar zijn voor de dienst en niet voor mijn baas.

Diensten: meest efficiënte reisroute
Reisroutes kunnen herpland worden op basis van veranderde omstandigheden waardoor het efficiënter is om transport ritten anders te verdelen tussen verschillende auto's.

20. Binnen welke tijd is het nog acceptabel voor u dat uw reisroute wordt gewijzigd?
OK als het mijn huidige rit betreft
OK als het de volgende rit betreft
OK als het een rit later op de dag betreft
Het is nooit acceptabel

21. Hoe belangrijk zijn de volgende functies voor u? Beoordeel ze op een schaal van 1 (helemaal niet belangrijk) tot 5 (zeer belangrijk).
Ik wil geïnformeerd worden over veranderingen in mijn reisroute.
Ik wil informatie krijgen waarom een reisroute is veranderd.

22. Aan welke andere diensten, die niet genoemd zijn in deze vragenlijst, heeft u behoefte tijdens uw dagelijkse werk?

6.6.4 Spanish version

Bienvenido a la enuesta para conductores profesionales en la distribución de mercancías

Instant Mobility es un proyecto europeo que va a mejorar el transporte por carretera para hacerlo más eficiente.
Algunas ciudades europeas ya están trabajando en el proyecto (Roma, Estambul, Niza, Trondheim, Toledo) y esta encuesta tratará de captar la opinión de los conductores profesionales de mercancías como usuarios del transporte por carretera y las operaciones de carga y descarga en las ciudades.
Estamos muy interesados en saber tu opinión respecto a los nuevos servicios que va a desarrollar el proyecto.
La idea es habilitar funcionalidades basadas en la localización en tiempo real para que la información sea completamente dinámica.
Por ejemplo, proporcionaremos datos para que el diseño de rutas sea lo más eficiente desde el punto de vista energético.
Esta posibilidad permitirá que la ruta finalmente escogida se pueda adaptar a distintos puntos de recogida, compartir la carga y descarga u optimizar la distribución a través de cooperar con otras compañías.

Rellenar esta encuesta te llevará unos 10 minutos. Todas las respuestas serán tratadas de forma anónima. Los datos se agruparán de forma colectiva.

1. ¿Qué grado de utilidad ve en los siguientes servicios?
Por favor evalúa de 1 a 6 (1 es más útil y 6 es menos útil)
Planificar rutas
Navegador
Rediseño de la ruta según información del tráfico
Rediseño para integrar nuevos puntos de entrega / recogida
Compartir la carga y descarga con otros conductores profesionales para mejorar la eficiencia
Proporcionar apoyo a la eco-conducción para minimizar el uso de combustible

2. En general, ¿Cómo evaluas estos servicios propuestos: planificar y rediseñar rutas, navegador, compartir carga y descarga ... ?

Util - - - -	Inútil
Agradable	Desagradable
Malo	Bueno
Interesante	Sin interés
Efectivo	Superfluo
Complicado	Básico
De ayuda	No merece la pena
No deseable	Deseable
Crea alerta	Induce al sueño

Actividad de rutina
Las siguientes preguntas están relacionadas directamente con tu trabajo.

3. ¿Qué tipo de rutas realizas?
Siempre sigo las mismas rutas
Normalmente sigo las mismas rutas
Alterno rutas conocidas y nuevas
Normalmente no repito ruta

Nunca repito ruta

4. Tus rutas normalmente tienen las siguientes características:
Distancia media: ... kilometros
Paradas: pocas / algunas / entre algunas y muchas / muchas
Transporte local: si / no
Transporte nacional: si/no
Transporte internacional: si / no

5. ¿En tu compañía utilizan un sistema informático de gestión de flota? (Un sistema para la navegación, planificación de ruta, información de tráfico, comunicación con la central, gestión de pedidos, seguimiento de la conducción eco-eficiciente)
Si / No *(sigue contestando en la pregunta 7)*

6. ¿Qué funcionalidades del sistema de gestión de flotas usas más y en qué frecuencia? (nunca / a veces / la mitad de las veces / normalmente / siempre)
Navegador
Planificación
Información del tráfico
Comunicación con la central
Gestión de pedidos
Seguimiento de la conducción eco-eficiente

7. ¿Qué tipo de información usa para trabajar?
Mapas
Diseño de ruta y planificación
Información del tráfico para cambiar o ajustar la ruta
Pido instrucciones a la central o a un colega
No uso ninguna de la información anterior

8. ¿Utiliza esta información a través del navegador?
Si / No
[Si Q8 = No -> salta a la Q9, i Q8 = Si -> salta a la Q10]

9. No tienes navegador, ¿Por qué?
Mi compañía no me paga el aparato
Prefiero usar mapas de papel
No estoy familiarizado con la tecnología
Circulo perfectamente sin necesidad de estos aparatos
Otras razones: ...

10. ¿Tu compañía cómo sigue tu posición a lo largo de la ruta?
Mi compañía no sabe mi localización en ningún momento
No lo sé
Nos comunicamos por teléfono/radio
Mi compañía puede seguir mi posición en tiempo real
Mi compañía puede cambiar mi ruta a través del navegador instalado en el vehículo
Mi compañía me hace seguimiento a través de otro medio: ...

Las siguientes preguntas tratan sobre la disponibilidad que tendrías para compartir datos, si estarías o no de acuerdo. Por favor, explica brevemente tus razones.

11a.Datos de posición a través del navegador
Si / No / Quizás
Por favor explica por qué _____

11b. Datos de posición con tu propia compañía, para ayudarles a diseñar rutas más eficientes, de tal forma que puedan localizarte y estimar tiempos de entrega/recogida en destino.
Si / No / Quizás
Por favor explica por qué _____

11c. Datos de posición con otras compañías, para optimizar la distribución compartida
Si / No / Quizás
Por favor explica por qué _____

11d. Datos de posición para mejorar la eficiencia en la conducción
Si / No / Quizás
Por favor explica por qué _____

12. Tu género:
Hombre / Mujer

13. Tu edad: ... años

14. ¿Cuántos años de experiencia tienes como conductor profesional?
0 - 1
2 - 5
6 - 10
11 – 15
Más de 15

15. ¿Cuántos vehículos tiene tu compañía en la flota?
1- 10
11 – 20
21 - 100
Más de 100

16. ¿Es usted autónomo?
Si / No

17. ¿Cuál es la frecuencia de entregas en sus rutas?
Muy alta, poco tiempo para entregarlas todas
Alta
Media, la planificación se cumple en un tiempo adecuado
Baja
Muy baja, sobra tiempo para realizar todas las entregas

Servicios

Queremos saber tu opinión sobre los servicios que proveerá el proyecto a través del procesado de datos en tiempo real-time a través del navegador GPS.

Rutas más eficientes

18. ¿Qué importancia tendrían estas opciones sobre el servicio de planificación de rutas para ti?
Por favor evalúa de 1 a 5 (1 es nada importante, 5 es muy importante)
Me gustaría tomar el diseño de ruta que propone el sistema y ver otras alternativas
Me gustaría ver todas las rutas y escoger otra que no sea la más recomendada
Me gustaría no utilizar el servicio de planificador de rutas pero si mantener que se compartan los datos
Me gustaría compartir los datos de mi GPS pero no con mi compañía, solo de forma anónima

Optimización de la eco-conducción
Para reducir el uso de combustible, emisiones de gases, polución y ruido.

19. ¿Qué importancia tendrían estas opciones sobre el servicio de eco-conducción para ti?
Por favor evalúa de 1 a 5 (1 es nada importante, 5 es muy importante)
Me gustaría que me enseñaran a conducir de forma más eco-eficiente
Me gustaría que me propusiesen algún consejo basándose en mi conducción real
Me gustaría poder activar y desactivar este servicio
Me gustaría compartir los datos de mi GPS pero no con mi compañía, solo de forma anónima

Entregas más eficientes
Este servicio trata de planificar y adaptar los itinerarios para compartirlas cargas y distribuir mercancías de forma más eficiente en cooperación con otras empresas

20. ¿En qué rango de tiempo podría ser aceptable integrar una entrega/recogida más?
OK si se trata de integrarlo en la ruta que estoy realizando en ese momento
OK si es en la próxima ruta
OK si se trata de integrarlo a lo largo del día
Nunca aceptaría cambios

21. ¿Qué importancia tendrían estas opciones sobre el servicio de compartir cargas para ti?
Por favor evalúa de 1 a 5 (1 es nada importante, 5 es muy importante)
Me gustaría que se me notificaran los cambios en el itinerario
Me gustaría saber por qué se ha modificado el itinerario

22. Además de estos servicios, ¿Cuáles más serían de interés para tu actividad profesional?

6.7 Appendix 7: Distribution of the Professional driver survey

6.7.1 Dutch version

Dutch driver forum: http://www.chauffeursforum.nl

6.7.2 English version

- IRU (International Road Transport Union) www.iru.org
- European Transport Workers' Federation (ETF): www.itfglobal.org
- NTF – Nordic transport federation, nordictransport.org
- Trade unions affiliated in Norway:
  - Joint Association of Private Employees
  - Union of Norwegian Transport Employees
- Trade unions affiliated in Finland:
  - Finnish Transport Workers' Union
  - Trade Union Pro
- Trade unions affiliated in Sweden:
  - Swedish Transport Workers union

6.7.3 Spanish version

- Club RACC https://www.facebook.com/ClubRACC
- Transportistas Barcelona https://www.facebook.com/TransportistasBarcelona
- Blog del transportista http://www.blogdeltransportista.com/ and facebook profile https://www.facebook.com/blogtransportista
- El blog del transporte http://elblogdeltransporte.wordpress.com/
- Blogistica http://blogistica.es/
- El blog del transportista por carretera http://blogs.hoy.es/transportistas/
- Blog transporte y Logística http://www.ucjc.edu/blogs/?u=cc-transporte-y-logistica
- Spanish Technology Platform Logistop http://www.logistop.org/

6.7.4 French version

Contacts initiated to promote the professional survey

- Blogs
  - http://www.pmoioui.com/
  - http://www.pmoioui.com/formulaires/formulaire01.html
  - http://le-transport-et-moi.wk-transport-logistique.fr/blogs/
- Training centers
  - http://www.aacft.fr/formations/cadre.htm
  - AFT-IFTIM : mailing to several persons in the organization
- Institutions
  - National Federation of road transports (Fédération Nationale des transports routiers), mailing to several persons in the organization in various regions

  - French National union for logistics and transports, SNTLF (Syndicat National Transport et Logistique de France - Union TLF, Entreprises de Transport et de Logistique de France)
  - National union for light transports, SNTL (Syndicat National Des Transports Légers)
  - Union of the federations of transports, UFT (Union des Fédérations de transport) uft@club-internet.fr
  - Association of the users of freight transport, AUTF (Association des utilisateurs de transport de fret)
  - National federation of professional dirvers, FNCR (Fédération Nationale des Chauffeurs Routiers) www.fncr.fr
  - National union of the unions for Professional drivers, UNOSTRA (Union nationale des organisations syndicales des transporteurs Routiers automobiles) www.unostra.fr
  - European Road Transport Organisation, OTRE (Organisation des Transports Routiers Européens) otre.ile-de-france@otre.org, otre.provence-alpes-cote-azur@otre.org, otre.rhone-alpes@otre.org
  - French Environment and Energy Management Agency, ADEME (Agence de l'Environnement et de la Maîtrise de l'Energie)
  - CCI, Mobilité Nice Côte d'Azur
  - Communication service of the Delegation to the safety and road traffic (Interministerial Committee)
  - B2Pweb www.b2pweb.com
  - Top Transport Europe
  - Competitiveness cluster Movéo
  - Competitiveness cluster LUTB (Lyon Urban truck & Bus)
- A list of 600 emails of transport carriers involved in the ADEME project "Objectifs C02" (http://www2.ademe.fr/servlet/KBaseShow?sort=-1&cid=96&m=3&catid=22274
- Web sites, periodical press:
  - L'Officiel des Transporteurs, Bulletin des Transports et de la Logistique, Logistiques Magazine. www.wk-transport-logistique.fr
  - www.flash-transport.com

6.8 Appendix 8: Professional driver survey: Services that you would need in your daily work (Dutch survey)

The drivers mentioned the following services they would need in their daily work:

Profession of being a driver

- Being treated like a human being and not being replaced by a Romanian or a Bulgarian who drive for very little money.
- I think that many of these services do not help the driver but turn him into some sort of robot.
- Let the driver keep his working pleasure. So not like a little puppet that is operated from an office chair and is not allowed to think himself.

Facilities

- Better parkings at the N-roads
- Parking places for drivers, with security guards
- Free internet that can be used on the laptop in the car with a good connection in whole Europe, with unlimited data usage (mentioned a couple of times.)
- Truck wash

Information

- Traffic information at the board computer
- Clear information when an order is changed.
- Traffic jam information in the border areas
- Be able to know whether there is at the end of the working day on the route to the next load or unload address a restaurant or a driver's café in the area. You should also be able to add them for yourself and your colleagues
- Locations that should be watched like bollards and playing areas
- Traffic information with expected delays so that you know whether you should follow an alternative route
- Weather information
- Overview of used and still available drive and service time (mentioned a couple of times)
- Locations of parking places
- Road proceedings because of the delays they cause
- Opening times of load and unload addresses
- SMS services

Working conditions

- Coffee table
- Overtaking prohibition
- Prohibited entry
- Height of bridges
- Uniformed extended load and unload times at clients
- Ways to get into touch with customers quickly. That is a pity; it removes time savings.
- Load and unload times (mentioned a couple of times)
- More free time and less pragmatism
- No changes of routes; this affects the private life negatively

6.9 Appendix 9: Professional driver survey: Differences between proponents, opponents and doubters of sharing data (Dutch survey)

To investigate the differences between the proponents, doubters and opponents ANOVA's were performed. An ANOVA is a statistical procedure to calculate whether the difference between means is statistically a difference or just caused by change. In the text below you will find several symbols:

F = the ratio of the between groups variance and the within groups variance, which means that the higher this number, the stronger the difference between the means.

P= the significance level. It reflects the chance that you detect a difference between means, while there is no difference. Therefore it should be low. In this research a significance level of $p < .1$ is used.

η^2= the effect size. The lager this number, the lager the difference between the groups. This number you can compare with other found effect sizes.

M = the mean of a score on a variable for a specific group.

SD = the average deviation to the mean. The larger this number, the wider spread the scores on this variable are.

To investigate the differences between the proponents, doubters and opponents with respect to the type of transport a Chi-square analysis has been done.

		Sharing data for personal navigation	**Sharing data to plan routes more efficiently**	**Sharing data to share loads**	**Sharing data for eco optimized driving**
1. Background of the driver	Age				
	Years of working experience				
2. Work of the driver	Type of routes				
	Type of transport				
	Fleet size	(1)	(4)		
	Experienced work load				
3. Usage of fleet management system	Navigation	(2)	(5)		
	Planning		(5)		(10)
	Traffic information				(10)
	Messaging between drivers and office		(5)		
	Order handling				
	Eco feedback				(10)
4. Usefulness of the specific services	Plan your route	(3)			
	Guide you along your route				
	Reschedule your route using traffic information				
	Reschedule your route using new				

	incoming delivery/pick up orders				
	Organize parcel/load sharing				
	Ecodriving				
5. Acceptability of upcoming services	Usefulness		(6)	(8)	(11)
	Satisfying		(7)	(9)	(12)

Table 29: Overview of differences between proponents, opponents and doubters of sharing data

Sharing data for personal navigation

We find a number of significant differences between the proponents and opponents of sharing location data for personal navigation (see Table 30).

1. The drivers who doubt whether they would share these data have on average **a smaller fleet size** than proponents and opponents (*F(2,165)=2.634, p .075,* η^2= .031*).*
2. The proponents **use the fleet management navigation** mo**re often** (*M*= 3.71, *SD*= 1.40) than the opponents (*M*= 3.25, *SD*= 1.15), (*F(2,72)=3.582, p .033,* η^2= .090.*);*
3. The proponents judge the service **'plan your route' more useful** than the opponents (*F(2,165)=2.734, p .068,* η^2= .032);

	Proponents (N=74)		Doubters (N=41)		Opponents (N=53)	
	M	SD	M	SD	M	SD
Usefulness of plan your route	**4.28**	1.72	**3.95**	2.00	**3.51**	1.89
Using fleet management - navigation	**3.71**	1.40	**2.65**	1.46	**3.25**	1,15
Fleet size	**2.49**	1.05	**2.02**	1.06	**2.41**	1.08

Table 30: Sharing location data for personal navigation - differences between proponents, doubters and opponents

Sharing data to plan routes more efficiently

We find a number of significant differences between the proponents and opponents of sharing location data for more efficient route planning.

4. The opponents work more often at a company with a **smaller fleet size** than the proponents and the doubters (*F(2,165)=4,056; p .019,* η^2*=.047)* (see Table 31)
5. The proponents more **often use the navigation** functionality of the fleet management system (*F(2,72)=2,624; p .079,* η^2*=.068*), the **planning** functionality (*2,73)=6,502; p .003,* η^2*=.15*) and the **messaging functionality** between the driver and the office (*F(2,72)=9,012; p .000,* η^2*=.20*).

	Proponents (N=64)		Doubters (N=4)		Opponents (N=7)	
	M	SD	M	SD	M	SD
Navigation	**3.47**	1.34	**2.50**	1.91	**2.43**	1.13

Planning	**4.14**	1.39	**3.50**	1.91	**2.43**	1.62
Messaging driver and office	**4.22**	1.12	**2.00**	.82	**3.29**	1.25
	(N=119)		(N=19)		(N=30)	
Fleet size	**2.48**	1.03	**2.35**	1.11	**1.87**	1.11

Table 31: Sharing location data to plan routes more efficiently - differences between proponents, doubters and opponents

The proponents and doubters are more positive about the upcoming services than the opponents (see Table 32)

6. The respondents who would like to share location data (answer: 'yes') or who might want to share location data (answer: 'maybe') to plan routes more efficiently judge **the upcoming services more useful** (see paragraph 'Acceptability of Instant Mobility services') than the respondents who would not like to share the location data (F(2,165)=5,424; p .005, η^2= .062).
7. The respondents who would like to share location data (answer: 'yes') or who might want to share location data (answer: 'maybe') to plan routes more efficiently judge **the upcoming services more satisfying** (see paragraph 'Acceptability of Instant Mobility services') than the respondents who would not like to share the location data (F(2,165)=6.950; p .001, η^2=.078).

	Proponents (N=119)		Doubters (N=19)		Opponents (N=30)	
	M	SD	M	SD	M	SD
Useful	**.49**	.75	**.45**	.85	**-.033**	.87
Satisfying	**.33**	.69	**.46**	.92	**-.19**	.80

Table 32: Sharing location data to plan routes more efficiently - differences between proponents, doubters and opponents (usefulness and satisfaction of the IM services)

Sharing data to share loads

We found significant difference between the way the proponents, doubters and opponents judge the upcoming services (see Table 33):

8. The opponents of sharing location data to other companies judge **these services less useful** (F*(2,165)=3,644; p .028,* η^2*=.042)* than proponents and doubters.
9. The opponents of sharing location data to other companies judge **these services less satisfying** than proponents and doubters *(F(2,165)=6,245; p .002,* η^2=.070*).*

	Proponents (N=35)		Doubters (N=51)		Opponents (N=82)	
	M	SD	M	SD	M	SD
Useful	**.57**	.73	**.54**	.73	**.22**	.85
Satisfying	**.56**	.64	**.35**	.63	**.061**	.83

Table 33: Sharing location data to other companies so that loads can be shared- differences between proponents, doubters and opponents

Sharing data for eco optimized driving

We found significant differences between the different groups:

10. The proponents and doubters more often **use the planning functionality** of the fleet management system (F(2,73)=5,959; p .004, η^2=.14), **the traffic information functionality** (F(2,72)=3,323; p .042, η^2=.084) and the **eco-feedback functionality** (F(2,72)=7,837; p .001, η^2=.18) (see **Erreur ! Source du renvoi introuvable.**).

	Proponents (N=26)		Doubters (N=25)		Opponents (N=25)	
	M	SD	M	SD	M	SD
Use of planning functionality	**4.11**	*1.24*	**4.44**	*.82*	**3.28**	*1.51*
Use of traffic information functionality	**2.85**	*1.62*	**2.24**	*1.33*	**1.83**	*1.20*
Use of ecofeedback functionality	**3.31**	*1.41*	**2.32**	*1.41*	**1.79**	*1.3*

Table 34: Sharing location data for eco-optimized driving- differences between proponents, doubters and opponents (use of fleet management system)

The proponents and doubters are more positive about the upcoming services (see Table 35).

11. They judge them as **more useful** (F(2,165)=10.713; p .000, η^2=.11) **and satisfying** (F(2,165)=12,208; p .000, η^2=.13) than the opponents judge these services.
12. They judge them as **more satisfying** (F(2,165)=12,208; p .000, η^2=.13) than the opponents judge these services.

	Proponents (N=57)		Doubters (N=43)		Opponents (N=68)	
	M	SD	M	SD	M	SD
Useful	**.66**	.78	**.55**	.63	**.068**	.82
Satisfying	**.53**	.66	**.40**	.73	**-.070**	.75

Table 35: Sharing location data for eco-optimized driving- differences between proponents, doubters and opponents