Lecture Notes in Civil Engineering

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# Innovation in Urban and Regional Planning

## Proceedings of INPUT 2025, Volume 1

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# Preface

Following a history of more than 20 years, the 13th International Conference on Innovation in Urban and Regional Planning (INPUT 2025), entitled "Methods, models and technologies for future cities and regions," focused on the advances in knowledge and on the technical perspectives that the evolution of planning systems might offer to scholars, professional planners, and practitioners.

The Conference was hosted by the Urban Project Laboratory (UPLab) at the University of Pavia, Department of Civil Engineering and Architecture (DICAr).

The INPUT legacy has grown over the years, and nowadays it is clearly recognizable, at the national and international scale, as an active group (with very promising young researchers) that is open-minded to technological revolutions and their effects on the analysis and management of cities, regions, and territories.

The tradition of INPUT was highlighted during the final ceremony with a round table in which some of the founders of the Conference, Prof. Dino Borri, Prof. Giuseppe Las Casas, Prof. Arnaldo Cecchini, discussed about the evolution of the ideas that carried to the creation of INPUT and about the realization (or failure) of forecasts made in the past basing on the trust in technological development possibilities.

INPUT 2025 was held from the 8th to the 10th of September, with an opening ceremony featuring distinguished hosts. The Conference was patronized by the Italian Society of Urbanists (SIU), the Province of Pavia, the Municipality of Pavia, the Lombardy Regional Council of Engineering Professional Associations (CROIL), the Engineering Professional Association of Pavia Province, Architects, Planners, Landscape Architects, and the Conservators Professional Association of the Province of Pavia.

This book gathers 47 papers submitted to the INPUT 2025 Conference. After undergoing a blind-review process, the accepted papers are arranged by the thematic sessions of the Conference:

- AI and Machine Learning for Urban and Territorial Analysis and Forecast.
- New Simulation Methods and Models.
- Transition's Management: Ecological, Energetic, Economic.
- 3S City (Smart, Safe, Sustainable).
- Impact Assessment of Nature-Based Solutions in Cities: Theoretical, Methodological and Practical Perspectives.
- How Is the City Moving? Tracking Flows and Enhancing Planning Policies.

- Innovations in the 15-Minute-City Approaches: Conceptual, Data-Driven, and Practical Developments Towards a Sustainable Urban Planning.
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November 2025

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# Chasing Mobility Habits: A Comparative Analysis of Survey Design Processes to Track University Communities' Flows in Genoa and Catania

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**Abstract.** Mobility Management has gained increasing relevance after Covid-19 outbreak. The availability of tools supporting companies and Public Administrations in the sustainable and efficient planning of employees commuting mobility has indeed showed its full potential since then. Accordingly, between 2020 and 2021, as far as the Italian national context is concerned, several decrees and laws were published to foster similar practices. In this direction, companies, public administrations and schools gathering more than 100 employees were required to appoint a dedicated Mobility Manager in charge of developing a Home-to-Work Commuting Plan. Universities have to accomplish this requirement, too. Nevertheless, due to the specific structure of the community –where workers represent only a small component of the wider group including a large share of students- they represent an interesting case-study to evaluate how mobility habits data may be collected and processed. Only the workers component dedicated survey is indeed addressed by national legislation, so that student share is targeted differently by each academic mobility management structure, ranging from universities adopting a shared approach towards both students and employees, to the ones excluding the former group from mobility survey and data collection. In this direction, a comparative evaluation of two case-studies, namely Universities of Genoa and Catania, will be presented, in order to assess potential pros and cons descending from chosen approaches, as well as propose future updates of the current legislation to fill this gap.

**Keywords:** Mobility Management · Mobility survey · Commuting Plans · Flows tracking · Mobility habits


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## 1 Introduction

Mobility Management (MM) plays undeniably a pivotal role in sustainable mobility transition. Commuting mobility constitutes indeed a strongly significant component of global urban displacements (Vermesch et al., 2021). The definition of sustainable mobility strategies constitutes indeed a relevant challenge both in terms of environmental impacts (Molina et al., 2020), as well as according to a social inclusion and equity perspective (Li et al., 2019).

As far as the Italian context is concerned, first initiatives in this direction date back to 1998 (Ministero dell'Ambiente, 1998), when the Mobility Manager role was defined and larger companies and public administrations were required to appoint their own Mobility Manager to design and implement a Home-to-Work Commuting Plan (HtWCP). Actually, MM techniques began to gain traction in the early 1990s in the United States and several European countries, including Belgium, the United Kingdom, the Netherlands, and Switzerland (Delponte et al., 2022); nevertheless, new boost to similar practices came from Covid-19 outbreak, when social distancing and flows management became key aspects to contain virus spreading (Corazza et al., 2021; Altadonna et al. 2022). In this direction, two main steps may be identified. In May 2021, the national MM structure was defined, with corporate MM coordinated by a territorial MM unit channelling government resources into pre-defined lines of actions (Ministero della Transizione Ecologica and Ministero delle Infrastrutture e Mobilità Sostenibile, 2021). At the same time, HtWCP was introduced as compulsory for companies over 100 employees. Plan details, requirements and structure were later identified by a subsequent decree in August 2021 (Ministero delle Infrastrutture e Mobilità Sostenibile, 2021).

Similar requirements were introduced for schools and public administrations, as well. So that Universities need to appoint their own Mobility Manager, as well as to define their HtWCP.

Universities, in this direction, represent a key actor, since usually they move more city users than any other company (Longo et al., 2015), thus significantly impacting on urban mobility.

It is not surprising though, a growing commitment of academic communities towards MM and HtWCP, as activities and research of Sustainable Development University Italian Network show (RUS, 2022), as well as national interest in monitoring Universities' MM activities[1] (MOST, 2025).

RUS serves not only as a platform for knowledge exchange among university Mobility Managers, but also plays a strategic role in supporting national policy on the subject. Moreover, it fosters awareness and promotes concrete actions related to sustainable mobility within the academic community.

From a methodological point of view, legal requirements on HtWCP insist on the need to collect data on current mobility habits as well as on future willingness-to-shift to sustainable alternatives to design and build tailored and data-driven mobility policies. Such a request appears to be particularly ambitious since related mobility surveys need

[1] Regarding MOST, established through the collaboration of 24 universities, the National Research Council (CNR), and 24 major enterprises, it is funded under the framework of the National Recovery and Resilience Plan (PNRR).

to be voluntarily filled by university employees (university students are current excluded by national legislation from this requirement), so that response rate may be quite limited (Monzon et al., 2020).

A similar gap may be faced through different approaches.

The choice to implement continuous surveys (Ortúzar et al., 2011) to reduce the impact of long-form interviews, thus consolidating a widespread sample during years has been one of the first solutions to be suggested to address respondents' fatigue and inertia. At the same time, innovative technologies, deploying tracking systems (Molloy et al., 2020), also belonging to Mobility-as-a-Service (MaaS) realm (Zhang et al., 2021) may contribute to a massive collection of mobility data continuously fed and updated, also thanks to targeted nudging systems (Klieber et al., 2020).

The potential application of more pervasive techniques able to collect real-life data, in this direction, may represent a critical aspect to be investigated. At the same time, legal requirements seem to support more traditional approaches, thus deepening respondents' attitude and future propensity.

The present research stems from a similar issue to investigate how two Italian university communities, namely the Universities of Genoa and Catania, are currently facing this challenge to: i. collect significant mobility data –both on the qualitative and quantitative sides-, ii. comply to legal requirements concerning MM; and iii. define data-driven actions, thus reflecting current and future needs of the university community both in its workers (representing a quite limited share of the global group) and student's component (constituting the main share, but not being subjected to national legal requirements).

In this direction, the following Sect. 2 will deepen potential approaches to mobility survey design and implementation according to different aims and purposes, thus introducing the universities of Genoa and Catania as relevant case studies. Section 3 will show the results of the implemented Mobility Survey for the Academic year 2023/2024 within the two university communities, in order to point out peculiar aspects of chosen approaches. In Sect. 4, lessons learnt from the previously introduced experiences will be delved, thus highlighting related pros and cons and suggesting potential policy implications of present research. Finally, in Sect. 5, conclusive remarks on approaches and techniques for mobility surveys feeding universities HtWCP will be provided.

## 2 Mobility Survey: Purposes and Approaches

Mobility surveys are fundamental to studying mobility habits and inferring user preferences. They form the basis for the estimation of the transport demand of a given context, via appropriate modelling techniques (Cascetta, 2009). Traditionally, only a small sample of the total population is used to estimate models. However, the rapid spread of new technologies, with the possibility to record and collect data about the travelling behaviours of individuals, opens new frontiers for collecting (big) data (Le Pira et al., 2021). In the context of mobility management, it is important to collect detailed data about user trips and information regarding the propensity to switch to sustainable transport modes. At the same time, it is vital to monitor changes in user behaviours, as well as the results of MM strategies put in place, e.g. the number of purchased public transport subscriptions per year, when a discount is offered. As already mentioned, the

current legislation framework in Italy considers the mobility of employees, which, in the case of universities, represents a minority with respect to students. Besides, the HtWCP needs to be updated each year with a new survey, which can be seen as burdensome by employees, thus possibly leading to a low response rate. Student and employee mobilities usually show different patterns, with the first ones concentrated in some periods, with specific days and hours (mostly related to class attendance), and the second being more systematic with fixed working hours (in the case of the staff), and flexible ones (in the case of professors and researchers). Therefore, it is important to acknowledge all the differences, e.g. by proposing ad hoc surveys that go beyond the one proposed by the National guidelines.

Given all these peculiarities, it becomes interesting to look at different Universities and see what has been done in recent years in terms of mobility data collection. In this respect, the Universities of Genoa and Catania show similarities that make the comparison between them interesting. They share similar numbers in terms of employees and students (about 2,500 and 40,000 respectively), they are both located in medium-sized cities (about 300,000 inhabitants in Catania and 500,000 in Genoa) with many venues spread all over the city (with two big poles), and they performed mobility surveys in the very last years for their HtWCP.

Both universities are committed to improving the mobility of the university community with many initiatives that date back to several years ago.

In this respect, the University of Catania is one of the few institutions to guarantee unlimited access to public transport to its students since 2018 (Inturri et al., 2020). Besides, it actively collaborates with both the Municipality of Catania and local transport operators, e.g. for the definition of new public transport lines that serve the University community. It promotes active mobility and micromobility with several agreements with shared micromobility operators to have discounts for the use of their micro vehicles. It is currently working on a MaaS-like app customized for University users (Le Pira et al., 2023).

The University of Genoa, on its turn, has allowed fare-free public transport (thus including urban trains, metro, buses and public elevators) for first-year students, as well as reduced fares for students under the age of 26. University also showed strong commitment to active mobility promotion, both implementing bike-stations in each of the buildings spread across the city, but also through the collaboration with Genoa Municipality to define a coherent network of bike lanes reaching all the departments (Delponte et al., 2024). Finally, sharing mobility has been supported, as well, thus agreeing with local car-sharing provider discounts policies for university community members.

### 2.1 Genoa

University of Genoa has appointed its first Mobility Manager in 2021. Subsequently, her first task has been to design and implement the first edition of HtWCP. The extraordinary timing - Italian context was still dealing with Covid-19 pandemic management (Delponte and Costa, 2022)– supported the choice not to deploy dedicated mobility survey, thus relying on previously collected data within University Network for Sustainable Development (RUS, 2020), as well as within other projects and initiatives on-going (University of Genoa, 2021).

First HtWCP was approved in 2022. Subsequently, to support its update in 2024 a dedicated mobility survey was launched.

In this direction, some pivotal choices were made:

- Survey was delivered through institutional email channels, thus addressing both workers (namely professors and researchers, as well as technical and administrative staff) and students;
- A comprehensive survey was designed, made up of 45 questions, that may be clustered into the following sections: i. general information; ii. current mobility behavior; iii. choice evaluation; iv. Willingness-to-shift.

Similar choices were made for several reasons. Firstly, the University of Genoa community structure. Out of approximately 40,000 members, only 2,700 are employees, so addressing the latter component could significantly reduce knowledge potential and consequent actions effectiveness.

Despite current legislation and requirements, the exclusion of students from the survey to focus on the working component only could indeed constitute a risky operation, thus over-representing some sub-groups over others.

As far as the survey structure is concerned, the main aim was to cover all the topics required by the Italian Ministry Guidelines (2021), thus collecting detailed data on current choice and future potential shift. Once a double-year updating deadline has been defined (despite National Guidelines suggesting a yearly process), the choice to maintain an extended survey was not considered a relevant barrier and burden for respondents. Both on the targeted sample side, as well as for the survey structure and the number of questions, main goal was to collect as much data as possible, being the first survey campaign to build a coherent and comprehensive framework on current community behaviors, needs and intentions. It needs to be highlighted that survey progressive repetition could translate into statistical fatigue among respondents, so that future versions of the questionnaire should be edited and reduced to improve its effectiveness.

### 2.2 Catania

The University of Catania has a long history of MM, since it established a MM office in 2006 (called MOMACT) and approved its first HtWCP in 2009, with a focus on employee mobility. In this respect, a detailed survey was conducted among employees, both related to their mobility habits and to the propensity to switch to sustainable transport modes. The plan of 2009 was been updated in the following years, but many initiatives were proposed (such as those described in the previous section), and different surveys were conducted through the years, mostly addressed to students. A comparison between the survey performed in 2016 and the one of 2018 allowed to monitor the success of the initiative related to the unlimited access to public transport, with a public transport share from 27% to 47% (Inturri et al., 2018). In 2022, after the publication of the new National guidelines, a new Mobility Manager has been appointed and a HtWCP has been issued at the end of the Year. Similar to the case of Genoa, being mobility habits still affected by the Covid-19 pandemic, the decision was to rely on past surveys (both the one related to the employees of 2009, and several surveys to students performed also during the Covid-19 period) and not to collect new mobility data. For the update of the plan, which was

done in 2024, a specific survey was designed specifically for students and launched at the end of 2023. The idea was to have a short, but effective survey with few questions (11), which students could answer from their personal University webpage. The survey was designed to monitor student habits and the impact of initiatives proposed to them. In this respect, the first question allowed to filter first-year students from the other. Information regarding the origin of their home-to-University trips and the destination (University venue) was collected. Then, questions were posed regarding their typical trip in terms of weekly frequency, time, availability of a private vehicle, and prevalent transport mode used for the roundtrip. The last questions regarded the use of the discounted public transport subscription (20 euros/year for unlimited access) and other incentives.

## 3 Results

Following contextual description of considered case-studies, present section aims at the provision of the results collected through both surveys. Similar analysis focuses evidently on the common knowledge basis, as well as on the peculiar outcomes descending from the methodological choices that each of the considered institutions has done in terms of university community mobility investigation.

In Genoa, the survey was delivered via institutional mail lists between December 2023 and February 2024 to all university community members. Globally, the collected sample counted 2,247 respondents among professors and researchers, technical and administrative staff and students. In detail, respondents were mainly workers: approximately 32% of technical and administrative staff (393 respondents out of 1,227 employees), 35% of professors and researchers' component (497 out of 1,435) and only 4% of the student population. Respondents came primarily from the scientific departments (thus representing globally a 49% share), located in the Eastern part of the city on a hill and constituting approximately half of the global university population. Humanities and social sciences departments are globally widespread throughout the city center, thus representing a more fragmented community. As far as modal choices are concerned, public transport represents the first choice for a 61% share of respondents, while private alternatives are chosen by an approximate share of 30%. One out of ten respondents walk to university, while sharing alternatives and cycling play a residual role. One out of three respondents stated to reach university in less than 20 min, while a 25% spent more than an hour commuting. In addition to similar synthetic results, the comprehensive structure of the survey allowed further considerations concerning respondents' current mobility habits and patterns – university community members were asked to insert their displacement origin, as well- but also qualitative analysis of their own reasons supporting mobility choices, barriers and criticalities they meet daily to reach university destinations, travel times and irregular services, above all.

Current behaviors are also investigated in monetary terms, respondents being asked to state their monthly expenditure for transport, as well as whether they benefit from university-dedicated reduced fares, or not. Approximately 50% of respondents declare to spend less than 40 euros monthly and to purchase annual subscriptions to public transport services. Moreover, the deepening of their willingness-to-shift to sustainable alternatives also targeted the assessment of their willingness-to-adopt Mobility-as-a-Service (MaaS) solutions. Only one out of four respondents state indeed to be not open

to shift to more sustainable options, while improved services would support behavioral changes of half of interviewees, and reduced fares would convince 20% of UniGers in favour of public transport solutions, as well as of a more active ways to reach university, walking or cycling. As far as MaaS is concerned, users appear to be highly comfortable with mobility planners (44% of respondents state to check traffic conditions and travel times). At the same time, only 10% state they already heard about MaaS, while 65% of respondents would like to test MaaS solutions. Nevertheless, respective willingness-to-pay appears to be extremely limited (78% of respondents would like to pay less than 25 Euros). It is therefore evident that a similar extended structure allows wider analysis of both quantitative and qualitative data concerning current and future potential respondents behaviors, thus leading to more tailored actions. It is also necessary to highlight that data processing and management appear to be more complicated, as well as that the monitoring phase requires identifying selected indicators to be verified periodically without repeating an extended survey yearly. In Catania, the survey was performed between October 2023 and March 2024. The choice to have a short survey administered via the student web portal was successful in terms of answers collected, i.e. about 25,000, more than half of the University student population. Results of the survey show that about 20% of the sample is composed of first-year students. The university venue with the majority of students is the Scientific Campus in the northern part of the city (about 6,000 students), followed by the Humanistic pole in the historic city centre (about 4,000 students) and the Economics pole (about 2,000 students). By considering all the venues in the northern pole, we have more than 10,000 students who travel to this part of the city on a daily basis. Almost half of the interviewees spend between 11 and 30 min on their home-to-university trip, and one third between 31 and 60 min.

Regarding the mode share, 40% use a private vehicle for their trip (including car pooling and motorcycles), 42% use public transport (including multimodal trips) and 17% walk. Very few students use micromobility for their home-to-university trips. By crossing this information with the one related to the travelled distance, the average time and trip frequency, it was possible to evaluate the CO2 emitted by each student per year. This indicator is particularly useful for the Sustainability Plan of the University (Bilancio di Sostenibilità), a document that monitors the progress of the University in all fields related to sustainability, including transport. Finally, students were asked to state their use of the incentives related to sustainable mobility, so to monitor the impact of the implemented solutions. 44% of them used the unlimited access to public transport subscription (which is consistent with the data declared by the public transport operators), while very few of them (5%) used the incentives related to micromobility and long-distance public transport.

These results can be useful to monitor both user habits year by year, and the effectiveness of the implemented MM strategies. However, some limitations emerged from the first version of the survey. The first and most important is related to the information about the origin of the trip: students were asked to write the address (or the postal code) but, since it was an open-ended question, many of them did not reply correctly, thus making inferences about the origins harder. This also applies to other open-ended questions, such as the time and distance to university. For this reason, in the new edition of the survey, all questions were conceived as multiple-choice ones, and the origins were limited to

Catania's neighbourhoods, the metropolitan city's zones, and all other cities in Sicily (or outside Sicily). Even if with a lower level of detail with respect to the first version of the questionnaire, this will allow us to build an origin-destination matrix of student trips. Another caveat relates to the type of questions: since the survey was launched at the beginning of the Academic Year (October), we specifically asked students to answer by considering the trips they made in the previous Academic Year (except for first-year students). However, the survey was open until March, so one should differentiate the answers given at the beginning and at the end of the survey period. One can conclude that the very high rate of responses is a measure of the effectiveness of such a survey, which could also be replicated for the employees via different channels (e.g. professor web portal). However, more precise information would be needed regarding employees' mobility if one were to follow the Italian Guidelines, so it is important to understand if proposing a more detailed questionnaire would be feasible with the same modalities as the short one. As already said, the survey allowed us to derive indicators that were useful for the University Sustainability Plan, in terms of (1) mode share, (2) CO2 emissions per student and (3) sustainable mobility rate (% of trips made sustainably/total trips). The survey was repeated in 2024, and it was completed in March 2025 with a total of 29,000 answers.

**Table 1.** Comparison between mobility surveys results in Genoa and Catania.

| | University of Genoa | University of Catania |
|---|---|---|
| Time span | 12/2023–02/2024 | 10/2023–03/2024 |
| Type | Extended questionnaire | Short survey |
| Responses | 2247 | 25 000 |
| University venues | 49% of respondents from scientific campus outside the city centre | 40% of respondents from scientific campus outside the city centre |
| Modal share | 40% Private vehicles | 30% Private vehicles |
| | 42% Public Transport | 61% Public Transport |
| | 17% Walking | 9% Walking |
| Travel time | 30% less than 20′<br>25% more than 60' | 50% between 11′ and 30′<br>30% between 31′ and 60' |

## 4 Lessons Learnt and Policy Implication

From a legislative perspective, HtWCP are expected to assume a new role within the national transport planning framework. The two experiences presented here highlight both the strengths and limitations of the investigations carried out and their respective outcomes in analysing their HtWCP, achieved through the use of different approaches. Nonetheless, they offer valuable insights both for the continuation of MM initiatives and, more broadly, for the use of mobility surveys.

Mobility dynamics in Italy are, in fact, frequently analyzed through either generalized national statistics or localized traffic studies, most often confined to metropolitan areas and with notable gaps from the monitoring and completeness point of view. In some cases, data may be widespread yet lack depth in capturing motivations and potential transitional changes; such data collections are conducted periodically and do not consider correlations between survey timing and infrastructural or service transformations. In other cases, traffic studies often focus on the transport patterns of large urban centers, typically with the aim of easing congestion through simulation models, but without a parallel exploration of travel habits—particularly those tied to the geographic relationship between origins and destinations. But, although segments related to tourism, leisure, and caregiving are on the rise, typically, commuting for work and education remains the primary motive for mobility and this is precisely this domain that the Commuting Plans aim to explore from a grassroots level (Di Ruocco et al., 2023). By integrating detailed and quantitatively rigorous analyses of the various HtWCP at the local level, it may become possible to construct a more realistic depiction of mobility flows toward and from key aggregation hubs, with academic institutions undoubtedly among the most prominent.

Given the strategic role of Italian universities in data collection for Mobility Management surveys—both in terms of the substantial number of users they are able to mobilize and the scientific rigor applied in analyzing the resulting data, it is reasonable to expect that some improvements in methods and tools may be proposed by these institutions for the attention of the Legislator, with the aim of making the HtWCP an integral part of national transport planning.

In this direction, investigated approaches may constitute in some way complementary aspects to be integrated. Extended surveys may allow for building a comprehensive and rich framework of state-of-the-art, both in terms of current mobility behaviors and stated intentions in terms of willingness-to-shift. Similar approach may support effective actions, tailoring and design in the "company perspective" (Gorges and Holz-Rau, 2021), thus leading to data-driven sustainable mobility planning, integrating welfare and human resources management initiatives.

On the other hand, punctual analysis, collecting basic, though ready-to-monitor data, supports widespread (and quantitatively significant) knowledge of community choices and behaviors, thus contributing as well to updating collected information yearly. Such a perspective supports the university's MM structure in the monitoring phase, thus enabling a seamless implementation of institutional initiatives, such as sustainability reporting, as well as public relations and communication (Ortuzar et al., 2011).

Potential policy implications may therefore benefit from the highlighted complementary nature of similar surveys, thus allowing a substantial update of the current university MM legal and institutional framework:

- Extended surveys may be implemented and repeated every three to five years – currently, companies are required to update it on a yearly basis - thus limiting survey-related fatigue of the employees-respondents. This choice would support a deep knowledge of mobility habits and choices through reasonable updates. Similar vertical deepening may support more detailed knowledge of workers' values behind mobility choices and perceptions guiding their willingness-to-shift. As stated by Caballini

et al. (2022), expressed environmental concerns may indeed progressively lead to more sustainable behaviors, whether supported by institutional commitment in order to value greener choices also through beneficial fare policies;

- Punctual investigations may be delivered to students –currently excluded from compulsory MM surveys, despite representing the large majority of university communities- thus widening current HtWCP perspective to a more comprehensive and quantitatively representative realm. This survey could be in the future provided also through Mobility-as-a-Service platforms or via university institutional apps. As highlighted by Le Pira et al. (2023) students' willingness to collaborate proactively to support tailored and quality university services could represent an effective starting point to consolidate similar compact and punctual surveys on a yearly basis.

## 5 Conclusions and Future Steps

This paper presented a comparative analysis of two mobility surveys performed by the Universities of Genoa and Catania, under the MM umbrella. The aim was to analyse how different survey structures, one more detailed and addressed to both University staff and students, and the other shorter and addressed only to students, could be useful for the update of the HtWCP and to monitor the impact of MM initiatives. In this respect, it is interesting to understand how data can be collected in a more effective and efficient way, given that the national legislation in Italy considers a yearly update of the employee mobility survey, which can be burdensome and excludes student mobility. Results show that both surveys can be helpful to infer on the University community travel patterns and preferences, with a higher level of detail for the first one, but a much lower response rate. The main conclusion and recommendation for policy-making is that an extended survey to staff could be performed every 3–5 years without losing too much information; on the other side, a shorter and yearly survey could be addressed to students, representing the majority of the University population and a much more dynamic community. Future research could extend the analysis to other Universities to understand how other characteristics, such as the size of the University or the location of the University venues, could have an impact on the survey design. Besides, it would be interesting to analyse how such surveys could be integrated into MaaS applications, with the potential to collect both passive and active data that would be valuable to constantly monitor and improve MM initiatives.

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