The Next Generation Report
An outline of academic education on sustainable transportation in Europe
This report has been developed within the European project, Evidence of the Proven Economic Benefits of Sustainable Transport Initiatives to Facilitate Effective Integration in Urban Mobility Plans (EVIDENCE), funded by the European Union. The following partners have been involved: Arcadis Consulting (UK), Wuppertal Institut für Klima, Umwelt und Energie GmbH (DE), INTERACTIONS Limited (IE), Urban Planning Institute of the Republic of Slovenia (SI), LUXMobility (LU), University of the West of England (UK), RHV Erasmus University Rotterdam (NL)

Deliverable 4.5

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Contract: Funded through the Intelligent Energy Europe programme - Grant agreement IEE/13/549/ SI2.675162.

Title: The Next Generation Report; an outline of academic education on sustainable transportation in Europe

Version: Final - August 2016

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Web: http://evidence-project.eu/

Layout: FGM-AMOR

Cover picture: Ian Shergold
Executive Summary
The EVIDENCE project is a strategic initiative funded by EACI and designed to unlock the potential of SUMP implementation in European cities. The project brings together a systematic, peer reviewed body of high quality evidence to support the view that investing in sustainable transport measures produces positive outcomes from an economic point of view. An important part of the EVIDENCE project is to understand how the current generation of transport professionals is trained. At the same time, the project tries to identify opportunities to influence the “next generation” of transport professionals. For “next generation” we mean those people either being engaged in teaching and/or sharing knowledge in a learning environment, and those being taught.

In most EU countries, education on transport and mobility is still approached mainly from a technical (i.e. engineering) perspective, though this has changed in the last decade. Nowadays, transportation is an educational theme also in a number of programmes in disciplines such as economics, geography, sociology and (urban) planning. However, if educational programmes continue to educate people predominately the old-fashioned way (mainly engineering), the same mistake (invest mainly in road expansion) will remain being made. Training and education needs to encourage people to reach out to other disciplines in order to create more integration of sustainable transport in other disciplines.

The supply of professional education in (sustainable) transport is very fragmented, limited and “difficult to find” in most European countries. Sometimes universities or other knowledge-based organisations provide it, sometimes government-based organisations or private companies do. There is a large variety of very specific courses on transport-related topics – e.g. on the latest safety standards in transport infrastructure, or new legal requirements, etc... - but there are few courses specifically designed to promote sustainable transport initiatives.

Overall, one can see that there is a need for more integration among already existing transport educational programs. Next to that, in some countries (especially in the New Member States), there is a need to increase the number of educational programs that discuss the issue of sustainable mobility. These programs should be multi-disciplinary and the interaction between educational institutions and practitioners should be further encouraged. Both parties can learn from each other and there are definitely possibilities for knowledge spill over effects. After the academic learning, it is important to give the possibility to transport professionals to continue and/or broaden their learning process even after finishing the normal university studies, especially exploring other disciplines. Finally, especially in the New Member States, EU-funded projects seem to be effective in changing the mentality of transport professionals. In these countries, very often, the only training activities focused on sustainable transport (e.g. seminars, workshops, etc...) are those organized in the framework of EU-funded projects. Especially in small and medium-size cities, the EU and the “EU-experts” have an important status and might be successful in convincing local policy makers to invest in sustainable mobility measures.
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I. Introduction

The EVIDENCE project

The EVIDENCE project is a strategic initiative funded by EACI and designed to unlock the potential of SUMP implementation in European cities. The project brings together a systematic, peer reviewed body of high quality evidence to support the view that investing in sustainable transport measures produces positive outcomes from an economic point of view.

Guidelines on implementing a SUMP encourage municipalities to learn from the experience of those who have already implemented similar measures, to “avoid starting from scratch” and to make use of “convincing evidence”. The EVIDENCE project provides an additional source of material for cities, having looked for robust and convincing studies of successful implementations of these same interventions, not just in Europe, but also across the world. It helps to add weight to the business-case for such interventions.

This enhanced knowledge will help facilitate effective integration of sustainable transport measures into urban mobility plans improving the credentials as ‘sustainable’ urban mobility plans. In doing so countries, regions, towns and cities will be better placed to improve health, increase economic efficiency, enhance access to employment, reduce the running costs of transport systems and help manage financial demands for new infrastructure.

Next Generation

An important part of the EVIDENCE project is to understand how the current generation of transport professionals is trained. At the same time, the project tries to identify opportunities to influence the “next generation” of transport professionals. For “next generation” we mean those people either being engaged in teaching and/or sharing knowledge in a learning environment, and those being taught.

In every EU country, the background for professionals varies considerably. In some states there are a handful of Universities or Colleges who train the majority of professionals, in others the generally accepted “right-of-passage” into a transport based career is through a specific course, such as Civil Engineering. Education channels include academic institutions, municipality training bodies, and other higher learning institutions.

The EVIDENCE project has tried to understand the characteristics and motivations of organisations currently involved in transport training in all EU countries, by interviewing key education providers in transport (or in two cases, people with a lot of knowledge of education). In total, the EVIDENCE team carried out 50 interviews in 26 EU countries; see a list of interviewed people in the appendix. It took a lot of effort and time to arrange the interviews in order to find out how academics and professionals are educated in various member states. In some occasions we were not able to find the full number of academics that were willing to speak to us. The questions we asked during the interviews mainly regarded the traditional training path follow by transport professionals, the possibility to follow alternative or

1 ELTIS. Implementing a SUMP. 2014
further educational programmes, and how standard curricula might be influenced in order to give more room for sustainable transport initiatives.

**Aim of the report and methodology**
The aim of this report is to use the ‘intelligence’ gained through the interviews to understand how to influence the prevailing wisdom within the educational sector in order to ensure that future transport professionals better understand the importance and value of sustainable transport initiatives.

The report provides details of the status of sustainable transportation within the major education programmes in each member state. This report functions as a framework for the EVIDENCE training materials (D 4.4 of the project) identifying gaps and opportunities to enhance the inclusion of sustainable mobility in the training process of the next generation of transport professionals.

**Structure of the report**
The remaining of this report is divided into two sections. Section two presents a general overview of the situation related to training and education for transport professionals in Europe. In section three, the situation per country will be elaborated and specific issues and situations will be dealt with on a country level.
II. Training and education for transport professionals in Europe

In this chapter, we shortly report the main outcome of the interviews. The aim is to present the main factors that influence the training of (present and future) transport professionals in Europe. We distinguish between academic education and professional education. We conclude suggesting some policy options that the European Union might use to promote further sustainable transport in the educational curriculum of professionals.

**Academic education**

In most EU countries, education on transport and mobility is still approached mainly from a technical (i.e. engineering) perspective, though this has changed in the last decade. Nowadays, transportation is an educational theme also in a number of programmes in disciplines such as economics, geography, sociology and (urban) planning. However, if educational programmes continue to educate people predominately the old-fashioned way (mainly engineering), the same mistake (invest mainly in road expansion) will remain being made. Training and education needs to encourage people to reach out to other disciplines in order to create more integration of sustainable transport in other disciplines.

There are still important differences among European countries and, within the countries, among different universities, on the level of incorporation of sustainable mobility in the standard programmes. While we do not claim to have interviews representative of all EU universities, the knowledge we collected suggests that in UK and other North European countries there are more possibilities to follow transport-related studies outside the classical technical disciplines.

All of the interviewees stated that the relevant lecturer is in charge to decide the program and the training material used in the course he/she teaches. In addition, there is no such a thing as a national curriculum for transport giving each University and lecturer the freedom to decide what to teach. This creates an important opportunity for the European Union to influence the training of the next generation of transport professionals. If individual lecturers are approached and provided with relevant teaching material, there is a good chance to get (more) sustainable transport related themes as an integral part of the academic programmes.

**Professional education**

We use the term “professional education” to refer to those educational activities – such as short courses, summer courses, seminars, etc... - that can be attended by transport professionals in order to increase and/or refresh their knowledge on a specific theme. Normally, these activities have a short-term character (a few days or weeks) and can be considered as a part-time study, as opposite of a full-time education at university level. Often transport professional use these courses either to specialize on a specific issue or to broaden their knowledge, e.g. a transport engineer willing to learn more about the behavioural aspect of travellers.
The supply of professional education in (sustainable) transport is very fragmented and “difficult to find” in most European countries. Sometimes Universities or other knowledge-based organisations provide it, sometimes government-based organisations or private companies do. There is a large variety of very specific courses on transport-related topics – e.g. on the latest safety standards in transport infrastructure, or new legal requirements, etc… - but there are few courses specifically designed to promote sustainable transport initiatives.

In addition, the budget for educational activities for employees varies greatly within Europe. In some countries, consultancy companies and public administrations have budget to invest in the professional development of their employees, in other countries they do not. It might be a logic sequential process to first incorporate sustainable transportation within professional education and later on within academic education; also due to time spans of adjustments.

In most European countries, governmental institutions and/or sector associations regularly organize conferences, seminars and/or workshops on sustainable mobility. Often these events are related to national or EU-funded projects. While these events are becoming more popular, they are not a substitute of professional education. Again, there is an opportunity for the European Union to promote sustainable mobility among existing transport professionals. The EVIDENCE training material (D 4.4) can provide the common ground for the development of professional education in Europe on the theme of sustainable mobility.

Policy directions
According to the interviewees, it is possible to form a future generation of transport professionals with a better understanding of sustainable mobility. Apart from some specific country-related issues (discussed in the next chapter), there are a number of common improvements that can be stimulated at both European and national level. These are described as follow:

- First, there is a need for more integration among already existing transport educational programs. At present, sustainable mobility has still a mono-discipline, engineering, approach and it is often seen as a case study within a traditional transport course. Still traffic engineers look at sustainable mobility in a different way than economists or geographers do. While a full integration of different disciplines (e.g. economics and civil engineering) is not realistic, the possibility to interact between disciplines should be stimulated. For example, traffic engineers should have a basic understanding of economic theory and behavioural science, while economists and geographers should understand basic traffic planning concepts. These might help the next generation of transport professionals to be more flexible in the way they think about policy options.

- Second, in some countries (especially in the New Member States), there is a need to increase the number of educational programs that discuss the issue of sustainable mobility. Still in many universities, sustainable mobility is hardly incorporated in the transportation courses.

- Third, the interaction between educational institutions and practitioners should be further encouraged. Both parties can learn from each other and there are definitely possibilities for
knowledge spillover effects. Students will be more prepared to the job market and practitioners might keep their knowledge up to date.

- It is important to provide the possibility to transport professional to continue and/or broaden their learning process even after finishing the normal university studies, especially exploring other disciplines. Engineers might be interested to learn some marketing techniques to sell better the improvement in public transport infrastructure they have planned to do. Similarly, planners might be interested to know how to change travel behaviour with communication campaigns in order to inform better the residents of the new area they have planned. This can be done through short courses organized by governmental associations, universities and/or private companies. These courses could take the form of seminars, conferences, workshops or masterclasses and could deal with all kinds of topics related to sustainable transportation. The training materials that are developed within the EVIDENCE project (D4.4) might function as starting point or basis for these short courses.

- Finally, especially in the New Member States, EU-funded projects seem to be effective in changing the mentality of transport professionals. In these countries, very often, the only training activities focused on sustainable transport (e.g. seminars, workshops, etc...) are those organized in the framework of EU-funded projects. Especially in small and medium-size cities, the EU and the “EU-experts” have an important status and might be successful in convincing local policy makers to invest in sustainable mobility measures.
III. Country section

In this chapter, we report the main findings for each Member State focusing both on academic and professional education. Once more, we do not claim our analysis covers all transport related educational activities per each country, but it gives a general idea of what are the most important issues for academic and professional education. For each Member State – with the exception of Luxemburg and Malta – we interviewed transport academics, each from a different university or research institute. A full list of interviewees is provided in the appendix.

Austria

Sustainable transport initiatives take place at national level and local level, both in terms of funding and implementation. In recent years, these kind of initiatives have faced some problems, mostly financial issues, lack of political support and uncertainty about costs and benefits.

Academic education

Many academic courses include sustainable transportation within their curriculum, mainly within the faculties of (civil) engineering, spatial planning and geography. Several universities offer transport related courses, though the content and the characteristics of these courses differ a lot. Courses and materials are both in English and German, though the majority is in German. It is common practice for academic lecturers to make use of real life projects and case studies in their teaching.

Professional education

There are a number of events/conferences/workshops that are organized every year, but not on a regular base. Both interviewees are convinced that there is a need for short courses for transport professional but often these people are not aware of that. These training opportunities are partly organised by universities, but there is not a structural offer of professional education for people within the field of (sustainable) transportation.

Belgium

Belgium has a good history of implementing sustainable transport initiatives though economic and political factors are, generally speaking, more important than sustainability. Both academics note that there is an increasing use of mobility management coupled to large national transport infrastructure projects, like the reconstruction of the Antwerp highway network.

Academic education

In general, sustainable transportation is given good coverage within academic education in Belgium. In the universities of Hasselt and Antwerp, sustainable mobility topics are regular part of the curriculum of transport-related courses. These courses take place on both a bachelor as well as master level within different faculties; course are given both in Dutch/French and in English.
Professional education
In Belgium, there are a number of events, workshops and short course for transport professionals, organized either by the EU or by other organizations, such as Vlaamse Stichting Verkeerskunde. In general, the most popular courses are those with a rather operational focus, e.g. the implementation of a new law or standards. Universities do also offer some courses for professionals, but not on a regular base.

Bulgaria
SUMPs are still in a developing stage in Bulgaria. There are sump projects that are currently being implemented within cities, though it is not always the easiest process. It is important to show clear case studies and examples; next to that the right political vision and political support is very important. Having the right network and knowing the right people is crucial for successful implementation.

Academic education
The academic education on sustainable mobility and sustainable transportation is limited and not yet extensively developed. There is attention to general transportation, both from a technical as well as economic perspective. The economic perspective is old-fashioned though; externalities are often not taken into account.

Professional education
There is no education for professionals on sustainable mobility in Bulgaria. There are some European funded initiatives via international projects that provide opportunities for knowledge gathering, especially the last couple of years. These occasional EU events usually aim for municipalities and are partly successful.

Croatia
The implementation of sustainable mobility initiatives in Croatia is mainly a bottom-up process. Local authorities are usually at the forefront of mobility planning and sustainable mobility, such as the city of Koprivnica. The national government does not consider sustainable mobility a priority at the moment. Financing and SUMP-related initiatives are for the vast majority derived from various EU projects, such as CIVITAS. In general, one can say that sustainable mobility developments and awareness are increasing in Croatia, mainly on a local level.

Academic education
The level of academic education on sustainable transport is becoming increasingly important. Recently it has been recognised as part of the curricula of some university programmes. It is mainly included within the faculties of transport and traffic sciences, although also within urban studies (department of geography) the attention for sustainable transport aspects is rising. Different kinds of teaching materials are used, such as output from (EU) projects, academic journals, books and professors’ presentations.
Professional education
In Croatia there are almost no possibilities for transport professionals to follow courses on sustainable mobility. The only official courses are those organized by the Croatian Chamber of Engineers, which organises courses and seminars for members within various fields; in order to be recognised as a ‘traffic engineer’ one should attend these seminars as a form of ‘lifelong learning’. Often people follow these seminars simply because they have to and not because they want to.

Cyprus
The influence of sustainable mobility and sustainable transportation is very limited in Cyprus. Modal split is very car heavy and investments and mindsets are very directed to cars. The decision making process is still dominated by car interest from various stakeholders, though there are some changes happening, but still on a limited scale.

Academic education
Transportation is only incorporated in civil engineering educational programmes. There are some initiatives to start with courses as Sustainable mobility (University of Cyprus), though this is only in a preliminary phase at this moment. The two main universities, University of Cyprus and Technical University of Cyprus both offer civil engineering degrees, but both do not offer a postgraduate course in transport.

Professional education
There is no professional education in Cyprus. There are short (couple of days) conferences and seminars, where attention is paid to sustainable transportation. Often EU or other related organisations are invited to speak. There are some possibilities for academics to go abroad; these possibilities are more limited for professionals, especially if they are not working for the government.

Czech Republic
There are some national strategies on sustainable transportation, such as the National Cycling Strategy, that deal with sustainable transportation. There are some cities that have implemented sustainable urban mobility plans, at least parts thereof.

Academic education
SUMPS and sustainable transportation is incorporated within various courses. There are no specific courses on SUMPS, but within transport sciences, road safety courses and engineering, attention is paid to sustainable transportation. There are multiple universities that do deal with sustainable transportation in the Czech Republic.

Professional education
There are some conferences or EU events where information and knowledge on sustainable transportation is shared within professionals. These could be national or international and deal with various topics. Other education for professionals is fragmented.
Denmark

Denmark is quite advanced in the implementation of sustainable mobility projects. Funding for sustainable transportation is present at both national and local level. In general, transport professionals, regardless of their background, are aware of the importance of sustainable transportation.

Academic education
There are some courses on sustainable transportation in Denmark; the most important universities involved in this field are the Technical University Denmark, Aarhus University and Aalborg University. The integration between SUMP and academic education could be further improved, but the teaching material usually contains lot of case studies and real life examples, and this make the gap between theory and practice relative small.

Professional education
There is little professional education in the country; some courses are provided by universities or by other organizations, such as Gate21/FormulaM. Despite the fact that professional education is fairly limited, in general there is quite a lot of attention for sustainable transport in Denmark, especially in Copenhagen and its surrounding area. There are various initiatives promoting sustainable transport and there is an active policy to improve air quality and stimulate a healthy life style. Already for quite some years, Denmark is one of the frontrunners in Europe concerning sustainable mobility and its implementation.

Estonia

The level of knowledge is increasing in Estonia, but still not that extensive. There are a number of people within local (the biggest cities at least) or national government that do have expertise and knowledge, gained via education or EU events or – projects. These people do have an influence, but the political arguments are in cases often still dominating.

Academic education
There are some modules on sustainable transportation, but these are part of other programmes, such as architecture or civil engineering. Main institutions that deal with transportation are Tallinn University of Technology, the Road Administration (under the Ministry of Transport) and the University of Tartu. These modules - topics covered include safety / spatial planning / travel and traffic demand / parking / traffic engineering - are only a small percentage of the total programme.

Professional education
There is no structural professional education. If there is any, it is demand driven and mostly provided by universities, sometimes in cooperation with unions. There some examples where e.g. a municipality was interested in a specific topic and a university organised a short course or seminar on this. Tallinn University of Technology has organised a couple of these and has good connections with governments and the road authority.
Finland
In Finland, there are some initiatives about sustainable mobility, mainly supported by the national government. The national government mainly decides how much to spend on each scheme and/or measure within the existing programmes and legislation. At different policy level – national, regional and local – there is an increasing awareness about the environmental aspects related to transport. Nevertheless, despite the fact that Finland is doing relatively well economic wise, there is sometimes the issue of funding that is limiting sustainable transport initiatives.

Academic education
Not a lot of academic education on sustainable urban mobility exists in Finland. There are some courses in which sustainable transportation is present, however many transport related courses focus more on freight transportation rather than on passenger transport. The Kymenlaakson University of Applied sciences and the Tampare University have developed courses at bachelor level that are focused on sustainable development, including also some transport related themes.

Professional education
In Finland, there are almost no training opportunities for transport professionals. There are occasionally events or conferences organised by institutions and/or (governmental) organisations, but there are no structured training programmes or educations. There are some ideas within JAMK University of Applied Sciences about services to companies, of which education could be one, but that has not been implemented yet.

France
In France, there is a clear top-down process concerning national infrastructure plans and national guidelines about transport. Local municipalities are increasingly involved in sustainable transportation and sustainable urban mobility plans. Initiatives are often encouraged and stimulated by relevant stakeholders, which could potentially help with the planning or carrying out of the process. It is however quite often the case that economic issues are considered more important than environmental ones.

Academic education
It is complicated in France to describe transport in academic curricula because it is disseminated in many universities and in different disciplines. In general, one can say that there is quite a lot of attention within different studies on sustainable transportation. At present, there is only a small number of courses specialized in urban mobility but this is changing rapidly; more and more degrees have themes as city logistics and urban sustainable mobility as part of their curricula.

Professional education
There is no education for professionals organized by universities. However, there are two professional organisations that organise training and education for professionals: CEREMA and CNFPT. CEREMA – an inter-ministerial agency focuses on the dissemination of good practices; mainly by means of training via seminars that last a couple of days and are open to everyone. CNFPT is a national centre for local policy
makers, which organises a series of training periods and offers the possibility to attend seminars on mobility.

**Germany**
The level of SUMP development in Germany is relatively high, with several sustainable mobility projects going on all over the country. These initiatives are mainly carried out on a local level, but the guidelines and funding is often derived from a national level. However, there is a growing feeling among policy makers about the cost effectiveness of these measures and examples of international best practices and case studies would definitely help the case for sustainable transport. This is also the case for mobility management in private companies. Evidence in terms of corporate benefits and savings would help managers to stimulate sustainable mobility within their companies.

**Academic education**
There is no such thing as an education on SUMPS or on sustainable transport in Germany. Sustainable transport is part of other programmes. For example at Frankfurt University, sustainable mobility is part of the civil engineering bachelor, and as part of three master courses: traffic planning, infrastructure management and a cooperative programme between different universities on economics, management and transport/urban planning. At Stuttgart University, elements of sustainable urban mobility plans are part of the courses in engineering, economics, urban planning and transport planning and modelling.

**Professional education**
Both academicians indicate that the amount of education for professionals is relatively limited. There are some workshops and/or events are organised by some associations and/or local government; however, both interviewees were not aware of regular trainings for transport professionals.

**Greece**
The economic crisis of the recent years in Greece has severely influenced the implementation of sustainable mobility projects. These are not a priority and the need to work on sustainable transport has decreased due to the decreased economic activity and corresponding decrease in traffic. The national government was the main initiator of sustainable mobility projects, but it cannot fulfil this role now due to the current financial situation in the country.

**Academic education**
Sustainable mobility is included in some courses within the academic education in Greece. Transport is mainly a discipline for the faculties of (civil) engineering, economics and urban planning. In these faculties, courses on transport planning, traffic engineering and transport/traffic and mobility management are taught at both undergraduate and graduate level. Sometimes teaching staff is involved in projects concerning sustainable urban mobility (such as EU projects), and they use the knowledge gained in these projects as part of the curriculum.

**Professional education**
In Greece, there are some opportunities for transport professionals to enhance their knowledge within postgraduate programmes, mainly from the public sector. There is a possibility of subsidies from the national government for lifelong learning, for which universities and scientific organizations can submit proposals. There are also some training initiatives for municipalities, such as masterclasses, but these are limited and not offered on regular basis.

**Hungary**

Main problem with sustainable urban mobility and sustainable transportation in Hungary is that there is no structure or policy. There is a lack of strategic thinking about sustainable transportation and a lack of coordination surrounding sustainable mobility. There are some initiatives and policy documents, but they need to be harmonised and unified.

**Academic education**

Hungarian Scientific Association for Transport and Hungarian Academy of Science are academically related organisations that deal with transport within academic education. In general, transport is, in line with the situation in other countries, mainly incorporated within engineering departments. Slowly there are some transport influences entering into other disciplines, but this is limited.

**Professional education**

There is no professional education in Hungary. There are couple of events and conferences on transportation, but not that many and they also do not deal with sustainable transportation necessarily. There are some lobby/activist groups that try to facilitate sustainable transportation and education on this, but this is difficult.

**Ireland**

The level of awareness about sustainable mobility is rising in Ireland since the end of the economic crisis that affected the country some years ago. This awareness is mainly pushed from the national level both because most of the funding originates from the national level, and because the national government viewed the economic crisis as an opportunity to improve the situation concerning sustainable mobility.

**Academic education**

There are no separate programmes on sustainable transport or sustainable urban mobility plans in Ireland. Sustainable transport is incorporated within other educational programmes such as (civil) engineering, supply chain management, logistics, economics and geography. Academic teaching is relatively close to real life since a lot of practical case studies are incorporated in teaching.

**Professional education**

There is quite some education for professionals in Ireland, on various aspects of sustainable mobility. Examples are in-house courses and training, which are often for dedicated staff of companies and/or institutions and the annual conferences of the Irish transport research network. Often the interaction with
other ‘disciplines’ is pursued. The aim is to learn not only from available knowledge within one’s own sector but to try to stimulate an interdisciplinary learning environment.

**Italy**

At local level, politics play a very important role. In recent years, all kind of decisions have been affected by budget cuts. Even when there is the willingness to promote sustainable transport at political level, there might be severe economic restrictions. In this case priority is given to hard measure, since the problem is mainly seen as a technical issue that should be solved with hard (infrastructure) measures. Soft measures are seen still like a “nice to have” measure but not something that you have to prioritize if you have little funding. In general, if funding for soft measures is available, it comes from national government or the EU.

**Academic education**

Sustainable mobility is incorporated in various kinds of academic programmes in Italy. However, approximately 50% of transport professionals have a background in (civil) engineering, 20% in architecture, 20% in economics and 10% in mathematics. There are two main reasons that can explain these figures:

I. The first is a cultural issue: transport is still seen as a technical thing and, accordingly, largely domain of technicians.

II. The second is a legal issue: in order to sign a SUMP you need to be a recognized “transport professional”. This means you need to be inscribed in the official register of the transport professionals and, at the moment, only engineers and architects have access to this register. This is also the main reason why most of head of departments and directors within local authorities are technicians.

**Professional education**

In the last years, the first post-graduate courses/trainings have appeared on the market. Private consultants provide most of them sometimes in cooperation with universities but there are no courses completely offered by a University. This might be a consequence of the so-called “compulsory refreshment education” (obblighi formativi) for the transport professionals: in order to keep his/her license the transport professional must follow a 30-hour course every year. Some of these courses are on sustainable transport. Local authorities however have little funds for these activities and even for the transport professionals these courses might be very expensive. Consequently, often professionals look for the cheapest way to get the minimum number of hours, rather than for the most interesting course for them.

**Latvia**

It is difficult to indicate the exact amount of SUMP development and integration of sustainable mobility initiatives in policy and practice, since both academics indicated that they were not that familiar with that topic. In general, one can say that since there are no substantial academic or professional programmes in the field of urban mobility in the country, the amount of knowledge with decision makers is likely to be
relatively low. There are some EU projects in which stakeholders are involved, which leads to an inflow of funding as well as knowledge.

**Academic education**
Sustainable transportation is not structurally incorporated in academic education. There are some universities that deal with transportation related issues (Transport and Telecommunication Institute (TTI) and Riga Technical University (RTU)), but sustainability is not a big part of these programmes.

**Professional education**
The Research and Training Consultative Centre of Transport and Logistics organises two professional courses:

1. Training course to obtain the certificate “Professional Competence in International freight and passenger transportation”
2. Training course to obtain the certificate “Consultant (adviser) on international transport of dangerous goods (ADR)”.

Further than this, the interviewees were not aware of any other form of professional education.

**Lithuania**
In the last years some decision makers started to change mind step by step and the result is that now you can see some small initiatives for sustainable transport. There is more cooperation among cities, even outside of Lithuania in the other Baltic States. These initiatives show that policy makers are looking for new opportunities for transport, in order to improve the quality of life for people.

**Academic education**
There is not very much academic education on SUMPS, sustainable transportation or sustainable mobility in Lithuania. There is some attention for these topics at the two largest universities of the country (Vilnius Gedimino Technical University and Kaunas Technical University) especially within engineering departments.

**Professional education**
There are some continuous studies going on for people who are working full time – tend to be in the management and business sector though. Both academics we have interviewed are not aware of any educational programmes for professionals within the field of transportation. There is some cooperation between KTU (Municipality Training Centre) and the local Municipality – but these are only really related to further development of ‘Public Administration’ qualifications. Occasionally there may be one-off events / external speakers that come in to deliver a lecture on issues related to transport / sustainable mobility; but these are not so common and last no more than a single event. No professional associations or networks that bring together transport professionals / transport academics.
Luxembourg
No academics were found for Luxembourg that were willing or able to speak to us, despite various requests, about the topic of sustainable mobility, sustainable transportation and sustainable urban mobility plans. Based on an analysis of the universities curricula via internet, the estimation is that there is some attention to sustainable transportation within different educational programmes, though one cannot draw conclusions about the scale and scope of sustainable transport involvement in these courses. No educational programmes were found for professionals, not within universities or within private companies.

Malta
No academics were found for Malta that were willing or able to speak to us, despite various requests, about the topic of sustainable mobility, sustainable transportation and sustainable urban mobility plans. Based on an analysis of the universities curricula via internet, the estimation is that there is some attention to sustainable transportation within different educational programmes, though one cannot draw conclusions about the scale and scope of sustainable transport involvement in these courses. No educational programmes were found for professionals, not within universities or within private companies.

The Netherlands
There are quite some sustainable transport initiatives in the Netherlands both at national, regional and local level. Many local authorities do have some forms of SUMP. In general, the national government sets the legal framework where sustainable mobility initiatives can take place but these are mainly carried out at local level.

Academic education
The academic education on transport in the Netherlands was originally mainly concentrated within TU Delft. Here (sustainable) transportation was approached from an engineering perspective. Now it is more widely included in educational programmes such as economics, geography, urban planning, transport, logistics and management within various universities (Erasmus University Rotterdam, University of Amsterdam, Radboud University Nijmegen). Mobility management and SUMPS are not yet subject for separate courses, but they are usually incorporated as elements of other programmes.

Professional education
The level of education for professionals is relatively high in the Netherlands, although it differs per topic. There are a lot of conferences, seminars and training sessions for professionals on various aspects of sustainable transport. On the specific topic of mobility management there are short courses offered by the Erasmus University Rotterdam and from the CROW (a national knowledge institute for Traffic and Transport). Additionally, several course can be found on parking, bike policies, travel behaviour and safety.
Poland
There are large differences in awareness and sense of urgency to implement sustainable transportation measures and incentives within Poland. Most of the times, sustainable transportation initiatives and/or sustainable urban mobility plans are ‘isolated’ initiatives. These are often initiated because of an EU project and are only carried out because there is a European incentive and stimulation. There are two main variables that are relevant when it comes to justifying and/or prioritizing schemes and initiatives with regards to sustainable transport. These two are costs of the scheme and political support for the scheme. Funding is mainly derived from EU projects, though there is a little bit of a rise in national funding. If results of investments in alternative sustainable measures would be better visible and more concrete, that might have an influence on the investments.

Academic education
A lot of the academics in Poland combine their academic positions with advisory work for local and national authorities. This can partially increase the level of awareness concerning sustainable transport. Sustainable transport and sustainable urban mobility themes are incorporated mainly within technical educational programmes, focusing on logistics and mobility. The most popular institutions are Gdansk, Warsaw, Krakow and Poznan. The amounts of topics covered and courses that are related to sustainable transport differ quite a lot, but to a certain extent, sustainable transport is incorporated within logistic-, economic-, engineering- and transport programmes. Both academics we have interviewed suggest that practical examples of good practice could be very useful for teaching. These case studies should show the situation before and after the implementation of the sustainable mobility initiative, possible supported with data about costs and effects.

Professional education
There are a few post graduate studies available for professionals working in the field of sustainable urban mobility. There is an education on management of urban transport in Krakow, and Warsaw university also offers a course meant for professionals. Among professionals there is the willingness to participate in workshops that can be organised by associations, universities and/or local authorities. These workshops/conferences are often organised in combination with EU project, like the INVOLVE Masterclass.

Portugal
In Portugal there are Instituto da Mobilidade e dos Transportes (IMT) policy and technical guidelines on how to implement sustainable mobility plans. Sustainable mobility initiatives are common in large cities, though the difficult economic situation of the past years has had a big impact on the implementation of these projects. There is a clear trend to a shift to more sustainable mobility but it takes time.

Academic education
There is quite some sustainable transportation incorporated in the academic education in Portugal. There are three main universities that provide transport related courses: FEUP in Porto, FCTUC in Coimbra and IST University in Lisbon. Originally, transportation was mainly lectured in civil engineering, but nowadays
it is incorporated also in geography and economy/management schools. In these courses the focus is on the behavioural aspects and on urban mobility management and policy.

**Professional education**
There are some short courses on sustainability, transportation and mobility. These courses are targeted towards working people in the transportation field, consultants and governmental staff (both municipal and national). However, in the last couple of years, governments on a national and local level had to deal with severe budget cuts as a result of the economic situation in the country. This affected these training courses, since municipalities were the primary customers of these training sessions.

**Romania**
In Romania the mentality of decision makers is starting to change, especially on a local level. Although many are not users themselves, they start to understand need for alternative modes of transport. This is for a large part due to EU projects, where a mixture of top down and bottom up approach is sought. This is difficult sometimes, due to the fact that there is no functional transport framework from the national government in which the local governments can operate; this makes it difficult for those willing to implement some sustainable transport initiatives because of the different incentives, capabilities and funding.

**Academic education**
Sustainable urban mobility and sustainable transportation is to a limited extent part of other educational programmes, mainly within civil engineering. There is an urban mobility master programme at the Faculty of Urban Planning, from "Ion Minuc" University of Architecture and Urban Planning (UAUIM), which is most related to the topic. Despite these courses, there is a general lack of knowledge on sustainability and sustainable urban mobility in Romania.

**Professional education**
There is not really education for professionals according to both academics, though both indicated that there might be courses or trainings that they were not aware of. If events and/or training courses are organised, it is usually within an EU – or national programme.

**Slovakia**
In Slovakia there is relatively little support from the government for sustainable transportation. In addition, there is no clear legislation or law that obliges the implementation of sustainable transport initiatives. This is also indicated by the fact that there is relatively little to no financial support for these kind of measures. This results in the case that only in the bigger cities there is limited staff dedicated to transport and transport planning.

**Academic education**
Transportation is included in different kinds of courses, but mainly within technical educations. There are also a number of programmes of transport planning in which sustainable mobility is incorporated. For
example, the university of Zilina deals with sustainable transportation in different course, while the Technical University of Bratislava deals with transportation more from an engineering perspective.

**Professional education**
Professional education is mainly carried out via EU projects. There are various EU projects in which different kinds of approaches to training are implemented in Slovakia. These projects work for example with cities to train municipal staff. There are also some consultants that offer courses more oriented on environmental issues.

**Slovenia**
In recent years, national support for sustainable mobility has strengthened in Slovenia. Due to a national tender for their preparation (supported by EU funding), SUMPs have become an important issue at the moment. Therefore, sustainable mobility is gaining attention, but it is not yet widely accepted and appreciated. In decision making processes the most aggressive groups and lobbies are the ones to get listened to while experts are still too often overheard. However, if the economic benefits of sustainable mobility could be proved, municipalities would most likely invest in it.

**Academic education**
In Slovenia transport related topics are covered within a wide range of university programmes, traditionally within civil engineering, but also in environmental and transport engineering, spatial planning, landscape architecture. Courses are taught in Slovene, but materials and literature are both in Slovene and English. Study programmes are strongly connected to real life with practical work, excursions and real time projects on the agenda. However, there is no programme entirely dedicated to sustainable mobility. Specific knowledge is therefore most often acquired within postgraduate studies (international exchange) or through other types of informal training courses.

**Professional education**
Professionals gather new information and knowledge mostly through international conferences and literature. In Slovenia there are no regular sustainable transport conferences, only occasional events and the few trainings that are organized are usually related to EU projects or organized by NGOs. At the moment informal and (short) workshops seem to be most appreciated by transport professionals.

**Spain**
Politicians are key in the decision making process in Spain. In the last 5-7 years, the country went through a very difficult time with severe budget cuts at all levels. This had a huge influence on the decision making process. Even when some politicians are willing to invest in sustainable transport, they will have difficulties in arranging the funding. However the culture is still “old-fashion”, thus focus on infrastructure. Any kind of new evidence on sustainable transport might be very useful to overcome (part of this) problem.
**Academic education**
Civil engineering is still the dominant background for people working in the transport sector, though especially younger professionals tend to have more diversity in backgrounds; also economic, geography or environmental studies. In addition, engineers are undergoing a small cultural shift; especially the youngest generation is interested in the concepts related to sustainable mobility. They understand that only a technical approach is not enough to solve mobility problems in large urban areas; this trend is partly facilitated by universities within their teaching by means of courses and programmes. There is a large gap between academic teaching and practise, which leads to some problems for e.g. students or companies. Madrid and Barcelona are the main universities in Spain.

**Professional education**
Some local or national professional organisations might organize courses on issues related to sustainable transport; this could for example be private consultants. Local authorities might as well organise training sessions or events, both to educate their own staff and to educate local transport professionals.

**Sweden**
Sweden is one of the countries in Europe where sustainable transport initiatives are quite common. In general, there are high-quality decision makers both at national and local level. At national level, CBAs are widely used especially in the allocation of funding for transport infrastructure. Accordingly, at that level there is a more traditional approach to transport decision making. At local level, policy makers are less interested in CBAs; if they think the project is good for the city they might decide to do it without performing a CBA.

**Academic education**
There is extensive education on and knowledge concerning sustainable transportation in Sweden. KTH Royal Institute of Technology in Stockholm and Lund University are academic institutions where sustainability is involved in most educational programmes. Still, transportation is mainly a technical discipline, usually civil- and/or traffic engineering. There is a strong link between academic teaching and real life situation since many lecturers are also practitioners such as policy makers, advisors etc.

**Professional education**
There is a need for courses for professionals but they must be at very high levels because professionals are already well trained. They have a very high level of education/preparation; often they hold a PhD. At the moment there are not really trainings for professionals; and certainly not giving an official qualification. The SKL-Swedish municipalities and county councils organise training courses for policy makers. The Swedish transport forum is probably the largest event for transport professionals in Sweden, where 1,500-2,000 Swedish transport professionals come together every year.

**United Kingdom**
One of the main issues with sustainable transportation is the ideology that car transport is often considered being superior, especially in terms of freedom and in giving people “want they want”. Not
everyone, both in politics as well as in the academic world is always convinced of the benefits of sustainable mobility and transportation. This causes the level of prioritisation to fluctuate and correspondingly, the amount of money, time and efforts that are utilised.

**Academic education**
Generally speaking, the UK has a very good academic system. Sustainable transportation is dealt with in various educational programmes and taken into account in multiple disciplines. The engineering perspective is important, but transportation is taught also in many other disciplines such as economics and business, geography, sociology, and behavioural science.

**Professional education**
The Chartered Institution of Highways & Transportation (CIHT) offers some education for professionals, as well as some other academic institutions. These courses focus mainly on roads and highways, but there are some sustainable mobility initiatives. ACT Travelwise is another organisation that organises seminars for companies and local organisations.
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<th>Country</th>
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<td>Austria</td>
<td>Michael Meschik</td>
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