



**European Cooperation
in the field of Scientific
and Technical Research
- COST -**

Brussels, 22 November 2013

COST 084/13

MEMORANDUM OF UNDERSTANDING

Subject : Memorandum of Understanding for the implementation of a European Concerted
Research Action designated as COST Action TU1305: Social networks and travel
behaviour

Delegations will find attached the Memorandum of Understanding for COST Action TU1305 as
approved by the COST Committee of Senior Officials (CSO) at its 188th meeting on 14 November
2013.

MEMORANDUM OF UNDERSTANDING
For the implementation of a European Concerted Research Action designated as
COST Action TU1305
SOCIAL NETWORKS AND TRAVEL BEHAVIOUR

The Parties to this Memorandum of Understanding, declaring their common intention to participate in the concerted Action referred to above and described in the technical Annex to the Memorandum, have reached the following understanding:

1. The Action will be carried out in accordance with the provisions of document COST 4114/13 “COST Action Management” and document COST 4112/13 “Rules for Participation in and Implementation of COST Activities”, or in any new document amending or replacing them, the contents of which the Parties are fully aware of.
2. The main objective of the Action is to establish a linkage among social networks, travel behaviour and spatial configuration and to broaden the theoretical and practical framework of the field, taking into account both urban structure, and jointly performed social activities.
3. The economic dimension of the activities carried out under the Action has been estimated, on the basis of information available during the planning of the Action, at EUR 44 million in 2013 prices.
4. The Memorandum of Understanding will take effect on being accepted by at least five Parties.
5. The Memorandum of Understanding will remain in force for a period of 4 years, calculated from the date of the first meeting of the Management Committee, unless the duration of the Action is modified according to the provisions of section 2. *Changes to a COST Action* in the document COST 4114/13.

A. ABSTRACT AND KEYWORDS

The past decade has gone through rapid ICT developments, which had wide societal impacts. ICT enhanced the shift from social groups defined by location to individually-based social networks. High-speed telecoms allow for ad-hoc personalised networks that affect travel behaviour. Unfortunately, research has lagged behind ICT advances, as our understanding of current travel behaviour is limited and existing urban mobility solutions cater to population behaviour that no longer exists. The transport demand models used today are based on inadequate understanding of the new social structure. A new transport paradigm is needed for the ultra-urbanized smart city. This COST Action aims to initiate a new collaboration framework for the various European research groups that develops a new transport paradigm based upon ICT social networks and their subsequent travel behaviour in the urban environment.

The goals are to explore ways in which social activities become mobilised in space, identify how social ties affect the integration of local public transport into urban patterns, and develop a rigorous conceptual framework for new ideas and methodologies. This work will be achieved by creating a joint discussions platform that includes seminars, thematic working groups, discussion sessions, workshops and publishing scientific results.

Keywords: Social networks, travel behaviour, urban development, ICT, transport system

B. BACKGROUND

B.1 General background

The term 'smart' or 'intelligent' city refers to the use of ICT (Information and Communication Technologies) to allow for a more innovative environment. In such an environment the role of smart, integrated transport becomes important; however it is not yet fully understood how smart cities will evolve, but it is clear that social networks will play an increasingly important role in this future development. Challenges relate to the question of how we can synchronize among social networks, transport means, intelligent communication, management systems and urban form. The past decade has witnessed rapid communication developments, having major societal impacts. The use of new ICT platforms accelerated the shift from social groups that were defined through a specific location to individually-based social networks. These new social networks are associated with several paradigmatic changes, as people have a wider spatial distribution of social networks than in the past. A larger set of social contacts are active today than in the past and they overlap less

in spatial terms.

The appearance of virtual social networks such as Facebook and changes in working patterns (home/hub-based, shorter working week days) have resulted in intertwining of leisure activities with other daily routines. All of the above have an impact upon travel and mobility within the urban space. However, current transportation models are not equipped to deal with this new social structure because they are primarily designed for forecasting future demand for travel in a specific area/city/region, using past travel behaviour and social habits of the population. Due to rapid ICT development and the emergence of ICT social network activities, a new travel model needs to be developed, one that in particular will promote urban public transport.

A new field of research on social networks and travel behaviour is now emerging although is still in its infancy. Studies into relations between social networks analysis and activity-travel modelling approach, began only around 2003-6. Obviously these are still very initial and the linkage between the spatial, social and travel characteristics of the trips needs further understanding. There is a lack of common ground, conceptual frameworks and research methodologies to cope with this new field of inquiry.

The COST Action will be the platform for integrating ideas, creating a common problem definition and a body of knowledge to direct future research in this field.

COST is the ideal platform because at this stage the relevant research community is in need of consolidation of existing approaches, discussion in depth of theoretical and methodological issues, an exploration of practical applications, and the formulation of a research agenda.

B.2 Current state of knowledge

Social networks are one of the main motivators for the use of transport systems. A social network is a social structure, based upon group members and the relations among them. Social network studies are concerned with the structure of socio-cultural systems, such as the amount of contacts and level of communication among different members of a certain social group. The appearance of virtual social networks and changes in patterns of work (home/hub-based, shorter working week days) have resulted in integration of leisure activities with other daily routines.

The past decade has witnessed rapid communication developments, which have major social impacts. The use of the new Information and Communication Technologies accelerated the shift from social groups that were defined through a specific location (e.g., residential neighbourhood or work place) to individually-based social networks. This shift, coined by in research the "Networked Individualism," is a stage in which mobile, high-speed telecommunications allows for personalized

networks and "person-to-person" social ties. These new social networks are associated with several changes, compared to the past 50 years, such as; wider spatial distribution of social networks members than in the past, typical social networks are less coherent, i.e. fewer people share multiple affiliations today than in the past, memberships overlap less in spatial terms, i.e., vis-à-vis their residential locations and activity spaces, people have a larger set of active contacts today than in the past, and the contacts are spread across more social networks than in the past. At the same time, rapid transport network systems enable long-distance mobility and multilocality to develop. These mobility practices depend on residential biographies, social and familial anchorages and appear to concern more and more people. The link between (residential and daily) mobility practices and social ties then necessitates to be more precisely studied.

All of the above have an impact upon travel and mobility within the urban realm. However, current transportation models are not equipped to deal with this new social structure. They are based upon what professionals' term as "little-boxes," in which "members used to deal principally with fellow members of the few groups to which they belonged: at home, in the neighbourhood, at work, or in voluntary organizations. They worked in a discrete work group within a single organization; they lived in a household in a neighbourhood; they were members of one or two kinship groups; and they participated mainly in structured voluntary organizations: churches, bowling leagues, the ACM, and the like."

Current transportation models, developed in the 1950s, are still at the core of the transportation strategic planning process. These models do not capture the transition from a situation in which a person's social networks had once been strongly overlapping and spatially coherent to the current situation in which membership overlap is small and members are spatially dispersed.

Existing models forecast the future demand for travel in a specific area/city/region and therefore play a major role in the defining the specification of the Intelligent Transport Systems (ITS) tools that follow. The demand model commonly used in a conventional transportation plan is composed of four analytic sub-models including: trip generation, trip distribution, modal split and traffic assignment. They are developed in a linear order, where one model's output is the subsequent model's input. The result of the planning process is the development of transportation infrastructure and related ICT and ITS services. Even though significant advances in modelling travel demand have been made over the years (mainly by methods of disaggregate choice modelling and later by incorporating insights gained from activity-based travel theory into urban travel forecasting models), the basic theories and concepts did not change very much. Future trips are still predicted from past behaviour patterns. Transport models, and in particular operational models, also focus on the generalized costs of travel to explain travel choices. The generalized cost of a trip is composed

of travel time and perceived monetary expenditure, as well as risk and comfort. In such models the benefits arising from the activity participation are captured poorly through the activity's purpose. Research on social networks and travel behaviour began only around 2003 and has produced eight empirical research studies with several papers for each group. As pioneers in this field, a number of basic questions had to be addressed, such as: which social network parameters are important for travel behaviour study? Which phenomena should be studied? And what methods are suitable? The common denominator in all previous research is that travel behaviour, though influenced by social networks, is studied on an individual basis, such as by using the “Egocentric Analysis” approach. Most studies have used traditional transport activity-based modelling and variables, in particular travel distances, frequencies and mode of travel. They focus on leisure trips and usually resulted in drawing "confidence ellipse" showing distances and activity space of an "average person," as well as statistical technical correlations among travel variables (such as social travel distance, mode of travel, number of trips) and social network characteristics (such as strong/weak ties between members), controlling for personal and household characteristics.

B.3 Reasons for the Action

Former studies lack the spatial characteristics of the trips and the spatial configuration of the mobility network that influences the mobility flow and the location of various economic activities. They tend not to focus either upon the characteristics of the actual location of the activities or the path/route taken. The urban environment characteristics are missing. Thus, the public transport system fails to accommodate properly the needs of modern lives, and there is a need for a paradigmatic change in the travel planning demand modelling. In order to fill this gap we propose to develop a conceptual framework for integrating analysis of ICT social networks with travel behaviour, mobility and urban analysis. This will lead to the development of a new transport paradigm and foster public transport services in urban areas. The COST Action will create a platform for coordinated effort of the contributing relevant European researchers in a cross-disciplinary manner in the three fields of knowledge: social networks analysis, travel behaviour and urban research.

B.4 Complementarity with other research programmes

This Action is expected to define the scope of future research, laying the foundation for multidisciplinary collaborative research activities within Horizon2020 and related programmes in

DG transport are expected. In particular, Marie-Curie programmes will be encouraged by the MC of this Action to foster the development of young researchers.

C. OBJECTIVES AND BENEFITS

C.1 Aim

This COST Action aims to initiate a new collaboration framework for the various European research groups in urban transport and urban networks including sociology, transport research, urban planning, architecture, geography and Information Technology (IT) science to develop a new transport paradigm based on ICT social networks and their subsequent travel behaviour. Through this collaboration the COST Action partners are expected to focus their research on exploring the relationships among ICT social networks, social travel behaviour, and spatial configuration. In particular, the goals are to explore the ways in which social activities become mobilised in space, to identify the ways in which social ties affect the integration of local public transport into urban patterns, to establish a linkage between social networks, travel behaviour and urban structure and to broaden the theoretical and practical framework of the field, taking into account both urban structure, and jointly performed social activities.

C.2 Objectives

1. Develop a conceptual framework for analysis of ICT social networks that will comply (or be compatible) with travel behaviour and mobility analysis.
2. To foster new concepts for public transport services
3. To identify guidelines for collecting spatial information for urban network analysis from social networks and the community of passengers.
4. Develop a combined conceptual framework that will integrate methods from 3 disciplines including social networks analysis, travel behaviour analysis, and spatial configuration and urban research. These will be complemented by striving towards a pan-European consensus for the required structures of data security and privacy aspects in new transport models.

5. To exchange local experiences in different urban settings and to assess the implications of ICT social networks activities on public transport, the transport system and urban form.
6. Contribute to training young researchers in an innovative interdisciplinary new research area that has implications for urban and transport planning.

C.3 How networking within the Action will yield the objectives?

There are three disciplines that are inherent to this new field of inquiry: social network analysis, transport research, and urban analysis. Each has its own theories, methodologies, and tools and built up upon previous research traditions, and they are developed parallel to one another. The societal impacts of rapid ICT developments have drawn the attention to the lack of understanding how those different research fields might be synchronized. Since they require a variety of resources, data sets, and scientific capacities - one major reason for the slow progress in this field is the lack of a coordinated effort of the contributing relevant European researchers in a cross-disciplinary manner.

The general objective will be achieved by bringing together experts from the 3 knowledge areas: social networks, travel behaviour and urban research (including; IT science, transport studies, sociology, geography, architecture, urban planning, etc.) to foster innovative thinking, and utilize local knowledge, experiences and research within European Countries. The Action will develop a rigorous conceptual approach from which to extract new ideas and methodologies. This work will be carried out in seminars, thematic working groups, discussion sessions and design workshops.

Objectives 1 and 2 will be achieved by creating a formal joint discussion platform to be composed of researchers in the field of social network analysis and in the field of travel behaviour analysis. The COST Action acts as an enabler and catalyst to the process through the organization of relevant seminars, workshops and common working sessions.

Objective 3 will be achieved by creating a formal joint discussion platform to be composed of urban researchers. Seminars and workshops will be taking place in the cities where simulation and scenario building will be developed.

Objective 4 will be achieved by defining the scientific approach integrating the 3 areas of knowledge through organizing the documents produced by the Action in the form of common

definitions of variables, research methods, and guidelines for collecting information.

Objective 5 will be achieved by organizing public events - for instance public evening lectures, exhibitions, etc. - in the cities hosting seminars and workshops; organizing a mid-term and final conference; preparing a publication for dissemination of knowledge. It is estimated that approximately five hundred persons will be reached through direct contact (in the participating countries, including public transport companies, administration, policy makers), and many more through the publications and via the website.

Objective 6 will be achieved through creating a junior network inside the Action to involve young researchers, Post-Docs and PhD students, creating a summer workshop and a solid and possibly lasting network. Incorporating this target group (approximately 40 persons) in a complex Action with a wide range of disciplines and know-how involved, will produce a vertical transfer of knowledge that will enhance and enrich the outcomes of the Action itself. If relevant, Marie-Curie mobility and career development programmes will be considered in the future as reinforcement tools of the COST Action.

C.4 Potential impact of the Action

Expected benefits are:

This COST Action reflects the changes witnessed in the last decade in scientific research; there is no longer a single speciality in one field of research, as current transport research requires the backgrounds of several different areas of knowledge - sociology, transport, travel behaviour, advanced Information and communication technologies and urban planning. Therefore building a strong, multi-national, European research capacity will have a great value. This COST Action brings into the European community a strong innovative, unique research aspect in social networks, transport and urban research while training the younger generation in a multidisciplinary fashion.

Specifically:

- Research emanating from this COST Action may enable the public transport to benefit from service characteristics that were traditionally typical to the private vehicle (e.g., just in time travel choices). Encouraging the use of public transport and minimizing single occupancy trips resulting in more efficient energy consumption and automobiles achieve greater fuel efficiency - a solo commuter switching his/her commute from a private vehicle to public transportation can reduce CO₂ emissions by 20 pounds per day—more than 4,800£ in a year. Thus reduces an individual's carbon footprint.
- Formation of specialty transport solutions for specific groups such as elderly, youth, and young

adults. Special emphasis will be given to young people as they use ICT-Based social networks. This target group should be encouraged to use public transport and to organise efficient sustainable travel chains.

- Examine new mobility services tailored according to individual needs based on ICT social network interactions.

C.5 Target groups/end users

This COST Action aims to change the overall perception and implementation of urban transport planning. State-of-the-art academic research is needed but by itself is not sufficient to achieve the goals of the Action. To this end, major local as well as pan-European policy and governance bodies involved in transportation planning, as well as European transport operators, are taking part in this Action from its very inception. Through active participation in the various Working Groups (WGs) and dissemination in WG4 we expect that the joint partnership between academic organizations and uptake and dissemination organizations will create a can-do atmosphere of COST products that will be innovative yet realistic and implementable.

D. SCIENTIFIC PROGRAMME

D.1 Scientific focus

In order to develop a new transport paradigm based on ICT social networks and their subsequent travel behaviour the most important research tasks are:

- 1) The identification of the relationships among ICT social networks, social travel behaviour, and spatial configuration.
- 2) The identification of key variables associated with the relationships among ICT social networks, social travel behaviour, and urban characteristics (to be incorporated later in model development)
- 3) To identify variables associated with joint social activities, leading to a new definition of travel model, capable of adapting a dynamic and flexible lifestyle.
- 4) Identifying the constraints and possibilities that social networks create for a new transport model and sorting which variables are location based and which are social network based.
- 5) Establishing the effect of locations of social activities formation on spatial configurations.
- 6) To examine diverse scenarios for new mobility schemes and their impact on the urban fabric.
- 7) To understand the defined and required framework in terms of citizen privacy and data security to employ new ICT based social transport modes.

All of the above will be the basis for modelling social trip generation via ICT social networks, taking into consideration the flexibility of these trips and their spatial urban aspects. This new data is expected to impact the way ICT is employed in the transport system in general.

Therefore, work in this COST Action will be divided into four work modules:

- a) Social networks and travel behaviour analysis. The goal of this group is to identify the gaps within current theories and paradigms for analysing ICT based social networks. The end result is the identification of the social networks variables that affect social travel behaviour.
- b) Scenario building and simulations. The goal of this work group is to apply scenarios of various alternative developments in land use and urban structure, topography, weather variations and cultural aspects and evaluate comparatively the travel behaviour derived from ICT social network activities and transport infrastructure and services. The urban scenarios will be taken from existing plans of the COST European partners.
- c) Urban analysis. The goal of this work group is to present and explore urban analysis tools that relate to social aspects and transport behaviour in the built environment. For example, to apply accessibility measures that will draw on network-based approaches. This analysis will allow us to understand the structure of the urban network and the ability to generate people's movement.
- d) Dissemination, uptake and policy measures – The goal of this work group is to define short, medium and long term uptake of methodologies developed in the other work modules in view of feasibility and as outlined by EU policy.

Overall, the COST Action will enable its partners to develop new transport strategies based on the unique approach of the integration among ICT social networks their travel behaviour and the built environment.

Although the network combines leading research entities from academy in Europe, its flexible structure allows for the addition of relevant partners as research progresses.

D.2 Scientific work plan methods and means

Four different work groups (WGs) have been designed matching the work modules above.

WG1: Social networks and travel behaviour analysis, to identify the gaps within current theories and paradigms for analysing ICT based social networks including privacy issues.

WG2: Scenario building and simulations, of various alternative developments in land use and urban structure

WG3: urban analysis, that relates to social aspects and transport behaviour in the built environment.

WG4 : dissemination, uptake and policy measures, including privacy and data security.

WG1-4 will serve as coordination platforms, while the scientific work will be carried out by the internal resources of all partners.

The general scientific program will be divided into the following parts:

Part 1: is based on WG1: Social networks and travel behaviour analysis, will be devoted to:

- presenting advanced state of the art research methodologies for analysing social networks focusing on ICT social networks through seminars held by experts.
- presenting advanced state of the art research methodologies for analysing travel behaviour through seminars held by experts.
- perform a theoretical and empirical literature review on social network and travel behaviour through working group.
- explore the effect of locations of social activities formation on spatial configurations through joint working groups .
- identify key variables associated with the relationships among ICT social networks, social travel behaviour, and urban characteristics (to be incorporated in future model development). Looking at modification according to cultural aspects and identify the gaps within current theories and paradigms for analysing ICT based social networks including privacy issues through joint seminar .

Part 2: is based on WG2: Scenario building and simulations, of various alternative developments in land use and urban structure

Will be devoted to:

- presenting advanced research, simulation models and tools through seminars held by experts.
- discussing the main scenarios of various alternative developments in land use and urban structure. Selection of several urban case studies reflecting diversity in social characteristics, transport systems and urban form through working groups
- presentation of the case studies in seminars and site visits; seminars will take place in the city where the case study is located. A common grid of presentation will be defined with description of site, the social and the physical context. Every presentation of case studies will be concluded with a synthesis containing: positive aspects, problems, lessons learned and recommendations.
- analytical work on the case studies done in small group working sessions and larger discussion groups to extract from the presented cases the possibilities for incorporating social network in the transport model.
- presenting the possible impact of social network activities on simulation outcomes through seminar.

Part 3: is based on WG3: urban analysis, that relates to social aspects and transport behaviour in the built environment

Will be devoted to:

- presenting advanced state of the art research and tools for the analysis of urban network (e.g., accessibility measures, space syntax analysis, spacematrix and GIS) through seminars held by experts.
- explore existing data bases of the urban network, road space, points of interests, and socio-demographic information. Assessing their relevance and the gaps for analysis of social networks activities through thematic working groups.
- design guidelines for collecting spatial information for "spatial mobility" and urban analysis through working groups.

Part 4: is based on WG4 : dissemination, uptake and privacy and policy measures.

Dissemination actions will be focused on several distinct target audiences : Researchers around the world working in related fields, European governmental and regional transportation planning bodies, European, governmental and regional transportation policy bodies, European transport operators , the general public. Activities will be tailored to each group according to its characteristics as defined in section F. In addition, implications of digital citizen security and data privacy will be closely examined.

Part 5: Will be the devoted to preparing the conclusion of the Action. The Action members, divided into the thematic working groups and through common working sessions, will deal with the following issues:

1. A document exposing the main findings in terms of innovative approaches in thinking and practice;
2. The Final Conference will conclude the Action and present the results of four years of common work.

The COST Action scheme is meant to be flexible and is open to adjustments in relation to the requests of the partners and will allow the addition of new participants.

E. ORGANISATION

E.1 Coordination and organisation

As the COST will gather scientists from a variety of disciplines and include governmental and non-governmental policy bodies - an organised structure is required to achieve effectiveness in the Action. To this end, several management bodies were created to handle the complexity of this venture:

The Management Committee (MC) will be the daily decision-making body of this COST Action

responsible for the overall coordination and direction and implementation of all activities carried out within this COST. The composition of the MC will follow COST procedures and Chair of the MC will be selected during the first MC meeting. Ordinary meetings of the MC will take place every four months, either physically or via electronic means.

The MC will decide of matters relating to the: (1) preparation and final approval of the annual Implementation Plan prior to the submission to the CSO; (2) reports and financial overviews for past periods; (3) acceptance of new partners to the Action, as well as the exclusion of partners; (4) structure and restructuring of the Work Groups, if required.

The COST Action Chair: The nominated Action Chair will be selected from amongst the MC. His/Her management tasks will include: (1) the coordination of the different committees, activities and Work Groups; (2) assisting the responsible teams for the network-wide training and coordination activities; and (3) serving as the liaison officer to the European Commission.

Work Group Leaders: The project is organized into four research and training work packages, each led by a WG coordinator who will supervise the scientific and tutorial work and be responsible for coordination of scientific actions in his domain. Each WG leader will be responsible for the timely and thorough transfer of scientific knowledge and results to the other Action partners and well as to implementing all activities related (seminars, workshops and STSMs) related to his work group.

STSM manager: one member in the MC will assume the role of STSM Manager. His/Her role will be to coordinate the STSMs with the WG leaders to ensure that they are carried out in a timely manner and achieve the maximal effect in terms of transfer of knowledge and pan-European impact from an overall COST perspective. Each proposed STSM application will be submitted to the review of the STSM manager which will then approve/deny the request. Controversial/disputed applicants will be approved/denied by the MC in its next meeting.

An Editorial and Dissemination Committee: will be composed of 3 MC Partners. This committee will be assembled to ensure that all COST activities have been advertised in all appropriate places, to ensure that appropriate material concerning the network is presented on the web, and to coordinate all other dissemination and publication actions. To avoid conflicts of interest in right to IPR and publication, the committee will oversee all related activities to ensure that all COST participants act in a straightforward and ethical manner regarding scientific results and publication.

An External Advisory Board: Understanding that state-of-the-art is not always confined to European borders, an Advisory committee of international acclaim will be set up- these will be major academic figures from around the world. They will be joined by representatives of major European transport operators. Together these two groups will ensure external monitoring and evaluation of the Action's achievements and attainment of objectives.

E.2 Working Groups

This COST Action will operate through its organisational bodies described above, but first and foremost through its professional Working Groups as defined in section D. The Action will consist of 4 professional Working groups. internal organisation will be as follows:

Work-Group Leaders

This COST Action is divided to *scientific Tasks* to be carried out, which are clustered to Work Groups (WG) on the basis of their topics and how they interact. Each Task and each Work Group will be represented by a Task or a Work Group-leader, who will have the following responsibilities:

(1) Co-ordinate activities in the Task/WG and ensure communication between the participants. (2) Co-ordinate the interaction and collaboration with other Tasks/WGs. (3) Inform each other – especially the MC – of all relevant events and activities related to the Action. (4) Work on detailed planning, supervision and quality assurance, and communicate the status of these issues within the Task or Work Group. (5) Ensure a well-timed availability of Task/WG deliverables. (6) Deliver milestones and deliverables, respecting quality criteria. (7) Initiate corrective actions for deviations. (8) Report progress to the Project Coordinator and the Board. (9) Convene Task/WG meetings. (10) Arrange technical reviews, as required by the MC or the CSO. (11) Carry out the Work Packages/Tasks as defined in the operational plan. (12) Mobilize the necessary resources, and build up contacts with third parties as far as necessary.

In case of disputes between two or more parties within a Task or Work Group, the Task-leader or Work Package-leader should try to resolve the conflict amicably and internally. If there is no compromise solution, the Task- or Work Group leader has to reach arbitration with suitable decision making bodies (*e.g.*, Work Group leaders, Cost Action Chair, MC).

E.3 Liaison and interaction with other research programmes

The multidisciplinary nature of this COST Action requires great attention to other programmes in the European research arena. Thus, the Editorial and dissemination committee will be responsible for the identification of relevant projects from all realms (H2020, ESF etc...). Interaction with external projects that will be of interest to this Action will be discussed in the yearly COST meeting and joint actions will be then offered to the external project. The nature of the interaction will depend on the decisions of the MC and may range from information exchange to joint seminars and publications.

E.4 Gender balance and involvement of early-stage researchers

This COST Action will serve a basis to new consortia projects in the future in both the Horizon 2020 and additional funding frameworks. This Action will therefore serve as a strong and practical platform that can further sprout and develop new directions and collaborations, both privately and publicly funded. A special emphasis will be given to Marie-Curie actions to support transfer of knowledge and the mobility of Early-Stage Researchers in the European Research Area.

In addition, one member in the MC will assume the role of Gender Manager, and will ensure that all gender-issues related to this COST Action will be taken seriously into account and dedicated actions to resolve these issues will be performed. This is done by setting up a gender action plan, which will continuously be updated during the runtime. The Gender Manager will direct the Gender action plan to the network's internal level, with the following aims:

- Raising awareness of COST partners involved about issues of equal opportunities in the network.
- Support for female Early Stage Researchers.
- The enhancement of the specific contribution made by women in the processes of R&D, as well as in management (e.g. conflict resolution).

If deemed necessary, the Gender Manager will gather an ad hoc committee to oversee the hiring practices of the Action partners, and ensure that they conform to national and EU employment regulations with regard to STSMs and cross-border activities.

F. TIMETABLE

The Duration of this COST Action will be four years. The Action itself will be divided into three main phases. The 1st phase which is expected carried during Year 1 - will focus on the creation of a common ground and joint scientific and ethical principles for the research, with the close collaboration relevant governmental and operational bodies. The 2nd phase will focus on the scientific coordination and actual work to be done by the different professional WGs. This phase is expected to start at Year 2 and continue until the end of the Action. The 3rd phase is the dissemination and uptake activities. These are expected to start during Year 2 but peek during year

4 as scientific results are more available.

	Year 1				Year 2				Year 3				Year 4			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
WG meeting	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
MC meeting	x		x		x		x		x		x		x			x
Annual COST meeting				x				x				x				x
Dissemination events								x				x	x	x	x	x

G. ECONOMIC DIMENSION

The following COST countries have actively participated in the preparation of the Action or otherwise indicated their interest: AT; BE; CH; CZ; DE; DK; FR; IL; NL; NO; UK. On the basis of national estimates, the economic dimension of the activities to be carried out under the Action has been estimated at 44 Million € for the total duration of the Action. This estimate is valid under the assumption that all the countries mentioned above but no other countries will participate in the Action. Any departure from this will change the total cost accordingly.

H. DISSEMINATION PLAN

H.1 Who?

This COST Action aims to serve both as a hub and as well as an inception platform to the multidisciplinary research required to investigate the link between ICT social networks and travel behaviour with intention to set the basis for future transportation planning. Several distinct target audiences can be identified for dissemination purposes:

1. Researchers around the world working in related fields
2. European, governmental and regional transportation planning bodies.
3. European, governmental and regional transportation policy bodies.
4. European transport operators

5. The general public

Naturally the dissemination plan will create specific actions tailored to each target group as will be specified by the Action participants. Nevertheless, at this early stage several distinct actions can be identified for each target group.

H.2 What?

In terms of advancing dissemination within the academic community, the key method for dissemination of scientific results for maximum exposure and impact will be via **publications in high-impact archival journals**, presentations at international conferences, and lectures at universities or through the COST framework. The research results will be published in the top journals in the fields of urban planning, transport engineering and IT science. Whenever possible, data will be disseminated through electronic, World-Wide-Web-based means. Additionally, a **website** and related social media outlets (e.g., Facebook) will be set up and maintained on the internet, dedicated to the distribution and publishing of the research results emanating from the efforts of the COST partners. Links to European groups working on related subjects, and up-to-date discoveries and innovations in the field will be present there as well. In addition to the general and formal COST website, each partner will advertise the COST website on its publicly available website, where new results may be posted quickly. COST partners will also be encouraged to lecture at different universities in their home country and abroad, and whenever possible interact with scientific visitors and seminar speakers.

STSMs will also be used as an academic dissemination propagator. To promote increased collaboration COST Action partner and beyond, the partners will establish a student-exchange program, that will be devoted to sharing and knowledge exchange. The student/researcher exchange program will enable the transfer of research results and best practice to researchers within the different WGs in the Action as well as all over Europe.

In terms of advancing dissemination within European, governmental and regional transportation planning bodies, where relevant such bodies will be invited to take part in COST events to experience (and challenge) the scientific results. However, dissemination to this group will go further as the COST members will be encouraged to participate at **national and regional meetings** of planning bodies in their respective country and present their results. These encounters are expected to foster a lively discussion.

In terms of advancing dissemination within European, governmental and regional

transportation policy bodies, where relevant such bodies will be invited to take part in COST events to learn the scientific results and their implications. As future urban transport is a major theme in the EU agenda , the COST members will be encouraged to take active part in all EC related forums and highlight available policy possibilities.

In terms of advancing dissemination within European transport operators, where relevant such operators will be invited to take part in COST events to learn the scientific results and their implications. This COST Action will organize special sessions of Industry-academy cooperation as part of the COST to ensure an on-going dialogue and keep proper communication channels. Industry is crucial to this COST to ensure that all results are clearly implementable.

In terms of the dissemination of the general public, the COST Action will be accessible to all layers of society. Furthermore, as this COST aims to effect urban transportation modes - the public will be made aware and convey its opinion. Specifically, the dissemination of new scientific information generated by the COST partners to the public will be governed by several key actions:

(i) Inviting high school students and their parents to an annual “open house” of the COST ideas in one or several partner’s sites, during which they will tour the facilities, meet the scientific staff and learn about the newly development transport modalities. As young people are indeed the "travellers of the future" and less constrained to existing urban transport paradigms. This may also inspire and encourage these young people attending to consider a future scientific career in transportation engineering.

(ii) Integrating various links on the COST website that will allow the public easy access to various educational sites including virtual demonstrations and simulations of possible future transport modalities; to even further support the Action's visibility on the web a module to tag contents to support recognition by search engines will be implemented. This website will be promoted by each partners' institutional website as well as by the COST website itself.

H.3 How?

The successful completion of this COST Action is by the uptake of the disseminated results as a clear and agreed upon "set of rules" for the design of future urban transport by European, national, regional and operational bodies involved in public transport.