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Proposal for a new COST Action

**COST 356**

**“TOWARDS THE DEFINITION OF A MEASURABLE  
ENVIRONMENTALLY SUSTAINABLE TRANSPORT”**

**(EST)**

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# **DRAFT**

## ***MEMORANDUM OF UNDERSTANDING*** **for the implementation of a European Concerted Research Action designated as**

### **COST 356**

## **“TOWARDS THE DEFINITION OF A MEASURABLE ENVIRONMENTALLY SUSTAINABLE TRANSPORT”**

**(EST)**

The Signatories 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 400/01 "Rules and Procedures for Implementing COST Actions", the contents of which the Signatories are fully aware of.
2. The main objective of this COST Action is to design harmonised and scientifically sound methods to build better environmental indices (or indicators) by using existing European indices, and to build methods to be applied to the decision-making process of the transport sector in the different European countries.
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 Euro 17 Million in 2005 prices.
4. The Memorandum of Understanding will take effect on being signed by at least five Signatories.
5. The Memorandum of Understanding will remain in force for a period of four years, calculated from the date of first meeting of the Management Committee, unless the duration of the Action is modified according to the provisions of Chapter 6 of the document referred to in Point 1 above.

COST 356

**"TOWARDS THE DEFINITION OF A MEASURABLE ENVIRONMENTALLY SUSTAINABLE TRANSPORT"**

*Abstract*

Most of the present strategic environmental assessments do not properly take into account the variety of the environmental impacts, or are using markers, indices and more generally tools which do not represent the impacts. A correct representation of the whole range of impacts is necessary to ensure that sustainability takes into account environmental issues to a satisfactory degree. This is especially important for the transport sector where the concerns and the stakes are high.

The main objective of the Action is to design harmonised methods to build better environmental indicators by using existing European indices, and to build methods to be applied to the decision making process of the transport sector in the different European countries, in order to contribute to a systemic approach to environmental and transportation issues.

Besides and beyond the COST 350 activity, which is more focussed on the user's point of view, this Action deals with the scientific analysis and design of tools for environmental impact assessment, focussing on the representativeness of the methods, either for evaluating sub-impacts such as health impacts, or for aggregating by a multi-criteria analysis, the different sub-impact indices.

The final users should be mainly forecasting (or back-casting) analysts of the impact of the transport system and transport planners.

## A. Background

Environmental issues play an important role in the decision-making process of transport policies, plans, programmes and projects. The environmental impacts that need to be considered, increase in complexity and relevance, as do the decisions that need to be taken. Sustainable mobility calls for a truly multidisciplinary approach to decision-making in order for the complex issues to be efficiently elucidated. With merely classical quantitative evaluation techniques the decision-maker is left with an insufficient toolbox - he would also need sustainability indicators and qualitative approaches in order to comprehend the increasing complexity of the environmental issues. The multidisciplinary approach must involve environmental scientists, traffic engineers, economists, policy analysts and land-use planners.

This wide multi-disciplinarity has not yet been fully achieved within the framework of transport research in Europe. In addition to the multi-disciplinarity of topics within a single field, the multicultural aspect of the European society also plays an important role and research and knowledge are not yet evenly spread over all European countries.

In too many cases, the strategic environmental assessment (SEA) currently considers very few environmental impacts; often only CO<sub>2</sub> emissions, and sometimes in addition, noise and a few other types of impact. The people carrying out these assessments usually believe that CO<sub>2</sub> emissions or noise represent all the environmental impacts, although in fact other impacts can have contradictory trends. Neglecting other environmental aspects jeopardises the quality of the SEA and thus not only the value of SEA as a basis for decision-making but also the credibility and sustainability of the decisions taken. When more than one or very few impacts are taken into account today, the way they are aggregated is often as simple as possible, independently of the real-world multi-criteria choice. Clearly, there is a need for tools which make complex decision situations manageable without losing too much of the information in the process of the necessary simplification.

The situation described above calls for the development of more practical methods to efficiently integrate complex environmental issues into the SEA process. The way to achieve this is the organisation of close co-operation between a large group of European scientists in the field of environmentally sustainable transport.

Across Europe, researchers and policy makers have started to recognise that, due to the transport related environmental issues, a multidisciplinary approach is needed that should also incorporate soft traffic demand management measures. There is a move away from “predict and provide” in transport to “predict and manage” – i.e. a move to encouraging more sustainable growth which involves engineers, planners and decision makers. In addition it is recognised that transport seeks to meet a range of community objectives and that this may be achieved with lower levels of transport intensity or more sustainable transport modes. These trends require more integrated decision-making at higher decision levels. Transport planners therefore need appropriate integrated indicators, qualitative as well as quantitative assessment methods, and efficient means of communication with various types of stakeholders. Such methods and tools need to be incorporated into a systemic approach to both transport and the environment, especially when decisions are of a mid or long term nature.

This COST Action formally has equivalent objectives to the COST Action 350 "Integrated Assessment of Environmental Impacts of Traffic and Transport Infrastructures". But COST 350 brings together representatives of the different national ministries of transport or consultants, and very few scientists. COST 350 is mainly devoted to the availability of input data and the feasibility of the environmental assessment, and not to the representativeness and scientific quality of the environmental assessment tools. The COST Action 356 will exploit and go beyond COST 350, reflecting largely the user and

administrative point of view. Cooperation will be also established with COST 355, which is focused mainly on “human aspects” (psychological, economical) of selection of transport modes, but also takes environmental issues into consideration. There have been several other projects within the EU funded research programmes (TERM, SUMMA) and on national level, whose results will be taken into account and potentially further developed with respect to the goals of COST 356.

## **B. Objectives and benefits**

The main objective of the Action is to design harmonised and scientifically sound methods to build better environmental indices (or indicators) by using existing European indices, and to build methods to be applied to the decision-making process of the transport sector in the different European countries.

The Action would appear to present the possibility for two European standards (or perhaps CEN Workshop Agreements):

1. A measurement standard on common methodologies for assessing the environmental impacts of transport (e.g. in terms of noise, air pollution, resource use);
2. A standard using environmental criteria to define what could be claimed as “Environmentally Sustainable Transport” (Euronorm).

Secondary objectives are:

- *To assemble* scientific knowledge of different disciplines and countries through discussion forums and congresses and by facilitating common research projects and exchange of scientists and contributing to a systemic culture of the transport and environment community.
- *To disseminate* knowledge of environmentally sustainable assessment methods in the direction of the decision-makers, consultants, the public, and the new EU Member States, especially by high level teaching (capacity building through seminars, workshops and stakeholder involvement).

This Action is mainly aimed at integrating and communicating European knowledge in the assessment of the environmentally sustainable aspects of transport technologies and policies, contributing to a systemic approach to environmental and transportation issues and the realization of environmental policy integration. It is recognised that this investigation accommodates developments in transport infrastructure and policy, combined with an integration of relevant national and international drivers including emission legislation, air and water quality legislation, energy policy, waste management, life cycle analysis, biodiversity and quality of life, spatial and land use planning, Environmental Impact Assessment (EIA) and Strategic Environmental Assessment (SEA).

In order to develop environmentally sustainable transport systems and means of transport, as well as making transport safer and more efficient, research on development of advanced methods for impact assessment and methods for appraising the environmental quality are needed. The collection and analysis of better and more genuinely comparable data is possible only after the co-ordinated development of qualitative and quantitative indicators and methods. The Action will help these needs to be met, and at the same time to improve the generation, distribution and use of knowledge and its impact, providing the basis for policy formulation and decision making.

The Action will concentrate on the environmental field, because much interdisciplinary scientific work is needed, in order to build representative indices of a range or different environmental impacts, and to develop a comprehensive method to aggregate these impacts. As such an approach is a part of the sustainable development approach, the Action takes into account the present debates on the concept of sustainable development, but does not enrich this debate, except concerning the environment.

In this COST Action, the ambitions are limited to the purely scientific aspects dealing with the assessment of the environmental sub-impacts or impacts, and the decision-making process, trying to take into account non-scientific aspects with scientific methods, beside the network building and the dissemination.

This Action is highly relevant as countries and, at times, even research institutes, explore separately paths towards sustainable transport, failing to adopt good practices identified in other states or results from previous European research projects. Such good practices may be associated with individual prediction techniques, with the aggregation of data or with the involvement of decision-makers at key stages in the assessment process. Furthermore, some countries are not involved in the process of developing these paths.

The final users of the Action's deliverables will be decision-makers, transport economists and consultants performing strategic environmental assessment or comparing transport alternatives, as well as forecasting (or back-casting) analysts of the impact of the transport system, and the bodies for which such studies are made.

As a single example, the Action should produce a state-of-the-art analysis concerning the different aspects of the atmospheric pollution (perceived pollution - odours and fumes, health effects, photochemical smog, acid rain, greenhouse effect, etc), in order to design indices specific to each sub-impact, then to aggregate these indices into a global index representative of the air pollution. In some cases, this requires a limited number of scientific disciplines, e.g. to weight the contribution of different greenhouse gases to a single indicator (Global Warming Potential or GWP). In other cases, many more scientific disciplines and models are required, e.g. to estimate the health impacts of air pollutants, which require integrated assessment of dispersion modelling, personal exposure, health and epidemiologic sciences... The final result will be a complex function of a number of technical and socio-economic parameters, with a different range of uncertainty. Uncertainty can be linked to a lack of adequate measurements, or to lack of understanding the relationships among variables. For that, purely scientific data and knowledge have to be used, as already made to design the Global Warming Potential by weighting the emissions of the different pollutants involved. Parallel indices should be proposed for the perceived pollution, health effects, etc. The aggregation of all these indices needs to take into account other types of data and knowledge which are not scientific, as the relative importance of short and long term impacts, or more generally the way the stakeholders do their choice. Although these data are not scientific, the methods to take them into account have to be scientific - this is the field of the research on decision-making processes. With the exception of GWP, there is a lack of consensus on how to integrate atmospheric pollution assessment into a general index.

The situation is nearly the same for the other environmental impacts and, globally, for "the" environmental impact.

## **C. Scientific Programme**

The core of the approach is:

- To *establish* a common understanding i) of the different environmental impacts of the transport system, ii) and of the aggregation methods into sustainability indicators or other reporting mechanisms (monitoring), using a systemic approach to the environment, taking into account the physical and biological impacts and the public perception of the environment. This integration process must also accommodate European policy drivers including the CAFÉ and ECCP

programmes.

- To *analyse* the experiences of decision-making in terms of the consideration of environmental impacts of policies, plans and programmes in the transport sector (also considering social and economic aspects) and *identify* strengths and weaknesses of current practice in order to improve methods in relation to the decision-making processes concerning policies, plans and programmes.
- To contribute to the *establishment* and *promotion* of a common European understanding of Environmentally Sustainable Transport.

## **D. Organisation**

With the availability of the scientific and technological excellence of the Action partners, the achievement of individual research programmes within any of the main topics is secure. The work will have an interdisciplinary approach. Training, exchange of ideas among scientists and exchange of researchers between working places will further the dissemination of knowledge and experience not only between participant organisations but also to decision-makers and other end-users, promoting a common European understanding as well as synthetic indicators.

### ***WG 1. Network building and methodological guidance***

#### *Task 1.1. Network building*

The first task is to build a comprehensive European network, meeting all necessary scientific experts from different countries and from different scientific fields. These countries include new Member States. It is essential for this network to seek and maintain appropriate links. Three levels of network membership are foreseen: I) the active participants in the Action through its working groups, ii) the researchers in the field of the Action, providing input but not participating actively to the working groups, and iii) people only interested in the outputs which are essential for the dissemination.

#### *Task 1.2. Methodological guidance*

In parallel to task 1.1, the users' demand will be established, principally through close co-operation with the COST Action 350 "Integrated Assessment of Environmental Impacts of Traffic and Transport Infrastructures" which revolves mainly around users of environmental assessment.

This task is designed to generate consensus between participants on the basic concepts that will be used throughout the project. The detailed structure of the work will be discussed in depth between all the participants during the first meetings, in order to get a common understanding of the different tasks. Guidance will be prepared, describing the process of Action and relevant information needed.

#### *Task 1.3. Transport and environment in the concept of sustainable development*

The aim of this task is to analyse the concept of sustainable development in relation to transport and environment. The richness or the vacuity of the concept and its contribution to societal debates will be explored. Decision-making processes of transport policy and planning will be related to environmental, social and economic decision-making. Thereby, the role of sustainable transport concepts in transport decision-making will be discussed. As the focus will be on the environmental aspects and their links to economic and social aspects, general opportunities for strengthening the position of environmental aspects will be identified. For instance the question of compensation between the environmental, social and economic aspects of the sustainable development will be explored, because such compensation

could be or could not be applied within the environmental aspect, i.e. between the different environmental impacts. All the debates about the sustainability have to be known and understood also by environmentalists, in order to design assessment methods taking into account these debates.

In fact today, many choices are made implicitly within the strategic environmental assessment, for instance either by avoiding compensation when using thresholds, or by applying compensation when weighting sources or sub-impacts. These choices should be explicit.

Thus, methodological aspects of environmental policy integration in the transport sector and the implementation of policy instruments for sustainability e.g. strategies and impact assessment will be analysed in terms of building problem solving capacities.

To facilitate the further integration of environmental aspects into decision-making processes, the results from COST Action 355 "WATCH - Changing behaviour towards a more sustainable transport system" will be taken into account. This particularly concerns the acceptance of policies, the assessment of economic policies such as changes in prices orienting the economic agents towards correct long-term expectations, changes in freight and passenger transport modes, the dynamics of inequalities and of equity and finally the evaluation and communication methods for social and economic sustainability.

## ***WG 2. Environmental assessment***

### *Task 2.1. Systemic approach to transport and environmental impacts*

The objective of this task will be to analyse the chain of causalities of transport-related impact on populations and ecosystems, from the driving parameters of the long-term dynamics of the transportation system to the final impacts on the environment.

The starting point will be the list of environmental impacts established within the COST Action 350 "Integrated Assessment of Environmental Impacts of Traffic and Transport Infrastructures". In a first stage this list will be reviewed in order to consider the final rather than intermediate impacts on populations and ecosystems. These environmental impacts will be described as chains of processes from the transport related environmental pressures (for instance pollutant emissions) to the final impacts. The processes will be described from physical, chemical, psycho-physical, biological and territorial points of view, considering their social, historical, geographical and time features for instance. The objectives of this analysis are i) to design a typology of impacts (impact categories) which should be the basis for their aggregation, ii) to clarify the simplified assumptions made when intermediate impacts are considered rather than final ones.

Subsequently, transport related environmental pressures will be analysed, in order to define their driving parameters, in terms of vehicle parameters, traffic conditions and characteristics, infrastructures covering the various transportation modes (road, rail, air, sea/waterways...), and the various environmental impacts. If possible, the analysis will take into account life cycle analysis.

In the last stage the driving parameters of the mobility will be reviewed, with a specific attention to its historical development and its long-term dynamics, on the basis of the work carried out by the COST Action 355 "WATCH - Changing behaviour towards a more sustainable transport system".

An important additional objective of this task is to promote the systemic approach towards the transport-environment link among participants, by creating a common scientific culture.

### *Task 2.2. Methods for aggregation of transport's environmental impact indicators*

On the basis of the causal chains and typology described above, this task analyses methods for aggregation of (sub-)indicators within each impact category. The Global Warming Potential, used to

aggregate different greenhouse gas emissions into CO<sub>2</sub>-equivalents, can serve as a guiding model. Different scientific approaches for each impact category will be reviewed and their assumptions, applicability and constraints will be discussed.

Furthermore, different methods for an aggregation across the environmental impact categories will be analysed. The recent developments in technical transport (infrastructure) assessments in various European countries (among others Germany, UK, Switzerland) serve as a starting point. This includes a discussion of economic approaches and non-economic valuations, of single- and multi-criteria methods. In particular, the interplay and justification of “objective” procedures or facts and “subjective” valuations as e.g. based on scientific evidence, economic behaviour, opinion polls, policy targets etc. will be made transparent. Attention will be paid to clear identification of the different roles of scientists, researchers, administrators, concerned citizens and politicians. The places and consequences of value judgements shall be made transparent, e.g. how concepts like no-risks are made operational, differences between individual versus group level risks etc.

The outcome will be guidance on the (implicit) assumptions, potential results and limitations of different indicators and impact aggregation methods in the context of SEA and sustainability assessment of transport. Results from national and European projects (as TERM, SUMMA) will properly be taken into account.

### ***WG. 3. Integration of environmental assessment into the decision making process***

#### *Task 3.1. Demands from transport environment assessment procedures/methods*

This step covers the development of a framework for a feasible level of assessment of relevant environmental impacts on the most effective stage of policy, plan and programme making. In close cooperation with WG 2 the needs for valid data, aggregated indicators and methods for the specific environmental procedure will be discussed. This task is based on experiences with Environmental Impact Assessment (EIA) and Strategic Environmental Assessment (SEA) and will take into account the integration of these assessment procedures in decision-making processes. The starting point will be the analysis of the generation of policy objectives. Development and evaluation of alternatives as well as the role of democratic procedures and participation will be further elements of the discussion.

#### *Task 3.2. Methods for continuous assessment/monitoring of transport environmental sustainability*

Based on realistic assumptions of decision-making processes, in terms of actor constellation and orientation, as well as decision-making modes, the influence of technological and social innovation and of other changes on the environmental sustainability of transport systems in Europe has to be continuously assessed. New regulations and new policies are to be expected to improve the environment. The feasibility of the respective goals or the impacts of such policies need to be assessed, either by modelling or by analysing long-term environmental measurements. Methods for such assessment and monitoring will be collected, assessed, compared and improved. Furthermore, opportunities for a successful implementation of monitoring measures will be developed.

#### *Task 3.3. Case Studies: Scenarios of EST*

To adopt expectations about future decision-making processes, scenarios of sustainable transportation policies will be built (i.e. in a back-casting approach). Integrating organisation and technology will be realised by: identification of the main issues, legislation, prices, policy for the mobility of people and goods, land use planning, R&D towards EST-compatible technologies, sustainability in conventional scenarios, search for sustainable scenarios, integrating decision-makers into the process. Again a co-operation with the COST Action 355 "WATCH - Changing behaviour towards a more sustainable

transport system" concerning the mobility policies is considered.

#### **WG 4. Integrative synthesis, research needs and dissemination**

##### *Task 4.1. Further research needs*

The state-of-the-art made within the working groups 2-3 allows the participants to describe the research needs assessment in the field of the Action.

##### *Task 4.2. Integrative synthesis*

The work and outputs of the different working groups will be synthesised in a comprehensive report.

##### *Task 4.3. Dissemination.*

The dissemination plan is described in section G.

The working groups and their subdivisions into separate tasks are indicated in the following table.

<b>WG n°, title</b>	<b>Task title</b>	<b>Task content</b>	<b>Task output</b>
1. Network building and methodological guidance	1.1. Network building	Building network	Scientific and user network
	1.2. Methodological guidance	Detailed definition of the Action structure and of the tasks	Report
	1.3. Transport and environment in the concept of sustainable development	Critical analysis of the concept of sustainable development in the field of transport	Report
2. Environmental assessment	2.1. Systemic approach for transport and environmental impacts	Analysis of the chain of causalities of the transport related environmental impacts	Report
	2.2. Methods for aggregation of transport's environmental impact indicators	Analysis and development of evaluation and communication tools, taking into account the determining factors of the perception of the environment	Report
3. Integration of environmental assessment into the decision-making process	3.1 Demands from transport environmental assessment procedures/methods	Analysis of the valid data, aggregation indices and methods	Report
	3.2. Methods for continuous assessment / monitoring of transport environmental sustainability	Analysis of continuous assessment methods	Report
	3.3. Case studies: Scenarios of EST	Development of EST scenarios based on integration of organisation and technology	Report

4 Integrative synthesis, research needs and dissemination	4.1. Further research needs	Identifying white spots and research needs	Final report
	4.2. Synthesis	Synthesis of the whole Action	
	4.3. Dissemination	Dissemination of the results	Papers, Internet, CD-ROM, short focussed syntheses, etc

## E. Timetable

The total duration of the Action will be 4 years and the timetable of the Action is shown in the table below.

WG	TASK	YEAR 1				YEAR 2				YEAR 3				YEAR 4			
1	1.1	■	■	■	■	■	■	■	■								
	1.2	■	■	■	■												
	1.3		■	■	■	■	■	■	■	■	■	■	■				
2	2.1				■	■	■	■	■	■	■	■	■				
	2.2				■	■	■	■	■	■	■	■	■	■	■	■	■
3	3.1		■	■	■	■	■	■	■								
	3.2				■	■	■	■	■	■	■	■	■	■	■	■	■
	3.3								■	■	■	■	■	■	■	■	■
4	4.1													■	■	■	■
	4.2													■	■	■	■
	4.3					■	■	■	■	■	■	■	■	■	■	■	■

## F. Economic dimension

The following COST countries have actively participated in the preparation of the Action or otherwise indicated their interest:

Austria, Belgium, Czech Republic, France, Germany, Greece, Hungary, Italy, the Netherlands, Poland, Portugal, Romania, Spain, Sweden, Switzerland and the United Kingdom.

On the basis of national estimates provided by the representatives of these countries, the economic dimension of the activities to be carried out under the Action has been estimated in 2005 prices at roughly 17 million Euro.

This estimate is valid under the assumption that all the countries mentioned above but not other countries will participate in the Action. Any departure from this will change the total cost accordingly.

Interest to participate has been expressed by FEHRL (Forum of European Highway Research Laboratories), ECTRI (European Conference of the Transport Research Institutes) as international transport research associations and by CEN (European Committee for Standardisation) as an

international organisation. FEHRL and ECTRI participated in preparation of the Action, CEN acted as an external reviewer of the proposal.

## **G. Dissemination plan**

International conferences will give opportunities to the researchers involved in this COST Action to meet and to disseminate their results, especially within the following conferences:

- The Transport and Air Pollution congress, organised each year in Avignon, Graz and Boulder
- The Highway and Urban Pollution symposium, on air pollution, runoff and noise, each 3 years
- The new congress Environment and Transport, organised for the first time in June 2003 in Avignon, with the same scope as the Action
- The International Association for Impact Assessment conference, organised every year in a different part of the world
- The NECTAR conference, organised each 2 years
- The STELLA workshops
- ECOMM, organised every year

### ***G.1 Overview***

The objective of this dissemination plan is to identify and organise the activities to be performed in order to effectively guide, target and promote the results of the Action thus ensuring maximum dissemination of knowledge and impact.

### ***G.2 Individually targeted information recipients***

The results of the Action will be disseminated at national level through targeted recipients by the participating experts. Given the expected participation in the Action of experts from at least 16 European countries, a wide coverage is expected to be attained. The targeted recipients of the results of the Action fall into the following categories and will be able to use the information in the following ways:

#### **European level policy maker**

The “European level policy maker” will be able to assess the outcome of the Action in terms of its contribution to a sustainable transport system.

#### **National government policy maker**

The “national government policy maker” will be able to use the outcome of the Action to guide policy to make the transport system more sustainable and environmentally sound.

#### **Regional planner and policy maker**

The “regional planner” can use the results for the spatial planning of a region or of a metropolitan area. The policy maker can use the information to identify impacts of local transport and land use policies at an early stage of the decision making process.

#### **Research institutes/academia**

European research institutes and academia will be able to use the results of the Action as a source of information for their research and teaching. It will also initiate co-operation of research in Europe. By exchanging scientists between these research institutes, this co-operation will improve further. This will

assist in achieving a common understanding on the assessment of environmental impacts of transport and on how this assessment can be used by decision makers to achieve a sustainable transport system.

Focussed short synthesis from each WG will be delivered to each group of recipients, either by mail or on the Web.

### ***G.3 Wider dissemination***

It is also intended that the results of the Action will be disseminated to a wider audience in the following ways:

#### **Internet**

An Internet homepage will be set up and linked to CORDIS (European Commission Research and Development Information System), on the COST Transport website, which will show the activities in a structured way:

- Overview
- Objectives
- Work programme and deliverables
- Benefits to different users
- Links with other projects and publications

This will be linked with other homepages, such as those of the European Commission Transport RTD Programme, as appropriate.

#### **E-mail network**

It is intended that an e-mail network to be set up to ensure that key people around Europe, and also at global level, have the opportunity to contribute to the work when required. The size and use of this network will be determined as the work progresses. This will be part of WG 1.1.

#### **Publication**

It is intended to use national and international publications to publicise the activities of the Action and the results. In addition the results of the Action will be published in refereed journals and international conference proceedings. The paper production could be used as a measure of the productivity of the Action.

#### **Events**

A number of methods will be adopted for the dissemination of the detailed findings and recommendations from the Action. They will fall into the following broad categories:

- International conferences - Seminars.

Intermediate results will be presented and published at international conferences, from time to time, and use may be made of national and/or European level seminars also for publicity and dissemination purposes.

- Final Seminar

The results of the Action will be made known through a Final Seminar, where countries not participating in the Action will be invited to attend. Attendees will be informed about how the Action was implemented, what was learned and about recommendations and/or decisions made as a result of the work.

#### **Use of links between projects**

The inputs from other related projects and networks at national, European and global levels will be used to provide added value to the work programme. This should allow the integration of innovative and timely research into the ongoing work programme. Specifically, results from the COST Actions

350, 351 and 355 will be taken into account, together with outputs from STELLA (Sustainable Transport in Europe and Links with America - [www.stellaproject.org](http://www.stellaproject.org)).

### **Reporting**

Each of the Working Groups of the Action will produce a synthetic Deliverable Report, which will be promoted on the Internet. These reports will be based on task reports, individual papers written by partners, and seminar papers. Where appropriate, a download option will be set in place. The Final Report will be published and will also be promoted on the Internet. Hard copies of the report will be sent to targeted recipients shortly after publication.

### **High-level teaching**

By organising high level teaching sessions towards research institutes/academia, policy makers and other end users, results achieved under this COST Action will be disseminated to a wider audience. In these sessions the audience will get a better understanding on how environmental impacts of transport can be determined and on how to implement this in the decision making process. The audience will also get an insight on the inadequacies of current evaluation methods, on further research needs and possible improvements in the future.

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EST

ADDITIONAL INFORMATION  
NOT PART OF THE MoU

## **1. History of the proposal**

Most of the present partners of the proposal first sent an Expression of Interest within the 6<sup>th</sup> Framework Programme for research in June 2002, to build a Network of Excellence entitled "Environmentally Sustainable Transport". This expression of interest was supported by 45 leading academic and industrial European research centres from 17 countries: 19 high-level educational bodies, 24 research organisations, and 2 end users, all together some 130 actively participating scientists.

Then, as this topic for a NoE was not included in the call for proposals, the NoE initiators transformed the project into a proposal of a COST Action, first submitted in March 2004. Compared to the NoE proposal, the proposal focussed a little more on the environment field, but a large part dealt with the evolution of the transport system and of its sustainability, underlining the economical and social aspects.

The Technical Committee on Transport made comments during its meeting in Lisbon in September 2004. TCT particularly asked for clarification of the objectives, broader integration of the state-of-the-art and improvement of the link with COST 350 and 355 and other European projects. TCT also nominated an Ad-hoc group, consisting of its own members and external national experts. An updated proposal was sent for review to all TCT members in November 2004.

The present proposal takes into account the comments given by this assessment and by the TCT ad-hoc group, which met in order to make the definitive review on 28 February 2005. Most of the comments concerned the necessity to be more explicit.

In this final stage of preparation, TCT ad-hoc group invited representatives of the COST TC for Urban Civil Engineering and CEN (European Committee for Standardisation) as independent reviewers. Both these bodies recognised the importance of the topic. CEN expressed its interest to collaborate with the Action's team of experts and to focus their work in such a way that the findings could be used for setting European standards or norms.

## 2. List of Experts

The following countries, institutions and researchers have indicated their interest to participate in the COST Action 356 (EST):

### AUSTRIA

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