



Impact of Transport Infrastructure on International Competitiveness of Europe

project number 314395 – FP7

DELIVERABLE 1.2: Summary of the First Workshop & Questionnaire Results

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Authors:
Joko Purwanto
Martijn Smit

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1. Summary of the First Workshop

1.1 Summary

Twenty-three persons attended the workshop, representing different backgrounds, ranging from national agencies to representatives of the private industry, banks, research and consultancy (see §1.3 for the list of participants).

The objective of the workshop was to start the interaction between the I-C-EU project and the potential users of the project results. To stimulate this exchange, the workshop was structured into two parts (see §1.2 for the full agenda). In the first part, the project was presented, followed by a presentation of the results of the literature review of “competitiveness” terminology and approaches.

In the second part, four players in the related sector – private industries, research and banking (the European Investment Bank) – presented their experiences in assessing transport infrastructure investment. After this round of mutual presentation and brief discussion, the workshop continued with a presentation and discussion on how European experiences are going to be analysed in the project through some representative case studies. In a final round, the workshop split up into three groups for break-out sessions on more detailed issues, based on a suggested list of topics. A feedback plenary session summarized the results from these break-out groups.

Finally, representatives of two related FP7 projects, Race2050 and FUTRE, held presentations and explored the possibilities for exchanging results and inputs with their projects. Of particular to them were any outputs regarding indicators for competitiveness.

The main results of the workshop will be summarized below. Presentations can be found on the project website, http://www.i-c-eu.eu/workshopsmeetings/20130121_workshop_Leuven/index.htm.

1.1.1 Strict definition of competitiveness

Defining and assessing competitiveness is a difficult issue from a scientific point of view, though the concept has been very popular with policy makers. Many definitions of competitiveness exist, both broad (any measure of success) and narrow (measures related to competition), as well as criticism against them, among others by Michael Kitson and Paul Krugman. See Deliverable 1.1 of the project for a further discussion.

The consortium has in principle opted for a narrow definition, stressing also the underlying processes: “Competitiveness is the extent to which firms in a particular region can compete with those elsewhere. Critical factors for competitiveness are those that determine the level of productivity in a region in relation to other regions.” However, the project will also deal with broad definitions (which often include outcomes, such as quality of life) as these abound in studies and reports and among stakeholders.

1.1.2 Determining essential factors

A very crucial issue to be investigated is formed by the factors contributing to economic growth, especially with a view to transport infrastructure. One can ask if the most essential factor is the investment itself and the service it offers (how the infrastructure is used), or the enlarged regional scope, i.e. the human capital connected by it and the market expansion, or even other factors. Moreover, we should also take into account the other factors which play important roles in regional development and regional competitiveness, including institutions, path dependency, and the possibilities of spatial dependence.

A key question to be answered is whether we really need good transportation to achieve economic growth and competitiveness.

1.1.3 Determination of the scale of the impacts

Another crucial issue is the determination of the scale of economic impacts, i.e. whether they occur at city level or at agglomeration level, regional level, national level, or even beyond that. Of course it is also important to consider the impacts on other sectors than those strictly related to transport.

1.1.4 Consideration of the role and place of the conventional Cost-Benefit Analysis

The project aims to improve the methodology of assessing the wider economic impact of transport infrastructure investments. However, assessing these impacts is not simple, and some participants are under the impression that calculations of these impacts are often overestimates, sometimes even conscious manipulations in order to positively value an investment.

At the moment, the conventional method of Cost-Benefit Analysis (CBA) is always used to produce indicators to decide on the feasibility of an investment in transport infrastructure. Some participants, however, question the value of this conventional method, as well as of the indicators that it produces (cost-benefit ratio, economic rate of return, net present value, etc.).

1.1.5 Does “competitiveness” really matter?

For an economist, competitiveness is very often considered as a mere intermediate goal, while the ultimate policy goal is welfare in a broad sense – including employment, growth of total output and income. Transport improvements cause wider effects, and these effects then can contribute to welfare through competitiveness.

1.2 Agenda

Time	Programme	Speaker	Moderator
9:00	Welcoming and registration	Joko Purwanto (TML – Project Coordinator)	Joko Purwanto (TML)
9:30	<i>Background and general introduction to the I-C-EU project</i>	Joko Purwanto (TML – Project Coordinator)	
09:50	<i>Preliminary findings of WP1: literature review of terminology and methodology</i>	Martijn Smit (VU – WP1 Leader)	
10:20	<i>1st Coffee break</i>		
10:40	<i>Experience in assessing multi-sector regional development projects</i>	Sebastian Hyzyk (European Investment Bank)	Christophe Heyndrickx (TML)
11:00	<i>Experience in assessing transport infrastructure investment – an economist’s point of view</i>	Carl Koopmans (VU)	
11:20	<i>Experience in assessing transport infrastructure investment - consultancy’s /private transport planner’s point of view</i>	Mark Finer (Mott MacDonald)	
11:40	<i>Experience in assessing transport infrastructure investment - a private investor and operator point of view</i>	Hugues du Peloux (Sanef)	
12:00	<i>Elements of conclusion</i>	Christophe Heyndrickx (TML – Project Coordinator)	
12:20	<i>Lunch</i>		
13:20	<i>Preliminary findings of WP2: introduction to case studies of the project</i>	Ofelia Betancor (FEDEA – WP2 Leader)	Barbara Pawlowska (UG)
13:40	<i>Breakout into 3 groups: discussions on various topics</i>	Martijn Smit (VU – WP1 Leader)	
14:20	<i>2nd Coffee break</i>		
14:40	<i>Report of from each of the group presented by external stakeholders</i>	Group 1: Carl Koopmans (VU) Group 2: Jan Kiel (Panteia) Group 3: Ofelia Betancor (Fedea)	Barbara Pawlowska (UG)
15:00	<i>Presentation from RACE2050 Project</i>	Massimo Moraglio (TU Berlin – Race2050 Project Consortium)	Christophe Heyndrickx (TML)
15:20	<i>Presentation of FUTRE Project</i>	Jens Schippl (KIT– FUTRE Project Consortium)	
15:40	<i>Associated Partner Group</i>	Joko Purwanto (WP5 Leader)	
15:50	<i>Introduction to the questionnaire</i>	Joko Purwanto (TML – Project Coordinator)	
16:10 – 16:30	<i>Wrap-up and closing</i>	Christophe Heyndrickx (TML – Project Coordinator)	

1.3 *Participants*

Name	Institution
Erik de Deyn	ASRO-KU Leuven
Matthias Blondia	ASRO-KU Leuven
Sebastian Hyzyk	European Investment Bank
Ofelia Betancor	FEDEA
Filip Van Vracem	FOD Mobiliteit en Vervoer
Jens Schippl	Karlsruher Institut für Technologie
Stef Proost	KU Leuven
Fay Dunkerley	KU Leuven
Mark Finer	Mott MacDonald
Jan Kiel	Panteia/NEA
Ruairidh Smith	Panteia/NEA
Marco Ponti	Politecnico di Milano/TRT
Hugues du Peloux	Sanef Group – Abertis
Griet De Ceuster	TML
Christophe Heyndrickx	TML
Joko Purwanto	TML
Tim Breemersch	TML
Veerle Vranckx	TML
Massimo Moraglio	TU Berlin
Barbara Pawlowska	Uniwersytet Gdański
Przemyslaw Borkowski	Uniwersytet Gdański
Carl Koopmans	Vrije Universiteit Amsterdam
Martijn Smit	Vrije Universiteit Amsterdam

2. Questionnaire Results

2.1 Introduction

The project consortium distributed a questionnaire (see annex) via e-mail and through the project website. The objective of this questionnaire was to obtain first input from external stakeholders on the topics of the different work packages within the project. The questionnaire therefore covered the whole topic, in four subsections, plus a subsection on the respondent's background.

During the period from mid to end February 2013, the consortium received 15 completed questionnaires. Considering the degree of specialism of the topic, this number seems reasonable.

In the next sub-section we present counts of the answers provided by the respondents. Where needed, answers have been shortened and summarized in this deliverable, but the full data will be used for further analysis.

2.2 Respondents' Background

2.2.1 In which sector are you active (you can tick more than one box)?

Choice	Frequency of being chosen
Road	7
Rail	8
Inland waterways	4
Sea	5
Air	5
Intermodal	6
Other: 1 urban, 1 logistics, 1 port authority, 1 CBA, 2 economic research, 1 government	7

2.2.2 You are working for... (you can tick more than one box)

Choice	Frequency of being chosen
Private consultancy	5
Public authority at national level	2
Public authority at regional level	0
Public authority at local level	0
University	6
Research institute other than university	4
Private company other than consultancy	0
European Commission's entity	2
Other	0

2.2.3 In your opinion, what is the relevancy between this project and your work?

Choice	Frequency of being chosen	Percentage
Highly relevant	8	53%
Relevant	6	40%
Not relevant	1	7%

2.2.4 Any reason for your choice above?

- Highly relevant:
 - *The project is dealing with important methodological issues regarding appraisal of transport project schemes and policy initiatives. This is important for the activities of the Economic Evaluation Unit of the European Railway Agency*
 - *Scientific interest in a controversial issue*
 - *I'm interested from both theoretical and practical point of view in transport infrastructure development and funding in the EU and its impact on European transport and logistics systems as well as Europe's competitiveness in the global scale. The project tackles the most important issues relating to the efficiency of EU transport and cohesion policy as well.*
 - *The impact of transport on the economic competitiveness of the city/region/country is highly relevant in terms of policy and unfortunately not easy to ascertain and differentiate from other impacts.*
 - *Understanding to what extent transport infrastructure contributes to value added and welfare.*
- Relevant:
 - *Tools to improve decision making procedure are highly valuable. It has been a debate topic for a long time and it still remains open.*
 - *Competitiveness of ports depends on the development of all modes of transport. Our public port authority focuses on the improvement of infrastructure, in order to meet market needs. We should investigate possibilities of public private investments for our next 10 years of activity. Within the port we have privatised several of our terminals, signing with them long term lease agreements. Terminal operators, by investing in*

expanding of their activities (new equipment, IT solutions) contribute to the whole port's business development. Our cooperation can be treated as public private venture to serve increasing cargo flows (especially container traffic).

- *Relevant for transport policy, the area of my research. But not the most relevant category of impacts (because smaller than several other categories).*
- *The outcomes might be very relevant for the Dutch Cost Benefit Analysis practice.*
- Not relevant:
 - *I see this as an indirect effect of transport infrastructure. Most of my work is about the direct effects.*

2.2.5 This project should/will be especially relevant for...

Choice	Frequency of being chosen
Policy makers at local level	5
Policy makers at regional level	6
Policy makers at national level	10
Policy makers at EU level	7
Policy advisors at local level	6
Policy advisors at regional level	6
Policy advisors at national level	7
Policy advisors at EU level	6
Consultants	5
Scientific analysis	10
Other	1

2.2.6 Summary

As for the background of our respondents, universities and research institutes are overrepresented, and we have no replies from regional and local public authorities. This should be borne in mind when studying the answers summarized in the following sections. Our respondents do think, however, that policy makers and advisors at regional and local level will be able to use the results from the I-C-EU project.

2.3 WP1: Methodological Development

2.3.1 Can you give four words that you associate with competitiveness? They should be the first that come to mind.

Productivity (4)	Qualification	Price
Efficiency (4)	Business	Costs
Economic growth (4)	Profitable activity	Knowledge of another market
Innovation (4)	Market proved	Investment
Best money for value (3)	Responsibility	R&D
Quality (2)	Leadership	Exports
Competitive advantage (2)	Specialisation	Location factors
Prosperity	Technology	Regulation
Wealth	Survival of the fittest	Economies of scale
Reliable	A 'hard' society	Added value
Advantages	USA	Employment
Effectiveness	Business climate	
Know-how	Strategic position	

2.3.2 Which of the two following definitions of competitiveness is more relevant in the context of the economic crisis in Europe?

Choice	Frequency of being chosen	Percentage
The extent to which firms in a particular region can compete with those elsewhere	5	33%
An economy is competitive if its population can enjoy high and rising standards of living and high employment on a sustainable basis	10	67%

Why?

The extent to which firms in a particular region can compete with those elsewhere	An economy is competitive if its population can enjoy high and rising standards of living and high employment on a sustainable basis
<ul style="list-style-type: none"> – The first reflects the term better while the second is more relevant for policy. – Standard of living is a result of competitiveness. Competitiveness implies that the entrepreneur gets the maximum results with the available resources. If so, resources will flow to that entrepreneur (or group of entrepreneurs=regional cluster) because investors expect a good return on investment. Therefore the first answer. 	<ul style="list-style-type: none"> – I find the second definition more appealing as it allows for competitiveness not being a zero sum game. – Competition is an instrument, not an end in itself. – As far as the project is concerned, the first definition (microeconomic one) is too tight. The second one is much more usable and adequate to the main project objective. – In opposition to a quite popular vision, competitiveness is not a short term matter. If

	<p><i>no sustainable, no viable.</i></p> <ul style="list-style-type: none"> – <i>Within the current, global economy our European competitiveness is to be measured against the other parts of the world, especially Far East and USA and sustainability of employment has to be one of the measuring tools.</i> – <i>In the long term, a competitive economy is the one that sustains high standard of living of its population because its firms and people are competitive enough to earn and sustain those standards. Transport infrastructure is long term investment and should be planned with a long term perspective.</i> – <i>It has nothing to do with regions as such.</i>
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2.3.3 If you do not use “competitiveness”, why is this?

- *It does not represent the whole spectrum of social and economic needs. Is it so useful in the long term?*
- *It is the most frequently used word at any levels of economic and political activity. However, sometimes this term is misused. Generally, the question is hard to understand?*
- *Competitiveness is key in my culture of human capital. Accordingly you are considered to bring the best products and services, so why cooperate? People from Brabant, the Netherlands, give cooperation in a higher value.*

2.3.4 Based on “A Study on the Factors of Regional Competitiveness”, there are five main drivers of regional competitiveness, how do you think these main drivers should be ranked? Do you think there are other important drivers?

We calculated the average rank given by respondents:

Drivers	Average rank
Entrepreneurship	2.33
Innovation	2.86
Economic governance	3.07
Internationalization and entrepreneurship	3.31
Quality of place	4.14

Some other drivers have also been mentioned. Among these drivers are:

- *Accessibility* (mentioned 3 times). It has been considered twice as the most important “other” drivers and once as the second most important “other” drivers.
- *Education level* (mentioned 3 times). It has been considered once as the most important “other” drivers and twice as the second most important “other” drivers.
- *Sustainability*. It has been mentioned twice as the third most important “other” drivers.

The following drivers have been mentioned once:

- As the most important “other” drivers: transport infrastructure, people, skilled labour, trusted local capital suppliers, access to relevant market.
- As the second most important “other” drivers: economic investment attractiveness, tax policy, productivity.
- As the third most important “other” drivers: stability, regional network and business community.
- As the fourth most important “other” drivers: security and stability, quality of life.

Please give your reasons for adding more drivers (if applicable):

Added drivers	Reasons
Transport infrastructure, level of education of population, social cohesion	My perception is that these drivers are also important, e.g. education could be an important driver for innovation.
<i>Accessibility, economic or investments attractiveness, sustainability, security and stability</i>	<ul style="list-style-type: none"> - <i>Accessibility: refers to the transport problems such as quality of transport infrastructure, transport connections, transit time, global logistics costs, supply chain security, etc.</i> - <i>Economic (investment) attractiveness: creates future growth potential</i> - <i>Sustainability: growing orientation towards external costs reduction, partially due to effective transport infrastructure investments.</i>
<i>People</i>	<i>Good quality of human resources (education, practice and skills, etc.) is in fact a precondition for many of the other drivers.</i>
<i>Education level of labour force, accessibility, stability, and quality of life</i>	<i>Education level: see a lot of literature</i> <i>Stability: not frequent strikes, stable tax regime, etc.</i> <i>Quality of life: important for attracting main offices, executives want a nice environment, good schools for their kids, etc.</i>
<i>Standard of education, tax policy</i>	<i>I view both taxes and standard of education in a region might be important argument for a company when they are considering locations. I believe that the attracting important companies might be a driver for competitiveness.</i>
<i>Trust local capital suppliers, productivity, regional networks & business community</i>	<i>One should [be] aware that competitiveness is dependent on the quality of the inputs, and should be plain economic. That is: labour, capital, entrepreneurship, organization of markets (institutions) and trust.</i>

One respondent didn't rank the drivers with the following reason:

I think the ranking of the drivers of competitiveness you mention above depends on the particular situation of certain place and must be thought on a case by case base. For instance, currently in Spain

I rank economic governance (specifically the lack of independent regulator) first, but I don't apply this to other countries like the UK.

2.3.5 Do you believe that the current state-of-the-art regarding the assessment of the impact of infrastructural projects on competitiveness and growth is well-developed and robust enough?

14 out of 15 respondents gave “NO” as their answer.

Why “NO” (14 respondents)?

- *Substantial progress in this field has been achieved in recent years, but substantial uncertainties remain and such wider economic impacts are not yet well integrated in CBAs.*
- *Because often the research on this use self-evident categories, without stress how true those are.*
- *Transport infrastructures are overvalued in order to justify political “pet projects”.*
- *There are no satisfactory and convincing for policy makers and researchers theoretical and practical evidences for that.*
- *Poor results for many projects are a proof. (We must assume it's not an easy task, anyway).*
- *Changing economic and social environment needs permanent studies and evaluations in question.*
- *There are not standard or widely used and agreed upon methodologies of assessment.*
- *Most assessments assume an impact on competitiveness but cannot make the impact on the (future) growth explicit.*
- *Insufficient tackling of the diminishing added value once networks are about complete, i.e. insufficient coverage of congestion, insufficient impact of the specific context/region, insufficient interaction effects determining factors.*
- *In the Netherlands, a thorough methodology to analyse the impact of infrastructural projects on competitiveness is currently not available.*
- *The influence of infrastructure on regions is always and by definition ambiguous.*
- *Too many policy makers and lobbies think that transport is a condition of input in the production process – a supply factor- but in the real world demand for transport is trivial. Wealth is generated in competitive firms, making and selling good products and services, and if so, one needs a cheap driver to transport it. If there are no competitive goods to be sold, there is no demand for transport. Infrastructure is beneficial up to a certain point, but has, as everything in life, a diminishing marginal benefit for each additional euro.*
- *Policy makers often require more information than is possible with state-of-the-art method.*
- *Under researched area. Difficult to establish causality.*

Why “YES” (1 respondent)?

- *In principle yes, but there is no scientific sound modelling of economic structure impacts of infrastructure projects.*

2.4 WP2: Case Studies

2.4.1 *Several indirect and wider economic impacts have become more and more common to be taken into account in the transport infrastructure assessment, i.e. agglomeration effects, impacts on labour markets, output change in imperfectly competitive markets which are related to the transport market, etc. In your opinion what are the indirect and wider economic impacts not usually considered within the traditional CBA assessment that should be included in a project evaluation given their relevance for European competitiveness and growth?*

- *In my experience most progress has been achieved, i.e. agglomeration effects, but even this category is not commonly considered in transport CBAs. For the other effects mentioned less progress have been achieved to date. There is certainly more research required and additional case studies would be relevant. As such it is important to emphasise that a key difficulty with these types of effects is that these can in general only be determined on a case by case basis. In general, these effects become important in those cases where there are substantial changes in accessibility.*
- *The issue is really slippery! I don't know what to write.*
- *Mainly the financial aspects, given the present fiscal crisis, and the job creation in relation to other investments.*
- *In my opinion, the list of such direct and wider economic impacts is broader. It should include: reduction of external costs, impact on services and commodities price level (global trade, competitiveness), stimulating of economics, social and environmental order, stimulating growth in recession periods (anti-crisis tool).*
- *Equalisation of development chances for new EU members, especially post-communist countries.*
- *In general, transport projects have a reduced hinterland and I don't see the need to complicate a CBA adding new issues to consider. On the other hand, it is very tricky to pinpoint and assess the wider impact at a national / EU level of, for instance, an urban transport infrastructure like a ring road.*
- *The stated wider economic impacts are more often not taken into account. If they are, usually on a theoretical basis. Empirical evidence is limited/useful data source.*
- *Housing market.*
- *The difficulty is that modelling indirect and wider economic impacts is that it is very costly and time consuming. I believe that one should make a CBA of detailed modelling indirect effects and wider economic impacts before one starts with modelling. Frequently, it is no problem at all to estimate indirect effects in CBAs with rules of thumb.*
- *As less indirect effects as possible.*
- *(1) The cost. And the consideration: is it worthwhile? Is there no better alternative or expenditure? A lot of infrastructure is consumption to no avail. And good effective infrastructure elsewhere is a lacking, for example the construction of the Betuwelijn, whereas improving the road and rail connection between Amsterdam, the Hague and Rotterdam would have generated far better results. For investors I the NL that last would have been better. (2) Economic impact should be more specified, unless the fancy methods. Investment in infrastructure has a goal, and the impact should meet that specific goal. (3) Crowding out.*

Transport dependent companies get the benefit, whereas others more dependent on skilled labor, get a relative drawback. We face the risk that we have very good roads at high cost and have very very very moderate education in the Netherlands. (4) Negative external effects: landscaping, noise. A lot better roads crowd out other productive activities.

- *International redistribution.*
- *Exactly the ones given here as examples of things becoming more common. I'm not so sure whether there are really commonly included in the CBA nowadays in many countries (for most of the evaluations).*
- *Impacts on spatial location pattern of businesses.*

2.4.2 The aim of the screening process of projects within WP2 is to determine under what conditions the indirect and wider economic impacts should be considered. Some features of project will be used in the screening process to select some cases to be analysed in-depth, i.e. type of project, project size, involved modes of transport, geographical coverage... In your opinion what are the other main features of a project that should be taken into consideration within this screening process?

- *Geographical coverage, project type, project size, involved mode.*
- *As above, but even more what seems today marginal can appear in 20 year fundamental. Coordination among actors and transport system seems to me a starting point.*
- *Finance and jobs.*
- *The other features of the project could be: (1) in overall transport terms: its connectivity – ability to create co-modality, interoperability, promote green logistics corridors development, etc., (2) in term of expected effects: local, regional, national, European and forms of their calculation (to avoid double counting and effects substitution).*
- *Impact on: people mobility to find a job, decreasing number of car accidents, improvement of tourism industry.*
- *Impact on : people mobility to find a job, decreasing number of car accidents, improvement of tourism industry*
- *Impact on the multimodal transport network.*
- *Economic structure if regions involved.*
- *Context: among others labour market, cluster of specific activities,...*
- *I think project costs are very important. Of course the costs of analysing the indirect effects should not exceed the construction costs of the project. I think that the Benefit/cost ratio of the direct effects might be important. If this ratio is for instance 0.01, it might not be smart to invest time and money in running models to estimate indirect effects.*
- *What markets and what sectors will enjoy the benefit.*
- *Labour market effects, agglomeration effects, international redistribution.*
- *Maturity of the existing infrastructure. Level of congestion in the study area.*
- *Project that do have an impact on international competition such as large investment in seaport or airport development.*

2.4.3 Would you expect that the inclusion of these impacts within the project assessment would make a big difference in terms of the project evaluation results?

Why “NOT”?

- *I’m afraid at this stage we still need to reinforce our knowledge basis. It is a step by step approach; possible in the near future the answer could be more optimistic.*
- *Difficulty to reach objectivity.*
- *The CBA results should not be that different in the majority of the cases; otherwise the CBA is not taking into account the main economic impacts. The big difference could be in changing the perspective of transport policy, now based in the belie[f] that almost any transport infrastructure increases economic growth to all parties/regions involved.*
- *Not in general because these effects are relatively small compared to direct transport costs. But they can be in specific cases.*
- *If correctly done: No.*
- *Impacts are relatively limited. A rough estimation is mostly already included.*
- *In most cases the project only adds little extra capacity to the existing infrastructure. Accessibility will not change a lot and so the indirect effects will usually be rather small. But sometimes a project really opens up an area, or takes away a very bad bottleneck.*
- *It doesn’t make a large difference with respect to the BC ratio but it provides interesting additional information for the decision maker.*

Why “YES”?

- *Depends on the project (with substantial accessibility changes in the results could change).*
- *Because they are undervalued, at present.*
- *There are different projects and its nature and character should be taken into consideration to work out a complex project assessment.*
- *A better connection between the amount of money to be spent, the goal and a possible alternative. The main question is: is it worth the money?*

No answer because...

- *I don’t know...*
- *I have no idea, and I’m interested in the results of the project.*

2.4.4 Please see in annex the list of case studies that will be analysed within WP2. Are you aware of any other case study that you would suggest to include in our list given their relevance for European competitiveness and growth?

- *The list of case studies is rather comprehensive – perhaps there could be included additional projects from Easter Europe (e.g. motorways in Hungary and Spain / recent road upgrade in Romania). Perhaps also relevant to include projects from Ireland?*
- *No clues, you have an impressive list already.*
- *It will be interesting a case or the improvement revamping of an entire local road network, important for the production costs, but seldom considered. The TEN-T scheme.*
- *No*
- *The list is quite balanced. Perhaps some projects on seaports in Mediterranean basin would be a good example.*

- *The Northern bypass of Tri-City Agglomeration “OPAT”, which supports at the same time: removal of road bottleneck to reach Hel Peninsula for millions of tourists coming from all Poland every year, improvement of road access for the Port of Gdynia from the West direction, and high improvements of live standard for citizen f Gdynia in the North West districts.*
- *The rail link between Spain and Portugal would be interesting because it was supposed to be HST until the economic crisis hit and now Portugal is decided that they would like it to be a freight corridor. Which approach should be taken? Is any of them worth of it?*
- *Zuiderzeelijn (NL), Schipol, A6/A9 (NL),...*
- *Great list*
- *N23 investment in road to improve the connection between Alkmaar, Enkhuizen and Zwolle. North-Holland above Amsterdam, a peninsula, will be better accessible from the east of the Netherlands and the rest of Eastern Europe. Too expensive for the benefit and high cost of landscape and noise.*
- *No*
- *Malpensa Airport*
- *Ex-post all completed TEN-T priority projects*

2.5 WP3: Comparison and Analysis of Model Results

2.5.1 Have you ever heard about at least one of the modelling instruments above?

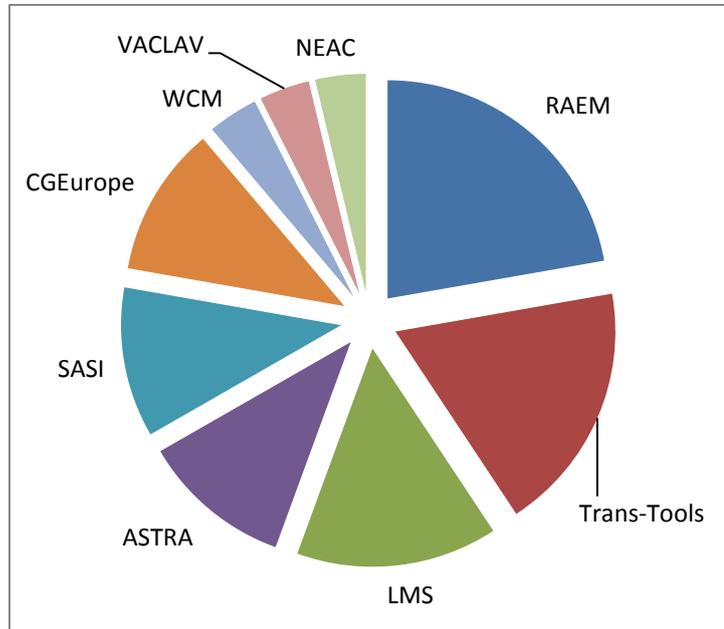
- 14 respondents have answered “yes” and only one answered “no”.

If yes, how familiar are you with them? Which one?

- RAEM was mentioned six times followed by Trans-Tools (5 times), LMS (4 times), ASTRA, SASI, and CGEurope (3 times). Other models have been mentioned once are: World Container Model (WCM), VACLAV, and NEAC.

Do you know other example of modelling instruments?

- Three models have been mentioned: Interregional input/output models, REMI and Mobilec.



2.5.2 If one of your answers to the previous question is ‘yes’ then to what extent are the available modelling instruments capable of capturing the indirect and wider economic effects upon economy? What needs to be included?

- *As far as I am aware CGEurope does provide for at least some consideration to wider economic effects. Probably the main focus is on the effects linked to output changes in imperfectly competitive markets, whereas there are weaknesses concerning labour market effects and agglomeration effects.*
- *Financial and job creation impacts*
- *The available modelling instruments are considered to be as a useful tool for capturing some indirect economic effects stemming from the transport infrastructure projects but not all of them. Therefore, I suggest to use along with them qualitative analyses. Qualitative approach is needed to assess in complex way all these effects.*
- *This issue doesn’t have a clear answer. There is not a broad consensus on wider effects modelling, trying to go beyond pure transport facts creates many difficulties.*
- *My little knowledge of Trans-Tools suggests that it is not accurate enough to capture wider economic impacts of any sort.*
- *In my experience they are all limited. Transparent description of the model and its workings. Assessment of the plausibility of results should be included.*
- *LMS: not [because] not meant to be. RAEM: quite ok.*
- *I think that RAEM is a very advanced model. If you want to know anything about the model you should contact Jan Oosterhaven (RUG). I interviewed him for my research and he mentioned a lot of aspects of the model that could be enhanced.*

- *None. RAEM claims so but doesn't.*
- *Capable to include all relevant effects.*
- *The models may be good, but there is a lack of input data, in particular international impacts.*
- *The transport modes I know best are not capturing impacts on the economy (other than redistribution of population and employment, as in the TXL model that builds on the LMS). A feedback of transport on the economy needs to be included (as happens in RAEM or CGEurope). This can be done by simple elasticities (e.g. accessibility on productivity), as in the work of Dan Graham in the UK.*
- *This has to be investigated. The following needs to be included: all relevant land use developments, transport infrastructure, economy and demography at a regional scale.*

2.5.3 Competitiveness between regions and nations is becoming more and more relevant. Are you aware of any instrument capable of measuring the level of competitiveness between regions as one of indicators in assessing transport infrastructure investment?

- 6 respondents answered “yes”, 8 respondents answered “no” and one respondent gave no answer.

If ‘yes’ which instruments? Could you give a brief description?

- *Methodologies based on the so called Global Competitiveness Index are relevant also at regional level and has inspired work by Copenhagen Economics to analyse regional competitiveness in Denmark.*
- *The idea itself of competitiveness is rather complex. WEF give 12 parameters to calculate it!*
- *Various accessibility measures, and various standards of availability of infrastructure (km pro capita, square km, etc.). But I do not consider these to be effective tools.*
- *RAEM. RAEM will provide differences in benefit by region as a marginal change.*
- *To some extent benchmarks, like global competitiveness report (WEF or IMD) can be used for this purpose.*

2.5.4 Are you aware of studies in which the instruments are used to assess the broader indirect and wider economic impacts?

- 6 respondents answered “no”, 4 respondents answered “yes” and the other 5 respondents didn't answer this question.

If ‘yes’, any further information?

- *But in order to justify the questionable investments.*
- *But they are in Polish.*
- *RAEM was used in Elhorst, Oosterhaaven (2006), Kengetallen Kosten Baten Analyse Hoge Snelheid Trein Lelystad-Groningen and in Arcadis (2008) TN/MER Schiphol Amsterdam – Almere Kosten Batenanalyse.*
- *Doorvoer in the Netherlands. Kuipers et al 2003, TNO/Delft.*
- *Decisio (2011) Indirecte effecten. Een verkenning naar indirecte effecten in Maat schappelijke Kosten-batenanalyses. Amsterdam.*

2.5.5 Are you aware of studies that have both ex-ante and ex-post results, both modelling results as observations?

- 9 respondents gave “no” as their answer, 1 respondent said “yes” and the rest of 5 respondents did not give any answer. One of those responding “no” added this explanation: *The Period is too large. If one is able to do a good ex-post, you have a project that has an ex ante of some 15-20 years ago. Models evolve faster.*

If so, what studies do you know?

- *The Ringweg Amsterdam study maybe (is in your list). R Oeresund bridge (also).*

2.5.6 Are the available instruments delivering sufficient information to support sound decision making?

- *Further work in this field is required. Innovation could involve GIS.*
- *I believe mainly in prudent improvement of standard CBA: option and switch values, distributive effects, financial impacts, shadow prices, standardized environmental costs. The risks of the “black box” effect, and of opportunistic use of complex models has always to be kept in mind.*
- *There are many instruments delivering information to support decision making processes. I would however, not say, they deliver sufficient information which enables sound and efficient decision making.*
- *Could be better.*
- *RAEM was quite OK in the A6/A9 study. Paradox: the larger the indirect/wider effect, the more important, but the more uncertain the model output.*
- *I don't know.*
- *Yes, a good CBA is enough.*
- *At the moment they are.*
- *No, policy makers require often more information.*
- *I have my doubts.*
- *No.*

2.5.7 What are the most relevant indicators for decision making and are the instruments capable to catch these?

- *The difficulty here is to ensure that (aggregated) indicators re. competitiveness can capture changes due to transport schemes – there is a need for indicators at more disaggregated level in order to provide more pertinent information.*
- *Improved CBA, made by independent subjects, and used in order to select priorities.*
- *It is a task of the research team to determine them. I can only say, that they have to be connected with time and costs of performing transport and logistics operation as well as their impact on EU transport and logistics system and merchandise markets.*
- *Impact on economic growth and regional (re)distribution.*
- *Strategic effects at the country level. To some extent; at least claimed large strategic effects are often much smaller in reality and models show this.*
- *Sorry I didn't understand the question.*

- *Cost. Marginal benefit by sector (value of time), negative external effects noise and landscaping (loss of housing and land value compared to higher land value due to better roads). Policy makers should be aware that better accessibility does not affect productivity to a very large extent.*
- *In the end no economic arguments...*
- *Can't say.*
- *CBA results. Yes!*

2.6 WP4: EU Policies

2.6.1 What kind of transport infrastructure investments enhances the international competitiveness of Europe the most?

- This would be [divided into] two types: (1) those aiming at enhancing interconnectivity, interoperability, intermodality; (2) those aiming to capacity limitations / bottlenecks, e.g. investment enhancing capacity on congested networks.
- Cooperation among them
- Being road transport in the dominant mode, and so remaining likely also in the future, given the high value added of European production, the reduction of the costs for this mode will be crucial (via road improvements). But environmental concerns will make this not so easy.
- The priority transport infrastructure projects (TEN-T projects) in global scale. However, without other transport infrastructure projects the first ones are of less importance (lack of transport connectivity).
- Many international nodes and links, like European corridors, seaports and major airport hubs.
- Construction of the new highways, improvement of rail infrastructure
- It depends on the region. In developed regions, I would expect that urban projects and those solving bottlenecks are more efficient. In less developed region, more comprehensive projects, affecting whole networks (e.g. rail electrification or duplicating road lanes), will be better.
- International / Interregional projects
- Regulation, harmonization
- Context is way more important than project type. Harbour related hinterland connections. Maybe some bicycle projects.
- I have no idea.
- Probably road.
- (1) local infrastructure in competitive urban regions to improve internal accessibility (2) good rail connections between urban areas like IC between Frankfurt, Amsterdam, Brussels, The Hague and throughout Europe.
- Road, harbour, airports.
- This is an empirical question. I don't have the empirical material. One would assume missing links and major bottleneck relieve.
- It depends on time and place, but generally the hubs (large sea and airports) and the international hinterland connections play an important role.

2.6.2 Are there any other (than transport infrastructure investments) activities in the field of EU transport policy which positively or negatively affect the international competitiveness of Europe?

- A range of economic instrument would be relevant, e.g. fair and efficient pricing as well as further organizational / institutional reforms and initiatives towards improved integration within modes, between modes and between transport and other policies (e.g. social, education, health care, and land use).
- Management of existing infrastructure is, altogether, poor.
- Gasoline taxes, road congestion. A radical change in modal split is highly unlikely and very expensive both for the states coffins and for the users.

- *(1) Transport infrastructure projects belong to the group of the network industries investments. Their development should be coordinated in the EU to gain a synergy effect. The complex approach is needed in this field. (2) Real liberalisation of all kinds of transport markets which can create more competitiveness in transport sector and consequently, positively impact Europe’s competitiveness. (3) The EC needs to enhance its regulatory measures applying to the transport system regulation, especially with its relations to other sectors of EU economy. Much better harmonisation of its horizontal and vertical policies is to be implemented.*
- *Many others, especially those related to the “common European transport space”, i.e. regulation, governance, interoperability, and so. In many cases they are even more important than infrastructure building.*
- *Positive: growing EU financial support for research and innovation projects. Negative: environment protection regulations supporting competitiveness of road transport over sea transport.*
- *Anything affecting prices; I consider road pricing is probably the most relevant policy. Policies that facilitate intermodality (information, pricing, interchanges,...) are also relevant.*
- *Pricing, harmonization, emissions regulations, noise policies.*
- *I have no idea.*
- *How markets operate.*
- *Most likely rail and intermodal investments...*
- *Fair pricing, transport market (de)regulation.*
- *Significant improvement in transport efficiency (time and or cost gains). Level-playing field/harmonization. Market liberalisation. Internalising of external costs.*

2.6.3 Can you indicate examples of EU actions in the various policies that in your opinion can reduce the competitiveness of the companies/other entities/areas?

- *A potential problem with policies aiming at enhancing competitiveness is that the gains can be somewhat at the expense of some entities/ areas/ companies. A new HS rail link may generate positive competitiveness effects on those companies located at the end-nodes whereas the implications on the intermediate areas may be negative.*
- *Legal and national fragmentation*
- *Ban of road improvements, high road transport taxation.*
- *The EU ‘sulphur’ directive of 17 December 2012 which along with creation of s.c. SECA will significantly reduce the competitiveness of maritime transport operations on the Baltic and North Sea and promote the development of road transport in these relations. It is against the promotion of sustainable mobility in the EU, as officially declared by [the] EC. Maritime transport accounts for more than 90% in servicing EU commodity trade with third countries. What is more, the actions are sometimes doubled, e.g. In maritime sector (1. Part of transport policy and 2. Individual holistic approach). There are many inconsistencies between the transport policy in its modal attempt and system oriented one (common European transport area).*
- *In general, cross relationship are not always well addressed and evaluated. Concrete topics, for instance, the “austerity hysteria”.*

- *Implementation of low sulphur fuels regime for ships in SECA (Baltic) areas from 2015, while Mediterranean Sea remains with more favourable standards. When it changes logistic solution to switch more container flows to/from Middle East Europe via Adriatic / Black Sea ports it should charge very much European road system (rail corridors are very limited) and decrease number of short sea shipping to/from Baltic Sea – creating real shift from sea to road.*
- *Over investments in TEN-T network: there are very likely better projects.*
- *I have no idea.*
- *The breakdown of national monopolies in air transport and telecom companies by the EU in the nineties has increased competitiveness to a significant extent and to a very low cost.*
- *Loss making investment in rail and intermodality.*
- *Bad examples of fair pricing and transport market (de)regulation.*
- *Internalising of external costs and ETS in transport.*

2.6.4 Which assessment elements proposed by EU CBA guidelines are currently used (or not used)?

Demand calculation		Frequency of being voted as "used"	Frequency of being voted as "not used"
a	Multi-modal model	9	2
b	Extrapolation of past trends	11	0
Cost and benefit calculation			
a	Fares for users taken into consideration	10	2
b	Vehicle wear and tear	8	2
c	Energy consumption	8	2
d	Pricing taken into consideration	10	2
e	Regulation impacts taken into consideration	2	8
f	Capacity restraints taken into consideration	8	2
g	Infrastructure wear and tear included	8	2
h	VoT (value of time) included	10	1
i	Environmental impacts in regard to noise included	9	1
j	Environmental impacts in regard to pollution included	11	1
k	External accident costs included	9	1
Risk analysis conducted			
a	Sensitivity analysis	8	2
b	Scenario analysis	10	1
c	Probability distribution for critical variables (e.g. Monte Carlo analysis)	2	8

Are there any other elements from the guidelines that you would like to add that need to be considered?

- Overall, these CBA guidelines may put limited emphasis on wider economic effects. As such these effects can prove substantial. The important point is to ensure that their inclusion does not result in double counting.
- Financial aspects, option values, shadow cost of labor, shift values, distribution impacts, marginal opportunity cost of public funds, already internalized external costs (via taxation), correct surplus analysis in case of modal change.
- It is not necessary.
- I cannot answer these questions, not enough familiarity with present developments of CBA in my country.
- I didn't understand the question.
- Correct treatment of indirect taxes is a problem. Calculation of factor prices is not practically possible.
- Safety. An improved road saved life. Value of Statistical Life to be used.
- Climate change impacts.

2.6.5 Which methods (that are currently not included in CBA/MCA project assessment guidelines) might be useful from the perspective of competitiveness enhancement?

- Available methods for assessing agglomeration effects (see work by Imperial College, Daniel Graham) as well work undertaken by, I think Free University Amsterdam and Danish Technical University re. labour market effects.
- A more direct analysis of transport cost reduction for the different industrial sectors.
- The methods connected with cash flow in the supply chain as well as value creation and its transforming within the value chain.
- CBA and MCA only integrate results of primary studies; the problem is not CBA but those primary studies.
- I don't know.
- None. All methods are there. It is the policy makers that put a danger on welfare by doing sub-optimal expenditures.

3. *Conclusions*

Both the First Workshop and the questionnaire gave brief insights into the field in which the I-C-EU project operates. At the workshop, important contacts were made with a wider network, and important issues were brought into focus. The questionnaire provided a rich resource of field experience and opinions from a small but highly specialized audience. These results will be taken up in the respective work packages of the project.

Annex: Questionnaire

Introduction

I-C-EU is a 2 year European Commission FP7 project that tries to clarify the relationship between investments in transport infrastructure and economic growth and competitiveness, by exploring the state-of-the-art of the methodology and assessment tools for public and private investments in transport infrastructure. These tools include modelling frameworks as well as decision tools. The I-C-EU project explores and further develops the methodology. It proposes a modified framework for policy intervention. The practical use of this framework will be tested on a representative set of transport projects. I-C-EU will then provide recommendations to the European Commission on making political intervention in order to enhance the international competitiveness of Europe as well as between its countries and regions.

In order to achieve the above objectives, the project has prepared four technical work packages (WP):

- WP1: Methodological Development
- WP2: Case Studies
- WP3: Comparison and Analysis of Model Results
- WP4: EU Policy

The objective of this questionnaire is to obtain the first input from external stakeholders for the above work packages.

We have divided the questionnaire into five sub-sections. In the first sub-section we would like to know your background while respecting your anonymity. In the next four sub-sections we would like to gather your feedback in relation to the four work packages.

We would like to thank you for taking some time to answer the questions. It should be emphasized that this is an opportunity to give your opinion and influence the shape of the project outcomes and how we should manage them for the future use.

Please send back the completed questionnaire to: joko@tmleuven.be with the following subject: “[I-C-EU] Completed Questionnaire”.

1.1 Background

1.1.1 In which sector are you active? (You can tick more than one box if you want.)

<input type="checkbox"/>	Road	<input type="checkbox"/>	Sea	<input type="checkbox"/>	Other, namely...
<input type="checkbox"/>	Rail	<input type="checkbox"/>	Air	<input type="checkbox"/>	
<input type="checkbox"/>	Inland waterways	<input type="checkbox"/>	Intermodal	<input type="checkbox"/>	

1.1.2 You are working for (You can tick more than one box if you want.)

<input type="checkbox"/>	Private consultancy	<input type="checkbox"/>	Research Institute other than university	<input type="checkbox"/>	Other, namely...
<input type="checkbox"/>	Public authority at national/regional/local (please circle one) level	<input type="checkbox"/>	Private company other than consultancy	<input type="checkbox"/>	
<input type="checkbox"/>	University	<input type="checkbox"/>	European Commission’s entity	<input type="checkbox"/>	

1.1.3 In your opinion, what is the relevancy between this project and your work?

<input type="checkbox"/>	Highly relevant	<input type="checkbox"/>	Relevant	<input type="checkbox"/>	Not relevant
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1.1.4 Any reason for your choice above (optional):

1.1.5 This project should/will be especially relevant for...

<input type="checkbox"/>	Policy makers at local/regional/national/EU (please circle one) level	<input type="checkbox"/>	Consultants	<input type="checkbox"/>	Other, namely...
<input type="checkbox"/>	Policy advisors at local/regional/national/EU (please circle one) level	<input type="checkbox"/>	Scientific analysis	<input type="checkbox"/>	

1.2 WP1: Methodological Development

WP1 aims at (i) identifying the issue of competitiveness; (ii) determining the role of competitiveness and regional growth within the current literature/state-of-the-art; (iii) making an overview of indicators for competitiveness, regional development, infrastructure development in relation to this project and; (iv) making suggestions for improvements in the methodology.

1.2.1 Can you give four words that you associate with competitiveness? They should be the first that come to mind.

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1.2.2 Which of the two following definitions of competitiveness is more relevant in the context of the economic crisis in Europe?

The extent to which firms in a particular region can compete with those elsewhere	An economy is competitive if its population can enjoy high and rising standards of living and high employment on a sustainable basis
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Why? (optional)

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1.2.3 If you do not use 'competitiveness', why is this? E.g., your native/working language does not have such a word, or your company chooses not to use it, or you have used it in the past but don't do so anymore.

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1.2.4 Based on "[A Study on the Factors of Regional Competitiveness](#)", there are five main drivers of regional competitiveness, how do you think these main drivers should be ranked? Do you think there are other important drivers?

Rank	Drivers
	Innovation
	Entrepreneurship
	Economic governance
	Internationalisation and entrepreneurship
	Quality of place
	Other 1:
	Other 2:
	Other 3:
	Other 4:

Please give your reasons for adding more drivers (if applicable)?

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1.2.5 Do you believe that the current state-of-the-art regarding the assessment of the impact of infrastructural projects on competitiveness and growth is well-developed and robust enough?

Yes	No
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Why?

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1.3 WP2: Case Studies

WP2 aims at (i) compiling of data about infrastructure projects in selected European countries for which cost benefit analysis (CBA) is available; (ii) revising current infrastructure project assessment practice in Europe regarding impacts on competitiveness and growth; (iii)

screening of projects to determine the conditions under which these impacts could be important; and (iv) analysing particular cases and production of estimates in order to illustrate the methodology.

1.3.1 *Several indirect and wider economic impacts have become more and more common to be taken into account in transport infrastructure assessment, i.e. agglomeration effects, impacts on labour markets, output change in imperfectly competitive markets which are related to the transport market, etc. In your opinion, what are the indirect and wider economic impacts not usually considered within the traditional CBA assessment that should be included in a project evaluation given their relevance for European competitiveness and growth?*

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1.3.2 *The aim of the screening process of projects within WP2 is to determine under what conditions the indirect and wider economic impacts should be considered. Some features of projects will be used in the screening process to select some cases to be analysed in-depth, i.e. type of project, project size, involved modes of transport, geographical coverage... In your opinion what are the other main features of a project that should be taken into consideration within this screening process?*

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1.3.3 *Would you expect that the inclusion of these impacts within the project assessment would make a big difference in terms of the project evaluation results?*

	Yes		No
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Why?

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1.3.4 *Please see in annex the list of case studies that will be analysed within WP2. Are you aware of any other case study that you would suggest to include in our list given their relevance for European competitiveness and growth?*

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1.4 *WP3: Comparison and Analysis of Model Results*

WP3 aims at (i) determining to which degree the effect of competitiveness and regional growth has been considered in past assessments through modelling; (ii) analysing of ex-ante results, ex-post model results, for example by ‘back casting’; and (iii) formulating improvements and recommendations.

This Work Package will conduct an analysis of model descriptions for 20 models which are used for major infrastructure projects and mobility plans in the EU as well as in member states. These models include at EU level: *Trans-Tools*, *ASTRA*, *SASI*, *VACLAV*, *NEAC*, *World Container Model* and *CGEurope*. At the level of member states we will look at *LMS (NL)*, *RAEM (NL)*, *RHOMOLO (BE)*, *Extended Riga Model (LV)*, *RegFIN (Regional Finish CGE model)*, etc. The analysis will provide an overview of the way the models are able to contribute to the determination of effects of competitiveness and regional growth.

1.4.1 *Have you ever heard about at least one of the modelling instruments above?*

	Yes		No
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If yes, how familiar are you with them? Which one?

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If not, do you know other example of modelling instruments?

	Yes		No
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Which one(s)? Could you give a brief description?

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1.4.2 *If one of your answers to the previous question is ‘yes’ then to what extent are the available modelling instruments capable of capturing the indirect and wider economic effects upon economy? What needs to be included?*

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1.4.3 *Competitiveness between regions and nations is becoming more and more relevant. Are you aware of any instrument capable of measuring the level of competitiveness between regions as one of the indicators in assessing transport infrastructure investment?*

	Yes		No
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If ‘yes’ which instruments? Could you give a brief description?

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1.4.4 *Are you aware of studies in which the instruments are used to assess the broader indirect and wider economic impacts?*

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1.4.5 *Are you aware of studies that have both ex-ante and ex-post results, both modelling results as observations? If so, what studies do you know?*

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1.4.6 *Are the available instruments delivering sufficient information to support sound decision making?*

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1.4.7 *What are the most relevant indicators for decision making and are the instruments able to catch these?*

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1.5 WP4: EU Policies

WP4 aims at (i) providing a review of the EU policy approach to improvement of international competitiveness of Europe; (ii) identifying weaknesses of current Cost Benefit Analysis (CBA)/Multi-criteria Analysis (MCA) methodology in assessment of transport investment projects; and (iii) formulating advice on how assessment methodology can be modified or adapted to avoid underestimating the impact of transport infrastructure.

1.5.1 *What kind of transport infrastructure investments enhances the international competitiveness of Europe the most?*

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1.5.2 *Are there any other (than transport infrastructure investments) activities in the field of EU transport policy which positively or negatively affect the international competitiveness of Europe?*

--

1.5.3 *Can you indicate examples of EU actions in the various policies that in your opinion can reduce the competitiveness of the companies/other entities/areas?*

--

1.5.4 *Which assessment elements proposed by [EU CBA guidelines](#) are currently used (or not used)?*

	Main element	Used	Not used
Demand calculation			
a	Multi-modal model		
b	Extrapolation of past trends		
Cost and benefit calculation			
a	Fares for users taken into consideration		
b	Vehicle wear and tear		
c	Energy consumption		
d	Pricing taken into consideration		
e	Regulation impacts taken into consideration		
f	Capacity restraints taken into consideration		
g	Infrastructure wear and tear included		
h	VoT (value of time) included		
i	Environmental impacts in regard to noise included		
j	Environmental impacts in regard to pollution included		
k	External accident costs included		
Risk analysis conducted			
a	Sensitivity analysis		
b	Scenario analysis		
c	Probability distribution for critical variables (e.g. Monte Carlo analysis)		

Are there any other elements from the guidelines that you would like to add that need to be considered?

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1.5.5 *Which methods (that are currently not included in CBA/MCA project assessment guidelines) might be useful from the perspective of competitiveness enhancement?*

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Thank you!