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Strategic questions of a horizontal policy nature:

United Nations Economic Commission for Europe

analytical work on transport

Benchmarking Transport Infrastructure Construction Costs

Note by the secretariat

Summary

This note provides a brief review of the work of the Group of Experts on Benchmarking Transport Infrastructure Construction Costs. The main objectives are the creation of a glossary of agreed terminologies and a benchmarking study of transport infrastructure construction costs in the ECE region for each inland transport mode: i.e. road, rail, inland waterways, intermodal terminals, freight/logistics centres and ports.

The Committee is invited to **provide support** for the Group's work and to request more active participation from governments to ensure the fulfilment of the objectives of this important for the transport infrastructure development group.

I. Mandate

1. During the twenty-seventh session (8-10 September 2014, Geneva) of the Working Party on Transport Trends and Economics (WP.5), a workshop took place on "Good practices and new tools for Financing Transport Infrastructure". The participants agreed that the benchmarking of transport infrastructure construction costs is significant for realistic construction costs and a stable investment programme with no cost explosions. They also agreed that the use of benchmarking of construction costs could be useful for cost estimates and for control of project's cost developments.

2. During the twenty-eighth session (7-9 September 2015, Geneva) the Working Party approved the establishment of a group of experts on benchmarking transport infrastructure

construction costs and the terms of reference (ECE/TRANS/WP.5/2015/2). Following approval by the Inland Transport Committee and the Executive Committee of ECE the Group started organizing its meetings.

II. Terms of Reference

3. In line with the conclusions and recommendations of the workshop on good practices and new tools for financing transport infrastructure, the Group of Experts should focus on:

- (a) Identify models, methodologies, tools and good practices for evaluating, calculating and analysing inland transport infrastructure construction costs;
- (b) Identify and list terminologies used in the ECE region for construction costs of inland transport infrastructure; if possible, create a glossary of agreed terminologies and related explanations;
- (c) Collect and analyse data in order to prepare a benchmarking of transport infrastructure construction costs the ECE region for each inland transport mode, i.e. road, rail, inland waterways, intermodal terminals, freight/logistics centres and ports; Analyse and describe the conditions / parameters under which these costs have been calculated.

4. The Group of Experts should consider the previous work of ECE:

- (a) Cost benefit analysis of transport infrastructure projects, 2003;¹
- (b) A methodological basis for the definition of common criteria regarding the identification of bottlenecks, missing links and quality of service in infrastructure networks, 2009;²
- (c) The Trans-European North-South Motorway (TEM) Project standards and Recommended Practice, 2002;³ ;
- (d) The TEM and TER revised Master Plan — Final Report, 2012;⁴
- (e) The Euro Asian Transport Linkages Project studies, 2008⁵ /2012⁶.

III. Transport Infrastructure Construction Costs: Overview of main concerns and considerations

5. The Group discussed and made an overview of the main concerns and considerations in transport infrastructure construction costs. The Group agreed that there are several reasons that justify the mandate of the Group and make it imperative to produce results and deliver the benchmarking exercise as soon as possible. Among others, the Group mentioned possible advantages from an efficient implementation of the mandate and programme of work:

- (a) Improvement of productivity;

¹ www.unece.org/fileadmin/DAM/trans/doc/2008/wp5/CBAe.pdf

² www.unece.org/fileadmin/DAM/trans/doc/2009/wp5/ECE-TRANS-205e.pdf

³ www.unece.org/fileadmin/DAM/trans/main/tem/temdocs/TEM-Std-Ed3.pdf

⁴ www.unece.org/fileadmin/DAM/trans/main/temterm/docs/TEM_and_TER_Vol_I.pdf

⁵ www.unece.org/fileadmin/DAM/trans/main/eatl/in_house_study.pdf

⁶ www.unece.org/fileadmin/DAM/trans/main/eatl/docs/EATL_Report_Phase_II.pdf

- (b) Common understanding of terminology;
- (c) Easier cost-benefit analysis;
- (d) Control of project costs and easier cost estimates;
- (e) Easier comparing among countries;
- (f) Better budget allocations;
- (g) Better use of materials;
- (h) Detailed feasibility studies.

6. Preparing a “common language” before elaborating any benchmarking study it is even more important than the study itself. The objective of the Group is not to reinvent the wheel and prepare and discuss a new list of terminologies / glossary. It is about the identification of all existing information and list of terminologies, the selection and agreement on the most relevant and suitable for the benchmarking study ones. Therefore, the most widely used glossaries and list of terminologies should be used in order for the Group to accomplish this objective.

7. The benchmarking study itself for all inland transport modes and nodes would be a milestone for transport infrastructure development since such a benchmarking exercise has not been produced by any other organization so far. Knowing how much another country from the same region or other regions has paid for the construction of a transport infrastructure project and under which conditions, would be a valuable investment decision tool and advantage for a country that wants to construct and for an international financial institution that wants to invest. The main scope of this benchmarking study is not to compare how much countries pay in order to construct but rather to list with a structured way the average costs for constructing.

IV. Organization of the Work and Challenges

8. The Group had decided on the structure of its final report:

Chapter 1: Introduction;

Chapter 2: Overview of challenges and considerations — Purpose of the Project:

- (a) Literature Review;
- (b) International and national experience and best/good practices;
- (c) Models/methodologies.

Chapter 3: Glossary on construction costs:

- (a) Introduction, challenges and concerns;
- (b) Road:
 - (i) Construction;
 - (ii) Maintenance;
 - (iii) Operations;
- (c) Rail:
 - (i) Construction....
- (d) Inland Waterways, Intermodal Terminals, Ports.

Chapter 4: Benchmarking transport infrastructure construction costs:

- (a) Review of Methodology — Questionnaire;
- (b) Benchmarking Database:
 - (i) Road:
 - Construction,
 - Maintenance,
 - Operations.
 - (ii) Rail:
 - Construction....
 - (iii) Inland Waterways, Intermodal Terminals, Ports.
- (c) Analysis.

Chapter 5: Conclusions and Recommendations.

9. The Group work discussed the challenges to fulfil its objectives. The biggest challenge is that Group's objectives refer to different transport modes (road, rail, inland waterways) and nodes (ports, intermodal terminals). Therefore, different experts should be identified and invited from each member State. The Group decided that a country or organization should lead each mode and node subgroup. This would facilitate a lot its work and would ensure quick and high quality outputs within the period of group's mandate.

10. So far, and after having organized four sessions the Group has organized its work accordingly and has prepared the following outputs:

(a) Road transport: leading country is Turkey. Both draft terminology and benchmarking study questionnaire has been prepared and discussed during Group's sessions.

(b) Rail transport: the Chair and the secretariat have taken actions to involve the European rail Infrastructure Managers (EIM) as the leader for this mode. So far, a positive but not definitive reply has been received from their side. The secretariat has prepared the draft list of terminologies in order to distribute to all interested stakeholders including EIM for their comments and proposals.

(c) Inland waterways: The secretariat made several presentations and requests to the ECE Working Party on Inland Waterways and the River Commissions. The secretariat has prepared the draft list of terminologies to distribute to all interested stakeholders including the Working Party on Inland Waterways and the River Commissions for their comments and proposals.

(d) Intermodal terminals / freight villages: The lead organization, Europlatforms has already prepared a draft list of terminologies and the benchmarking questionnaire.

(e) Ports: The representative of the port of Gdynia took the lead for this team of experts and prepared the draft list of terminologies, and a draft questionnaire for the benchmarking study. These will be communicated to several other ports and port organizations such as the Baltic Ports Organization and the European Sea Ports Organization for comments, proposals and amendments. These draft documents with the proposed changes by the different ports will be discussed and finalized during the next session of the Group.

V. Guidance by Inland Transport Committee

11. The Inland Transport Committee may wish to consider the above-mentioned information and may wish to provide guidance to the secretariat on how to further organize the work of the Group of Experts and request more active participation from governments and international organizations group work.
