



# Economic and Social Council

Distr.: General  
8 March 2018

Original: English

## Economic Commission for Europe

### Inland Transport Committee

#### Working Party on Transport Trends and Economics

##### Group of Experts on Benchmarking Transport Infrastructure Construction Costs

###### Fifth session

Geneva, 30 and 31 January 2018

## Report of the Group of Experts on Benchmarking Transport Infrastructure Construction Costs on its fifth session

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## **I. Attendance**

1. The Group of Experts (hereafter called the Group) on Benchmarking Transport Infrastructure Construction Costs held its fifth session on 30 and 31 January 2018. The session was chaired by Mr. A. Maciejewski (Poland-TEM Project).
2. Representatives of the following United Nations Economic Commission for Europe (UNECE) member States participated: Cyprus, Czech Republic, Finland, Lithuania, Poland, Sweden and Turkey.
3. Representatives of the following United Nations specialized agencies attended the meeting: UNECE Trans-European Motorway (TEM) Project. Experts from the following non-governmental organizations participated: International Union of Railways (UIC), International Road Federation (IRF), Red Logistica de Andalucia Europlatforms.

## **II. Adoption of the agenda (agenda item 1)**

*Documentation:* ECE/TRANS/WP.5/GE.4/9

4. The Group adopted the agenda.

## **III. Transport Infrastructure Construction costs: Presentations of good practices at national levels for evaluating and calculating them (agenda item 2)**

5. The Group of Experts recalled that based on the Terms of Reference, the Group should focus its work on identifying models, methodologies, tools and good practices for evaluating, calculating and analysing inland transport infrastructure construction costs.
6. The Group recalled that Chapter two of its final report should include all methodologies and good practices already presented by the experts as well as additional information that might be provided by the ECE member States. The secretariat kindly requested the experts to provide a two-page summary of their presentations in order to incorporate them in the chapter. Also, it expressed its confidence that more States will respond to this request while replying to the questionnaires. Furthermore, the secretariat informed the Group that will undertake a desktop analysis to collect all relevant publicly available information.
7. The Group also recalled the proposal made by IRF at its previous session on including in this chapter guidelines with main principles for the governments that they would like to prepare a new tool / methodology to evaluate and calculate those costs. The Group requested the secretariat to work closely with IRF to prepare these draft guidelines for its review at the next session.

## **IV. Transport Infrastructure Construction costs: Presentations of terminologies used (agenda item 3)**

*Documentation:* ECE/TRANS/WP.5/GE.4/2017/1/Rev.2,  
ECE/TRANS/WP.5/GE.4/2018/1, ECE/TRANS/WP.5/GE.4/2018/2,  
ECE/TRANS/WP.5/GE.4/2018/3, ECE/TRANS/WP.5/GE.4/2018/4.

8. The Group reviewed the revision two of formal document ECE/TRANS/WP.5/GE.4/2017/1 which includes the agreed terminologies on road construction costs.

9. The representative of Turkey Mr. Arman provided a presentation on some additions and corrections that should be incorporated in the list of terminologies. The changes are as follows:

(a) The definition of Alignments is not included. It should be added after 11 Aggregate. Alignments: alignments refer to the geometric design elements that define the horizontal and vertical configuration of the roadways.

(b) Both backfill and base have the same number (26).

(c) In terms of alphabetical order, the 27 benefit/cost ratio (B/C) and 28 balanced cantilever bridge should be swapped.

(d) The definition of Bituminous base is not included. It should be added after no. 32 Bitumen. (Bituminous Base: Main structural element of a pavement. Note 1 to entry: The base can be laid in one or more courses, described as “upper” base, “lower” base).

(e) In terms of alphabetical order, 37 box culvert should be after 35 borrow.

(f) In terms of alphabetical order, the order of 43 carriageway and 44 capital cost should be replaced.

(g) In terms of alphabetical order, 115 grading should be after 107 grade separation.

(h) In terms of alphabetical order, the order of 163 pavement structure and 164 pavement preservation should be replaced.

(i) In terms of alphabetical order, 196 restoration should be after 189 residual value.

(j) In terms of alphabetical order, 207 periodic maintenance should be after 171 per cent slope (% Slope). The definition of periodic maintenance should be added. Periodic maintenance: It covers activities on a section of road at regular and relatively long intervals aiming to preserve the structural integrity of the road. These operations tend to be large scale, requiring specialized equipment and skilled personnel. They cost more than routine maintenance works and require specific identification and planning for implementation and often even design. Activities can be classified as preventive, resurfacing, overlay and pavement reconstruction. The reference for Periodic maintenance should be: Word Bank, Transport Note No. TRN-4, June 2005, Washington, D.C.

10. The representative of Cyprus Mr. Eleftheriou provided some changes to further improve the list of terminologies.

(a) 60. Control of Access. The second sentence of the terminology starting with “The Texas Department of Transportation...” decided to be deleted;

(b) 85. Drainage structure. The word “and” should be replaced by the word “any”;

(c) The 77 design life and 78 design period refer to pavement but not to big structures such as bridges. It should be amended accordingly. Cyprus will provide the amended terminology;

(d) Terminology 112 highway overpass decided to be deleted since it is similar with 155 overpass;

(e) Terminology 113 highway underpass should also be deleted following the deletion of 112;

(f) 171. Per cent slope (% Slope). The second sentence of the terminology starting with “a perched water table...” should be deleted as irrelevant with the terminology per cent slope.

11. The secretariat suggested that the revision three of document ECE/TRANS/WP.5/GE.4/2017/1 which would incorporate all above-mentioned changes should be prepared after receiving comments from all governments. The Group suggested that the revised version of the road construction cost terminologies should be ready for the last session of the Group in July.

12. The Group also reviewed document ECE/TRANS/WP.5/GE.4/2018/1 which includes revised terminologies used for construction costs of intermodal terminals and nodes as well as the relevant questionnaire prepared by the intermodal terminals and nodes team of experts led by Europlatforms. The Group discussed and approved both the terminologies and questionnaire prepared by the intermodal terminals groups suggesting:

(a) To send the prepared list of terminologies and the questionnaire to International Union for Road- Rail Combined Transport (UIRR) in order to receive their comments and input;

(b) To await the finalization of the list of terminologies and the questionnaire for ports in order to send to governments both questionnaires together.

13. Furthermore, the Group reviewed document ECE/TRANS/WP.5/GE.4/2018/2 on terminologies used for construction costs of railways. This document was prepared by the secretariat based on publicly available resources. The Group took note of the presentation made by the representative of UIC Mr. Gradinariu on the Lasting Infrastructure Cost Benchmarking (LICB). LICB is a UIC-led platform for continuous comparison and tracking of trends which includes: (a) cost driver analysis, (b) normalization Methodology, (c) toolbox of good practices, (d) annual updates, (e) trend evaluation, (f) LICB webtool, (g) steady state, (h) asset performance, (i) smart KPIs, and (j) work efficiency.

14. Also, the Group took note of the information provided by the representative of PKP PLK Mrs. Kopczynska who had prepared a draft questionnaire on railways construction costs. The Group decided that PKP PLK should take the lead of railways subgroup in close cooperation with UIC. The subgroup should prepare a first draft of both the list of terminologies and the questionnaire for the next session of the Group in May.

15. The secretariat on Inland Waterways prepared document ECE/TRANS/WP.5/GE.4/2018/3 for the review of the Group. The secretariat informed the Group that this document will be uploaded as an informal document for the fifty-second session of the Working Party on the Standardization of Technical and Safety Requirements in Inland Navigation (14–16 February 2018). The next step will be the experts on inland waterways to review this document and provide comments/ amendments during the fifty-third session of the Group (27–29 June 2018).

16. Finally, the Group recalled that at its last session the representative of the port of Gdynia (Poland) declared that the port would take the lead of ports subgroup and would prepare for the next session a draft list of terminologies as well as a draft questionnaire for the benchmarking study. The Group reviewed document ECE/TRANS/WP.5/GE.4/2018/4 which includes a list of terminologies for ports construction costs. The Group decided that the draft list of terminologies and the questionnaire for ports construction costs should be ready for the next session of the Group in May in order to be set under consultations by other ports and ports associations.

## **V. Transport Infrastructure Construction Costs: Overview of main concerns and considerations (agenda item 4)**

17. The Group summarized the following actions while discussing the challenges on the organization of the Group's future sessions and the participation of specialized experts:

(a) Road transport: leading country is Turkey; both draft terminology and benchmarking study questionnaire have been prepared, discussed and agreed during Group's sessions. Both the questionnaire and the list of terminologies have already been sent through diplomatic channels to all ECE member States;

(b) Rail transport: leading organization will be the PKP PLK (Poland) in close cooperation with UIC. Both the draft questionnaire and the list of terminologies for railways construction costs should be ready for group's session in May;

(c) Inland waterways: the leading body will be the ECE Working Party on the Standardization of Technical and Safety Requirements in Inland Navigation. The draft list of terminologies has been prepared by the secretariat and it will be reviewed by the Working Party experts;

(d) Intermodal terminals / freight villages: leading organization is Europlatforms; both the draft list of terminologies and the questionnaire have been prepared and discussed during the sessions of the Group. It was requested that both documents should be sent to UIRR in order to be amended accordingly;

(e) Ports: the port of Gdynia (Poland) is the leading port authority. The draft list of terminologies has been already prepared. It was agreed that both draft documents should be ready for discussion at the next session of the Group in May. Then, it should be distributed to other ports and ports associations in order to be further improved and finalized.

## **VI. Discussions on the structure of the final report of the Group of Experts (agenda item 5)**

18. The Group recalled that its mandate finishes this year (July 2018) and its final report should be reported for approval at the Working Party on Transport Trends and Economics in September 2018. The Group noted that its final report most probably will not be delivered this year since the data collection and analysis process has not even started. However, it agreed that a draft report should be prepared for the session of WP.5 in September which should include the draft chapter two with case studies / good practices implemented in different countries as well as chapter three with terminologies agreed for each transport mode and node.

19. The Group also discussed the data collection and presentation. It agreed that data collection will not be an easy task. Furthermore, it noted that data presentation should make clear that the main objective is not to compare the countries on their constructions costs but rather to plot real data / direct costs collected. The conclusions or any kind of calculations should be drawn or done by the countries. The study will provide only the actual data without interpretation or conclusions. The Group also agreed that separation of linear (road, railways, inland waterways) and point (intermodal terminals and ports) investments should be warranted while presenting the data.

## **VII. Other business (agenda item 6)**

20. There were no other items.

## **VIII. Date and place of next meeting (agenda item 7)**

21. The Group of Experts sixth session is tentatively scheduled to take place in Geneva on 1 and 2 May 2018.

## **IX. Adoption of main decisions (agenda item 8)**

22. The Group adopted the list of main decisions of its fourth session and requested the secretariat and the Chair to prepare the full and complete report to be circulated to the members of the Group for comments on items other than those contained in the list of main decisions.

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