



# Economic and Social Council

Distr.: General  
7 July 2021

Original: English

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## Economic Commission for Europe

### Inland Transport Committee

#### Working Party on Transport Trends and Economics

##### Thirty-fourth session

Geneva, 15–17 September 2021

Item 4(b) of the provisional agenda

##### Transport infrastructure data:

##### Benchmarking Transport Infrastructure Construction Costs

## Questionnaires on road and rail transport infrastructure maintenance and operation costs

### Submitted by the Government of Turkey and Polish Railways

### Background

The Inland Transport Committee (ITC) at its eighty-third session in February 2021 extended the mandate of the Group of Experts on Benchmarking of Transport Infrastructure Construction Costs (GE.4) for an additional year until 2022, with the purpose to revamp its data collection efforts across all modes which would result in a more data rich final report. At the thirty-third session of the Working Party on Transport Trends and Economics (WP.5), in September 2020, the Government of Turkey had proposed to utilise such a one-year extension, to prepare an additional benchmarking analysis of transport infrastructure maintenance and operation costs. In follow-up to this proposal, the Government of Turkey and Polish Railways have prepared questionnaires focusing on the road and rail transport sectors respectively, as contained in this document. These questionnaires have in the meantime been submitted to the Working Parties on Road (SC.1) and Rail (SC.2) for the collection of additional data. WP.5 is invited to take note of these ongoing efforts which will be reflected in a more data rich final report of GE.4 to be presented to WP.5 at its session in 2022.



## Annex I

### Draft questionnaire on road transport infrastructure maintenance and operation costs

#### I. Routine Maintenance Costs and Expenditures

Routine maintenance, which comprises small-scale works conducted regularly, aims “to ensure the daily throughput and safety of existing roads in the short-run and to prevent premature deterioration of the roads” (PIARC 1994).

COUNTRY NAME

##### A. Explanation 2

Annual Labour Cost	It contains all labour costs as salary, overtime, bonus and side rights.
Annual Material Cost	It contains all materials costs such as fuel oil, bitumen, spare parts, stationery, fuel expense, salt, chemicals, construction products, etc. which expend on road maintenance services.
Invoiced expenses	It contains all utility invoices such as road lighting, phone, electricity, water, mobile phone, internet, natural gas and another invoices which is on road maintenance services.
Operating expenses of machines and mechanisms	It contains depreciation deductions for full restoration, costs of replacing wearing parts and attachments, the cost of relocating machines from one maintenance services to another one including the installation of machines with commissioning, dismantling, transportation with loading and unloading operations.
Bidded Expenditures	All biddings on road maintenance services such as traffic services, traffic lights, installing guardrairs, winter maintenance, road repairs etc..

##### B. Primary and Secondary Roads-1

PRICES  
YEAR:-----

*Routine Maintenance Expenditures of Primary and Secondary Roads*

Unit: US\$

Total Annually Maintained Road Length (Km)	Force Account Expenditures					Bidded Expenditures	Total
	Annual Labour Cost	Annual Material Cost	Invoiced Expenses	Operating expenses of machines and mechanism	Total	Total	

##### C. Primary and Secondary Roads-2

PRICES YEAR:-----

*Routine Maintenance Unit Costs of Primary and Secondary Roads*

PRICES YEAR:-----

Unit: US\$/LaneXkm.

Traffic Safety Unit Cost      Road Maintenance Unit Cost      Winter Maintenance Unit Cost      Total Unit Cost

**D. Motorways-1**

PRICES YEAR:-

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*Routine Maintenance Expenditures of Motorways*

Unit: US\$

<i>Total Annually Maintained Road Length (Km)</i>	<i>Force Account Expenditures</i>					<i>Bid Expenditures</i>	<i>Total</i>
	<i>Annual Labour Cost</i>	<i>Annual Material Cost</i>	<i>Invoiced Expenses</i>	<i>Operating expenses of machines and mechanism</i>	<i>Total</i>	<i>Total</i>	

**E. Motorways-2**

PRICES YEAR:-----

*Routine Maintenance Unit Costs of Motorways*

Unit: US\$/LaneXkm

Traffic Safety Unit Cost      Road Maintenance Unit Cost      Winter Maintenance Unit Cost      Total Maintenance Unit Cost      Toll Collection Unit Cost      Total Unit Cost

## Annex II

### Draft questionnaire on rail transport infrastructure maintenance and operation costs

#### I. Direct cost

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PRICES YEAR:-----

Unit: US\$

Annual direct cost of maintenance and repair, and traffic management

Total

Cost of maintenance and repair

Cost of traffic management

Cost directly related to railway line

Cost indirectly related to railway line

Rail infrastructure network

Km of line depending on line category (please describe each category)

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Category 1

Category 2

#### II. Detailed

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PRICES YEAR:-----

Unit: US\$

Cost of maintenance and repair in railway sector

Operations    Preservation    Diagnostics    Running repair    Capital repair    Emergency repair    Winter operations

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Tracks

Power supply

Staff for removing failures

Technical emergency staff

Level crossings

Switches and crosses

Bridges and viaducts

PRICES YEAR:-----

Unit: US\$

*Cost of maintenance and repair in railway sector**Operations    Preservation    Diagnostics    Running repair    Capital repair    Emergency repair    Winter operations*

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Equipment for  
repair work

Signalling  
system

Overhead  
contact line

Buildings

Pedestrian  
passages

Lighting  
installation

Removal of  
trees and  
bushes

Ecopassages  
and other  
animal  
protection  
devices

Others (please  
name)

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