

**Table 5 – Core Port and Transport Logistic Measures: Definitions, priorities, and sources of data**

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				(Work in progress, latest revision 24 February, 2004 - PeterR)		
	Core Measure	Unit	Priority	Definition of Term	Sources of data	Comment
1	Port Infrastructure					
1.1	Ports	Number		Coast-line, estuary or river facilities where internationally registered ocean-going and inland vessels can load and unload their cargoes with the exception of pure domestic cargoes	Standard Resources such as: Port Handbook, Fairplay, Ports of the World, Guide to Port Entry, Individual Web-sites	
1.1.1	Berths	Number	D	Civil engineering structures designed to allow ocean-going vessels and other floating craft to berth alongside with the purpose to load and unload cargoes. Berths are usually classified to the water depth in front of them. Distinction also is made between dedicated container berths, dry bulk berths or jetties, liquid bulk berths or jetties and general cargo-, multipurpose- or neo bulk berths	DERIVED	
1.1.1.1	Container berths	Number		Number of berths designated for the loading and unloading of containerized cargoes	Standard Resources	
1.1.1.2	Dry bulk berths	Number		Number of berths designated for the loading and unloading of dry bulk cargoes. Dry bulk cargoes are homogeneous cargoes that are usually transported in loose form, being loaded and unloaded in a more or less continuous way with the use of mechanical equipment and devices such as grabs, conveyor belts, suction machines, etc. Examples of dry bulk cargoes: coal, iron ore and grain	Standard Resources	
1.1.1.3	Liquid bulk berths	Number		Number of berths designated for the loading and unloading of liquid bulk cargoes. Liquid bulk cargoes are liquids that are transported in tank compartments on board a vessel and stored in tanks on shore. The cargo is loaded and unloaded by means of pumps. Example of liquid bulk cargoes are: crude oil, liquid chemicals and liquefied gases	Standard Resources	
1.1.1.4	Multipurpose berths	Number		Number of berths designated for the loading and unloading of multipurpose cargoes. These are any assortment of conventional general, unitized, containerized and / or neo-bulk cargo. Examples of neo-bulk cargoes are: motor cars, sawn timber and steel products	Standard Resources	
1.1.2	Port handling capacity	Tons/year	D	The design cargo handling capacity of a port expressed in tons/year	DERIVED	Can you derive this from 1.2.1.1 - 1.2.1.4 in common units (tons)?

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1.1.2.1	Container handling capacity	TEU/year	A	The number of containers, usually expressed in the standard dimension of TEU (see comment), a port or terminal is designed to handle in a period of one year. A Twenty Foot Equivalent Unit (TEU) is the standard unit to express container capacity. A TEU is a representation of an (usually) 8 feet wide, 8 ft or 8ft 6in or 9ft 6 in high and 20 ft long container. The very large portion of the world container population consists of 20ft and 40ft long containers (or boxes). Following the above TEU description, a 40ft container equals 2 TEU.	Standard Resources and commonly used industry formulas such as those developed by UNCTAD	
1.1.2.2	Dry bulk handling capacity	Tons/year	A	The number of tons of dry bulk cargo a port or terminal is designed to handle in a period of one year	Standard Resources	
1.1.2.3	Liquid bulk handling capacity	Tons/year	A	The number of tons of liquid bulk cargo a port or terminal is designed to handle in a period of one year	Standard Resources	
1.1.2.4	Multipurpose bulk handling capacity	Tons/year	A	The number of tons of multipurpose bulk cargo a port or terminal is designed to handle in a period of one year	Standard Resources	
1.1.3	Storage capacity	Hectares		The area in a port designated to the storage of cargo	Standard Resources	
1.1.3.1	Container stack capacity	TEU		The number of places for the stacking of containers in a port or on a terminal	Standard Resources	
1.1.3.2	Silo capacity	Tons		The total of closed or covered storage capacity for the storage of dry bulk cargoes available in a port or on a terminal	Standard Resources	
1.1.3.3	Tank Storage capacity	Cubic Meters (m3)		The total capacity of tank storage for liquid bulk cargoes available in a port or on a terminal	Standard Resources	
<b>2</b>	<b>Port Traffic</b>					
2.1	Vessel calls	Number		Number of times vessels entered each port for the loading and / or unloading of cargo during the year	Port Statistics	
2.2	Total vessel port time	Hours		Total number of hours that vessels were in port during the year	Port Statistics	Usually on record in the Harbor Master's Office or the Statistics Department
2.3	Total vessel berth time	Hours		Total number of hours that vessels were at berth during the year	Port Statistics	See comment above
2.4	Cargo throughput	Tons	D	The total number of tons loaded and unloaded in a port in one year. In statistical records or handbooks this data may be separated into import and export. Throughput is the sum of import and export cargoes. Sometimes also the quantity of transshipment (sea-sea transport) cargo is indicated separately and this should be included. Transit cargo is also included in the total throughput.	Port Statistics and Standard Resources	Aggregate of 2.4.2 -2.4.5

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2.4.1	Container throughput	TEU		The total number of containers (expressed in TEU) loaded and unloaded in a port in a period of one year. (Definition 2.4 refers)	Port Statistics, Standard Resources and Yearbook Containerisation International	
2.4.2	Container cargo throughput	Tons		The total tonnage of containerized cargo loaded and unloaded in a port in a period of one year (Definition 2.4 refers)	See above	
2.4.3	Dry bulk throughput	Tons		The total tonnage of dry bulk cargo loaded and unloaded in a port in a period of one year (Definition 2.4 refers)	See above	
2.4.4	Liquid bulk throughput	Tons		The total tonnage of liquid bulk cargo loaded and unloaded in a port in a period of one year (Definition 2.4 refers)	See above	
2.4.5	Multipurpose cargo throughput	Tons		The total tonnage of multipurpose cargo loaded and unloaded in a port in a period of one year (Definition 2.4 refers)	See above	
<b>3</b>	<b>Port Productivity and Costs</b>					
3.1	Gross ship productivity	Tons / hour		Number of tons handled divided by the total number of ship hours in port	DERIVED	(2.4) / (2.2)
3.2	Net ship productivity	Tons / hour		Number of tons handled divided by the total number of ship hours at berth	DERIVED	(2.4) / (2.3)
3.3	Gross container ship productivity	TEU / hour		Number of TEU handled divided by the total number of ship hours in port	DERIVED	(2.4.1) / (2.2)
3.4	Net container ship productivity	Tons / hour		Number of TEU handled divided by the total number of ship hours at berth	DERIVED	(2.4.1) / (2.3)
3.5	Average ship waiting time	Hours		The average number of hours a vessel waits for a berth (buoy to berth time)	DERIVED	((2.2) - (2.3)) / (2.1)
3.6	Average cargo dwell time	Days		The average number of days between the moment of unloading of the cargo and the time the cargo exits the port or terminal for export cargo (and vice-versa for import cargo)	DERIVED	Where does this come from ?????
3.7	Cargo handling charge	Currency		The average total charges for the movement, storage, loading on board and all associated port related costs for a container (per TEU full or empty) in a port or on a terminal from gate until final stowage position on board a vessel in case of export cargo and vice-versa for import cargo.	Port Handbook, Terminal Operator Tariff Book, Fairplay	Usually broken down into the various types of cargo. Do you need indicators for other cargo types ????
<b>4</b>	<b>Port and Transport Logistics Administration</b>					

	Core Measure	Unit	Priority	Definition of Term	Sources of data	Comment
4.1		Public / private		Is the basic infrastructure of ports mainly in public or private ownership? Basic infrastructure elements in ports usually include items such as: Sheds, warehouses, silos, tanks, cargo handling and -storage equipment, office buildings, workshops, and (often) paving of terminals. These items are, in majority, movable items.	Standard Resources	Is this on the right lines?
4.2	Ownership of the major superstructure	Public / private		Are the operating facilities of ports mainly in public or private ownership? The operating facilities of ports usually include items such as: Sheds, warehouses, silos, tanks, cargo handling and -storage equipment, office buildings, workshops, and (often) paving of terminals. These items are, in majority, movable items.	Standard Resources	Is this on the right lines?
4.3	Employer of major stevedoring labor	Public / private		Are the entities which supply the capacity (labor, supervisors and equipment) required to physically load and unload vessels mainly in public or private ownership?	Standard Resources	Is this on the right lines?
4.4	Supplier of pilots services	Public / private		Entities or companies that supply qualified and experienced pilots to assist vessels to enter or leave ports using their local hydrographic, meteorologic and climatologic knowhow and experience	Standard Resources	To be amended
4.5	Supplier of towage services	Public / private		Entities or companies that provide tug boat assistance (tugs and personnel) to vessels entering or leaving a port, including the berthing and de-berthing operations	Standard Resources	To be amended
4.6	Supplier of mooring and unmooring services (linesmen)	Public / private		Are the entities or companies that supply the facilities and qualified experienced personnel to actually berth or de-berth vessels through the process of attaching the vessel to the berthing structure by lines (ropes) mostly publically or privately owned?	Standard Resources	Is this on the right lines?
<b>5 Trade Logistics</b>						
5.1	Inventory cost	Currency		Additional costs to the importer or exporter due to the requirement to maintain a significantly larger inventory than what would be required in case of efficient logistic processes Total cost to importers (and exporters?) of maintaining an inventory of goods and materials (over and above what would be required in case of efficient logistic transport processes).	Measurement	Is this more objective??? This set of measures is now a mixture of gross annual costs (to be normalised by total value of import and export?), average time periods and unit cost and time for customs - can you make it work?
5.2	Inventory time	Days		The average time in days that the larger inventory has to be available The average time, weighted as far as possible by value, that the inventory has to be available.	Measurement	Is this realistic????

	Core Measure	Unit	Priority	Definition of Term	Sources of data	Comment
5.3	Transport time	Days		The time in days (or hours) required to transport goods from the place of manufacturing / processing / intermediate storage to the place from where the goods will be exported, or from the place of import into the country or region to the final destination / distribution point or processing plant <b>The average time, weighted as far as possible by value of goods transported, required to transport goods from the place of production / manufacturing / processing to the place from where the goods will be exported, or from the place of import to the final destination / distribution point or processing plant</b>	Freight forwarder	Is this realistic????
5.4	Transport cost	Currency		The total transport costs from the place of manufacturing / processing / intermediate storage to the place from where the goods will be exported, or from the place of import into the country or region to the final destination / distribution point or processing plant <b>The total cost of transporting goods from the place of production / manufacturing / processing to the place from where the goods will be exported - or from the place of import to the final destination / distribution point or processing plant</b>	Freight forwarder	Is this realistic????
5.5	Customs clearance time	Days		The time required to process goods through a Customs checking point <b>The average time required to process a TEU through all Customs checking points. (This should include the time for all administration, inspection, revenue collection and other processes which delay the passage of the goods.)</b>	Freight forwarder or Customs office	Is this realistic????
5.6	Customs clearance cost	Currency		The costs for the processing of goods through a Customs checking point including unofficial payments to Customs officers or clerks <b>The average total payment for processing a TEU through Customs checking points including unofficial payments to Customs officers or clerks (but not including import / export duties)</b>	Freight forwarder or Customs office	Is this realistic????
<b>Note:</b>						
(\$) Symbol representing local currency. Local currency is preferred over US\$ amounts (please specify when local currency is, otherwise specify exchange rate in current prices).						
* "Daily" or "per day" refers to a typical day in the survey year (usually the fiscal year) of the country.						
.. "Annual" or "per year" refers to the fiscal year of a given country (please specify the period or otherwise note: calendar year)						
<b>(1)</b> The stock of <i>non-motorized</i> vehicle, as core transport measure is expected to be dealt with in a separate urban transport measures list.						
<b>Priority:</b>						
<b>A</b>	Essential					
<b>B</b>	Highly desirable, should be included as soon as possible					
<b>D</b>	Derived, essential measure which is the aggregate of other measures					

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<b>Note on Sources of data and the institutional framework:</b>						
Original sources of data largely depend on components of the institutional framework. This is often complex and is generally becoming more so. In many countries road transport infrastructure has been managed separately from transport operations and traffic. Within transport operations, various aspects of enforcement are often the responsibility of the police, but data on road crash injuries generally come from the hospitals. At the sub-national level, local governments usually have some responsibilities for municipal and district roads etc.						
Over recent years many countries have initiated significant reforms in terms of decentralization and for management of the transport sector. This has resulted in changes to the institutional framework and, usually, to an increase in the number of organizations which are responsible for aspects of the railway sub-sector. In some cases there may not yet seem to be systems to bring together the data collected by the various agencies.						
The situation described above has two main consequences for collecting the data defined on this form. Data for different aspects of the sub-sector may have to be obtained from different organizations (road agency, traffic authority, police, hospital services, etc.). Some aspects, such as the track or passenger and freight operations may be managed by different organizations and each may have to be approached for up-to-date statistics on their section of responsibility.						
The Core Labour Standards of the International Labour Organisation are: of Association and the effective recognition of collective bargaining; 2. The elimination of all forms of compulsory labour; 3. The effective abolition of child labour; 4. The elimination of discrimination in respect of employment and occupation.						1. Freedom
<b>Sources:</b>						
EUROSTAT, ECMT, UN/ECE, 1997, <i>Glossary for Transport Statistics</i> , Document prepared by the Intersecretariat Working Group on Transport Statistics, 2nd edition, Geneva: United Nations.						
GTZ, 2003, <i>International Fuel Prices</i> , 3rd Edition, May 2003, Eschborn: GTZ GmbH.						
OECD, DAC Statistical Reporting Directives, <a href="http://www1.oecd.org/dac/htm/dacdir.htm#32,33">http://www1.oecd.org/dac/htm/dacdir.htm#32,33</a> , October 1st, 2003.						
United Nations, Economic and Social Council, Intersecretariat Working Group on Transport Statistics (IWG), 2003, <i>Glossary of Transport Statistics</i> , Third Edition, Transmitted Jointly by the Eurostat, UNECE and the European Conference of Ministers of Transport (ECMT), Working Party on Transport Statistics, TRANS/WP.6/2003/6, 4 April 2003.						
United Nations, Economic Commission for Latin America and the Caribbean (ECLAC), 1993, <i>Roads, A New Approach for Road Network Management and Conservation</i> , June 1993, Santiago: United Nations.						
World Bank, 2003, <i>World Development Indicators 2003</i> , Washington, DC: World Bank.						
<b>Note:</b> If not otherwise indicated, the definitions are proposed by Peter Roberts (TUDTR) and Cordula Thum (TUDTR).						

**Table 2: Non Transport Measures**

	<b>Measure</b>	<b>Unit</b>	<b>Source</b>
a	Total population	millions of people	WDI
b	Rural population	millions of people	UN Population Div.
c	Urban population	millions of people	UN Population Div.
d	Total land area	thousand km <sup>2</sup>	WDI
e	Arable land area	percentage	WDI
f	Gross National Income per capita	US \$/cap	WDI