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Working Party on Rail Transport

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agenda item 6)

PRODUCTIVITY IN RAIL TRANSPORT

Transmitted by the Organisation for Cooperation Between Railways (OSZhD)

Note: At its fifty-second session, the Working Party asked the representative of the UIC to provide data from its member railways, and the representative of OSZhD to provide information from its member states that were not UIC members, on the following criteria (for 1997):

- (a) Labour productivity: (distinguishing between high-speed and conventional rail transport)  
employees/km of network in use

Please note that the distribution of documentation for the Working Party on Rail Transport (SC.2) is no longer "restricted". Accordingly, the secretariat has adopted a new numbering system whereby all working documents other than Reports and Agendas will be numbered as follows: TRANS/SC.2/year/serial number. Reports, Agendas, resolutions and major publications will retain their previous numbering system (i.e. TRANS/SC.2/189).

net ton-km + passenger-km employee

- (b) Productivity of freight transport:
  - per km: gross ton-km/km of network  
net ton-km/km of network
  - per employee: gross ton-km/employee  
net ton-km/employee
  
- (c) Productivity of passenger transport: (distinguishing between high-speed and conventional rail transport)
  - per km: passenger-km/km of network
  - per employee: passenger-km/employee
  
- (d) Productivity of traffic: (distinguishing between high-speed and conventional rail transport)
  - net ton-km + passenger-km/km of network
  
- (e) Productivity of locomotives: (distinguishing between high-speed and conventional rail transport)
  - gross ton-km/locomotive
  
- (f) Productivity of wagons:
  - net ton-km/wagon
  
- (g) Productivity of lines: (where necessary only on railway lines to be determined)
  - passenger train-km + freight train-km /km of network
  
- (h) Energy consumption (for traction power):
  - MJ/1000 gross ton-km.

The Working Party may wish to consider the reply received from OSZhD, which is reproduced below.

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**Efficiency of rail transport operations in 1997 (Railways in OSZhD member countries which are not members of UIC)**

*(a) Labour productivity*

Country	Railway	Length of network	Number of employees	Net ton-km	Pas- km	Ton-km + pas-km	Productivity			
							Employees/km	Change over 1996	(T-km + pas-km)/emp.	Change over 1996
		Km	Million	Million	Million	%	Million	%		
Viet Nam	DSVN	2646	30107	1533	2476	4009	11.38	-9.80	0.133	+12.84
Georgia	GR	1576	11295	2007	572	2579	7.17	+0.32	0.228	+68.91
Kazakhstan	KZKh	13660	148098	106425	12801	119226	10.84	-6.76	0.805	+3.21
Kyrgyzstan	KRG	417	4909	472	93	565	11.77	-2.93	0.115	+3.01
Mongolia	MTZ	1810	6715	2583	957	3540	3.71	+10.77	0.527	-2.72
Russia	RZhD	86660	1436300	963855	116241	1080096	16.57	-9.25	0.752	+7.63
Tajikistan	TZhD	547	3972	1384	130	1514	7.26	-17.26	0.381	-10.43
Uzbekistan	UTI	3641	38890	16498	2185	18683	10.68	-3.91	0.480	-9.97

*(b) Productivity of freight transport*

Country	Railway	Length of network	Employees	Gross t-km	Net t-km	Per km of network				Per employee			
						Gross ton-km	Change over 1996	Net t-km	Change over 1996	Gross t-km	Change over 1996	Net t-km	Change over 1996
		Km	Million	Million	Million	%	Million	%	Million	%	Million	%	
Viet Nam	DSVN	2646	30107	5921	1533	2238	+8.32	0.579	-8.83	0.197	+92.18	0.051	+1.08
Georgia	GR	1576	11295	5166	2007	3278	+24.31	1.273	+75.79	0.457	112.75	0.178	+75.23
Kazakhstan	KZKh	13660	148098	226781	106425	16602	+12.35	7.791	-2.88	1.531	+16.66	0.719	+4.16
Kyrgyzstan	KRG	417	4909	1247	472	2990	+7.03	1.132	-0.21	0.254	+42.42	0.096	+2.80
Mongolia	MTZ	1810	6715	6239	2583	3447	+26.18	1.427	+1.65	0.929	+25.69	0.385	-8.23
Russia	RZhD	86660	1436300	2227567	963855	25705	+15.75	11.122	-1.40	1.551	+22.66	0.671	+8.66
Tadjikistan	TZhD	547	3972	3330	1384	6088	-3.18	2.530	-28.91	0.838	+16.44	0.348	-14.08
Uzbekistan	UTI	3641	38890	36174	16498	9935	+14.90	4.531	-15.73	0.930	+23.92	0.424	-12.30

(c) *Productivity of passenger transport and combined traffic*

Country	Railway	Length of network	Employees	Pas- km	Ton-km + pas- km	Per km of network				Per employee			
						Pas- km	Change over 1996	T-km + pas- km	Change over 1996	Pass- km	Change over 1996	Ton-km+ pas- km	Change over 1996
						Million	%	Million	%	Million	%	Million	%
		Km		Million	Million	Million	%	Million	%	Million	%	Million	%
Viet Nam	DSVN	2646	30107	2476	4009	0.936	+9.67	1.515	+1.78	0.082	+21.59	0.133	+12.84
Georgia	GR	1576	11295	572	2579	0.363	+50.43	1.636	69.45	0.051	+49.95	0.228	68.91
Kazakhstan	KZKh	13660	148098	12801	119226	0.937	-10.59	8.728	-3.77	0.086	-4.10	0.805	+3.21
Kyrgyzstan	KRG	417	4909	93	565	0.223	+1.09	1.355	+0.00	0.019	+4.13	0.115	+3.01
Mongolia	MTZ	1810	6715	957	3540	0.529	+28.63	1.956	+7.76	0.143	+16.12	0.527	-2.72
Russia	RZhD	86660	1436300	116241	1080096	1.341	-9.43	12.464	-2.33	0.081	-0.20	0.752	+7.63
Tadjikistan	TZhD	547	3972	130	1514	0.238	+35.05	2.768	-25.89	0.033	+63.22	0.381	-10.43
Uzbekistan	UTI	3641	38890	2185	18683	0.600	+8.26	5.131	-13.49	0.056	+12.67	0.480	-9.97

(d) *Productivity of locomotives and wagons*

Country	Railway	Net ton-km	Gross ton-km, total	Average number of locomotives per year*	Average number of wagons per year*	Gross ton-km/locomotive	Change over 1996	Net ton-km/wagon	Change over 1996
		Million	Million	Locomotives	Wagons	Million	%	Million	%
Viet Nam	DSVN	1533	5921	359	4712	16.312	-0.27	0.325	-8.97
Georgia	GR	2007	5166	435	17164	11.876	+52.88	0.117	+73.93
Kazakhstan	KZKh	106425	226781	2593	105361	87.434	-1.96	1.010	-3.85
Kyrgyzstan	KRG	472	1247	54	2980	23.093	+7.69	0.158	+0.16
Mongolia	MTZ	2583	6239	63	1736	96.857	-1.59	1.488	-0.51
Russia	RZhD	963855	2227567	16839	589624	136.956	-18.93	1.635	+10.06
Tadjikistan	TzhD	1384	3330	62	2957	57.081	+8.06	0.468	-13.82
Uzbekistan	UTI	16498	36174	327	14793	109.318	+169.72	1.115	+84.59

\* Steam locomotives and their productivity have not been included in the calculation (except for DSVN).

OSZhD has no data on the productivity of individual railway lines or the energy consumption of railways, nor does it have any information on high-speed transport.

Railways of OSZhD countries:

1. DSVN Socialist Republic of Viet Nam Railways
2. GR Georgian Department of Railway Transport
3. KZKh Republic-State enterprise "Kazakhstan temir zholy"
4. KRG Kyrgyz Railways
5. MTZ Mongolian Railways
6. RzhD Russian Federation Railways

7. TzhD Tajik Railways
  8. UTI State joint-stock railway company "Uzbekiston temir iullari"  
(Uzbekistan Railways).
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