



**Economic and Social
Council**

Distr.
GENERAL

TRANS/SC.2/2000/3
1 September 2000

Original: ENGLISH

ECONOMIC COMMISSION FOR EUROPE

INLAND TRANSPORT COMMITTEE

Working Party on Rail Transport
(Fifty-fourth session, 3-5 October 2000,
agenda item 6)

PRODUCTIVITY IN RAIL TRANSPORT

Transmitted by the Organization for Co-operation between Railways (OSZhD)

At its fifty-third session, the Working Party asked the representatives of the UIC and the Organization for Co-operation between Railways (OSZhD) to provide 1998 data for its next session, following the new format used in document TRANS/SC.2/1999/3:

- (a) Labour productivity: employees/km of network in use
- (b) Productivity of freight transport:
 - per km: net ton-km/km of network
 - per employee: net ton-km/employee
- (c) Productivity of passenger transport:
 - per km: passenger-km/km of network
 - per employee: passenger-km/employee
- (d) Productivity of traffic:
 - per km: net ton-km + passenger-km/km of network
 - per employee: net ton-km + passenger-km/employee
- (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

The Working Party may wish to consider the reply received from OSZhD, which is reproduced below. The information refers to years 1996 and 1998, as no statistics are available for the earlier years, when figures were aggregated for all railways in the Soviet Union.

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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Rail transport data for 1998
(For railways of OSZhD member countries which are not members of
the International Union of Railways (UIC))

(a) Labour productivity

Country	Railway	Length of network	Number of employees	Net ton-km (tkm)	Passenger-km (pkm)	tkm + pkm	Productivity			
							Empl/ km	Change over 1997	(tkm+pkm)/ empl.	Change over 1997
								%	millions	%
		km		millions	millions	millions				
Viet Nam	DSVN	2 632	30 263	1 324	2 542	3 866	11.50	-8.85	0.128	+8.25
Georgia	GR	1 576	15 384	2 575	397	2 972	9.76	+36.64	0.193	+42.92
Kazakhstan	KZKh	13 642	145 038	99 877	10 668	110 545	10.63	-8.57	0.625	-2.29
Kyrgyzstan	KRG	424	4 548	471	59	530	10.73	-11.55	0.762	+4.30
Mongolia	MTZ	1 810	6 893	2 857	982	3 839	3.81	+13.71	0.975	+2.78
Russia	RZhD	86 151	1 274 100	901 381	97 429	1 096 239	14.79	-19.03	0.000	+10.34
Tajikistan	TZhD	547	4 026	1 458	121	1 579	7.36	-16.14	0.117	-7.84
Uzbekistan	UTI	3 641	33 246	15 672	2 189	17 861	9.13	-17.86	0.921	+0.68

(b) Freight volume

Country	Railway	Length of network	Employees	Gross tkm	Net tkm	Per km of network				Per employee			
						Gross tkm	Change over 1997	Net tkm	Change over 1997	Gross tkm	Change over 1997	Net tkm	Change over 1997
						millions	%	millions	%	Millions	%	millions	%
		km		millions	millions	millions	%	millions	%	Millions	%	millions	%
Viet Nam	DSVN	2 632	30 263	2 730	1 324	1.037	-2.23	0.503	-20.84	0.090	-11.85	0.044	-13.15
Georgia	GR	1 576	15 384	4 138	2 575	2.626	+15.21	1.634	+125.5	0.269	+25.12	0.167	+65.06
Kazakhstan	KZKh	13 642	145 038	177 570	99 877	13.016	-20.72	7.321	-8.74	1.224	-6.73	0.689	-0.18
Kyrgyzstan	KRG	424	4 548	811	471	1.913	-2.13	1.111	-2.07	0.178	-0.03	0.104	+10.72
Mongolia	MTZ	1 810	6 893	5 142	2 857	2.841	+9.84	1.578	+12.44	0.746	+0.92	0.414	-1.12
Russia	RZhD	86 151	1 274 100	1 789 713	901 381	20.774	-14.00	10.463	-7.24	1.405	+11.09	0.707	+14.55
Tajikistan	TZhD	547	4 026	2 563	1 458	4.686	-22.49	2.665	-25.11	0.637	-11.58	0.362	-10.70
Uzbekistan	UTI	3 641	33 246	28 481	15 672	7.822	-4.88	4.304	-19.95	0.857	+14.13	0.471	-2.55

(c) Volume of passenger transport and total traffic

Country	Railway	Length of network	Employees	pkm	tkm + pkm	Per km of network				Per employee			
						pkm	Change over 1997	tkm + pkm	Change over 1997	pkm	Change over 1997	tkm + pkm	Change over 1997
						Mio	%	Mio	%	Mio	%	Mio	%
Viet Nam	DSVN	2 632	30 263	2 542	3 866	0.966	+13.20	1.469	-1.33	0.084	+24.19	0.128	+8.25
Georgia	GR	1 576	15 384	397	2 972	0.252	+4.41	1.886	+95.27	0.026	-23.59	0.193	+42.92
Kazakhstan	KZKh	13 642	145 038	10 668	110 545	0.782	-25.39	8.103	-10.66	0.074	-18.40	0.625	-2.29
Kyrgyzstan	KRG	424	4 548	59	530	0.139	-36.93	1.250	-7.74	0.013	-28.69	0.762	+4.30
Mongolia	MTZ	1 810	6 893	982	3 839	0.543	+31.99	2.121	+10.86	0.142	+16.08	0.975	+2.78
Russia	RZhD	86 151	1 274 100	97 429	1 096 239	1.131	-23.64	12.725	-10.65	0.076	-5.70	0.000	+10.34
Tajikistan	TZhd	547	4 026	121	1 579	0.221	+25.70	2.887	-22.71	0.030	+49.88	0.117	-7.84
Uzbekistan	UTI	3 641	33 246	2 189	17 861	0.601	+8.46	4.906	-17.29	0.066	+32.04	0.921	+0.68

(d) Km 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 1997	Net ton-km/wagon	Change over 1997
		Mio.	Mio.	Locomotives	Wagons	Mio.	%	Mio.	%
Viet Nam	DSVN	1 324	5 664	339	4 578	16.708	+2.43	0.289	-11.11
Georgia	GR	2 575	6 306	421	16 519	14.979	+26.13	0.156	+33.31
Kazakhstan	KZKh	99 877	208 604	2 344	99 995	88.995	+1.79	0.999	-1.12
Kyrgyzstan	KRG	471	811	-	1 470	-	+0.00	0.320	+102.29
Mongolia	MTZ	2 857	6 944	66	1 628	105.212	+8.68	1.755	+17.95
Russia	RZhD	901 381	2 028 443	14 895	592 102	136.183	-0.56	1.522	-6.87
Tajikistan	TZhd	1 458	3 113	58	2 841	53.672	-5.97	0.513	+9.65
Uzbekistan	UTI	15 672	33 756	317	14 608	106.486	-2.59	1.073	-3.80

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

Rail transport data for 1996
(For railways of OSZhD member countries which are not members of
the International Union of Railways (UIC))

(a) Labour productivity

Country	Railway	Length of network	Number of employees	Net ton-km (tkm)	Passenger-km (pkm)	tkm + pkm	Productivity	
							Empl./km	(tkm+pkm)/empl.
		km		millions	millions	millions		millions
Viet Nam	DSVN	2 650	43 095	1 684	2 261	3 945	16.26	0.092
Georgia	GR	1 575	13 356	1 141	380	1 521	8.48	0.114
Kazakhstan	KZKh	13 537	158 891	108 596	14 188	122 784	11.74	0.773
Kyrgyzstan	KRG	417	5 541	473	92	565	13.29	0.102
Mongolia	MTZ	1 810	9 221	2 541	744	3 285	5.09	0.356
Russia	RZhD	86 033	1 590 300	982 165	128 956	1 111 121	18.48	0.699
Tajikistan	TZhD	483	4 239	1 719	85	1 804	8.78	0.426
Uzbekistan	UTI	3 655	74 839	19 653	2 026	21 679	20.48	0.290

(b) Freight volume

Country	Railway	Length of network	Employees	Gross tkm					
	Net tkm	Per km of network	Per employee						
						Gross tkm	Net tkm	Gross tkm	Net tkm
		km		millions	millions	millions	millions	millions	millions
Viet Nam	DSVN	2 650	43 095	3 421	1 684	1.291	0.635	0.079	0.039
Georgia	GR	1 575	13 356	2 419	1 141	1.536	0.724	0.181	0.085
Kazakhstan	KZKh	13 537	158 891	206 612	108 596	15.263	8.022	1.300	0.683
Kyrgyzstan	KRG	417	5 541	902	473	2.163	1.134	0.163	0.085
Mongolia	MTZ	1 810	9 221	4 481	2 541	2.476	1.404	0.486	0.276
Russia	RZhD	86 033	1 590 300	2 010 841	982 165	23.373	11.416	1.264	0.618
Tajikistan	TZhD	483	4 239	3 052	1 719	6.319	3.559	0.720	0.406
Uzbekistan	UTI	3 655	74 839	30 496	19 653	8.344	5.377	0.407	0.263

(c) Volume of passenger transport and total traffic

Country	Railway	Length of network	Employees	pkm	tkm + pkm	Per km of network	Per employee		
		km		millions	millions	millions	millions	millions	millions
Viet Nam	DSVN	2 650	43 095	2 261	3 945	0.853	1.480	0.052	0.092
Georgia	GR	1 575	13 356	380	1 521	0.241	0.966	0.028	0.114
Kazakhstan	KZKh	13 537	158 891	14 188	122 784	1.048	9.070	0.089	0.773
Kyrgyzstan	KRG	417	5 541	92	565	0.221	1.355	0.017	0.102
Mongolia	MTZ	1 810	9 221	744	3 285	0.411	1.815	0.081	0.356
Russia	RZhd	86 033	1 590 300	128 956	1 111 121	1.499	12.915	0.081	0.699
Tajikistan	TZhd	483	4 239	85	1 804	0.176	3.735	0.020	0.426
Uzbekistan	UTI	3 655	74 839	2 026	21 679	0.554	5.931	0.027	0.290

(d) Km 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	Net ton-km/wagon
		millions	Millions	Locomotives	Wagons	millions	millions
Viet Nam	DSVN	1 684	6 010	426	4 712	14.108	0.357
Georgia	GR	1 141	3 418	440	16 972	7.768	0.067
Kazakhstan	KZKh	108 596	247 290	2 773	103 370	89.178	1.051
Kyrgyzstan	KRG	473	1 308	61	2 991	21.443	0.158
Mongolia	MTZ	2 541	6 102	62	1 699	98.419	1.496
Russia	RZhd	982 165	2 306 203	13 652	661 241	168.928	1.485
Tajikistan	TZhd	1 719	3 539	67	3 165	52.821	0.543
Uzbekistan	UTI	19 653	36 113	891	32 529	40.531	0.604

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