

This file compares railroad operating statistics with industry total factor productivity (TFP).

The top panel in each sheet shows four basic operating measures:

Net ton-miles, car-miles, train-hours, and train-miles.

From these measures we construct four operating ratios:

Operating efficiency (Ton Miles per Hour), Load Size, Train Size, and Train Speed.

The bottom panel compares the four operating ratios with industry TFP.

There is one sheet for each of the largest Class I railroads, plus a reporting the consolidated data for Class I railroads.

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BNSF

Year	Ton Miles per Hour (x = X/H)	Load Size (i=X/C)	Train Size (j=C/M)	Speed (s=M/H)	Net ton-mi. (X)	Car miles (C)	Train-hours (H)	Train-miles (M)
<i>annual levels</i>	#	#	#	#	MM	MM	k	k
2002	69,549	53	63	20.68	488,331	9,179	7.021	145,233
2003	64,717	53	62	19.58	506,356	9,515	7.824	153,182
2004	63,642	54	63	18.44	568,926	10,447	8.939	164,830
2005	59,977	55	64	17.02	594,676	10,736	9.915	168,802
2006	62,574	57	64	17.09	640,195	11,186	10.231	174,803
2007	71,350	58	66	18.61	655,260	11,219	9.184	170,897
2008	74,338	59	67	18.68	664,384	11,172	8.937	166,927
<i>change from prior year</i>	<i>In change</i>	<i>In change</i>	<i>In change</i>	<i>In change</i>	<i>In change</i>	<i>In change</i>	<i>In change</i>	<i>In change</i>
2003	(0.072)	0.000	(0.017)	(0.055)	0.036	0.036	0.108	0.053
2004	(0.017)	0.023	0.020	(0.060)	0.117	0.093	0.133	0.073
2005	(0.059)	0.017	0.003	(0.080)	0.044	0.027	0.104	0.024
2006	0.042	0.033	0.006	0.004	0.074	0.041	0.031	0.035
2007	0.131	0.020	0.025	0.085	0.023	0.003	(0.108)	(0.023)
2008	0.041	0.018	0.019	0.004	0.014	(0.004)	(0.027)	(0.024)
mean	0.011	0.019	0.010	(0.017)	0.051	0.033	0.040	0.023
variance	0.006	0.000	0.000	0.004	0.001	0.001	0.009	0.002
coefficient of variation	6.856	0.571	1.644	(3.582)	0.741	1.062	2.330	1.706
standard deviation	0.076	0.011	0.016	0.061	0.038	0.035	0.094	0.040

	TFP	Oper. Effic.	TFP	Train Size	Train Speed	Load Size
<i>annual levels</i>						
2002	2.646	69,549	2.65	63	20.68	53
2003	2.696	64,717	2.70	62	19.58	53
2004	2.838	63,642	2.84	63	18.44	54
2005	2.949	59,977	2.95	64	17.02	55
2006	3.059	62,574	3.06	64	17.09	57
2007	3.079	71,350	3.08	66	18.61	58
2008	3.127	74,338	3.13	67	18.68	59
<i>change from prior year</i>						
2003	0.019	(0.072)	0.019	(0.017)	(0.055)	0.000
2004	0.051	(0.017)	0.051	0.020	(0.060)	0.023
2005	0.038	(0.059)	0.038	0.003	(0.080)	0.017
2006	0.037	0.042	0.037	0.006	0.004	0.033
2007	0.007	0.131	0.007	0.025	0.085	0.020
2008	0.016	0.041	0.016	0.019	0.004	0.018
mean	0.028	0.011	0.028	0.010	(0.017)	0.019
variance	0.000	0.006	0.000	0.000	0.004	0.000
coefficient of variation	0.609	6.856	0.609	1.644	(3.582)	0.571
standard deviation	0.017	0.076	0.017	0.016	0.061	0.011

CSX

Year	Ton Miles per Hour (x = X/H)	Load Size (i=X/C)	Train Size (j=C/M)	Speed (s=M/H)	Net ton-mi. (X)	Car miles (C)	Train-hours (H)	Train-miles (M)
<i>annual levels</i>	#	#	#	#	MM	MM	k	k
2002	50,091	42	61	19.60	228,176	5,479	4.555	89,276
2003	46,535	42	59	18.76	233,671	5,556	5.021	94,226
2004	46,861	44	58	18.19	248,468	5,622	5.302	96,449
2005	44,621	44	59	17.41	247,411	5,681	5.545	96,542
2006	46,832	44	60	18.01	252,961	5,801	5.401	97,269
2007	48,803	44	60	18.32	247,460	5,603	5.071	92,911
2008	49,611	45	61	17.87	248,121	5,470	5.001	89,364
<i>change from prior year</i>	<i>In change</i>	<i>In change</i>	<i>In change</i>	<i>In change</i>	<i>In change</i>	<i>In change</i>	<i>In change</i>	<i>In change</i>
2003	(0.074)	0.010	(0.040)	(0.043)	0.024	0.014	0.097	0.054
2004	0.007	0.049	(0.011)	(0.031)	0.061	0.012	0.054	0.023
2005	(0.049)	(0.015)	0.009	(0.044)	(0.004)	0.010	0.045	0.001
2006	0.048	0.001	0.013	0.034	0.022	0.021	(0.026)	0.007
2007	0.041	0.013	0.011	0.017	(0.022)	(0.035)	(0.063)	(0.046)
2008	0.016	0.027	0.015	(0.025)	0.003	(0.024)	(0.014)	(0.039)
mean	(0.002)	0.014	(0.000)	(0.015)	0.014	(0.000)	0.016	0.000
variance	0.002	0.000	0.000	0.001	0.001	0.001	0.004	0.001
coefficient of variation	(30.743)	1.543	(48.684)	(2.136)	2.067	(81.764)	3.839	230.715
standard deviation	0.049	0.022	0.022	0.033	0.029	0.023	0.060	0.038

	TFP	Oper. Effic.	TFP	Train Size	Train Speed	Load Size
<i>annual levels</i>						
2002	2.646	50,091	2.65	61	19.60	42
2003	2.696	46,535	2.70	59	18.76	42
2004	2.838	46,861	2.84	58	18.19	44
2005	2.949	44,621	2.95	59	17.41	44
2006	3.059	46,832	3.06	60	18.01	44
2007	3.079	48,803	3.08	60	18.32	44
2008	3.127	49,611	3.13	61	17.87	45
<i>change from prior year</i>						
2003	0.019	(0.074)	0.019	(0.040)	(0.043)	0.010
2004	0.051	0.007	0.051	(0.011)	(0.031)	0.049
2005	0.038	(0.049)	0.038	0.009	(0.044)	(0.015)
2006	0.037	0.048	0.037	0.013	0.034	0.001
2007	0.007	0.041	0.007	0.011	0.017	0.013
2008	0.016	0.016	0.016	0.015	(0.025)	0.027
mean	0.028	(0.002)	0.028	(0.000)	(0.015)	0.014
variance	0.000	0.002	0.000	0.000	0.001	0.000
coefficient of variation	0.609	(30.743)	0.609	(48.684)	(2.136)	1.543
standard deviation	0.017	0.049	0.017	0.022	0.033	0.022

NS

Year	Ton Miles per Hour ($x = X/H$)	Load Size ($i=X/C$)	Train Size ($j=C/M$)	Speed ($s=M/H$)	Net ton-mi. (X)	Car miles (C)	Train-hours (H)	Train-miles (M)
<i>annual levels</i>	#	#	#	#	MM	MM	k	k
2002	49,068	41	60	19.90	179,013	4,331	3.648	72,592
2003	47,969	42	59	19.36	183,094	4,394	3.817	73,913
2004	49,365	42	60	19.33	198,306	4,670	4.017	77,666
2005	47,544	42	59	19.03	202,751	4,790	4.264	81,150
2006	45,931	42	57	18.97	203,790	4,811	4.437	84,160
2007	45,317	43	56	18.93	195,954	4,596	4.324	81,855
2008	46,285	44	56	18.95	195,343	4,482	4.220	79,991
<i>change from prior year</i>	In change	In change	In change	In change	In change	In change	In change	In change
2003	(0.023)	0.008	(0.004)	(0.027)	0.023	0.014	0.045	0.018
2004	0.029	0.019	0.012	(0.002)	0.080	0.061	0.051	0.050
2005	(0.038)	(0.003)	(0.019)	(0.016)	0.022	0.025	0.060	0.044
2006	(0.035)	0.001	(0.032)	(0.003)	0.005	0.004	0.040	0.036
2007	(0.013)	0.006	(0.018)	(0.002)	(0.039)	(0.046)	(0.026)	(0.028)
2008	0.021	0.022	(0.002)	0.001	(0.003)	(0.025)	(0.024)	(0.023)
mean	(0.010)	0.009	(0.010)	(0.008)	0.015	0.006	0.024	0.016
variance	0.001	0.000	0.000	0.000	0.002	0.001	0.002	0.001
coefficient of variation	(2.906)	1.116	(1.472)	(1.367)	2.692	6.603	1.596	2.098
standard deviation	0.028	0.010	0.015	0.011	0.039	0.038	0.039	0.034

	TFP	Oper. Effic.	TFP	Train Size	Train Speed	Load Size
<i>annual levels</i>						
2002	2.646	49,068	2.65	60	19.90	41
2003	2.696	47,969	2.70	59	19.36	42
2004	2.838	49,365	2.84	60	19.33	42
2005	2.949	47,544	2.95	59	19.03	42
2006	3.059	45,931	3.06	57	18.97	42
2007	3.079	45,317	3.08	56	18.93	43
2008	3.127	46,285	3.13	56	18.95	44
<i>change from prior year</i>						
2003	0.019	(0.023)	0.019	(0.004)	(0.027)	0.008
2004	0.051	0.029	0.051	0.012	(0.002)	0.019
2005	0.038	(0.038)	0.038	(0.019)	(0.016)	(0.003)
2006	0.037	(0.035)	0.037	(0.032)	(0.003)	0.001
2007	0.007	(0.013)	0.007	(0.018)	(0.002)	0.006
2008	0.016	0.021	0.016	(0.002)	0.001	0.022
mean	0.028	(0.010)	0.028	(0.010)	(0.008)	0.009
variance	0.000	0.001	0.000	0.000	0.000	0.000
coefficient of variation	0.609	(2.906)	0.609	(1.472)	(1.367)	1.116
standard deviation	0.017	0.028	0.017	0.015	0.011	0.010

UP

Year	Ton Miles per Hour (x = X/H)	Load Size (i=X/C)	Train Size (j=C/M)	Speed (s=M/H)	Net ton-mi. (X)	Car miles (C)	Train-hours (H)	Train-miles (M)
<i>annual levels</i>	#	#	#	#	MM	MM	k	k
2002	72,684	39	83	22.56	518,700	13,388	7.136	161,001
2003	71,085	39	84	21.71	532,879	13,742	7.496	162,738
2004	66,082	39	85	19.74	546,321	13,911	8.267	163,177
2005	69,573	39	84	21.27	548,761	14,040	7.888	167,737
2006	64,785	39	85	19.76	565,228	14,599	8.725	172,381
2007	69,031	39	86	20.29	561,850	14,255	8.139	165,154
2008	78,885	41	88	21.82	562,630	13,628	7.132	155,640
<i>change from prior year</i>	<i>In change</i>	<i>In change</i>	<i>In change</i>	<i>In change</i>	<i>In change</i>	<i>In change</i>	<i>In change</i>	<i>In change</i>
2003	(0.022)	0.001	0.015	(0.038)	0.027	0.026	0.049	0.011
2004	(0.073)	0.013	0.010	(0.095)	0.025	0.012	0.098	0.003
2005	0.051	(0.005)	(0.018)	0.075	0.004	0.009	(0.047)	0.028
2006	(0.071)	(0.009)	0.012	(0.074)	0.030	0.039	0.101	0.027
2007	0.063	0.018	0.019	0.027	(0.006)	(0.024)	(0.069)	(0.043)
2008	0.133	0.046	0.014	0.073	0.001	(0.045)	(0.132)	(0.059)
mean	0.014	0.011	0.009	(0.006)	0.014	0.003	(0.000)	(0.006)
variance	0.007	0.000	0.000	0.005	0.000	0.001	0.009	0.001
coefficient of variation	6.067	1.922	1.577	(13.328)	1.133	10.648	(999.507)	(6.530)
standard deviation	0.083	0.020	0.014	0.074	0.015	0.032	0.097	0.037

	TFP	Oper. Effic.	TFP	Train Size	Train Speed	Load Size
<i>annual levels</i>						
2002	2.646	72,684	2.65	83	22.56	39
2003	2.696	71,085	2.70	84	21.71	39
2004	2.838	66,082	2.84	85	19.74	39
2005	2.949	69,573	2.95	84	21.27	39
2006	3.059	64,785	3.06	85	19.76	39
2007	3.079	69,031	3.08	86	20.29	39
2008	3.127	78,885	3.13	88	21.82	41
<i>change from prior year</i>						
2003	0.019	(0.022)	0.019	0.015	(0.038)	0.001
2004	0.051	(0.073)	0.051	0.010	(0.095)	0.013
2005	0.038	0.051	0.038	(0.018)	0.075	(0.005)
2006	0.037	(0.071)	0.037	0.012	(0.074)	(0.009)
2007	0.007	0.063	0.007	0.019	0.027	0.018
2008	0.016	0.133	0.016	0.014	0.073	0.046
mean	0.028	0.014	0.028	0.009	(0.006)	0.011
variance	0.000	0.007	0.000	0.000	0.005	0.000
coefficient of variation	0.609	6.067	0.609	1.577	(13.328)	1.922
standard deviation	0.017	0.083	0.017	0.014	0.074	0.020

Class I Railroads

Year	Ton Miles per Hour (x = X/H)	Tons per Car (i=X/C)	Cars per Train (j=C/M)	Speed (s=M/H)	Net ton-mi. (X)	Car miles (C)	Train-hours (H)	Train-miles (M)
<i>annual levels</i>	#	#	#	#	MM	MM	k	k
2002	63,439	43	69	21.03	1,507,011	34,680	23.755	499,668
2003	60,356	44	69	20.08	1,551,011	35,555	25.698	515,999
2004	59,209	45	69	19.04	1,662,598	37,071	28.080	534,696
2005	57,806	46	68	18.66	1,696,425	37,122	29.347	547,566
2006	58,268	45	69	18.50	1,771,897	38,955	30.409	562,607
2007	62,725	46	70	19.25	1,770,545	38,166	28.227	543,475
2008	66,520	48	71	19.62	1,777,236	37,226	26.717	524,223
<i>change from prior year</i>	In change	In change	In change	In change	In change	In change	In change	In change
2003	(0.050)	0.004	(0.007)	(0.046)	0.029	0.025	0.079	0.032
2004	(0.019)	0.028	0.006	(0.053)	0.069	0.042	0.089	0.036
2005	(0.024)	0.019	(0.022)	(0.020)	0.020	0.001	0.044	0.024
2006	0.008	(0.005)	0.021	(0.008)	0.044	0.048	0.036	0.027
2007	0.074	0.020	0.014	0.040	(0.001)	(0.020)	(0.074)	(0.035)
2008	0.059	0.029	0.011	0.019	0.004	(0.025)	(0.055)	(0.036)
mean	0.008	0.016	0.004	(0.012)	0.027	0.012	0.020	0.008
variance	0.002	0.000	0.000	0.001	0.001	0.001	0.005	0.001
coefficient of variation	6.197	0.853	4.188	(3.135)	0.954	2.649	3.502	4.229
standard deviation	0.049	0.013	0.016	0.036	0.026	0.031	0.069	0.034

	TFP	Oper. Effic.	TFP	Train Size	Train Speed	Load Size
<i>annual levels</i>						
2002	2.646	63,439	2.65	69	21.03	43
2003	2.696	60,356	2.70	69	20.08	44
2004	2.838	59,209	2.84	69	19.04	45
2005	2.949	57,806	2.95	68	18.66	46
2006	3.059	58,268	3.06	69	18.50	45
2007	3.079	62,725	3.08	70	19.25	46
2008	3.127	66,520	3.13	71	19.62	48
<i>change from prior year</i>						
2003	0.019	(0.050)	0.019	(0.007)	(0.046)	0.004
2004	0.051	(0.019)	0.051	0.006	(0.053)	0.028
2005	0.038	(0.024)	0.038	(0.022)	(0.020)	0.019
2006	0.037	0.008	0.037	0.021	(0.008)	(0.005)
2007	0.007	0.074	0.007	0.014	0.040	0.020
2008	0.016	0.059	0.016	0.011	0.019	0.029
mean	0.028	0.008	0.028	0.004	(0.012)	0.016
variance	0.000	0.002	0.000	0.000	0.001	0.000
coefficient of variation	0.609	6.197	0.609	4.188	(3.135)	0.853
standard deviation	0.017	0.049	0.017	0.016	0.036	0.013