Liikennevirasto
Finnish Transport Agency

6 · 2012
STATISTICS OF
THE FINNISH TRANSPORT AGENCY

Finnish Railway Statistics 2012

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Finnish Railway Statistics 2012

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FOREWORD

The publication is an English version of the Finnish Railway Statistics 2012. It contains statistical data on railway network and railway traffic in Finland.

The publication is published by the Finnish Transport Agency, which was formed on 1 January 2010 as the Finnish Rail Administration, the waterways functions of the Finnish Maritime Administration and the central administration of the Finnish Road Administration merged.

The publication has been prepared by Harri Lahelma, Finnish Transport Agency, and Vesa Juuti, VR-Group Ltd.

Helsinki, September 2012

Finnish Transport Agency

CONCEPTIONS

Length of line	=	total length of main and secondary lines excluding sidings
Track length	=	total length of main and secondary tracks including sidings
Train-kilometre	=	distance of one kilometre covered by the train
Gross tonne-kilometres	=	total gross weight of the locomotive and the carrying stock of a train in tonnes X corresponding train-kilometres
Gross tonne-kilometres hauled	=	gross weight of the carrying stock of a train in tonnes X corresponding train-kilometres
Vehicle-axle-kilometres	=	number of axles of the vehicles of a train X corresponding train-kilometres
Locomotive-kilometre	=	distance of one kilometre covered by the locomotive
Passenger-kilometre	=	distance of one kilometre covered by the passenger
Tonne-kilometre	=	one conveyance kilometre of one tonne of goods

The following symbols have been used in the tables:

"	=	repetition
–	=	nothing to indicate
0 or 0.0	=	the quantity is smaller than half of the unit used
..	=	information not available
.	=	category not applicable

A horizontal line drawn across a time series shows substantial breaks in the homogenity of a series.

QUALITY STATEMENT

Relevance of the statistical data

The Finnish Railway Statistics is the basic statistic of the Finnish railways.

The Finnish Railway Statistics describes the state of the rail network with time series by line section. The data includes information on the tracks, rolling stock, rail traffic, passenger services, freight traffic, financing and accidents. The data covers the entire Finnish rail transport system. The statistic serves the entire rail sector by producing statistical information for planning, follow-up, monitoring and decision making.

Regarding tracks, information is presented on the length of line which is classified according to the number of tracks, line classification and operational classification. Lines are shown on a map and classified according to line section to passenger and freight lines and showing the line length, lines superstructure properties, line age, electrification and signalling systems and their age, the number of level crossings and their warning devices. The line sections are also listed according to the date on which they were opened for traffic. Time series are shown for part of the data.

The changes in rail types and investments in track construction and maintenance are also shown as time series. In addition, the number of rail traffic operating points divided into passenger and freight traffic is shown and buildings and land and water areas connected to the railways.

Regarding tractive stock, information is presented on VR's rolling stock by type of tractive stock and locomotive, passenger services' cars and the number of seats and freight wagons and their carrying capacity in tonnes.

The main data on train and tractive stock performance are shown as a time series. The volume of rail traffic by line section is shown as a map of gross tonnes carried. Vehicle-axle-kilometres which represents the distance covered by the wagons by train and wagon type and rail traffic energy consumption as a time series are presented.

Passenger traffic journeys and freight traffic volumes are presented as a time series. Long-distance passenger and freight volumes by line section are shown as a map. The development of freight transport distances is shown as a time series. Wagon-specific data is presented on Finland's international traffic.

Rail traffic volume are presented as indexed time series. The number of railway accidents classified according to the type of accident, fatalities and serious injuries is presented. A historical survey for the main quantities related to the railways, key figures for private railways and data on various countries is also presented.

The Railway Act (304/2011) obliges the operator to provide the Finnish Transport Agency with information on services it operates for e.g. statistical purposes.

The EC regulation No 91/2003 states the classifications and definitions on the basis of which the member states produce railway statistics. The International Union of Railways (UIC) has issued more detailed specifications on the matter.

Statistics production process description

Data concerning the track is obtained from the Finnish Transport Agency's track databases. The information is updated every year to reflect the changes brought by maintenance work and investments in the rail network.

Data concerning rail traffic and rolling stock is obtained for the most part from the operator's continually updated statistical databases which number several dozen. Some of the data is connected to monitoring of sales and some to separate registers.

Correctness and accuracy of the data

The coverage of the data is good because the rail network is a closed system. The accuracy and reliability of the data is for the most part good also at international standards because there is only one rail operator in Finland at the moment. Nearly all rail statistics is based on so called "full statistics". An exception are commuter services passenger volumes which have to be estimated based on occasional passenger countings.

The accuracy and timeliness of published data

The Finnish Railway Statistics is published annually by the end of June and it includes the final annual data of the previous year.

Availability of the information

The Finnish Railway Statistics is published annually in print and as pdf on the Finnish Transport Agency's website. Unpublished, more detailed statistical information is available from the Finnish Transport Agency and the operator.

Comparability of the statistics

The data from different periods offers good comparability. Comparable time series is available from several decades. Changes have, however, been made in the classifications and definitions over the years and they are indicated in the footnotes of the point in question.

The Finnish Railway Statistic has been compiled from 1933 and before that the statistics were published as reports of the National Board of Railways from 1873 to 1932.

Clarity and coherence

The statistical titles of the railways are determined at the international level by the EU statistical authority (Eurostat) and the International Union of Railways (UIC). The various concepts and definitions used by EU member states have made it harder to compare international railway statistics. The EC regulation on railway statistics from 2003 has, however, improved the situation.

CONTENTS

Line [1] and transport stock [2]

		2011	2010	Change, %
Length of line	km	5 944	5 919	0.4
of which electrified	km	3 172	3 072	3.3
Track length	km	8 885	8 862	0.3
Tractive stock strength	number	643	644	-0.2
Hauled stock in commercial traffic		11 466	11 535	-0.6
Passenger stock	number	1 102	1 071	2.9
Freight stock	number	10 364	10 464	-1.0
Railway operating points	number	349	350	-0.3
Buildings				
VR	number	360	362	-0.6
VR	1 000 m^3	3 864	4 013	-4.2

Train traffic [2]

		2011	2010	Change, %
Train-km	1 000	51 070	51 000	0.1
Passenger traffic		35 578	35 048	1.5
Freight traffic		15 492	15 952	-2.9
Gross tonne-km	1 000 000	32 712	33 091	-1.1
Locomotive-km	1 000	71 813	70 822	1.4
Energy consumption in train traffic				
Electricity	million kWh	652	665	-2.0
Diesel oil	million l	37.8	37.8	0.0

Passenger traffic [2]

		2011	2010	Change, %
Journeys	1 000	68 376	68 950	-0.8
Passenger-km	million	3 882	3 959	-1.9

[1] Lines owned by the Finnish Transport Agency.
[2] Data relating to VR.

Freight traffic [2)]

		2011	2010	Change, %
Freight volumes	1 000 tons	34 827	35 795	-2.7
Domestic		23 505	23 249	1.1
International		11 322	12 545	-9.7
Tonne-km	million	9 395	9 750	-3.6
Domestic		6 797	6 915	-1.7
International		2 598	2 835	-8.4

Rail traffic volume indice [2)] (2000 = 100)

	2011	2010
Passenger traffic	119	120
Freight traffic	86	88
Total rail traffic	101	103

Railway accidents [2)]

	2011	2010
Number of railway accidents	2	1
Passengers		
Killed	0	0
Seriously injured	0	0

1 LINE AND TRANSPORT STOCK [1) 2)]

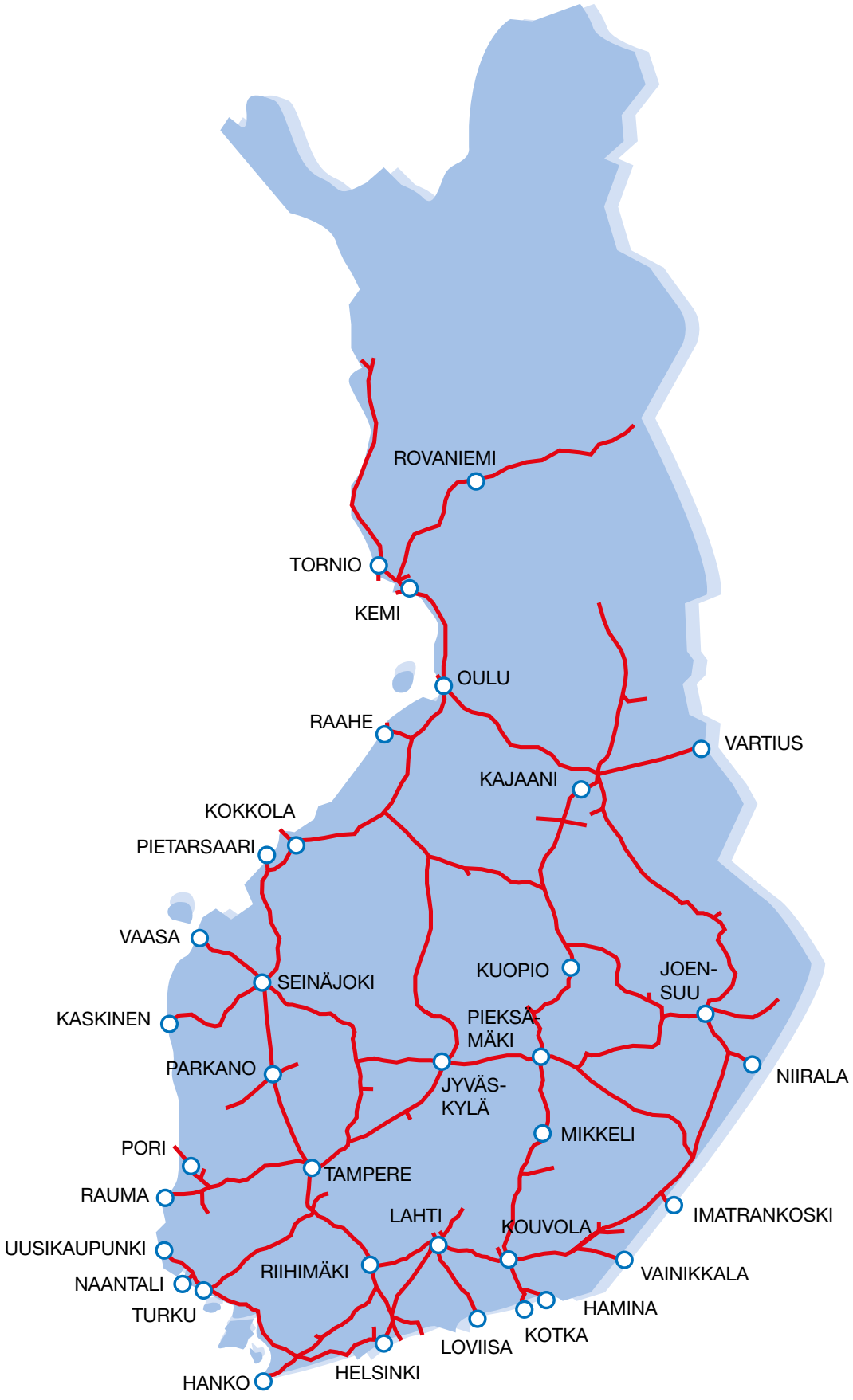
1.1 LINE AND SUPERSTRUCTURE

Rail gauge		1.524 m	2011
Length of line		km	5 944
Single track		km	5 371
		%	90.4
of which electrified		km	2 599
Double track or more		km	573
		%	9.6
of which electrified		km	573
Classification of main lines [3)]			
Line category A		Track-km	553
Line category B		Track-km	935
Line category C		Track-km	2 156
Line category D		Track-km	2 973
Rails			
Track length		Track-km	8 885
Main tracks		Track-km	6 342
		%	71.4
Secondary tracks		Track-km	275
		%	3.1
Sidings		Track-km	2 268
		%	25.5
Switches		Number	5 547
Crossings		Number	40
Tunnels		Number	42
		Metres	38 896

1) At the end of 2011.
2) Lines owned by the Finnish Transport Agency.
3)

Line category	Rails		Ballast
A	K30	kg/m	gravel
B	K43, 54E1, 60E1	"	gravel, macadam
C	54E1, 60E1	"	macadam
D	54E1, 60E1	"	macadam

1.2 RAIL NETWORK



1.3 SECTIONS OF LINE ACCORDING TO DATE WHEN OPENED FOR TRAFFIC

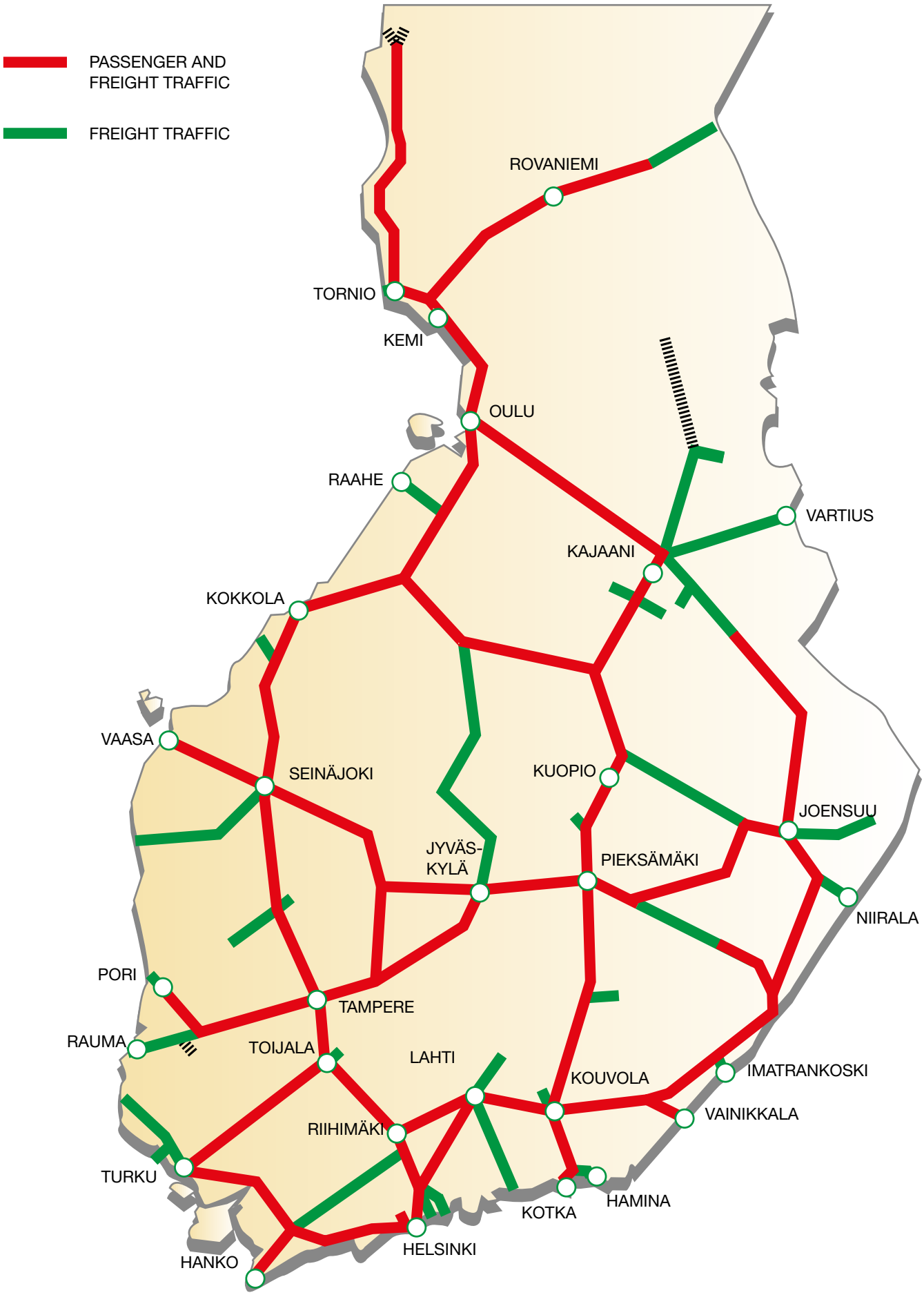
Section of line	Opened for traffic	km
Helsinki – Hämeenlinna	17.3.1862	107
Pasila – Sörnäinen	6.2.1863	3
Riihimäki – Lahti	1.11.1869	59
Lahti – Vesijärvi	1.11.1869	3
Lahti – Vainikkala Border	11.9.1870	155
Hanko – Hyvinkää[1)]	8.10.1873	149
Porvoo – Kerava[2)]	16.7.1874	33
Turku – Toijala	22.6.1876	128
Tampere – Hämeenlinna	22.6.1876	80
Turku – Turku Harbour	22.6.1876	3
Tampere – Vaasa (Nikolainkaupunki)	29.9.1883	306
Simola – Lappeenranta	1.8.1885	18
Seinäjoki – Oulu	1.11.1886	335
Oulu – Toppila	1.11.1886	4
Kokkola – Ykspihlaja	1.11.1886	5
Pännäinen – Leppäluoto	1.11.1887	14
Kouvola – Kuopio	1.10.1889	273
Suonenjoki – Iisvesi	1.10.1889	6
Kouvola – Kotka	1.10.1890	54
Kouvola – Kymintehdas	1.10.1892	9
Imatrankoski Border – Imatrankoski (Imatra)	1.11.1892	5
Vaasa (Nikolainkaupunki) – Vaskiluoto	1.8.1893	4
Joensuu – Niirala Border	1.11.1894	70
Helsinki – Eteläsatama	16.12.1894	4
Eteläsatama – Katajanokka	1.10.1895	1
Imatrankoski (Imatra) – Vuoksenniska	16.10.1895	7
Tampere – Pori	1.11.1895	134
Kokemäki (Peipohja) – Rauma[3)]	15.4.1897	47
Haapamäki – Jyväskylä	1.11.1897	77
Jyväskylä – Suolahti	1.11.1898	40
Inkeroinen – Hamina[4)]	5.10.1899	26
Pori – Mäntyluoto	1.11.1899	21
Turku – Karjaa	1.11.1899	113
Tuomioja (Lappi) – Raahe[5)]	5.12.1899	28
Raahe – Lapaluoto[5)]	1.9.1900	6
Kuopio – Iisalmi	1.7.1902	85
Pasila – Karjaa	1.9.1903	84
Tuira – Tornio	16.10.1903	129
Iisalmi – Kajaani	16.10.1904	83
Savonlinna – Parikkala	1.2.1908	60
Laurila – Rovaniemi	16.10.1909	107
Joensuu – Lieksa	10.9.1910	104
Lieksa – Nurmes	16.10.1911	56
Kiukainen – Kauttua[3)]	1.2.1913	13
Seinäjoki – Kristiinankaupunki	1.8.1913	112
Perälä – Kaskinen	1.8.1913	24
Huutokoski – Varkaus	1.11.1914	18
Pieksämäki – Savonlinna	1.11.1914	106
Jyväskylä – Pieksämäki	1.6.1918	79
Tornio – Tornio Border	1.4.1919	2
Tornio – Kukkola	24.3.1922	17
Kukkola – Karunki	1.1.1923	10
Kajaani – Kontiomäki	1.1.1923	26
Turku – Mynämäki	1.9.1923	30
Raisio – Naantali	16.11.1923	6
Iisalmi – Kiuruvesi	1.12.1923	34
Mynämäki – Kalaranta	1.9.1924	36
Kiuruvesi – Pyhäsalmi	1.1.1925	32
Pyhäsalmi – Haapajärvi	1.8.1925	33
Haapajärvi – Ylivieska	1.12.1925	55
Karunki – Korpikylä	1.1.1926	9
Paltamo (Kiehimä) – Vuokatti	16.10.1926	42
Vuokatti – Sotkamo (Hirvenniemi)	16.10.1926	6
Korpikylä – Aavasaksa	1.11.1927	34
Oulu – Muhos	1.11.1927	36
Joensuu – Sysmäjärvi	1.12.1927	44
Vuokatti – Saviaho	23.1.1928	23
Sysmäjärvi – Outokumpu	15.5.1928	3
Aavasaksa – Kaulinranta (Kauliranta)	1.9.1928	7
Muhos – Utajärvi	1.12.1928	22
Lohja – Tytyri	21.12.1928	3
Vilppula – Mänttä	1.1.1929	8
Saviaho – Rumo	1.2.1929	17
Utajärvi – Vaala	16.10.1929	34
Rumo – Nurmes	1.11.1929	44
Vaala – Paltamo (Kiehimä)	1.12.1930	57
Markkula – Kaupinkangas	15.5.1931	10
Kemi – Ajos	1.11.1931	9
Lahti – Jyränkö	1.1.1932	35
Jyränkö – Heinola	22.5.1932	2
Pori – Niinisalo	16.12.1933	64
Rovaniemi – Kemijärvi	1.9.1934	83
Lappeenranta – Imatra T (Tainionkoski)	1.10.1934	41
Niinisalo – Kairokoski (Parkano)	1.1.1935	37
Imatra T (Tainionkoski) – Kaukopää	16.11.1935	3
Vuoksenniska (Rönkkä) – Simpele	1.11.1937	39
Kairokoski – Virrat	1.11.1937	51
Hillo harbour line	1.12.1937	6
Toijala – Valkeakoski	1.9.1938	18
Virrat – Haapamäki	15.11.1938	40
Kontiomäki – Hyrynsalmi	1.12.1939	46
Varkaus – Vihtari	1.12.1939	65
Vihtari – Viinijärvi	22.4.1940	36
Haukipudas – Martinniemi	1.10.1940	5
Raippo – Melkkola	25.8.1940	2
Kemijärvi – Kelloselkä	1.11.1942	79
Suolahti – Äänekoski	16.11.1942	7
Simpele – Parikkala	1.12.1947	19
Kovjoki – Uusikaarlepyy	10.4.1949	8
Orivesi – Jämsä	15.7.1950	56
Jämsä – Jämsänkoski	1.7.1951	4
Kauppi – Ylihärmä	1.10.1951	3
Jämsä – Kaipola (Perälänlahti)	1.8.1952	7
Hyrynsalmi – Laaja	1.12.1952	18
Murtomäki – Otanmäki	1.11.1953	25
Joutjärvi – Mukkula	1.2.1954	7

1.3 SECTIONS OF LINE ACCORDING TO DATE WHEN OPENED FOR TRAFFIC

Section of line	Opened for traffic	km
Äänekoski – Saarijärvi	1.4.1955	30
Haapajärvi – Muuras	16.12.1954	23
Laaja – Pesiökylä	16.9.1955	10
Pesiökylä – Ämmänsaari	1.12.1955	18
Muuras – Pihtipudas	1.10.1956	25
Siilinjärvi – Sänkimäki	15.11.1956	15
Pesiökylä – Kovajärvi	15.11.1956	11
Joensuu – Keskijärvi	15.11.1957	31
Kovajärvi – Vääkiö	15.11.1957	10
Sänkimäki – Juankoski	15.11.1957	27
Keskijärvi – Tuupovaara	15.9.1958	13
Saarijärvi – Enonjärvi	1.1.1959	29
Pihtipudas – Seläntaus	15.1.1959	7
Vääkiö – Leino	15.1.1959	20
Leino – Taivalniska	1.11.1959	39
Enonjärvi – Kannonkoski	1.11.1959	8
Kannonkoski – Varanen	1.1.1960	11
Seläntaus – Keitelepohja	15.2.1960	12
Lahti – Loviisa Harbour (Valko) [6]	2.5.1960	77
Varanen – Keitelepohja	1.10.1960	19
Porvoo – Porvoo Centre	28.5.1961	1
Taivalniska – Taivalkoski	1.12.1961	2
Luumäki – Lappeenranta	15.9.1962	27
Tuupovaara – Herajärvi	1.8.1963	9
Kaulinranta (Kauliranta) – Pello	3.1.1964	42
Pello – Sieppijärvi	1.12.1965	43
Säkäniemi – Puhos	1.12.1965	28
Sieppijärvi – Kolari	1.12.1966	21
Puhos – Parikkala	1.12.1966	65
Herajärvi – Ilomantsi	1.8.1967	18
Kolari – Äkäsjoki	1.9.1967	17
Juankoski – Luikonlahti	1.11.1968	25
Seinäjoki – Parkano (Uusi-Parkano)	1.1.1970	84
Luikonlahti – Sysmäjärvi	1.1.1970	31
Parkano – Lielahti	1.1.1971	70
Olli – Sköldvik	14.2.1972	11
Vuonos Branch Line	1.3.1972	3
Niesa – Rautuvaara	1.4.1973	10
Vuokatti – Lahnaslampi	1.2.1974	12
Huopalahti – Martinlaakso	1.6.1975	8
Kontiomäki – Vartius Border	1.11.1976	93
Jämsänkoski – Jyväskylä	1.11.1977	53
Mynttilä – Ristiina	22.11.1979	21
Juurikorpi – Salmenkylä	1.2.1984	14
Mäntyluoto – Tahkoluoto	1.2.1984	11
Lautiosaari – Elijärvi	31.10.1985	8
Hovinsaari – Mussalo	1.3.1989	5
Martinlaakso – Vantaankoski	2.9.1991	1
Kytömaa – Hakosilta	3.9.2006	63
Kerava – Vuosaari	28.11.2008	21
Murtomäki – Talvivaara [7]	16.9.2009	25

1) Purchased by the State 1.5.1875
2) " " " " 1.10.1917
3) " " " " 1.7.1950
4) " " " " 1.1.1916
5) " " " " 1.3.1926
6) " " " " 1.1.1959
7) " " " " 1.9.2011

1.4 OPERATIONS ON THE RAILWAY NETWORK



1.5 DISTANCES BETWEEN CERTAIN STATIONS, KM

1.6 TRACK SUPERSTRUCTURE

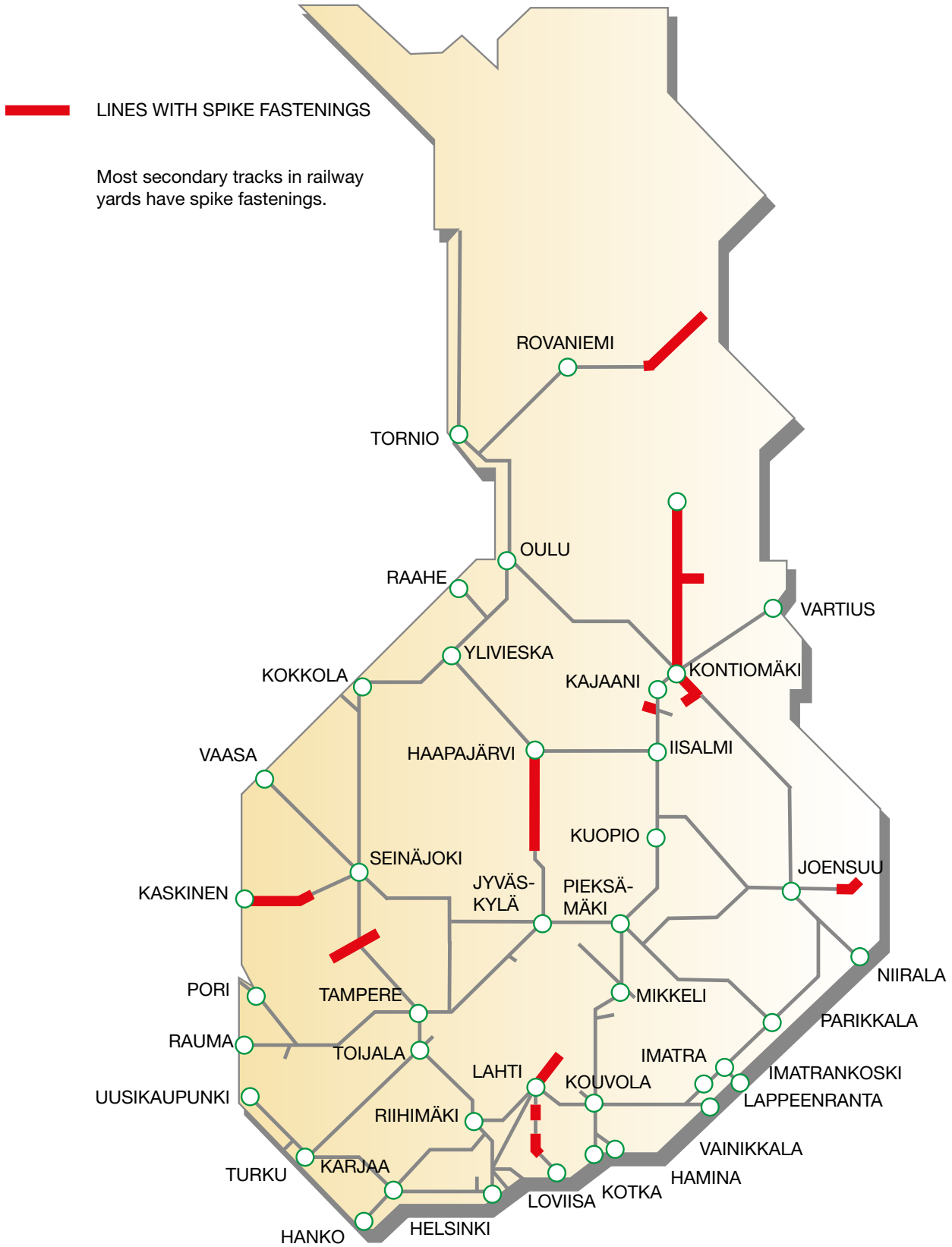
Tracks with concrete sleepersr

1995		2000		2005		2008		2009		2010		2011	
km	%	km	%	km	%	km	%	km	%	km	%	km	%
1 400	22	2 827	44	3 941	61	4 419	67	4 548	69	4 634	70	4 749	72

1.6 TRACK SUPERSTRUCTURE

Lines with spike fastenings

1995		2000		2005		2008		2009		2010		2011	
km	%	km	%	km	%	km	%	km	%	km	%	km	%
1 970	31	1 340	21	1 170	18	940	14	850	13	730	11	700	11



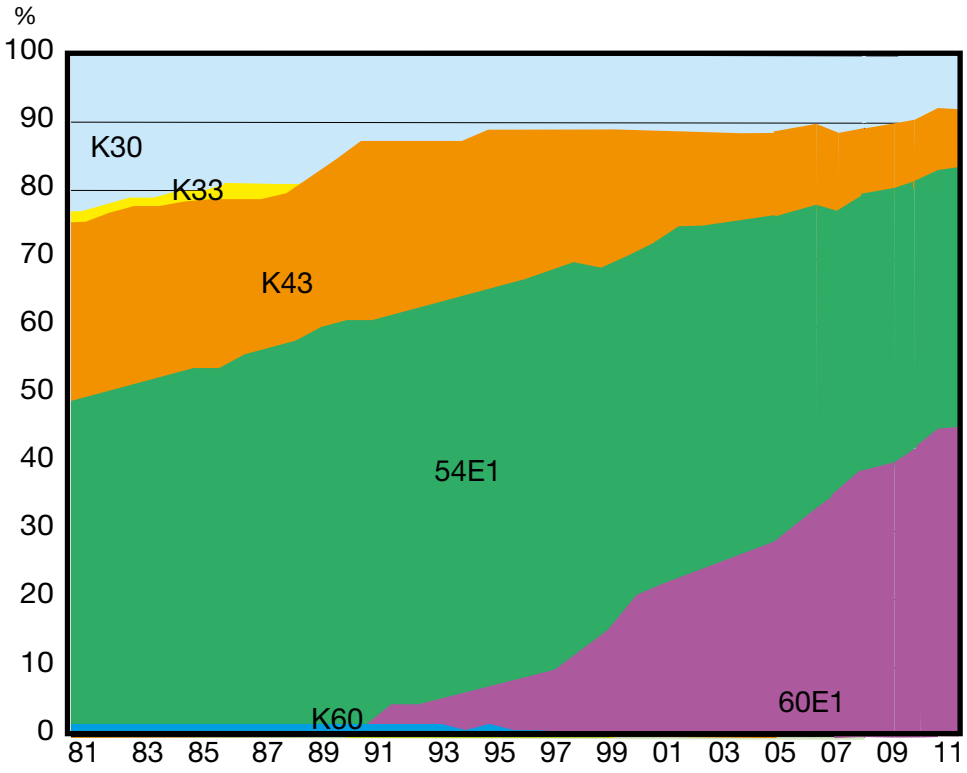
1.6 TRACK SUPERSTRUCTURE

Continuous-welded tracks

1995		2000		2005		2008		2009		2010		2011	
km	%	km	%	km	%	km	%	km	%	km	%	km	%
3 660	58	4 245	66	4 488	70	4 828	73	4 927	75	5 010	76	5 117	77

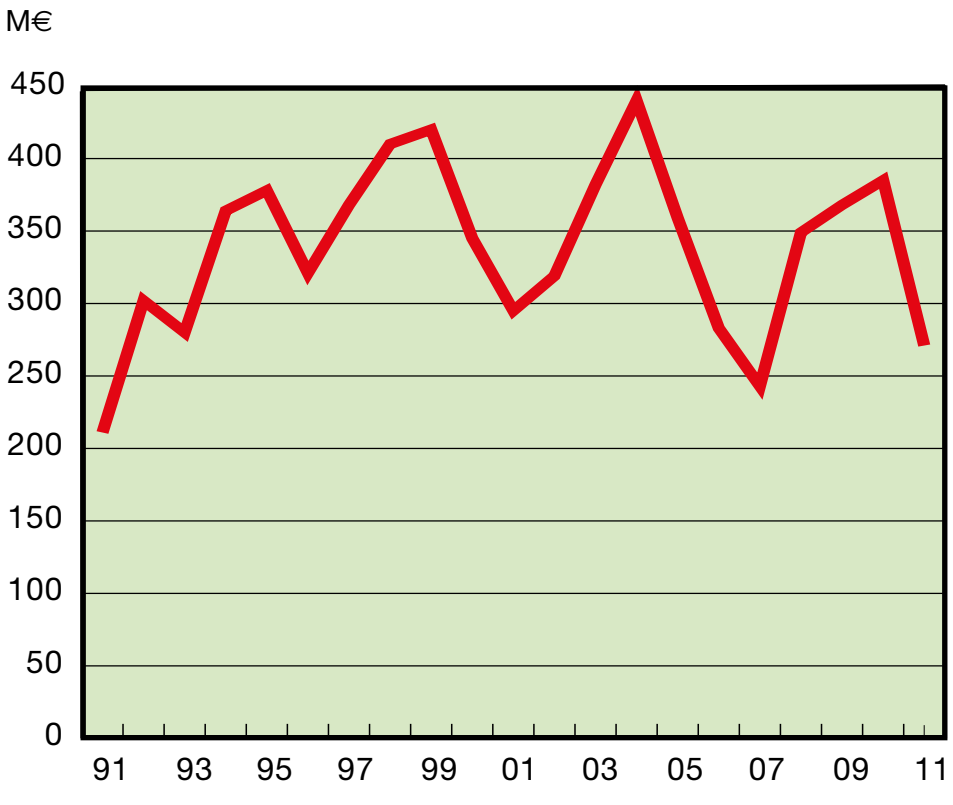
1.7 AGE OF TRACK SUPERSTRUCTURE

1.8 RAILS ON MAIN LINES IN 1981 - 2011



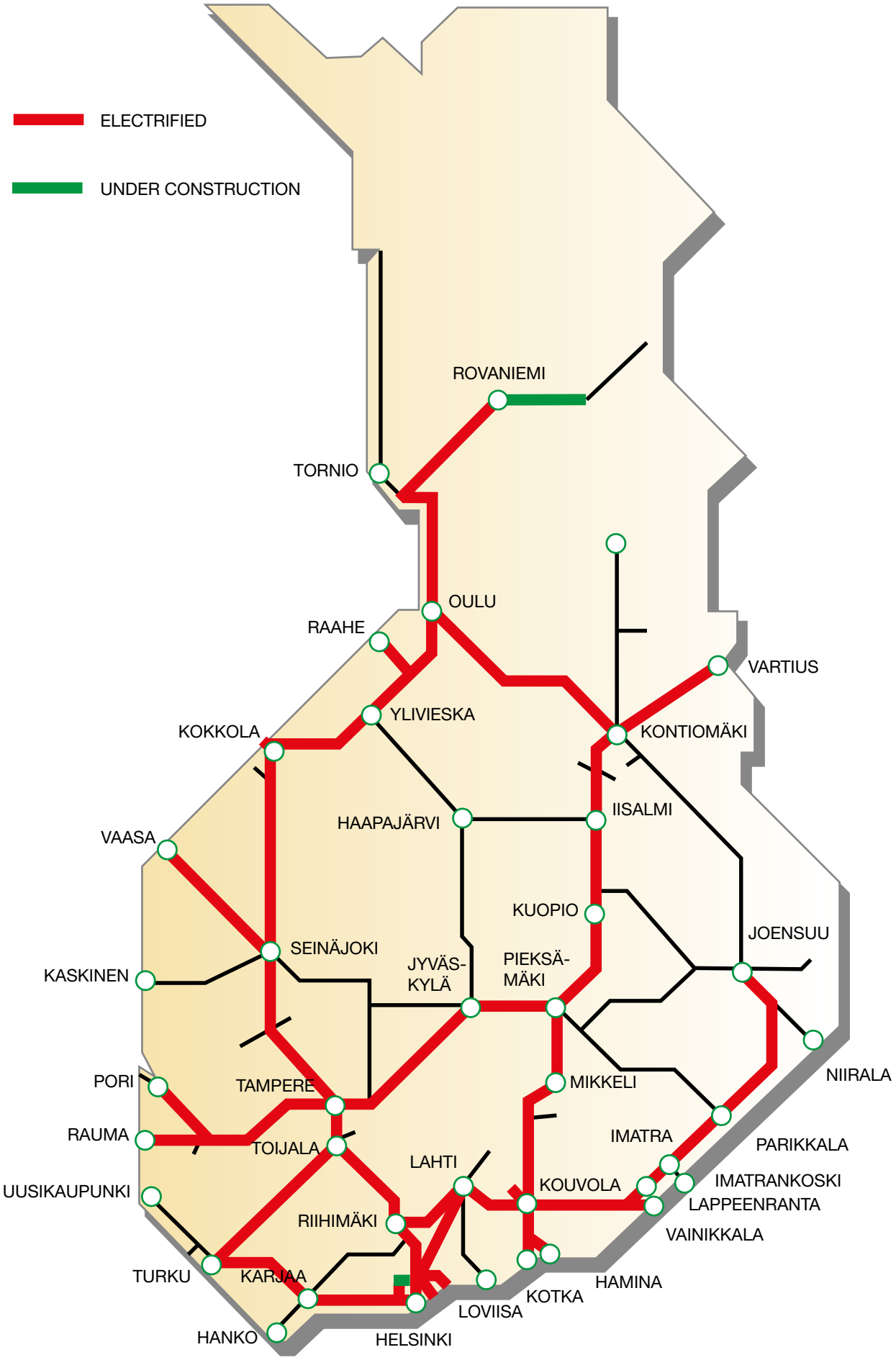
E.g. K30 = rail weight 30 kg/m

1.9 INVESTMENTS IN TRACK CONSTRUCTION AND MAINTENANCE IN 1991 - 2011 [1)]

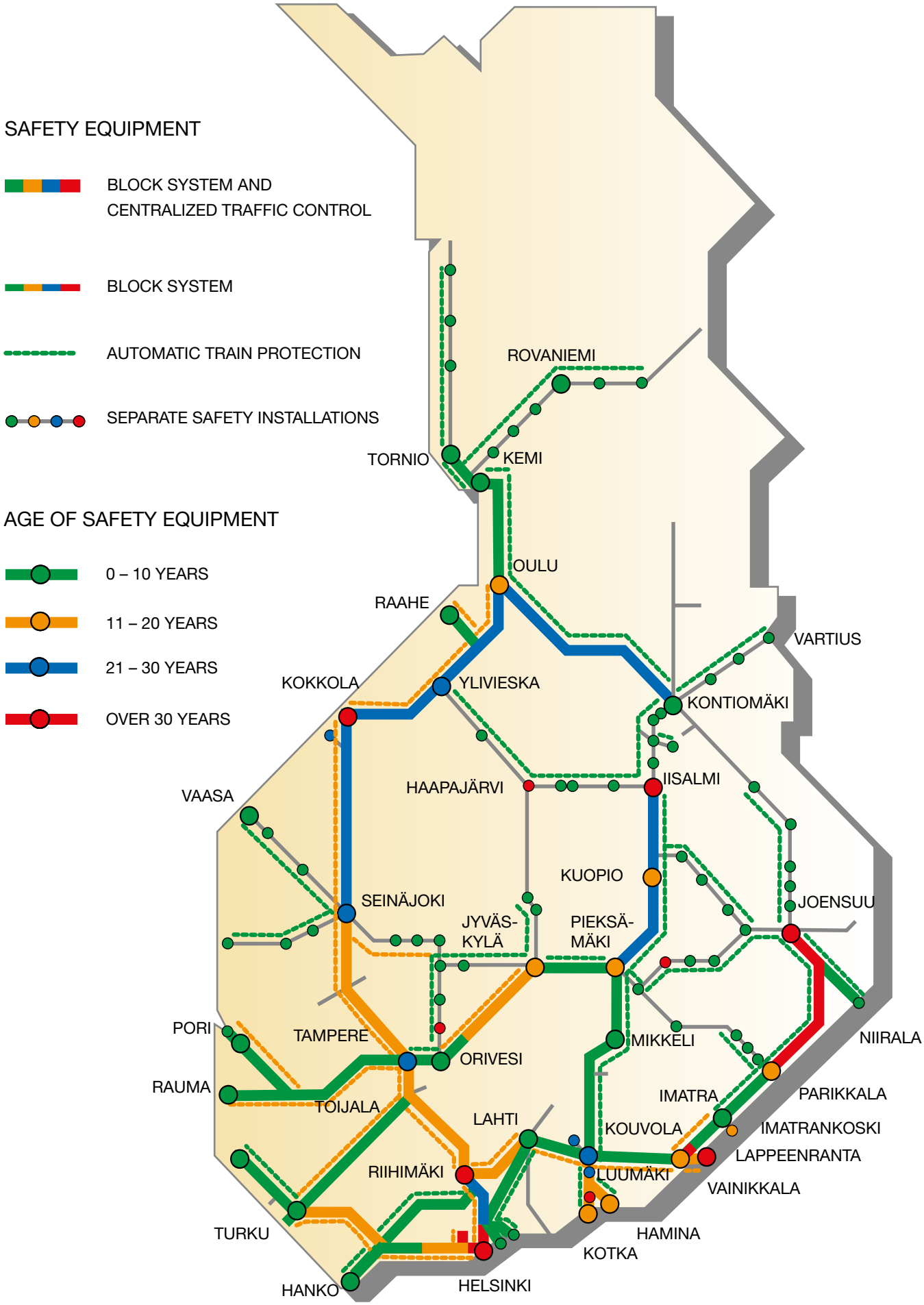


[1)] At fixed 2011 prices.

1.10 ELECTRIFIED LINES



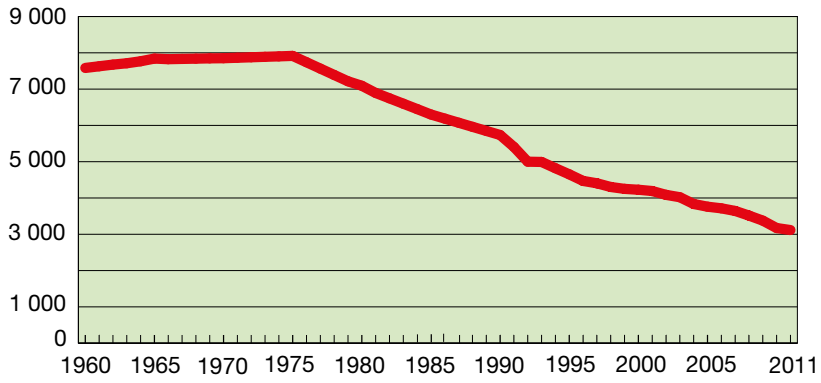
1.11 SAFETY EQUIPMENT AND ITS AGE



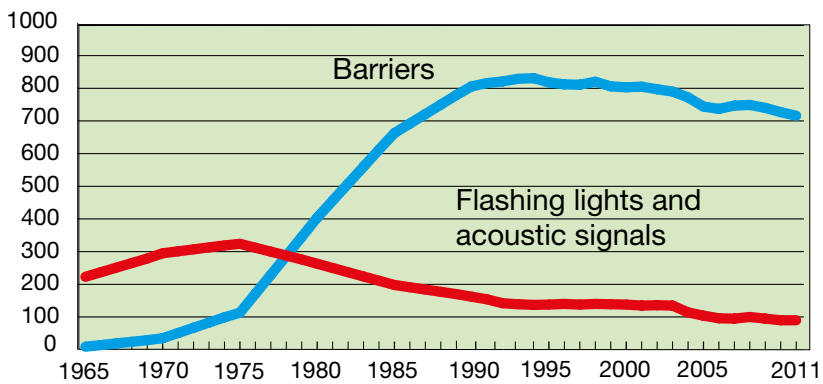
1.12 LEVEL-SEPARATED CROSSINGS AND LEVEL-CROSSINGS IN RAILWAYS

Level-separated crossings		
Overpasses		882
Underpasses		1 220
	Total	2 102
Level-crossings		
With safety equipment		
Barriers		662
Flashing lights and (or) acoustic signals		48
	Total	710
Without safety equipment		2 406
	Total	3 116
Grand total		5 928

1.13 DEVELOPMENT OF THE NUMBER OF LEVEL-CROSSINGS ON THE STATE-OWNED LINES IN 1960 - 2011



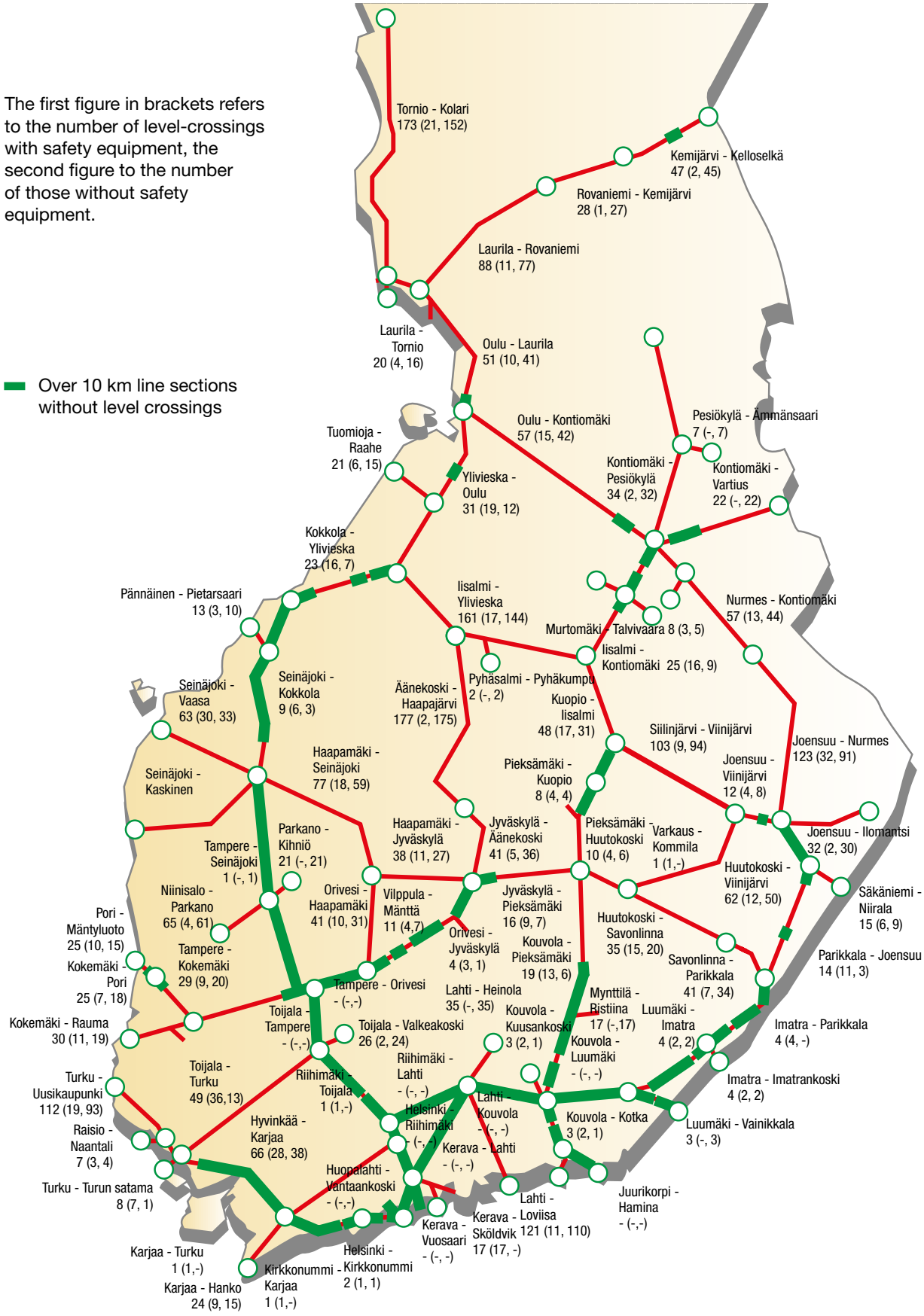
1.14 DEVELOPMENT OF THE NUMBER OF LEVEL-CROSSING SAFETY EQUIPMENT IN 1965 - 2011



1.15 NUMBER OF LEVEL-CROSSINGS AND LEVEL-CROSSING SAFETY EQUIPMENT ON THE MAIN LINES

Total of level-crossings [1]	2 727
With safety equipment	623
Without safety equipment	2 104

[1] Footpaths between platforms and service roads are not included in the statistics.



1.16 RAILWAY OPERATING POINTS

		2011	2010
Railway operating points	**number**	**349**	**350**
Passenger traffic		106	108
Freight traffic		153	153
Passenger and freight traffic		90	89

1.17 BUILDINGS

	VR			
	2011		2010	
	number	1 000 m³	number	1 000 m³
Administrative and traffic buildings	69	681	70	773
Freight terminals, depots, repair workshops	101	1 831	101	1 831
Workshops and main warehouses	25	790	25	790
Warehouses	44	68	44	68
Residential buildings	3	47	3	47
Other buildings	118	429	119	504
Total	360	3 846	362	4 013

1.18 LAND AND WATER AREAS

	VR	
	2011	2010
	hectares	hectares
Land areas	590	606
Water areas	–	–
Total	590	606

1.19 VR'S TRACTIVE STOCK BY TYPE OF TRACTION

	Number	Power (kW)	Total power (kW)
Electric locomotives			
Sr1	109	3 280	357 520
Sr2	46	6 000	276 000
Total	155		633 520
Diesel locomotives			
Dv12	181	1 000	181 000
Dr14	24	875	21 000
Dr16	18	1 500	27 000
Total	223		229 000
Electric railcars			
Sm1	44	860	37 840
Sm2	50	620	31 000
Sm3	18	4 000	72 000
Sm4	30	1 240	37 200
Sm5 [1]	12	2 600	31 200
Sm6 [2]	4	5 500	22 000
Total	158		231 240
Diesel railcars			
Dm12	16	600	9 600
Other	91		19 645
Total tractive stock	643		1 123 005

[1] The Sm5 city trains owned by Pääkaupunkiseudun Junakalusto Oy.
[2] The Allegro trains owned by Oy Karelian Trains Ltd.

1.20 VR'S PASSENGER STOCK AND PASSENGER ACCOMMODATION

Passanger stock in commercial traffic	number	1 102
Electric railcars and railcar trailers	number	432
Diesel railcars	number	16
Restaurant cars	number	48
Guard's vans	number	3
Car-carriers	number	33
Metal-bodied sleeping cars	number	110
Other coaches	number	460
Total passenger accommodation		73 321
Seats		69 317
Sleeping accommodation		4 004

1.21 FREIGHT WAGONS AND THEIR CARRYING CAPACITY

VR-owned freight wagons in commercial traffic		
Number of wagons		10 364
2-axled		4 085
4-axled		6 278
Other		1
Carrying capacity	tonnes	487 702
Covered wagons		
Number of wagons		3 949
2-axled		2 259
4-axled		1 690
Carrying capacity	tonnes	167 821
Open wagons		
Number of wagons		5 907
2-axled		1 826
4-axled		4 080
Other		1
Carrying capacity	tonnes	290 810
Tank wagons		
Number of wagons		508
4-axled		508
Carrying capacity	tonnes	29 071
Private owner's wagons [1)]		
Number of wagons		69
2-axled		5
4-axled		64
Carrying capacity	tonnes	3 202

[1)] Includes domestically operated wagons with VR's maintenance responsibility.

2 VR'S TRAIN TRAFFIC

2.1 MAIN DATA ON TRAIN AND TRACTIVE STOCK PERFORMANCE IN 2007 - 2011

		2007	2008	2009	2010	2011
Train performance						
Train-km	**1 000**	**52 577**	**53 259**	**50 019**	**51 000**	**51 070**
By category of train						
Passenger trains		34 601	35 079	35 120	35 048	35 578
	%	65.8	65.9	70.2	68.7	69.7
Freight trains		17 976	18 180	14 899	15 952	15 492
	%	34.2	34.1	29.8	31.3	30.3
By type of traction						
Diesel tractive stock		8 762	9 018	7 547	7 690	7 739
	%	16.7	16.9	15.1	15.1	15.2
Diesel locomotives		7 100	7 418	5 989	6 177	6 204
Diesel railcars		1 662	1 600	1 558	1 513	1 535
Electric tractive stock		43 815	44 241	42 472	43 310	43 331
	%	83.3	83.1	84.9	84.9	84.8
Electric locomotives		28 830	28 604	26 942	27 771	27 085
Electric railcars		14 985	15 637	15 530	15 539	16 246
Gross tonne-km	**1 000 000**	**34 636.7**	**35 511.7**	**31 412.1**	**33 090.7**	**32 712.0**
Passenger traffic		11 392.8	11 536.9	11 568.6	11 518.1	11 743.5
	%	32.9	32.5	36.8	34.8	35.9
Freight traffic [1]		23 243.9	23 974.8	19 843.5	21 572.6	20 968.5
	%	67.1	67.5	63.2	65.2	64.1
Gross hauled tonne-km	**1 000 000**	**31 027.7**	**31 858.0**	**28 108.9**	**29 678.8**	**29 344.3**
Passenger traffic		9 889.8	10 021.7	10 029.8	9 985.0	10 232.2
	%	31.9	31.5	35.7	33.6	34.9
Freight traffic		21 137.9	21 836.3	18 079.1	19 693.8	19 112.1
	%	68.1	68.5	64.3	66.4	65.1

[1] Including single locomotives.

		2007	2008	2009	2010	2011
Vehicle-axle-km	**1 000 000**	**2 379.2**	**2 431.5**	**2 114.8**	**2 199.8**	**2 169.1**
By category of train						
Passenger traffic		769.7	781.5	776.5	773.3	788.3
	%	32.4	32.1	36.7	35.2	36.3
Freight traffic		1 609.5	1 650.0	1 338.3	1 426.5	1 380.8
	%	67.6	67.9	63.3	64.8	63.7
By category of vehicle						
Passenger stock		807.0	811.7	804.7	795.6	801.9
Coaches		518.0	511.2	507.0	500.4	492.8
Electric railcars		247.9	258.1	257.3	257.1	257.6
Other coaches		41.1	42.4	40.4	38.1	33.5
Wagons		1 572.2	1 619.8	1 310.1	1 404.2	1 367.2
Loaded wagons		869.9	897.4	715.9	769.9	749.9
Empty wagons		702.3	722.4	594.2	634.3	617.3
Coefficient of empty running of a wagon		44.0	44.0	45.0	45.0	45.0
VR-owned wagons		1 144.3	1 147.0	951.7	1 042.3	1 045.0
Private owners' wagons		17.6	13.6	8.8	10.1	7.8
CIS wagons		410.3	459.2	349.6	351.8	314.4
Tractive stock performance						
Locomotive-km	**1 000**	**73 336**	**74 901**	**69 244**	**70 822**	**71 813**
Diesel tractive stock		20 033	20 817	17 421	17 847	18 189
	%	27.3	27.8	25.2	25.2	25.3
Diesel locomotives		17 825	18 626	15 299	15 830	16 095
Light rail motor tractors		38	32	23	24	27
Diesel railcars		2 170	2 159	2 099	1 993	2 067
Electric tractive stock		53 303	54 084	51 823	52 975	53 624
	%	72.7	72.2	74.8	74.8	74.7
Electric locomotives		33 653	33 405	31 181	32 234	31 519
Electric railcars		19 650	20 679	20 642	20 741	22 105

2.2 GROSS TONNE-KM AND AVERAGE TRAIN WEIGHTS (INCLUDING LOCOMOTIVE) BY TYPE OF TRACTION AND CATEGORY OF TRAIN IN 2011

	Passenger traffic							Freight traffic				
	Long-distance trains											
	Pendolino-trains	Allegro-trains	InterCity-trains	Express-trains	Regional trains	Commuter trains in the Helsinki Area	Total or on average	Freight trains	Pick-up freight trains	Total or on average	Single locomotives	Grand total or on average
Gross tonne-km												
1 000 000	**1 818**	**238**	**4 370**	**2 825**	**1 018**	**1 474**	**11 744**	**19 577**	**1 245**	**20 822**	**146**	**32 712**
Diesel locomotives	–	–	22	167	218	–	407	5 027	974	6 001	–	6 407
Electric locomotives	–	–	4 384	2 658	479	31	7 515	14 551	271	14 821	–	22 337
Electric railcars	1 818	238	–	–	202	1 444	3 702	–	–	–	–	3 702
Diesel railcars	–	–	–	–	120	–	120	–	–	–	–	120
Single locomotives	–	–	–	–	–	–	–	–	–	–	146	146
Average train weights (including locomotive) tons												
Hauled by locomotives	–	–	419.3	579.3	288.7	351.7	445.1	1 394.7	855.5	1 344.1	–	863.5
Diesel locomotives	–	–	495.5	663.1	237.9	–	335.8	1 301.2	862.1	1 201.8	–	1 032.8
Electric locomotives	–	–	419.0	574.7	319.8	351.7	453.1	1 430.2	832.6	1 411.7	–	824.7
Hauled by railcars	368.1	392.1	–	–	95.2	163.0	214.9	–	–	–	–	214.9
Electric railcars	368.1	392.1	–	–	109.4	163.0	227.8	–	–	–	–	227.8
Diesel railcars	–	–	–	–	78.1	–	78.1	–	–	–	–	78.1

2.3 GROSS TONS CARRIED ON THE DIFFERENT SECTIONS OF LINE IN 2011

Without SM1-, SM2-, SM4- and SM5- traffic stock

The figures show the gross tons on the different line sections per year (million)

Shunting is included

2.4 VEHICLE-AXLE-KM BY CATEGORY OF TRAIN AND VEHICLE IN 2011

Train category and type of traction	VR-owned passenger coaches	VR-owned electric railcars	VR-owned diesel locomotives	VR-owned other passenger coaches	Russian passenger coaches	VR-owned covered wagons	VR-owned open wagons	VR-owned other wagons	CIS-wagons	Private owners' wagons	Total
	1 000 000 vehicle-axle-km										
Passenger traffic	**466.2**	**275.6**	**8.3**	**14.1**	**11.1**	**12.3**	**0.3**	**0.3**	**–**	**0.1**	**778.3**
Long-distance trains	**464.4**	**166.6**	**8.3**	**14.1**	**11.1**	**12.3**	**0.3**	**0.3**	**–**	**0.1**	**677.5**
Pendolino-trains	**0.1**	**134.4**	**–**	**–**	**–**	**–**	**–**	**–**	**–**	**–**	**134.5**
Allegro-trains	**–**	**16.9**	**–**	**–**	**–**	**–**	**–**	**–**	**–**	**–**	**16.9**
InterCity-trains	**263.8**	**–**	**–**	**0.5**	**–**	**–**	**–**	**–**	**–**	**–**	**264.3**
Diesel locomotives	1.2	–	–	–	–	–	–	–	–	–	1.2
Electric locomotives	262.6	–	–	0.5	–	–	–	–	–	–	263.1
Express-trains	**157.2**	**–**	**–**	**13.6**	**10.5**	**12.3**	**–**	**0.1**	**–**	**–**	**193.7**
Diesel locomotives	8.7	–	–	1.6	0.1	0.9	–	–	–	–	11.3
Electric locomotives	148.5	–	–	12.0	10.4	11.4	–	0.1	–	–	182.4
Regional trains	43.3	15.3	8.3	–	0.6	–	0.3	0.2	–	0.1	68.1
Diesel locomotives	13.6	–	–	–	–	–	0.1	0.1	–	0.1	13.9
Electric locomotives	29.7	–	–	–	0.6	–	0.2	0.1	–	–	30.6
Electric railcars	–	15.3	–	–	–	–	–	–	–	–	15.3
Diesel railcars	–	–	8.3	–	–	–	–	–	–	–	8.3
Commuter trains in the Helsinki Area	**1.8**	**109.0**	**–**	**–**	**–**	**–**	**–**	**–**	**–**	**–**	**110.8**
Electric locomotives	1.8	–	–	–	–	–	–	–	–	–	1.8
Electric railcars	–	109.0	–	–	–	–	–	–	–	–	109.0
Freight traffic	**26.6**	**–**	**–**	**–**	**–**	**332.1**	**502.1**	**197.9**	**314.4**	**7.7**	**1 380.8**
Freight traffic trains	**23.8**	**–**	**–**	**–**	**–**	**290.4**	**474.0**	**193.6**	**299.9**	**7.5**	**1 289.2**
Diesel locomotives	5.7	–	–	–	–	66.2	197.1	34.8	32.4	3.0	339.2
Electric locomotives	18.1	–	–	–	–	224.2	276.9	158.8	267.5	4.5	950.0
Pick-up freight trains	**2.8**	**–**	**–**	**–**	**–**	**41.7**	**28.1**	**4.3**	**14.5**	**0.2**	**91.6**
Diesel locomotives	1.9	–	–	–	–	27.8	24.1	3.5	11.9	0.2	69.4
Electric locomotives	0.9	–	–	–	–	13.9	4.0	0.8	2.6	–	22.2
Total	**492.8**	**275.6**	**8.3**	**14.1**	**11.1**	**344.4**	**502.4**	**198.2**	**314.4**	**7.8**	**2 169.1**
Diesel locomotives	31.1	–	–	1.6	0.1	94.9	221.3	38.4	44.3	3.3	435.0
Electric locomotives	461.6	–	–	12.5	11.0	249.5	281.1	159.8	270.1	4.5	1 450.1
Electric railcars	0.1	275.6	–	–	–	–	–	–	–	–	275.7
Diesel railcars	–	–	8.3	–	–	–	–	–	–	–	8.3
Grand total	**492.8**	**275.6**	**8.3**	**14.1**	**11.1**	**344.4**	**502.4**	**198.2**	**314.4**	**7.8**	**2 169.1**

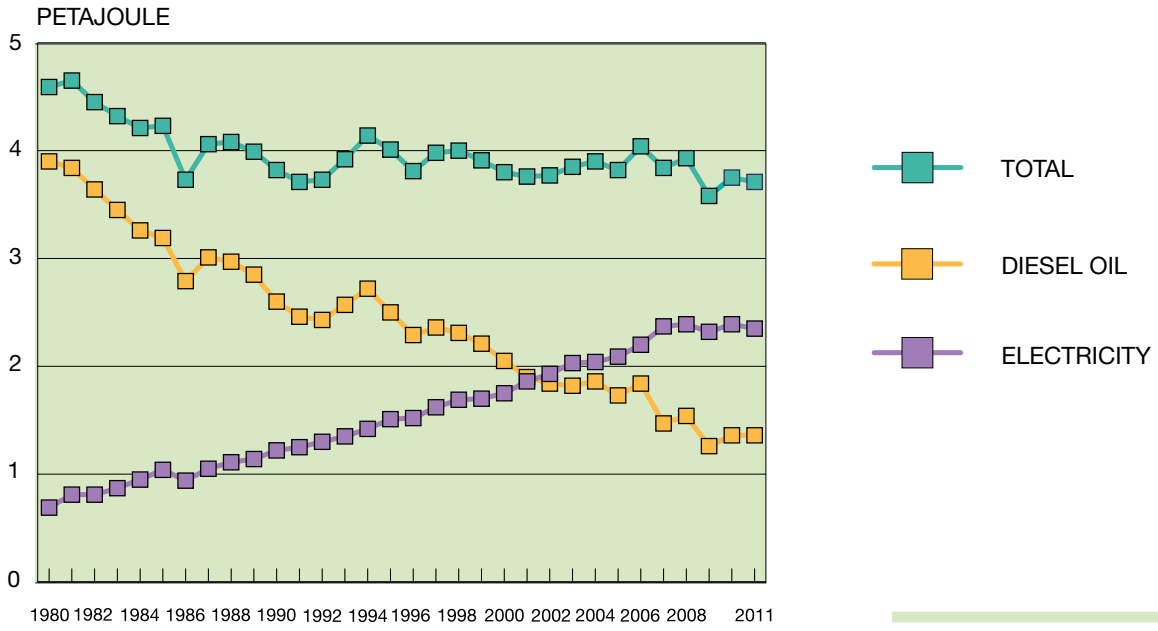
2.5 ENERGY CONSUMPTION IN TRAIN TRAFFIC IN 1980 - 2011

Energy consumption

Year	Electricity		Diesel oil		Total
	million kWh	petajoule [1]	million l	petajoule [1]	petajoule [1]
1980	191	0.69	108.6	3.90	4.59
1981	224	0.81	107.0	3.84	4.65
1982	225	0.81	101.4	3.64	4.45
1983	242	0.87	96.2	3.45	4.32
1984	265	0.95	90.9	3.26	4.21
1985	290	1.04	88.9	3.19	4.23
1986	260	0.94	77.8	2.79	3.73
1987	291	1.05	83.9	3.01	4.06
1988	308	1.11	82.6	2.97	4.08
1989	316	1.14	79.4	2.85	3.99
1990	340	1.22	72.3	2.60	3.82
1991	346	1.25	68.4	2.46	3.71
1992	361	1.30	67.7	2.43	3.73
1993	374	1.35	71.6	2.57	3.92
1994	395	1.42	75.7	2.72	4.14
1995	419	1.51	69.6	2.50	4.01
1996	422	1.52	63.8	2.29	3.81
1997	450	1.62	65.8	2.36	3.98
1998	470	1.69	64.3	2.31	4.00
1999	471	1.70	61.5	2.21	3.91
2000	486	1.75	57.0	2.05	3.80
2001	516	1.86	52.8	1.90	3.76
2002	537	1.93	51.2	1.84	3.77
2003	563	2.03	50.5	1.82	3.85
2004	566	2.04	51.7	1.86	3.90
2005	581	2.09	48.0	1.73	3.82
2006	610	2.20	51.2	1.84	4.04
2007	659	2.37	41.0	1.47	3.84
2008	664	2.39	42.8	1.54	3.93
2009	645	2.32	35.1	1.26	3.58
2010	665	2.39	37.8	1.36	3.75
2011	652	2.35	37.8	1.36	3.71

[1] Petajoule = 10^{15} joules

ENERGY CONSUMPTION IN TRAIN TRAFFIC



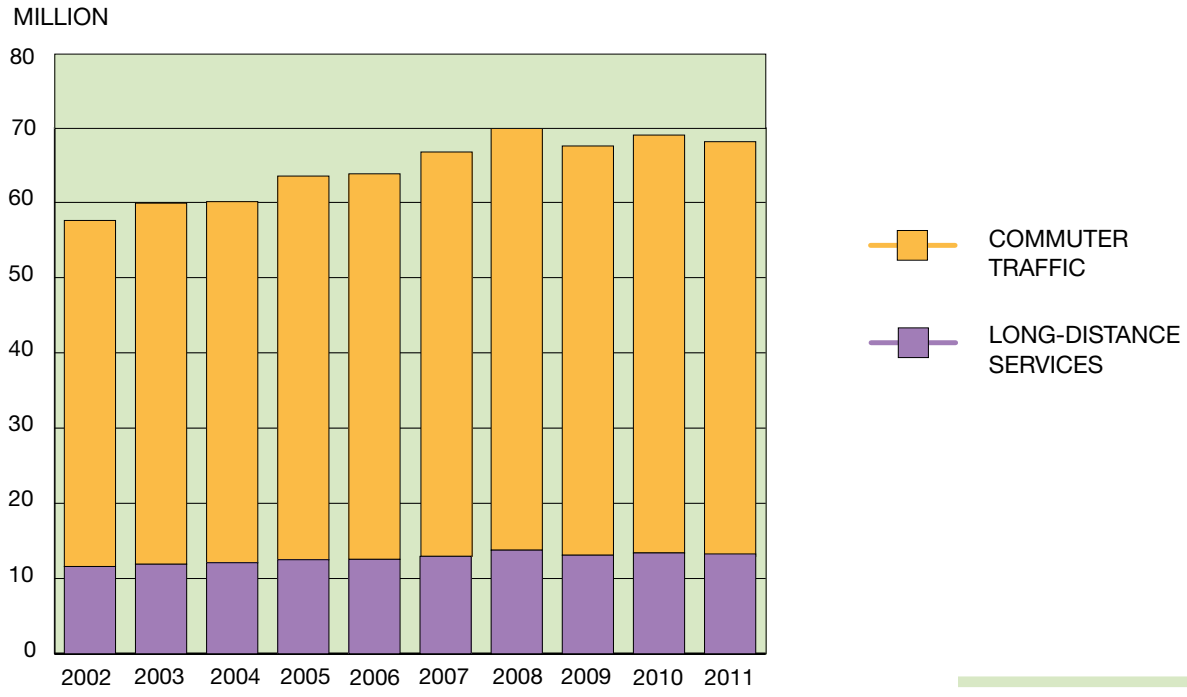
3 VR'S PASSENGER TRAFFIC

3.1 PASSENGER TRAFFIC BY CATEGORY OF TRAFFIC IN 2002 - 2011

Commercial traffic		2002	2003	2004
Number of journeys	1 000			
Long-distance services		11 643	11 915	12 129
	%	20.2	19.9	20.2
Commuter traffic in the Helsinki Area		46 052	47 994	48 005
	%	79.8	80.1	79.8
	Total	57 695	59 909	60 134
Passenger-km	1 000 000			
Long-distance services		2 636	2 642	2 654
	%	79.4	79.1	79.2
Commuter traffic in the Helsinki Area		682	696	698
	%	20.6	20.9	20.8
	Total	3 318	3 338	3 352
Average length of journeys	km	57.5	55.7	55.7

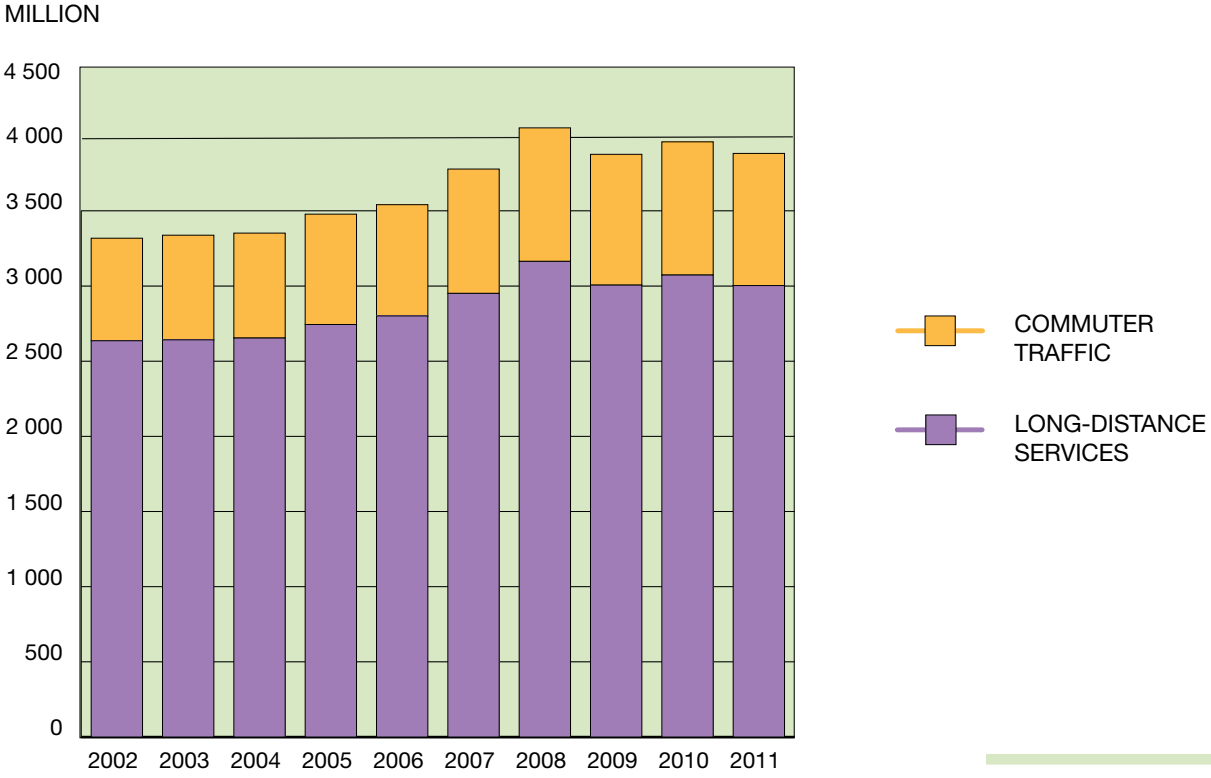
[1] Due to a change in statistical methods, the 2006–2011 figures for the number of journeys and passenger-kilometres by rail are not fully comparable with earlier figures.

NUMBER OF JOURNEYS IN PASSENGER TRAFFIC IN 2002 - 2011 [1]

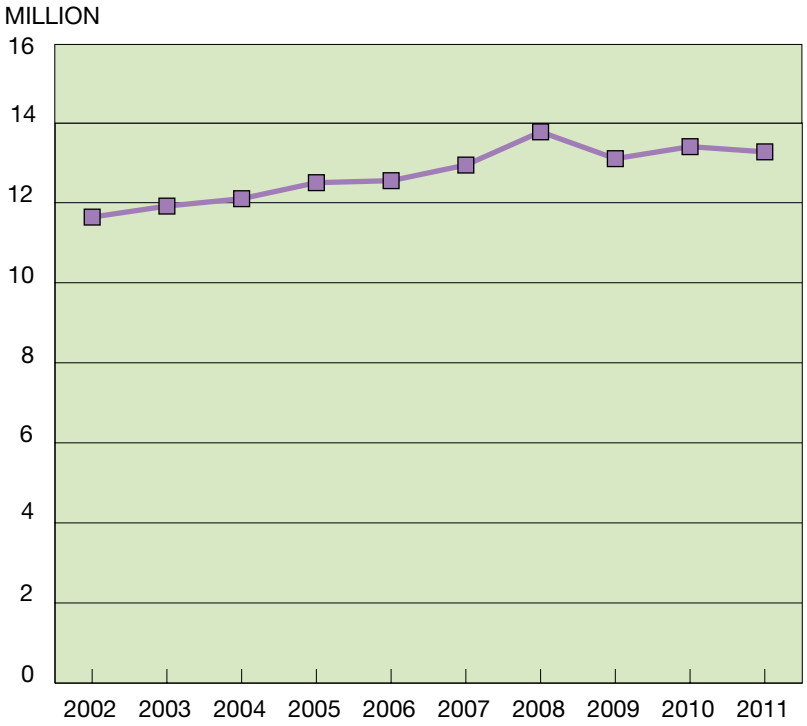


2005	2006 [1]	2007	2008	2009	2010	2011
12 503	12 554	12 944	13 767	13 116	13 399	13 274
19.7	19.7	19.4	19.7	19.4	19.4	19.4
50 990	51 248	53 741	56 170	54 439	55 551	55 102
80.3	80.3	80.6	80.3	80.6	80.6	80.6
63 493	63 803	66 685	69 937	67 555	68 950	68 376
2 744	2 801	2 951	3 164	3 006	3 073	3 003
78.9	79.1	78.1	78.1	77.6	77.6	77.4
734	740	827	888	870	886	879
21.1	20.9	21.9	21.9	22.4	22.4	22.6
3 478	3 540	3 778	4 052	3 876	3 959	3 882
54.8	55.5	56.7	57.9	57.4	57.4	56.8

PASSENGER-KILOMETRES IN PASSENGER TRAFFIC IN 2002 - 2011 [1]

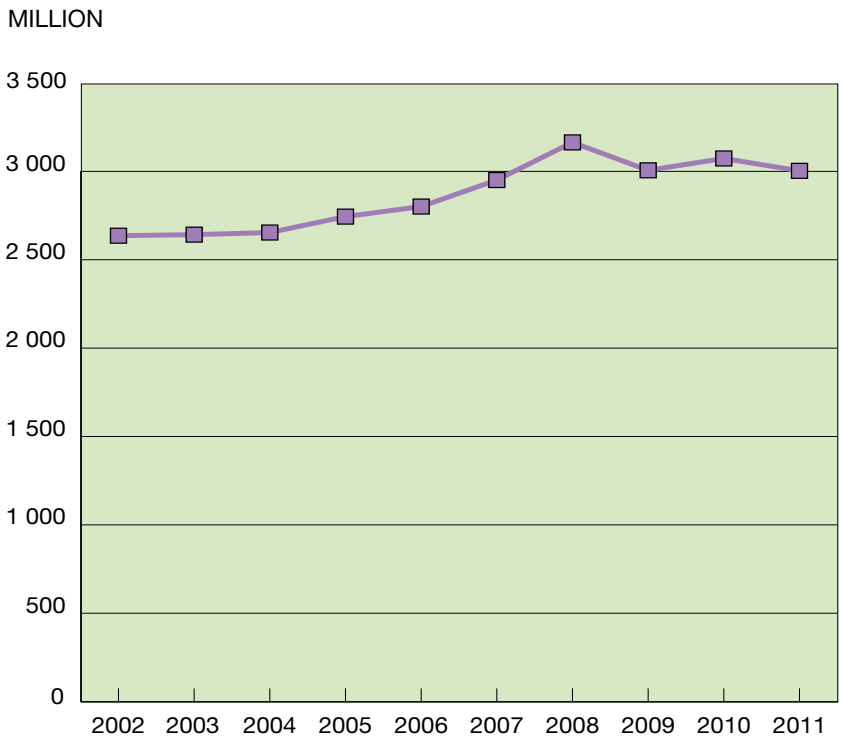


NUMBER OF JOURNEYS IN LONG-DISTANCE TRAFFIC IN 2002 - 2011 [1)]



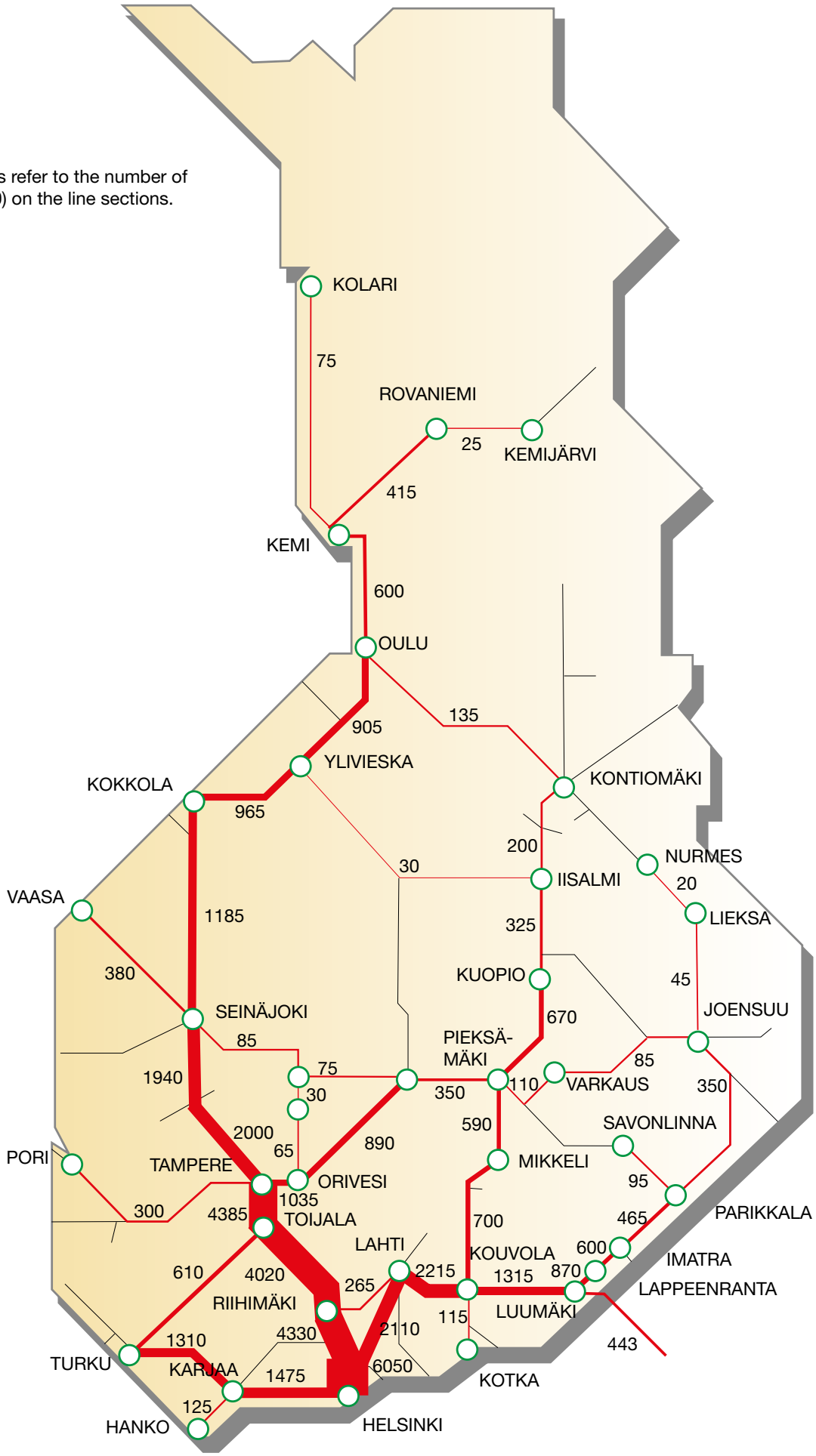
[1)] Due to a change in statistical methods, the 2006–2011 figures for the number of journeys and passenger-kilometres by rail are not fully comparable with earlier figures.

PASSENGER-KILOMETRES IN LONG-DISTANCE TRAFFIC IN 2002 - 2011 [1)]



3.2 PASSENGER FLOWS IN LONG-DISTANCE TRAFFIC IN 2011

The figures refer to the number of trips (1000) on the line sections.

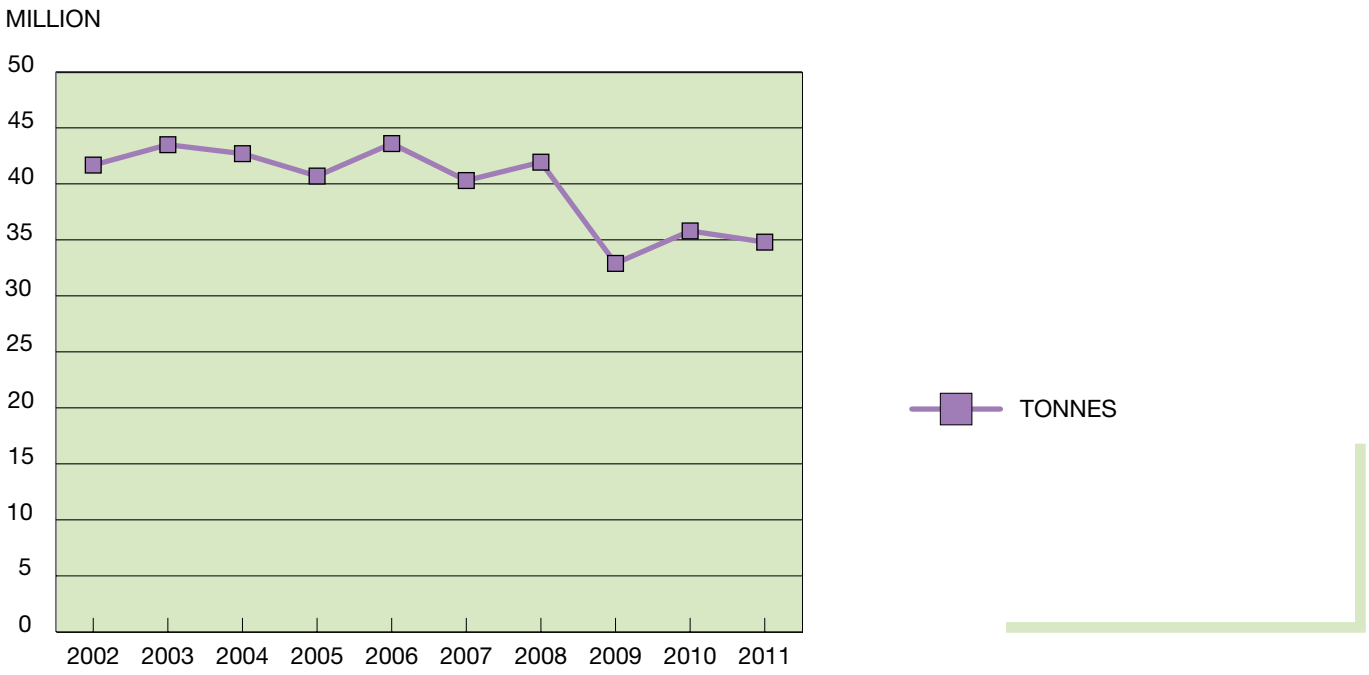


4 VR'S FREIGHT TRAFFIC

4.1 FREIGHT TRAFFIC IN 2002 - 2011

Commercial traffic		2002	2003	2004
Wagonload freight				
Weight of freight	1 000 t	41 679	43 503	42 663
Domestic traffic	1 000 t	24 695	24 980	26 255
International traffic	1 000 t	16 984	18 523	16 408
Tonne-km	1 000 000	9 664	10 047	10 105
Domestic traffic	1 000 000	6 695	6 760	7 197
International traffic	1 000 000	2 969	3 287	2 908
Average length of transport	km	232	231	237
Ratios				
Tonne-km. commercial freight				
Per length of line	1 000	1 651.9	1 717.2	1 760.2
Per train kilometre of freight trains		578.2	598.6	583.3
Per wagon-axle-km		6.4	6.3	6.3

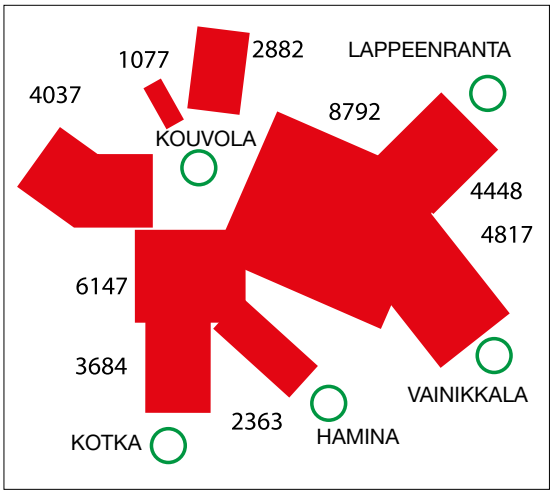
TONNES CARRIED IN WAGONLOAD TRAFFIC IN 2002 - 2011



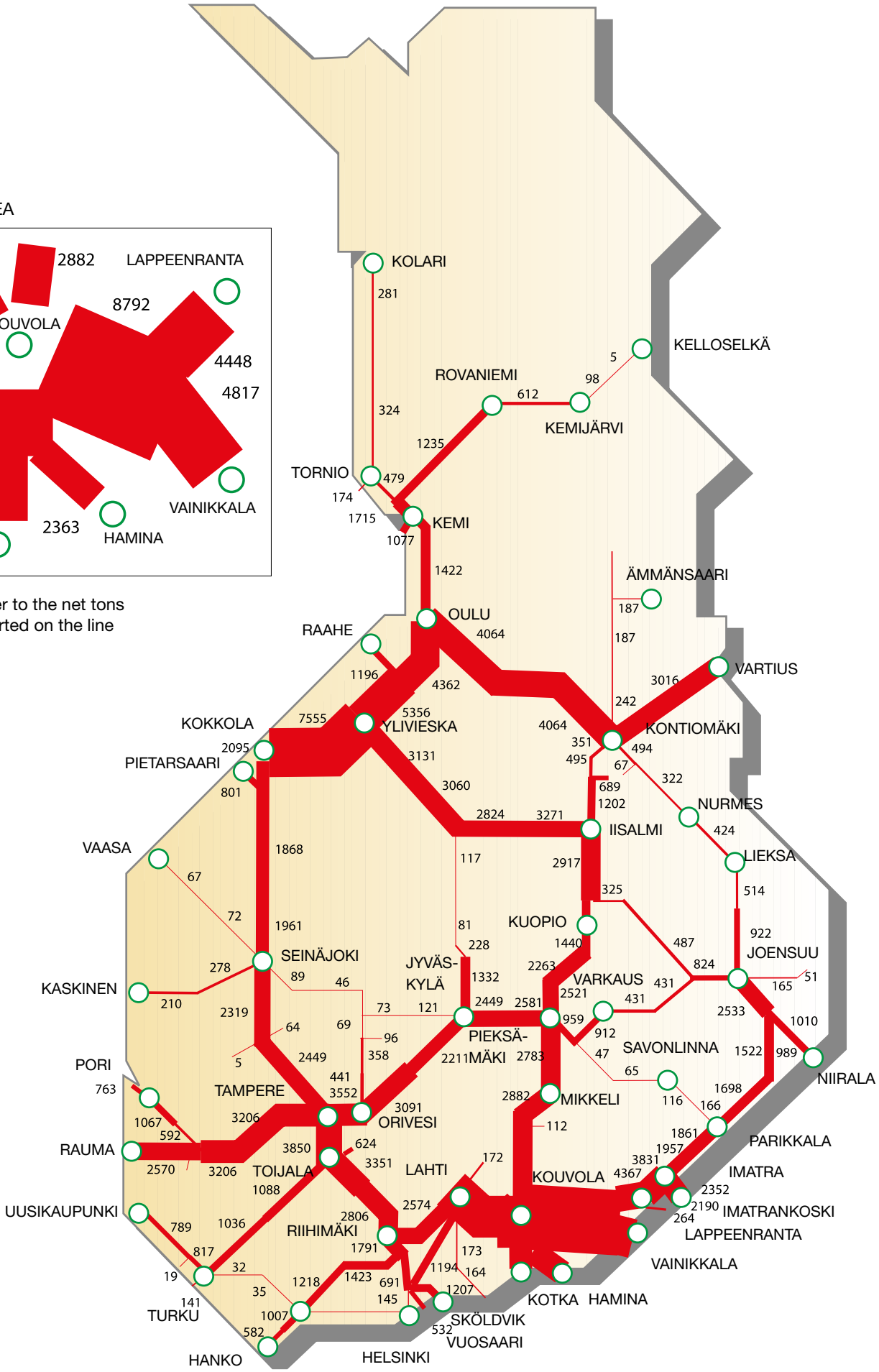
2005	2006	2007	2008	2009	2010	2011
40 722	43 560	40 288	41 937	32 860	35 795	34 827
23 479	25 959	26 204	25 484	21 360	23 249	23 505
17 243	17 601	14 084	16 453	11 500	12 545	11 322
9 706	11 060	10 434	10 777	8 872	9 750	9 395
6 607	7 375	7 581	7 588	6 141	6 915	6 797
3 099	3 685	2 853	3 189	2 731	2 835	2 598
238	254	259	257	270	273	270
1 693.3	1 873.0	1 768.8	1 820.7	1 499.0	1 647.2	1 580.6
577.1	603.0	580.4	592.8	595.5	611.2	606.5
6.4	6.6	6.6	6.7	6.8	6.9	6.9

TONNE-KM IN WAGONLOAD TRAFFIC IN 2002 - 2011

4.2 FREIGHT FLOWS IN 2011



The figures refer to the net tons (1 000) transported on the line sections.

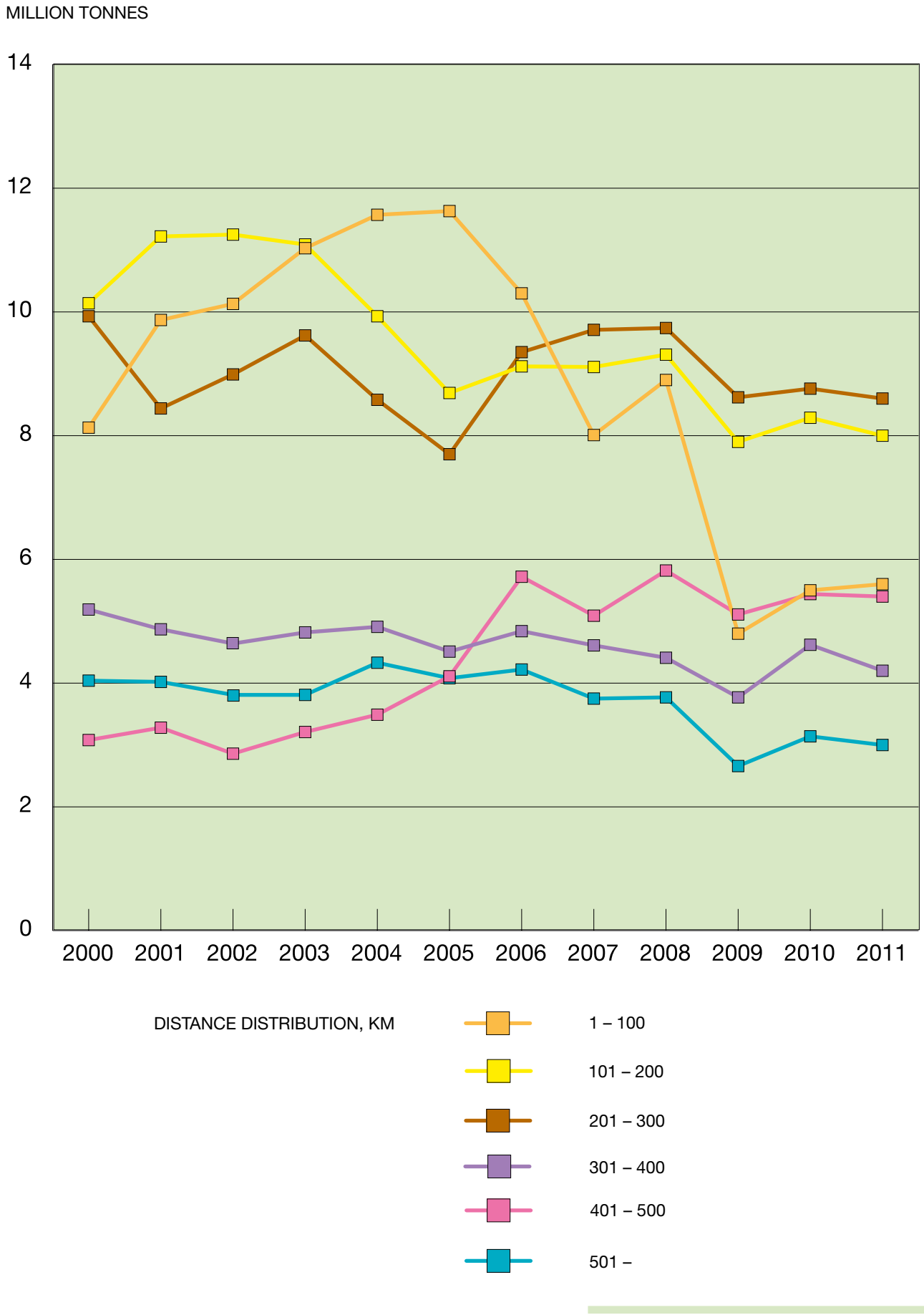


4.3 WAGON-LOADS CARRIED AND TONNE-KILOMETRES PER FREIGHT CATEGORY, 2000 - 2011

Million tonnes	2000	2006	2007	2008	2009	2010	2011
Total	**40.5**	**43.6**	**40.3**	**41.9**	**32.9**	**35.8**	**34.8**
Plant and animal products	0.4	0.2	0.2	0.1	0.1	0.1	0.1
Mineral products	7.6	7.6	6.5	7.7	7.0	7.6	8.1
Wood and wood products	15.7	18.0	16.3	16.3	12.0	13.5	12.3
Products of paper industry	7.9	9.2	9.2	9.0	7.0	7.2	7.2
Products of metal industry	3.8	3.3	2.9	2.8	2.0	2.3	2.3
Machines and equipment	0.6	0.8	0.7	0.7	0.6	0.5	0.3
Products of chemical industry	4.3	4.2	4.3	5.0	4.0	4.5	4.4
Miscellaneous products	0.2	0.3	0.2	0.2	0.2	0.1	0.1

Million tonne-kilometres	2000	2006	2007	2008	2009	2010	2011
Total	**10 107**	**11 060**	**10 434**	**10 777**	**8 872**	**9 750**	**9 395**
Plant and animal products	124	73	62	43	36	23	22
Mineral products	1 825	2 351	1 870	2 288	2 168	2 342	2 501
Wood and wood products	3 091	3 201	3 286	3 333	2 830	3 169	2 786
Products of paper industry	2 020	2 401	2 406	2 311	1 680	1 801	1 759
Products of metal industry	1 494	1 325	1 107	1 045	710	857	841
Machines and equipment	299	410	395	385	335	282	158
Products of chemical industry	1 165	1 201	1 220	1 285	1 043	1 226	1 281
Miscellaneous products	89	97	88	87	70	51	47

4.4 WEIGHT OF FREIGHT CARRIED IN COMMERCIAL WAGON-LOAD TRAFFIC IN 2000 - 2011, BY DISTANCE



4.5 TRAFFIC BETWEEN VR AND FOREIGN RAILWAYS IN 2011

	Wagons									Passenger coaches		
	Finnish wagons			Foreign wagons			Total			Finnish[1]	Foreign	Total
	Loaded	Empty	Total	Loaded	Empty	Total	Loaded	Empty	Grand total			
	Number of vehicles											
Despatched from Finland	**396**	**–**	**396**	**20 457**	**147 384**	**167 841**	**20 853**	**147 384**	**168 237**	**8 048**	**4 231**	**12 279**
Eastern traffic												
Vainikkala	–	–	–	15 498	66 394	81 892	15 498	66 394	81 892	8 048	4 231	12 279
Imatran-koski	–	–	–	9	35 104	35 113	9	35 104	35 113	–	–	–
Niirala	–	–	–	1 466	11 440	12 906	1 466	11 440	12 906	–	–	–
Vartius	–	–	–	1 552	33 635	35 187	1 552	33 635	35 187	–	–	–
Total	**–**	**–**	**–**	**18 525**	**146 573**	**165 098**	**18 525**	**146 573**	**165 098**	**8 048**	**4 231**	**12 279**
Western traffic												
Tornio	396	–	396	1 932	811	2 743	2 328	811	3 139	–	–	–
Arrived in Finland	**–**	**396**	**396**	**146 873**	**18 063**	**164 936**	**146 873**	**18 459**	**165 332**	**8 048**	**4 231**	**12 279**
Eastern traffic												
Vainikkala	–	–	–	69 442	10 269	79 711	69 442	10 269	79 711	8 048	4 231	12 279
Imatran-koski	–	–	–	31 537	3 005	34 542	31 537	3 005	34 542	–	–	–
Niirala	–	–	–	12 150	1 144	13 294	12 150	1 144	13 294	–	–	–
Vartius	–	–	–	33 088	1 558	34 646	33 088	1 558	34 646	–	–	–
Total	**–**	**–**	**–**	**146 217**	**15 976**	**162 193**	**146 217**	**15 976**	**162 193**	**8 048**	**4 231**	**12 279**
Western traffic												
Tornio	–	396	396	656	2 087	2 743	656	2 843	3 139	–	–	–
Number of vehicles carried in traffic between VR and foreign railways	**396**	**396**	**792**	**167 330**	**165 447**	**332 777**	**167 726**	**165 843**	**333 569**	**16 096**	**8 462**	**24 558**

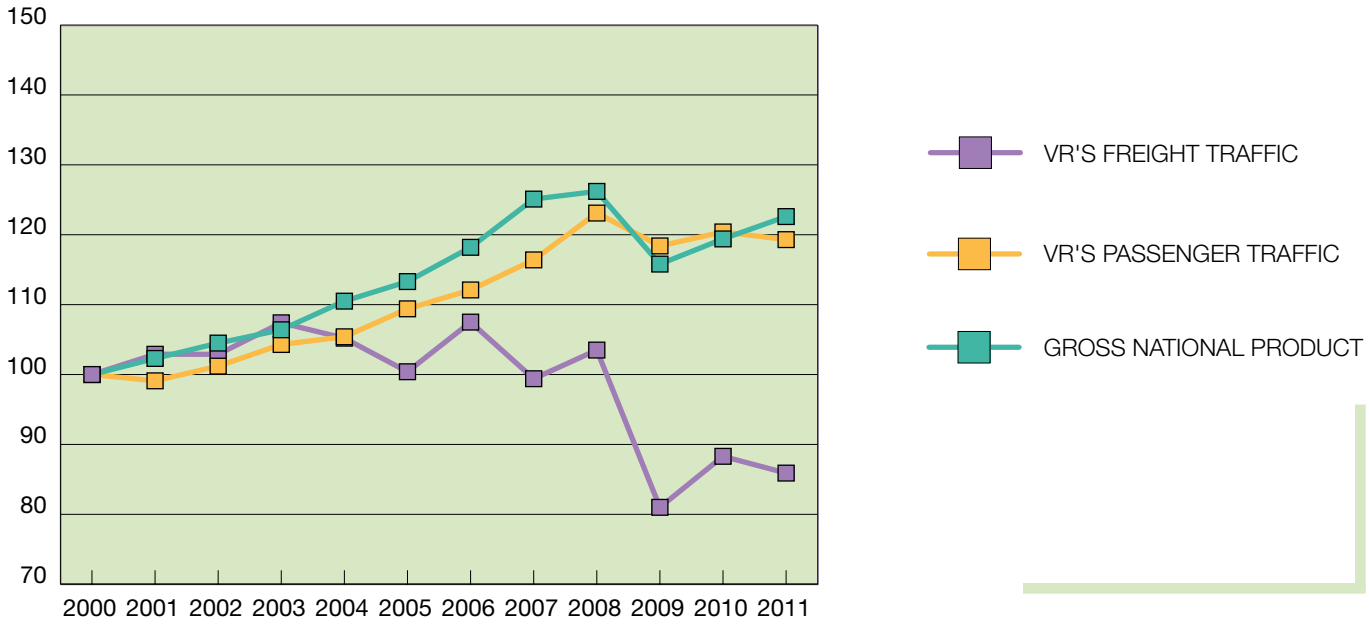
[1] Including Allegro-trains.

5 VOLUME OF RAILWAY TRAFFIC

TRAFFIC VOLUME INDEX IN 2000 - 2011

2000 = 100	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Passenger traffic	100	99	101	104	105	109	112	116	123	118	120	119
Freight traffic	100	103	103	107	105	101	108	100	104	81	88	86
Total railway traffic	100	101	102	106	105	104	109	107	112	100	103	101

VOLUME INDEX (2000 = 100)



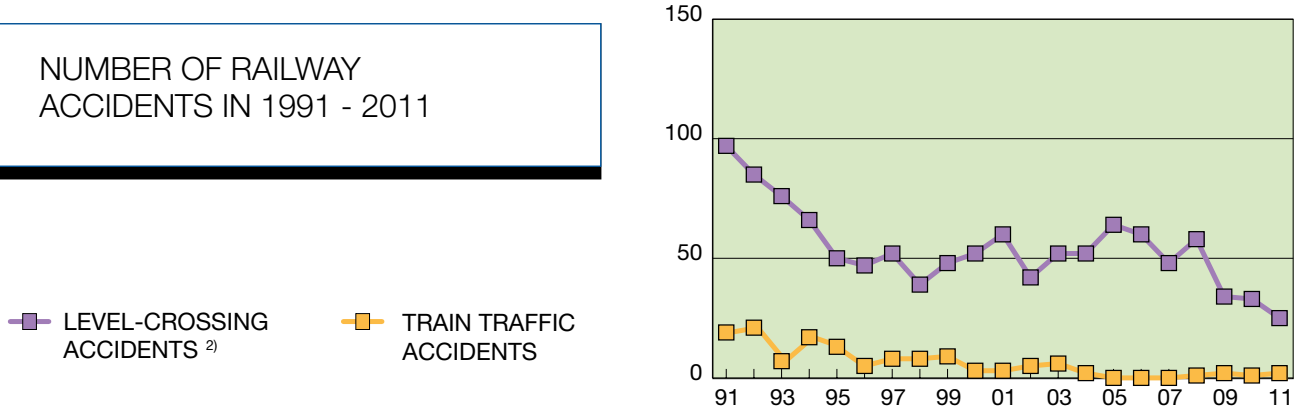
6 RAILWAY ACCIDENTS

6.1 SIGNIFICANT RAILWAY ACCIDENTS IN 2011 [1)]

Type of accident	Number of accidents	Number of persons killed or seriously injured		
	Total	Killed	Seriously injured	Total
Collisions	2	1	0	1
Derailments	0	0	0	0
Accidents involving level crossings	5	2	3	5
Accidents to persons caused by rolling stock in motion	7	2	5	7
Fire in rolling stock in motion	0	0	0	0
Other accidents	0	0	0	0
Total	**14**	**5**	**8**	**13**

[1)] An accident involving rolling stock resulting in a fatality or a serious injury or the damage caused to rolling stock, tracks, track equipment or the environment has amounted to at least €150 000. Also accidents which have caused a rail service disruption on a main rail line of at least six hours.

6.2 NUMBER OF RAILWAY ACCIDENTS IN 1991 - 2011



6.3 RATIOS RELATING TO RAILWAY ACCIDENTS IN 2007 - 2011

	2007	2008	2009	2010	2011
Total of persons killed or seriously injured Per one million train-km	0.40	0.51	0.48	0.41	0.25
Total of railway accidents [3)] Per one million train-km	1.10	1.43	0.52	0.45	0.27
Passengers					
Killed per one million journeys	–	–	–	–	–
Seriously injured per one million journeys	–	–	–	–	–

[2)] Also other than significant level crossing accidents.

[3)] From 2009 only significant accidents.

7 HISTORICAL SURVEY

Year	Length of line on 31.12. [1]	Track length on 31.12. [1]	VR-owned rolling stock on 31.12.									Annual mean strength of VR's staff		VR's passenger traffic		VR's freight traffic	
			Tractive stock							Passenger stock	Freight stock						
			Steam locomotives	Diesel locomotives	Diesel railcars and railbuses	Electric railcars	Electric locomotives	Light rail motor tractors	Total			Primary occupation	Secondary occupation	Number of journeys [2]	Passenger-kilometres [2]	Weight, 1 000 tonnes [3]	Tonne-km [3]
	km													1 000			1 000
1862	108	..	6	–	–	–	–	–	6	13	142	..	..	39	..	13	..
1870	483	531	43	–	–	–	–	–	43	110	993	..	..	2 404	18 028	132	7 925
1880	852	1 005	98	–	–	–	–	–	98	231	2 176	1 594	..	1 813	65 870	506	49 480
1890	1 876	2 179	151	–	–	–	–	–	151	370	3 594	2 612	..	2 542	126 076	954	104 052
1900	2 650	3 304	310	–	–	–	–	–	310	755	8 547	[4] 10 282	..	6 899	337 173	2 463	343 370
1910	3 356	4 568	500	–	–	–	–	–	500	1 114	14 149	15 179	..	14 463	554 928	3 860	462 005
1920	3 987	5 567	539	–	–	–	–	–	539	958	13 016	24 105	..	17 549	775 488	5 439	931 679
1930	5 010	6 983	773	–	3	–	–	–	776	1 364	22 012	29 165	..	22 033	1 035 028	9 574	1 592 327
1935	5 367	7 497	740	1	13	–	–	–	754	1 428	23 348	28 845	..	20 052	947 038	12 334	1 979 598
1938	[5] 5 407	7 858	747	2	20	–	–	–	769	1 469	24 513	31 212	..	23 714	1 227 670	13 731	2 263 070
1945	4 668	6 715	741	4	22	–	–	–	767	1 471	23 261	38 547	..	61 344	3 202 595	[6] 11 489	[6] 2 459 817
1950	4 798	7 022	821	4	20	–	–	–	845	1 648	27 655	38 423	..	45 656	2 182 570	15 803	3 445 637
1955	4 889	7 453	798	18	80	–	–	..	896	1 617	26 169	36 073	..	39 444	2 260 463	19 158	4 482 223
1960	[7] 5 314	[7] 8 166	[7] 659	[7] 120	[7] 192	–	–	..	[7] 971	[7] 1 495	[7] 26 543	35 340	550	36 603	2 342 928	[8] 19 041	4 865 000
1965	5 458	9 560	514	306	261	–	–	184	1 265	1 380	26 887	34 903	558	31 171	2 049 624	20 556	5 182 900
1970	5 804	8 795	262	331	272	20	–	278	1 163	1 080	25 045	27 690	410	23 357	2 156 236	23 620	6 270 300
1975	5 918	8 938	250	369	223	60	27	259	1 188	1 055	24 862	29 002	277	35 546	3 135 164	22 657	[9] 6 438 200
1980	6 075	9 157	–	395	182	96	84	263	1 020	1 102	23 848	28 726	297	39 310	3 215 652	29 574	8 335 400
1985	5 877	8 923	–	384	104	100	110	238	936	1 109	17 796	26 310	165	40 419	3 223 988	30 781	8 067 100
1986	5 878	8 936	–	383	86	100	110	244	923	1 094	17 862	25 484	137	34 763	2 675 570	27 783	6 952 200
1987	5 863	8 921	–	382	60	100	110	234	886	1 035	16 798	24 695	111	45 759	3 061 600	30 108	7 403 400
1988	5 863	8 921	–	382	10	100	110	234	834	991	16 292	23 273	86	46 226	3 147 000	33 006	7 815 900
1989	5 863	8 933	–	364	8	100	110	240	822	994	15 663	21 761	65	45 536	3 207 900	33 639	7 958 400
1990	5 846	8 844	–	358	–	100	110	236	804	1 001	15 395	20 162	45	45 998	3 330 900	34 562	8 356 700
1991	5 853	8 676	–	368	–	100	110	232	810	1 019	15 470	19 569	–	45 795	3 229 000	31 065	7 634 200
1992	5 853	8 836	–	356	–	100	110	223	789	1 027	15 286	18 945	–	45 101	3 057 200	32 587	7 847 800
1993	5 864	8 991	–	350	–	100	111	227	788	1 003	14 691	18 277	–	44 362	3 006 500	37 869	9 259 100
1994	5 859	8 915	–	350	–	100	111	223	784	1 002	14 656	17 368	–	43 989	3 036 800	40 150	9 949 400
1995	5 859	8 977	–	346	–	100	111	217	774	992	14 618	[10] 15 228	–	44 420	3 184 400	[11] 39 387	[11] 9 292 900
1996	5 859	8 940	–	338	–	100	113	215	766	982	14 344	14 820	–	47 000	3 254 000	37 717	8 805 500
1997	5 865	8 730	–	334	–	102	124	215	775	994	13 320	14 346	–	49 980	3 376 000	40 321	9 856 400
1998	5 867	8 725	–	314	–	102	129	216	761	1 003	12 737	13 945	–	51 370	3 377 000	40 740	9 885 000
1999	5 836	8 680	–	312	–	102	130	216	760	1 029	12 647	13 453	–	53 209	3 415 000	39 979	9 752 500
2000	5 854	8 705	–	299	–	112	130	212	753	1 047	12 292	12 722	–	54 783	3 405 000	40 501	10 106 600
2001	5 850	8 734	–	285	–	112	140	205	742	1 056	11 933	12 225	–	54 987	3 282 000	41 678	9 857 300
2002	5 850	8 736	–	279	–	119	148	202	748	1 077	11 528	11 711	–	57 695	3 318 000	41 679	9 663 800
2003	5 851	8 707	–	273	–	119	156	201	749	1 060	11 324	11 115	–	59 969	3 338 000	43 503	10 047 100
2004	5 741	8 596	–	258	–	129	156	217	760	1 029	11 445	10 748	–	60 134	3 352 000	42 663	10 105 200
2005	5 732	8 587	–	257	10	147	156	132	702	1 084	11 162	10 305	–	63 493	3 478 000	40 722	9 705 800
2006	5 905	8 830	–	249	16	147	156	129	697	1 083	10 971	10 180	–	63 803	3 540 000	43 560	11 059 600
2007	5 899	8 816	–	245	16	148	156	129	694	1 024	10 790	9 988	–	66 685	3 778 000	40 288	10 434 100
2008	5 919	8 848	–	235	16	148	156	107	662	1 035	10 934	9 992	–	69 937	4 052 000	41 937	10 776 500
2009	5 919	8 847	–	224	16	149	156	96	641	1 033	10 524	9 935	–	67 555	3 876 000	32 860	8 872 300
2010	5 919	8 862	–	224	16	152	156	96	644	1 071	10 464	[12] 9 619	–	68 950	3 959 000	35 795	9 749 600
2011	5 944	8 885	-	223	16	158	155	91	643	1 102	10 364	8 990	–	68 376	3 882 000	34 827	9 395 200

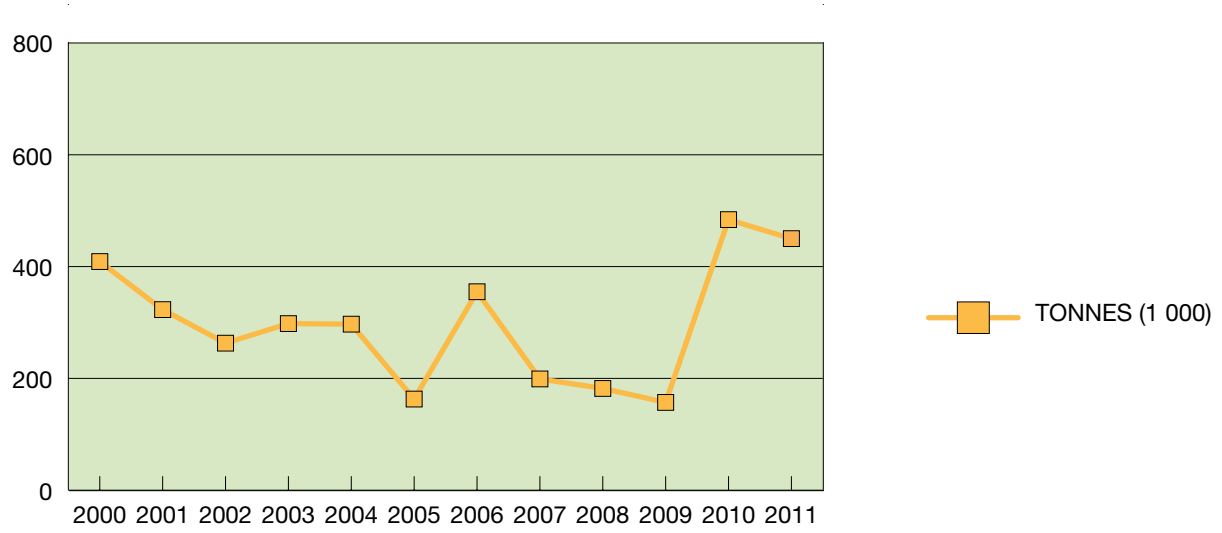
[1] Lines owned by the Finnish Rail Administration from 1995 and by the Finnish Transport Agency from 2010.
[2] Excluding free tickets and road traffic.
[3] Excluding parcels and transport of the railway's own freight. Live animals and means of transport included in the ton-kilometres only since 1921.
[4] Since 1900 including contractual staff.
[5] Since 1938 private sidings no longer included in the length of line.
[6] Since 1945 including express goods.
[7] Data on narrow-gauge lines not included.
[8] Since 1960 including local traffic proper.
[9] Since 1971 including local traffic proper.
[10] Since 1995 the staff of VR-Group Ltd, VR Ltd and VR-Track Ltd.
[11] Since 1995 train traffic only.
[12] Since 2010 the staff of VR-Group Ltd and VR-Track companies.

8 PRIVATE RAILWAYS

PRIVATE RAILWAYS AND THEIR ACTIVITY IN 2007 - 2011

Karhulan-Sunilan Rautatie Oy		2007	2008	2009	2010	2011
Opened for traffic on 3.5.1900						
Rail gauge	1.524 m					
Track length at end of year	km	10.2	10.2	10.2	10.2	10.2
Main tracks	km	6.1	6.1	6.1	6.1	6.1
Sidings	km	4.1	4.1	4.1	4.1	4.1
Length of line operated at end of year	km	6.1	6.1	6.1	6.1	6.1
Railway operating points at end of year		1	1	1	1	1
Rolling stock at end of year						
Motor locomotives		2	2	2	2	2
Staff at end of year		4	4	4	5	4
Number of trains						
Yearly		1 154	1 136	1 022	1 022	1 384
Daily		4.4	4.4	4.1	5.0	3.8
Train-km		6 924	6 816	6 132	10 068	8 304
Freight carried						
1 000 tonnes		199	182	157	484	450
1 000 tonne-km		1 195	1 092	942	2 904	2 700

FREIGHT CARRIED IN 2000 - 2011



9 DATA ON VARIOUS COUNTRIES AND THEIR RAILWAYS IN 2010

Countries

		Finland	Sweden	Norway	Denmark	Spain	France	Austria	Germany
Population	million	5.4	9.3	4.9	5.5	46.0	64.0	8.4	81.8
Area	1 000 km²	339	450	324	43	507	552	84	357
Gross domestic product (2005=100) [1]		104.9	107.9	104.2	99.4	104.5	103.4	107.3	106.5

Railways / Countries

		VR, FTA	SJ, Trafikverket, Green Gargo	NSB, JBV	DSB, BDK	RENFE, FEVE, FGC, EUSKOTREN, ADIF, ETS	SNCF, RFF, VEOLIA	ÖBB	DB AG
Staff	1 000	10	13	6	11	32	155	45	252
Length of line	km	5 944	9 957	4 114	2 131	15 317	29 871	5 066	33 708
		VR	SJ	NSB	DSB	RENFE	SNCF	ÖBB	DB AG
Train traffic									
Train-km	million	51	50	29	74	178	455	148	885
Passenger traffic									
Number of journeys	million	69	38	50	198	457	1 078	210	1 950
Passenger-km	million	3 959	6 774	2 674	7 405	21 022	84 883	10 186	78 582
		FINLAND	SWEDEN	NORWAY	DENMARK	RENFE	SNCF	ÖBB	DB AG
Freight traffic [2]									
Volumes of transport									
Ton	million	36	55 [3]	23 [3]	6 [3]	16	64	118	415
Tonne-km	million	9.7	23.1 [3]	3.6 [3]	1.9 [3]	7.4	22.8	23.1	105.8

[1] Volume index at constant prices, seasonally adjusted. Source: Statistics Finland.

[2] Commercial traffic.

[3] Year 2009.

10 RESUME SUR LES CHEMINS DE FER DE FINLANDE

FTA & VR

RAPPORT ANNUEL A L'UNION INTERNATIONALE DES CHEMINS DE FER (UIC)

		2011	2010
TABLEAU 11 – LIGNES [1]			
Trafic ferroviaire			
Ecartement des rails: 1,524 m			
Longueur des lignes à la fin de l'année			
Lignes non électrifiées			
total	km	2 772	2 847
à simple voie	"	2 772	2 847
Lignes électrifiées [2]			
total	"	3 172	3 073
à double voie et plus	"	570	570
Total	"	5 944	5 919
Lignes exploitées			
en trafic voyageurs seulement	"	–	–
en trafic marchandises seulement	"	1 762	1 738
Transports routiers			
Longueur exploitée des lignes à la fin de l'année			
à marchandises	km	–	–
TABLEAU 21 – MATERIEL MOTEUR			
Effectifs à la fin de l'année			
Locomotives diesel			
Nombre total		314	320
dont supérieures à 1 500 kW		18	18
Locomotives électriques			
Nombre total		155	156
dont supérieures à 3 000 kW		155	156
Automotrices diesel			
Isolées			
Nombre total		16	16
Rames indéformables			
Nombre		–	–
Nombre total des véhicules		–	–
Automotrices électriques			
Rames indéformables			
Nombre		158	152
Nombre total des véhicules		432	402
TABLEAU 22 – MATERIEL DE TRANSPORT DE VOYAGEURS			
Effectifs à la fin de l'année			
Véhicules des réseaux pour but commercial			
Effectifs			
Voitures		654	653
Automotrices et remorques d'automotrices		448	418
Effectif total		1 102	1 071
dont voitures climatisées		453	389
dont voitures-restaurants		48	49
dont voitures-couchettes		–	–
dont voitures-lits		110	107
Nombre de places			
Assises			
1ère classe		2 957	2 572
2ème classe		66 360	64 447
Couchettes, 2ème classe		–	–
Voitures-lits, 1ère + 2ème classe (nombre maximal)		4 004	3 884
Assises et couchées total		73 321	70 903
Fourgons			
Effectif total		42	42

[1] Propriétaire Finnish Transport Agency.

[2] Lignes alimentées en courant alternatif 25 000 volts 50 périodes, sous caténaire.

10 SUMMARY RELATING TO THE RAILWAYS OF FINLAND

FTA & VR

ANNUAL REPORT TO THE INTERNATIONAL UNION OF RAILWAYS (UIC)

		2011	2010
TABLE 11 – LINES [1]			
Rail Traffic			
Rail gauge: 1.524 m			
Length of lines at the end of the year			
Lines not electrified			
Total	km	2 772	2 847
Single track	"	2 772	2 847
Electrified lines [2]			
Total	"	3 172	3 073
Double and more than double track	"	570	570
Total	"	5 944	5 919
Lines used			
for passenger traffic only	"	–	–
for freight traffic only	"	1 762	1 738
Road traffic			
Length of lines worked at the end of the year			
Freight	km	–	–
TABLE 21 – TRACTIVE STOCK			
Fleet strength at the end of the year			
Diesel locomotives			
Total number		314	320
Above 1 500 kW		18	18
Electric locomotives			
Total number		155	156
Above 3 000 kW		155	156
Diesel railcars			
Single units			
Total number		16	16
Permanently-coupled trainsets			
Number		–	–
Total number of vehicles		–	–
Electric railcars			
Indivisible trainsets			
Number		158	152
Total number of vehicles		432	402
TABLE 22 – PASSENGER TRANSPORT STOCK			
Stock at the end of the year			
Railway-owned vehicles for commercial purpose			
Stock			
Coaches		654	653
Railcars and railcar trailers		448	418
Total stock		1 102	1 071
of which air-conditioned carriages		453	389
of which restaurant cars		48	49
of which couchette coaches		–	–
of which sleeping cars		110	107
Number of places			
Seats			
1st class		2 957	2 572
2nd class		66 360	64 447
Couchettes 2nd class		–	–
Sleeping cars 1st and 2nd class (maximum number)		4 004	3 884
Seating and sleeping accommodation total		73 321	70 903
Vans			
Total stock		42	42

[1] Owned by Finnish Transport Agency.

[2] Lines fed by 25 000 volts, 50 cycle, alternating current (catenary system).

		2011	2010
TABLEAU 23 – MATERIEL DE TRANSPORT DE MARCHANDISES			
Effectifs à la fin de l'année			
Véhicules des réseaux			
Wagons couverts			
Effectif		3 949	4 052
dont à bogies		1 690	1 691
Capacité totale en tonnes		167 821	170 620
Wagons tombereaux			
Effectif		526	527
dont à bogies		476	477
Capacité totale en tonnes		26 294	26 581
Wagons plats			
Effectif		5 380	5 375
dont à bogies		3 604	3 563
Capacité totale en tonnes		264 066	262 602
Autres wagons			
Effectif		509	510
dont à bogies		509	510
Capacité totale en tonnes		29 521	29 575
Total des wagons			
Effectif		10 364	10 464
dont à bogies		6 278	6 241
Capacité totale en tonnes		487 702	489 378
Véhicules de particuliers			
Wagons			
Effectif total		69	67
Capacité totale en tonnes		3 202	2 699
TABLEAU 31 – EFFECTIF MOYEN ANNUEL DU PERSONNEL			
Administration générale			
Direction générale et Directions régionales		565	958
Exploitation ferroviaire			
Mouvement et trafic			
Services centraux et régionaux		715	262
Services des gares		1 891	1 116
Services des trains		796	2 090
Total		3 402	3 468
Matériel et traction			
Services centraux et régionaux		236	162
Services de conduite des véhicules moteurs		1 638	1 711
Ateliers principaux		509	526
Autre personnel		784	427
Total		3 167	2 826
Installations fixes			
Services centraux et régionaux		502	456
Entretien et surveillance des installations fixes		1 331	1 742
Total		1 833	2 198
Autres exploitations			
Services routiers		–	–
Diverses		–	95
Travaux d'établissement, de reconstruction, etc		..	..
Total du personnel du réseau			
Total du personnel		8 967	9 545
TABLEAU 41 – PARCOURS DES TRAINS			
Locomotives diesel			
Total	1 000 km	6 204	6 177
Affectées au trafic voyageurs	"	1 211	1 226
Affectées au trafic marchandises	"	4 993	4 951
Locomotives électriques			
Total	1 000 km	27 085	27 771
Affectées au trafic voyageurs	"	16 586	16 770
Affectées au trafic marchandises	"	10 499	11 001
Automotrices diesel			
Total	1 000 km	1 535	1 513
Affectées au trafic voyageurs	"	1 535	1 513

		2011	2010
TABLE 23 – FREIGHT TRANSPORT STOCK			
Stock at the end of the year			
Railway-owned vehicles			
Covered wagons			
Stock		3 949	4 052
of which bogie wagons		1 690	1 691
Total capacity in tonnes		167 821	170 620
High-sided open wagons			
Stock		526	527
of which bogie wagons		476	477
Total capacity in tonnes		26 294	26 581
Flat wagons			
Stock		5 380	5 375
of which bogie wagons		3 604	3 563
Total capacity in tonnes		264 066	262 602
Other wagons			
Stock		509	510
of which bogie wagons		509	510
Total capacity in tonnes		29 521	29 575
All wagons			
Stock		10 364	10 464
of which bogie wagons		6 278	6 241
Total capacity in tonnes		487 702	489 378
Private owner's vehicles			
Wagons			
Stock		69	67
Total capacity		3 202	2 699
TABLE 31 – ANNUAL MEAN STAFF STRENGTH			
General Management			
General headquarters and regional headquarters		565	958
Railway operations			
Operating and traffic			
Central and regional offices		715	262
Station services		1 891	1 116
Train services		796	2 090
Total		3 402	3 468
Traction and rolling stock			
Central and regional offices		236	162
Motor-vehicle driving staff		1 638	1 711
Main workshops		509	526
Other staff		784	427
Total		3 167	2 826
Permanent way			
Central and regional offices		502	456
Permanent way maintenance and supervision		1 331	1 742
Total		1 833	2 198
Other operations			
Road transport services		–	–
Miscellaneous		–	95
Net works, reconstruction, etc.		..	..
Total staff belonging to the railway			
Total staff)		8 967	9 545
TABLE 41 – TRAIN-KILOMETRES			
Diesel locomotives			
Total	1 000 km	6 204	6 177
Passenger traffic	"	1 211	1 226
Freight traffic	"	4 993	4 951
Electric locomotives			
Total	1 000 km	27 085	27 771
Passenger traffic	"	16 586	16 770
Freight traffic	"	10 499	11 001
Diesel railcars			
Total	1 000 km	1 535	1 513
Passenger traffic	"	1 535	1 513
Electric railcars			
Total	1 000 km	16 246	15 539
Passenger traffic	"	16 246	15 539

		2011	2010
Automotrices électriques			
Total	1 000 km	16 246	15 539
Affectées au trafic voyageurs	"	16 246	15 539
Tous modes de traction			
Total	1 000 km	51 070	51 000
Affectées au trafic voyageurs	"	35 578	35 048
Affectées au trafic marchandises	"	15 492	15 952
TABLEAU 42 – TONNAGE KILOMETRIQUE BRUT REMORQUE DES TRAINS			
Locomotives diesel			
Total	1 000 000 km	5 683	5 350
Affectées au trafic voyageurs	"	315	322
Affectées au trafic marchandises	"	5 368	5 028
Locomotives électriques			
Total	1 000 000 km	19 845	20 722
Affectées au trafic voyageurs	"	6 100	6 107
Affectées au trafic marchandises	"	13 744	14 665
Automotrices diesel			
Total	1 000 000 km	120	116
Affectées au trafic voyageurs	"	120	116
Affectées au trafic marchandises	"	–	–
Automotrices électriques			
Total	1 000 000 km	3 697	3 445
Affectées au trafic voyageurs	"	3 697	3 445
Tous modes de traction			
Total	1 000 000 km	29 344	29 683
Affectées au trafic voyageurs	1 000 000 km	10 232	9 990
Affectées au trafic marchandises	"	19 112	19 693
TABLEAU 43 – PARCOURS DU MATERIEL ROULANT[3]			
Parcours des véhicules moteurs par mode de traction			
Locomotives diesel	1 000 km	16 122	15 854
Locomotives électriques	"	31 519	32 234
Automotrices diesel	"	2 067	1 993
Automotrices électriques	"	22 105	20 741
Tous modes de traction	"	71 822	70 822
Voitures, automotrices et remorques d'automotrices (en wagon-kilomètres)		..	..
Wagons (en wagon-kilomètres)			
Total	1 000 000 km	417	434
dont chargés	"	227	238
TABLEAU 51 – TRAFIC COMMERCIAL VOYAGEURS			
Trafic ferroviaire			
Nombre de voyageurs			
Total	1 000	68 376	68 950
en 2ème classe	"	..	..
Nombre de voyageurs-kilomètres			
Total	1 000 000 km	3 882	3 959
en 2ème classe	"	..	..
Parcours moyen d'un voyageur	km	56,8	57,4
Bagages			
Automobiles accompagnées			
Nombre		40 906	43 029
Poids (en tonnes)		61 359	64 543
Autres			
Poids (en tonnes)		–	–

[3] Total des parcours sur le Réseau, y compris les véhicules étrangers.

		2011	2010
All types of traction			
Total)	1 000 km	51 070	51 000
Passenger traffic	"	35 578	35 048
Freight traffic	"	15 492	15 952
TABLE 42 – TRAIN GROSS TONNE-KILOMETRES HAULED			
Diesel locomotives			
Total	1 000 000 km	5 683	5 350
Passenger traffic	"	315	322
Freight traffic	"	5 368	5 028
Electric locomotives			
Total	1 000 000 km	19 845	20 722
Passenger traffic	"	6 100	6 107
Freight traffic	"	13 744	14 665
Diesel railcars			
Total	1 000 000 km	120	116
Passenger traffic	"	120	116
Freight traffic	"	–	–
Electric railcars			
Total	1 000 000 km	3 697	3 445
Passenger traffic	"	3 697	3 445
All types of traction			
Total)	1 000 000 km	29 344	29 683
Passenger traffic	"	10 232	9 990
Freight traffic	"	19 112	19 693
TABLE 43 – ROLLING STOCK-KILOMETRES [3]			
Tractive vehicle kilometres by type of traction			
Diesel locomotives	1 000 km	16 122	15 854
Electric locomotives	"	31 519	32 234
Diesel railcars	"	2 067	1 993
Electric railcars	"	22 105	20 741
All types of traction	"	71 822	70 822
Coaches, railcars and railcar trailers (in wagon-kilometres)		..	..
Wagons (in wagon-kilometres)			
Total	1 000 000 km	417	434
Loaded	"	227	238
TABLE 51 – REVENUE-EARNING PASSENGER TRAFFIC			
Rail traffic			
Number of passengers carried			
Total	1 000	68 376	68 950
2nd class	"	..	..
Number of passenger-kilometres			
Total	1 000 000 km	3 882	3 959
2nd class	"	..	..
Mean passenger distance	km	56.8	57.4
Baggage			
Accompanied cars			
Number		40 906	43 029
Weights (in tonnes)		61 359	64 543
Other			
Weight (in tonnes)		–	–
TABLE 61 – FREIGHT TRAFFIC			
Rail traffic			
Tonnes carried (in thousands)			
Revenue-earning traffic			
By traffic category			
Express parcels and smalls traffic		–	–
Full wagonloads		34 827	35 795
of which full trainloads		..	..
Empty private-owners' wagons		–	–
Total		34 827	35 795
Works traffic		54	6
Grand total		34 881	35 801
Tonne-kilometres			
Revenue-earning-traffic			
By traffic category			
Express parcels and smalls traffic	1 000 000 km	–	–

[3] Total kilometres on the railway network, including foreign vehicles.

		2011	2010
TABLEAU 61 – TRAFIC MARCHANDISES			
Trafic ferroviaire			
Tonnes transportées (en milliers)			
Transports commercieaux			
par catégorie de trafic			
Colis express et envois de détail		–	–
Wagons complets		34 827	35 795
dont par trains complets		..	..
Wagons de particuliers vides		–	–
Total		34 827	35 795
Transports en service		54	6
Total général		34 881	35 801
Tonnes-kilomètres			
Transports commerciaux			
par catégorie de trafic			
Colis express	1 000 000 km	–	–
Wagons complets	"	9 395	9 750
dont par trains complets	"	..	..
Wagons de particuliers vides	"	–	–
Total	"	9 395	9 750
Transports en service	"	31	4
Total général	"	9 426	9 754
Parcours moyen d'une tonne			
Transports commerciaux	km	269,8	272,5
dont transports intermodaux à charge et à vide			
Nombre d'unités intermodales transportées (en milliers)		58	68
Nombre de wagons chargés d'unités intermodales (en milliers)		39	50
Tonnes transportées (en milliers)		794	1 053
Tonnes kilomètres (en millions)		298	436

		2011	2010
Full wagonloads	"	9 395	9 750
of which full trainloads	"	..	..
Empty private-owners' wagons	"	–	–
Total	"	9 395	9 750
Works traffic		31	4
Grand total	"	9 426	9 754
Average length of haul of one tonne			
Revenue-earning traffic	km	269.8	272.5
of which loaded and empty intermodal traffic			
Number of intermodal units carried (in thousands)		58	68
Number of wagons loaded with intermodal units (in thousands)		39	50
Tonnes carried (in thousands)		794	1 053
Tonne-kilometres (in millions)		298	436

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