

Pocket Facts 2010

The Swedish Transport Administration,
railways, roads, traffic and transports



TRAFIKVERKET



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Read more in

Banverket's Annual Report 2009

Swedish Rail Sectoral Development, Banverket's Sector Report 2009

The Swedish Road Administration Annual Report 2009, Publication 2010:27

The Road Transport Sector – Sectoral Report 2009, Publication 2010:28



WE ARE ALL DEPENDENT on opportunities for travel and an ability to transport or gain access to products through transports. This publication provides an overall picture of railways and roads in Sweden and how they are used.

Pocket Facts also provides information about the tasks and organisation of the Swedish Transport Administration. The Administration, which was formed on 1 April 2010, works with all modes of transport and has taken over the tasks of the National Rail Administration (Banverket) and the Swedish Road Administration (SRA). This publication also contains contact information to enable you to reach us for further information.

A handwritten signature in black ink, consisting of a stylized 'G' and 'M'.

Gunnar Malm

**DIRECTOR-GENERAL
SWEDISH TRANSPORT ADMINISTRATION**

Swedish Transport Administration's vision and mission

The Swedish Transport Administration has formulated a vision and mission that shows how we view our responsibilities towards achieving our objectives.

Vision

World-class creative community builders
- we make the good journey and good transports possible.

Mission

The Swedish Transport Administration actively participates in community building by planning, managing and developing a socio-economically efficient and sustainable transport system.

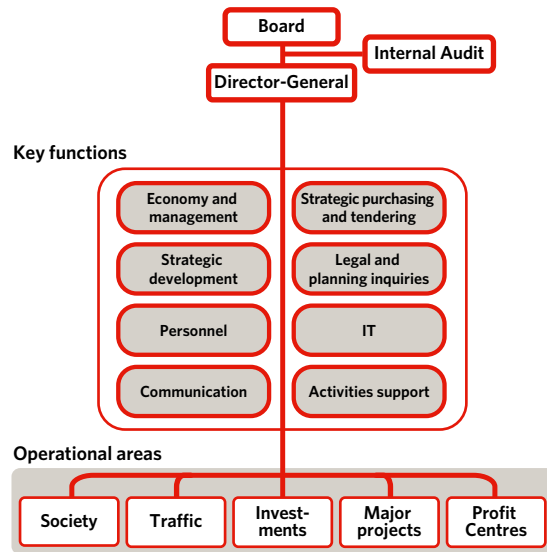
Tasks and organisation

The Swedish Transport Administration is responsible for the long-term planning of the transport system for road, rail, shipping and aviation. Our task is to develop an efficient and sustainable transport system from a perspective that encompasses all modes of transport. We work with long-term infrastructure planning in close dialogue with regions and municipalities. We are also responsible for building, operating, and maintaining state roads and railways. In addition, we are responsible to ensure that this infrastructure is effectively used and that it promotes safe and environmentally-sound transports.

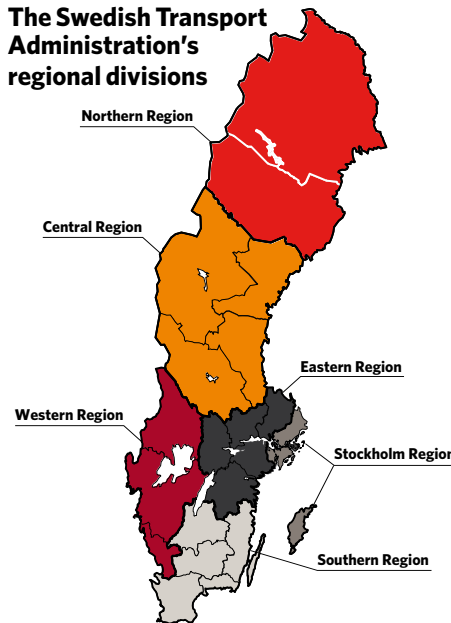
On 1 April 2010 the Swedish Transport Administration took over activities that were previously carried out by Banverket and the SRA. At the same time, Banverket, the SRA, and the Swedish Institute for Transport and Communications Analysis (SIKA) were phased out.

Organisation

The Swedish Transport Administration is divided into the operational areas Society, Transport, Investments, Major Projects and Profit Centres. There are six regions under the Society operational area. Regional offices are located in Luleå, Gävle, Stockholm, Eskilstuna, Göteborg and Kristianstad. There are also eight key functions. The internal audit is administered directly under the board. The Administration's executive and key functions are located in Borlänge.



The Swedish Transport Administration's regional divisions



Financing

The Swedish Transport Administration's activities in 2010 are to be financed with appropriations amounting to SEK 38 billion (including appropriations from Banverket and the SRA for 1 January until 31 March). Certain activities are also financed directly from fees and income from commissioned work. Some road and rail projects and other investments are financed through loans and subsidies.

Employees

The Swedish Transport Administration has about 6 500 employees. Some 3 500 of these are from Banverket and about 3 000 from the SRA. A few employees have been transferred to the Administration from the Swedish Maritime Administration, LfV, the Swedish Transport Agency and SIKA.

Goals in transport policy

The overall goal for transport policy is to safeguard the provision of socio-economically efficient and sustainable transport for individuals and the business community throughout the country.

The overall goal is supported by two main objectives: a functional objective and an impact objective.

The functional objective concerns accessibility for journeys and transports:

The transport system's design, function and use is to contribute to offer everyone basic

accessibility with good quality and usability as well as to contribute as a positive force for development in the entire country. The transport system should be gender equal, i.e. equally meet the transport needs of women and men.

The impact objective concerns health, safety and the environment:

The design and use of the transport system must be adapted to ensure that no one is killed or seriously injured and to contribute to the achievement of environmental quality goals and improved health.



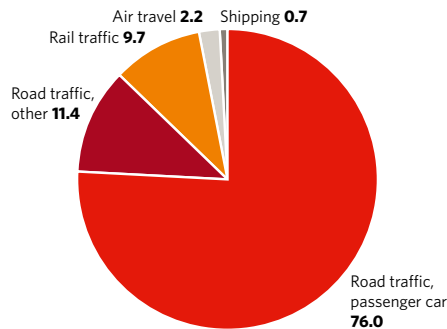
Journeys and transports

Passenger transports

Road transport accounts for 87.4 per cent of passenger transport performance¹ in Sweden. Rail traffic accounts for 9.7 per cent and air traffic 2.2 per cent. We travelled slightly more by car and slightly less by train in 2009 compared with 2008.

1. Passenger transport mileage = the total distance travelled by all passengers (passenger kilometres).

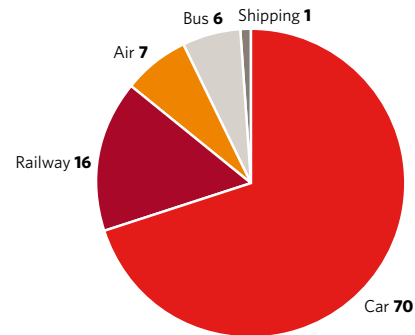
Proportion of passenger transport mileage by mode of transport 2009, per cent



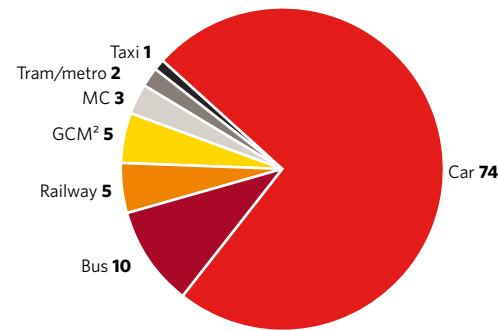
Swedes travel an average 39.8 km each day, 28.9 km of which are by passenger car. On average, men travel 44.5 km per person and day,

while women travel 35.1 km. Women use public transport, walk and cycle more than men.

Long-distance passenger transport mileage by mode of transport in 2009, per cent



Short-distance passenger transport mileage by mode of transport in 2009, per cent



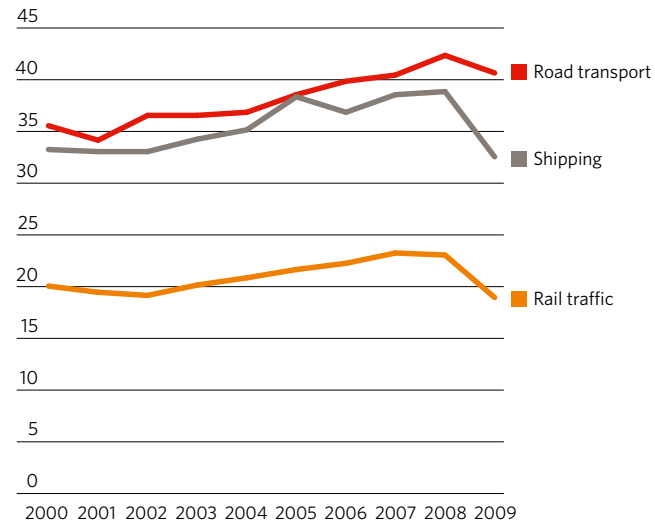
2. Pedestrian, cycle and moped.

Goods transports

Road traffic accounted for 44.1 per cent of the total goods transport performance¹ in 2009, shipping for 35.3 per cent and rail for 20.6 per cent.

1. Goods transport mileage = the total quantity of goods multiplied by the number of kilometres (tonne kilometres).

Goods transport mileage in Sweden, billion tonne kilometres



SOURCE: SIKÅ.

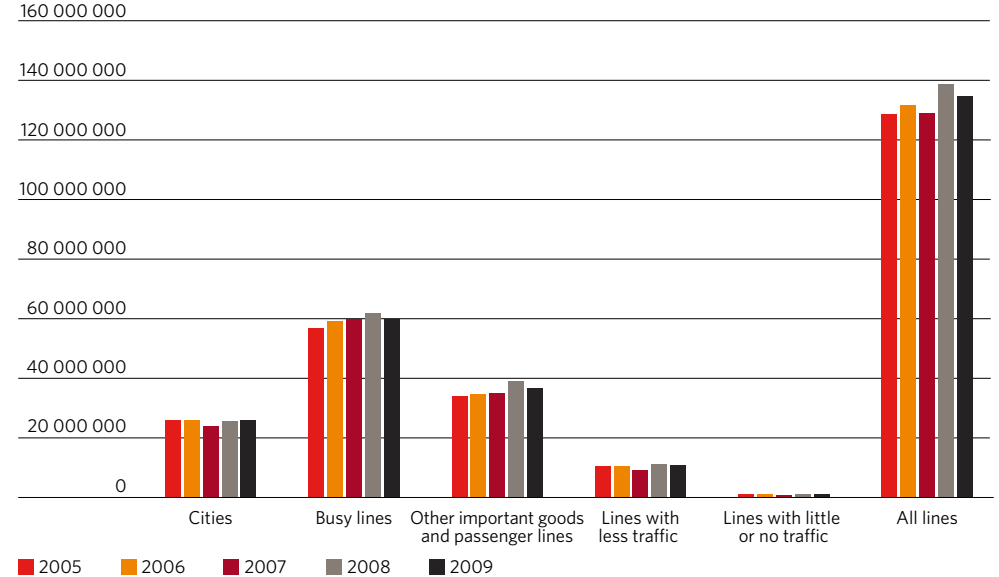




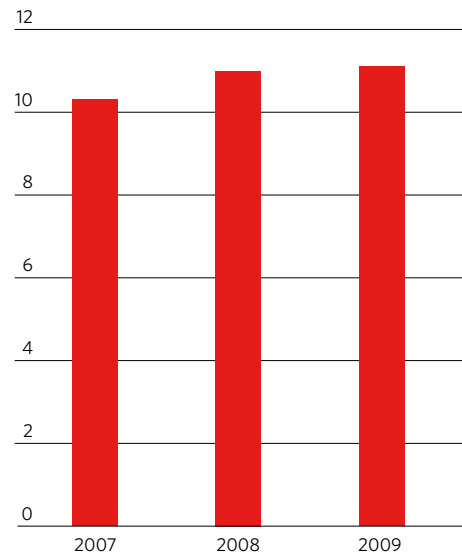
Rail traffic

Rail transport has increased in terms of rail kilometres for several years, even if it fell slightly in 2009. Transport has primarily risen on main routes and other key routes for freight and travel. We travelled slightly less by rail on longer routes (more than 100 kilometres) but slightly more on short routes compared with 2008. Freight transport by rail fell by 16 per cent in 2009, but the proportion of freight transport by rail remained largely unchanged.

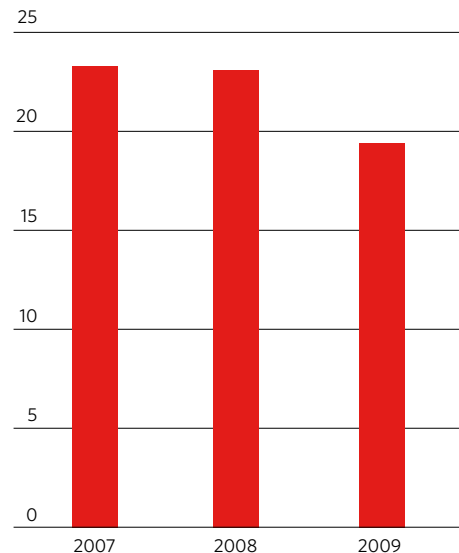
Traffic volume, million rail kilometres



Passenger transport mileage on railways 2007-2009, billion passenger kilometres



Freight transport mileage on railways 2007-2009, billion tonne kilometres



Road traffic

Passenger cars account for the majority of vehicle mileage in Sweden, i.e. total distance driven by all vehicles (vehicle kilometres). Vehicle mileage by passenger car has risen substantially since 2000, by 12.6 per cent. Vehicle mileage by lorry has risen by 44.4 per cent since 2000. This growth has mainly been

for light commercial vehicles, which is in part because passenger cars have been reclassified as light commercial vehicles.

Far fewer new vehicles were ordered in 2009 than 2008, primarily because of the economic crisis. New registrations of passenger cars and lorries decreased by 17.3 per cent and 28.7 per cent respectively compared with 2008.

Vehicle mileage, million vehicle kilometres

	2003	2004	2005	2006	2007	2008	2009
Passenger car	62 549	62 971	61 690	63 185	65 530	66 994	67 190
Light commercial vehicle ≤ 3.5 tonnes	5 656	5 909	6 610	6 945	7 407	7 631	7 711
Heavy commercial vehicle > 3.5 tonnes	4 118	4 155	4 368	4 762	4 917	4 658	4 649
Bus	913	890	844	858	843	835	830
Moped	184	201	242	283	315	329	337
Motorcycle	625	674	627	681	687	714	727

SOURCE: VTI, SCB, SIKa and SRA.

Number of vehicles on roads at the end of respective years, in thousands

	2004	2005	2006	2007	2008	2009
Passenger car	4 116	4 157	4 207	4 264	4 285	4 308
Bus	13	13	14	13	13	13
Light commercial vehicle (≤ 3.5 tonnes total weight)	365	385	401	424	431	437
Heavy commercial vehicle (> 3.5 tonnes total weight)	75	76	79	80	80	79
Trailer	805	834	863	898	926	948
All-terrain vehicle	156	170	177	184	191	202
Tractor	327	327	327	324	322	321
Motorcycle (as at 30 June)	235	250	269	287	297	303
EU moped Class I (as at 30 June)	48	72	94	118	130	135
Moped Class II	104 ¹	87 ²	83 ²	80 ³	78 ³	76 ³

SOURCE: The Swedish Transport Agency traffic registry, SIKa, SCB/vehicle statistics.

1. Vehicles with mandatory insurance as of 31 December. Source: Swedish Insurance Federation.

2. Vehicles with mandatory insurance as of 30 June. Source: Swedish Insurance Federation.

3. Estimated figures.

78.2 per cent of light vehicles (private cars, light commercial vehicles and light buses) were petrol powered and 17.3 per cent diesel. For heavy vehicles (vehicles over 3.5 tonnes), 96.2 per cent were diesel powered.

Slightly less than 20 per cent of all vehicles registered in 2009 can use alternative fuels. The proportion of new cars that are run on ethanol fell to 16.0 per cent compared with 18.8 per cent in 2008. At the same time, the proportion of diesel cars has risen, from 42.1 per cent in 2008 to 45.2 per cent in 2009. For heavy vehicles registered in 2009, 5 per cent can be run using alternative fuels.



Proportion new vehicle registrations per fuel type, per cent

	2004	2005	2006	2007	2008	2009
Light vehicles						
Petrol	81.9	78.4	63.9	49.8	38.3	35.9
<i>of which electric hybrids</i>	<i>0.3</i>	<i>0.7</i>	<i>1.3</i>	<i>1.8</i>	<i>3.5</i>	<i>3.5</i>
Diesel	15.9	18.3	27.5	40.3	42.1	45.2
Ethanol, hybrid	1.8	2.7	7.4	9.3	18.8	16.0
Gas	0.4	0.6	1.2	0.6	0.7	2.9
Electric	0.0	0.0	0.0	0.0	0.0	0.0
Heavy vehicles						
Diesel	97.2	95.6	94.5	96.7	97.1	94.5
Gas	2.5	1.9	2.7	1.9	1.7	3.9
Ethanol	0.0	0.0	1.5	0.1	0.4	1.0
Petrol	0.3	2.5	1.3	1.3	0.7	0.6

SOURCE: SRA and Swedish Transport Agency.

About 5 per cent of vehicle fuel in use today is biofuel, the remainder is fossil. The main bio-fuels used in Sweden are ethanol, RME/FAME (biodiesel) and biogas (vehicle gas).

All standard petrol in Sweden currently contains 5 per cent ethanol. RME is added in a similar way to diesel.

Proportion of renewable fuel in the entire road transport sector, per cent

	2004	2005	2006	2007	2008	2009
	2.2	2.4	3.2	4.0	5.0	5.3

SOURCE: SRA.



Transport and the environment

The transport of people and goods and the infrastructure for transports have a significant impact on the environment. The Swedish Transport Administration is working in various ways to limit this impact.

The transport sector (including international transports) accounts for some 40 per cent of Sweden's total emissions of greenhouse gases. Road traffic is responsible for 94 per cent of emissions from domestic transports. Emissions from international shipping have risen significantly since 1990 and emissions from international air traffic have more than doubled since 1990. Rail transport produces only minor emissions of carbon dioxide and air pollution compared with other modes of transport.

The Swedish Transport Administration influences demands on vehicles, participates

in community planning and supports training in ecodriving in order to reduce emissions of carbon dioxide, particulate matter, noise etc. Nitrogen dioxide levels in urban areas have fallen in the long term, by about 29 per cent since 1990, according to a population-weighted index. This is mainly a result of tougher exhaust requirements for vehicles. Also emissions of exhaust particles have fallen, by 61 per cent since 1990 and by 14 per cent since 2008. Levels of particles in ambient air, however, have not fallen substantially, as these are dominated by particles from road wear, tyres, brakes, and friction material.

In order to improve the situation for people that are most exposed to traffic noise, we replace windows and erect noise screens. In total, these types of measures have been carried out on state roads and railways for 150 000

Energy consumption per transport kilometre travelled, rail traffic

	2007	2008	2009
Energy consumption for passenger traffic in GWh	1 136	1 113	960
Mileage in billions of passenger-kilometres	10.4	11	11.1
Energy consumption, kWh/passenger-kilometre	0.11	0.1	0.09
Energy consumption for freight traffic in GWh	1 265	1 329	921
Mileage in billions of gross tonne-kilometres	23.3	23.3	19.4
Energy consumption, kWh/gross tonne-kilometres	0.05	0.06	0.05

Carbon dioxide emissions per vehicle type, road traffic

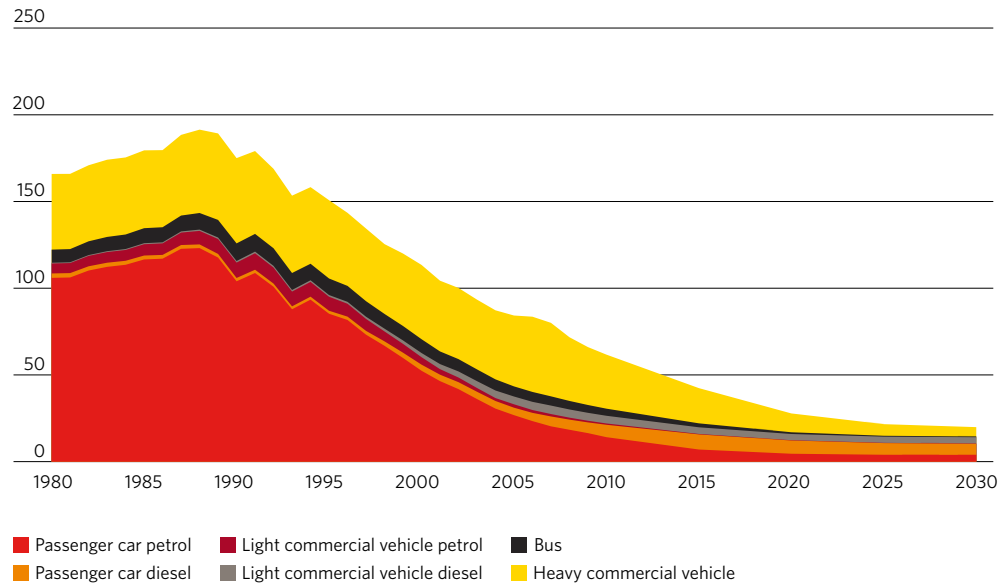
	1990	1995	2000	2007	2008	2009
Carbon dioxide (Mtonnes)	17.3	17.9	18.0	19.8	19.2	19.0
Passenger car (%)	72	71	69	63	63	63
Light commercial vehicle (%)	6	6	7	10	11	11
Heavy commercial vehicle (%)	18	19	20	23	22	22
Bus (%)	4	4	4	3	3	3
Motorcycle/moped (%)	0	0	0	1	1	1

people 1998–2009, and municipalities have implemented similar measures for 70 000 people along municipal roads. We also work to reduce noise at source by promoting quieter vehicles, tyres and surfacing, quieter braking systems on trains and measures on rails.

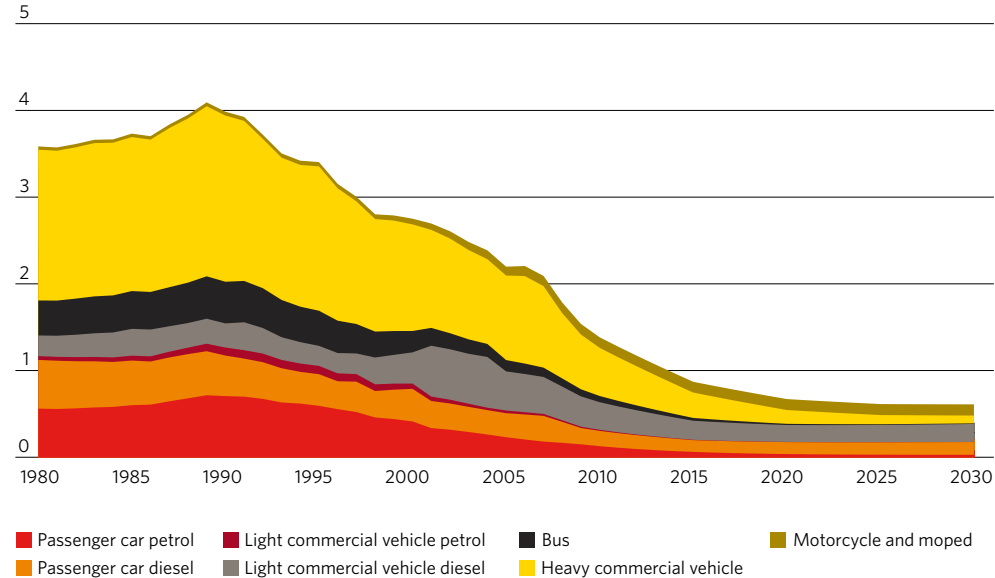
The fragmentation of the landscape is a growing obstacle for biodiversity. The Swedish Transport Administration works in various ways to ensure that the needs of natural and cultural heritage are taken into account when we plan, build, and maintain our roads and railways. Among other things, we manage cultural heritage bridges, roadsides rich in species and tree-lined avenues, and create wildlife passages. We also build protection for drinking water catchment areas and are phasing out chemicals in order to protect environment and health.



Estimated emissions of nitrogen oxides from road traffic, thousands of tonnes per year



Estimated emissions of exhaust particles from road traffic, thousands of tonnes per year



Number of obstacles removed on animal migratory paths on existing road network

Animals and roads – Existing state road network

Type of measure	Number				
	2005	2006	2007	2008	2009
Fauna passage construction for larger mammals	0	0	0	1	0
Fauna passage construction for otters and other smaller animals	15	15	25	97	57
Fauna passage construction for batrachians	2	0	0	4	3
Targeted measures for fish (such as culvert replacement)	14	14	19	24	46

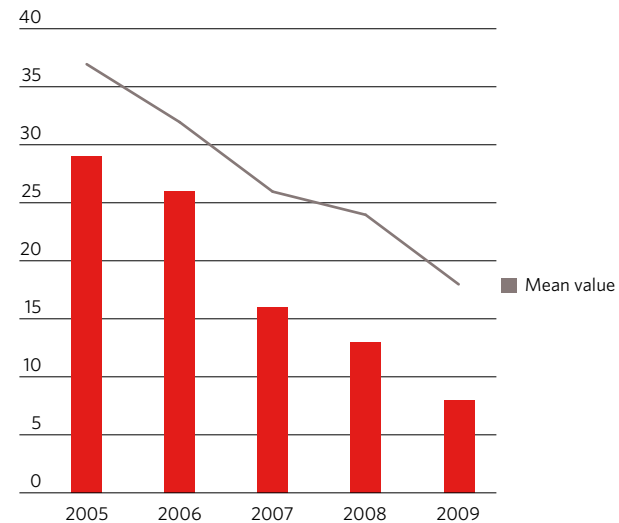


Safety and reliability of railways and roads

Fatalities and injuries in connection with rail traffic

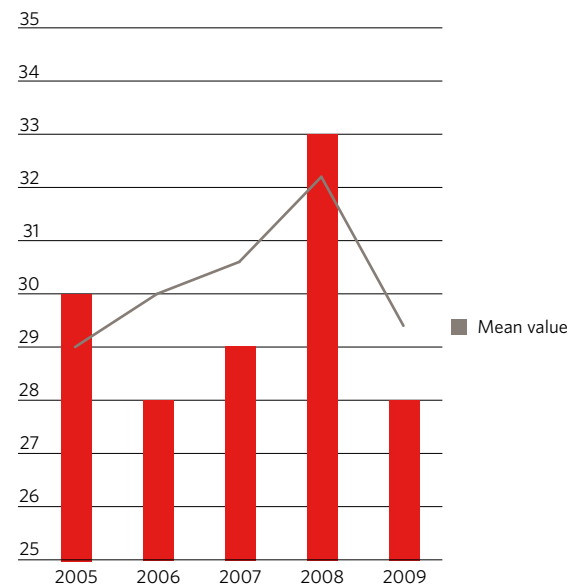
Railway passenger safety standards are very high, and the Swedish Transport Administration works in a long-term and systematic way to further improve the technical safety of the system. However, every year a number of people are killed or injured on railway tracks. Many of these incidents are suicide. A few people are killed or injured in accidents at level crossings or in electrical accidents. We strive to prevent fatalities and injuries by using fencing and camera surveillance at exposed locations and through information, primarily targeting schools. We are also active in efforts to abolish level crossings and to improve safety at the remaining levels crossings.

**Number of accidents involving rail vehicles¹,
and a five-year rolling mean value**

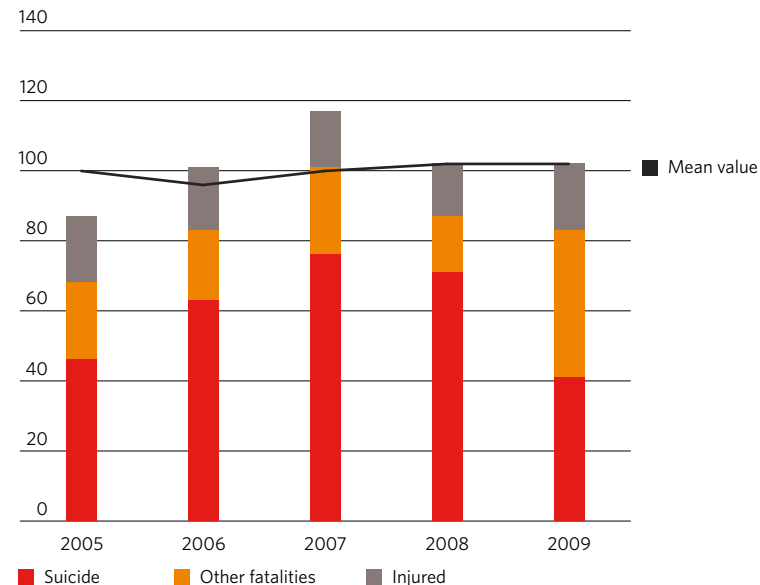


1. Excluding level crossing accidents.

**Number of level crossing accidents,
and a five-year rolling mean value**



Number of people killed and seriously injured in conjunction with rail traffic, with a five-year rolling mean average



Punctuality and train cancellations

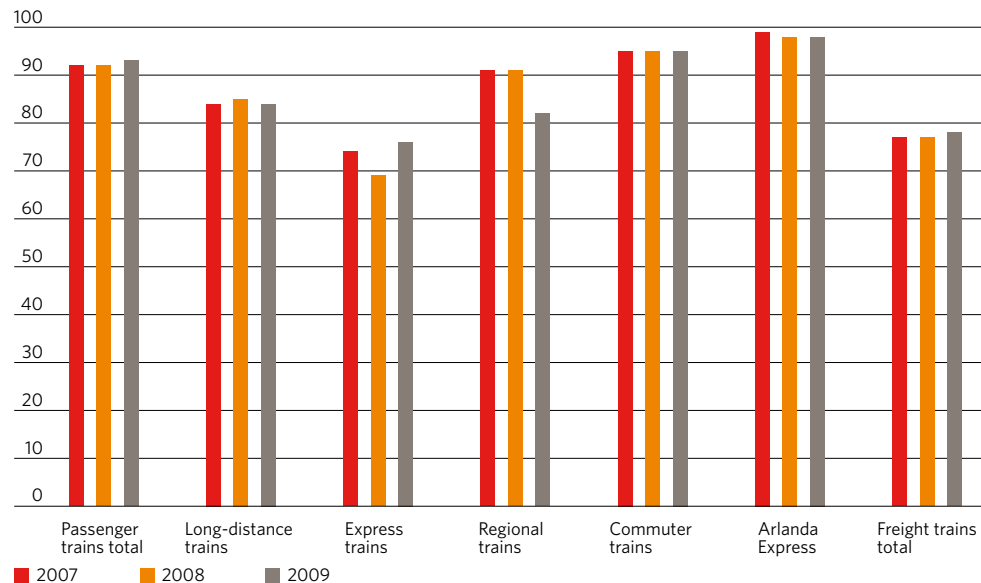
Railway traffic punctuality improved in 2009, in terms of the number of trains that were less than five minutes late on arrival. A total 90.9 per cent of trains arrived on time, with 92.5 per cent of passenger trains on time. There was,

however, a rise in the number of train cancellations. Punctuality deteriorated again in early 2010. The extreme winter weather in February and March created significant problems with train delays and cancellations.

Train delays for passenger traffic and number of cancelled trains

	2007	2008	2009
Train delay hours passenger traffic	26 377	28 312	31 002
Number of delayed train departures	15 489	12 431	26 030

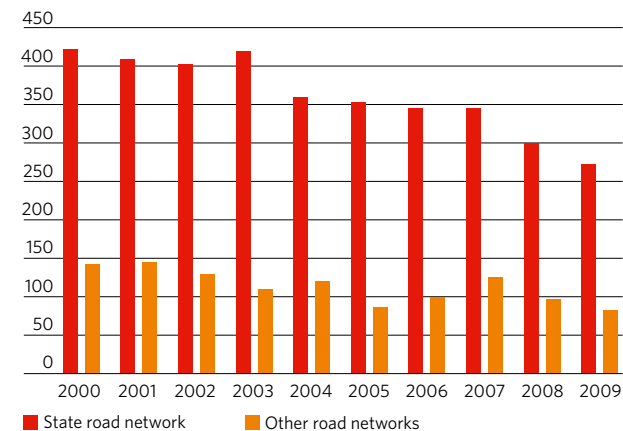
Punctuality for different types of traffic, per cent



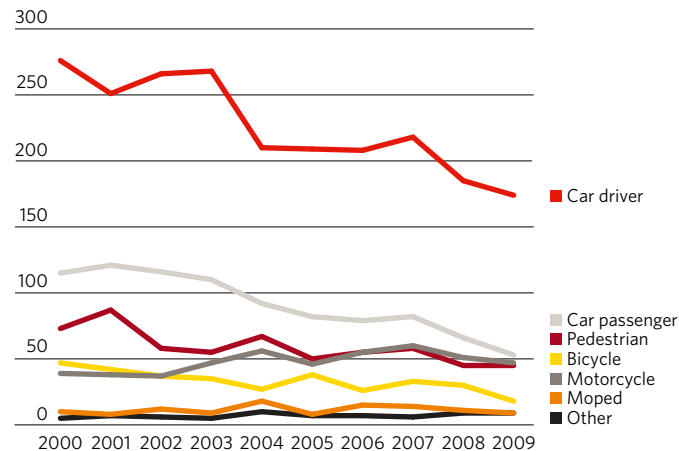
Fatalities and injuries in road traffic

- The number of traffic fatalities in 2009 was 355, of which 270 occurred on the state road network (preliminary figures).
- There were 3 525 serious injuries on the roads in 2009, of which 2 050 on the state road network (preliminary figures).

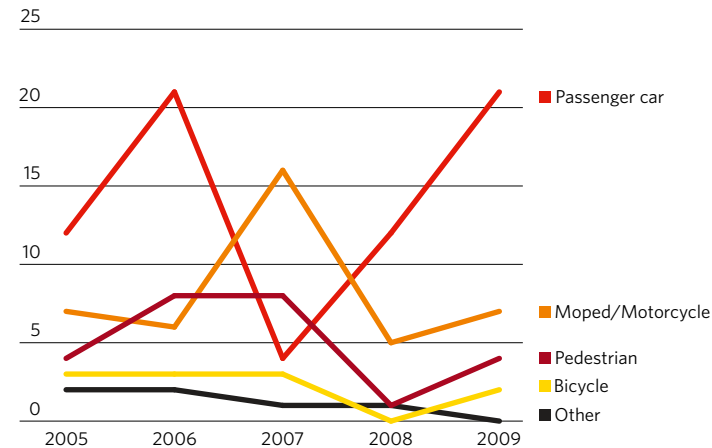
Number of fatalities in road traffic, in total and by road network, excluding natural causes



Number of fatalities in road traffic by category of road user, excluding natural causes



Number of children aged 0-17 killed on roads



Sobriety, speed, cycle helmets, and seat belts

Safety in road traffic is heavily influenced by if road users comply with regulations on speed, seat belt use, and sobriety and if cyclists use cycle helmets. Among passenger car drivers killed in traffic accidents in 2009, 21 per cent had alcohol in the blood in excess of levels for drunk driving (0.2 promille).

Speed not only affects safety, but also impacts the environment. Average speed has fallen by 0.5 percentage points during the past

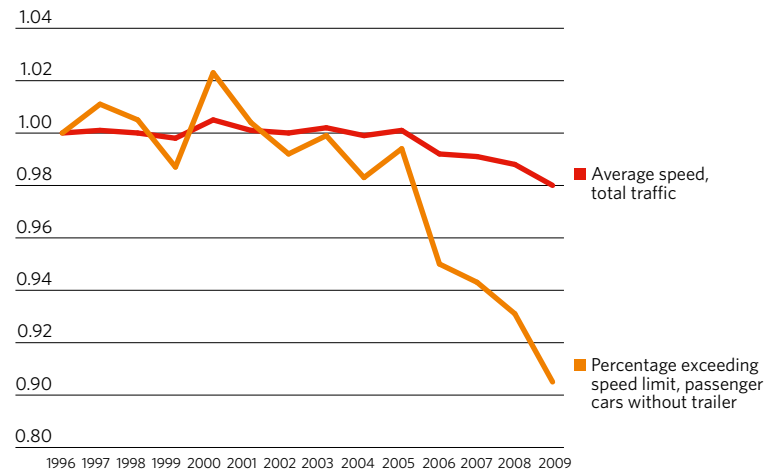
four years. This could be for several reasons, such as a raise in speeding fines and automated camera surveillance.

According to Swedish law, all car occupants must wear a seat belt, both driver and passengers. This also applies to commercial drivers in taxis and heavy vehicles. A law was introduced on 1 January 2005 requiring all children under 15 to wear cycle helmets.

Number of reported cases of drunk driving

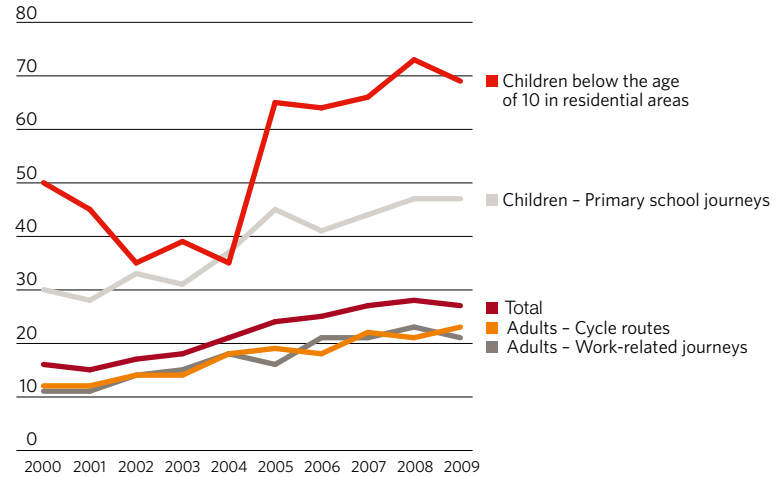
	2005	2006	2007	2008	2009
Drink driving offences	23 225	27 375	29 362	31 114	29 877
of which drug driving	7 416	9 955	11 240	12 269	12 075

Percentage of vehicle mileage exceeding speed limit and average speed. Index 1996=1

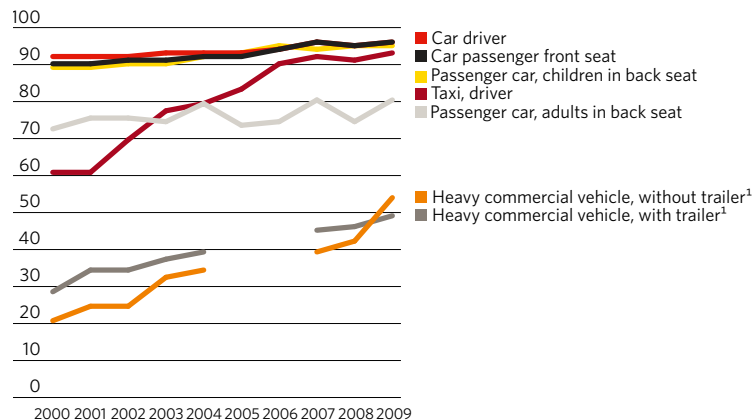




Cycle helmet use, per cent



Seat belt use, per cent



1. Observations of heavy lorries from 2007 and onwards are not entirely comparable with earlier observations.

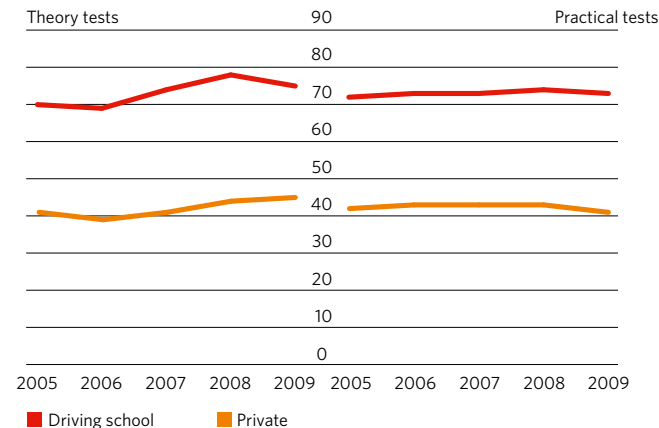
Driving licences

82.4 per cent of the population aged 18 and over owned a driving licence in 2009 (80.3 per cent in 2008), a total 6.1 million people. 76.3 per cent of women and 88.8 per cent of men had a driving licence.

Driving licences, driving licence tests

In 2009 there were 269 700 practical driving tests and 267 600 theory tests for driving licences. Average waiting time for a practical test was 13 days and for a theory test 8 days. There are significant discrepancies in the pass rate between students trained at driving schools and those privately trained.

Proportion of B licence theory and practical tests passed, 2005-2009, per cent



Railways and roads

Railway network

The state railway network managed by the Swedish Transport Administration comprises 11 900 km of operated track (track-kilometres), of which 3 700 km is double track and multiple tracks. 9 800 km of track is electrified.

The railway network includes 3 781 railway bridges and 147 tunnels.

Alongside the tracks are 12 000 km of fibre-optic cable for telecom, datacom and signal services. Spare capacity is leased by companies and authorities for data- and telecommunications.



Road network

The Swedish road network comprises

- 98 400 km of state roads and 46 500 km of municipal streets and roads
- 75 900 km of private roads receiving state subsidies
- a very large number of private roads without state subsidies, most of which are forest motor roads.

The state road system includes 15 800 bridges, around 20 tunnels and 37 ferry routes.

Some 19 700 km of the state road network is gravel road, which is equivalent to 20.0 per cent of the total road length. Traffic load determines whether a road is paved. Therefore the length of gravel roads varies across the country. 66.4 per cent of the total length of gravel road is in the forest counties¹.

1. The forest counties are Värmland, Dalarna, Gävleborg, Jämtland, Västernorrland, Västerbotten and Norrbotten county.

Road length and vehicle mileage

State roads can be divided into groups based on category, speed limit, and type. The table shows road length and use in vehicle kilometres for the different groups and for municipal roads and streets in 2009.

Road length and vehicle mileage 2009

Category	Road length, km	Number vehicle km, billion
State roads	98 400	55
Road category		
European highways	6 400	22
Other national roads	8 900	13
Primary county roads	11 000	8
Other county roads	72 100	12
Road type		
Motorways	1 880	15
Undivided motorways	360	1.2
– of which traffic flow separated	340	1.1
4-lane roads	200	1.3
Ordinary roads	95 950	37
– of which traffic flow separated	1 800	4.6
Municipal streets and roads	46 500¹	23²

SOURCE: SRA traffic calculations, the National Road Database, figures are rounded.

1. Since 2009, roads have been added to the Swedish Transport Administration's National Road Database (NVDB). Figures for road length are from NVDB.

2. Estimated by VTI.

Bearing capacity on the state road network

Load bearing capacity has an impact on accessibility for goods transports and is therefore highly important for the business community. We use two parameters to measure bearing capacity. One of these is the proportion of

road with the highest bearing capacity, Class 1 (gross weight up to 60 tonnes). The second is bearing capacity reduction during the spring thaw, both for time and road length.



Road with the highest bearing capacity, Class 1

Parameters	2005	2006	2007	2008	2009
Class 1, km	92 255	92 176	93 216	93 371	93 563
Non Class 1 roads, km	6 045	6 156	5 215	5 096	4 923
Class 1, proportion, %	93.9	93.7	94.7	94.8	95.0
Class 1, proportion in forest counties, %	90.8	90.5	92.2	92.3	92.6

Reduced bearing capacity due to the spring thaw

Parameters	2005	2006	2007	2008	2009
Total, km (including important business roads)	13 880	14 000	7 045	3 200	4 474
of which forest counties, km	7 603	5 193	2 977	2 281	2 235
Important roads for business community, km	4 502	4 162	2 282	1 270	1 690
Total, thousands of day-kilometres					
(including important business roads)	518	453	246	139	184
of which forest counties	333	186	155	96	101
Important roads for business community, thousands of day-kilometres	228	141	95	54	77

Investments in railways and roads

Planning and procurement of rail and road investments is one of the Swedish Transport Administration's tasks. In long term planning, the Administration draws up a national plan for transport infrastructure in consultation with county administrative boards, regions and other parties concerned. The Government then approves the plan. Before the formation of the Swedish Transport Administration, transport authorities presented a joint proposal for the National Plan for the Transport System 2010–2021. The government adopted parts of the plan in March 2010.

Major railway projects

Kiruna

The construction of the new railway in Kiruna began in September 2009, and is scheduled to be complete in 2012.

Ådalen Line

The project encompasses 180 km of railway track between Sundsvall and Långsele, 100 km of which concerns upgrading the existing railway and the remainder concerns two new stretches of rail track where the existing track is in poor condition.

City Line Stockholm

The construction of the City Line began in January 2009 and the track is scheduled to be complete in 2017. It comprises a double track railway with two new stations in a six-kilometre long tunnel for commuter trains through Stockholm.

Hallandsås

The first of the two tunnel tubes through Hallandsås is to be completed in 2010. The tunnels are to open to traffic in 2015.



City Tunnel Malmö

The City Tunnel connects the railway north of Malmö with the railway towards Trelleborg, Ystad and Copenhagen. The tunnel is to open to traffic in December 2010.

Bana väg i väst

The project includes the development of double-tracks and a four-lane road between Göteborg and Trollhättan. The project is scheduled to be complete in 2012.

Costs for new investments, railways, SEK million

	2007	2008	2009
Kiruna	0	90	49
Ådalen Line	710	1 695	2 069
City Line Stockholm	492	1 200	1 837
Hallandsås	655	1 053	830
City Tunnel Malmö	1 596	1 262	1 168
Bana väg i väst	658	859	749
Investments, other	5 147	4 392	5 962
Total	9 258	10 551	12 664

Construction costs for projects opened to traffic 2009, SEK million

Line	Project	Estimated cost in plan	Estimated cost at start of construction	Follow-up cost after completion
Freight line through Bergslagen	Örebro Lillån, flyover	56.1	52.6	47.8
Bergslagen Line	Domnarvet points connection	70	96.7	98.5
Göteborg Area Signalling Centre	Olskroken-Gubbero, freight train viaduct	425.5	370.8	356.6

Follow-up of investments in accordance with the track provision plan (SEK million) ¹

Track Provision Plan	Cost in accordance to plan	Result 2009	Result 2004–2009	Result in %
Western Main Line	1 186	116	825	70
Southern Main Line	4 719	127	669	14
West Coast Line	8 660	1 108	5 887	68
Coast to Coast Line	2 158	34	512	24
East Coast Line	2 909	324	1 929	66
Dala Line	257	95	164	64
Main Line through Upper Norrland	2 001	378	1 768	88
Northern Main Line	407	27	486	120
Freight line through Bergslagen	4 365	527	1 836	42
Bergslagen Line	963	17	199	21
Norway/Vänern Line	6 229	746	4 101	66
Värmland Line	376	14	50	13
Skåne Line	157	24	88	56
Jönköping Line	437	7	105	24
Älvsborg Line	499	12	64	13
Mälardalen Line	1 932	175	687	36
Svealand Line	1 475	211	440	30

Track Provision Plan	Cost in accordance to plan	Result 2009	Result 2004–2009	Result in %
Sala–Oxelösund	47	0	40	85
Nynäs Line	533	59	466	87
Central Line	148	17	216	146
Iron Ore Line	227	61	447	197
Stockholm	10 159	1 476	5 139	51
Göteborg	1 894	228	1 020	54
Malmö	8 208	1 455	7 813	95
Freight Line through Skåne	1 066	87	225	21
Haparanda Line	2 670	258	921	35
Ådalen Line	4 353	2 026	5 567	128
Blekinge Coast Line	710	3	848	119
Other lines	5 659	437	868	15
Government grants for regional rail vehicles	4 500	19	1 897	42
Other	12 407	1 667	3 125	25
Total	91 311	11 733	48 400	53

1. The table compares the outcome against costs according to the applicable track provision plan 2004–2015. A proposal for a new National Transport Plan has been drawn up in 2008–2009. The new plan has not been adopted, and is therefore not presented above. Note that values in the table are presented using different price levels. Cost according to plan is at price level 2004-01. Result values are presented using current price levels. The result value in per cent is slightly too high, as the calculation does not take into account this price difference.

New and improved roads

A total SEK 11 434 million was invested in new and improved state roads in 2009.

Major road projects that started or were ongoing in 2009 include Norra länken in Stockholm, which started in 2007, Partihall Link (E20/E45) in Göteborg, the extension of the E6 through Bohuslän north of Uddevalla, Enånger–Hudiksvall on the E4, Göteborg–Trollhättan on the E45 and Västerhaninge–Nynäshamn on Highway 73. As part of the government's near-time investments, the Umeå project on the E4/E12, and Hjulsta–Kista on the E18 in Stockholm have started during the year.

Five projects costing more than SEK 100 million each opened to traffic during 2009. Total investment volume for these projects was SEK 1 034 million and total road length 95.3 km. Costs have been utilised over several years and are not only attributable to 2009. Compared with the budgeted cost at the start of the projects, final costs were 10 per cent higher. Taking into account the index, then actual costs were 6 per cent higher than planned costs for the three projects included in investment planning 2004–2015. One project is responsible for the high costs, Lundsbrunn–Holmestad.



The new stretch of the E20 between Lundsbrunn and Holmestad in Götene municipality opened to traffic in June 2009.

Follow-up of costs and calculated socio-economic benefits for road projects >SEK 100 million which were opened to traffic in 2009

Road	Road network ¹	Stretch	Length, km	Costs, SEK million ²			NPVR ³	Annual effects		
				Final ³	Budget at the start	Plan 2004-2015	Reduction in travel time, thousand hours/year		Reduction no./year	
								Deaths and serious injuries	Minor injuries	
Motorway										
E20	NS	Lundsbrunn – Holmestad	12.9	420	360	370	1.0	68	3.5	5.5
Rv49	ÖR	Skara – Axvall	7.0	234	213	234	0.7	71	1.0	1.0
Separated roads and multi-lane roads in urban areas										
Rv68	ÖR	W/X county border – Vallbyheden	14.4	170	174	174	0.2	36	0.4	0.6
Bearing capacity improvements										
Lv322	LV	Staa – Riksgränsen	48.0	110	104					
Lv293	LV	Ängesgårdarna – Falun	13.0	100	93					

1. Road network: NS = National trunk road, ÖR = Other main road, LV = County road.

2. All costs are reported at 2009 price levels.

3. NPVR = Net present value ratio (calculated socio-economic benefits). Based on final cost.



Opening ceremony for a pedestrian and cycle path in Gagnef, Dalarna.

Costs for road investments per road measure, SEK million

	2005	2006	2007	2008	2009
Motorway	2 952	3 638	3 813	4 567	4 719
Separated road	2 016	1 638	1 993	2 367	2 951
Non separated road	449	342	432	358	378
Bearing capacity improvements, roads/bridges, frost protection	1 322	1 269	1 408	1 430	1 876
Paving, gravel roads	25	23	37	42	82
Environment and safety prioritised roads/streets	69	48	40	57	80
Pedestrian and cycle routes, bus routes	153	177	137	143	245
Level crossings	216	106	190	119	160
Grade-separated crossings	171	171	124	210	197
Rest areas etc.	49	33	12	22	27
Bus stops	52	29	39	51	106
Environmental measures, noise and water protection etc.	182	188	152	234	213
Guard rails	209	160	93	137	249
Other protective installations	30	18	31	31	26
Traffic guidance installations	117	64	71	56	118
Other	87	1	3	3	6
Total road investments	8 099	7 905	8 576	9 826	11 434
Price level 2009	9 296	8 670	9 076	9 764	11 434

Total costs, km of road and unit prices for roads opened to traffic 2005-2009

Standard					
		Motorway	Separated road, four-lane road	Main road with oncoming traffic	Pedestrian/ cycle paths
Total cost SEK million at each year's price level	2005	1 315	3 556	712	82
	2006	5 576 ¹	847	558	126
	2007	6 576	1 282	1 040	79
	2008	8 240	1 527	217	39
	2009	802	811	587	114
Road length, km	2005	11	242	81	91
	2006	28 ¹	236	49	85
	2007	99	267	68	81
	2008	69	205	14	69
	2009	20	160	105	150

Standard					
		Motorway	Separated road, four- lane road	Main road with oncoming traffic	Pedestrian/ cycle paths
Unit price SEK million/km at each year's price level	2005	124	15	9	1
	2006	200 ¹	4	11	1
	2007	66	5	15	1
	2008	119	7	15	1
	2009	40	5	6	1
Unit price SEK million/km price level	2005	142	17	10	1
	2006	219	4	12	1
	2007	70	5	16	1
	2008	118	7	15	1
	2009	40	5	6	1

1. Including Götaleden in Göteborg. The total cost for motorways in 2006 excluding Götaleden was SEK 1 092 million, road length 25 km and unit price SEK 44 million/km.



Operation and maintenance of railways

Operations management includes assigning railway companies access to the rail network in order to operate rail traffic. The Swedish Transport Administration is also to manage the agreed traffic in a safe and efficient manner and to limit the effect of disruptions. The Administration is also responsible for providing traffic information to railway companies and passengers. Traffic is remotely controlled from eight dispatch centres, and several stations are also controlled locally.

Some examples of maintenance and reinvestment include the repair of emergency faults, points maintenance, vegetation control, maintenance of overhead contact lines, maintenance of signal and telecom facilities, bridge

Costs for operation, maintenance, and reinvestment, SEK million

	2007	2008	2009
Operations management	608	664	705
Traffic planning	59	93	123
Direct maintenance costs	2 341	2 513	2 644
Reinvestment	1 499	1 779	1 940
Indirect operation and maintenance costs	655	910	1 150
Other	-131	28	63
Total operations, maintenance and reinvestment	5 031	5 987	6 625

replacement and repairs, as well as track replacement. Reinvestment is carried out when facilities reach a stage where maintenance costs become excessive and operational reliability is impacted.

Operation and maintenance of roads

Operation refers to short-term measures that mainly aim to keep a road open to traffic, such as winter road maintenance, cleaning road signs and maintaining rest areas. Maintenance relates to longer-term measures to ensure the durability of the road network. These include paving work, bridge repair, drainage work and replacing damaged road signs.

Winter operations aim to keep roads safe and available for use. Half of the resources available for operation measures on state roads are used for keeping roads free of snow and ice. Snow roads, which have a surface

of compacted snow or ice, are permitted on three-quarters of the road network. The Swedish Transport Administration prioritises busy roads, school routes, bus stops and pedestrian and cycle paths in winter operations.

Maintenance of paved roads aims to keep the road surface even and to prevent the deterioration of roads and to repair them. About 65 per cent of maintenance resources for state roads are used to maintain paved roads and some 15 per cent for maintenance of bridges and tunnels. Standards are higher on main roads, which affect many road users.

Costs for operation and maintenance, SEK million, current prices

	2005	2006	2007	2008	2009
Maintenance services					
Maintenance, paved roads	2 291	2 393	2 598	3 006	2 559
Maintenance, gravel roads	205	238	199	210	211
Maintenance, bridges, tunnels and ferry routes	642	704	692	693	853
Maintenance, road equipment	432	470	528	560	658
Maintenance, roadsides and roadside facilities	74	95	71	83	107
Total maintenance services	3 644	3 900	4 088	4 552	4 388
Operational services					
Winter operations	1 925	1 979	1 808	1 851	1 976
Operation of paved roads	351	243	361	282	291
Operation of gravel roads	165	134	137	149	160
Operation of roadsides and roadside facilities	408	384	402	424	482
Operation of road equipment	320	312	366	373	424
Operation of bridges and tunnels	82	92	99	128	129
Operation of ferry routes	415	445	474	497	505
Total operational services	3 666	3 590	3 648	3 704	3 967
Total operation and maintenance	7 310	7 490	7 736	8 256	8 355
Total, price level	8 336	8 193	8 161	8 109	8 355

The table uses the Swedish Transport Administration's operational index.
This index is believed to best reflect cost developments in material components used.



Contacting the Swedish Transport Administration

You can contact the Swedish Transport Administration

by using our common switchboard number: +46 771 921 921,
text telephone: +46 243 750 90.

The switchboard is open weekdays 8.00–16.30.

You can also call one of our customer service numbers.

Many issues can be dealt with via our website,
www.trafikverket.se.

Reporting emergency rail plant faults

These numbers must only be used in an emergency
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Malmö: +46 40 680 35 70

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For issues concerning vehicles and congestion charges, see the
Swedish Transport Agency website, www.transportstyrelsen.se.



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