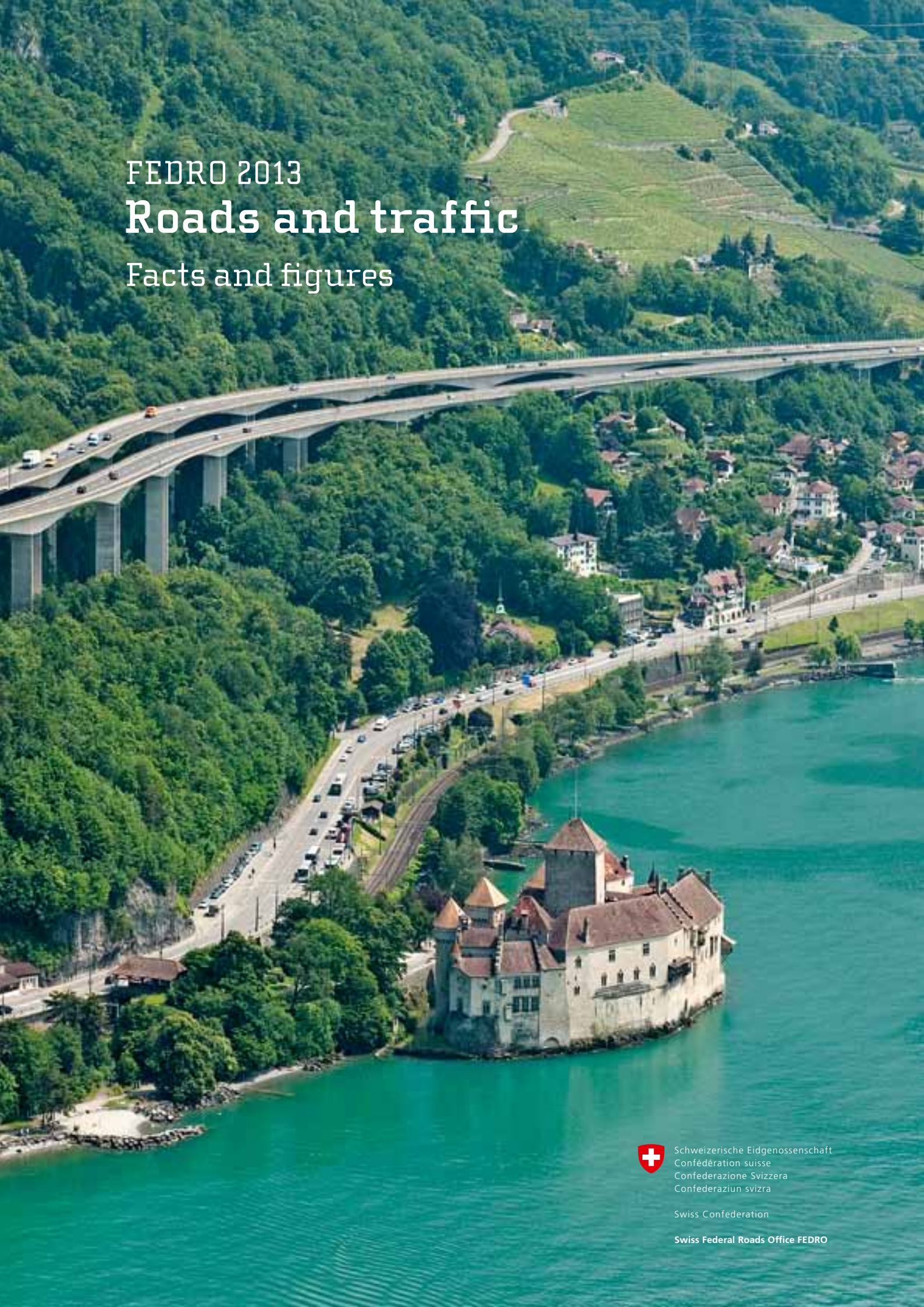
FEDRO 2013

Roads and traffic

Facts and figures



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Cover photo

The Chillon viaduct is one of the most imposing structures on the Swiss motorway network. It is located above Chillon Castle, near Veytaux, Lake of Geneva, to the east of Montreux (canton of Vaud). It was constructed in 1970, is 2.1 kilometres long and 13 metres wide, and has a maximum height of 45 metres.

Editorial

Dear Reader,

The 2013 edition of our publication "Roads and Traffic – Facts and Figures" reveals some interesting and unexpected aspects about the motorways: when you drive under a bridge it may not be just an ordinary bridge but one of the country's many wildlife corridors ▸ page 4. If you see what looks like a reed-covered pond at a motorway exit, this is in fact a treatment plant for motorway runoff ▸ page 20. And if you overtake a heavy goods vehicle carrying an oversized load, it is probably an exceptional transport for which a special permit was necessary ▸ page 10 – permit requirements are in place in order to ensure that such transports proceed smoothly and the roads remain safe for all other users.
Keeping the roads safe is the idea behind speed controls using radar and other technologies ▸ page 16. And the 38 service stations on the motorway network are also there to help keep the roads safe in that they provide drivers with an opportunity to take a break ▸ page 8. The trend towards safer roads is also underscored by the decrease in the number of accidents resulting in fatalities and injuries ▸ page 37 and the unchanged statistics regarding the confiscation of driving licences ▸ page 32.
In order to guarantee their safe and efficient operation, the motorways have to be properly maintained and repaired ▸ page 24. With the constantly increasing volume of traffic, the motorways are reaching the limits of their capacity. In response to this situation, a trial has been initiated in Morges and Ecublens (canton of Vaud) involving the temporary use of the emergency lane as an additional traffic lane during peak periods ▸ page 26.

I hope you will find the facts and figures presented in this year's report both interesting and informative.

Rudolf Dieterle
Director of the Swiss Federal Roads Office (FEDRO)

Mobility in harmony with wildlife protection

The motorways are essential for the country's economy, but they cut through and fragment the landscape. Thanks to 25 special corridors, wild animals are still able to move within their habitats and migrate.

Each year around 20,000 large mammals are killed on Switzerland's roads. Collisions are not only fatal for animals, but also represent a significant risk for motorists. More than 60 people are injured each year as the result of collisions with wildlife, and the costs of the resulting material damage are around 25 million Swiss francs. In view of this, a standard for wildlife fences along motorways was introduced in 1968.

While these fences reduce the risk of accidents and collisions with wildlife, they also prevent animals from moving around normally and migrating since the fenced-off motorways form insurmountable barriers. As a result, wildlife populations suffer from increasing isolation because their habitat is fragmented.

25 wildlife corridors planted with shrubs

In order to overcome this problem, a concept of providing wildlife corridors (bridges or underpasses) was developed. These corridors need to be wide and planted with shrubs so that animals can cross from one side of the motorway to the other without being unduly disturbed. There are currently 25 wildlife corridors on the motorway network.

Birchiwald wildlife crossing at Kirchberg, canton of Bern.

Birchiwald wildlife corridor at Grauholz viewed from two different angles.

A wildlife corridor has to be at least 50 metres wide

Wildlife corridors have been an integral part of road construction projects since the 1990s. These corridors have to be at least 50 metres wide.

The initial environmental impact studies that were carried out in the late 1980s gave rise to a greater awareness of the problem of fragmentation of habitats, and since the 1990s, wildlife corridors have been integrated into the planning of new road construction projects.

At that time, studies were carried out concerning the various types of corridors, and it was found that a width of 50 metres was required so that deer and wild boar would also be able to cross in safety. In the meantime, wildlife corridors have become an integral part of new motorway construction projects as a means of enabling animals to overcome motorway barriers and enhancing the safety of road users.

Inventory of wildlife corridors

At the end of the 1990s, an inventory of wildlife corridors was created, and the network of corridors was also added to maps. These corridors form a nationwide network of migration routes for wild animals. With the aid of data from the hunting authorities, a permeability model was developed for the corridors, and it was found that around half the migratory routes are significantly fragmented due to buildings and housing estates. The Jura and the Alps, for example, are more or less separated.

The inventory also revealed that 51 wildlife corridors are interrupted (40 by motorway stretches) and therefore need to renovated in order to provide a safe and reliable passage for wild animals again. In 2001, DETEC issued a set of guidelines on the maintenance of wildlife corridors.

Ideal width 40 to 50 metres

Based on scientific studies of 15 wildlife corridors in Europe, the ideal width of crossings over motorways was specified at between 40 and 50 metres.

Today there are 25 major wildlife corridors in Switzerland. Most of these passages were constructed on new or widened motorway stretches.

Redistribution thanks to wildlife corridors

Crossings at wildlife corridors are monitored through video recordings or by observing animal tracks. Depending on the type and structure of the crossing, between 10 and 25 wild animals cross over each night. This means that each year an estimated total of between 3,600 and 9,000 crossings take place per corridor.

In some cases, the impacts of wildlife corridors are quite striking in that certain animal populations are spreading again and can be found in regions where they were not previously (or were no longer) present. Before the construction of the wildlife corridor at Grauholz (canton of Bern), for example, deer were only found on one side of the motorway, but they can now be observed on both sides.

Fencing along stretches of motorway protects wildlife as well as road users.

Maintenance of wildlife corridors

Completed (27)
In progress (5)
In the planning stage (31)

Service stations: essential motorway components

35 service stations are in operation on the motorway network. The required facilities include toilets, fuel pumps and a restaurant.

At some time or other, just about every motorist who has used the motorways has called in at a service station for a coffee or for fuel. For professional drivers, service stations are essential as places where they can stop for a quick bite or a rest. Service stations must be equipped with fuel pumps, a restaurant with toilets, plus parking spaces, the number of which depends on the seating capacity of the restaurant.

In 1960, Parliament adopted the resolution concerning the motorway network, which specified not only the routes of the various stretches, but also the initial locations of the service stations. Today there are 35 service stations on the motorway network. The most recent additions were "Via Mala" near Thusis, canton of Grisons (in 2008) and "Knonaueramt", canton of Zurich.

Land belongs to the respective canton

The Federal Motorways Act forms the legal basis for the construction of service stations. This means that the federal government has to authorise the location, type and time of construction of each service station. The criteria regarding location are the distance between service stations and the frequency of traffic on the motorway section in question.

It is, however, the cantons which own the land and award the licences for the construction and operation of fuel stations and restaurants. In most cases, the operators construct the facilities themselves on the basis of a lease agreement. The exact details vary according to canton, and the developer concerned has to comply with the building regulations of the canton concerned.

Required facilities

In its Motorways Ordinance the federal government stipulates the services that have to be provided:

- Wheelchair-accessible public toilets
- Wheelchair-accessible public telephone connection
- Filling station with the standard types of fuel
- The most commonly used types of engine oil
- Round-the-clock service for filling stations, toilets and public telephones

236 rest areas

Unlike service stations, rest areas on the motorways do not have restaurants or filling stations. They are required to provide toilet facilities and a public phone, as well as a picnic area. There are currently 236 rest areas on the motorway network, and the two newest ones are located near Gurbrü and Wileroltigen on the A1 motorway to the west of Bern.

The maintenance of rest areas is the responsibility of the regional offices – in most cases, the cantonal civil engineering offices which act on behalf of FEDRO.

"Rose de la Broye" service station on the A1 motorway near Estavayer-le-Lac (canton of Fribourg)

Service stations on the Swiss motorway network

23,500 permits for exceptional loads

If a load to be transported is too long, too high or too wide, it is classified as an exceptional load and requires a special permit.

If an exceptional load is to be transported on a motorway, the Gotthard Tunnel fire brigade and rescue service is responsible for issuing the necessary permit. This means the transport company has to submit an application to Göschenen, where it is examined and a permit will be granted or refused. In most cases a permit can be granted, though each year a few applications have to be refused. When an application is received, the licensing authority has to examine whether the vehicle is suitable for the purpose and whether it would be possible to split the load.
The number of issued permits varies greatly according to the economic situation. When the economy is weak there are fewer exceptional loads, and when the economy is strong the number of such transports increases. In the past 2 years, the number has increased: in 2012, 23,500 requests were received for permits to transport exceptional loads on Switzerland's motorways.

Cantonal roads as alternative routes

If a request meets the specified requirements, a permit will be issued for the special load. The bureau in Gotthard records the point of departure and the destination, and simultaneously ascertains which is the most suitable route or whether an alternative route may be necessary. If there is a section or roadwork site on the intended stretch which would prevent the passage of an exceptional load, the Gotthard service will consult with the canton concerned in order to find an alternative route.

Special permits are valid for 1 month. This means that the hauler must carry out the transport within the stated period, and also has to contact the traffic police in order to discuss whether an escort is required.
Permits for exceptional loads that are not to be transported via the motorways have to be issued by the involved cantons themselves.

Hazardous goods transport

The carriage of hazardous goods is a special category of exceptional transport. In 2012, 64 permits for single journeys and 165 for multiple journeys were issued. Tunnels represent a special obstacle for hazardous goods transport. Some tunnels may only be used for certain types of transport under specific conditions. The carriage of hazardous goods is not permitted in the Gotthard and San Bernardino tunnels unless this is necessary for the purpose of securing national supplies. For example, the transport of bitumen from northern Italy to the north side of the Alps is permitted, as is the carriage of special medical products for hospitals in Ticino since these products would take too long to be transported by rail. Medicaments and bitumen account for around 90 percent of transported hazardous goods. Before a vehicle carrying dangerous goods is allowed to enter the Gotthard tunnel, it has to pull over and undergo a special inspection at the HGV inspection centre in Erstfeld or Monteforno. Each year, permits are issued for around 300 single transports of bitumen and medical products. On average, 2 HGVs are turned back each week because they do not hold the required special permit.

Exceptional vehicles and loads

(No. of applications)

	2012	Change vs 2011
Import / transit (up to 3 m wide, 30 m long, 40 t)		
Single permits	4,897	– 248
Long-term permits	625	27
Permits	5,522	– 221
Rejected applications	25	– 7
Import / transit (over 3 m wide, 30 m long, 4 m high, 40 t)		
Single permits	4,211	– 198
Long-term permits	29	– 147
Permits	4,240	– 345
Rejected applications	31	– 1
Domestic and export		
Export and intercantonal	12,280	– 234
Long-term permits for motorways	1,146	61
Rejected applications	6	– 1
Total exceptional transports (incl. intercantonal)	**23,188**	**– 739**
Total of all rejected applications	56	– 9
Sunday / nighttime transports		
Single permits	3	0
Long-term permits	15	– 9
Postal deliveries (as per applicable legislation)	122	122
Total Sunday / nighttime transports	140	113
Rejected applications	1	– 4
Hazardous goods transports		
Single permits	64	43
Multiple permits	165	12
Total hazardous goods transports	229	55
Rejected applications	49	17
Total	**23,557**	**– 571**

500 annual licences

In most cases, requests for permits concern a single transport, e.g. of oversized structural components or construction machines (long, wide, high and heavy loads). But each year around 500 annual licences are also issued.

Permits for journeys on Sundays and at night are no longer issued, except for suppliers of perishable goods (foodstuffs), mail transport, etc. These vehicles may also make their return journey unladen, as long this does not take longer than 30 minutes. With effect from this year, the police are empowered to check that these regulations are complied with.

Police escorts and controls

The police are responsible for controlling the transport of exceptional loads. They have to check whether a permit has been issued, and whether the dimensions, weight, etc., of the load correspond to those cited in the permit. In the case of a transit journey, the load is already controlled at the border. If the dimensions are not correct or the hauler does not hold a permit, the transport will be held up at the border until a permit has been issued. Depending on the nature of the load, the police have to escort the vehicle, if necessary in front as well as behind.

Load dimensions requiring a special permit

As a rule, a special permit is required for the following loads:

- Weight, 40 tonnes or more
- Vehicle length, 4 metres or more
- Vehicle width, 2.55 metres or more (refrigerated vehicles, 2.60 metres)
- Total length, 18.75 metres or more (vehicle with trailer)
- Total length, 16.50 metres or more (semitrailer)

On-board diagnostics: no more exhaust maintenance

In new cars and HGVs, on-board diagnostic systems monitor the exhaust. For these vehicles, the exhaust maintenance requirement no longer applies.

As of the beginning of 2013, cars, heavy goods vehicles and buses that are equipped with an on-board diagnostic system no longer need to undergo compulsory exhaust maintenance ("exhaust test") every two years. In the opinion of the Federal Council, this change of method is justifiable because on-board diagnostic systems permanently monitor exhaust-related components and indicate any malfunctions via a warning light in the dashboard.

If the warning light indicates a malfunction, the vehicle concerned must be taken to a workshop for inspection. The vehicle holder is required to have the vehicle repaired within one month after the warning light was initially displayed. This ensures that vehicles with exhaust-related malfunctions do not illegally pollute the environment.

60 percent of vehicles equipped with an on-board diagnostic system

The new regulations apply to all holders of new motor vehicles. Around 60 percent of new vehicles are equipped with an on-board diagnostic system and thus do not have to undergo periodical exhaust maintenance. However, vehicles that are not equipped with an on-board diagnostic system have to undergo compulsory exhaust maintenance every two years as in the past. A special emissions code (cf. illustration) in the registration certificate indicates whether or not a vehicle is exempt from the compulsory exhaust test.

Easing of regulations for EC small series vehicles

Vehicle types for which a maximum of 1,000 units per type and year may be registered for use throughout Europe are classified as small series vehicles.
These vehicles hold an EC type approval and now benefit from the same exemptions in Switzerland as those that apply in the EU.
The Federal Council has decided to amend the registration requirements for EC small series vehicles. The exemptions concern regulations governing head-on and lateral collisions and the protection of pedestrians. This move represents an adjustment within the scope of agreements with the EU.

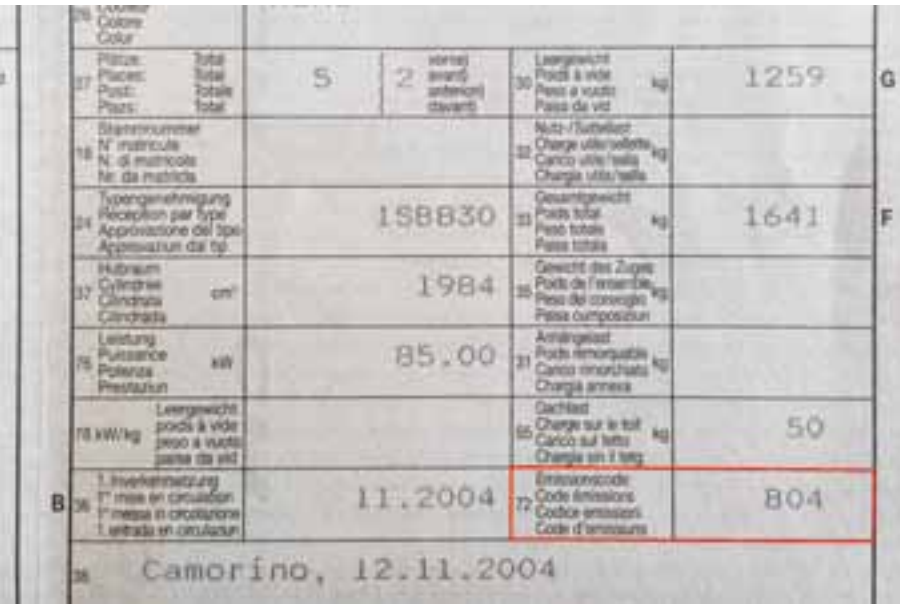
Which vehicles are exempt from the compulsory exhaust test?

The following vehicle types with a recognised on-board diagnostic system are exempt from the compulsory exhaust test in accordance with Article 59a, Ordinance on Traffic Regulations:
Light motor vehicles (e.g. cars and utility vehicles) with:
- Petrol or gas engines, if they at least comply with the Euro 3 exhaust regulations
- Diesel engines, if they at least comply with the Euro 4 exhaust regulations

Heavy motor vehicles (e.g. HGVs and buses), if they at least comply with the Euro 4 exhaust regulations and were initially registered after 30 September 2006.

Exhaust levels are measured with the aid of a special probe in the exhaust pipe.

An icon depicting a side view of an engine indicates that the vehicle is equipped with an on-board diagnostic system.



27 Places: Total / Posti: Totale / Plaats: Total	5	2 vorne/avant/anteriori/davanti	30 Leergewicht / Poids à vide / Peso a vuoto / Pesa da vid kg	1259	G
28 Stammnummer / N° matricule / N. di matricola / Nr. da matricula			32 Nutz-/Zuladung / Charge utile/vellette / Carico utile/sella / Chargia utila/sella kg		
34 Typengenehmigung / Réception par type / Approvazione del tipo / Approvazun dal tip	1S8830		33 Gesamtgewicht / Poids total / Peso totale / Pesa totala kg	1641	F
37 Hubraum / Cylindrée / Cilindrata / Cilindrada cm³	1984		35 Gewicht des Zuges / Poids de l'ensemble / Peso del convoglio / Pesa cumposizun kg		
79 Leistung / Puissance / Potenza / Prestazun kW	85.00		31 Anhängelast / Poids remorquable / Carico rimorchiato / Chargia annexa kg		
78 kW/kg Leergewicht / poids à vide / peso a vuoto / pesa da vid			65 Dachlast / Charge sur le toit / Carico sul tetto / Chargia sin il tetg kg	50	
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Emissions code on a driving licence.

Speed controls enhance road safety

On the motorways, cantonal police forces are FEDRO's partners when it comes to road safety. They carry out speed controls for the safety of all motorway users.

People often regard speed controls as self-serving and a "rip-off". But in fact they are an important instrument for increasing the level of safety on our roads. Those who drive too fast endanger not only themselves, but also other road users. The purpose of speed controls is to enhance road safety.
It is the cantonal police forces that are responsible for carrying out speed controls on the motorways, and they do so in accordance with road traffic legislation. As owner of the motorways, FEDRO issues the necessary permits for the installation of fixed control equipment.

Speed limits not chosen randomly

The speed limit on Switzerland's motorways is 120 km/h. Speed limits on motorways are not chosen randomly, however. The traffic experts at FEDRO set them in accordance with the nature of the stretch concerned, i.e. depending on whether the road includes bends and/or tunnels, how many lanes there are, and whether there are entrance and exit lanes. If the indicated speed limit is 80 km/h, this is the speed that is deemed safe on the stretch concerned. Drivers who exceed the specified limit endanger other road users through inappropriate driving behaviour.
All drivers know from their own experience what happens when there are speeding "rowdies" or tailgaters on the road: they endanger other road users and force them to take extra care to avoid an accident. Speed controls are the only means of preventing such hazardous situations. As a rule, speed cameras are always activated, and in addition, traffic police are in action with mobile cameras on a daily basis.

One percent of road users

According to traffic experts, around 95 percent of drivers readily obey speed limits, while a further 4 percent adhere to them because they are afraid of being fined. This means that only 1 percent are the target of speed controls, which help protect road users who drive within the speed limit.

Fines for various purposes

Speed controls are repeatedly the subject of accusations: they are a "rip-off", they fill the wallets of police officers since they receive commissions on the fines issued! But of course these accusations are false. Anyone who drives too fast and endangers other road users has to pay a fine. The police officers themselves never see a cent.
Fines are collected by the cantonal authorities and used for a variety of purposes, including social services, schools, cultural events, etc. The money collected in the form of speeding fines benefits the community as a whole.

Speed control with a laser device.

The radar control facility located near Niederbuchsiten on the A1 motorway can be taken as a representative example of speeding statistics: a total of 24 million vehicles passed this control facility in 2011, and 55,000 drivers were fined for speeding, i.e. 0.2 percent. 1,000 of these were caught driving at over 145 km/h, which means they could no longer simply be fined, but had to be prosecuted instead.

However, these figures show that, even on stretches that are regarded as safe, there are still drivers who exceed the speed limit by a significant margin. In doing so they seriously endanger other road users, and speed controls are a means of ensuring that drivers who break the law can be brought to justice.

Radar device with flash unit in a tunnel.

Various measurement systems for speed controls

Speed controls are carried out with the aid of various technologies and systems.

There are approximately 70 fixed installations on the motorway network which either measure speed at a specific location on the road or along a certain stretch (distance-based speed controls), for example in the Arisdorf tunnel (canton of Basel-Land). There are also semi-stationary systems which use an internal power supply and can be easily moved from one location to another. These devices are normally kept at the same location for between one day and one week. Mobile devices are also used, which are even easier to operate. Then there are on-board devices that are used by police officers for measuring the speed of vehicles they are following.

Photoelectric beams, radar, laser devices

Three different technologies are used for carrying out speed controls: With photoelectric beams, the time a vehicle takes to travel from A to B is measured. With radar, a device emits a compact beam and the "echo" from the targeted vehicle is sent back to the device. The speed of the vehicle can then be calculated on the basis of the time difference between the emitted and the reflected beam. With a laser device, the length of time required for an infrared pulse to be transmitted to the targeted vehicle and back to the device can be measured. This interval can be used for calculating the distance between the laser device and the vehicle, and subsequently the speed of the vehicle.

Periodical calibration

The cantonal police forces are responsible for the maintenance and cleaning of the devices used on the motorways. However, as owner of the motorway network, FEDRO compensates the police forces for these tasks by paying them an annual lump-sum fee. And in order to guarantee accurate and reliable measurements, all devices are periodically calibrated by METAS (Federal Institute for Metrology).

What is a reckless driver?

On 1 January 2013, an initial package of measures entered into effect as part of the "Via sicura" road safety programme. This package includes measures against "reckless" drivers, a category that is now formally defined in the relevant legislation. A driver is classified as reckless if he or she exceeds the speed limit as follows:

- In a 30 km/h zone by at least 40 km/h
- In a built-up area (50 km/h limit) by at least 50 km/h
- Outside a built-up area (80 km/h limit) by at least 60 km/h
- On a motorway (120 km/h limit) by at least 80 km/h

Mobile radar device at the rear of a vehicle.

Mobile radar device with direct display on a laptop.

Fixed radar device.

Cleansing of polluted road runoff

In motorway sections where there are no embankments to prevent rainwater runoff, the water is diverted to special treatment plants.

When we think of technical installations on motorways, it is usually impressive bridges, asphalt, tunnel lighting systems, etc., that come to mind. But there are also other facilities that most of us are barely aware of, yet which are no less important, e.g. drainage systems and runoff treatment plants.

The traffic volume on the motorways is constantly increasing. In 2011, more than 143,000 vehicles a day were recorded at the Wallisellen measuring station (canton of Zurich). On such heavily frequented stretches, a combination of factors result in increased levels of pollution in road runoff: the high traffic volume and proportion of heavy goods vehicles, the gradient of the road, the width of the hard shoulder and the presence of noise prevention barriers onto which rainwater is sprayed and thus returned to the road surface.

Water is polluted when the daily traffic volume exceeds 14,000 vehicles

The main sources of pollutants that are contained in road runoff water are vehicle exhaust and abrasion from brakes and tyres and from the road surface itself. These pollutants include heavy metals such as copper and zinc, as well as organic substances, including chemical compounds that result from the incomplete combustion of fossil fuels.

Road runoff is regarded as heavily polluted on stretches with a daily traffic volume of more than 14,000 vehicles. The various pollutants build up on the road surface and are conveyed by rainwater into the drainage system, where they are fed into a runoff treatment plant.

Technical installation of a runoff treatment plant.

Run-off treatment plant with soil filter in Hallmatt, near Niederwangen (canton of Bern): after it has been passed through a grit prefilter (1), surface water is fed through the soil filter (2). The now cleansed water then seeps into the groundwater via an underground drainage system (3).

Different filters with similar cleansing effect

A variety of methods are available for cleansing road runoff, including filtering via verges, soil/sand filters and technical filters.

Motorway run-off (from left to right): unfiltered, prefiltered, cleansed.

Surface pollutants can be very effectively filtered by the soil and thus kept out of the drainage system. On stretches along which the longitudinal profile and soil properties are favourable, drainage via the verges is still the best solution today. If the concept is appropriate, pollutants can be very effectively filtered using this method.

Bridges and noise prevention barriers

Along stretches where there are bridges and noise prevention barriers, natural drainage via verges and filtering through the soil are no longer possible. Here the best solution is to install a runoff treatment plant.

There are essentially two different types of runoff treatment plant: facilities equipped with spatial filters (involving filtering through soil or sand), and systems using surface filters, in which a technical filtering system is used. In both cases, the pollutants and particles are filtered from the runoff.

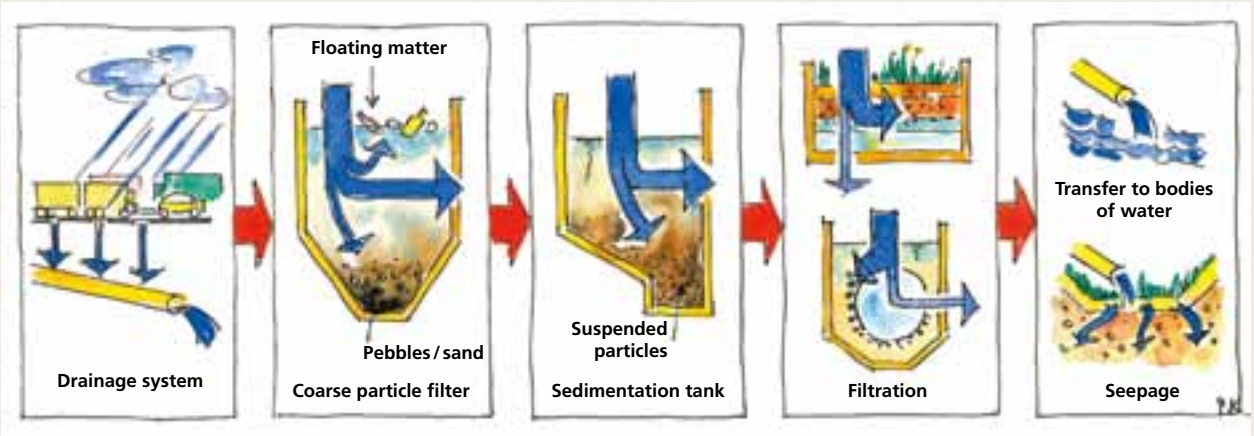
Costs ranging from 2.5 to 8 million Swiss francs

The costs of these two methods vary considerably: a facility equipped with soil filters costs around 2.5 million Swiss francs, compared with up to 8 million for a treatment plant using technical filters. However, soil filters require a great deal of space, and where there is insufficient space, the option of constructing a facility with technical filters has to be considered.

100 treatment plants in operation

The first runoff treatment plant with technical filters was installed on the Swiss motorway network in Pfaffensteig, near Bümpliz (canton of Bern) in 2010. Whenever a section of motorway is due to be renovated, FEDRO examines whether the construction of a runoff treatment plant is necessary in accordance with the applicable water pollution control legislation. There are now 40 runoff treatment plants in use, plus a further 60 facilities that are not classified as full runoff treatment plants but nonetheless perform a certain cleansing function.

How a runoff treatment plant works



Source: Beratungsbüro aquawet, Gümligen

1. Surface water initially runs off into the drainage system, and is then fed into the treatment plant via an extensive pipeline network. In some cases the water also has to be pumped into retention basins for interim storage.
2. In the treatment plant the water then passes quickly through a coarse particle filter. Here, materials such as sand and pebbles sink to the bottom, while floating matter (e.g. PET bottles and cigarette filters) is skimmed off.
3. The water is then prefiltered: it is fed into a storage and sedimentation basin where most of the fine particles and accumulated pollutants sink to the bottom and are extracted in the form of sludge. Prefiltering can also be carried out by passing the water through a layer of grit, which functions as a sieve.
4. In a subsequent step, the water is passed through a soil/sand or a technical filter.
5. The filtered water can then be seeped into the ground or fed into a body of water.

Major roadworks on the motorways in 2013

1 _ A1: Härkingen-Wiggertal, widening to 6 lanes

Härkingen junction to Wiggertal junction ------ duration: October 2011 to November 2014 ------ widening to 3 lanes in each direction, integration of low-noise surface ------ extension of 9 over- and underpasses, replacement of cantonal road overpass from Härkingen to Gunzgen ------ construction / expansion of 8 retaining walls, construction of 9 runoff treatment plants ------ improvement of noise protection installations, revitalisation of Wigger river ------ traffic frequency: 85,000 vehicles a day ------ during construction, 2 lanes always open to traffic in both directions ------ total cost, 235 million Swiss francs.

2 _ A1: Brüttisellen junction, raising and renovation of 4 bridges

With a daily traffic volume of 130,000 vehicles, this is one of the most heavily frequented stretches in the Swiss motorway network ------ 4 bridges to be raised by 15 centimetres and renovated while keeping all 4 lanes open to traffic ------ elimination of structural deficiencies, replacement of surfaces and seals, repair of concrete structures ------ reinforcement of steel structures, replacement of corrosion protection ------ replacement of drainage system and supply lines ------ modification of railings and crash barriers to meet applicable requirements ------ modification of signals and lanes in order to optimise road safety.

3 _ A9: renovation of Chillon viaduct

Renovation of shoulder along a stretch of 2 × 2 kilometres ------ work to be carried out from April to October 2013 ------ both lanes to be kept open during construction, speed limit 80 km/h ------ total cost, approximately 14 million Swiss francs.

4 _ A9: renovation of Simplon stretch

Category 3 motorway, climbing from 660 metres a.s.l. in Brig to 2,005 metres a.s.l. ------ several roadwork sites ------ 3 noise prevention barriers (Ried to Brig), with total length of 1.25 kilometres (2013 to 2014) ------ renovation of Schallberg tunnel and construction of escape tunnel, installation of additional safety facilities (2013 to 2016) ------ renovation work under high altitude conditions: Kaltwasser gallery, Kulm tunnel, Josef gallery (2010 to 2014) ------ protection against natural hazards: additional avalanche protection, Chalberweid (2013 to 2014) and protection against rockfall, Gondo (2013) ------ renovation of Figinen civil engineering structures in Gondo Gorge (2012 to 2013) ------ total costs in 2013, around 40 million Swiss francs.

5 _ A2: alteration of Mendrisio junction

Separation of exit to Mendrisio from junction between A2 and cantonal road 394 ------ optimisation of flow of traffic to and from motorway ------ creation of new junctions ------ complementary measures: surface drainage, environmental protection measures, noise prevention barriers, renovation of engineering structures ------ roadwork site, 1.8 kilometres in length ------ construction from 2012 to 2017 ------ total cost, 100 million Swiss francs.

6 _ A13: alteration of Chur South access roundabout

New roundabout to be constructed above A13 with 2 new overpasses in order to increase capacity of section ------ project will greatly reduce accident risk, significantly enhance road safety and reflect the development of the town of Chur ------ capacity of intersection will be improved ------ construction from 2012 to 2015 ------ cost, 28 million Swiss francs.

1

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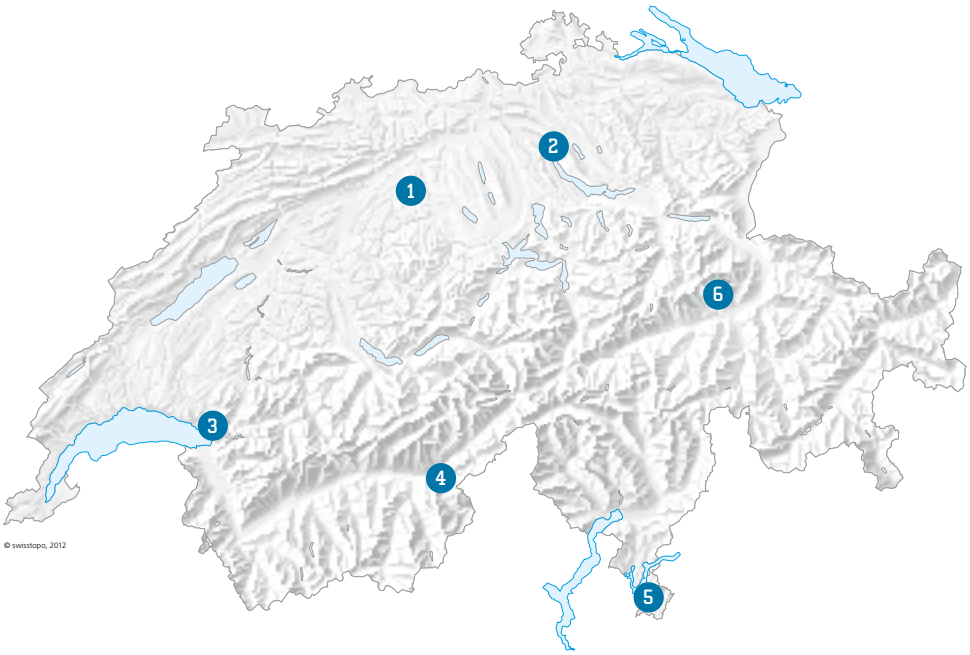

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Use of emergency lanes during periods of congestion

When there are traffic jams at the Morges and Ecublens motorway exits, the emergency lane is temporarily used as a normal traffic lane.

The temporary conversion of emergency lanes near Morges and Ecublens is being trialled with a view to the possible introduction of this option at other locations on the motorway network. The aim is to temporarily convert emergency lanes on 125 kilometres of the approximately 1,800-kilometre-long network, primarily during peak traffic periods, by 2020.

In 2014/15, emergency lanes will be temporarily converted into normal traffic lanes on the stretch between Muri and Kirchberg (canton of Bern) and on sections of the Winterthur bypass, and later on stretches in Geneva, Lausanne, Aargau, Solothurn, Basel and the Lake of Zurich region.

Trial in Morges and Ecublens

The trial on the motorway near Morges and Ecublens was initiated in January 2010, on a 2.9-kilometre stretch in both directions. Here, in the event of a traffic jam, drivers can use the emergency lane in order to reach the exit more easily and avoid having to queue on the motorway. Special signals indicate when this is permitted.

The results of this trial are very encouraging and match those reported by other countries: significantly smoother traffic flow, lower accident rates (generally down by 80 percent), reduction in emissions of pollutants by up to 10 percent, noise levels reduced by up to 2.4 decibels.

Investment of up to 0.95 billion Swiss francs

FEDRO is anticipating the need for an investment of up to 0.95 billion Swiss francs in the next few years for the temporary use of emergency lanes during peak traffic periods. For this purpose, a variety of structural measures will be required. For example, the substructure of emergency lanes is normally not suitable for frequent use and will have to be reinforced, and additional emergency bays will have to be constructed. An efficient monitoring system will also have to be installed, as well as a complex traffic light system to inform road users when they may temporarily use the emergency lane.

19,000 traffic jam hours in 2011

The volume of traffic on the motorway network has doubled since 1990. Today, around 40 percent of all road transport is carried out on the motorways, and the figure for heavy goods transport is as high as 65 percent. This high level of usage is increasingly leading to traffic jams. In 2011, almost 19,000 traffic jam hours were recorded on the motorway network, and by 2030 around 490 kilometres will be permanently congested.

Morges motorway exit:
the emergency lane has been
temporarily opened as
a third traffic lane.

The signal indicates that the emergency lane
is available as a normal lane.

Cameras are used for monitoring traffic and deciding when to open the emergency lane to traffic.

The temporary use of emergency lanes is being planned and organised by FEDRO's Traffic Management section as a means of optimising traffic flow. This is not intended as a definitive measure for eliminating traffic jams, but rather as an interim solution to be implemented on stretches subject to severe congestion until the section concerned has been widened. However, by way of exception it may also be considered as a permanent solution at locations at which a widening of the motorway is not possible for practical and economic reasons.

Temporary use of emergency lanes: concept

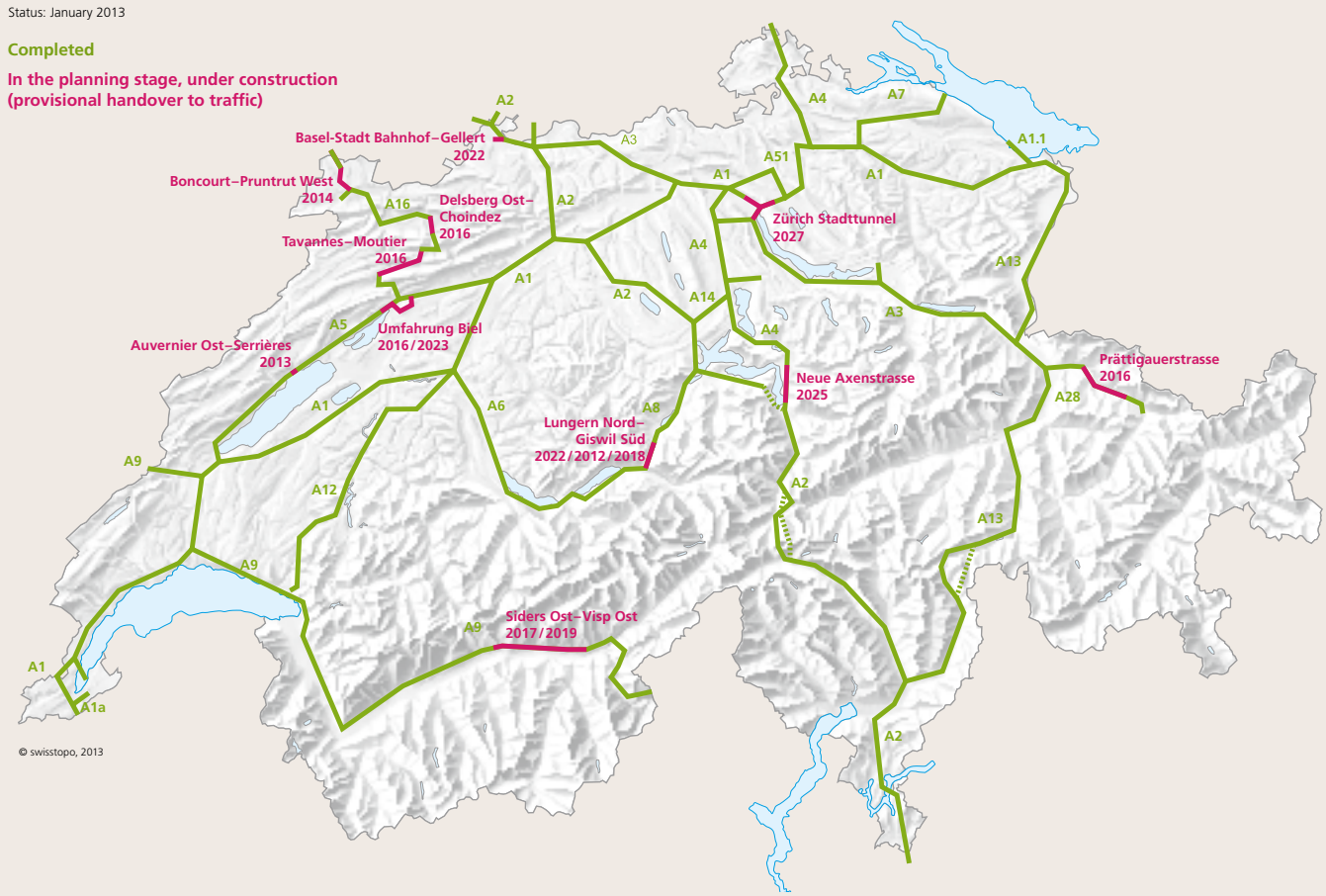
The concept is based on a sophisticated monitoring system using traffic density sensors. When the sensors detect a predefined traffic density, the control centre at the cantonal police headquarters receives a signal asking for the emergency lane to be opened to traffic. After visually checking the emergency lane with the aid of an extensive series of cameras, the operator on duty issues a computer command to open the emergency lane. This causes the traffic lights on the emergency lane to switch to green so that it can be used as a normal lane. In the event of an emergency or when an ambulance, fire engine or police vehicle needs to use the emergency lane, the traffic lights can be immediately switched back to red.

At the Morges/Ecublens exits, the system encompasses a 2.9-kilometre stretch of motorway. FEDRO is planning to use it on other stretches ranging from 6 to 12 kilometres, depending on the traffic jam situation.

Facts and figures

Additional 7.2 kilometres of motorway opened to traffic

According to the original plans, the Swiss motorway network will comprise 1,892.2 kilometres when it is completed. In 2012, two new stretches totalling 7.2 kilometres were completed: this means that 95.6 percent (or 1,808.50 kilometres) have been constructed to date. In 2013, 4.8 kilometres (2 stretches) will be handed over to traffic: Serrières to Areuse (1.7 km, canton of Neuchâtel) and Moutier Est to Court (3.1 km, canton of Bern). The Federal Council has approved plans to adapt the motorway network to the present-day requirements. For this purpose, 376 kilometres are to be added as of the beginning of 2014 (the stretches concerned are existing cantonal roads).



2012: Two new stretches handed over to traffic

Motorway	Canton	Stretch	2-lane	4-lane
A8	Obwalden	Lungern bypass	3.5 km	
A16	Bern	Court–Tavannes		3.7 km

2013: Two stretches scheduled to be opened to traffic

Motorway	Canton	Stretch	2-lane	4-lane
A5	Neuchâtel	Serrières–Areuse		1.7 km
A16	Bern	Moutier Est–Court (Moutier Sud–Court)	3.1 km	

The Swiss motorway network

Total length by road category

(km)

	7-lane		6-lane		4-lane		3-lane		2-lane		Mixed-traffic roads		Total	
	in use	planned	in use	planned	in use	planned	in use	planned	in use	planned	in use	planned	in use	planned
Zurich			32.5	37.1	105.5	110.9	1.9		11.1	11.1			**151.0**	159.1
Bern			13.2	13.2	129.3	136.7			43.8	62.6	19.4	19.4	**205.7**	231.9
Lucerne			2.6	2.6	55.9	55.9							**58.5**	58.5
Uri					37.1	53.0			16.3	6.3	16.1	10.0	**69.5**	69.3
Schwyz					43.2	52.7			2.2		4.3		**49.7**	52.7
Obwalden					1.8	1.8			22.3	31.1	13.3	1.0	**37.4**	33.9
Nidwalden					22.9	22.9			2.9	0.9		2.0	**25.8**	25.8
Glarus					16.6	16.6							**16.6**	16.6
Zug					17.7	17.7							**17.7**	17.7
Fribourg					84.2	84.2							**84.2**	84.2
Solothurn					43.8	43.8							**43.8**	43.8
Basel-Stadt			3.5	3.5	6.0	8.0							**9.5**	11.5
Basel-Landschaft			9.5	9.5	20.7	20.7							**30.2**	30.2
Schaffhausen						1.9			17.2	17.2			**17.2**	19.1
St. Gall					139.8	139.8							**139.8**	139.8
Grisons					43.6	50.2			93.4	112.1	27.9		**164.9**	162.3
Aargau	1.2		11.5	11.5	86.6	87.8							**99.3**	99.3
Thurgau					42.8	47.3							**42.8**	47.3
Ticino			7.3	7.3	101.7	108.8			27.8	20.7			**136.8**	136.8
Vaud			3.4	3.4	189.1	189.8			12.8	12.8			**205.3**	206.0
Valais					60.1	89.6			15.6	15.6	28.6	28.6	**104.3**	133.8
Neuchâtel					32.9	32.9			3.0	3.0	1.9	1.9	**37.8**	37.8
Geneva					27.2	27.2							**27.2**	27.2
Jura					25.3				8.2	47.9			**33.5**	47.9
Total	1.2		83.5	88.1	1,333.8	1,400.2	1.9		273.1	341.3	111.5	62.9	**1,808.5**	1,892.5

The motorways comprising the Swiss network have between 2 and 7 lanes. The majority of stretches (1,333.8 km) are 4 lanes.
The cantons with the most kilometres of motorway are Vaud (205 km), Bern (205 km) and Zurich (151 km).

2013: Two new tunnels near Serrières and Moutier-Courta

Name	Motorway	Stretch	No. of tubes	Length	Height	Cost
Tunnel de Serrières	A5	Serrières – Areuse	2	1.1 km	5.2 m	120.2 million
Graitery tunnel	A16	Moutier – Court	1	2.4 km	5.2 m	142.5 million

No. of withdrawn licences unchanged in 2012

In 2012, a total of 76,196 drivers (717 fewer than in 2011) had to surrender their licence. As in recent years, the main reasons for confiscation were speeding and drink driving. Significantly fewer licences had to be withdrawn due to speeding and failure to obey traffic lights and signals.

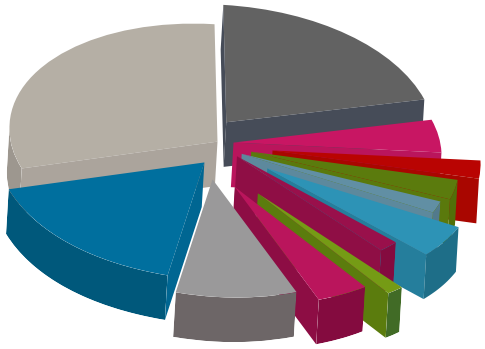
Overview of measures

	2011	2012	%*
Warnings to holders of a learner's licence	233	237	1.7
Warnings to holders of a driver's licence	46,666	49,208	5.4
Withdrawal of learner's licence	2,807	3,095	10.2
Withdrawal of driver's licence	76,913	76,196	–0.9
Of which withdrawal of provisional licence	7,391	7,498	1.4
Cancellation of provisional driver's licence	1,625	1,760	8.3
Refusal of learner's or driver's licence	3,330	3,494	4.9
Refusal to accept a foreign driver's licence	18,847	17,595	–6.6
Instruction in road use	3,122	2,758	–11.6
New driving test	2,668	2,834	6.2
Examination by specialised psychologists	3,504	4,098	16.9
Special requirements	4,754	5,038	5.9

* Change in percent

Reasons for withdrawal

Speeding offences	30 %
Drink driving (> = 0.08 %)	17 %
Inattention	9 %
Failure to give way	4 %
Failure to observe traffic signals	1.5 %
Unlawful overtaking	2 %
Other driving errors	5 %
Alcohol addiction	2 %
Influence of medicaments or drugs	3 %
Drug addiction	2.5 %
Sickness or infirmity	4 %
Other reasons	20 %



	2012	%*
Reasons for withdrawal		
Speeding offences	30,863	–4.2
Drink driving (> = 0.08 %)	17,105	–0.6
Inattention	9,482	6.1
Failure to give way	4,106	0.3
Failure to observe traffic signals	1,481	–15.4
Unlawful overtaking	1,812	3.2
Other driving errors	4,759	–6.1
Alcohol addiction	1,750	14.0
Influence of medicaments or drugs	2,836	15.5
Drug addiction	2,463	9.5
Sickness or infirmity	4,398	–0.2
Other reasons	20,575	9.3
Duration of withdrawal		
1 month	30,793	–0.7
2 months	2,297	–4.4
3 months	17,509	–3.4
4-6 months	9,755	3.7
7-12 months	3,351	–3.6
More than 12 months	1,432	–5.6
Indefinite period	16,872	4.5
Permanent withdrawal	53	8.1
Age of persons affected		
Under 20	2,995	–5.6
20 to 24	12,507	–2.1
25 to 29	11,443	–0.9
30 to 34	9,130	–0.3
35 to 39	7,580	–1.3
40 to 49	15,877	–2.7
50 to 59	11,597	8.5
60 to 69	5,474	1.3
70 and over	5,459	1.4
Reasons for withdrawal or refusal of learner's/driver's licence		
Learner driving unaccompanied	455	14.3
Driving error	2,042	6.0
Drink driving	891	2.5
Driving without a licence	2,975	5.9
Failure to pass driving test	244	15.6
Driving despite withdrawal of licence	186	–1.5
Theft	575	8.2
Sickness or infirmity	153	25.4
Other reasons	1,925	18.4
Reasons for warnings		
Speeding	38,059	5.1
Inattention	4,000	1.7
Failure to give way	2,422	–1.3
Driving an unroadworthy vehicle	1,696	37.2
Failure to observe traffic signals	596	27.6
Overtaking	199	26.7
Other reasons	6,120	12.5
Drink driving (> = 0.050 to 0.079 %)	6,084	–4.5

* Change in percent versus 2011

26 billion km: slight increase vs. previous year

In 2012, a total of 25.947 billion kilometres was travelled on Switzerland's motorways.

This represents a very slight increase of 0.28 percent (or 73 million kilometres) versus the previous year. In previous years, the increase had normally been around 2.7 percent.
The number of motor vehicles on the motorways is measured daily at 210 traffic counting stations. The recorded figures are used for calculating the average daily traffic volume (i.e. the average volume of traffic over a period of 24 hours every day of the year). The number of kilometres driven on the entire Swiss road network in 2012 was exactly 53.591 billion.

Travelled kilometres on the motorway network

Year	Billion km	Change in %
2008	23.467	
2009	24.527	+4.5
2010	25.161	+2.6
2011	25.874	+2.8
2012	25.947	+0.28

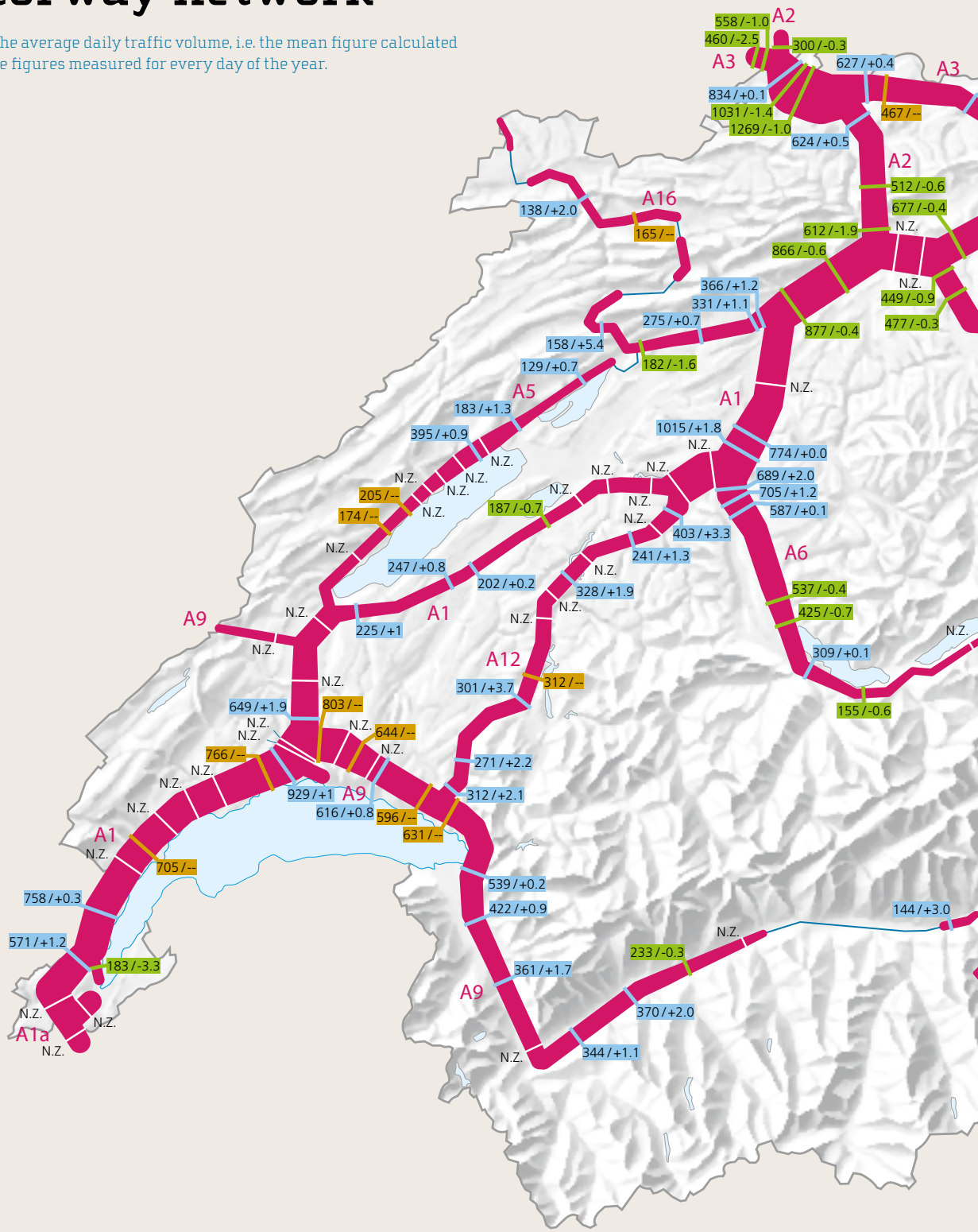
Traffic volume

(daily no. of vehicles)

		2011	2012	Change in %
A1				
ZH	Wallisellen	143,160	140,845	**– 1.6**
AG	Neuenhof	125,637	126,216	**0.5**
AG	Baden, Bareggtunnel	121,853	122,751	**0.7**
ZH	Zurich northern bypass, Seebach		108,266	
ZH	Zurich northern bypass, Affoltern	106,771	105,308	**– 1.4**
VD	Preverenges	91,935	92,854	**1.0**
ZH	Winterthur bypass	92,105	92,555	**0.5**
A2				
BL	Muttenz, Hard	128,152	126,872	**– 1,0**
BS	Basel, Gellert north	104,653	103,142	**– 1.4**
A6				
BE	Schönbühl, Grauholz	99,705	101,468	**1.8**

Map of 2012 traffic volume on the motorway network

The measuring stations indicate the average daily traffic volume, i.e. the mean figure calculated from all the 24-hour traffic volume figures measured for every day of the year.



No. of motor vehicles

0
15,000
30,000
45,000
60,000
75,000
90,000

Roads in operation

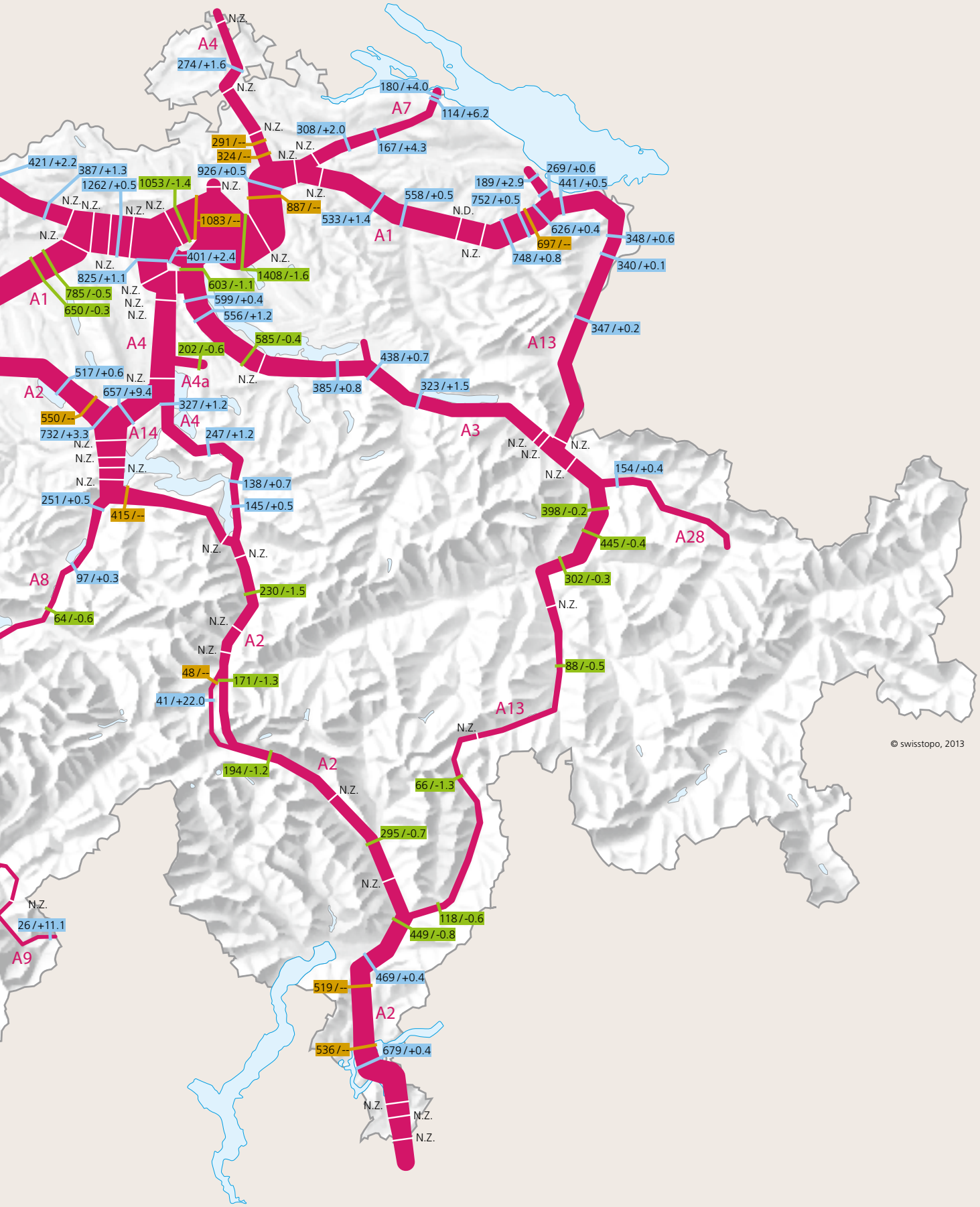
Roads under construction or in the planning stage

Daily traffic volume (10^2) and traffic increase (versus the previous year, in %)

Daily traffic volume (10^2) and traffic increase (versus the previous year, in %)

Daily traffic volume (10^2) – no figures for previous year

Figures shown on the map are in hundreds (e.g. 12 = 1,200)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Number of HGVs crossing the Alps down by 3 percent in 2012

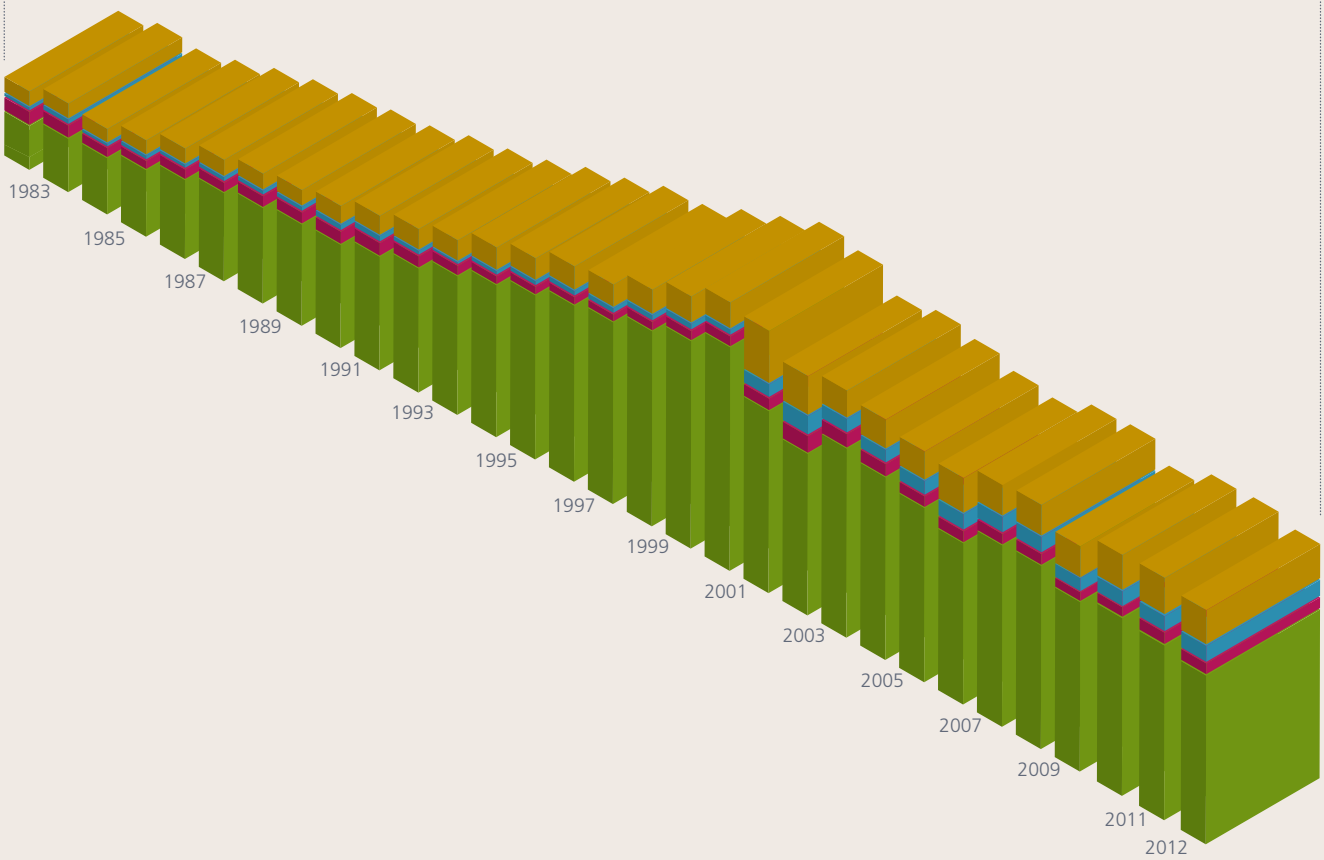
A total of 1,218,795 heavy goods vehicles crossed the Alps in 2012 or 3.2 percent less than in the previous year. Since 2003, this figure has consistently been around 1.25 million. The 2012 figure of just over 1.2 million represents a reduction by exactly 39,699 HGVs, or 3.2 percent, versus 2011. This trend is well within the fluctuation range that has been observed during the past few years. A reduction was recorded on all transalpine routes with the exception of the Simplon in the canton of Valais, which was used by around 85,000 HGVs in 2012, or 6.7 percent more than in the previous year. For many years, by far the highest figures have been recorded at the Gotthard road tunnel, though here, too, 3.3 percent fewer HGVs were registered than in 2011.

Transalpine goods traffic, 1982 to 2012

(numbers of heavy goods vehicles)

1982
79,000
15,000
68,000
233,000
395,000

	2008	2009	2010	2011	2012
San Bernardino	163,429	165,717	186,251	193,639	182,318
Simplon	81,940	68,502	79,361	79,640	85,000
Grand St. Bernard	56,759	45,633	47,925	57,883	55,194
Gotthard	972,688	900,150	943,230	927,332	896,283
Total	1,274,816	1,180,002	1,256,767	1,258,494	1,218,795



Significantly fewer accidents involving fatalities and injuries

Overall Swiss road network
Motorways and expressways

Accidents resulting in injuries and fatalities

	Accidents	Persons
Fatalities	301	339
	44	73
Severe injuries	3,867	4,202
	249	337
Minor injuries	13,980	18,016
	1,679	2,554
Total	**18,148**	**22,557**
	1,972	2,964
Change in % since 2005	–4.4	–4.3
	6.0	9.2

Accident statistics by road users

Pedestrians	2,382	
	11	
Driver/passenger(s), of which:	20,175	
	2,953	
in cars		11,240
		2,555
in heavy goods vehicles		130
		36
on motorcycles		4,092
		166
on bicycles		3,313
		1
in public transport		202
		0
in other forms of transport		1,198
		195
Total	**22,557**	
	2,964	
Change in % since 2005	–,4.3	
	9.2	

In 2012, a total of 18,148 accidents resulting in fatalities or injuries occurred on Switzerland's roads, or 974 fewer than in the previous year. The downward trend in the number of serious and minor injuries persisted. However, there were 339 fatalities, which was higher than in the previous year (320), partly due to the tragic coach crash in the Siders tunnel on 13 March 2012 (28 victims).

Types of accidents resulting in injuries and fatalities

		Cause of accident	
	Total	Speeding	Alcohol
Skidding, single-vehicle accident	5,569	1,597	1,029
	810	248	95
Overtaking	814	36	29
	189	5	6
Rear-end collision	3,822	267	145
	920	73	24
Turning out of road	1,463	9	22
	1	0	0
Turning into road	2,175	15	23
	2	0	0
Crossing lane	979	7	22
	1	0	0
Head-on collision	762	183	60
	32	3	3
Parking accident	194	3	15
	1	0	0
Collision with pedestrian	2,113	49	93
	6	0	2
Collision with an animal	91	2	1
	2	0	0
Other accidents	166	8	5
	8	0	0
Total	**18,148**	**2,176**	**1,444**
	1,972	**329**	**130**

5.6 million vehicles registered in Switzerland

Inventory of motor vehicles in Switzerland

	Motor vehicles Total	Cars	Passenger transport vehicles	Goods vehicles	Agricultural vehicles	Industrial vehicles	Motorcycles	Mopeds
Total	**5,605,328**	**4,254,725**	**58,278**	**361,926**	**188,358**	**62,219**	**679,822**	**170,739**
Lake Geneva region	**1,039,724**	**802,165**	**10,444**	**62,634**	**23,247**	**9,829**	**131,405**	**13,835**
Vaud	486,179	384,687	5,010	27,776	13,662	3,727	51,317	8,169
Valais	258,557	197,712	2,844	17,352	8,061	4,292	28,296	2,728
Geneva	294,988	219,766	2,590	17,506	1,524	1,810	51,792	2,938
Central plateau	**1,264,900**	**940,632**	**15,030**	**81,825**	**60,034**	**15,319**	**152,060**	**47,090**
Bern	693,057	496,854	9,052	47,899	38,122	9,704	91,426	29,000
Fribourg	211,764	164,212	2,220	12,638	9,831	1,995	20,868	6,232
Solothurn	189,506	145,972	1,799	11,919	5,381	1,799	22,636	8,284
Neuchâtel	117,481	93,517	1,457	6,261	2,984	1,112	12,150	2,274
Jura	53,092	40,077	502	3,108	3,716	709	4,980	1,300
Northwest Switzerland	**732,765**	**565,993**	**6,883**	**49,687**	**17,480**	**6,027**	**86,695**	**23,387**
Basel-Stadt	86,232	67,356	775	7,913	163	643	9,382	2,771
Basel-Landschaft	182,575	141,538	1,725	12,105	3,864	1,511	21,832	5,930
Aargau	463,958	357,099	4,383	29,669	13,453	3,873	55,481	14,686
Zurich	**884,203**	**693,864**	**8,909**	**55,669**	**15,773**	**9,267**	**100,721**	**17,755**
Eastern Switzerland	**835,198**	**617,992**	**8,861**	**56,004**	**42,359**	**12,908**	**97,074**	**22,562**
Glarus	29,086	21,822	284	2,069	1,369	594	2,948	745
Schaffhausen	57,131	42,334	690	3,593	2,787	659	7,068	1,721
Appenzell Ausserrhoden	39,530	29,144	418	2,071	2,315	529	5,053	1,593
Appenzell Innerrhoden	12,533	8,654	89	747	1,227	220	1,596	498
St. Gall	345,435	259,581	3,444	22,717	14,706	4,573	40,414	9,194
Grisons	146,134	104,538	1,859	11,257	9,442	3,727	15,311	2,726
Thurgau	205,349	151,919	2,077	13,550	10,513	2,606	24,684	6,085
Central Switzerland	**561,927**	**422,382**	**5,901**	**35,939**	**25,541**	**6,068**	**66,096**	**16,647**
Lucerne	266,426	196,171	2,891	17,537	13,829	2,543	33,455	8,849
Uri	25,271	18,444	316	1,485	1,270	457	3,299	750
Schwyz	119,334	91,168	1,119	7,046	5,179	1,499	13,323	3,257
Obwalden	28,998	20,701	344	1,935	1,984	437	3,597	1,300
Nidwalden	32,698	24,837	369	1,674	1,302	309	4,207	1,073
Zug	89,200	71,061	862	6,262	1,977	823	8,215	1,418
Ticino	**286,606**	**211,697**	**2,250**	**20,164**	**3,924**	**2,800**	**45,771**	**29,313**
Federal administration	**5**	**0**	**0**	**4**	**0**	**1**	**0**	**150**

Source: Swiss Federal Statistical Office

In 2012, the total number of registered vehicles was around 5.6 million, of which 4.3 million were cars. The total number of vehicles travelling on Switzerland's roads in 2012 was more than twice the number recorded in 1980.

Significant increase in number of diesel vehicles on the road

New registration of motor car

	2002	2008	2009	2010	2011	2012
Type						
Limousine	214,853	200,399	184,590	199,688	206,969	196,221
Station wagon	64,693	76.509	72,948	88,052	111,628	128,957
Convertible	13,488	11,070	8,940	8,857	9,358	8,867
Engine capacity (cc)						
Below 1,000	9,292	10160	10,817	9,463	9,653	13,548
1,000 to 1,399	46,452	60,689	67,525	83,629	97,643	89,272
1,400 to 1,799	75,772	69,945	65,009	77,754	85,228	78,913
1,800 to 1,999	81,144	84,019	72,452	75,218	81,249	94,510
2,000 to 2,499	38,809	24,010	19,588	19,358	21,875	23,217
2,500 to 2,999	25,192	23,804	20,562	19,944	21,121	21,434
3,000 and over	16,298	15,320	10,468	11,030	10,734	12,227
Electric motor	75	24	57	201	452	924
Gear mechanism						
Automatic	77,710	69,641	57,705	60,183	66,935	74,151
Manual	215,324	209,869	198,694	222,670	243,846	238,988
Hydrostatic		34	45	30	18	17
Others		8,400	10,034	13,714	17,156	20,889
Fuel						
Petrol	240,771	189,151	182,174	200,576	211,540	200,576
Petrol and battery		3,091	3,899	4,246	5,444	5,721
Diesel	52,097	93,366	78,755	90,547	109,324	124,911
Others	166	2,363	1,650	1,228	1,647	2,837
Drive						
Four-wheel drive	55,698	71,722	69,343	82,849	94,709	112,469
Rear-wheel drive	28,973	22,288	18,685	18,790	19,553	19,416
Front-wheel drive	208,363	193,942	178,430	194,929	213,637	202,075
Others		19	20	29	56	85
Total	**293,034**	**287,971**	**266,478**	**296,597**	**327,955**	**334,045**

Source: Swiss Federal Statistical Office

In 2012, around 6,000 more cars were newly registered in Switzerland than in the previous year, primarily in the first six months. In the second half of 2012, there were fewer new registrations of cars than in the same period last year. In the case of cars it may be assumed that this difference is attributable to the fact that the new CO_2 emission regulations entered into force in July 2012. The number of registered diesel vehicles increased significantly.

Vehicle registration statistics

	2002	2012
Cars	293,034	334,045
Passenger transport vehicles	2,601	4,321
Goods vehicles	23,978	34,447
Agricultural vehicles	3,457	3,951
Industrial vehicles	2,722	4,404
Motorcycles	47,406	49,805
Trailers	17,142	21,882
Total vehicles	**390,340**	**452,855**
Total motor vehicles	**373,198**	**430,973**

Source: Swiss Federal Statistical Office

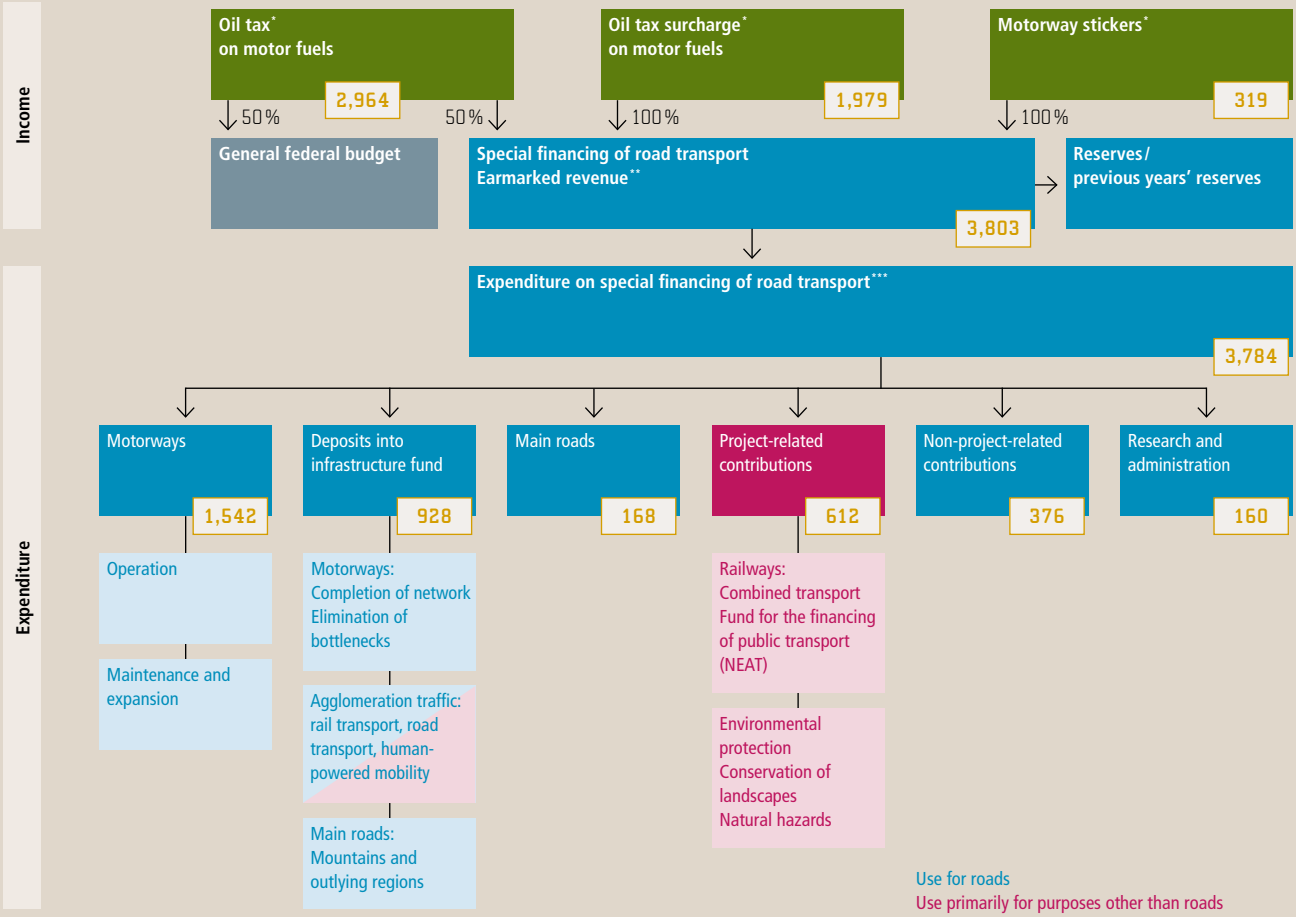
For the second time since 2011, a record number of motor vehicles was newly registered in Switzerland in 2012. The figure of 431,000 newly registered vehicles represents an increase by 2.4 percent versus the previous year.

Special Fund for the Financing of Road Transport

This Fund comprises revenue that is earmarked for the financing of road transport projects. It is financed from half the oil tax revenue, the revenue from the oil tax surcharge and the net proceeds from sales of motorway stickers. The currently applicable official tax rates and fees are as follows: Oil tax, 43.12 cents per litre of petrol and 45.87 cents per litre of diesel (unchanged since 1993); Oil tax surcharge, 30 cents per litre of fuel (unchanged since 1974); Motorway sticker ("Vignette"), 40 Swiss francs a year (unchanged since 1995).
A variety of tasks relating to road traffic are financed via this Fund. In addition to the financing of the federal government's own road infrastructure (motorway network), the Fund is used for supporting the financing of the road infrastructure belonging to the cantons, as well as various other road traffic related tasks at the federal level (project-related contributions, cf. diagram below).
The annual differences between income and expenditure increase or decrease the reserves from the previous years.

Flows of funds in 2012

(in million Swiss francs)



* Net income ** Including miscellaneous income (23 million Swiss francs)
*** Figures taken from the national budget. Differences in totals may arise due to the rounding up or down of individual figures.

The Infrastructure Fund was officially introduced in 2008. It is fed from the Special Fund for the Financing of Road Transport (deposits). The money deposited in the Infrastructure Fund is used for financing the motorways, transport infrastructure in towns and urban centres (private motorised transport, public transport, human-powered mobility) and main roads in the mountains and outlying regions. With the introduction of the Infrastructure Fund, the financing of the motorways was shared between two dedicated funds.
The duration of the Infrastructure Fund is limited to 20 years. For the financing of the expenditure to be covered from the fund, Parliament approved a total credit of 20.8 billion Swiss francs (price level as of 2005, excluding inflation and value-added tax). For the duration of the fund, Parliament approves its annual statements and – in line with the budget – the amounts of withdrawals from the fund for expenditure on individual projects. In addition, it decides on the annual deposits to be made to the fund within the scope of the federal budget. The Infrastructure Fund possesses a liquidity reserve, which increases or decreases depending on the annual difference between deposits and withdrawals.

Expenditure 2010–2012

(in million Swiss francs)

		2010	2011	2012
Motorways	Operation	315	313	**329**
	Maintenance/expansion	1,214	1,171	**1,213**
Infrastructure Fund	Annual deposit	1,029	853	**928**
	Extraordinary deposit		850	
Main roads	Contributions to cantons	168	166	**168**
Project-related contributions	Remuneration, combined transport; contributions for private railway sidings, terminals, etc.	248	250	**180**
	Fund for major railway projects (NEAT 25 % share)	320	279	**265**
	Environmental protection	93	97	**102**
	Protection of cultural heritage and landscapes	10	14	**15**
	Disaster prevention: protection against flooding	42	48	**50**
Non-project-related contributions to roads	General contributions to cantons	375	370	**368**
	Contributions to cantons without motorways	8	8	**8**
Research / administration		149	158	**160**
Total expenditure*		**3,972**	**4,576**	**3,784**

*** Figures taken from the national budget. Differences in totals may arise due to the rounding up or down of individual figures.

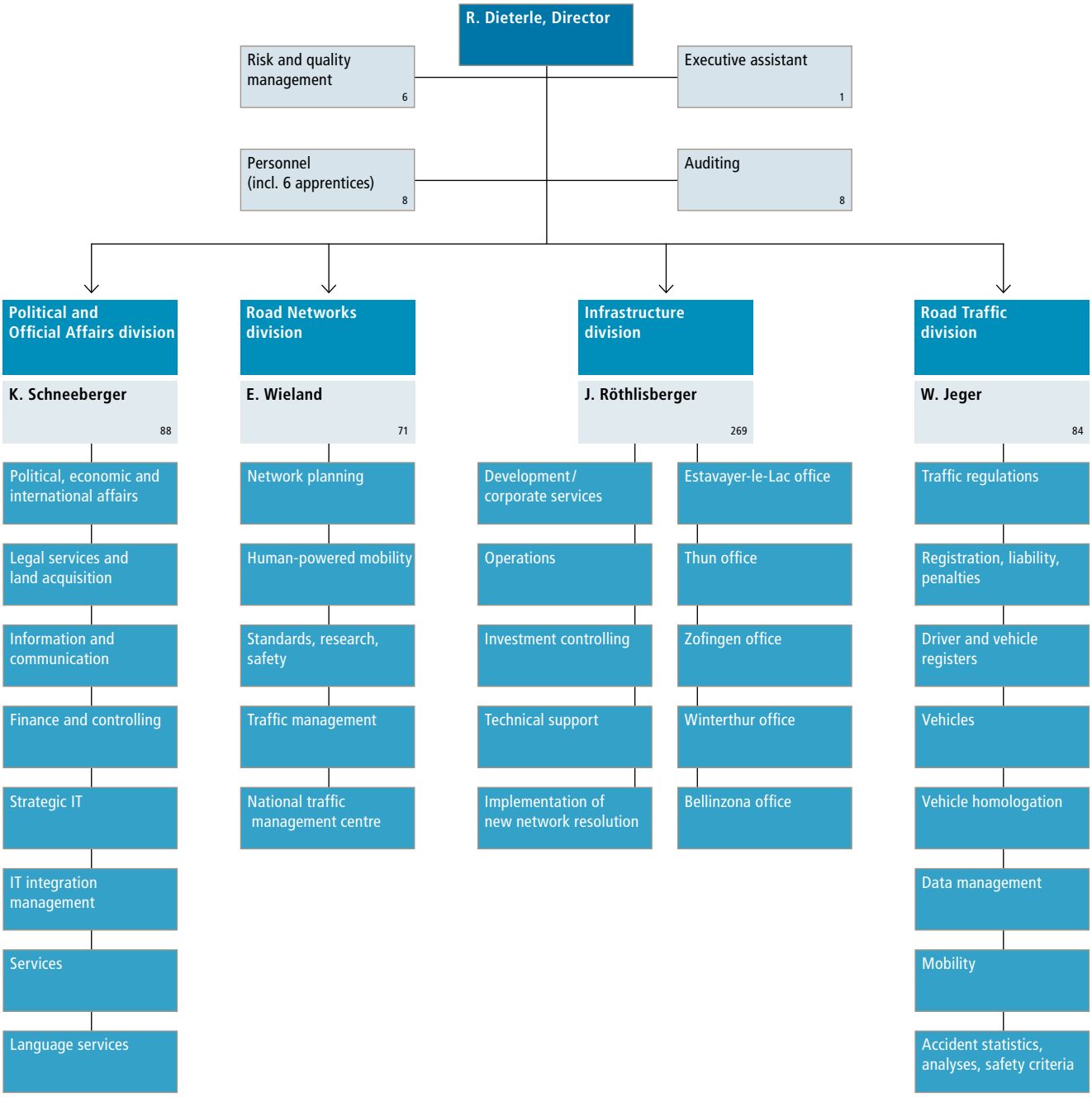
Withdrawals from the Infrastructure Fund 2010–2012*

(in million Swiss francs)

	2010	2011	2012
Completion of the motorway network	742.5	699.5	**677.9**
Elimination of bottlenecks on the motorways	30.4	48.4	**76.3**
Contributions to transport infrastructure in towns and urban centres	386.0	486.0	**416.9**
Contributions for main roads in the mountains and outlying regions	43.1	43.7	**44.4**
Offsetting of cantonal losses through increase in HGV fee	7.6		
Total withdrawals/expenditure	**1,209.6**	**1,277.7**	**1,215.5**

* according to liquidity statement

Organisational chart of the Federal Roads Office



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National traffic management centre
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