Mobility and Transport

Overview

Passenger transport: Most trips still made by car and for leisure

The Swiss population covered a total of 20,500 km per capita in 2010. Two-thirds of this distance were travelled within Switzerland (13,600km) and one third abroad (6,900 km). The larger part of this distance (54%) was accounted for by leisure traffic (11,000 km). A much smaller percentage (17%) was accounted for by travel to work (3,400 km) and 10% by shopping trips (2100 km).

The car is the most frequently used means of transport: In 2010 the car was used for roughly 49 of every 100 km travelled (almost 10,000 per person). 26% of the annual distance was accounted for by aeroplanes (5200 km), but three-quarters of the kilometres travelled abroad were done so using this means of transport. The share held by public transport (train, bus, tram) was 19% (3800 km), and that of non-motorised transport (walking, bicycle) 4% (800 km).

In addition to annual mobility, another variable is often used to quantify the population's travel behaviour: the daily distance per person in Switzerland (reference day mobility). In 2010 the Swiss population aged 6 and above travelled an average of 37 km per day. This took 92 minutes (83 minutes excl. waiting time). Almost half of the time spent travelling was for leisure (in comparison: Work/education: 25%, Shopping: 15%).

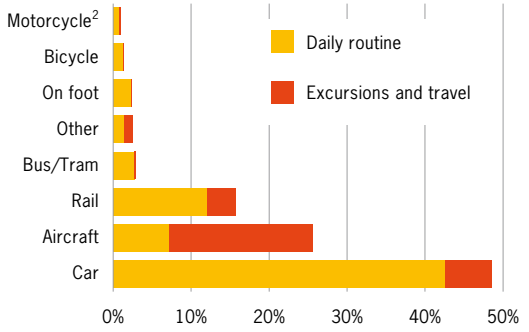
The daily distance per person varied depending on the population group. In 2010 men travelled 11 km more per person and day than women. Young adults, inhabitants of rural communes and persons with a high household income also travelled an above-average amount.

Public transport's growing share

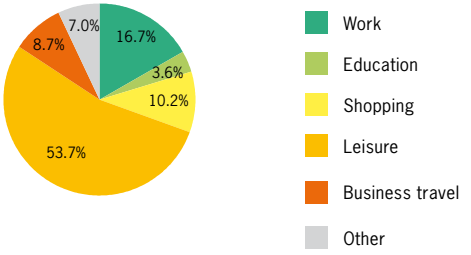
Between 2005 and 2010 the average daily distance travelled by persons in Switzerland rose by 4%. Therefore, after a temporary stabilisation between 2000 and 2005, the long-term trend to-

Passenger transport **G 11.1**

Use of means of transport 2010, annual mobility[1] in %



Transport purposes 2010, annual mobility[1]

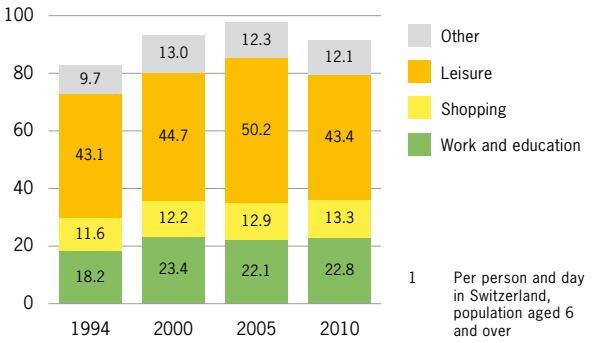


1 Shares relate to annual distances travelled in Switzerland and abroad, persons aged 6 and over
2 Including mopeds and small motorcycles

wards increasingly longer daily distances continued. The latest increase can mainly be accounted for by public transport. Railways, in particular, registered a marked increase between 2005 and 2010. The number of kilometres travelled by rail per capita per day rose by 27% during the aforementioned period.

Despite stabilisation of distances travelled per person by car, road traffic continued to increase from 2005 due to population growth. Between 1980 and 2011, the transport performance of motorised private transport increased by 34% to 89.9 billion person-kilometres (pkm). Rail transport performance grew by as much as 95%, which is mainly attributable to improved services in this area. In 2011, the transport performance of rail transport was 19.5 billion pkm, that of public road transport 5.5 billion pkm (2010). billion pkm, that of public road transport 4.0 bil-

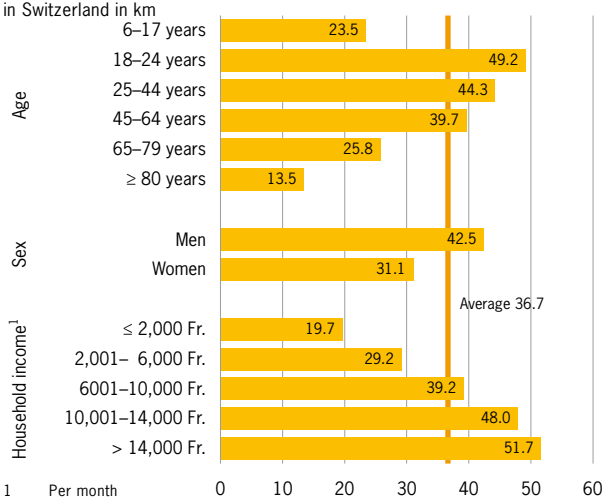
Change in travel time[1], in minutes **G 11.2**



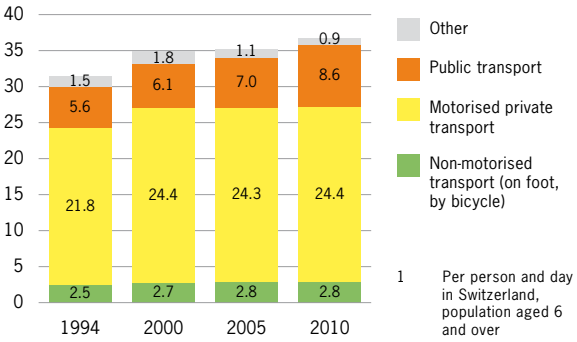
1 Per person and day in Switzerland, population aged 6 and over

Volume of traffic: daily distance per person 2010, **G 11.3**

in Switzerland in km

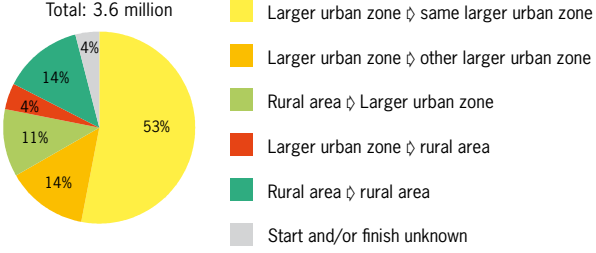


Change in daily distances[1], in km **G 11.4**



Commuter flows 2010 **G 11.5**

Employed persons by start and finish of commute



lion pkm (2010). In non-motorised transport, 7.5 billion pkm were covered.

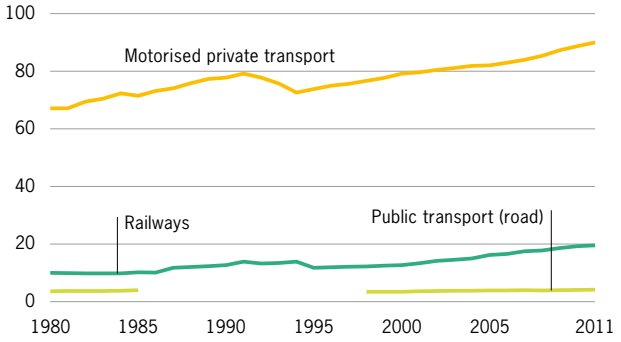
Commuter traffic

As seen above, after leisure the second most common reason for using transport is work. In 2010 approximately 7 out of 10 persons worked outside their commune of residence (in 1990 it was only 5 out of 10). Of these "inter-commune commuters", 53% commuted within their own larger urban zone. Another 14% commuted from one larger urban zone to another, whereas 11% lived in a rural area and travelled to work in a larger urban zone.

Of all cantons, in 2010 Zurich had the highest net inflow of commuters in absolute terms: Its number of inward commuters exceeded that of its outward commuters by more than 82,000 persons. The canton of Basel-Stadt can be considered

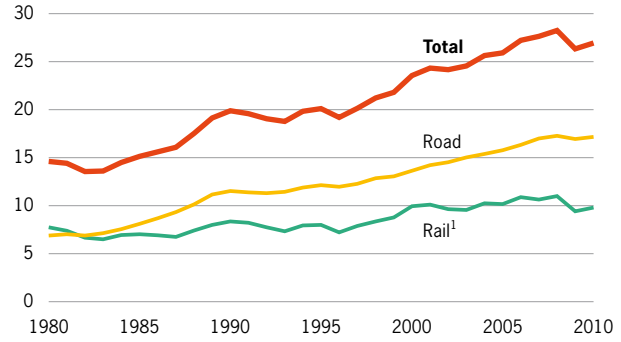
Passenger transport performance **G 11.6**

in billion person-kilometres



Goods transport performance **G 11.7**

in billion tonne-kilometres



1 Net tonne kilometres not including the weight of goods transport vehicles (including trailers), containers and swap bodies in multimodal transport.

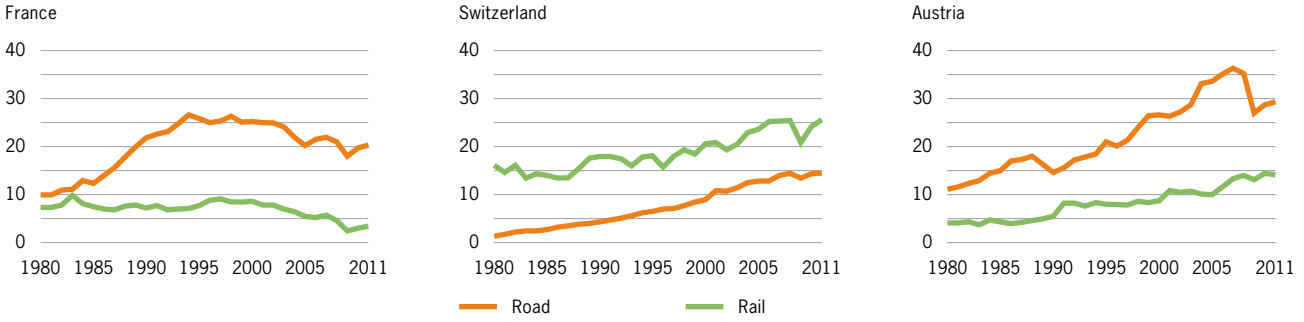
as a typical "work canton": At 44% it had by far the highest relative commuter inflow (share of net commuter flow in employed persons living in the canton). Other cantons with net commuter inflows were Zug (27%), Zurich (11%) and Geneva (9%) (total figures excl. cross-border commuters). On the other hand, Schwyz, Basel-Landschaft, Nidwalden, Fribourg, Thurgau und Aargau can be described as "residential cantons". All of these cantons had a net commuter outflow in 2010 of more than 10%.

Goods transport

In goods transport, between 1980 and 2010 road transport performance increased by 149% to 17.1 billion tonne-kilometres, while rail transport performance rose by 31% to 10.2 billion (net) tkm. Rail transport experienced losses in particular in the 1980s: In 1980 47% of goods transport was by road, 53% by rail. In 1990 the respective shares had already changed to 58% and 42%. From 1990 to 2010 the decline in the railway's share of goods transport was relatively small, falling to 36%. The long-term trend is consistent with that of the European Union, where goods are increasingly transported by road. In the EU-27 countries, 82% of the tonne-kilometres were accounted for by road in 2010 and 18% by rail. Between 1995 and 2010, road transport performance rose by 36%, compared with only 1% for rail transport. It is a stated transport policy objective of the EU as well as of Switzerland to reduce road transport and strengthen the market position of the railways.

Transalpine[1] goods transport in million net tonnes

G 11.8



1 Alpine arc: Mt. Cenis/Fréjus to Brenner

Transalpine goods transport

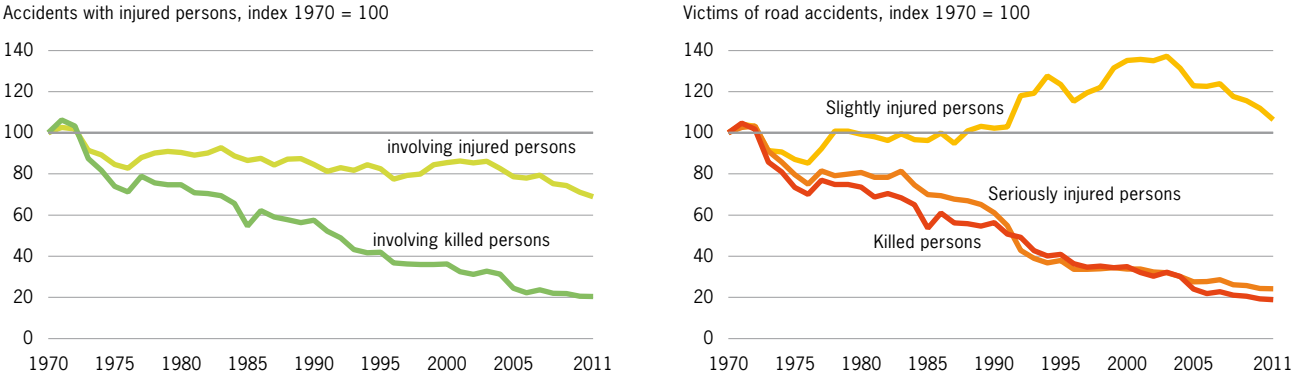
Of particular interest in terms of transport policy is transalpine goods traffic between Mont-Cenis/Fréjus (France) and Brenner (Austria). Here it can also be seen that: Road transport has grown far more than rail transport. Between 1981 and 2011, the share of rail transport fell from 53% to 40%. In France (14%) and Austria (33%) it is markedly lower than in Switzerland (64%).

Downside of mobility: Pollution, accidents

The kilometre performance of vehicles has direct bearing on damage to the environment. Transport is one of the main causes of the destruction of habitats, air pollution and noise pollution. The transport sector accounts for around a third of total energy consumption and consequently a significant share of CO_2 emissions from fossil fuels.

Accidents are another downside to mobility. In 2011, there were 20,506 accidents involving personal injury on Swiss roads. Some 23,242 persons were injured, 4437 of them seriously; the number of persons killed was 320. Accidents involving personal injury have declined by 26% since 1980, the number of persons injured by 28% and the number of persons killed by 74%. Greater road safety is attributable to improved vehicle safety standards, as well as to speed limits and the revisions of the Federal Road Traffic Act (e. g. lowering of the blood alcohol content limit to 0.5%) which recently came into effect. Rail transport safety has also improved. The number of persons killed in rail transport declined by 82% to 13 persons between 1980 and 2011. In terms

Development of road accidents **G 11.9**



1 Since 1992, a new definition of light and serious injuries has been used.

of person-kilometres travelled, rail transport is substantially safer than road transport.

The costs of transport

Transport also generates costs. In 2005, total costs for road transport were CHF 70.5 billion and for rail transport CHF 11.4 billion. The most important cost factor is the procurement and operation of transport equipment. For road transport this accounted for 67% and for rail transport 55% of costs. Infrastructure costs (construction and maintenance of road and rail connections) accounts for 10% of total costs for road transport and 40% of total rail transport costs. The ratio is inversed in the case of accident and environmental costs: these are 23% in road transport and 5% in rail transport.

In 2005, annual external accident and environmental costs totalled CHF 7.5 billion for road transport (accident costs without non-motorised transport and tractors) and CHF 0.5 billion for rail transport. External costs refer to transport costs that are not borne directly by transport users but rather by the general public and future generations.

Costs per person-kilometre are 54 centimes for road passenger transport (passenger cars) and 40 centimes for rail trans-

port. In the case of goods transport, the costs per tonne-kilometre are 57 centimes for heavy road transport and 24 centimes for rail transport.

A comparison of total costs with creditable income results in a total costs coverage rate of 92%. Rail transport covers 93% of its costs when payment for public services are accounted for as income. Without accounting for payments for public transport services, road transport covers 90% and rail transport 66% of costs.

Transport accounts 2005 **TT 11.1**

In billion francs

	Total costs	Road	Rail
Total	**81,9**	**70,5**	**11,4**
Transport means	53,6	47,4	6,2
Infrastructure	11,7	7,2	4,5
Safety	10,0	9,8	0,2
Environment	6,5	6,1	0,4