SMARTA smart rural transport areas

www.ruralsharedmobility.eu





Authors:

Andrea Lorenzini, Giorgio Ambrosino –

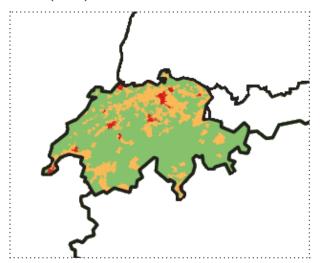
MemEx Italy

Date:

31.01.2020

RURALITY (1)

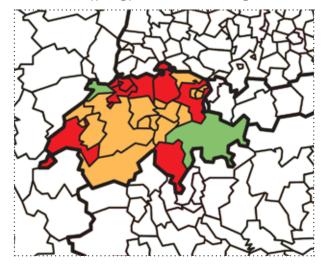
Degree of urbanisation for local administrative units level 2 (LAU2)



- Cities
- Towns and suburbs
- Rural Areas
- Data not available

Source: Eurostat, JRC and European Commission Directorate-General for Regional Policy, 20 January 2016

Urban-rural typology for NUTS level 3 regions



- Predominantly urban regions
 - (rural population is less than 20% of the total population)
- Intermediate regions

(rural population is between 20% and 50% of the total population)

Predominantly rural regions

(rural population is 50% or more of the total population)

Data not available

Source: Eurostat, JRC, EFGS, REGIO-GIS, December 2016



DISTRIBUTION OF POPULATION



Share of people living in cities



Share of people living in towns and suburbs



Share of people living in rural areas

Source: Eurostat, 2017

GEOGRAPHY

Switzerland, officially the Swiss Confederation, is a landlocked federal state of Central Europe. It borders to the north with Germany, to the east with Austria and Liechtenstein, to the south with Italy and to the west with France. The Switzerland territories can be geographically divided between the Alps (and their pre-Alpine foothills, close to Italian border), the Altipiano (Schweizer Mittelland, Swiss Plateau, in the north-centre) and the Jura chain on west. The Alpine region and the Pre-Alps together cover 60% of the Swiss territory. Although geographically situated in the centre of Europe, it isn't part of the European Union and the links with the European countries are regulated by bilateral agreements. Switzerland is one of the most developed and globalised countries in the world and it has one of the highest gross domestic products per capita. Despite in political terms it has always been a neutral isolated State, Switzerland economy is very well integrated with the global and European economies and is at the core of the great world monetary flows. There are three official national languages: German, French and Italian.

In administrative terms, Switzerland is divided into 26 cantons, and the city of Bern is the de facto capital of the

Country. Around two-thirds of the country inhabitants are concentrated on the plateau, where the cities of Zurich, Geneva, Basel, Lausanne, Bern, Winterthur, Lucerne and St. Gallen, some of them considered the cities with the highest quality of life in the world, are located. In these territories, the average population density is about 450 inhabitants per square kilometre. The more mountainous southern half of the country is far more sparsely populated than the northern half (for example, in the largest Canton of Graubünden, lying entirely in the Alps, population density falls to 27 /km²).

Swiss public transport network covers almost all the national territory; PT services, especially by rail, have high frequencies and are considered by the general public really efficient and reliable. Switzerland has also one of the highest ratios of public transport trips per capita. Wide areas of the Jura, the Plains and the Alps contribute substantially to the national economy and, in addition, they are considered beautiful location and dwelling places in Europe. In 2017, the unemployment rate in swiss rural areas (3,5%) was one of the lowest of Europe and, in 2016, only 17,1% of the total population was at risk of poverty or social exclusion.

RURALITY (2)



Share of people at risk of poverty or social exclusion in rural areas. **2017**



Share of people aged 16 and over who reported unmet needs for health care in the previous 12 months due to expense, distance to travel or length of waiting list in rural areas. **2017**



Unemployment rate, persons aged 15–64, in rural areas. **2017**



Share of young people aged 18–24 neither in employment nor in education or training (NEETs) in rural areas. 2017

Source: Eurostat



NATIONAL POLICIES RELATING TO RURAL MOBILITY AND PUBLIC TRANSPORT

The main national policy instrument related to mobility and public transport is "Rail 2000" (Bahn 2000), which was a project of the Swiss Federal Railways (SFR) approved by the Swiss Federal Government by referendum in 1987. The strategy emerged for "recovering" the loss of rail passengers in the '70 due to increased use of private car. It was a peculiar case of national policy which was focused on improving the overall public transport offer, especially the fixedroute, including rural and semi-rural connections. The strategy is based on the concept of integrated/ synchronised timetables (Taktfahrplan), i.e. to plan train and bus services to connect with each other at the same transport hub/station. In particular, the plan commits to have hourly (or half-hourly) rail connection between major nodes or towns; it then establishes hierarchical timetables, with national rail services acting as the backbone and passing at the same minute past every hour, followed by regional rail services, and local bus connections. The plan provided a de-facto national model/guidance for the following regional/canton policies. Indeed, almost all the cantons' developed strategies with direct commitments to have hourly or half-hourly coordinated public transport services (by rail or bus) throughout the regions. This was facilitated by the extension of the rail network which covers a large part of the country.

The Sectorial Transport Plan (Sachplan Verkehr SPV) is a document emanated by the Confederation which establishes the national guidelines of the transport infrastructure policy in the form of objectives, principles and priorities. As regards rural mobility, the Confederation commits to support adequate 'basic' public transport services within its competences

(through subsidies) and ensures that sufficient connections can be maintained between neighboring rural regions. Specific targets to be achieved are not detailed. "The future of mobility in Switzerland, Vision 2040" is another policy strategy developed by the Swiss Federal Office for Spatial Development. It details the major current and future mobility and transport challenges of Switzerland and defines the high-level objectives for achieving sustainable, efficient connected mobility for 2040.

As regards the rural development, the Swiss Federal Council was entrusted on the one hand with provision 69 of the 2011-2015 legislative program, aimed at "defining a global policy for rural areas" and on the other with the "Maissen motion" (11.3927; "Confederation's strategy for the regions mountain areas and rural areas") to develop a policy for rural areas and mountain regions of Switzerland. In 2015, the "Confederation policy for rural areas and mountain regions" was emanated. It defines a long-term vision and objectives for rural areas, principles of intervention, models of governance and implementing instruments and strategies.

"Gesundheit 2020" is the main national policy regarding healthcare services. Approved by the Swiss Federal Council on 23rd January 2013, it sets the priorities of Swiss health policy up to 2020. Based on twelve general objectives, the strategy includes 36 measures that, divided into four areas of intervention, have to be implemented to improve the Swiss health system to better face current and future challenges. Special attention is paid for guaranteeing access to healthcare for all, prioritising those interventions targeted to children, youth, low-income, elderly people and immigrants.





INSTITUTIONAL FRAMEWORK

Switzerland is officially a federal state consisting of 26 autonomous cantons. Each canton has a certain level of freedom in organising and managing the local public transport services under the supervision of the Swiss Confederation. The Federal Transport Office (in German: Bundesamt für Verkehr or 'BAV') is the national competent authority for all transport matters including rail, bus, tram and cable-car services. The BAV is part of the Federal Department of the Environment, Transport, Energy and Communications (DETEC), which coordinates and control the transport sector in the field of security, financing, planning and regulation. The Federal Office for Spatial Development, under the DETEC too, has also an important role as key authority for drafting principles and strategies for mobility and transport and for ensuring that political plans that affect space and transport are coordinated within the federal government. The planning and regulation of rural mobility is mostly delegated to each canton.

The Association of Public Transport (VöV - Verband öffentlicher Verkehr) is the national umbrella organization of public transport companies. It includes around 130 transport companies and 180 companies from business and industry sectors. Its main aim is to represent the

interests of its members, promote the exchange of information and practices among transport companies and encourage the use of PT services.

Swiss Federal Railways (SBB in German) is the major railway company of Switzerland. SBB services cover a large part of Switzerland territory and are characterised by their excellent intensity of use, good rating for quality of service and a very good rating for safety. The other primary rail operator is BLS AG, a railway company owned by the canton of Berne and the Swiss Confederation. In Switzerland there are also many other railway companies, including ones owned by other countries (such as Deutsche Bahn and Trenitalia).

AutoPostale is the main Public Transport operator by bus of Switzerland. It is a subsidiary company of Swiss Post (a public company owned by the Swiss Confederation) and it operates interregional, regional and local services in nine regions (i.e. Aargau, Bern, Vaud, Valais, Ticino, Grisons, Uri, St. Gallen and Zurich). AutoPostale offers also a bike sharing (PubliBike SA) and a carpooling (PubliRide) system. A demand-responsive transport services called PubliCar is also operated in some of the Swiss cantons.

REGULATORY FRAMEWORK

At the national level, most of the planning provisions for passengers' transport are regulated by the Federal Law on passenger Transport no. 745.1 of March 2009 (and related Ordinance - 'Ordinanza sul trasporto di *viaggiatori* – OTV) and, concerning rail transport, by the Law 742.1 of December 1957 and subsequent updates. These Laws sets out the rights and responsibilities of companies granted concessions or monopolies on particular routes, stipulate timetabling procedures, and also guide the payment of federal government public transport subsidies. On this basis, each canton has also developed a specific law for managing and regulating passengers transport. The Federal Transport Office is responsible for issuing, transferring, modifying, renewing, withdrawing, cancelling and revoking concessions. These concessions are not mandatory for transport services offered with vehicles with a capacity of fewer than nine seats.

Public transport services in rural areas are regulated under the same instruments as urban and intercity public transport.

New public transport providers have to fulfil a couple of preconditions to get a concession from the Federal Office of Transport (e.g. acknowledgement of national season tickets and tariffs, no competition to existing public transport, et al.).

There are no specific regulations in place for Demand Responsive Transport services. The taxi services are not regulated at the national level, rather are under the responsibility of the cantons, therefore of the municipalities. Thus, each municipality has the freedom to regulate the issue of professional qualification and the practice of the taxi driver profession according to local needs. There is no national legislation for NNC services as well.



ORGANIZATIONAL FRAMEWORK

Connections between (and within) the various regions of Switzerland are developed through trains, buses, boats and cable cars services. According to the national decree 745.16 of November 2009, the Confederation and the Cantons decide, plan and organise together the regional (i.e. extraurban) public transport offer ('Traffico Regionale Viaggiatori - TRV') on the basis of the local transport demand. At a federal level, a minimum of 18 hourly services per day is the minimum standard; these services are subsidised by the National Government. In parallel, there are reduced service levels (e.g. 6 services per day) on secondary links in mountain areas or on connections used by tourists only. Minimum transport services are offered to all hamlets and rural areas with more than one hundred inhabitants. The cantons and public transport companies are free to add further services; these are not reimbursed by the national government funds.

Local Transport services ('*Trasporto locale*') are defined as those services which are made for capillary connecting areas and that are characterized by short distances between stops and where a stop is no more than 1.5 km from the next closest stop on a regional line.

Most of the regional transport services are managed and offered by Autopostale. The company manages around 900 lines and 14,600 stops on a network of more than 12,000 Km. Furthermore, Autopostale operates around 40 local transport services in 14 different cantons.

The management of local transport services normally falls under the responsibility of the municipality concerned. However, there are Cantons which also manage local transport in addition to regional passenger

traffic (TRV). Local transport services are not funded by the Confederation.

On the basis of the Taktfahrplan, rail connections are half hourly or hourly offered between Switzerland major nodes. Hierarchical timetables are then set up, with national rail services passing at the same minute past every hour, followed by regional rail services, and local bus connections. Good connections, both in terms of physical (thought the stations/stops) and digital (through travel information services) are also guaranteed. Buses and train arrive in a certain area the same time, connecting passengers have a certain amount of time for changing means of transport, and then depart. The particularity is that the timetables and patterns are repeated every hour, with additional services during peak times. In villages and rural areas not crossed by railway lines, feeder bus routes to train stations are offered, with integrated timetables.

Minimum services are also offered to remote areas and sparse hamlets on the basis of Canton specific regulation. Demand-Responsive transport services can also be offered, according to Cantonal regulation, though smaller vehicles.

Publicar (or 'Rufbus') is a demand responsive bus service operating in different regions of Switzerland. It usually operates upon predefined routes and stops, with flexible schedules on the basis of users' requests. The service can be booked via call centre and the tariff depends on the length of the journey. It is operated by Autopostale and other local private transport companies.





FINANCIAL FRAMEWORK

Switzerland Public Transport is funded through a consistent and comprehensive system where the Confederation, cantons and municipalities contribute to a certain extent. Since 2016, all costs for the rail operation and maintenance and the extension/improvement of the railway infrastructure are paid through a specific financing instrument, i.e. the Railway Infrastructure Fund (BIF). The BIF has access to regular federal funds, a share of the performance-related heavy vehicle tax (HVF) and a flat-rate contribution from the cantons to finance these tasks. In 2016, the BIF provision has been around €4 billion.

Generally speaking, public transport, including rail, bus and cablecar services, generates enough revenue to cover over half of its costs (in 2016, total revenues from passenger traffic was CHF 6,040 million). The remaining half comes from public subsidies and infrastructure contributions.

There is not a specific budget allocated for rural transport services. As regards regional (i.e. extraurban)

public transport offer ('Traffico Regionale Viaggiatori – TRV'), transport companies generate revenue through sale of tickets or subscriptions and other services for around 50 per cent of the transport costs. The other part is covered by the Confederation, cantons and municipalities, each of these contributing for a certain amount of resources for a total of around CHF 2 billion per year. They agree on a case-by-case basis the offer and the financial contribution ("procedura di ordinazione") for a two-year time period with the 120 transport companies operating in the TRV sector.

Those services offered in locations with less than 100 inhabitants and local traffic (e.g. urban transport) are financed by the cantons and/or by the municipalities, with no contribution from the Confederation.

As regards Autopostale, in 2016 the operating revenues have been CHF 790 million, of which traffic revenues from ticket and subscriptions accounted for VHF 201,6 million; costs for personnel and operation and maintenance of the vehicles have been CHF 620 million.





OTHER INFORMATION



The increase demand for public transport in Switzerland is remarkable. In terms of distances travelled by people in public transport (person kilometers (Pkm)), there has been an enormous increase, especially in rail transport: passenger journeys have increased by over 30% since 2000, while the rise in the number of passenger kilometres has been even higher at almost 40%. Compared to other European countries, Switzerland is at the top position in rail travel. In 2016, Switzerland had 2,231 pkm/inhabitant, more than double of EU average.



Swiss transport system offers an integrated transport network which builds on i) dense transport network, which cover most of Swiss territory; ii) open transport system, where a ticket from A to B is valid on all trains, irrespective of train type and time of day; and iii) end-to-end transport chain (regular-interval timetable on all means of transport) and tickets.



Passengers are able to buy simple and uniform multimodal travelcards, travelpasses and one-trip tickets that are valid for multiple forms of transportation such as train, bus, ships and mountain cableways, all run by different transport companies. The full-fare travelcard (GA) allows unlimited travel on SBB trains and most other railways in Switzerland, on boats, buses, and trams.

KEY STAKEHOLDERS AND MINISTRIES ADDRESSING RURAL AREAS

TITLE	ROLE

The Federal
Department of
the Environment,
Transport, Energy
and Communications
(DETEC)

The Federal Department of the Environment, Transport, Energy and Communications (DETEC) is the department for federal infrastructure and environmental matters. It aims to guarantee high level of standards and efficiency of the transport network

The Federal Office for Spatial Development (ARE)

The ARE is the federal government's specialist authority on issues concerning spatial development, mobility policy, and sustainable development.

The Federal Office for Transport (BAV)

The BAV is the supervisory authority responsible for public transport in Switzerland (railways, cableways, ships, trams and buses). Large areas of freight transport also fall within the BAV's remit. The BAV is responsible for safety, finance and infrastructure, as well as the legal and political frameworks of public and freight transport

SBB

SBB is the national railway company of Switzerland. It is a public company and the capital is held entirely by the Swiss Confederation. In addition to passenger rail, SBB operates cargo and freight rail service and has large real estate holdings in Switzerland.

PostAuto

'PostAuto Schweiz' is a subsidiary company of the Swiss Post which provides regional

and rural bus services throughout Switzerland

RURAL SHARED MOBILITY



LINKS TO WEBSITES

- https://www.uvek.admin.ch/uvek/en/home.html (Federal Department of the Environment, Transport, Energy and Communications)
- https://www.bav.admin.ch/bav/en/home.html (Federal Office of Transport)
- https://www.sbb.ch/en/home.html (Swiss Federal Railways)
- https://www.voev.ch/fr/Bienvenue (Swiss umbrella organisation for Public Transport Companies)
- https://www.postauto.ch/en

REFERENCES

- AutoPostale web brochure, 2019, available at https://www.postauto.ch/it/fatti-e-cifre
- Dipartimento federale dell'ambiente, dei trasporti, dell'energia e delle comunicazioni (DATEC), 2006: Piano settoriale dei trasporti, Parte programmatica, 26 aprile 2006, Berna, available at https://www.are.admin.ch/are/it/home/sviluppo-e-pianificazione-del-territorio/strategia-e-pianificazione/concezioni-e-piani-settoriali/piani-settoriali-della-confederazione/piano-settoriale-dei-trasporti-pst/piano-settoriale-dei-trasporti-parte-programmatica.html
- Federal Council Opinion on the reorganization of the taxi sector of 20/02/2013, available at https://www.parlament.ch/it/ratsbetrieb/suche-curia-vista/geschaeft?Affairld=20124093
- https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Passenger_transport_statistics/it&oldid=456737#Passeggeri_ferroviari
- https://www.eltis.org/sites/default/files/case-studies/documents/factsheetpublicar_ch_0_3.pdf
- Motion 11.3927 by Theo Maissen: Confederation's strategy for mountain regions and rural areas.
- Politik des Bundes für die ländlichen Räume und Berggebiete (Confederation policy for rural areas and mountain regions), available at https://www.are.admin.ch/are/de/home/medien-und-publikationen/publikationen/laendliche-raeume-und-berggebiete.html
- Petersen, T., & Mees, P. (2010, July). A case of good practice: the Swiss 'network'approach to semi-rural public transport. In World Congress on Transport Research, 12th, 2010, Lisbon, Portugal (No. 02049), available at http://www.wctrs-society.com/wp-content/uploads/abstracts/lisbon/selected/02049.pdf
- Petersen, T. J. (2012). Public transport for exurban settlements. PhD thesis, Architecture, Building and Planning, The University of Melbourne
- Petersen, T. (2016). Watching the Swiss: A network approach to rural and exurban public transport. Transport Policy, 52, 175-185, available at https://www.sciencedirect.com/science/article/pii/S0967070X16301469
- The future of mobility in Switzerland, Vision 2040, DATEC, August 2017, available at https://www.are.admin.ch/are/de/home/medien-und-publikationen/publikationen/verkehr/zukunft-mobilitat-schweiz.html
- Unione dei Trasporti Pubblici, Fakten & Argumente Zum öffentlichen Verkehr der Schweiz, 2018–2019, available at https://www.voev.ch/de/Service/Publikationen/VoeV-Schriften/Fakten-und-Argumente-zum-oeV-Schweiz