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TRANSPORT AND MOBILITY IN THE ALPS

CIPRA Policy Paper



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Produced by CIPRA International together with the eight CIPRA organisations in Austria, France, Germany, Italy, Liechtenstein, Slovenia, Switzerland and South Tyrol

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CIPRA, for a good life in the Alps

CIPRA, the International Commission for the Protection of the Alps, is a non-profit, nongovernmental umbrella organisation with representatives in seven Alpine countries and a member network of over 100 associations. CIPRA works on a scientific basis with diverse communication, political, education and practical projects for sustainable development. It is committed to the preservation of the natural and cultural heritage, the strengthening of regional diversity and joint solutions to cross-border challenges in the Alpine region.

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1 CIPRA POSITION ON ALPINE TRANSPORT AND MOBILITY

SITUATION

Today, transport in the Alps is mostly associated with transit traffic against the backdrop of the Alpine landscape, traffic jams at tunnels during peak travel times and seemingly endless political discussions aimed at solving the conflicts of interests in transport policies. It is forgotten that the Alpine transport corridors are primarily the main Alpine residential areas and that it is therefore also vital to regain or maintain the quality of life of the people there. The unresolved issues of poor air quality, noise pollution and reduction of already scarce living space must therefore also be addressed. Added to this is the massive harm done to Alpine wildlife habitats, for example due to the barriers created by road and railway lines. What then are the strategies and solutions needed – irrespective of political ideologies – to make mobility and transport in the Alpine region in particular more sustainable and bearable for local populations and ecosystems?

The special geographical features of the Alps cause particular constraints as regards accessibility and transport infrastructure. For example, crossing the Alps poses a major obstacle for five¹ of the nine European transport corridors, but mobility in the Alpine regions also has to take into account specific mobility characteristics such as cross-border commuting, mobility needs in remote regions or the requirements of tourist mobility and transport safety.

As a consequence and as described in the comprehensive Climate Action Plan 2.0 (CAP), drafted and agreed by the Alpine Convention, transport is one of the sources of CO_2 in the Alps. Currently almost 30% of all greenhouse gases are due to passenger and freight transport emissions. The 8th Report on the State of the Alps on Air Quality in the Alps (2021) states that the concentrations of particulate matter (PM₁₀ and PM_{2.5}) in the main Alpine valleys are below the EU limit values. But WHO health limit values are clearly exceeded for PM₁₀ concentrations at some measuring stations and for the even more dangerous PM_{2.5} concentrations at most measuring stations. They are also above the national limit values for Austria, Switzerland and

¹ Following the TEN-T concept the five European Transport Corridors of importance for the Alpine region are: Lyon – Chamonix/Mont Blanc – Torino (Mediterranean Part West); Strasbourg – Gotthard/Lötschberg – Genova (Rhine – Alpine); Munich – Brenner – Verona (Scandinavian – Mediterranean); Vienna – Graz – Klagenfurt – Villach – Udine (Baltic – Adriatic); Budapest – Ljubliana – Triest/Koper (Mediterranean Part East).

In addition the following national or binational Alpine crossings are also relevant: AUSTRIA: Bludenz – Arlbergpass – Landeck, Liezen – Schoberpass – St. Michael i. Obersteiermark, Mittersill – Felbertauerntunnel – Matrei; AUSTRIA – GERMANY: Imst – Fernpass – Garmisch-Partenkirchen, Jenbach – Achenpass – Tegernsee, Zirl – Scharnitz – Mittenwald; AUSTRIA – ITALY: Landeck – Resia Pass – Mals/Malles, Lienz – Plöckenpass – Tolmezzo; ITALY – FRANCE: Cuneo – Colle di Tenda/Col de Tende – Ventimiglia, Cuneo – Colle della Maddalena/Col de Larche – Gap, Oulx – Colle del Monginevro/Col du Montgenèvre – Briançon; ITALY – SWITZERLAND: Aosta – Colle del Gran San Bernardo/Col du Grand Saint-Bernard – Martigny, Domodossola – Simplonpass – Brig/Brigue; SLOVENIA – AUSTRIA: Jesenice – Karawankentunnel – Villach; SLOVENIA: Jesenice – Ljubljana – Zagreb, Maribor – Trojanepass – Ljubljana, Nova Gorica – Postojna, Koroska Region – Velenje (3rd development axis); SWITZERLAND: Chur – San Bernardino Pass/Tunnel – Bellinzona, Chur – Oberalppass – Andermatt, Andermatt – Furkapass/Tunnel – Brig, Altdorf – Klausenpass – Linthal, Wassen – Sustenpass – Innertkirchen, Brienz – Brünigpass – Luzern



Liechtenstein. The concentration of air pollutants in Alpine valleys is increased in winter by the climatic inversion layers. As with air pollutants, the Alpine topography also influences the propagation of noise emitted by vehicles: sound waves are reflected off the mountainsides and thus further amplified. More environmentally friendly driving systems and quieter tyres and road surfaces are merely symptomatic measures. In addition to the resulting damage to health and its follow-up costs, there are the considerable direct costs of traffic accidents.

Further negative impacts are land consumption as, owing to the topographical conditions, the permanent settlement areas in the Alps are very limited and inevitably concentrated in the valleys. The spatial structures there are burdened by the consequential effects, such as urban sprawl, concentration of services and trade along the main transport axes, and the associated progressive disfigurement of the landscape. Furthermore, there are negative macroeconomic effects, since a steadily growing share of public sector budgets has to be spent on the maintenance, operation and reconstruction of the transport infrastructure.

Strategies to avoid transport, expand road-to-rail traffic transfers (modal shift) and implement technical improvements to passenger and freight transport all need to respond to the specific challenges in the Alps. They are closely linked to cross-border mobility, the mobility needs of remote and urban regions, as well as specific demand patterns related to tourism and leisure traffic.

Public mobility is related to human rights. Mobility is a prerequisite for inclusion, participation and both social and economic involvement, and is therefore the cornerstone of everyone's personal, social and professional development. Therefore, the participation of local people and civil society must be guaranteed at all times in order to incorporate their valuable experiences and knowledge as well as to express their needs. This right is also vital in the Alpine region, with special consideration for remote valleys and disabled people. Particularly in remote or poorly developed regions, it is important to overcome mobility poverty² with the targeted provision of suitable and affordable public transport services in such a way that everyone enjoys barrier-free access.

² Regarding mobility poverty: <u>www.mobycon.com/updates/the-elements-of-the-mobility-donut-finding-the-balance/</u>



OVERARCHING OBJECTIVES

CIPRA has the following overarching objectives for sustainable mobility in the Alpine region:

- 1- Lowest possible negative impact of transport on environment and people
- 2- No new high-level cross-border road infrastructure³
- 3- Pending renewals of existing high-level transport infrastructure to be carried out in accordance with sustainable planning standards
- 4- Accessibility to services with a focus on safe active mobility, supported by sufficient public transport and mobility-as-a-service (MaaS).
- 5- Harmonisation of national rail standards and rules for passenger and freight transport to exploit existing capacities
- 6- Comprehensive involvement of people and civil society with regard to information, participation and access to justice⁴

These objectives accord with the four main supranational frameworks and bodies that have major impact on strategies and politics concerning mobility and transport in the Alps, which CIPRA specifically takes into account in this document and in some cases exceeds (see annex, chapter 4):

- Alpine Convention, a binding treaty under international law that takes precedence over EU secondary legislation
- European Strategy for the Alpine Region (EUSALP)
- Simplon Alliance Action Plan
- European Green Deal

For the future of sustainable mobility in the Alps, there are three implementation steps that should be prioritised in the following order:

Avoid – The greenest traffic and most sustainable form of transport is that which can be avoided entirely. Therefore, sustainable site and land use planning that guarantees short distances as well as working from home, carpooling, and integrated production and commerce with short transport distances.

Shift – Necessary and meaningful traffic and transport that cannot be avoided should be shifted to more environmentally-friendly modes of transport (such as bicycle, bus and rail, car sharing systems).

Improve – All remaining traffic and infrastructure must be improved in order to reduce energy consumption, emissions and other relevant environmental impacts, and offer people adequate comfort and convenience.

³ As set out in Art. 11 of the Transport Protocol to the Alpine Convention, signed by the Alpine countries: <u>www.alpconv.org/en/home/convention/protocols-declarations/</u>

⁴ In accordance with the principles of the Aarhus Convention: <u>www.unece.org/environment-policy/public-participation/aarhus-convention/introduction</u>



CONCERNS AND DEMANDS

The focus of concrete measures in the transport sector is currently almost exclusively on the decarbonisation of (car) engines.⁵ Although the efforts to reduce climate-altering greenhouse gases and other air pollutants are very welcome, they do not go far enough to permanently solve the negative effects of traffic in the Alpine region. For this reason, CIPRA demands several concrete actions on a transnational level as a framework for sustainable transport of passengers and goods within and across the Alps.

Transport planning and management in general

The promotion of alternative means of transport must take place in a graduated manner on the international and national levels, across borders as well as at local and regional levels. The involvement of people and civil society at all political levels – European, macroregional (Alpine), national, sub-national (or regional), local – must be guaranteed at all times to allow them to express their needs and influence planning so as to reduce all forms of environmental impact. This demands:

European and Alpine level

- Trans-European rail network (harmonisation of regulations, expansion of night train service and routes)
- Cross-border rail and bus expansion master plan (Alpine Convention, EUSALP)
- Alpine-wide easy-to-handle timetable and ticketing system on public transport for all types of customers
- Remove unnecessary and contradictory subsidies that create false incentives
- Electrification or at least decarbonisation of all railway-lines in the Alpine arc and public transport in general
- Alpine-wide cycle path network for commuters and tourists, using existing infrastructure wherever possible
- Public transport and infrastructure designed to cover the needs of vulnerable groups
- Medium to long-distance flights, serving routes already connected by rail, should be discouraged or banned

Sub-national level

• Prioritisation of convenient public transport instead of private transport, both in day-today traffic management and in the expansion of transport routes

⁵ This can also be deduced from the three main mobility frameworks applicable to the Alps and described in the Annex (chapter 4)



- Transport in built-up and urban areas: expansion of the transport network for nonmotorised traffic (e.g. bikes, micro-scooters, pedestrians) at the expense of roads for private cars
- Revamping and expansion of networks for car-free holidays⁶
- Maintaining and enhancing regional employment and public remote communication and logistical infrastructure (such as fibre networks) even in remote areas so as to reduce and avoid the rural exodus and long journeys to work

Restrictive measures to curb the negative effects of personal motorised traffic

Road safety, climate and environmental protection

- General speed limit in the Alpine region of 30 km/h (municipal areas), 80 km/h (countryside) and 100 km/h (motorways)⁷
- Designation of car-free cities, passes and valleys heavily frequented by tourists (incl. special regimes for residents)
- Conversion of a percentage of road surface in cities and built-up areas for example 1% each year – into safe pedestrian and cycle paths, meeting zones or unsealed green spaces
- Construction of climate oases and residential streets⁸ in cities and urban centres in cooperation with local residents
- Restrictions on fossil-fuel burning motorcycles, for example on routes overused by tourists

Sustainable management of scarce goods

- Limited number of parking spaces in valleys
- Parking space management with dynamic pricing
- Closure of remote valleys to private tourist transport in combination with shuttle buses or other public transport feeder services from external car parks
- Intelligent capacity management for transalpine freight traffic⁹

Decoupling construction measures and soil sealing

- Every new road construction triggers a dismantling obligation, for example to the same extent or one and a half times the area
- New construction and expansion of parking spaces only in conjunction with unsealing and in combination with other structures (e.g. underground parking under supermarkets, etc.)

⁷ Set out by transport scientists from the Technical University of Vienna, BOKU University Vienna and the University of Innsbruck (2023): www.tempolimit-jetzt.at/; https://science.apa.at/power-search/6479067748246312852

⁶ Alpine Pearls as an example: <u>www.alpine-pearls.com/en?gclid=CLrh46SnuLMCFUkd3godI0AALQ</u>

⁸ For more about residential streets: <a href="http://www.globaldesigningcities.org/publication/global-street-design-guide/streets/neighborhood-streets/residential-streets/ guide/streets/neighborhood-streets/residential-streets/

⁹ On the feasibility of an Alpine Transit Exchange: www.magazin.ihk-muenchen.de/artikel/brenner-alpentransitboerse-epiney-rechtlich-machbar-sehr-effizient



- High-quality standards in public transport to be a prerequisite for changes in zoning from undeveloped to developing areas
- Mandatory consideration of rail siding options when building new industrial estates

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- City-Climate initiatives in Switzerland (DE): <u>www.umverkehr.ch/projekte/stadtklima-initiativen</u>
- Klimastadt Zürich, Climate City Zurich (a 3-year project): www.klimastadtzuerich.ch
- "Space and Place" Living City Spaces in Vienna: www.spaceandplace.at/en
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2 PASSENGER TRAFFIC

2.1 REGIONAL COMMUTER TRAFFIC



Rush hour in Schaan / LI © Kaspar Schuler

Situation

Transport and mobility in the Alps are characterised by two spatial planning conditions: the main valleys with their built-up areas and suburban structures, and the remote regions and valleys.

The main valleys are characterised by suburban areas that have emerged over time, along with industrial zones, farmland, shopping areas, road and energy infrastructure, residential areas, tourism and leisure facilities. They are often the result of a lack of spatial planning, or inadequate spatial planning practices, and cause land consumption and increased traffic. This leads to fragmented landscapes, loss of biodiversity, noise and air pollution and therefore a reduced quality of life for residents.

The provision of mobility in remote areas poses financial and structural challenges for the regions and municipalities. Multiple traffic conflicts of use occur in such locations due to:

- transit traffic for transportation of goods
- traffic caused by movement of goods to Alpine regions
- incoming tourism traffic with its fluctuating seasonal flows
- leisure traffic of residents and tourists, particularly at weekends
- commuter traffic of residents during weekdays and peak hours



All types of mobility and transport have to be channelled through the densely built-up valleys and managed in the Alpine areas, which are not currently equipped for this.¹⁰

Solutions

Built-up areas and suburban structures

- Reduce the structural discrimination against non-motorised and public transport compared to individual motorised transport by fostering a paradigm shift in spatial and transport planning in particular.
- Implement new multiple-use modes of existing infrastructure, favouring bus/rail and health supportive means of transport that enable people to get around on foot, on bicycles and other eco-friendly means of transport as safely and comfortably as possible.
- Increase the attractiveness of local public transport through regular timetables based on user demands, and easy-to-use and financially advantageous ticketing systems.
- Hold those who cause the largest share of traffic like employers and goods producers - responsible for a modal shift towards sustainable, active and healthy mobility patterns by extended implementation of the polluter-pays principle.
- Capacity management, providing accessibility and mobility standards for locals and improving the flow of traffic on motorways (e.g. by implementing successful measures to prevent detour traffic; add a slot system to current toll roads by selling a limited number of tickets for transit slots combined with dynamic pricing).

Remote regions and valleys

- Provision of needs-orientated, all-weather, cost-effective, easy-to-access and environmentally-friendly mobility services to encourage people towards a modal shift and/or serve those without a private vehicle.
- Combination of public transport services with private and tourist transport services (e.g. ski buses).
- Promotion and incentivisation of public and private car-sharing and car-pooling as a low-threshold solution to improve accessibility in remote areas.¹¹
- Restrictions on free access for individual car-based tourism and leisure mobility in combination with alternative public transport services.

¹⁰ An in-depth analysis of the relationship between urban and rural areas in the Alpine region can be found in the 9th Report on the State of the Alps ('Alpine Towns', Alpine Convention, 2021/2022): www.alpconv.org/de/startseite/news-publikationen/publikationen-multimedia/detail/rsa9-alpenstaedte/

¹¹ See as one of many examples: www.blablacar.com/



 Adapting of spatial and zonal planning in rural areas to enable new forms of work that do not necessarily require mobility (e.g. remote work in service sector, creation of mixed zones including housing and working in craft businesses).



Measures

Bus to remote valley in the Berner Oberland / CH © Peter Mosimann

Built-up areas and suburban structures

- Implementation of regional, national and cross-border spatial planning with the involvement of local people in order to ensure cross-community spatial planning in a sustainable way that meets the needs of all types of users.
- Trans-regionally planned creation of mobility lanes for the various modes of sustainable individual transport (cycling, walking) that are pleasant to use even with the higher temperatures due to climate change (climate cities).
- Reorganisation of the public road network by reclassifying traffic routes previously accessible to all modes of transport. Prioritising of car-free lanes on main traffic arteries to allow buses and trams to travel unhindered. Equipping of thoroughfares and access roads with separate cycle lanes or even creating car-free main routes.
- Redesigning neighbourhoods that are still car-oriented and have numerous parking spaces into permanent or temporary residential streets with inviting surroundings (e.g. "Healthy Streets"¹²) by developing differentiated traffic circulation plans and creating a safe walking infrastructure, including for vulnerable people.
- Reduction of car parking spaces, or introduction of effective pricing models for car parking spaces in city centres, while moving these to locations that offer quality of stay. Amendment of building regulations to oblige the building of garages and parking spaces only where appropriate. Increase parking spaces for bicycles on public and semi-public land especially at the expense of car parking spaces.
- Regulation of supply and demand in public transport with the aim of promoting the switch to public transport while avoiding its "overuse". The provision of free or heavily discounted public transport must be accompanied by appropriate financing of the increased investment in order to maintain the quality of public transport.
- Removing barriers that hinder multimodal mobility, such as permitting bicycles to be taken on public transport and/or installing high-quality and secure bicycle parking stations with shared bike offers.
- Accessibility to all modes of transport has to be increased for the vulnerable, elderly people, children, cyclists, to be connected with incentives to encourage the shift.

¹² Healthy Streets is a human-centred framework for embedding public health in transport, the public realm and planning: <u>www.healthystreets.com</u>



- Introduction of mandatory corporate mobility management for companies and institutions above a certain employee size (e.g. 100 workers) with measurable targets. Decarbonisation of private transport for all users. Local authorities can contribute to the realisation of a functioning network of public charging stations by planning their location in such a way that the use of cars is not unnecessarily encouraged.¹³
- Supporting individuals in behavioural changes towards sustainable mobility via incentives from corporate mobility management and public authorities (tax incentives, attractive and safe infrastructure).

Remote regions and valleys

- Bus, on-call services or regional train services whose timetables meet the needs of different user groups such as – but not only – schoolchildren as well as the elderly, vulnerable, or youth seeking leisure during evenings and weekends and residents commuting to work every day.
- Further decarbonisation of rail tracks is key to raising the renewable portion of electricity supply.
- Public provision, promotion and tax incentives for privately initiated car sharing and pooling, neighbourhood mobility support, taxis, etc.
- Seasonal or permanent traffic management and reduction measures such as car-free villages and valleys or temporary driving bans in combination with shuttle services from car parks outside settlements or tourist areas.
- Channelling non-avoidable individual car commuting, by connecting Park & Ride facilities with excellent public transport networks.
- Expansion of remote working

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¹³ For tourists, renting local electric cars might be a good solution, as tested in the project Alpmobil in Switzerland (<u>https://regiosuisse.ch/projektdatenbank?project-id=243&title=alpmobil</u>) or the carsharing system in South Tyrol (<u>www.alpsgo.it</u>).



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SPOTLIGHT: Hitchhiking

Hitchhiking as a viable option for getting around

Despite seeming a thing of the past, hitchhiking can still be a surprisingly efficient mode of transport, while also being sustainable, affordable, and even much safer than people think. And, of course, a lot of fun.

With the current need for sustainable mobility, there's more reason than ever to bring back this practice. And there's no better place for its rebirth than our Alpine roads: remote, slow, where often public transport can't provide frequent enough rides, and where people are more likely to feel part of a trusted community, even if they're just passing through.

Some tips on how to hitchhike:

- ▲ Safety first: make sure that cars have enough space to see you and to stop safely on the side of the road. Prefer slower roads, possibly after intersections.
- Take off your sunglasses (and anything else covering your face) and try to look the driver in the eyes while they drive towards you. Sometimes a few seconds are enough to make a good first impression.
- Be brave! Ignore the fear of rejection. Some people will ignore you, some will look at you with pity, some other make fun of you. But someone kind will stop, and the ride will be fun for sure.





Train station in Brixen-Bressanone/IT © Patrick Poendl

2.2 LONG-DISTANCE PASSENGER TRANSPORT

Situation

The mobility of goods and people is one of the four basic freedoms of Europe's single market policy. The European long-distance transport links – i.e. north-south and west-east connections – are therefore indispensable for meeting the basic aims of the EU. They enable people to meet for work and holidays as well as to exchange goods, thus fostering cooperation and solidarity.

Transporting people over long distances by rail has many advantages over road transport: significantly lower energy consumption per person and weight as well as massively lower pollutant emissions due to decarbonisation. In addition, when travelling long distances by public transport, there is time to work, relax and chat. With the resurgence of night trains, there is now a convenient way of travelling across the whole of Europe while sleeping. Long-distance coaches also offer an inexpensive alternative that, although not yet decarbonised, still have a better energy and CO_2 balance than cars. These types of passenger transport are therefore preferable to transport by car. They relieve the burden on people, the environment and road transport axes.

However, the problem with all means of passenger transport across long distances lies not only in the choice of vehicle but also on its impact on people and the environment: additional, large-scale land consumption for motorways as well as for high-speed railway lines, the dumping of huge quantities of excavated material (especially for tunnelling), cutting through habitats for humans and animals, emission of noise and particulate matter, all of which have a massive impact everywhere. In the Alps this problem is accentuated: The central valleys, which



lead deep into the Alps and to the Alpine crossings, are already the most affected and polluted habitats in the Alpine region, where multiple infrastructures such as industry and other businesses, housing, leisure and mobility are concentrated in narrow valleys¹⁴. These Alpine agglomerations are also home to a majority of people in regional terms. Whereas historically at least, transit traffic has also brought a great deal of prosperity, today it has almost only negative effects. The vast majority of long-distance travellers do not get out of their vehicles for any length of time: they want to move on and across. The Alps are an obstacle for them.

Fossil-fuel powered air transport within the Alps is not an alternative: energy consumption and greenhouse gas emissions are much higher than those of rail transport, and the airports built in the narrow Alpine valleys place an even greater burden on people and the environment in terms of noise, space consumption and additional traffic generation. As gateways for luxury and mass tourism, they also contribute to overtourism in the hotspots (e.g. South Tyrol, Tyrol, Engadin).

As with freight transport, satisfying unrelenting growth in demand for passenger transport is not conducive to sustainable spatial planning and an efficiency-orientated energy supply, nor to the effects of the climate and biodiversity crises. In order to ensure that traffic is avoided in accordance with the avoid – shift – improve rule, limited capacities must be respected and the utilisation of transit axes on rail and road must be optimised by means of wide-ranging traffic management systems.

Solutions

The guiding principle of all sustainable transport planning is "avoid – shift – improve". Accordingly, the most environmentally friendly passenger transport over long distances is that which is avoided. In this respect, sustainable spatial planning, the orientation of the economy towards regional cycles and the change in working habits via remote working should make a substantial contribution.¹⁵

Motorised private transport is still too cheap, as the social and ecological costs as well as the costs of maintaining the road network are not fully taken into account. This creates a competitive disadvantage compared to the railways. In order to shift passenger traffic from motorised private transport to sustainable will mean that the latter have to be promoted through steering, educational and information measures.

The involvement of people and civil society at all political levels – European, national, regional, local – is crucial to ensure that the vital transport structures of international importance, such as high-speed rail or motorway links, are also adapted to the needs of local residents and that they minimise the destruction of nature and the landscape. Such construction must be combined with protection, replacement, compensation or restoration measures, to ensure that

¹⁴ See the 9th Report on the State of the Alps "Air Quality in the Alps": <u>www.alpconv.org/de/startseite/news-publikationen/publikationen-multimedia/detail/rsa-8-luftqualitaet-in-den-alpen/</u>

¹⁵ See Art. 2a of the Simplon Alliance Action Plan / On the way to net zero emissions in Alpine transport by 2050 at the latest; signed on 27 October 2022 in advance of the XVII Alpine Conference in Brig/Brigue: www.are.admin.ch/are/en/home/international-cooperation/alpine-convention/simplon-alliance.html



these important connections can be accepted and completed within a reasonable period of time.

Measures

General transport infrastructure planning

- Before new transport axes are built, the use of existing ones must be optimised and if needed expanded.
- Mobility planning must be carried out in conjunction with all modes of transport, prioritising sustainable mobility and taking external and societal costs into account.
- Planning new railway lines or motorways, especially in the Alpine valleys, is a delicate undertaking. Various factors need to be taken into consideration (underground, covered or through-the-mountain routing, energy consumption and emissions such as noise, exhaust fumes, air pollutants), even if this leads to higher construction and maintenance costs.
- Railway and road lines that become superfluous must be dismantled or given a new purpose (e.g. bike or hiking trails on old railway lines) if they are not needed as backup-options in the case of incidents.
- The large quantities of excavated material from road and railway lines should be disposed of or reused according to innovative and ecological criteria, taking into account local needs (e.g. land filling for leisure activities, strengthening of biodiversity, noise protection, etc.). Environmental damage caused by tunnel excavation is to be avoided as a preventive measure.¹⁶

Road planning

- No new construction of large-capacity roads for *trans-Alpine* transport, as stipulated by the contracting parties to the Alpine Convention in Art. 11 of the Transport Protocol.
- Large-capacity roads for *intra-Alpine* traffic are in contradiction with sustainable spatial planning and traffic management. Instead, traffic management needs to be improved with the inclusion of public transport (in accordance with Art. 11.2 of the Transport Protocol of the Alpine Convention).
- To ensure that the increase in transport capacity through the construction of an additional tunnel does not lead to an increase in traffic volume, the total number of lanes must not be increased.
- Renewing or rebuilding existing high-level road infrastructure has to follow existing technical as well environmental standards. This also includes a review of route alignments.

¹⁶ See this report from Switzerland (in German): <u>www.srf.ch/news/schweiz/schadstoff-im-tunnel-arsen-verursacht-probleme-bei-der-zweiten-gotthardroehre</u>



Rail planning

- Night trains for long-distance trans-Alpine passenger transport in Europe are to be preferred to flights. Night trains are to be encouraged, enhanced, made more accessible and their capacity increased.
- Harmonisation of cross-border rail transport by improvement of the European Rail Traffic Management System (ERTMS) and the revision of the Single European Railway Directive to strengthen the modal shift from road to rail.
- On long-distance train routes, rolling stock to be phased out must be replaced by modern, low-noise rolling stock and noise protection must be considered from planning to realisation. The Alpine valleys should also be provided with long-distance train stops so that both the regional population and tourism can benefit from them.
- The development of side valleys by extending, maintaining and renovating regional railways creates attractive conditions for both commuters and tourism.

Air transport planning

- There is no point in building new regional airports or expanding existing ones within the Alpine perimeter. Existing ones should be dismantled.
- Environmentally harmful subsidies for air transport must be eliminated so that more environmentally friendly means of transport (e.g. rail transport) are competitive.
- Medium to long-distance flights that serve routes already connected by rail are to be discouraged or banned.¹⁷

Transport services

- Public transport must be customer-friendly and attractive in terms of price, travel time and timetable harmonisation. The concept must be more advantageous compared to private motorised transport, also in rural areas.
- On-demand public transport services provided by local authorities or private companies (hotels) are a good addition to the long-distance public transport serving remote locations and special tourism services (on-call and night buses, shared taxis, etc.) to cover last-mile distribution.
- Long-distance buses and regional bus connections are another alternative that can be flexibly adapted to demand, provided they utilise existing road infrastructure and do not use fossil fuels in the future.
- The design of buses and railroad coaches must include the needs of vulnerable people and travellers with luggage and rail companies must offer tourists free transport of luggage in advance.
- Time restrictions such as night and weekend traffic bans and bans on travelling on mountain passes for certain vehicle categories (e.g. motorbikes) as well as slot regimes

¹⁷ See the French legislation: Décret n° 2023-385 du 22 mai 2023, les liaisons sur lesquelles 'exploitation de services aériens réguliers de passagers est susceptible d'être interdite : www.legifrance.gouv.fr/jorf/id/JORFTEXT000047571222



should be implemented according to the situation, based on noise and emissions criteria and the quality of life of local residents.

- The measures of the Simplon Alliance Action Plan¹⁸ developed jointly by the eight Alpine countries must be implemented by 2050 at the latest: enabling and improving cross-border travel information; promoting Alpine-wide ticketing solutions; decarbonisation of public transport; promotion of (night) passenger train connections between European cities, also within and towards the Alpine region; promoting the use of intelligent traffic management; launch of a technology initiative and coordinated development of infrastructure for zero-emission and carbon neutral technologies.
- The existing regional airports in the Alpine region should be subject to a ban on intra-Alpine flights and private business jets.

SPOTLIGHT: Velo Alpina

Alongside hiking, cycling is the most environmentally friendly form of transport. It is also one of the best ways to discover cultures and countries. Getting around is fast enough to make progress and slow enough to discover culture, cuisine, people, landscapes, nature and biodiversity along the way.

Long-distance cycle paths are also becoming increasingly popular, and emobility is also giving the trend new momentum. Long-distance cycle routes



already exist in the Alpine region, but these are often planned in a national context or cross a national border at most. None of these routes run through the heart of the Alps from east to west or vice versa.

With the 'Velo Alpina' project idea, CIPRA would like to combine the existing transnational long-distance cycle routes, such as Eurovelo routes and regional cycle routes, in order to make it possible to experience the Alps in their entirety.

¹⁸ www.are.admin.ch/are/en/home/international-cooperation/alpine-convention/areas-of-focus/simplon-alliance.html



Illegal off-road enduro bikes in the Alpine region of the Pohorje Hills in Slovenia.

2.3 TOURIST AND LEISURE TRAFFIC

Situation

Tourism and leisure activities are an important factor for economic development and cultural exchanges in the Alps. The Alpine region, spanning multiple countries, attracts more than 120 million tourists per year, with around 500-550 million overnight stays. In addition, there are around 60 million day trips per year. In recent years, tourism in the Alps has increased further. While detailed and updated figures for the entire Alpine region are limited, trends indicate a growing number of visitors. This presents both opportunities and challenges for sustainable tourism development in this sensitive ecosystem.

Nowadays most guests come to the Alpine regions by car. A recent study by the University of Bozen found that about 80% of the Italian and German tourists visiting South Tyrol come by car, followed by arrivals by train at only 7-8%.¹⁹ About 75% of CO₂ emissions from tourism are due to arrivals and departures in cars and/or planes.

In addition, leisure is an integral part of European lifestyles, as available leisure time and disposable incomes have never been higher. Leisure-related travel accounts for around 40% of total travel time in European countries. The average daily time spent on travel ranges from 19 minutes (Hungary) to 36 minutes (Sweden).²⁰ This is in accordance with the 4th Report on the State of the Alps on sustainable tourism in the Alps (2013), which indicates that leisure-related transport has considerably increased over the last fifty years and accounts nowadays for 40% of journeys and 60% of kilometres travelled per passenger.²¹

¹⁹ Increasing rail travel to 25% – utilising the opportunities of the Brenner Base Tunnel for South Tyrol's Tourism. Competence Centre for Tourism and Mobility, Free University of Bozen-Bolzano, Thomas Bausch (2023): <u>https://webservices.scientificnet.org/rest/entries/api/v1/blobs/205405</u> (de)

²⁰ Global environmental consequences of tourism, in Global Environmental Change, Stefan Gössling (2002, Volume 12, pages 283-302): <u>www.sciencedirect.com/science/article/abs/pii/S0959378002000444</u>

²¹ 4th Report on the State of the Alps (2013): <u>RSA4 EN.pdf</u>



In recent years, the number of tourists from other continents visiting Europe has increased significantly. According to the World Tourism Organization (UNWTO), Europe recorded a historic rise in international tourism in 2023, with tourism revenue growing by 8% compared to 2022. Notably, there was remarkable growth in arrivals from Asia and the Pacific, with an impressive increase in visitors from China (+64%) and Japan (+53%) compared to 2022.²²

Due to the huge numbers and the concentration of tourism in specific areas, the negative aspects of tourism have become significant and can in particular cases be defined as overtourism. To underline this, it is sufficient to recognise that the absolute number of tourist arrivals and overnight stays has been continuously increasing for years and is now around 500 million overnight stays and 120 million arrivals. One of the problems arising from overtourism is the increase in traffic, a problem that has been recognised for more than ten years now. Tourism therefore poses significant challenges to fragile Alpine ecosystems, cultural heritage and quality of life for inhabitants. Carrying capacities are often exceeded.

Consequences

- Transport accessibility improves the quality of life of the local population, provided that it is also adequately dimensioned for the peak tourist season or that the destination is involved in managing tourist flows during the peak tourist season. Tourism destinations can be victims of tourism, where traffic congestion itself reduces the quality of life of both inhabitants and visitors during the tourist season.
- Increase in infrastructure maintenance costs as a result of tourism pressure and, at the same time, increased vulnerability of infrastructure to natural disasters due to the geographical factors of the mountain landscape (avalanches, floods).
- Biodiversity loss due to overuse of nature and road infrastructure projects that cause irreversible damage in a region that is heavily affected by climate change.
- Fragmentation of space due to traffic routes that intersect habitats and animal pathways, affecting biodiversity and reducing community cohesion.

The Alps are a living space with a unique tourism potential, rich in natural and cultural heritage. As a tourist destination, their habitats and living environments are extremely vulnerable to the effects of climate change. There is therefore an urgent need to align tourism development with the natural, social and economic opportunities and challenges of the Alps.

²² UNWTO World Tourism Barometer (2023): <u>www.unwto.org/news/international-tourism-to-end-2023-close-to-90-of-pre-pandemic-levels</u>



Solutions

Multiple solutions to mitigate the impacts of tourism and leisure mobility are already proposed in various legal documents and guidelines. Since biodiversity loss and climate change are the most urgent global challenges of our times, the tourism industry too must contribute to a cleaner and healthier environment.

Greening European tourism is part of the broader objective of developing a more sustainable and responsible ecosystem, a process involving all players in multi-level governance: industry, destinations, national, regional and local authorities, but also the tourists themselves. By stepping up the greening of the European tourism, industry and destinations would not only contribute to CO₂ reduction and a better-protected environment but would also benefit from reduced costs and reinforced competitiveness.

For example, the European Union supports reducing the environmental footprint of tourism with different programmes and strategic documents. Sustainable and smart mobility implementation is vital to achieve climate goals.

Alpine political systems, together with the tourism and transport protocols of the Alpine Convention, provide key frameworks for promoting sustainable practices in the Alpine region. The Tourism Protocol mandates measures to manage tourist flows in protected areas to ensure sustainability (cf. Art 8). It also encourages reducing reliance on motorised vehicles in tourist resorts, improving public transport access and promoting its use by tourists (cf. Art 13). Similarly, the Transport Protocol emphasises the development of environmentally friendly public transport systems, assessing the transport impact of new tourist facilities, and prioritising public transport. It also advocates for low-traffic areas and discourages car usage in sensitive areas (cf. Art 9, 13).

These indications are very general but give a good basis to work on. There are only a few regions that have implemented controls on tourist flows and furthermore many regions support specific publicity for individual motorised vehicles, such as caravans and motorbikes. To address these issues, strict adherence to the protocols is essential, coupled with comprehensive, actionable plans for sustainable tourism and leisure mobility. Existing regional plans often lack specificity, feature distant deadlines, or are poorly coordinated across Alpine areas, which hampers initiatives such as shared railway systems. A coordinated, practical approach to planning is vital to ensure sustainable tourism and leisure mobility across the Alps.

It is therefore important

- to integrate spatial, transport and development planning at all levels
- to facilitate cooperation between the tourism sector and the administrative levels, particularly in the communication, promotion of the natural and cultural heritage and visitor guidance phases
- to develop mobility services to enhance management of tourism flows and also to improve the quality of life of the local population
- to strengthen the capacity of tourism area managers to introduce new mobility management practices, with transfer of good practices
- to install a caretaker for sustainable tourism in the Alps



Shuttle in Werfenweng/AT © Werfenweng Tourismus Bike-train in the Val di Sole/IT © Luca Brentari

The Action Plan on Climate Change 2.0 in the Alps, adopted at the XVI Alpine Conference in 2020, also includes feasible mitigation and adaptation strategies for tourism and transport.²³ Its demands are:

- ensuring the carrying capacity of specific tourism sites is not overstressed
- optimising overall development of tourism activities in a qualitative way under the precondition of decarbonisation
- developing a common vision for sustainable tourism, including the coordination of strategic approaches towards the development of climate-neutral and climate-resilient tourism offers, agreement on common, climate goals/targets as well as monitoring and reporting
- discussing the alignment of financing streams and financial incentives to support the development of climate-neutral and climate-resilient tourism offers in the Alps.

Measures

It is not any lack of ideas that is preventing leisure and tourism mobility from becoming sustainable. The report *Climate-neutral Alpine mobility*²⁴, a report on policies for sustainable mobility in the Alps by the Transport Working Group of the Alpine Convention (2022), offers multiple well-developed solutions.

The real problem for the development of sustainable mobility is the inertia in realising the proposed solutions. This may be exacerbated by new ideas. It is therefore important to select a few ideas and insist on their effective implementation. For instance:

Avoid

- Avoid car-friendly marketing by destination management organisations, protected areas and the like, communicate sustainable alternatives.
- Prohibit motorised, purely touristic events or leisure activities in the Alpine regions, while also taking into account their negative socio-economic impact.
- Cease advertising Alpine destinations in distant markets.

²³ Climate Action Plan 2.0:

www.alpconv.org/fileadmin/user upload/Organisation/TWB/ACB/AlpineConvention ClimateActionPlan2.0 EN.pdf ²⁴ Climate Neutral Alpine Mobility, Report on policies for sustainable mobility in the Alps (2021-2022): www.alpconv.org/fileadmin/user upload/Organisation/TWB/Transport/2-Report policies FIN.pdf



Shift

- Meet leisure needs close to home by strengthening green infrastructure, preserve and restore nature and strengthen facilities (sports halls, etc.), thereby reducing the need to travel to tourist regions.
- Reorient the choice of means of transport in order to reduce dependence on motorised private transport: instead, develop sustainable means of transport, public transport and active mobility.
- Implement a holistic sustainable tourism concept which includes traffic management (examples are the initiative '*Bergsteigerdörfer* – Mountaineering Villages'²⁵ or the 'Alpine Pearls' Network).
- Enforce an effective polluter pays principle so air transport is no longer a cheap option or install push-and-pull measures to substantially reduce CO₂ emissions by aviation.
- Provide access to information and services on mobility options for travelling to and from a destination, driven by the tourist marketing organisations and tourism providers.²⁶ Specific measures include undertaking a regional study on actual train capacities, then producing an integrated development plan with other Alpine regions that use the same railway connections.
- Increase bicycle tourism by expanding the cycling infrastructure and creating attractive opportunities to take bikes on public transport and rent conventional bikes and e-bikes. Also provide secure parking facilities for equipment, bicycles, etc.
- Implement efficient tourism control measures, which in practice mean overarching driving bans or specific restrictions.²⁷

Improve

- Improve the efficiency, reliability and attractiveness of public transport systems by welcoming people and providing regular and frequent departure times and wellcoordinated connections, allowing passengers to plan their journeys easily and move seamlessly from one mode of transport to another. Clear and understandable timetables and well-placed interchanges increase passenger confidence and encourage them to use the system.
- Offer the local rental of electric cars to tourists, as tested in the project Alpmobil in Switzerland²⁸, or promote a carsharing system as in South Tyrol.²⁹
- Further decarbonisation of railways is key in addition to raising the renewable share of electricity supply.
- For large events, introduce functional logistical management, not only for supplies but also for visitors. Create specific incentives for Green Events.³⁰

 ²⁵ There are currently 39 (2025) mountaineering villages: <u>https://eng.bergsteigerdoerfer.org/2-1-The-villages.html</u>
 ²⁶ Study to increase the rail share of tourists coming to South Tyrol (2023): <u>https://guide.unibz.it/de/news/143027-studie-zur-steigerung-des-anteils-der-bahnanreise-nach-suedtirol-abgeschlossen</u>
 ²⁷ Good examples are "A piedi tra le nuvole" (Walking in the clouds) at Colle del Nivolet (Italy), Les Gets (France),

²⁷ Good examples are "*A piedi tra le nuvole*" (Walking in the clouds) at Colle del Nivolet (Italy), Les Gets (France), Alpe di Siusi (Italy) or the "Dolomiti Low Emission Zone", in development in the Dolomites area.

²⁸ https://regiosuisse.ch/projektdatenbank?project-id=243&title=alpmobil

²⁹ www.alpsgo.it

³⁰ The existing concept of Green Events has shown a small degree of success, however only very few large-scale events are certified as such. We therefore request for example the creation of a webpage to increase the visibility of these events, as introduced by Tyrol (<u>https://greenevents-tirol.at/de/</u>). For promotional purposes, a transalpine network with ongoing exchanges by interested stakeholders could create even more visibility and probably increase interest in this format. See: <u>www.umweltzeichen.at/de/green-meetings-und-events/home</u>

SPOTLIGHT: YOALIN

Some 75 percent of CO₂ emissions in Alpine tourism are related to transport, especially travelling to and from destinations. Sustainable mobility is therefore key to climate protection. Train tickets are often expensive, especially for fast and cross-



border connections. Young people usually choose cheaper transport options and travel on holiday by plane or car. In order to raise awareness of climate-conscious means of transport, an affordable offer must be created. This is the only way to increase the use of sustainable means of transport in the long term. The YOALIN project aims to make climate-friendly travel mainstream.

YOALIN was initiated by the CIPRA Youth Council (CYC) in 2016. Since 2018, 100+ people between 18 and 27 are invited to apply for a Yoalin ticket every year. Equipped with an Interrail Global Pass, they are able to discover the Alps in a climate-friendly way using public transport. They also become part of the constantly growing active community. As so-called ambassadors, many are still actively involved, providing new ideas for the project, supporting events and choosing the next travellers. This way the YOALIN spirit and the sustainable lifestyle is spreading throughout the Alps.



3 FREIGHT TRANSPORT

Situation

The world is more and more interconnected. Goods are travelling more and more internationally across the globe and across Europe. The Alps – lying at the heart of Europe – carry five of the nine European transport corridors, enabling goods to flow from ocean harbours to the continent's core and periphery. Growing economic activity within and around the mountain area has however caused massive growth in international freight traffic, with most transport via trucks on roads.³¹ The price of transport is passed on to customers, without including the external costs. What ultimately counts is the meeting of deadlines.



Hundreds of trucks daily cross the town centre of-Demonte in the Stura Valley. © Giulia Jannelli

At the same time, freight transport via rail is hindered not

only by pricing policies implicitly favouring road transport, but mainly by the lack of internationally harmonised train standards and regulations, making freight transport across borders a technical and bureaucratic nightmare. The railway networks and their operators are too nationally orientated, which makes railway cooperation within the eight Alpine countries difficult. All these economic developments and obstacles to freight trains – in combination with the increased tourist influx and the inter-regional mobility of inhabitants – has transformed some valleys into veritable conduits of noise and pollution. The constant stream of heavy vehicles through big cities and their wider outskirts as well as on critical narrow corridors, such as the Brenner Pass, has inflicted a heavy toll on the well-being of residents, subjecting them to the perpetual stress of traffic congestion and the relentless noise of engines. Furthermore, the fragile Alpine ecosystems face an unprecedented threat, with air pollution and habitat fragmentation becoming inescapable realities. Urgent intervention is imperative to reduce and regulate both transcontinental and Alpine freight traffic, safeguarding the health and tranquillity of both the populace and the delicate ecosystems that define this unique landscape in the heart of Europe.

Freight transport is however also needed to maintain wealth and add to the quality of life both within and outside the Alps. Nevertheless, it is absolutely necessary to take the abovementioned consequences of freight transport seriously and to push comprehensive reforms to address these as quickly as possible. Rail transport is a significantly more energy-efficient and nature friendly mode of transportation. Mainly thanks to reduced friction and effects of scale, it needs less than 30% of the energy required for the same quantity of transported goods.³²

³¹ On intra-Alpine crossings, only in Switzerland is a large proportion of freight transport handled by rail (72.5%), with much lower proportions in Austria and France. The overall transit of goods across the Alps by rail is 38.2% on average. www.bav.admin.ch/dam/bav/de/dokumente/themen/verlagerung/verlagerungsbericht-2023.pdf.

³² <u>https://doi.org/10.1016/j.trd.2013.06.002</u>



Currently this saves 87% of CO₂ emissions, with this value constantly rising due to the ongoing energy transition.³³ These advantages will be challenged, depending on two factors: How will truck engines be decarbonised in the future? And how environmentally friendly is the electricity generated for trains? Currently it seems that decarbonised trucks of all kinds (battery electric, fuel cell) still waste considerably more precious renewable energy than freight train engines.

Today, the inefficiencies in truck traffic are not limited to their energy use, with a staggering one half of the trucks traversing Alpine routes empty, contributing to unnecessary fuel consumption and emissions.³⁴ Compounding the issue, the absence of any harmonised road pricing system leads to detour traffic. Many trucks are compelled to take longer and less direct routes thanks to cheaper tolls and fuel in some corridors.³⁵ The price war in this segment also means that trucks are being sent on journeys across the Alps in increasingly poor condition, making them a safety risk.³⁶ Furthermore, poorly maintained lorries bypass Switzerland, with its strict controls on the transit axes.

There is another burning issue: a lack of resilience in the transport infrastructure due to the negative effects of climate change on the Alps. The closure of tunnels and other interruptions due to severe weather events and rockfalls and the associated costs are a growing problem. Efforts are being made to quantify the resulting costs. Limiting such risks through effective mitigation measures and emergency preparedness while eliminating these inefficiencies is of paramount importance for maintaining or creating a safe, rational and environmentally-sound Alpine freight transport system.

Solution

A multifaceted approach is crucial for navigating the challenges of freight transport in and over the Alpine arc to ensure sustainable and responsible transportation practices. First, a commitment to avoidance wherever feasible forms the cornerstone of our strategy, aligning with the imperative to limit excess mobility as foreseen in the Simplon Alliance.³⁷ This applies especially to freight transport.

As agreed by the Signatory Parties to the Alpine Convention, road transit capacity across Alpine passes must be used efficiently and not increased with new road transit routes, and

³³ www.allianz-pro-schiene.de/themen/umwelt/treibhausgas-emissionen

³⁴ <u>https://vcoe.at/presse/presseaussendungen/detail/vcoe-anzahl-lkw-leerfahrten-in-oesterreich-stark-gestiegen-jeden-3-kilometer-fahren-lkw-leer</u>

³⁵ Press release Province of Tyrol (16/01/2022): One third of Brenner Iorries could have shorter route alternatives. Comprehensive study on alternative lorry traffic. www.tirol.gv.at/presse/meldungen/meldung/lh-platter-und-lhstvin-felipe-ein-drittel-der-brenner-lkw-haette-kuerzere-routenalternative-1/

³⁶ www.alpeninitiative.ch/mm-schwerverkehrs-kontrollen/



above all not by doubling existing tunnels. Efforts should rather be focused on the infrastructure of rail freight traffic, such as terminals (especially at the big European harbours and the main



continental industrial sites), harmonised European standards and regulations and capacities in general.

Emphasising rail as by far the most efficient carrier represents a pivotal shift towards ecofriendly transportation, underscoring the need for a modal shift. A strong, uniform European rail network with all the necessary surrounding structures can become the backbone of European prosperity, all while achieving climate neutrality. This process must not be slowed by the transition of vehicle fleets from combustion engines to decarbonised vehicles. Even with totally decarbonised truck traffic, the transport of goods by rail must be made the most profitable choice, provided it remains the most energy-efficient and environmentally friendly.³⁸

Central to this approach is the adoption of the polluter-pays principle, recognising the true costs of transportation and fully internalising the external impacts. The European taxonomy has to include the support of a properly defined network of railway terminals to make sure that the governments of Member States invest in this, which will not only encourage responsible choices but also foster an economic and market-based framework that aligns with environmental sustainability. As part of this, a mechanism to trade transit quotas is very promising, especially if it also ensures coordinated efforts among Alpine countries, thus promoting a collective commitment to effective transit traffic management. While it is widely accepted that rail capacities are limited, the similarly limited road capacities have yet – crucially – to be accepted. To ensure that these limited transport capacities are managed in an integrated and sustainable manner, both road and rail capacity will have to be combined. Several approaches that conform with EU guidelines have been studied and well received in political circles, but have yet to be implemented.³⁹

Finally, it is crucial for the European Union to acknowledge the needs of a truly climate- and environmentally friendly transport system that includes the special situation of the Alps. Both the Commission and the Parliament have to recognise freight transport planning within TEN-T as one of the important drivers of prosperity. The unique challenges and ecological sensitivities of many European regions are essential in shaping legislative frameworks that address the specific needs of freight traffic throughout the continent, ensuring a harmonious balance between connectivity, people's welfare and environmental preservation.

³⁸ www.tirol.gv.at/fileadmin/themen/verkehr/verkehrsplanung/Dateien/Tirol_THG_Brennerkorridortransit_V06.pdf

³⁹ See the list of sources on page 14



Frankreich



Schweiz¹



Österreich



Volumes of transalpine freight traffic transported in millions of net tonnes – orange by rail, blue on roads. Source: <u>www.bfs.admin.ch</u> Note: These graphics show not only France, Austria and Switzerland, but also the respective connections from there to Italy. Switzerland is the only country where the European goal of shifting freight onto rail is taking place, because not only has the railway base tunnel (NEAT) been built there, but a special toll on road freight transport has also been introduced (LSVA – performance-related road tax).



Freight train with containers at the Gotthard in Switzerland

Measures

- More cooperation between the Alpine countries is needed. The Simplon Alliance Action
 Plan as a promising transport agreement among the eight Alpine countries is a first
 step and regional arrangements are being discussed. But concrete and joint Alpinewide action must be taken in order to reduce freight traffic in the Alps.
- Prioritise the modal shift over construction of new road infrastructure (e.g. large tunnels) in keeping with the Transport Protocol of the Alpine Convention, in particular Art. 11 on the prohibition of the construction of high-level transalpine roads.
- The existing rail network must be modernised to meet the demands of international freight transport in order to exploit capacities. Important access routes (e.g. to the Brenner Base Tunnel) must be expanded accordingly in order to promote the modal shift.
- Supranational frameworks for the transport of freight, such as the EU Directive on Combined Transport, should enforce an increased modal shift and legislative implementation of the polluter-pays principle. The goal is to create a comprehensive railway network in the European Union that guarantees the competitiveness of rail in combination with road transport.
- CO₂ emissions of all Alpine transit traffic (rail and road) must be reduced to zero (0) in order to achieve climate neutrality⁴⁰ at the latest by 2050 as part of pan-European endeavours. Substantially reducing noise and particulate matter from rail and road transport is the next challenge to be tackled.

⁴⁰ A Clean Planet for all – European strategic long-term vision for a prosperous, modern, competitive and climate neutral economy / Brussels, 28.11.2018 / Art. 2: The aim of this long-term strategy is to confirm Europe's commitment to lead in global climate action and to present a vision that can lead to achieving net-zero greenhouse gas emissions by 2050 through a socially-fair transition in a cost-efficient manner. (<u>https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:52018DC0773</u>)



• Compliance with EU and WHO limit values⁴¹ (NO_x, particulate matter, noise, etc.) on transit routes and in Alpine built-up areas must be guaranteed under all circumstances.

Strengthening rail

- Strengthen harmonisation (e.g. technical standardisation and unified regulations) and capacities (e.g. Rail Freight Corridors and terminals) for European rail freight traffic
- Traction power should be subsidised or made cheaper than fossil fuels, e.g. via the European Emission Trading System
- Make more public and private investments in rail infrastructure, e.g. by incorporating rail infrastructure (especially terminals and railway stations) in the EU taxonomy for sustainable activities.
- Remove conflicting national regulations for rail transport (e.g. cross-border slots, language regimes, technical standards, etc.) and increase the common standards for rolling stock. The most modern, low-noise rolling stock should be used on the railways, especially in the narrow Alpine valleys.
- Member States must be required to provide the appropriate infrastructure (loading stations, access routes, expansion of existing connections, etc.) to enable an efficient and reliable pan-European rail freight transport network.

Road transport

- For the remaining truck traffic routes, it is crucial to promote the shortest and most favourable connections. Therefore, harmonisation of capacity management and further arrangements between the Alpine countries is essential.
- Tolls for lorries should at least reflect the external costs on the environment and society. Tolls should be much higher than they are now and be levied on all roads, to make rail transport more competitive and avoid diverting traffic to toll-free roads.
- Maximum permitted quantities of lorry journeys per year or other non-discriminatory measures of sustainable capacity management are to be defined for each Alpine transit point. New ways of market-based trading of these quotas should be examined (Alpine transit exchange).
- Implement an Alpine transit special toll for crossing the Alps (while no Alpine transit exchange exists) on behalf of the Eurovignette Directive.
- Unnecessary transport (e.g. empty journeys) must be avoided (e.g. through appropriate fees or effective mechanisms to allocate empty journeys for other transport needs).
- For reasons of road safety and environmental protection, hazardous goods must in principle be transported by rail. In particular, road connections over Alpine passes must be subject to a ban on such transport.⁴²
- Either heavy traffic not from or to the region should be banned from regional roads (i.e. to prevent toll avoidance), or tolls should be levied on all roads.

⁴¹<u>https://iris.who.int/handle/10665/345329?search-</u>

result=true&query=air+quality+guidelines&scope=&rpp=10&sort_by=score&order=desc



- So-called gigaliners and lorries over 44 tonnes should be banned from the Alpine arc.
- Implement Alpine wide timeslots where lorries are not allowed to drive (e.g. on Sundays, during holidays, at night)
- Implement control stations for lorries along all transit corridors with specialised technical equipment to swiftly check adherence to the legal technical standards so as to guarantee the required traffic safety (as at the "*Schwerverkehrskontrollzentren*" – control centres for heavy goods traffic – in Switzerland ⁴³).

SPOTLIGHT: Via Alpina

The Via Alpina is not only the only long-distance hiking trail that connects all eight Alpine countries, allowing hikers to experience the diverse mountain landscapes and cultures, but is also a flagship project of Alpine-wide cooperation that began in 2000.

Over 2,000 kilometres and 116 daily stages, the route connects Italy, Slovenia, Austria, Germany, Liechtenstein, Switzerland, France and Monaco. The starting point is usually Trieste in the east and the end point Monaco in the west. You walk from the palm trees up to the glaciers, for example in the Bernese Oberland, and back down to the Côte d'Azur. Travelling the entire route, either in one go or in a few stages each year, gives you the chance to get to know and interact with a wide variety of people and language areas.



An important basis for the route was to use only existing hiking trails and to connect them in such a way that more remote mountain valleys in particular benefit from this sustainable tourism. The route avoids overcrowded destinations and prioritises respect for nature. The Via Alpina is a project that is supported by a large community: Local people who provide the infrastructure (huts, supermarkets), hikers, partner organisations such as Alpine clubs, volunteers who provide support in communication and project development and an International Secretariat that coordinates all activities. Welcome to the only ecological 'highway' in the Alps!

⁴³ Description in DE, IT, FR:

www.astra.admin.ch/astra/de/home/themen/schwerverkehr/schwerverkehrskontrollen/kontrollzentren-in-der-ganzen-schweiz.html



4 ANNEX

HISTORICAL OVERVIEW

Alpine mobility has always been characterised by the Alps' specific geomorphological history, the folding of the Alps. Due to the simultaneous action of erosion forces, it created different terrain forms in quite a small area, which made it difficult for people to exist and move around, but also protected them from invaders and gave rise to different languages, dialects and a wide variety of cultural characteristics. Each Alpine region is subject to its own specific challenges and requires customised solutions, including transport.

In the large main valleys of the Alps, through which the most important transport axes run today, the floodplain forests along the raging rivers were difficult to access in the early days of settlement, with debris from mudslides and landslides deposited in them. In many places, it was easier to move across the river courses over the unforested mountain ridges and the relatively easy crossings that existed within them, which is why the first local and later transregional transport routes, the mule tracks, led over mountain ridges into the neighbouring valleys. The valley floor, gradually reclaimed, was available for agriculture.

With the Roman roads, and later the reclamation of land and the damming of the major Alpine rivers, accessibility changed fundamentally, not just for commercial travellers (including from outside the Alps) and their increasing amount of transport of goods or the mighty armies marauding through. Local people enjoyed the direct roads to the nearest market towns and further beyond, even if the majority of them were still travelling on foot until the 19th century.

This changed fundamentally with industrialisation and the associated construction of overland roads and railway connections, which enabled the rapid movement of masses of people along the river courses on the valley floor.



During the ban on cars a car is towed through Scuol/CH by horses in 1909. © Graubünden State Archives StAGR FN XII No. 11319a



Over the course of the 20th century, the settlement of the main Alpine valleys densified into elongated agglomerations. They absorbed the increasing numbers of people migrating from the mountain villages above and from other areas, all moving near to the expanding industrial zones. Space also had to be found in the valleys for multiple infrastructures above and below ground, such as commercial premises, housing, leisure, mobility, utilities, etc., all at the expense of agricultural land and the floodplain. In these merging village structures, which are linked together and form a kind of settlement "snake", local recreational areas are nowadays often only to be found higher uphill.

Along and between the settlement areas, the increasingly developed transit routes of rail and road wind close together with canalised rivers. The multiple infrastructures, transit traffic, domestic traffic and tourism traffic in a limited space, which is constantly increasing in many regions, is an overwhelming burden for the local inhabitants and nature. Additionally, the availability of public transport from the main transport routes into the remote valleys is much more limited, especially for vulnerable people. This leads to a dependence of residents on private motorised transport.

In the 21st century it is important to get to grips with the increasing use of the valley floors by creating green oases for encounters and microclimatic equalisation in order to make human life as pleasant as possible in the coming times of great weather fluctuations, both in terms of drought and heavy rainfall.

INTERNATIONAL TREATIES AND AGREEMENTS

Alpine Convention

The <u>Convention on the Protection of the Alps</u> is the framework agreement for the protection and sustainable development of the Alpine region. It is a binding treaty under international law that takes precedence over EU secondary legislation. Its protocols were designed, signed and ratified (with the exception of Switzerland and Monaco) to preserve and protect the Alps by applying the principles of prevention, 'polluter pays' and cooperation between its members.

Transport Protocol

The Transport Protocol was agreed in 2000. Its main objectives can be summarised as follows:

- to reduce the actual and potential harmful effects of intra-Alpine transport;
- to contribute to the development of settlement and economic areas through a harmonised transport policy that is shared by the countries concerned and integrates different modes of transport (road, rail, etc.);
- to mitigate the threat to the biodiversity of the Alpine region and its natural and cultural heritage;
- to ensure through more efficient and sustainable transport systems that the movement of traffic is economically viable.

The contracting parties to the Protocol must:

• increase the profitability of the transport sector;



- optimise use of existing infrastructures;
- take transport issues into account when evaluating and implementing other policies;
- involve regional and local authorities in decision-making.

Furthermore, the Transport Protocol sets out a number of specific measures and strategies based on the following principles:

- sound coordination between different modes and means of transport;
- promotion of intermodality;
- transfer of traffic to more environmentally-friendly modes of transport;
- protection of communication routes from natural hazards;
- protection of people and the environment;
- gradual reduction of hazardous substance emissions and noise;
- introduction and development of user-friendly, environmental public transport;
- use of impact studies for planned projects and consultation of those affected.

The Protocol also defines specific principles for the different modes of transport, e.g. **bolstering rail transport** through the improvement and better use of infrastructure, and promoting intermodality for goods transport.

The elements of this Protocol have to be taken into account in decisions related to infrastructure projects in the Alpine region. For instance, Article 11 (1) of the Transport Protocol says: *"The contracting parties shall refrain from constructing any new large-capacity roads for transalpine transport."*

The protocol also encourages the contracting parties to apply the polluter-pays principle and establishes a method that factors environmental costs into calculations of overall outlay on infrastructure.

Climate Action Plan 2.0

The <u>Climate Action Plan (CAP 2.0)</u> is a target system elaborated for crucial topics regarding climate change in the Alps, including Transport. It was prepared and approved by the contracting parties to the Alpine Convention and has its own <u>website</u>.

The Climate Action Plan 2.0 defines two priority pathways: a common modal shift and decarbonisation strategy, and a coordinated approach for integrating alternative mobility solutions. Last but not least, cross-border cooperation in the transport sector has to be improved drastically.

An ambitious transport strategy has to consider objectives such as:

- transport policies following the priorities avoid > shift > improve
- promoting public transport
- cooperation and greater integration between the existing bodies and transport structures
- avoiding motorised transport whenever possible
- integrated spatial and transport planning



- reducing negative impacts of road transport (from land use to greenhouse gases as well as fine dust and noise emissions)
- internalisation of external costs
- energy transition charging infrastructure, BEV, promoting active mobility

Reports on the State of the Alps (RSA)

RSA 8 – Air Quality in the Alps

The contracting parties to the Alpine Convention regularly produce themed publications on Alpine topics. The 8th Report on the State of the Alps <u>'Air Quality in the Alps</u>' calls for the following objectives to be reached with regards to mobility:

After consultation and environmental evaluation, **adopt regional and local mobility initiatives** for passenger and freight transport **favouring public transportation and active modes**, coupling incentives with restrictions where a relevant impact on air quality is expected. (Recomm. 3)

Promote clean mobility and zero-emission vehicles strategy, e.g. by using a balanced taxation and incentives system to internalise external pollution costs within real transport costs and enhance the market signals in favour of clean mobility and zero-emission vehicles. (Recomm. 4)

Promote the use of smart traffic management, e.g. speed limits, road pricing, favouring clean vehicles on Alpine motorways and tunnels to lower emissions, as well as encouraging the implementation of alternative transport technologies and combined transport; integrating public transport in multimodal mobility systems; and incentivising a modal shift for passenger and freight transport. (Recomm. 5)

RSA 9 – Alpine Towns

The contracting parties to the Alpine Convention regularly produce themed publications on Alpine topics. The <u>9th Report on the State of the Alps 'Alpine Towns'</u> contains the following findings that also address questions of sustainable mobility:

Build a new understanding. In the Alps, size itself is not decisive for the significance or for the urban functions of settlements. A small Alpine town most certainly has a greater radiance than the average suburban area. Common (statistical) definitions create a bias that underestimates Alpine urban qualities.

Support 'decentralised concentration'. The polycentric Alpine settlement system is an important asset that should be fostered, with policies that respect this distinctive spatial pattern.

Provide an efficient settlement system. The Alpine settlement system relies on towns of different sizes, along valleys and corridors as well as in mountainous areas. Supporting this system's complexity contributes to a more equitable organisation of life, effective energy consumption management and the net-zero land take goal.



Channel urbanisation with spatial organisation. To support the Alpine settlement system, it is necessary to channel urbanisation through efficient spatial organisation.

Establish first-mover advantages in times of environmental change. Within Europe, Alpine towns are more strongly and rapidly exposed to climate change. Climate-proof urban structures will become increasingly important in the Alps to provide a resilient base for life.

Mind ambivalent potentials. Two popular responses to counter negative developments in the Alpine settlement system are digitalisation and tourism.

European Strategy for the Alpine Region (EUSALP)

For the period <u>2023-2025</u>, <u>EUSALP Action Group 4/Mobility (AG4</u>) aims to realise these objectives through activities in the following priority areas:

1. Smart clean logistics and policy measures in freight transport to support a modal shift (rail and combined and multimodal transport)

- 2. Secondary railway infrastructure (local and regional transport links)
- 3. Resilient road and rail infrastructure

4. Smart and sustainable passenger transport (local, regional and cross-border mobility). Moreover, AG4 has launched a new strategic flagship initiative, called "energy transition in the transport system".

Simplon Alliance Action Plan

The <u>2022 Action Plan of the Simplon Alliance</u>, an agreement of the transport and environment ministries of the eight Alpine countries, commits them to pursuing the following goals **to make mobility in the Alpine region climate-neutral and climate-resilient by 2050 at the latest**:

Alpine crossing freight transport

- 1. Increase the overall efficiency of freight transport in the Alpine corridors in order to significantly reduce unnecessary transports.
- 2. Considerably increase the modal split in rail freight traffic within the Alpine crossing.
- 3. Promote the introduction of zero-emission and carbon neutral trucks in Alpine transit corridors.
- 4. Provide appropriate incentives for shifting freight from road to rail, while at the same time ensuring that freight transport distances on road be kept as short as possible (to be included in the revision of the EU Directive on Combined Transport).



Alpine and cross-border passenger transport

- 1. Considerably increase the modal split of public transport in cross-border commuter traffic in the Alpine area.
- 2. Reduce the volume of unsustainable traffic and promote sustainable and active mobility, e.g. by encouraging changes in individual mobility and consumption behaviour and targeted education and information measures.

Alpine tourism mobility

1. Considerable reduction of CO₂ emissions related to tourism and leisure mobility in the Alpine region by making public transport and non-motorised mobility solutions to and within tourism destinations more attractive and accessible.

The Ministers of Environment and Transport of the Alpine countries also committed "ourselves to implement these measures and to monitor the progress achieved in the framework of the Alpine Convention and the Zurich Process. A pragmatic monitoring and information process is established to follow the implementation of the defined actions to reach the targets in the three sectors."

European Green Deal



Ministers of the Contracting Parties to the Alpine Convention sign the Simplon Alliance Action Plan © David Schweizer



With the <u>European Green Deal</u>, the EU has set itself the goal of being climate-neutral by 2050. The Sustainable and Smart Mobility Strategy sets out the roadmap for transforming the EU transport system. A total of 82 initiatives in 10 key areas are aimed at decarbonising transport, shifting to rail and improving the European transport network and mobility.

Fit for 55 package

The <u>'Fit for 55 package'</u> serves to achieve the climate target of reducing greenhouse gas emissions by at least 55% by 2030 and aims to harmonise legislation with the target. To this end, EU emissions trading has been expanded and introduced for road transport as well as for combustibles and fuels. In addition, the CO₂ standards for passenger cars and light commercial vehicles have been tightened. The focus here is on decarbonisation as a strategic goal for the transport sector.

Greening Freight Transport

The aim of the <u>package</u> is to increase efficiency in freight transport in order to reduce emissions by 90% in this sector by 2050. To do so, cross-border rail transport is to be made more efficient through cross-border coordination, punctuality and reliability. Higher weight limits and dimensions will be set for zero-emission technologies (gigaliners) and combined transport is to be strengthened by making it more competitive.

The relevant legislative initiatives as part of the European Green Deal

- Eurovignette Directive (adopted)
- Combined Transport Directive (in preparation)
- Alternative Fuels Infrastructure Regulation (adopted)
- Weights and Dimension (adopted)
- Trans-European Transport Network (TEN-T)
- EU Emissions Trading System for Road Transport (ETS II, adopted)

While the overarching objectives are worthy of support from an Alpine perspective, negative developments are also seen in the implementation of the initiatives. To summarise, the following general objectives can be taken from the EU Green Deal:

- Reduction of transport-related emissions by 55% by 2030 and by 90% by 2050
- Incentives for low-emission transport and creation of the necessary charging infrastructure for zero-emission freight transport on the road and incentives for low- and zero-emission lorries
- Improving cross-border freight transport by rail and increasing the efficiency of rail transport
- Development and improvement of the multimodal trans-European transport network
- Incentives for combined transport to increase competitiveness