

Public transport accessibility of Alpine tourist resorts from major European origin regions and cities

Synthesis Report



Report for the Alpine Convention – Transport Group Subgroup “Sustainable Mobility”

Paris, Vienna 2008

Public transport accessibility of Alpine tourist resorts from major European origin regions and cities

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on behalf of
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Executive Summary

Objectives

The 2006 Alpine Conference in Alpbach commissioned the Transport Group with the analysis of the public transport accessibility of resorts and conurbations and with the identification of possible weaknesses of transport services and infrastructure.

Its subgroup “Sustainable Mobility” guided the work on “Public transport accessibility of Alpine tourist resorts from major European origin regions and cities”. The working process was divided in:

- The identification of (by-nation) obstacles for tourists to use long distance rail services to reach the Alpine Region and the weaknesses in local accessibility of the final destinations (tourist resorts, natural parks, urban areas etc.)
- The organisation of national workshops and one transnational workshop held in Bonn in June 2008 by invitation of Germany
- The elaboration of a synthesis report resuming the outcomes of the national studies and the meetings and the identification of the (common) constraints and obstacles as well as proposals for solutions

Initial situation

The Alpine Region not only belongs to the ecologically most sensitive areas in Europe but also to one of its most important recreation areas with about 95 million long-stay tourists and additional 60 million day trip tourists per year. However, tourism and in particular its associated motorised transport has negative impacts on the Alps’ environment including air pollution, noise and land use. As tourism is inherently linked to transport and travelling, the negative consequences of motorized transport affect the region’s ecosystems and diminish its recreational value.

The transport system in the Alps is characterised by a limited number of corridors for reaching the Alpine regions or crossing the Alpine arc. Nowadays agglomerations outside the Alpine arc (e.g. Munich or Milan) may even have a better accessibility from the places in the Alps in terms of travel time or comfort than some inner alpine agglomerations located in adjacent valleys.

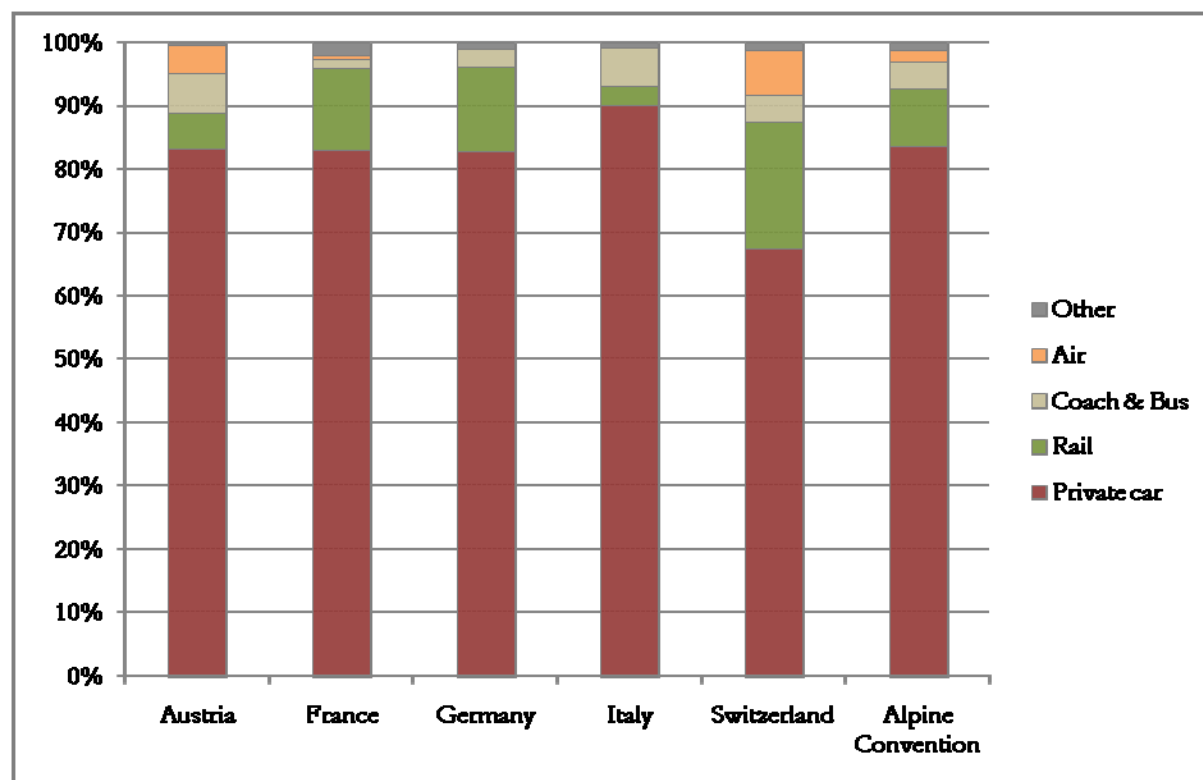
Trunk railways and roads connect the Alpine region. For accessibility in tourism, especially for tourists with an origin-destination (O-D) journey above 1.500 kilometres, airports play an important role for accessibility. Major airports are mainly located outside the Alpine convention area (e.g. Zurich, Geneva, Milan Malpensa, Nice, Vienna or Munich).

Modal choice in O-D travel to the resorts

For all Alpine countries, in average about 84% of the tourists use the car for their travel to the resorts, 90% in Italy, about 83% in Austria, France and Germany, but only 67% in Switzerland. The percentage of travelling by train is about 9% (see figure below). The share of tourists using the airplane is still low which is, as a matter of fact, due to the relatively small catchment area of

the Alpine region. It mainly covers distances up to 1,000 kilometres with a substantial share below 500 kilometres – a distance where airplanes may not efficiently compete in travel time with land bound transport modes.

Figure S1: Modal choice in tourism (O-D journey) in the Alpine region



Source: National studies, MEIER R. (2000), Eurostat (2008), ÖW (2008) T-Mona, DUPREZ F. (2008), SEYBERT H. (2008), Statistik Austria (2008), BIS (2008) and own calculation

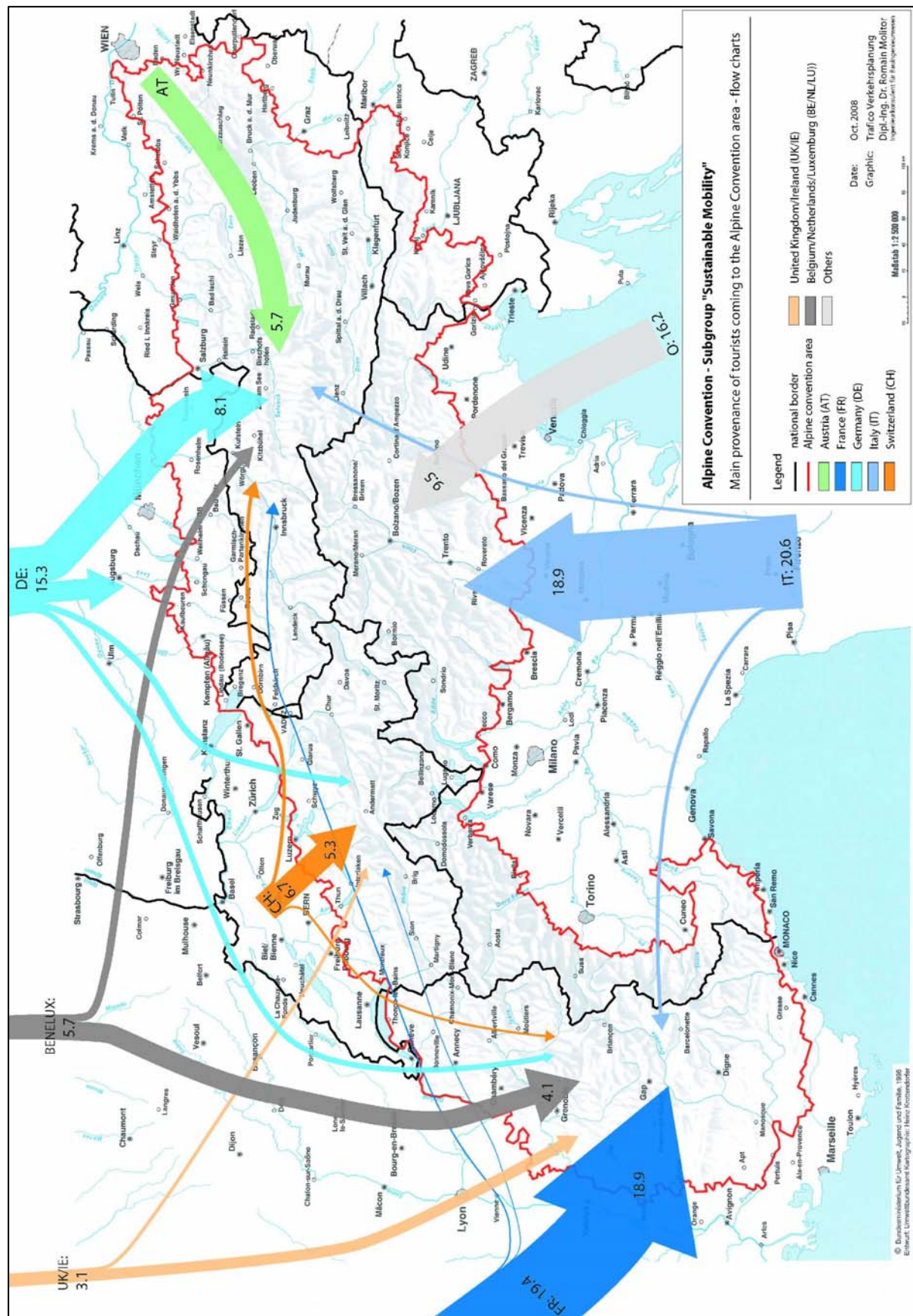
Origin of the tourists in the Alpine region

Due to the lack of relevant data, the numbers of arrivals of tourists by origin are often based on estimations. In general, tourism statistics do not cover all the possible types of arrivals - neither statistical information on arrivals visiting friends and relatives nor on visiting secondary residences are available.

A large share of tourists to the Alpine region is national travellers. Germany, Italy and France have dominant shares of domestic tourists. In Austria and Switzerland the number of domestic travellers is also high, however, in these two countries the foreign tourists in total reach shares about or higher than 50%.

The UK and the BeNeLux states are the major countries of origin for tourists not from the Alpine Convention area. Besides, a growing market of tourists coming from the new member states of the EU and from Russia is emerging especially in the Eastern part of the Alpine arc. Switzerland has the highest share of non-European tourists (USA and others) of all countries of the Alpine Convention.

Figure S2: Main provenance of tourists coming to the Alpine Convention area (arrivals in million per year 2006/2007)



Obstacles in using public transport in tourism

Public transport accessibility and quality of services

In general the accessibility of the Alpine arc by public transport is acceptable. Most of the resorts in the Alpine arc show accessibility indicators above the European average. Nevertheless, in all studies conducted, the transport supply for tourists, i.e. the quality and quantity of services, is claimed to have large deficits.

As a key deficit, the lack of direct connections and the missing link between long distance and short distance public transport, e.g. the “last mile” between the station and the resort respective the accommodation, was identified.

A further point is the unsatisfying information on and the generally weak supply of local and regional public transport in and around the resorts themselves. This makes it difficult for tourists to use public transport as a through-mode for the whole journey from their home places to the resort. A “mobility guarantee” by public transport at the final destination was identified as a key element to attract potential future public transport users.

Service quality at local stations (user-friendliness, accessibility etc.) and onboard the trains as well as the quality of information provision are often at low standards, especially if compared to private car travel. The supply and quality of services relevant for tourists using public transport (such as luggage transfer services or facilities at the stations) differ significantly between the single Alpine countries and often show great deficits.

Intermodality

When arriving by rail, bus or by plane, the number and the quality of intermodal links between the final destination and the nearest railway stations or the airport are key factors to influence modal choice for O-D transport. The tourists are often challenged by the following questions: Does an interconnecting service exist? If yes, how is the arriving station or the airport linked with the onward public transport services? Does the transport chain work even in case of service interruption?

Information

Provision of information is a prerequisite for using public transport efficiently. However, the basic provision of timetables should be accompanied by additional information which are especially useful for tourists using the train or the airplane. This information may be divided into different categories:

- Information on transport services provided by transport operators but also by local institutions at the resorts (how to reach the resorts)
- Information on local public transport services in the resorts
- Information about services during the trip
- Information about the services at the intermodal nodes

Pricing and ticketing

The costs are among the major factors influencing the modal choice in O-D transport. Often, travellers simply compare the marginal costs of car use (gasoline, parking costs and tolls) with the costs of a ticket by rail, bus or plane.

The work done so far shows an ambivalent result. The prices of rail tickets may vary by the factor 5 (!) depending on fare availability and time of booking. Due to the fact that the rail market underlies continuing fragmentation, a comprehensive comparison of prices is generally not possible, even not for railway staff selling tickets. Whereas attractive offers are often limited to the national market, unattractive prices are the rule for transnational tickets. For some international trips or O-D relations it is even not possible to purchase a through ticket.

Co-ordination and co-operation between transport and tourism

Co-operation and coordination between the two sectors tourism and transport have to be analyzed at different spatial or organizational levels. At the national level, the national tourist offices are responsible for promoting the destination countrywide, at the regional and local level, the tourist offices need to organize the co-operation between local transport operators and the tourism industry in the resorts. A priority of all co-operation efforts needs to be the provision of information about how to reach the final destination by sustainable transport modes and the promotion of sustainable travel during the stay.

Co-operation between the two sectors tourism and transport should also result in the design and marketing of combined packages of O-D transport, accommodation and travel by sustainable transport modes at the resort and around.

Recommendations

In general, measures to improve public transport accessibility should not be limited to the implementation of local approaches such as running a shuttle from a resort to the nearest train station to “bridge the last mile“. As most travellers are not regular public transport users (“captives”), the transport chain as a whole has to be regarded and optimised from the customer’s point of view. Good service quality is a prerequisite for “pulling” more travellers from the car. In order to convince tourists of the advantages of public transport, clear, transparent and flexible services and offers are required. To guarantee the success of such services, the efforts of all stakeholders are necessary.

Under this premise, the conclusions and recommendations from the different reports and meetings aim at two different levels of action, the transnational level and the national/regional/local level. Whereas identical topics may be addressed on these two levels, different actions might be required.

Recommendations on a transnational level

Information

Information is considered as a key element for a modal shift towards public transport in tourism. Consolidated multimodal and multilingual information – ideally door-to-door-information – as already implemented in some member states of the Alpine Convention based on international harmonized standards is necessary.

Accessibility and quality of public transport

The change of trains was recognised to be a major difficulty for tourists when travelling by public transport. One approach to overcome this problem are more direct connections and direct night trains from major agglomerations to the resorts.

(Trans-) national luggage and bicycle transport as an integrated part of the public transport service is considered as an asset.

Apart from adequate long-distance public transport offers to reach the Alpine resorts (i.e. by train), local and regional services as a “mobility guarantee” in the resorts are essential prerequisites to increase the attractiveness of “car-free-tourism”.

The quality of public transport (services, cleanliness, safety etc.) has to be enhanced significantly.

Furthermore, travel time is considered as a factor to be improved; travel times exceeding 4 to 6 hours in one direction (except on night trains) is considered as a critical limit for a modal shift towards public transport.

Finally, public transport accessibility from regional metropolitan areas should be improved in order to facilitate a shift from car to public transport usage for day trips.

Pricing and ticketing

Transparent price information of (trans-)national journeys by public transport for the whole transport chain is necessary. A better possibility to book transnational tickets is required, preferably one through-ticket for the whole journey. Thus bookable and attractive packages – stay and journey – are a next step; the journey to the resort by public transport is seen as an integrated part of the holidays.

Total costs of car traffic (total costs resuming the costs for gasoline, tolls, parking, depreciation, repairs and the external costs (accidents, climate change, air quality and noise)) have to be compared to the total costs of public transport. Thus more cost transparency between the different transport modes is a condition for rational decision making processes in transport mode choice which will help to increase the modal share of public transport.

Recommendations on a national, regional and local level

Information

The resorts themselves have to provide dedicated and detailed information of public transport services at the local level (e.g. on all web pages related to tourism and/or transport, at the tourist information desks, on maps etc.). This point might be crucial as the decisive information on where to go or where to have an excursion during the stay and how to get there is often taken from dedicated information of the respective resort.

Beside the provision of basic information, the pro-active promotion of local public transport services and the “mobility guarantee” system in the resorts – as it is the case for the member of the “Alpine Pearls” association¹ or protected areas as national parks – is a further important requirement for modal shift.

Accessibility and quality of public transport

An attractive regional and local public transport was considered as a precondition for a successful strategy of sustainable transport (“mobility guarantee”). Examples such as an attractive ski bus system show that tourists are willing to use public transport if services are tailor-made, reliant and efficient. Where public transport service supply has to be reduced due to low demand in rural areas, demand-oriented dial-a-ride systems may be a promising and adequate solution – also for the local travel demand of tourists.

Better accessibility and the quality of public transport are inherently linked with (international) standards of the information systems and standards at the train stations (equipment, information system etc.). As the quality of existing standards differs from state to state, also the need for enhancement of the information and equipment varies between the member states of the Alpine Convention.

In principle, tourism demand has to be seen as an additional market potential for public transport as public transport might be regarded as a tourist product in many cases.

Pricing and ticketing

Lump sum tickets valid on the resort- level or even regionally make public transport easily accessible and understandable for tourists (and inhabitants).

Packages combining touristic products such as the entrance fee of touristic attractions and public transport tickets have been discussed as a powerful solution to increase public transport attractiveness. ‘Tourism cards’ which allow the nationwide usage of public transport services or at

¹ Alpine Pearls is an association of 22 resorts in the Alpine Arc promoting sustainable mobility and tourism, s. www.alpine-pearls.com

least within the catchment area of the resorts have been already implemented in various Alpine regions.

Co-operation between transport and tourism

A good co-operation between municipalities, transport operators and tourism agencies is a key to guarantee a good quality of the whole transport chain and to enlarge the market share of public transport.

A more intense co-operation between the sectors tourism and transport is important and needs to be implemented at different levels.

- At the national level through a close co-operation between transport operators and the national incoming agencies (e.g. common national information portals as the example of Switzerland shows)
- At the regional and local level through a close co-operation between local transport operators and local tourism authorities with clear and readable information on how to access the resorts by public transport and on services (e.g. luggage transfer).

It is agreed that a bottom-up approach which integrates the objective of sustainable mobility in all decision making processes in the resorts should be implemented.

Finally, mobility centers which are integrative parts of or which co-operate with tourism information centers may provide tailor made information for the guests.

1 Objectives

The ‘Sustainable Mobility’ subgroup of the Alpine Convention – Transport Group focuses on environmentally friendly transportation in the member states. An important task of the subgroup’s work is the analysis of public transport accessibility of tourist regions and resorts in the Alpine Region.

In order to raise the awareness for sustainable mobility in the sensitive area of the Alps and to promote new concrete actions for sustainable mobility in local, regional and national policies, following objectives for the study “Public transport accessibility of Alpine tourist resorts from major European origin regions and cities” were set:

- The identification of (by-nation) obstacles which face tourists to use long distance rail services to reach the Alpine Region and the weaknesses in local accessibility of the final destinations (tourist resorts, natural parks, urban areas etc.)
- The development of approaches to overcome these problems in co-operation with the various stakeholders in tourism, transport and spatial planning. The proposals for either the national or the international level of the Alpine Convention are integrated in the final report of the Alpine Conference.

The national work started with the selection of tourist resorts and regions based on previous studies or on further criteria proposed. An in-depth analysis of these destinations followed to identify the local problems of and obstacles to reach the regions by train and local public transport services. As a result, possible solutions to overcome these obstacles were made. The recommendations have been discussed with relevant stakeholder, like e.g. the tourism industry, tour operators, railway and public transport operators in a working seminar in Bonn, June 2008.

This paper will be used as a discussion base for the participants of the working seminar as well as a background paper for future work.

Chapter 2 of the synthesis report focuses on the tourist and the transport issue in the Alpine region. It deals with the common chances and risks of the Alpine Region by analysing the general situation of tourism and transport.

In Chapter 3 the common issues such as the strengths and problems of the regions especially concerning their accessibility by public transport is treated.

Chapter 4 proposes selected solutions and best practise for the identified problems and risks in the preceding chapter. A more detail report on the best practise in transport in the Alpine region will be submitted in parallel to the present report.

In Chapter 5 the recommendations discussed in the national study and at the seminars and discussion held are summarised.

As the study refers mainly to common problems of public transport accessibility in the Alpine region, detailed information about the particular situations in the different Alpine countries can

be found in the annex (chapter 6). Short abstracts of the outcome of the national case studies are added.

2 Transport and Tourism

The Alpine Region not only belongs to the ecologically most sensitive areas in Europe but also to one of its most important recreation areas with over 95 million long-stay tourists² and additional 60 million day trip tourists per year³. However, tourism and in particular its associated motorised transport has negative impacts on the Alps’ environment including air pollution, noise and land use. As tourism is inherently linked to transport and travelling, the negative consequences of motorized transport affect the region’s ecosystems and diminish its recreational value.

The Alps are an outstanding example of a region with an environment and ecosystems at risk. This vulnerability is partly due to the topographical and climatic situation of the Alps. The shape of the valleys (V- or U-shape) and meteorological particularities (tendency towards inversions) hinder emissions from combustion processes to dissipate. Air pollution levels in these valleys are often as severe as in urban areas. In addition, ozone smog may reach high levels, too. Finally, noise nuisances are extremely intensified by the topography of the valleys.

Both air pollution and noise have negative impacts on the environment and health. In particular Alpine forests which protect settlements from avalanches and landslides are damaged. Pollution and noise have not only negative effects for the environment, but also cause high health risks for local people and visitors. Among other sources of environmental damage, transport is a major cause for negative environmental effects in the Alpine region.

Tourism transport can be divided into two kinds: transport from home to the destination (i.e. origin-destination trips) and travel at and around the destination (local transport). Outward and return journeys are responsible for about 90% of the energy used in the entire tourism sector⁴. Hence, in the first instance local transport may be neglected when regarding the transport, environment impacts, which however do not imply that local travel is uncritical for sustainable tourism and transport issues as we will see later on.

Travelling by car is, followed by air travel, by far the preferred mode of transport to the Alps. About 68% of all European tourists travel by car, 39% use the aeroplane and only 17% use the train, coaches and ferries to reach their holiday destination⁵. Where public transport services are insufficient, up to 80% of all tourist journeys to the Alps are by car⁶. Airplane and car are those modes with the largest negative impact on the environment. Regarding the EU-Plus internal tourist travel, the part of CO₂ emissions caused by airplane represent 56% and those caused by car are up to 41%. Noise pollution (quantity of persons disturbed by noise) of which Alpine regions are especially affected is basically induced by car traffic (60%). Noise disturbance due to airplanes is about 32%⁷.

² see Table 9, p.24

³ Ständiges Sekretariat der Alpenkonvention, (2007, Ed.), Alpensignale – Sonderserie 1, Verkehr und Mobilität in den Alpen, Innsbruck,

⁴ EEA (2003): Europe’s environment: the third assessment, Copenhagen

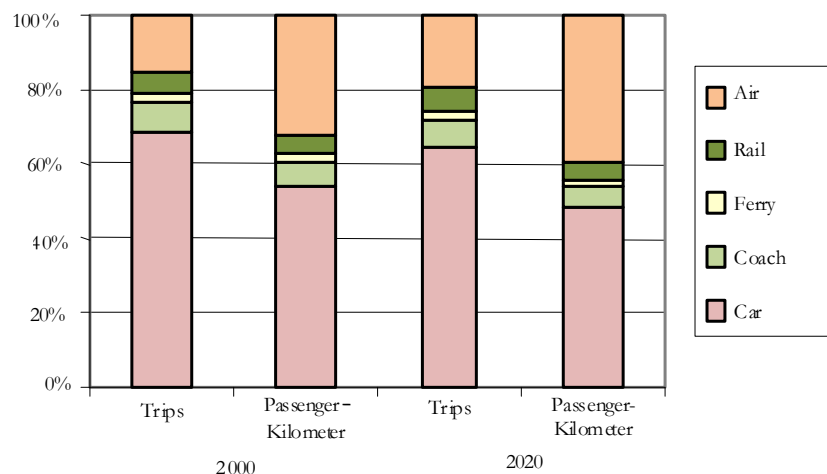
⁵ PEETERS P./van HALEN C. (2004): MuSTT sustainability framework: SH and SIA methods and user guide. Appendix 4. NHTV, Utrecht

⁶ EEA (2003)

⁷ PEETERS P./van HALEN C. (2004)

Looking at the modal split for intra-EU tourism, car is the dominant mode by number of trips. However, considering passenger kilometres, which is the relevant indicator for negative environmental impacts of transport, the share of car is lower than that of air travel as the aeroplane is used for substantial longer distances from home to the destination. In total, the share of rail, coach and ferry is low.

Figure 1: Modal Split for Intra-EU tourism trips and passenger-kilometres



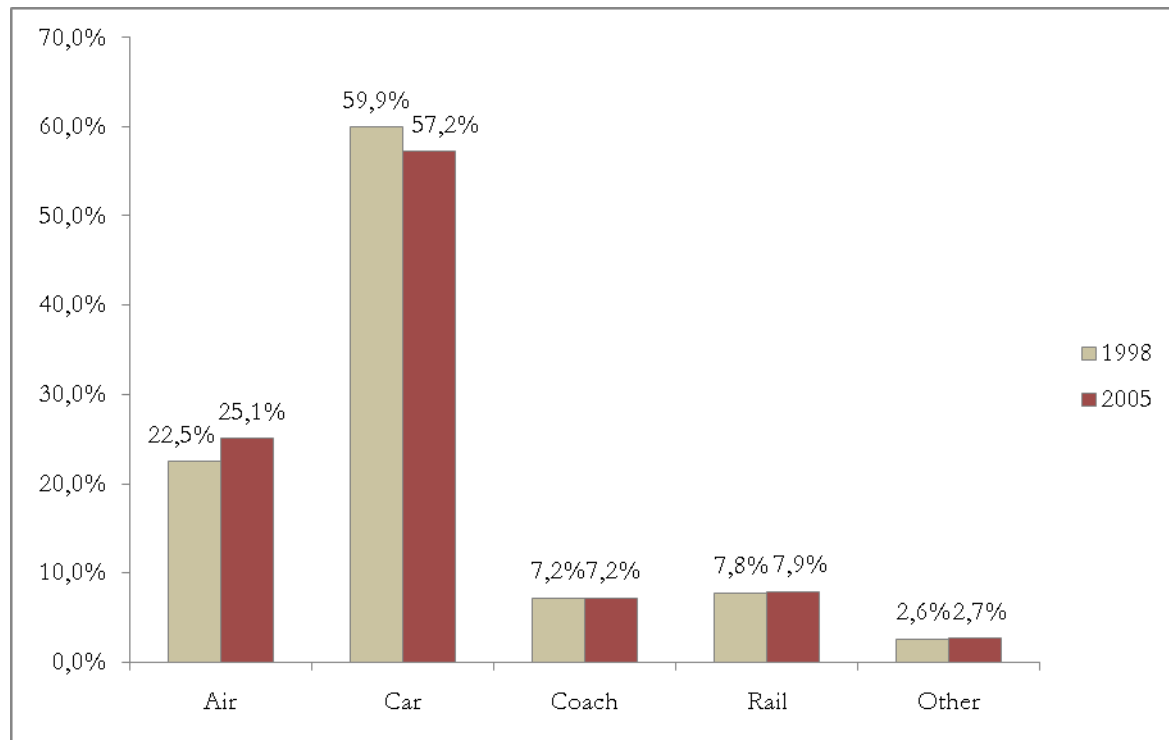
Source Peeters, P. (2006), p. 17

The projections for transport and tourism in 2020 predict that airplane and coach are the modes which can increase their shares in the number of trips. However, only air transport will substantially grow in passenger kilometres⁸.

For the EU (13 member states: BE, DK, DE, EL, ES, FR, IT, LU, NL, AT, PT, FI, UK) the share of car declined from 60% to 57% from 1998 to 2005 and the share of air plane increased in the same magnitude.

⁸ PEETERS P. (2006), in: Umweltfreundlich Reisen in Europa. Herausforderungen und Innovationen für Umwelt, Verkehr und Tourismus, Bundesministerium für Land- und Forstwirtschaft, Umwelt und Wasserwirtschaft, Wien

Figure 2: Modal choice in origin-destination trips in tourism in Europe



Source: Eurostat (2008)

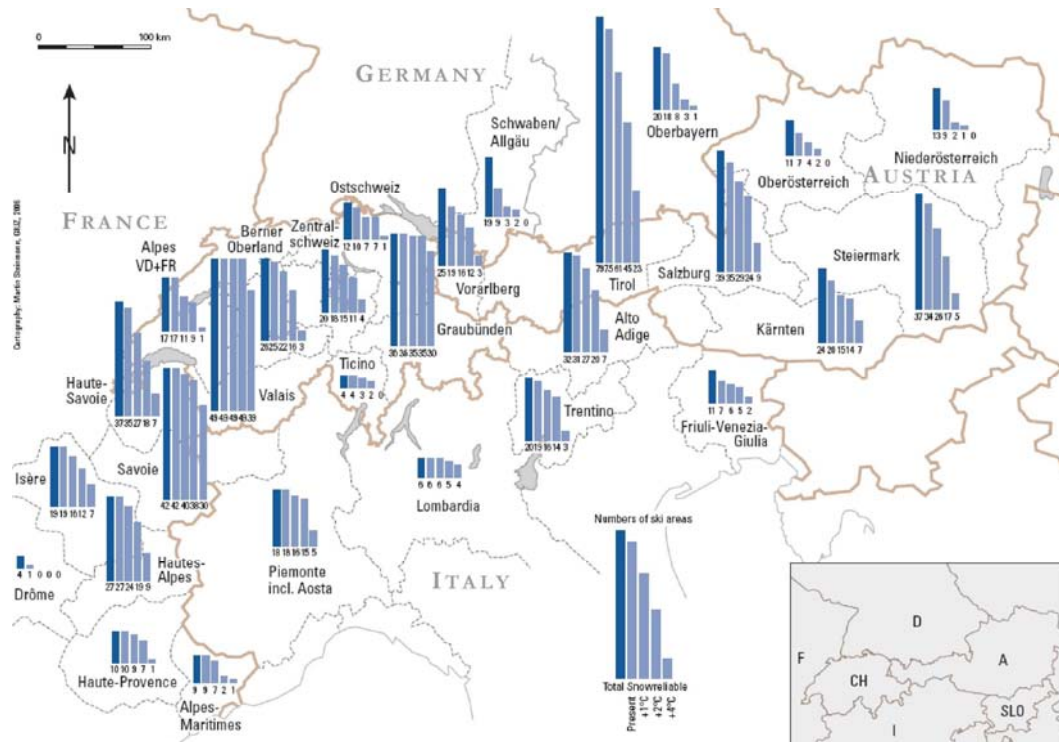
In the future, a more environmentally orientated mobility of tourists gets more important as the tourist demand in the Alpine region may increase. The trend shows that on the one hand the time spend per stay in the Alps becomes shorter but on the other hand the frequency of short trips for recreation and leisure is increasing. This again leads to increasing traffic volumes⁹.

There is not only an evident need for reducing the greenhouse gas emissions for environmental but also for economic reasons. As winter tourism is an important economic factor in the Alpine region and even more important than summer tourism, a reduced “snow reliability” due to global warming effects might reduce the number of ski areas in some countries to 2 or 4 - depending on the global warming scenarios¹⁰.

⁹ Ständiges Sekretariat der Alpenkonvention, (2007, Ed.), Alpensignale – Sonderserie 1, Verkehr und Mobilität in den Alpen, Innsbruck

¹⁰ AGRAWALA S. (OECD ed., 2007): Climate Change in the European Alps, Adapting Winter Tourism and Natural Hazards Management, Paris

Figure 3: Snow-reliability of Alpine ski areas under current conditions given a warming of 1, 2 and 4°C



Source: OECD (2007)

Figure 3 demonstrates the reliability of snow in the Alpine ski areas. The dark blue bars indicate the total number of ski resorts in the area and the bright blue bars the number of ski resort with snow reliability, starting right sided with the current situation, a warming of 1, 2 and 4°C.

Comparing the ski areas, which operate at fairly high altitudes (e.g. Valais, Graubünden) with areas located at lower altitudes, it shows that the lower the resorts the more sensitive are the areas to global warming and consequently the snow reliability.

The Alpine Convention therefore calls for “transport - with the objective to reduce the loads and risks of the inner alpine and transalpine transport to a level, which is acceptable for human beings, the fauna and the flora as well as their environments, e.g. through an increased shift of transport, in particular freight transport, to rail transport, especially by providing appropriate infrastructure and incentives conform to market and on a non discriminate basis.”¹¹

Although environmentally friendly transport is a key prerequisite for sustainable tourism, approaches to integrate transport issues into tourism strategies are widely missing. There is relatively little interest for tourist transport issues in tourism and industry in transport policy. There are even different sets of definitions and conceptual models used in transport and in tourism which demonstrates the lack of interconnectivity of the two areas.

¹¹ Übereinkommen zum Schutz der Alpen (Alpenkonvention; 1992)

2.1 *Transport System*

The transport system in the Alpine region is characterised by a limited number of corridors for reaching the Alpine regions or crossing the Alpine arc. Nowadays agglomerations outside the Alpine arc (e.g. Munich or Milan) may even have a better accessibility from the places in the Alps in terms of travel time or comfort than some inner alpine agglomerations located in adjacent valleys.

Trunk railways and roads connect the Alpine region. For accessibility in tourism, especially for tourists with an original-destination (O-D) travelling destination above 1.500 kilometres, airports play an important role for accessibility. Major airports are mainly located outside the Alpine convention area (e.g. Zurich, Geneva, Milan Malpensa, Nice, Vienna and Munich).

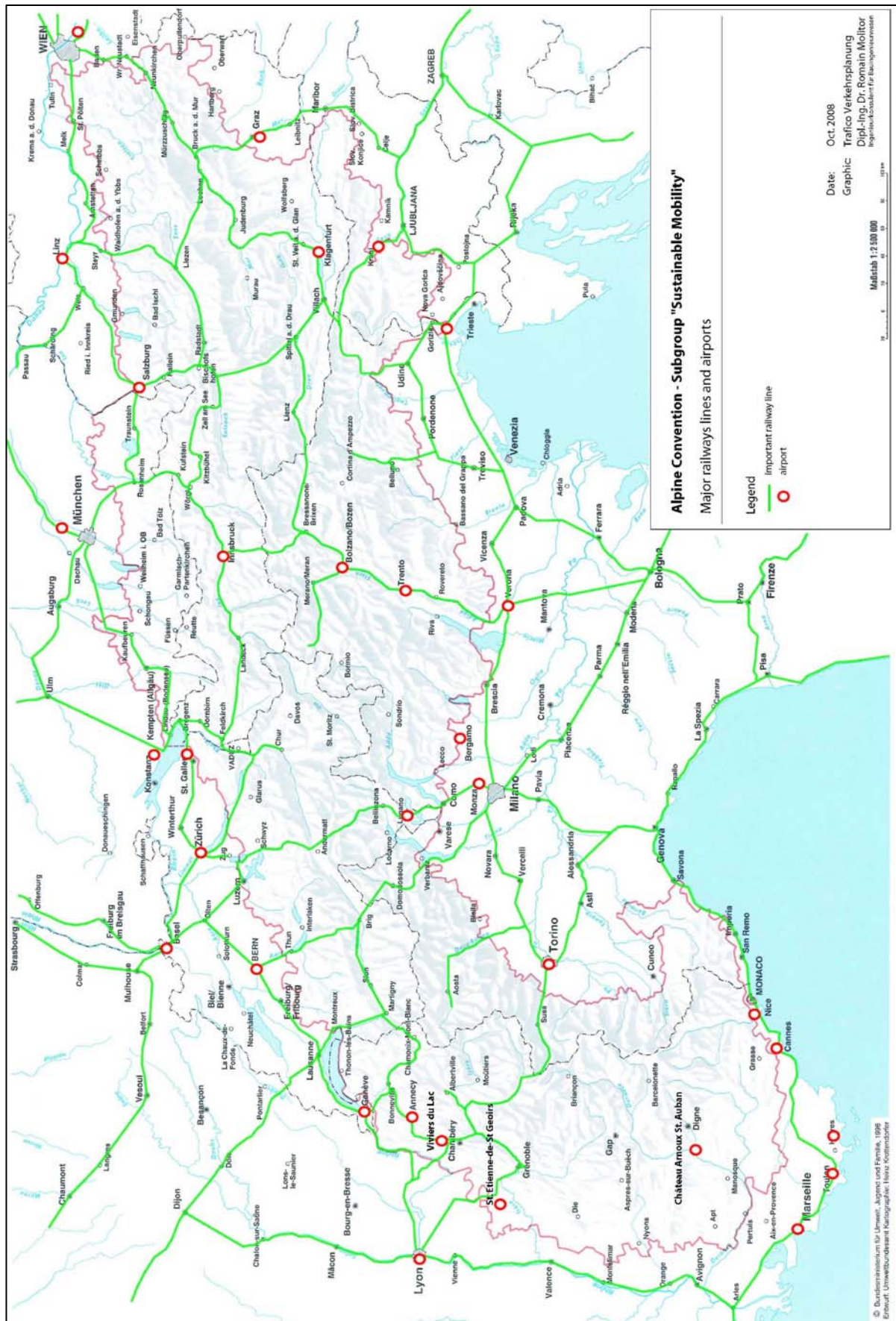
In the following chapters the transport infrastructure, the accessibility and mode choice resulting from regional accessibility will be treated.

2.1.1 Infrastructure

Rail

The rail infrastructure in the Alpine region is young compared to the trunk railway network in Europe. The first transalpine tracks were the Austrian Semmering line (built in 1854) and the Brenner line (1867). The Mont Cénis line (1871), the Gotthard line in 1882 (tunnel with 15km length), the Simplon line and the Tauern pass line both in 1906 were not built before the major railway network in Europe was accomplished. For all later built transalpine major railway lines, longer tunnels were necessary to cross the Alpine arc. Some of the tunnels, such as the Gotthard tunnel, have been for a while the longest of the world. Beside the trunk lines, secondary railway lines, mountain railways and funiculars connect the main line with more remote places in the Alps. The development of tourism during the “Belle Epoque” in the Alpine region is inherently linked to the development of the railway network. The railway is still one of the most important alternatives to reach Alpine resorts without using the car.

Figure 4: Major railway lines and airports in the Alpine Convention area



Source: Bundesministerium für Land- und Forstwirtschaft, Umwelt und Wasserwirtschaft, Trafico

The total railway network length in the Alps is today 8.364 km thereof 2.622 km of high speed lines. Austria and Switzerland have the highest density of railway lines per inhabitant, whereas Italy, France and Slovenia show a density under the average of the Alpine region.

Airports

About 35 airports are located in the catchment area of the Alpine region. Most of those airports are small airports which are served by regional and/or low cost airlines. In the catchment area of the Alpine Arc the airports of Milan-Malpensa and Munich have the largest number of passengers (Milan about 23.8 million passengers in 2007, Munich about 23.9 million passengers in 2007) followed by the airports of Zurich (about 19.2 million passengers in 2006) and of Vienna (about 19 million passengers in 2007).

60% of all flights to the French Alps during the winter season come from Great Britain, 15% of the Netherlands, 10% of Belgium, 5% of Ireland the remaining 10% come from Northern European countries. During summer fewer flights are coming from Great Britain, but are still showing dominance. British charter flights regularly serve destinations like Genève, Chambéry, Lyon or Grenoble. In Austria airports with charter and scheduled flights from the UK are Innsbruck, Klagenfurt, Salzburg and Vienna. But the share of British tourists is less important than in France. German airports with charter and scheduled flights from the UK are Friedrichshafen and Munich whereas in Switzerland Bern and Genève are regular destinations.

Table 1: Number of passengers of the Austrian airports with relevance to the Alpine Convention area (2007)

Airport	Number of flights		Number of passengers		Total
	Arrival	Departure	Arrival	Departure	
Vienna	127,337	127,330	9,351,386	9,367,889	18,973,942
Salzburg	10,959	10,959	954,950	958,409	1,935,277
Graz	8,927	8,928	457,715	460,357	935,927
Innsbruck	7,202	7,194	419,318	420,421	854,135
Linz	7,142	7,140	365,053	365,061	744,396
Klagenfurt	4,271	4,271	234,000	230,728	473,270

Source: Statistik Austria, 2008

Table 2: Number of passengers of the French airports with relevance to Alpine Convention area (2006)

Airport	Number of passengers		Total
	National flights	International flights	
Nice, Côte d'Azur	4,231,865	5,694,387	9,926,252
Lyon, Saint Exupéry	2,751,580	3,909,602	6,661,182
Marseille, Provence	3,279,473	2,678,698	5,958,171
Grenoble, Saint Geoirs	1,694	428,725	430,419
Chambery, Aix Les Bains	3,036	191,424	194,460
Toulon/Hyeres	480,309	155,213	635,522
Cannes, Mandelieu	4,639	11,897	16,536
Avignon	72,030	9,822	81,852
Annecy, Haute Savoie	64,193	823	65,016

Source: Institut National de la Statistique et des Etudes Economiques, 2008

Table 3: Number of passengers of the German airports with relevance to Alpine Convention area (2007)

Airport	Number of passengers		
	Arrival	Departure	Total
Munich	11,972,559	11,952,836	23,925,395
Friedrichshafen	217,825	221,479	439,304

Source: Atlas der Luftverkehrsstatistik, Statistisches Bundesamt Deutschland, 2008

Table 4: Number of passengers of the Italian airports with relevance to Alpine Convention area (2007)

Airport	Number of passengers
Milan, Malpensa	23,885,391
Milan, Linate	9,926,530
Trieste	742,136
Torino	3,509,253
Venice Marco Polo	7,076,114
Venice/Treviso	1,548,219
Bergamo	5,741,794
Verona	3,510,259

Source: www.wikipedia.de, 05/2008

Table 5: Number of passengers of the Swiss airports with relevance to Alpine Convention area (2006)

Airport	Number of passengers		
	Charter flights	Scheduled flights	Total
Basel Mulhouse	534,691	3,450,266	3,984,957
Geneva Cointrin	538,454	9,278,023	9,816,477
Zurich Kloten	1,350,699	17,947,861	19,298,560
Berne Belp	34,067	64,331	98,398
Lugano Agno	661	184,944	185,605
Sion	5,847	0	5,847
St. Gallen/Altenrhein	5,582	92,457	98,039

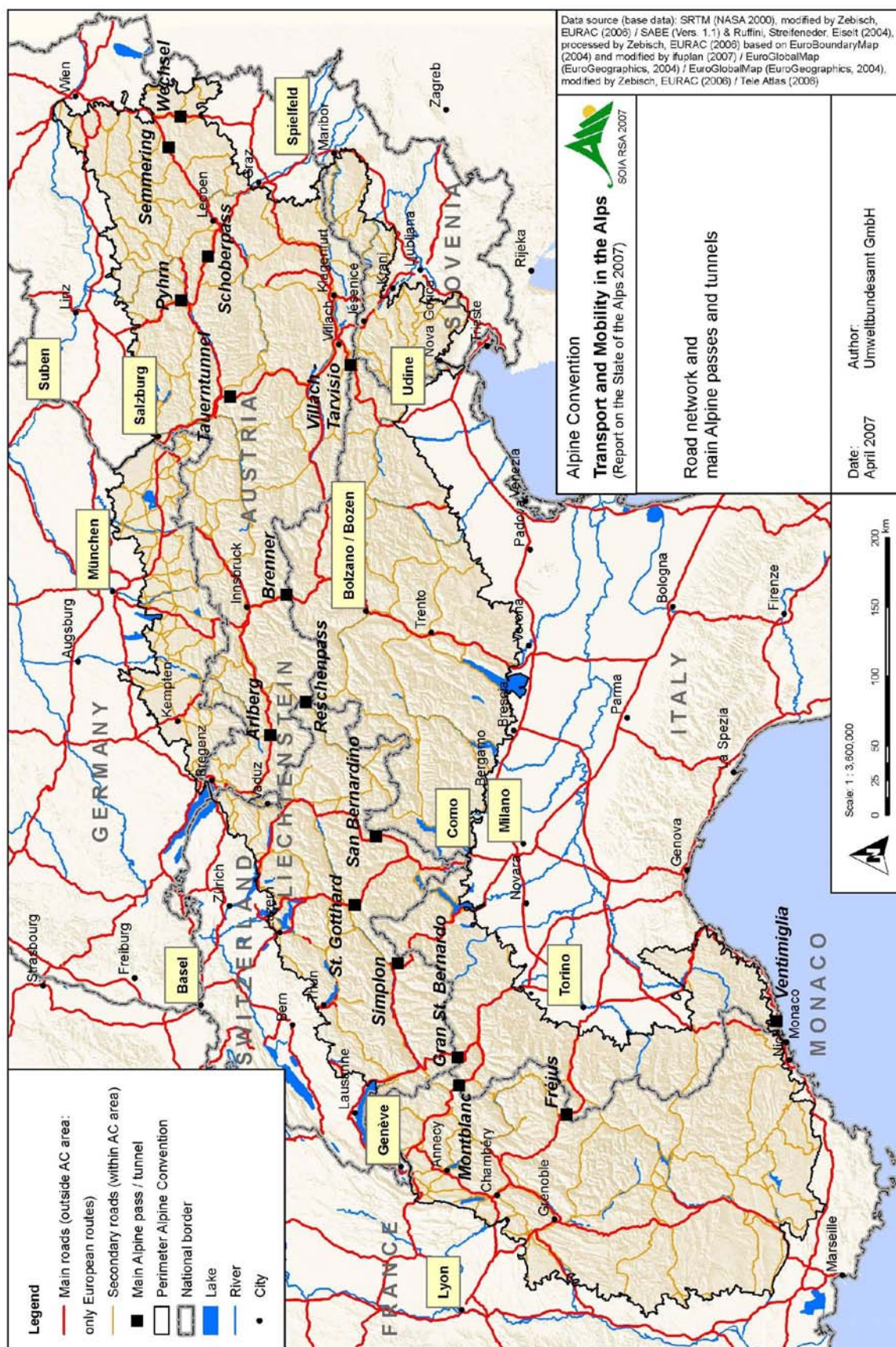
Source: Statistik Schweiz, 2008

Road

The network of transalpine motorways have been build after World War II, most of them in the 1960ies and 1980ies (e.g. the Brenner pass from 1961 to 1971). Most of the motorways (see the Gotthard (tunnel) motorway as an exception) run more or less geographical parallel to the railway lines.

The motorway connections in the Alpine regions are part of the trans-European network and their corridors. Most of them connect Central and Northern Europe with the South whereas the west axis serves mainly as connection between Italy, France and Spain. In the Alpine region those roads have a high share of long distance transport in passenger transport as well as in freight transport - compared to the trunk motorway net in the rest of Europe. A further characteristic of the transport system in the Alpine region is its topographical limitation.

Figure 5: Road infrastructure in the Alpine Convention area



Source: Ständiges Sekretariat der Alpenkonvention, (2007, Ed.), Alpensignale – Sonderserie 1, Verkehr und Mobilität in den Alpen, Innsbruck

Especially during holiday times and on weekends traffic jams due to the motorised car traffic occur in tourism regions and the access roads. Besides, in and around some larger Alpine agglomerations roads are overcrowded regularly. Most of the Alpine tunnels are bottlenecks as their capacity is reduced due to their constructional conditions and tunnel safety measures.

An average of 10,000 to 30,000 cars per day is counted on Alpine motorways (average daily traffic, ADT). The motorways at the edge of the Alps with about 50,000 cars per day are the most frequented ones of the region. The roads most affected by high traffic volumes have multi-various functions such as a “feeder function” for tourism centres and agglomerations or a transit route function¹².

Road - Bus

The accessibility of the Alpine region by bus may be divided in two categories: Coaches and scheduled services, the last one with a clear focus on local and regional transport. Coaches on long distant transport are operated by tour operators and to a smaller extend by transport companies. Figures on the transport demand by coaches and scheduled buses are not available.

In the Alpine Convention area of some states, general figures on the modal split of arrivals are available showing that buses and coaches reach a share close to rail or plane.

At local and regional level, dedicated scheduled services for tourists during the season are offered, e.g. „skiing buses“ bringing the skier from their accommodations to the ski lift or cable railways and back. Selected figures in the resorts show that a majority of the guests staying in the resort use these services. General figures for the Alpine region are not available.

Capacity constraints and traffic jams during the peak season affect bus traffic as well as car traffic. Dedicated bus lanes on the roads to and in the resorts – apart in some resorts – are not standard.

2.1.2 Potential accessibility

Finally, the analysis of the “potential accessibility” of places within the Alpine region may complete the picture of transport, accessibility and modal choice. Potential accessibility – which will here be embedded in a European context - is a common and widely tested accessibility indicator in spatial analysis and planning.

The concept of potential accessibility is based on the assumption that the power of attraction of a destination increases with its size (e.g. in terms of population) and decreases with the growing distance to potential origins. Hence, the two functions need to be formulated and calculated: (a) an “activity function” representing the number of activities or opportunities of the particular

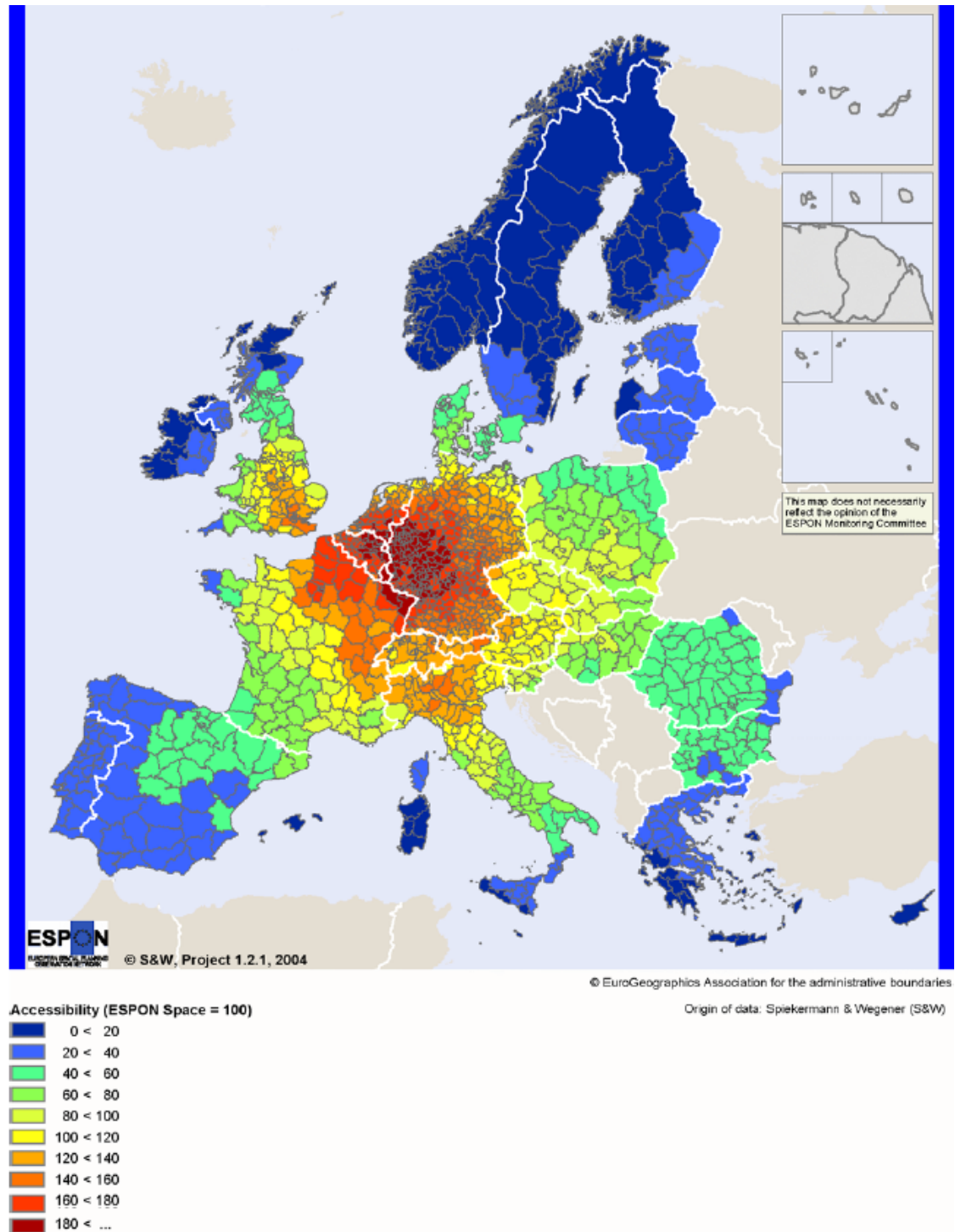
¹² Ständiges Sekretariat der Alpenkonvention (2007, Ed.), Alpensignale – Sonderserie 1, Verkehr und Mobilität in den Alpen, Innsbruck

destination (here: population) and (b) an “impedance function” representing the effort, time, distance or cost needed to reach the destinations by the origin(s).¹³

The potential accessibility by road and rail was calculated for all NUTS 3 regions in Europe within the framework of the European research project ESPON (see figure 10). Accessibility below the average is marked in yellow, regions marked in red show accessibility above the European average. Accessibility by road is characterised by a clear distinction of central regions and the European periphery. The Alpine region may be divided into two sections: The Western part of the Alpine arc shows a potential accessibility above average, whereas the South eastern part which includes the Länder Carinthia and Styria in Austria and most of Slovenia has an accessibility below the European average.

¹³ European Commission (2004, Ed.), Espon Project 1.2.1., Transport services and networks: territorial trends and basic supply of infrastructure for territorial cohesion, Luxembourg, p. 276 ff.

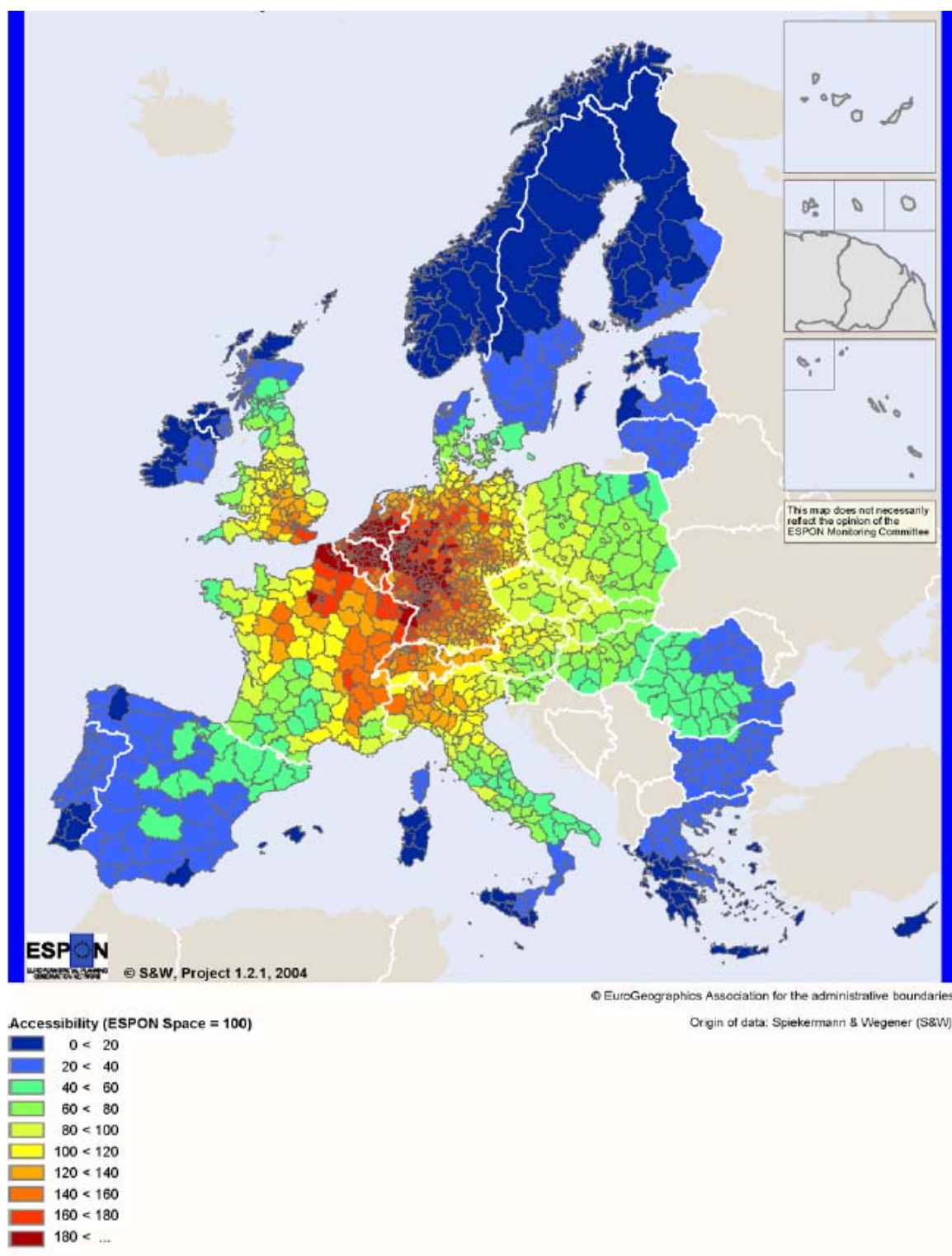
Figure 6: Potential accessibility in Europe by road, 2001



Source: European Commission (2004, Ed.)

Accessibility by rail is characterised by a concentration in the central areas of Europe - where the big cities serve as nodes - and by the effects of high speed rail links along their corridors (e.g. Spain). Large parts of the Alpine region are characterised by an accessibility level above the average. Again, the South Eastern part of the Alpine arc shows a potential accessibility in rail below the average of Europe.

Figure 7: Potential accessibility in Europe by rail, 2001

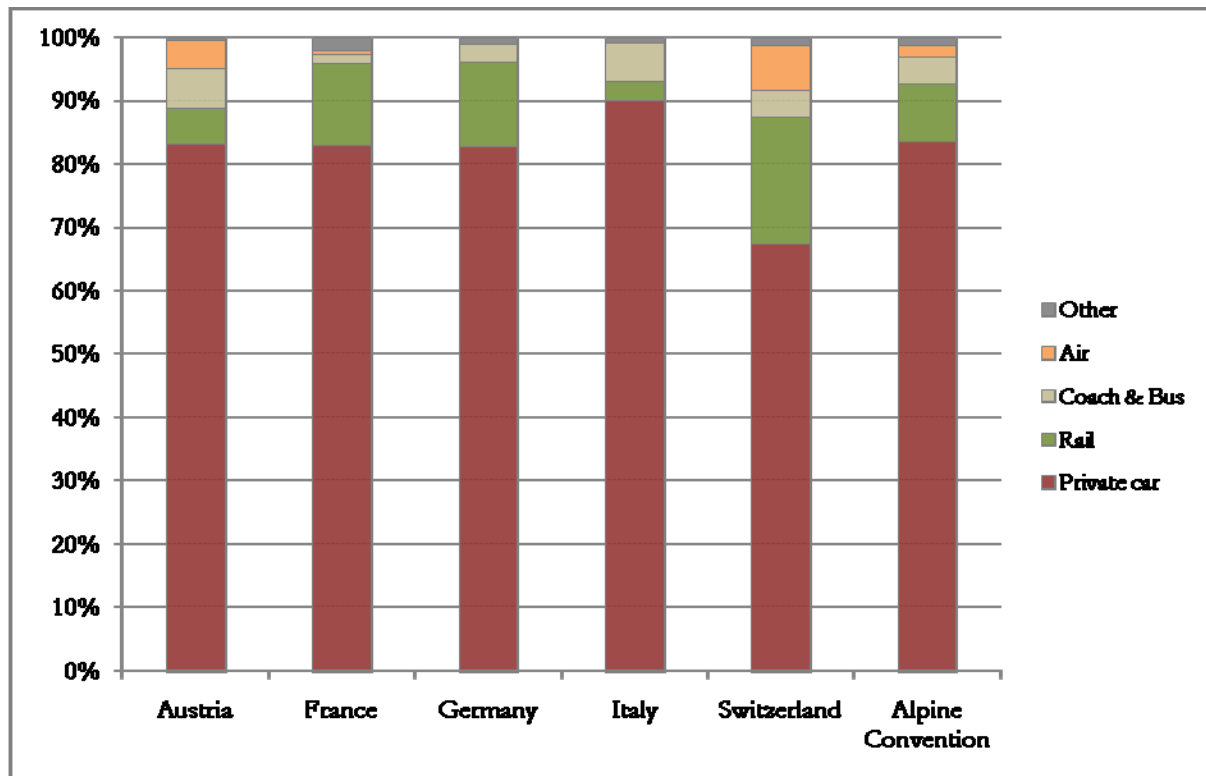


Source: European Commission (2004, Ed.)

2.1.3 Modal choice in tourism

For all Alpine countries, in average about 84% of the tourists use the car for their travel to the resorts, 90% in Italy, about 83% in Austria, France and Germany, but only 67% in Switzerland. The percentage of travelling by train is about 9% (see figure below). The share of tourists using the airplane is still low which is, as a matter of fact, due to the catchment area of the Alpine region, which is mainly ‘regional’. A great number of tourists in the Alps are from origins 1,000 kilometres from the resorts, a substantial share below 500 kilometres – a distance where airplane may not efficiently compete with land bound transport modes in travel time.

Figure 8: Modal choice in tourism (O-D transport) in the Alpine region



Source: National studies, MEIER R. (2000), Eurostat (2008), ÖW (2008) T-Mona, DUPREZ F. (2008), SEYBERT H. (2008), Statistik Austria (2008), BfS (2008) and own calculation

In the following pages, the more detailed analysis of the modal split of the tourists inside the states of the Alpine Convention are given.

Austria

In Austria about 83% of tourists travel by car, 12% by public transport whereas the remaining 5% are split into aeroplane and other means of transport. Asked for the reason of their choice, the tourists claim that public transport often lacks direct connections and its usage causes the inconvenience of carrying luggage oneself.

The figures of the modal choice are weighted by the number of arrivals in order to get consolidated figures for Austria. Between the Länder significant differences may be noticed (s. Annex II). For Austria as a whole, the analysis of the modal choice for selected O-D transport shows the range of the different modes in relation to the origins of the tourists.

Table 6: Modal choice of O-D transports by tourists coming to Austria (May 2006 – April 2007)

Transport mode	DE	AT	NE	UK	CH	IT	HU
Car (incl. 2 wheels)	81%	85%	81%	7%	81%	73%	85%
Motorhome	2%	1%	9%	0%	1%	2%	0%
Rail	5%	8%	3%	4%	8%	10%	4%
Bus/Coaches	7%	4%	4%	8%	5%	7%	9%
Airplane	4%	0%	2%	79%	4%	7%	1%
Other	1%	2%	1%	2%	1%	1%	1%

Source: ÖW, T-Mona (2008)

Rail is used only by a minority of tourists. However, taking into account the arrivals in 2006, rail is the second mode after car in O-D transport by absolute figures (Table 7). Austrian and German tourists are the major rail users (82% of all users in the survey). The survey covers about 80% of the arrivals in Austria.¹⁴

Table 7: Number of trips in O-D transports by tourists coming to Austria (May 2006 – April 2007)

Trips in 1,000.	DE	AT	NL	UK	CH	IT	HU	Total
Car (incl. 2 wheels)	8,182	8,392	1,228	56	750	807	334	19,749
Motorhome	202	99	136	-	9	22	-	469
Rail	505	790	45	32	74	111	16	1,573
Bus/Coaches	707	395	61	64	46	77	35	1,386
Airplane	404	-	30	634	37	77	4	1,186
Other	101	197	15	16	9	11	4	354
Total	10,101	9,873	1,516	802	926	1,106	393	24,717

Source: ÖW, T-Mona (2008), Statistik Austria (2007), Tourismus in Österreich 2006, Vienna

¹⁴ In total 119.4 million overnight stays have been registered in 2006 in Austria, of which 9.4 million in Vienna and 30.1 million arrivals, of which 9.9 million domestic and 20.2 million foreign tourists.

France

About 83% of French tourists travelling to the Alpine region use the car, 13% the train, 0.5% the plane, 1.5% the coach and the remaining 0.1% travel by other means of transport. To analyse the reason for their choice “Crédoc” made a survey: It showed that 62% of the participants had the choice to use another mean of transport than car, but only 13% searched for relevant information to use an alternative. In general tourists prefer the car for short trips up to 300 km. The train gains importance for destinations more than 300 km away from home. Families and people travelling in groups show a stronger preference for the car than tourists travelling on their own. Besides, the travel time is decisive for 41% of the travellers interviewed.

Germany

In Germany about 85% of tourists to the Alps travel by car, 13% by public transport and the remaining 2% by other means of transport. The modal choice for Germany can be generally characterised by a high percentage of (long-stay) tourists using the car, however, a substantial share of regional day trips during the school holidays is made by public transport (e.g. Munich – Alps).

Switzerland

Regarding the modal choice of foreign and Swiss tourists, a survey of 1997/98 shows following distribution: 67,4 % travel by car, 20% by public transport, 4,2% by coach, 7,1% by plane and 1,3% by 2 wheels (motorcycles, cycles).¹⁵ The mode choice of Swiss tourists, based on a survey made in 2005, in their own country is even more public transport oriented: 65,8% of travellers use the car (34,6% as driver and 31,2% as passenger) whereas 27,5% use trains, 2,1% the coach and 4,6% travel by other means of transport.¹⁶

Italy

In Italy no detailed data on the modal choice of the tourists are available. An expert estimation gives an indication: ca. 90% of the tourists use the car to reach the resort.¹⁷

A second expert estimation given at the working group Transport¹⁸ of the Alpine Convention: 90% of the tourists use the car, 3% rail, 6% bus and 1% other transport

A closer look on the modal choice data by destination and distance travelled, shows shares range from equal distribution between car and public transport (Switzerland) and a clear domination of air transport of tourists from the UK to reach the Alpine region.

¹⁵ MEIER R. (2000), Freizeitverkehr, Study in the frame of the NFP41, Bern

¹⁶ BFS/ARE (2007), Mobilität in der Schweiz, Bern, Neuenburg

¹⁷ Sustainable Mobility in the Italian Alps, Bolzano, Roma, paper submitted from Jon Church (EURAC) on 16.04.08 in Paris

¹⁸ Figures given at Working Group Transport in Paris on 1st Octobre 2008 by Massimo Santorini

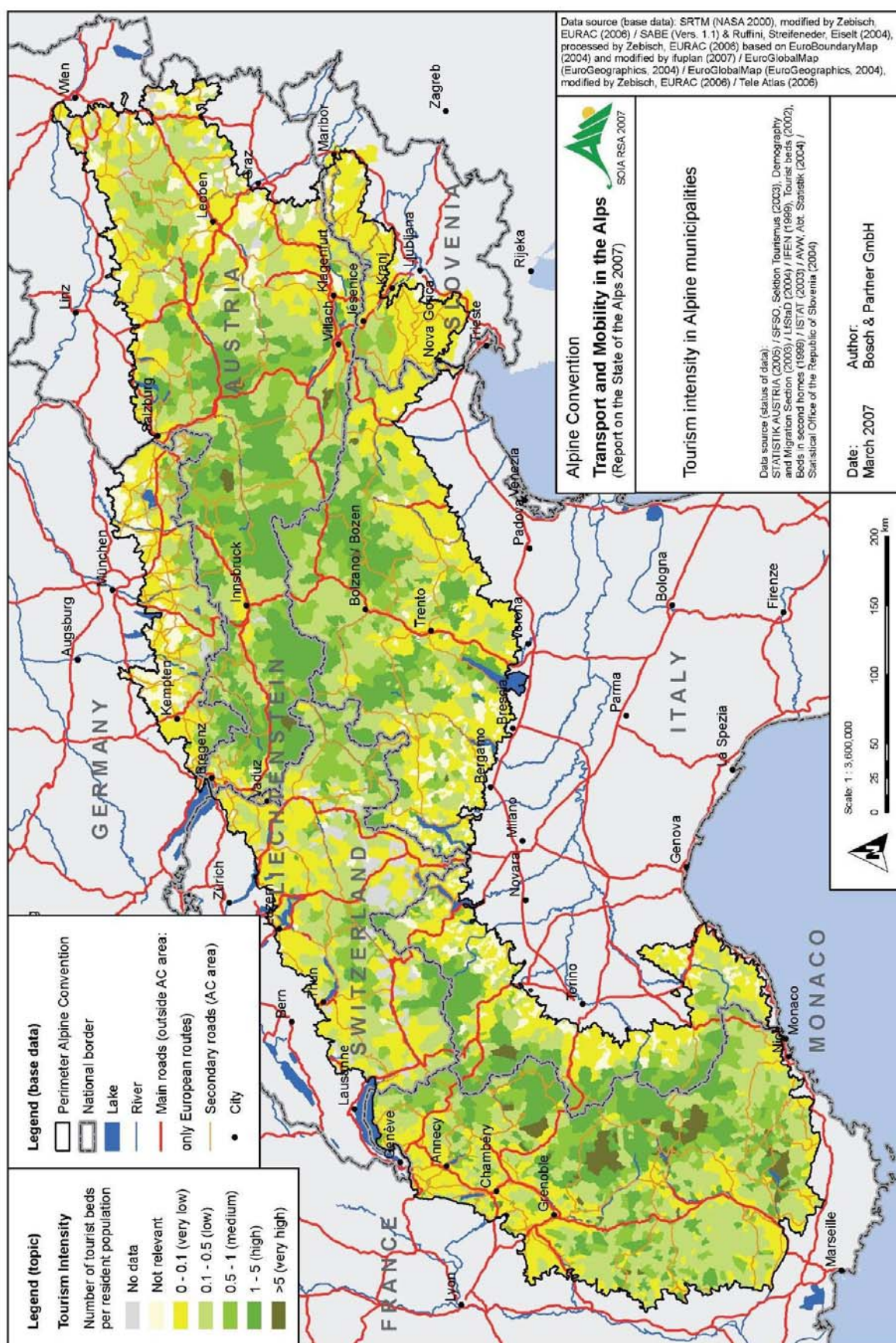
2.2 Tourism

The Alpine Convention area with about 95 million arrivals of tourists, of which 40% are inbound tourists and 60% are domestic tourists, and more than 400 million overnight stays per year is the second most popular destination region in Europe (see Table 9, p.27). One of the reasons is the attractive winter tourism with the various high-profile skiing resorts in the Alps, therefore for most destinations, winter tourism is today of a higher economic importance than summer tourism. Winter tourism is in total concentrated in about 300 ski resorts located in 600 municipalities. A further concentration is probably as investment in high quality ski infrastructure obviously requires a certain level of tourist demand. This trend however implies the risk of increased environmental damage. Tourism has to be regarded in a wider socio-economic sense. Tourism is strongly connected with agriculture, arts and custom therefore has relationships with the different aspects of life. In some villages accommodation offer densities can reach more than several times the number of permanent inhabitants.

The tourism intensity is defined by the number of guest beds per inhabitant and is a widely used indicator for the quality of touristic infrastructure and equipment. For 40% of the Alpine municipalities tourism intensity can be considered as medium (0.1-0.5 tourist beds per local inhabitant) and for about 20% it has a high significance (more than 0.5 beds per inhabitant)¹⁹. In the following figure regions with intensity above 1 are classified as “touristic centres”. As one can see in the Figure 9, more than 9 % of municipalities (NUTS 3 – regions) exceed this value. These destinations have more guest beds than inhabitants. In further 8% of the Alpine NUTS 3 – regions the tourism intensity is between 0.5 and 1 bed per inhabitant.

¹⁹ Ständiges Sekretariat der Alpenkonvention, (2007, Ed.), Alpensignale – Sonderserie 1, Verkehr und Mobilität in den Alpen, Innsbruck and BÄTZING W. (2002),: Der Stellenwert des Tourismus in den Alpen und seine Bedeutung für eine nachhaltige Entwicklung des Alpenraums, in LUGER K., REST F. (Ed. 2002), Der Alpentourismus, Innsbruck, p. 175 f.

Figure 9: Tourism intensity in the Alps (based on NUTS 3)



In Austria this phenomenon is obvious for well-known destinations like Kitzbühel, Ischgl, Saalbach-Hinterglemm, Zillertal, Stubai, Ötztal or the Hohen and Niederen Tauern. In France, where some of the ski resorts have a low number of inhabitants, the municipalities close to ski resorts like Tignes, Val d’Isère or Alpe d’Huez are characterised by high tourism intensity. Similar examples in Italy are Sestrières, the Dolomites or Valle d’Aosta. Besides, Lake Garda is an important summer holiday area. In Switzerland most of the touristic centres are located near the Alpine arc, like Adelboden and Lauterbrunnen in the Berner Oberland, Davos or St. Moritz. The few regions with high tourism intensity in Germany are Bad Hindeland and Oberstdorf in Oberallgäu as well as Ramsau close to Berchtesgarden.

Another trend which started in the 1990s is the growing number of second homes in tourist areas. The equivalent of land required by a single second home per year (estimations go up to 100 m² per person) is 40 times larger than that for a flat rental and 160 times larger than that for a 80-bed hotel. Construction of second homes is mainly found in coastal zones or mountain areas. In France about 335,000 new second homes have been built during the last twenty years. In total 73% of the accommodation capacity in France are second homes.²⁰ Also in Switzerland and Italy this type of accommodation plays a major role in local tourism but cannot be considered in this paper as relevant statistical data is either not reliable or lacking.

Based on the number of tourist nights in hotels and similar accommodations, the most important areas at NUTS 2 level are Provincia Autonoma Bolzano-Bozen (IT), Tyrol (AT), Salzburg (AT) and Provincia Autonoma Trento (IT) and at local level Chamonix Mont Blanc area (FR).²¹

The uneven distribution of tourism intensity in the Alps demonstrates the differences in the Alpine spatial structure. It is evident that tourism is concentrated in a low number of municipalities in the Alpine arc whereas 80% of the Alpine municipalities/regions show medium or low tourism intensity only. The concentration is generally higher in France and Italy than in Germany, Austria and Slovenia.

Table 8 shows that at local level, the highest intensity may be registered in France, Italy and partly in Switzerland where the number of beds in the resorts exceed the number of inhabitants considerably. On national inspection the highest concentration are in Chamonix (France) with 56,000 beds, Bardonecchia/Piemont (IT) with 29,000 beds, Crans/Montana (CH) with 30,000 beds, Saalbach-Hinterglemm (AT) with 15,907 beds, Oberstdorf (DE) with 10,871 beds and Bled (SI) with 5,000 beds.

²⁰ EEA (2003)

²¹ Eurostat (2008)

Table 8: Resorts by member state with the highest number of beds

Member State	Resort	Beds	Inhabitants	Beds/Inhabitant
Austria	Saalbach-Hinterglemm	15,907	2,919	5.4
	Sölden/Ötztal	15,457	3,770	4.1
	Mittelberg/Kleinwalsertal	12,274	4,964	2.5
Germany	Oberstdorf	10,871	10,016	1.1
	Garmisch-Partenkirchen	6,577	26,718	0.2
	Oberstaufen	6,049	7,281	0.8
France	Chamonix	56,000	9,828	5.7
	Les Menuires	44,000	2,532	17.4
	Val d'Isère/Tignes	44,000	3,852	11.4
	La Plagne	44,000	1,391	31.6
	Megève	44,000	4,509	9.8
Italy	Bardonecchia/Piemont	29,000	3,063	9.5
	Madonna di Campiglio	27,000	3,832	7.0
	Limone/Piemont	25,000	1,575	15.9
	Cortina d'Ampezzo	23,000	6,150	3.7
Slovenia	Bled	5,000	10,899	0.5
	Bohinj	5,000	5,222	1.0
	Kranjska Gora	5,000	5,247	1.0
Switzerland	Crans/Montana	30,000	2,262	13.3
	Bagnes	27,000	7,005	3.9
	Zermatt	17,000	5,865	2.9

Source: Statistik Austria (2008), Bayerisches Landesamt für Statistik und Datenverarbeitung (2008), Statistik Schweiz (2008), Istat - Istituto nazionale di statistica (2008), National Institute for Statistics and Economic Studies (INSEE; 2008), Statistical Office of the Republic of Slovenia (2008).

The Alpine tourist economy varies greatly from one Alpine state to another. It is characterized by a high concentration on about 5% of the communities and during the winter and summer season. Concentration in space and time lead to high concentration of “temporary” inhabitants and in constraints on the routes to the resorts (traffic jams on the access roads or overcrowded stations and airports).

Tourism may be a key industry in the Alpine Space, but less important as commonly believed. In 306 communities in the Alps with more than 5.000 beds, 45.9% of the total number of beds of the Alps are concentrated. About 600 communities, which is a share of 10% of all communities, may be considered as “tourism communities” with touristic monopolistic structure. In Austria and Switzerland about 6% of the GDP may be lead back to direct income from tourism. In the

other Alpine State this ratio is lower. In regions with high touristic intensity, unemployment rate tends to reach a ratio below the national average.

2.2.1 Origin of the tourists in the Alpine region

Figures on the number of arrivals of the tourists by origin are available for France, Switzerland, Germany and Austria.

For Switzerland, the figures are given for those cantons inside or partly inside the Alpine Convention area. For Italy no data has been supplied, we had to base on rough estimations.

The figures do not cover all the arrivals, statistic data on arrivals visiting friends and relatives, on arrivals to the secondary residences are in general not available. Estimations show at global level a share of 22% of all arrivals²². In Switzerland, about 30% of the domestic tourism may be allocated to visiting friends and relatives; shares which do not necessary appear in the tourism statistics as overnight stays may be at home of the visiting friends or relatives. Estimation in France includes arrivals of tourists visiting friends and relatives and arrivals to the secondary residence. The intensity measured in number of overnight by bed in the secondary residences or number of arrivals is lower than in the commercial hotel industry, but has to be considered in those regions with a significant share of secondary residences.²³

A high share of tourists in the Alpine region stays in their own state. Germany, Italy²⁴ and France have dominant shares of domestic tourists. In Austria and Switzerland the share of the tourists staying in their own country is high, but the foreign tourists in total reach shares about or higher than 50%.

From the states outside the Alpine Convention, the UK and Benelux are the major states of origin of tourists. Especially in the Eastern part of the Alpine arc, an emerging market of tourists coming from the new member states of the EU and from Russia may be noticed. Switzerland has the highest share of non-European tourists (USA, Japan and others).

The available statistics give only the number of arrivals, a distinction by transport means is not possible for the whole area.

²² S. Ohnmacht T., Grotian J., Amstutz M. (2008): Wie viel Verkehr erzeugt Tourismus?, in: Freyer, Naumann, Schuler (Ed. 2008), Standortfaktor Tourismus und Wissenschaft, Schriften zu Tourismus und Freizeit, Bd. 8, Berlin, p. 197f.

²³ S. EEA (2003)

²⁴ BÄTZING W. (2003), p.152.

Figure 10: Main provenance of tourists coming to the Alpine Convention area (arrivals in million per year 2006/2007, pie charts)

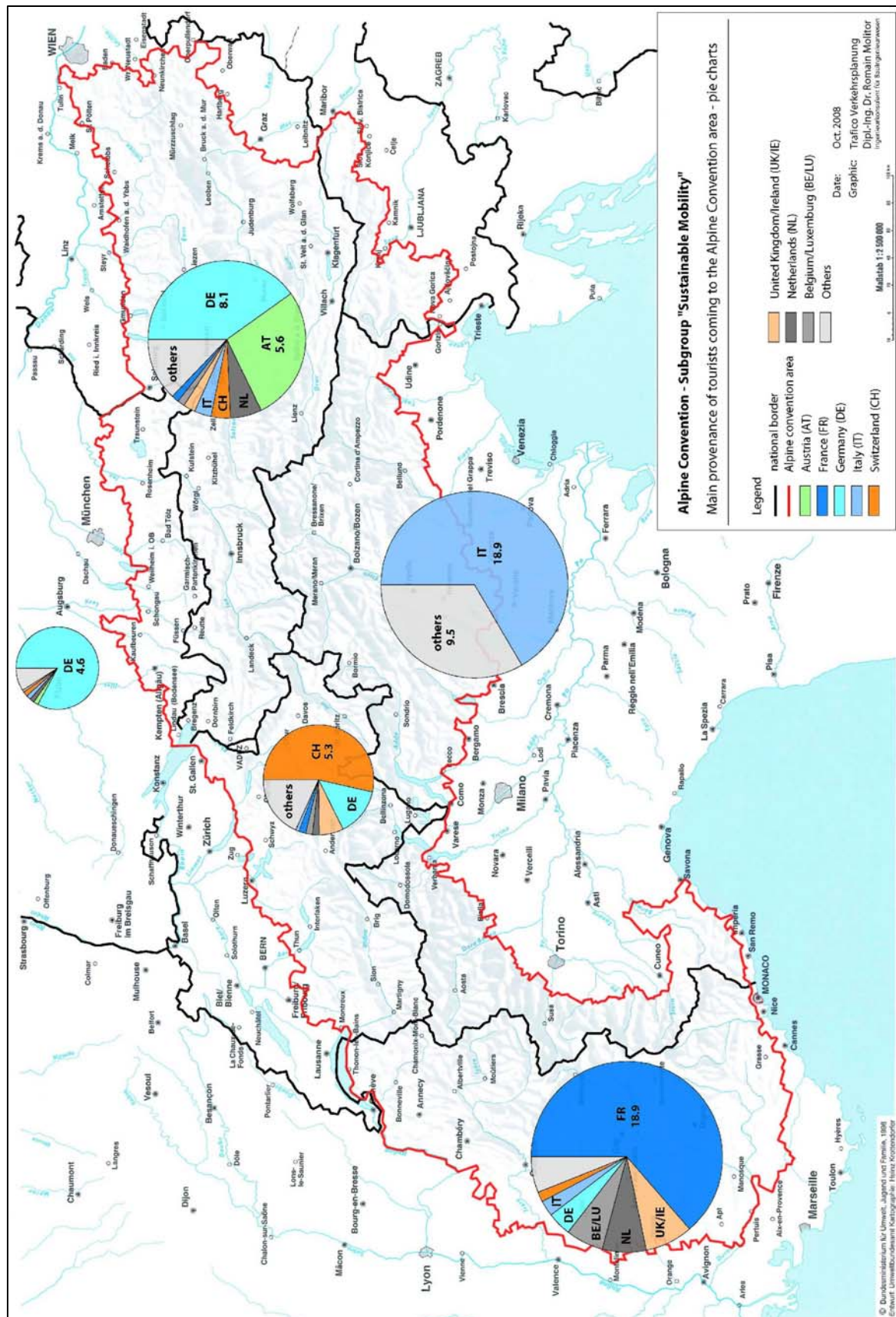
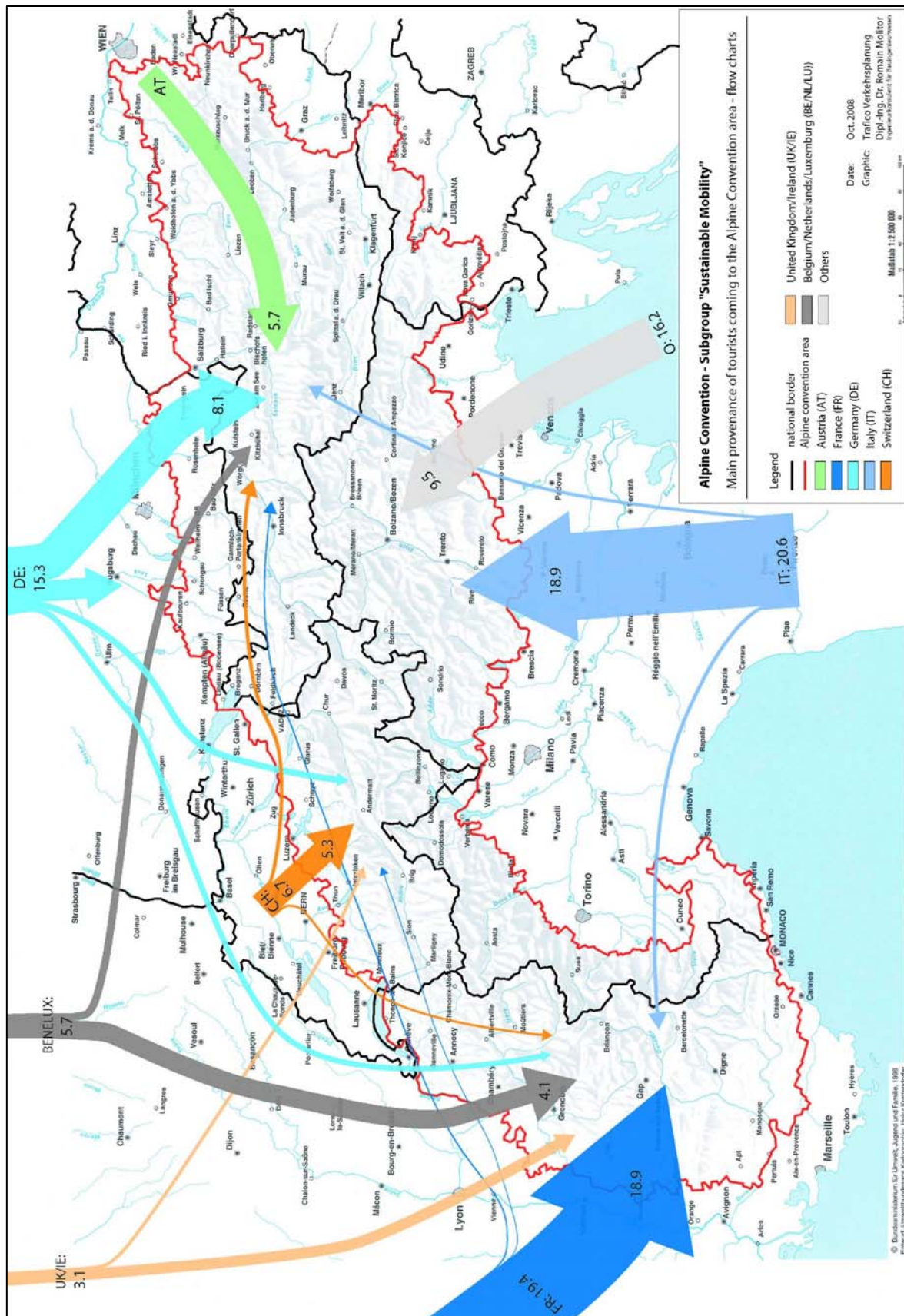


Figure 11: Main provenance of tourists coming to the Alpine Convention area (arrivals in million per year 2006/2007, flow charts)



Source: Statistik Austria, 2006. Bundesamt für Statistik Schweiz, 2006. Direction du tourisme, Comités départementaux du tourisme et estimations du CETE de Lyon, 2005. Bavarian State Office for Statistics and Data Processing, 2007. Eurostat, 2008.

The figures given in Table 9 respective in figures 10 and 11 are based on statistics and other estimations.

For Austria the arrivals are based on the national statistics of all Länder and communities inside the Alpine Convention area. Not registered are tourists visiting friends or relatives and secondary residences, but dwelling at commercial base are considered. The figures are given for 2006.

For Germany the data have been provided by the Bavarian State Office for Statistics and Data Processing based on the “Landkreise” inside the Alpine Convention area. The figures are given for 2007.

For France the figures have been taken from different sources and estimations²⁵.

For Italy own estimations of the number of tourists based on statistics²⁶ on number of beds at NUTS-3 level located in the Alpine Convention area have been undertaken.

Some general data at NUTS 2 general have been explored for this proposes, as the occupation over a period of one year (35% in hotels, 16,5% in other type of accommodation) and the overage duration of a stay (3,9 days). In total about 110 million overnight stays and 28,4 million arrivals to the Italian part of the area of the Alpine Convention have been estimated.

For Switzerland the figures are based on the number of tourists by Kanton located or partly located on the Alpine Convention area. For Switzerland the figures might be underestimated as dwellings and other accommodations as hotels are not registered in the statistics. The figures are for 2006. Arriving guest of countries with a total number of less than 50.000, are rated as not significant (n.s.), not available data is signed as n.a.

Table 9: Main provenance of tourists coming to Alpine Convention area (arrivals in million per year 2005/06/07)

From - To	AT	DE	FR	IT	CH	Total
AT	5.6	0.1	n.s.	n.a.	n.s.	5.7
DE	8.1	4.6	1.2	n.a.	1.4	15.3
NL	1.3	0.1	2.2	n.a.	0.2	3.8
IT	0.7	0.1	0.8	18.9	0.1	20.6
CH	0.7	0.1	0.5	n.a.	5.3	6.7
UK+IE	0.5	0.1	2.4	n.a.	0.7	3.7
BE+LU	0.3	n.s.	1.9	n.a.	0.2	2.4
FR	0.3	n.s.	18.9	n.a.	0.2	19.4
Others	2.6	0.4	1.8	9.5	1.8	16.2
Total	20.2	5.5	29.7	28.4	9.9	93.8

Source: Statistik Austria, 2006. Bundesamt für Statistik Schweiz, 2006. Direction du tourisme, Comités départementaux du tourisme et estimations du CETE de Lyon, 2005. Bavarian State Office for Statistics and Data Processing, 2008. Eurostat, 2008.

²⁵ Direction de tourisme, Comités départementaux du tourisme and esimation from CETE Lyon, compiled by DUPREZ F., CETE Lyon (2008).

²⁶ Eurostat (2008).

3 Results of the national case studies

The preceding chapter concentrated on an analysis on the situation in the Alpine region from a general point of view. It deepens the differences and characteristics of the Alpine regions.

Before analysing the specific transport situation in the Alpine regions, a short overview of tourism in the particular regions is given. In the following the obstacles and constraints to use public transport in the Alpine region and common problems are listed. To understand the cause of those problems a closer look at the public transport situation in the member states is necessary. Only key points could be mentioned here - detailed information is given in the national case studies.

3.1 *Selection of the regions analysed*

The selection of the destinations has been under national responsibility.

Austria selected 13 tourism regions:

- Gesäuse (Styria)
- Dachstein-Tauern (Styria)
- City of Graz (Styria)
- Weissensee (Carinthia)
- Pyrhon-Priel (Upper Austria)
- Salzkammergut (Upper Austria, Salzburg, Styria)
- Tennengau (Salzburg)
- Pongau (Salzburg)
- Nationalpark Hohe Tauern (Carinthia, Salzburg, Tyrol)
- Zillertal (Tyrol)
- Arlberg (Tyrol and Vorarlberg)
- Bregenzerwald (Vorarlberg)
- Montafon (Vorarlberg)

The regions are mainly located in the western part of Austria. They cover most of the major Alpine tourism resorts of Austria. Only the region of Weissensee belongs to the southern part of the Alps.

In **France** the in-depth analysis of the resorts is located in following départements:

- Haute Savoie (Les Gets, Morzine-Avoriaz, Megève)
- Savoie (Pralognan de la Vanoise, Les Karellis, Tignes)
- Isère (Deux Alpes)
- Hautes Alpes (Parc du Queyras, Serre Chevaliers)
- Alpes-de-Haute-Provence (Pra – Loup)
- Alpes-Maritimes (Auron)

In **Germany** the national study analysed from the 9 different administrative districts (“Landkreise”) in the German Alpine Region two districts:

- Berchtesgardener Land
- Miesbach

and three towns:

- Garmisch-Partenkirchen
- Oberstdorf (district of Ostallgäu)
- Bayrischzell (district of Miesbach)

The **Switzerland** case studies comprise all important tourist regions of the country. They are differentiated in two categories; regions with international significance of more than 1.5 million overnight stays and those between 500,000 to 1.5 million overnight stays.

Regions with 1.5 million overnight stays per year:

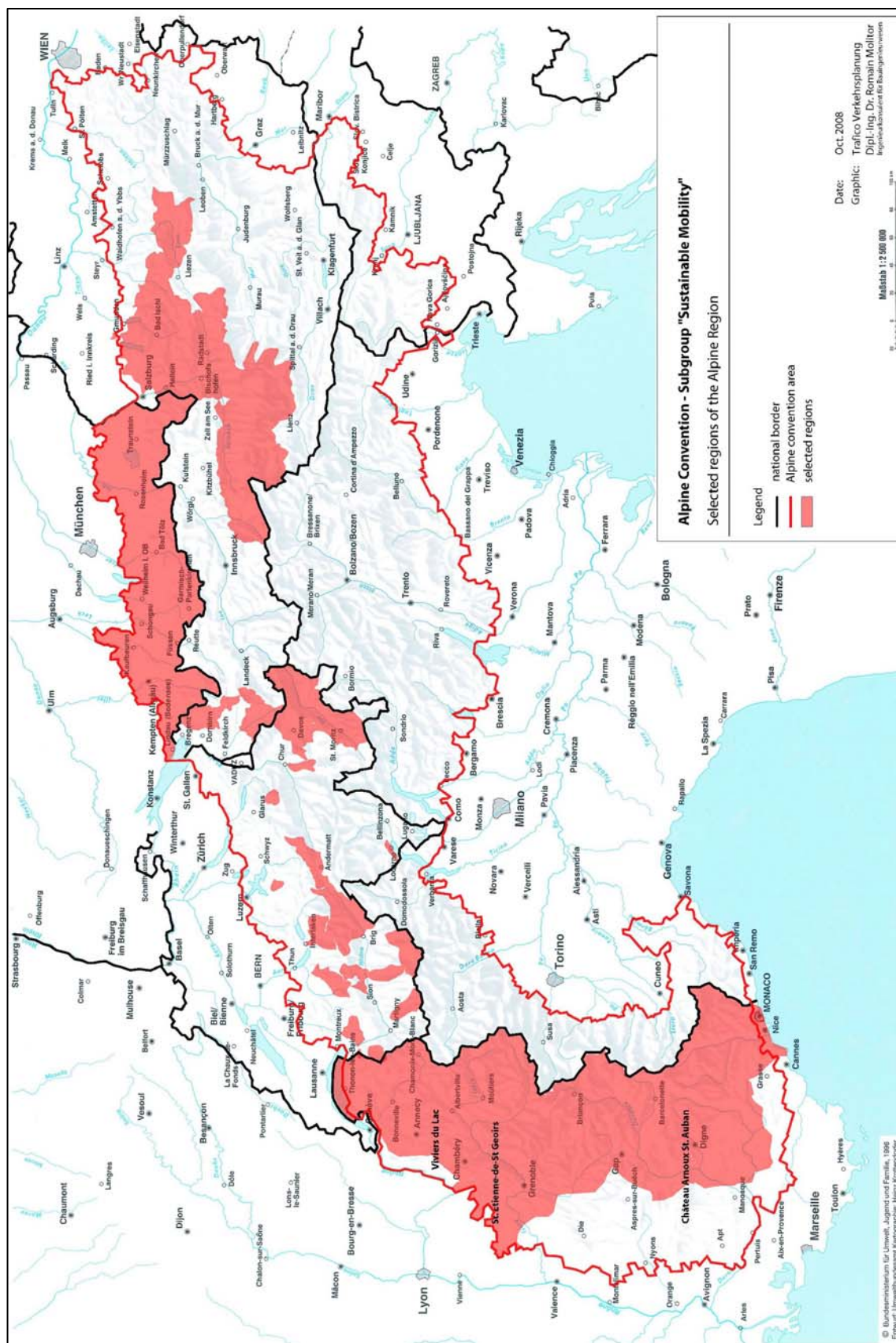
- Oberengadin
- Jungfrauregion
- Davos/Kloster
- Lago Maggiore

500,000-1.5 million overnight stays:

- Adelboden-Lenk
- Aletschgebiet
- Arosa
- Chablais Vaudois
- Crans-Montana
- Engelberg
- Gotthardregion
- Gstaad-Saanenland
- Laax-Flims
- Lenzerheide
- Leukerbad

- Portes du Soleil
- Saas Fee
- Siere-Anniviers
- Unterengadin
- Verbier

Figure 12: Selected regions of the Alpine region



Source: Bundesministerium für Land- und Forstwirtschaft, Umwelt und Wasserwirtschaft, Trafico

3.2 *Characteristics of the regions analysed*

General data about the tourist resorts are presented here. The overview helps to get an idea of the local/regional situations, like the intensity of tourism and related traffic problems.

3.2.1 Austria

In the year 2006 about 33.9 million overnight stays and 6.7 million arrivals were registered in the studied regions. The average length of stay was about 5 days which equals a number of about 45 overnight stays per inhabitant.

Pongau is the region with the highest number of arrivals and overnight stays. Due to its size and density of tourist resorts, in average about 109 overnight stays were registered per inhabitant. The resort with the highest overnight stay intensity is Weissensee which has a low number of inhabitants, admittedly. Weissensee also shows the longest average length of stay with about 7 days.

About 50% of all arrivals of foreign tourists are from Germany, mostly from the area around Bavaria. Their main destination region is Western Austria (regions near Vorarlberg and around Salzburg). Visitors from Vienna and Upper Austria represent the highest proportion of Austrian arrivals with a concentration in the eastern part of the Alpine region (Upper Austria to Salzburg).

Other important states of origin are the Netherlands, United Kingdom and Switzerland. The new member states of the EU belong to the new markets of Austrian tourism and are expected to gain more importance in the national tourism market. At the moment tourists from the Czech Republic and Hungary are the most important tourist groups of the new member states.

Concerning tourism travel and mobility issues, there are significant differences between winter and summer tourism demand. Whereas winter tourists usually stay in their resort of choice during their stay – which is clear as their focus is on skiing - summer tourists tend to explore the surrounding area of the resort more extensively. Clearly, this has implications for the transport offer of local and regional transport services. In Austria, tourism oriented regional public transport is especially in the eastern regions poor or lacking, which is an obstacle especially for summer tourists to decide for environment friendly means of transport. As a consequence car usage is dominant. The critical issue for winter tourists in contrary is the outward and return journey as often heavy luggage needs to be handled which is cumbersome in trains and buses. However, bad road conditions in winter time might favour travelling by public transport.

3.2.2 France

In 2005 the five main Alpine départements (Alpes-de-Haute-Provence, Hautes Alpes, Isère, Savoie, Haute Savoie) registered more than 170 million overnight stays with 72% in the Northern Alps and 28% in the Southern Alps. During the winter season the number of population often doubles in regions like Savoie. In the winter season 2004/2005 about 56 million overnight stays have been registered within the “perimetre à neige” (area within most of the French winter sport resorts are located) split-up in $\frac{3}{4}$ in the Northern Alps and $\frac{1}{4}$ in the Southern Alps. Peak demand during the winter season is on Saturdays, on Christmas and in winter holidays.

More than 1/3 of the tourists in France are from foreign countries. In some départements like Haute-Savoie foreign tourists account for 40% of the overnight stays.

Although the winter season is predominant in the French Alpine regions, the summer season is also of certain relevance. Characteristic for the summer season is a lower local concentration of tourists and more sightseeing activities and regional excursions which results in higher (tourism) travel demand. The region Haute-Alpes has even more overnight stays in summer (41%) than in winter time (39%).

3.2.3 Germany

The German Alpine region comprises of administrative districts (Landkreise Berchtesgarden Land, Traunstein, Rosenheim, Miesbach, Bad Tölz-Wolfratshausen, Garmisch-Partenkirchen, Ostallgäu, Oberallgäu and Lindau) and three cities (Kempten, Kaufbeuren and Rosenheim). The main holiday regions sorted in descending order are: Oberallgäu, Garmisch-Partenkirchen, Ostallgäu, Miesbach and Rosenheim.

With about 90% of all tourists the Germans are the most important demand group. From the analysed districts and towns only Garmisch-Partenkirchen has a significantly higher share of foreign tourists (around 24% visitors).

The average length of stay is between 3.5 and 5.3 days.

3.2.4 Italy

In Italy the resorts being member of the “Alpine Pearls” association²⁷ and selected municipalities with initiatives for sustainable mobility have been analysed. The resorts are located in the region of Trentino-Alto Adige, of Friuli-Venezia Giulia, of Aosta, of Veneto and of Cuneo.

²⁷ www.alpine-pearls.com

3.2.5 Switzerland

In Switzerland about 9.9 million arrivals and about 25.2 million overnight stays were registered 2007 in the Kantons located and partly located in the Alpine Convention area. Most tourists are from Switzerland itself (about 46% in 2007), followed by German tourists with 14.5%. The remaining share is split between 48 nationalities. Tourists from the United Kingdom take the third position (about 6.5%) followed by the United States (4.1%), Japan and France (about 2.4%). Overnight stays have an average length of 2.4 nights per tourist (only hotels).²⁸

3.3 *Accessibility by public transport - Constraints and obstacles*

3.3.1 General aspects

The use of **private cars** is the predominant pattern of Alpine tourism mode choice. A large share of car use is common for all countries of the Alpine region. Historically till the 1950s, tourism travel to the Alpine Region was dominated by rail. In the late 1960s, a fundamental shift towards car usage took place. Increasing wealth and leisure time, mass motorisation and mass tourism are interlinked processes which have their origins in the 1960s and which have a strong impact on the tourism and travel structures in the Alpine region. Furthermore, car usage has become a symbol of freedom, especially since the 1960s and the following decades. Nowadays, the car's symbolic value is “individualism”, which perfectly fits the general societal trend.²⁹ Taking into account the subjective – however not always rational – as well as objective advantages of individual car use, the car remains often more attractive for tourists than using public transport.

Public means of transport, like rail, coaches and buses show – with the exception of Switzerland – low shares in the modal choice of the tourists (O-D transport). Obviously, the obstacles using public transport in accessing the resorts are high. In the following chapters, the constraints and obstacles are discussed more in depth.

The share of **air travel** grows with the longer distance between the origin and the destination of the tourists. Thus the plane is the preferred mode of – for example – the British tourists in reaching the Alpine arc.

During the summer months, the disperse tourist travel demand in time and space contradicts with the principles of an efficient “traditional” **public transport services in less dense populated areas (i.e. morning and evening peak services from smaller places to the next**

²⁸ Bundesamt für Statistik, Schweiz, 2007

²⁹ MEEDDAT - DAEL, Inddigo (2008): Mission des Alpes et des Pyrénées, L'accessibilité des sites touristiques alpins par les modes de transport collectives, Synthèse des 3 séminaires, p.6

centre). Often, the idea to organise a “concentrated” service which would satisfy tourist travel demand to a major point of interest and the actual patterns of tourist demand observed (e.g. hotel or apartment “at the top of a hill”) is incompatible. In winter the “axes of demand” are (still) more distinct. Efficient transport schemes (“skiing buses” and trains) offer a reliable service to the winter sport areas. The use of local public transport in winter time is significantly higher than in summer in all Alpine regions.

It could be found that the major factors influencing modal choice in O-D transport are:

- travel time (especially in the case of a short stay (below 5 days))
- costs (marginal costs!)
- comfort of travel
- the possibility of luggage transfer
- the provision of information on local transport services
- direct connections for rail
- regional transport supply

Depending on the surveys, the dominance of these factors may differ significantly.

In the following chapters, the main constraints and obstacles to use public transport in the Alpine region are listed. The synopsis of the different Alpine states will illustrate their common problems.

3.3.2 Public transport accessibility and quality of services

In general the accessibility of the Alpine arc by public transport is acceptable. Most of the resorts in the Alpine arc show accessibility indicators above the European average (see chapter 2.1.2.). Nevertheless, in all studies conducted, the transport offer for tourists, i.e. the quality and quantity services, is claimed to have large deficits.

Service quality at local stations (user-friendliness, accessibility etc.) and onboard the trains as well as the quality of information provision are often at low standards, especially if compared to private car travel. Information as a key element of public transport attractiveness will be addressed further below in a separate chapter. The supply and quality of services especially relevant for tourists using public transport such as luggage transfer services or facilities at the stations show great disparities in the single Alpine countries.

Apart from the services provided at the train stations or during the public transport ride itself, public transport supply, i.e. number of seats in trains (for buses no figures are available), number of connections, number of direct connections etc., differs considerably in the single regions analysed.

The wider accessibility of the Alpine region of **Austria** is guaranteed by six different transport corridors which comprise road connections as well as rail lines. In general all Alpine tourism regions in Austria are accessible by public transport. The railway is operated by the Austrian

Federal Railways ÖBB (Österreichische Bundesbahnen). The company provides long distance connections as well as regional rail and bus transport (under its subsidiary “Postbus”). Besides the ÖBB operation, regional public transport is either organised / provided by the local authorities (buses or dial-a-ride systems) or private companies (mainly taxis, transfers to the airports etc.).

Austria has especially attractive public transport connections for tourists from the region of Vienna, from southern Germany and from Switzerland (mainly direct). From other parts of Germany and beyond, usually a change of trains is required (mostly in Munich) which is a clear loss of speed, attractiveness and quality. Seasonal direct services to the Austrian Alpine region from for example Germany and the Benelux are missing – only during the winter season tour operator trains to selected regions are offered (e.g. to the Pongau and Pinzgau region). Especially the new member states of the EU, which are of growing economic importance, have unattractive connections to the Austrian Alpine region.

Public transport offer and quality differ in the analysed regions. Most of the regions offer free transport with ski buses, some also hiking-buses (limited on summer season).

In Austria an international and national door-to-door- luggage transfer is offered with a delivery time of 1 to 2 days for national and of 4 to 6 days for international destinations.

Assessing public transport quality in **France**, we need to distinguish between the northern part of the French Alps, resuming the départements Haute Savoie, Savoie and Isère and the southern part, resuming the départements Hautes Alpes, Alpes-de-Haute Provence and Alpes Maritimes.

The North is well connected to the TGV high-speed rail service with direct connections from Paris and with dedicated touristic TGV services from London, Amsterdam or Brussels. Rail travel times to all resorts with good connection to the TGV network may well compete with car travel times on the same route. During the winter season, the French Federal Railways SNCF (Société Nationale des Chemins de Fer Français) offer a considerable number of additional trains to the northern Alps (during the 3 peak weekends: 700 TGV offering 600.000 additional seats). Those trains have direct local connections to the resorts and are run without stops to the Alpine valleys. Resorts with direct TGV connections during winter time are for example Albertville, Moutiers, Aime la Plagne, Bourg-Saint Maurice, Thonon or Evian. The nearby valleys are often well connected by buses and therefore benefit from the TGV services.

The capacity of the TGV services to the Alpine region is however restricted by capacity constraints of the French rail infrastructure. Some railway lines are still single-track electrified lines limits the potential of TGVs. In addition, during peak time in the winter season the number of trains and the number of passengers to be dispatched leads to security problems on the platforms due to overload of the stations which were not designed for such volumes.

The Southern Alps show a much lower standard of public transport accessibility. Most rail lines are not electrified and at least one transfer from TGV (e.g. in Marseille or Aix en Provence) to regional trains is required. Over the last years, the number of direct night trains from Paris to the resorts has been reduced. The number of connections to those regions is however increased in summer time.

Beyond the catchment area of the TGV, connections by public transport to the French Alpine region are generally less attractive. Regions which are only served by the French regional train network (TER) have a bad connectivity with the tourist regions beyond. Tourists have to change to buses which are often not suitable for tourist needs and which lack attractive connecting times. The passenger transfer to buses for those regions usually include long waiting times and lacking services (e.g. bad equipment of bus stations). The transfers beyond peak hours cannot always be assured. This means that tourists arriving by train later in the day have no possibility to reach their place of accommodation or take part in evening events at the centre of the resorts.

For France a national system of door-to-door luggage transfer is offered within 24 hours. The offer is also available for Germany and to rail stations in Switzerland.

In **Germany** the rail access of Alpine resorts by direct trains or with only one change en route is possible from most other parts of Germany. However, some direct train services are limited to Saturdays only. As the tourist demand in the German part of the Alpine Convention area is mainly domestic and as accessibility by rail is widely acceptable, the modal share of rail in O-D travel is above average compared to Germany as a whole. Nevertheless good connections to East Germany are missing. From the point of view of the German Federal Railways DB (Deutsche Bahn AG), direct trains to the resorts are not cost-effective due to the marginal demand and the seasonal variation.

The long distance lines are operated by the DB as well as most of the regional trains which are optimised by a Bavaria-wide highly synchronized timetable (“Bayern-Takt”).

More and more regional trains are served by private enterprises. This is the case in the Alpine region which is amongst others served by the “Bayerische Oberlandbahn” (BOB) and the “Arriva-Länderbahn-Express” (ALEX). The regional buses, which ensure a good connection in the region, are operated by the “Regionalverkehr Oberbayern” (RVO), Regionalverkehr Allgäu (RVA) – both DB-owned – and by private companies. Tourists mainly arriving by car often use public transport for day-trips as well as regional or local transport during their holidays.

Due to the nearby of the conurbation of Munich, attractive offers for day trips exist as well. For instance, the “Bayern-Ticket” allows free rides on regional trains and means of public transport all over Bavaria for either one or five persons all day long. Similar offers exist for single regions (e.g. Werdenfels-Ticket).

In **Switzerland** the system of public transport is based on a coordinated and integrated schedule which has proved its success for many years and which was copied by a range of other train networks. The tariff system is nationally organised and allows travellers to buy a through ticket for every O-D relation and valid for any public transport service involved. The connections between international, national and regional trains are granted at the core railway stations. This guarantees short and direct interchanges changing to the satisfaction of the users.

In Switzerland the different public transport companies are partners of a central marketing and distribution organisation, the Swiss Travel System, which is managed by the Swiss Federal

Railways SBB (Schweizerische Bundesbahnen). This organisation markets the Swiss public transport services as a unified product or “brand” in order to better recognise foreign travelers’ touristic needs and to promote the use of public transport to this particular demand group.

For the particular structures of tourist demand it has to be mentioned, that there may be obstacles at some points as the rail services are mainly designed for commuters’ purposes and for users familiar with local circumstances. Short interconnection times and partly insufficient signposting make difficulties for tourists using public transport.

The number of direct connections from foreign countries to Swiss tourist regions is rather low. Only some destinations are provided with efficient links to abroad. Most direct connections terminate in city regions like Basel, Berne or Zürich. Touristic regions which benefit from efficient direct connections are the Berner Oberland with its centre Interlaken. The Wallis is linked by only few direct connections. On weekends Graubünden is served by a TGV service but the region does not seem to be fully integrated in the international railway system which would be desirable. Some deficits can also be recognised for central Switzerland.

The SBB offers a standard luggage transfer service with the delivery of luggage from one station to another within two days. This service exists for 650 stations. At 45 railway stations the SBB additionally offers a faster service which guarantees the delivery of luggage at the same day. For the transfer of luggage to Germany, France, Luxembourg and Austria a similar service is offered which takes about four working days. A special service for air passengers is the check-in and baggage drop at railway stations (possible at over 50 railway stations). The check-in is possible already at the day before the flight or at the departure day itself. The boarding pass with the requested seat is issued at the railway station. Door-to-door collection of luggage and delivery is only possible in the greater Berne district and in Ticino.

3.3.3 Intermodality

When arriving by rail, bus or by plane, the number and the quality of intermodal links between the railway stations, the airport and the final destination are key factors in modal choice for O-D transport. The tourist is often challenged by the following questions: Does an interconnecting service exist? If yes, how is the arriving station or the airport organised in terms of the access to the onward public transport services or links?

The number of scheduled connections between the train stations and the resorts were analysed, as well as the equipment and quality of the arriving stations. Mainly for France this analyses was also done for airports, therefore the focus will be on the French study.

In **Austria** timetables are co-ordinated only in some regions. Local differences lead to an inhomogeneous quality of the intermodal nodes. In general, stations with international connections are well connected to the regional train and bus system, too. Other possibilities to reach the resort are pick up services by the local tourist agencies or taxis. Insufficient connecting

services can be found in the regions of Gesäuse and Weissensee. The region of Gesäuse has in fact established an integrated mobility concept (“Xeismobil”) but frequencies are low, due to the fact that Gesäuse shows a very low density in population and a low tourism intensity.

A special service for tourists is the Werfenweng-shuttle, a dial-a-ride-system connecting the resort with the station of Bischofshofen. The service connects with all intercity trains between 7.00 and 21.00 hrs.

In **France**, there is again a clear differentiation between the northern and southern part of the Alps.

The important hubs in the north are the railway stations of Lyon Part Dieu and Lyon St. Exupéry serving national and international TGV connections. These stations connect the northern French Alps with most of the important cities in France (Paris, Bordeaux, Lille, Strasbourg, Nantes, Marseilles, Toulouse) as well as the cities Brussels, London and Amsterdam. As mentioned above, the northern part of the French Alps has a competitive public transport system. All stations are connected with the ski resorts by a bus system which is operated by different companies. As the resorts are often situated in a valley (this is particularly the case for the valley of Maurienne), bus connections organised from the interconnecting stations serve mainly one principal direction or only one resort. The buses are redistributed from the nearest stations/stops of the resorts. Only the resorts of Les Gets and Morzine-Avoriaz are accessible from two valley entries and from two regional stations (Thonon-les-Bains and Cluses).

The situation of the public transport serving touristic resorts in the southern part of the French Alps is quite different. The trunk railway line is Paris-Lyon-Méditerranée. The regional railway network is based mainly on non-electrified lines or narrow gauge lines (Chemins de fer de la Provence). A bus system completes or substitutes the railway connections. The absence of direct connections between Marseille and the resorts results in a low quality public transport with long travel times, insufficient co-ordination of the schedules and time-tables with long waiting times and often the necessity for tourists to change trains/buses several times.

The French airports are all connected to a local bus system, Grenoble and Lyon Saint Exupéry may be also reached by train. Geneva as an important airport for the French resorts is connected with the bus service “Altibus” which may be booked via internet. French airports are very efficient intermodal nodes offering good quality regarding service signage and number of interconnecting services. In the south during winter season special dedicated shuttle buses operate from the airport of Marseille/Provence as well as from important train stations en route to the ski resorts (“navettes blanches”).

In **Germany** most train stations are served by local and regional public transport, often also based on co-ordinated and integrated timetables. Nevertheless in case of delays or irregularities the connection is not guaranteed, which might be a risk for users not catching the connecting train or bus.

In **Switzerland** train stations serving as nodal points are provided with integrated synchronised timetables all over the country. This leads to minimum waiting time and a generally high customer satisfaction. Nevertheless, some tourist regions show local service deficits as the system aims mainly at the satisfaction of Swiss commuters. The transport policy priority to serve mainly the needs of the local population might be in contradiction with the development and provision of an efficient public transport services for tourists.

3.3.4 Information

Provision of information is a prerequisite for (public) transport. Aside timetables with departure and arrival times, additional information are necessary, especially for tourists using public transport and airplane. This information may be divided in different categories:

- Information on transport services provided by transport operators but also by local institutions at the resorts (how to reach the resorts)
- Information on local public transport services in the resorts
- Information about services during the trip
- Information about the services at the intermodal nodes

For most tourists, this information should be provided multi-lingual.

In **Austria** information on public transport services and accessibility can be found on the homepages of most regions. Many of them are equipped with links to the national railway company ÖBB, some of them have even links to foreign railway companies. Only three of the thirteen regions provide no information on public transport. The ÖBB itself offers an internet-based information tool allowing door-to-door information by public transport, covering a number of European countries.

The quality of local information varies considerably. Regions equipped with an integrated mobility center provide easy access to information on public transport. In Austria, regional transport is managed by transport associations based on the level of the “Länder” (provinces) which also give reliable centralized information for public transport on the internet. In six of the thirteen regions, tourism associations do not provide information about the regional mobility by public transport. Partially information can be found on the tourism sections of the municipality homepages.

Some resorts such as the community Werfenweng³⁰ provide detailed information on how to reach the resort by public transport on their own homepages.

³⁰ www.werfenweng.org

In **France** the provision of information about public transport is fragmented. It is mainly organised by the particular transport operators through their information systems.

In their TGV high-speed trains the national railway company SNCF provides on-board information about the possibility of information of the (intermodal) journey to the final destination. This is done in co-operation with the respective tourism offices.

In most of the railway stations no tourism information desk can be found. However, tourist offices are often located close to the station. Intermodal information in the stations is insufficient as information about travelling by bus is seldom provided. Bus racks are signposted in few cases. The signalisation of other modes of transport than bus is generally good.

Multilingual information rarely exists at the stations.

In general airports are provided with a multilingual signage for the other transport modes. The airport of Marseille for example indicates clearly the way to the “navettes blanches” departure points – a bus service which provides direct connection to the Alpine resorts.

In **Germany**, the national railway company DB offers a powerful internet-based information tool allowing door-to-door information by public transport. It also covers a number of other European countries.

An overview of the information system in the railway stations of the resorts shows a reliable standard allowing easy localization of the local or regional bus connections.

In **Switzerland** the national railway company SBB also offers an internet-based multimodal information tool including services to a number of other European countries. A special service for foreign tourists is the Swiss ‘Travel Centre’³¹ combining tourist with public transport information. For tourists staying already in Switzerland there are several web platforms combining information on mobility and tourist activities, including information about single daytrips as well as complex systems focusing on human powered mobility in connection with public transport.³²

³¹ www.stc.ch

³² www.railway.ch, www.tagesausfluege.ch, www.schweizmobil.ch

3.3.5 Pricing and ticketing

As already mentioned, the costs are among the major factors influencing the modal choice in O-D transport. Often, travellers simply compare the marginal costs of car use (gasoline, parking costs and tolls) with the costs of a ticket by rail, bus or plane.

The work done so far shows an ambivalent result. The prices of rail tickets may vary by a factor 5 (e.g. “Eurostar”) depending on fare availability and time of booking. Due to the fact that the rail market continues to fragment, a comprehensive comparison of prices is generally not possible, even not for railway staff selling tickets. Attractive offers, which are often limited to the national market, are in contrast to unattractive transnational offers. For some international trips or O-D relations it is not possible to purchase a through ticket.

In **Austria** the pricing of the public transport may be not transparent for foreign tourists. In some regions combined ticket offers for public transport and the access to sights or points of interest exist but mostly there is a lack of information. In some regions the utilisation of public transport is integrated within a tourist card. In seven regions public transport is free in combination with a tourist card.

Comparing the price of a train ticket with the marginal costs of using a car (fuel, toll) for the same trip, the train is only cheaper for single travellers who own a reduction card. Regarding the total costs of the trip (including distance based costs of the depreciation of the car, repair and maintenance) the situation is of course different.

The pricing of public transport in **France** is fragmented, in general each transport operator organize its own ticketing and pricing. For trains including TGVs peak and off-peak prices are offered. The local and regional public transport may be even more expensive than car rental, like the transfer from the airport of Genève to Les Arcs. It shows that public transport prices are not always competitive.

A further problem is the transnational ticketing. For selected destinations in Italy it might be impossible to get a rail ticket from France.

For **Switzerland** the most popular transport ticket is the “Swiss Pass”, which gives foreign tourists travellers an all-in-one ticket access to the entire network of Swiss trains, buses, boats and urban transport systems. Additional there is as well a half-fare card and special tickets for the transfer from the border or airport to the tourism destination. These tickets are distributed online via Swiss Travel System.

3.3.6 Co-ordination and co-operation between transport and tourism

Co-operation and coordination between the two sectors tourism and transport have to be analyzed at different spatial or organizational levels. At the national level, the national tourist offices are responsible for promoting the destination countrywide, at the regional and local level, the tourist offices need to organize the co-operation between local transport operators and the tourism industry in the resorts. Onsite the co-operation needs to focus on providing information about how to reach the final destination by sustainable transport modes and on promoting sustainable travel during the stay.

Co-operation between the two sectors tourism and transport may also result in combined packages of O-D transport, accommodation and travel by sustainable transport modes at the resort and around.

In **Austria** the national-wide tourist agency “Österreich Werbung” provides general information on O-D transport including some general information on sustainable travel options. The information given is in function of the incoming market addressed, like Germany, UK and the Netherlands.

At the level of the single resorts, the information how to access the destinations ranges from a simple graph of the motorway network to an interactive link with timetables of public transport and detailed information how to reach nearby airports by public transport or an airport shuttle.

Regarding tourist packages, special packages are promoted for the domestic market. For instance the “Snow&Fun” card which gives a combined ski and train ticket for selected regions or regional tourist cards which combine public transport usage with the access to selected points of interests.

In general there is a lack of a consistent system of packages providing a combination of public transport and touristic offers for the whole country.

France shows a deficient approach of marketing and co-operation between operators, transport companies and communities.

In **Germany** the marketing of combined packages and the co-operation between operators, transport companies and communities is not very developed. The trend to short holidays with a higher demand on Fridays does not correlate with dedicated touristic transport offers on Saturdays.

At the resort level, the provision of information provision differs. Whereas some resorts only mark themselves on a large scale motorways map, other resorts have spend more efforts on the provision of information on intermodal access or public services to reach the resort from nearby hubs such as airports or train stations.

Dedicated offers for local and regional transport are proposed.

The national tourist agency of **Switzerland** “Schweiz Tourismus” provides especially dedicated information including information on sustainable transport in O-D travel or during the stay.

Further Switzerland has attractive tourist packages like the “Swiss Pass” which gives unlimited travel on the whole Swiss public transport network plus free entry to museums and a discount on most mountain-top trains and cable cars. In several regions the destination management organizations and the public transport companies co-operate to offer packages which combine reductions for public transport and the entry to tourism sites and events. In Basel, Arosa and Davos the destination management organizations are using a share of the visitors’ tax to finance a free use of the public transport system for tourists. All Swiss cantons, several transport companies, the associations of hotels and restaurants as well as other providers of leisure facilities, tourism and sport are co-operating with the “Switzerland Mobility” organisation, the new nation-wide network for the promotion of human powered mobility in connection with public transport.

3.3.7 Synopsis

In the following table the key points in constraint and obstacles being identified in the national studies are resumed.

Table 10: Constraints and obstacles

Theme	Austria	France	Germany	Switzerland
ACCESSIBILITY AND QUALITY IN PUBLIC TRANSPORT				
(Trans-) national train long distance	Limited number of direct connections	Limited number of direct connections	Limited number of direct connections. Direct connections take often longer than connections with changes	Direct trains to some destinations (Berner Oberland, Wallis, Geneva, Basel, Zurich); frequencies to be increased
(Trans-)national train long distance (night trains)	Limited demand due to competition of airlines	Limited demand due to competition of airlines		Limited number of direct connections
Competitiveness of travel time	Selected O-D links show a competitive travel time for rail versus car	O-D links with TGV show attractive travel time for rail versus car and plane	No information given	Selected O-D links show a competitive travel time for rail versus car
Regional and local public transport	Regional bus and train, dial-a-ride, taxi	Regional buses, “Navettes”, inter-villages taxis	Regional bus and train, dial-a-ride, taxi	Integrated schedules for all public transport all over the country
Luggage transport	International and national door-to-door offer to Germany, Belgium, Denmark, France, the Netherlands and Switzerland	National door-to-door offer in 24 h, extended to Germany and Switzerland (to stations only)	No information given	International and national luggage transport from station to station
INTERMODALITY				
Connection between train and local public transport	Connections exist, partially co-ordinated timetables	Connections exist, not co-ordinated resp. demand oriented.	Connections exist partially co-ordinated timetables	Co-ordinated timetables in all regions
Service at the railway stations	No information given	Weakness of information at railway stations, capacity constraints in stations during peak periods (in winter)	No information given	Good service quality (information and selling of tickets and combined tickets for tourism activities and transport)
Service at the airports	No information given	Efficient intermodal nodes	No information given	Connections exist, integrated timetables all over the country
INFORMATION				
Intermodal information in public transport	At international and national level door to door (not covering all European countries)	Fragmented information (transport operators)	At international and national level door to door (not covering all European countries)	Intermodal information exists, including ships on lakes and cable cars
Information in the resorts (how to arrive to and how to move in the resort)	Large variation of information given	Large variation of information given		Information about mobility in tourist offices to be improved
PRICING AND TICKETING				
Prices	At international level comparison of prices impossible, special offers in cross-border	At international level comparison of prices impossible	At international level comparison of prices impossible	At international level comparison of prices impossible

	links			
Tickets	Fragmented transport offers at national and international level (different operators) requiring several tickets	Fragmented transport offers at national and international level (different operators) requiring several tickets	Fragmented transport offers at national and international level (different operators) requiring several tickets	Fragmented transport offers at international level (different operators) requiring several tickets
CO-ORDINATION AND CO-OPERATION IN TOURISM				
Trans-sectoral co-operation	Some general information on O-D transport given	Missing	Missing	Co-operation and common information platform (Swiss-Travel-Centre), link to “myswitzerland.com”
Transport & tourism as one product	Some regional and local initiatives	Lacking	Lacking	Different packages existing for whole Switzerland
Tourism & transport packages	Some regional and local initiatives and packages from tour operators	Packages from tour operators	Packages from tour operators	Several destination packages available., for day trips a huge amount of packages are distributed via “RailAway”

The above identified obstacles to use public transport for O-D transport and during the holidays may be classified into different levels of addressee. At the transnational level, the obstacles are:

- Limited number of (transnational) direct train connections and therefore weak competitiveness in public transport travel time compared to travel time by car. The small number of transnational direct services is especially unfavourable for Austria and Switzerland with a high amount of foreign guests and has consequences of the catchment areas of potential tourists.
- International rail tickets fares are often not competitive as a number of special offers are limited to the domestic market or to the transport operator, only. The possibility to combine special offers of different countries does not exist. Transnational ticketing is a general problem identified.
- International luggage transport
- Multilingual information

At the national level, the main obstacles are:

- Co-operation and co-ordination between the sectors transport and tourism, especially the lack of “common information platforms” and package offers

At the regional and local level, the obstacles are:

- Lacking intermodality and missing integrated regional or local transport offers which include information, attractive pricing (easy access) and combined tickets
- Insufficient provision of information on regional and local public transport in the resorts

4 Solutions and good practice using public transport to access to the resorts

The national studies do not only identify problems, but also discussed several best practice examples and solutions of local and regional approaches to public transport and tourism. These approaches may act as exemplary ideas to be adopted at other places. To identify the common structures of those approaches as well as their differences, the solutions discussed in the case study reports were condensed as follow.³³

4.1 *Accessibility and quality in public transport*

4.1.1 (Trans-) national long distance train services in the member states of the Alpine Convention

Direct train connection between Austria, Germany, France and Switzerland: In general, trains arrive from all parts of western Europe to Switzerland. Some major routes include, for instance, the TGV, with several trains daily from Paris, Avignon, Dijon and Nice, connecting the northwest of Switzerland with Basel and Zurich as well as with Berne, Lausanne and Geneva in the west of the country. Hourly trains to/from Milan with connections to all parts of Italy. Hourly Intercity Express trains (ICE) from Karlsruhe, Mannheim, Frankfurt in Germany to Basel and Zurich, additional ICE to Berne and Interlaken. Karlsruhe, Mannheim, Frankfurt are well connected to many cities, such as Amsterdam, Hamburg or Berlin. Additionally, there are regular ICE trains from Stuttgart and an Inter City service from Munich to Zurich. With a special focus on Alpine regions there are connections from Germany's capital Berlin to the Valais and Interlaken as well as on the route Milan - Tessin - Zurich.

Seasonal train connection between France and Switzerland: In the winter season a TGV from Paris to Graubünden operates on Saturdays. The connecting regional trains to Arosa and St.Moritz have been adjusted to this offer. Furthermore, the TGV connection from Paris to Lausanne is extended to Brig during winter season and during the summer month.

³³ A separate work on good practice in sustainable mobility in the Alpine Arc is ongoing and will be published separately at the same time as this report. For further information please refer to the particular work.

Austria

A seasonal train connection, the “Schneeexpress”³⁴ is a direct touristic train from the Benelux states and Hamburg to the Austrian resorts in Tirol and Salzburg operating on weekends during the winter season.

France

“Train de neige” is a seasonal train serving the southern French Alps from Marseille, Aix en Provence or Manosque on weekends during winter. The ticket comprises the return and shuttle bus service to one of the 23 resorts of the southern French Alps.

The southern part of the Alps is served by seasonal tourism trains (e.g. “Train des Alpes”, “Train de la Lavande”, “Train de la mer”). Those train services are conceptually designed to discover the alpine landscape and to explore its touristic points of interest.

Italy

The “Dolomitibus” company, in collaboration with Trenitalia, runs special trains, the “Dolomiti Express”, connecting Trento with all main neighbouring ski resorts (e.g. Val di Sole). The train stops are next to the ski-lifts and cablecars.

4.1.2 (Trans-) national long distance trains (night trains)

France

During winter the western part of France is connected to the northern part of the French Alps by a night train to Bourg St. Maurice.

Switzerland

The transport operator “City Night Line” provides night trains from Amsterdam, Berlin, Dresden, Hamburg Copenhagen and Prague, to Basel, and Zurich. Night trains to Rome and Venice are operated from resp. to Switzerland.

³⁴ www.schnee-express.com

4.1.3 Regional and local transport

Austria

The Austrian model community for car-free tourism Werfenweng offers various types of electric vehicles as well as a dial-a-ride-bus and taxi system for car-free tourists.

In the areas of Zillertal and Montafon private train companies provide the population and the tourists with local train and bus transportation. (“Zillertalerbahn” and “Montafonerbahn”)

In the Bregenzerwald area a bus system, the “Wälderbus”, offers hourly transportation for inhabitants and tourists.

“Xeismobil” buses is an on-demand bus system operating in the region of the National Park Gesäuse. It provides sustainable transport for tourists as well as for inhabitants.

A special regional bus network in Lungau/Salzburg, the “Tälerbussystem”, coordinated and integrated with the public train and bus network, allows guest from the city Salzburg, Graz and Klagenfurt as well as local tourists car-free hiking and biking trips in the region.

France

With “Mobilalp Aravis” the “Syndicat Intercommunal du Massif des Aravis” (SIMA) and the “Conseil Général Haute Savoie” are currently testing a public transport connection of Annecy-le-Vieux with the ski resorts of the massif. It is a complementary service to the regular service from Annecy to les Avaris run by the “Conseil general Haute Savoie”. The objective is to reduce car traffic volume and parking demand by skiers in Annecy which today leads to a situation of overcrowded streets and parking lots on weekends.

The synchronised bus shuttle services “ColomBus” in Vallée d’Abondanc and “Balad’Aulps Bus” in Vallée d’Aulps are connecting the resorts of the neighbouring valleys. The objective is to establish an attractive public transport system with easy access and clear identification.

Switzerland

A touristic and commuter train, the “Glarner Sprinter”, connects the city of Zurich with the tourist region Glarus, a small Kanton situated in the eastern part of Switzerland. Travel time is less than one hour.

Due to the small population some of the rural villages in alpine Switzerland are not well connected to the public transport. The aim of the project “Alpentäler Bus” is to provide public transport to four rural areas which are especially interesting for nature tourism. The low transport demand and reduced public transport services as a consequence of low population density in rural areas in the alpine valleys lead to the establishment of the project. It combines public transport and tourism offers. The “Alpentäler Bus” is run in Binntal (Kanton Valais), Gantrisch (Kanton Berne), Greina (Kanton Graubünden) and Moosalp (Kanton Valais). A further objective is to promote touristic sponsorship for the financing of public transport.

4.2 *Intermodality*

4.2.1 Connection between train and local public transport

Austria

Guests arriving by train as well as guests who hand in their car key at the tourism centre in Werfenweng and take instead the “SAMO” key (SAnfte MObilität (SAMO) Schlüssel – sustainable mobility key) can use the shuttle service Werfenweng Shuttle (the train station in Bischofshofen and Werfenweng) free of charge, free dial-a-ride-offers inside the resorts and free rental of electric bikes and bicycles.

Italy

An integrated public transport system based on the complement of train and cable car was installed in Pila. The station is part of the Turin-Milan/Chiasso-Aosta line and is integrated with a cable to reach the ski resort. During winter season, the “Freccia delle nevi” train is run. It connects Genova and the Riviera di Levante with the Pila resort. Furthermore, an integrated shuttle bus is available for tourists to reach the ski slopes.

Switzerland

The public transport services in Switzerland is organised integrated. At import train stations the timetables are co-ordinated between international, national, regional and local connections. A special feature is that also touristic elements, like tourist trains and busses, local busses, cable cars and boats connecting to other public transports, are included in this system.

4.2.2 Service at the railway stations

Austria

The mobility centre “mobilito” at the train station of Bischofshofen offers tickets, intermodal information and serves as an incoming centre for tourists. It also provides public transport mobility management services for the companies and inhabitants in the region.³⁵

³⁵ www.mobilito.at

France

A seasonal “Chalet du voyageur” equipped with heating and seats, is installed in Moutiers during the winter season. Apart from this facility, also information on timetables of trains and buses and on weather is provided.

4.2.3 Information in the resorts (how to arrive and how to move onsite)

The 16 communities of the “Xeismobil” are part of an integrated information platform on regional points of interest in combination with public transport. Four local mobility centres have been created connected to the touristic information centres.

4.3 Pricing and ticketing

Austria

In the region Bregenzerwald, guests staying at least three nights and holding the “Bregenzerwald-Card” can perform various leisure activities as well as use all regional cable cars and public transport free of charge.

The same services can be used by overnight guests holding a “Lech-Active Inclusive Card”.

Italy

Trenitalia, in collaboration with the Club Alpino Italia, promotes the use of the train among hikers through a favourable pricing system called “Trenotrekking”.

For those trains which pass by or stop in Verona and Bolzano, tourists can buy an integrated lump sum ticket to Obereggen, Ploe and Alpe di Suisi. Those tickets include not only the shuttle bus ride, but also assistance, a ski pass and tasting of local products. Furthermore, it offers a free reservation for train and bus as well as specific room storing for ski luggage.

Germany

The “Werdenfels-Ticket” a lump sum ticket in the area of Werdenfels is valid on all “RegionalBahnen”, the “RegionalExpress”, the “Bayerische Zugspitzbahn” between Garmisch-Partenkirchen and Eibsee, the “Außerfernbahn” from Garmisch via Reutte to Pfronten-Ried and the RVO (Regionalverkehr Oberbayern) buses. Additionally, the “Werdenfels Ticket” is also accepted on buses of the “Terne” company running between Garmisch-Partenkirchen and Eibsee and route 1 of the “Reindl” transport company in the local scheduled services of Bad

Kohlgrub. Children/grandchildren up to the age of 14 are free of charge on the ticket. Bicycles are free of charge on local trains run by DB.

The “Oberallgäu Ticket” is available as a day ticket or as a holiday ticket as a lump sum ticket valid on all buses and the local trains of the “Allgäu-Express” (ALEX) and the “DB Regio”. The holiday ticket is available for one or two weeks and can be bought at many hotels and boarding houses or at the tourist offices and health resort authorities of the southern Oberallgäu region.

Own children up to the age of 14 can travel on both tickets free of charge.

Switzerland

Swiss travellers holding a “Swiss Travel Card” are able to choose from a wide range of public transport tickets which provide access to Swiss public transport services to different degrees. Swiss travel cards can be categorised into local and Swiss-wide offers. There are, among others, local cards, such as “Engadin-Card”, “Goms-Card”, “Matterhorn-Gotthard-Bahn-Card”, “Gstaad easyaccess card”, “Euregio Lake Constance card”, and “Tell Pass”. On a Swiss-wide level, “Swiss Pass”, “Swiss Flexi Pass”, “Swiss Youth Pass”, “Swiss Half Fare Card” and “Swiss Travel System” are offered.

Summer tourists with one overnight-stay in Davos get the “Davos-Inclusive Card”, which includes the free use of the cable railways and regional public transport in Davos and Kloster.

Guest staying overnight can use with the “Arosa Card” the cable cars, the local bus and section of the “Rhätische Bahn” for free.

4.4 Co-operation and coordination in transport and tourism

4.4.1 Trans-sectoral co-operation

“Alpine Pearls” - a transnational co-operation of 22 resorts from Austria, France, Germany, Italy, Slovenia and Switzerland in the Alpine region joined together to promote sustainable tourism with sustainable mobility. This is an obvious advantage for the guest, who can rely upon the observance of minimal, clearly-defined criteria. Additional advantages for the association’s 22 members are the formation of a strong global tourist brands and by intensively sharing experiences together as Alpine Pearls, to obtain a product quality.

The special feature of Alpine Pearls is that these 22 members are not only taking care of the local traffic situation, but are also seeing to the possibility of arrivals by train as well as guaranteeing local mobility.³⁶

Austria

The “Alpine Pearls Ticket Austria” includes the journey to one of Austrian “Alpine Pearls” and the unlimited use of all regional public transport systems.

France

In order to improve the use long-distance trains a connection to the Netherlands and Belgium, the département of Savoie co-operates with a Dutch tour operator running TGV from the Netherlands and Belgium at five weekends per year. A similar approach has been chosen for trains coming from Denmark.

4.4.2 Tourism and transport packages

Austria

The travel agency “Railtours” owned by the ÖBB, offers various all-inclusive packages of car-free holidays.

The ÖBB offers combined tickets including the journey by train and the entrance for points of interest (e.g. sports, events, museums etc.)

Switzerland

The tourism and transport information and booking platform “Swiss Travel System” (STS) focuse mainly on purchasing combined tickets in the pre-trip phase of a holiday.

In Switzerland the service “RailAway” offers online travel information and booking of combined packages, including tickets for train and leisure activities.

³⁶ www.alpine-pearls.com

Table 11: Good practise examples in the member states

Theme	Austria	France	Germany	Italy	Switzerland
ACCESSIBILITY AND QUALITY IN PUBLIC TRANSPORT					
(Trans-) national train long distance	Seasonal and direct train connection	Seasonal and direct train connection	Seasonal and direct train connection	Train Dolomiti Express	Seasonal and direct train connection
(Trans-)national train long distance (night trains)		Night trains			City Night Line
Regional and local transport	Xeismobil buses Electric-vehicles in Werfenweng Zillertalbahn, Wälderbus Montafonerbahn Valley bus system in Lungau	Mobilalp Aravis, ColomBus, Balad'Aulps Bus		Train Dolomiti Express	Alpentäler Busse, Garner Sprinter, Suburban railway to Flumserberge
INTERMODALITY					
Connection between train and local public transport	Werfenweng Shuttle			Municipality Pila	Nation-wide good connections to regional buses, local bus systems at most of the resorts
Service at the railway stations	Mobilito	Chalet du voyageur			Check-in for flights at more than 50 railway stations
Service at the airports				Airport shuttle	Davos Express (Zurich-Davos), Fly Rail Baggage via Zurich and Geneva airport
PRICING AND TICKETING					
Prices					
Tickets	Bregenzerwald-Card Lech-Active Inclusive Card		Bayern-Ticket Werdenfels-Ticket Oberallgäu-Ticket	Trenotrekking Integrated tickets Verona/Bolzano/ Obereggen/ Ploe/Alpe di Suise	Swiss Travel Cards Davos-Inclusive, Arosa Card, Basel Mobility Ticket
CO-CORDINATION AND CO-OPERATION IN TOURISMUS					
Trans-sectoral co-operation	Xeismobil Alpine Pearls Ticket Austria	Alpine Pearls Co-operation of foreign tour operator and the département	Alpine Pearls	Alpine Pearls	Alpine Pearls, Network Switzerland Mobility
Tourism and transport packages	Alpine Pearls Railtours ÖBB combination tickets	Alpine Pearls	Alpine Pearls	Alpine Pearls Trenotrekking	Alpine Pearls Switzerland Travel Center (STC) RailAway SchweizMobil
INFORMATION					
Information in the resorts (how to arrive and how to move onsite)	Alpine Pearls Mobilito Xeismobil	Alpine Pearls	Alpine Pearls	Alpine Pearls	Alpine Pearls Schweizmobil

5 Recommendations

Insufficient public transport accessibility of Alpine tourist resorts from major European origin regions and cities is known as a major obstacle for sustainable travel demand structures in the Alps. In the national reports as well as in different regional meetings and on the transnational seminar in Bonn³⁷ - which was attended by relevant international stakeholders from tourism and transport - recommendations to solve this problem have been elaborated and discussed.

Across the Alpine arc, the catchment area of tourists differs from state to state. Larger states such as France, Germany or Italy have a dominant „home tourism market“: The majority of the tourists come from the respective state. Hence, better information provision and new transport services may be integrated easier in these states’ general transport and information schemes. New offers may be integrated in the national ticketing systems more smoothly; for information systems, no language barriers need to be overcome. For those states with a wider international catchment area such as Austria or Switzerland, the situation is clearly different.

In general, measures to improve public transport accessibility should not be limited to the implementation of local approaches such as running a shuttle from a resort to the nearest train station to “bridge the last mile“. As most travellers are not regular public transport users (“captives”), the transport chain as a whole has to be regarded and optimised from the customer’s point of view. Good service quality is a prerequisite for “pulling” more travellers from the car. In order to convince tourists of the advantages of public transport, clear, transparent and flexible services and offers are required. To guarantee the success of such services, the efforts of all stakeholders are necessary.

Under this premise, the conclusions and recommendations from the different reports and meetings aim at two different levels of action, the transnational level and the national/regional/local level. Whereas identical topics may be addressed on these two levels, different actions might be required.

The responsible authorities of the resorts should organise and inform their guests of the possibilities to use public transport (e.g. local and regional public transport, how to access to the resort by public transport).

³⁷ The transnational seminar was held in Bonn on 26th and 27th of June 2008, hosted by the Federal Ministry of Transport, Building and Urban Affairs, Germany

5.1 *Recommendations on a transnational level*

5.1.1 Information

Information is considered as a key element for a modal shift towards public transport in tourism. Consolidated **multimodal information** – ideally **door-to-door-information** – as already implemented in some member states of the Alpine Convention are necessary. The provision of information can be divided in three parts: (1) pre-trip information (door-to-door, price), (2) in-trip (or on-board) information during the journey (information on the connection of the “last mile” etc.) and (3) post-trip information after arrival in the resorts (maps, timetables etc. of local and regional public transport).

The introduction of **multilingual information** systems (information portal, information during the trip and at the final destination) is necessary to assure the access of information for tourists from abroad. Information need to be supplied by a lot of actors (transport operators, local tourism information, territorial authorities etc.), therefore a single harmonized and standardized information provision system is required. Multilingual systems should not only comprise the national and English language but also languages of the other main states of origin of the tourists.

An **international standardisation of the information** of the public transport journey – such as it is common in air travel with distinct elements of the journey (i.e. arrival at the airport, check-in, transfers etc.) – would be desirable.

5.1.2 Accessibility and quality of public transport

The change of trains was recognised to be a major difficulty for tourists when travelling by public transport. One approach to overcome this problem are more **direct connections and direct night trains from major agglomerations to the resorts**. In cross-border services, direct trains should not only be limited to long-distance but should also include regional connections.

(Trans-) national **luggage and bicycle transport** as an integrated part of the public transport service is considered as an asset.

Apart from adequate long-distance public transport offers to reach the Alpine resorts (i.e. by train), local and regional services as a **“mobility guarantee” in the resorts** are essential prerequisites to increase the attractiveness of “car-free-tourism”. The organisation of the “last mile” from the rail station (or the airport) has to be ensured, so that the tourist has a guarantee to reach the resorts even in case of disturbances.

The **quality of public transport** (services, cleanliness, safety etc.) has to be enhanced significantly.

Furthermore, **travel time** is considered as a factor to be improved; travel times exceeding 4 to 6 hours in one direction (except on night trains) is considered as critical limit for a modal shift towards public transport.

Finally, **public transport accessibility from regional metropolitan areas** should be improved in order to facilitate a shift from car to public transport usage for day trips.

5.1.3 Pricing and ticketing

Transparent price information of (trans-)national journeys by public transport for the whole transport chain is necessary. Special cross-border tickets and fares for tourists have to be offered and promoted by the transport operators (in close co-operation with the tourism authorities’ s. 2.4).

A better possibility to **book transnational tickets** is required, preferably one through-ticket for the whole journey. Thus bookable and attractive packages – stay and journey – are a next step; the journey to the resort by public transport is seen as an integrated part of the holidays.

Total costs of car traffic (total costs resuming the costs for gasoline, tolls, parking, depreciation, repairs and the external costs (accidents, climate change, air quality and noise)) have to be compared to the **total costs of public transport**. Thus more **cost transparency** between the different transport modes is a condition for rational decision making processes in transport mode choice which will help to increase the modal share of public transport.

5.2 Recommendations on a national, regional and local level

5.2.1 Information

Provision of information on sustainable transport should not be limited to national or regional information, but has to be implemented within the local information and reservation systems, too.

Thus, the resorts themselves have to provide **dedicated and detailed information for public transport at the local level** (e.g. on all web pages related to tourism and/or transport, at the tourist information desks, on maps etc.). This point might be crucial as the decisive information on where to go or where to have an excursion during the stay and how to get there is often taken from dedicated information of the respective resort.

Beside the provision of basic information, the **pro-active promotion of local public transport services** and the “mobility guarantee” system in the resorts – as it is the case for the member of the “Alpine Pearls” association³⁸ or protected areas as national parks – is a further important element for modal shift.

5.2.2 Accessibility and quality of public transport

An **attractive regional and local public transport** was considered as a precondition for a successful strategy of sustainable transport (“mobility guarantee”). Examples such as an attractive ski bus system show that tourists are willing to use public transport if services are tailor-made, reliant and efficient. Where public transport service supply has to be reduced due to low demand in rural areas, demand-oriented dial-a-ride systems may be a promising and adequate solution – also for the local travel demand of tourists.

Better accessibility and the **quality of public transport** are inherently linked with (international) standards of the information systems and **standards at the train stations** (equipment, information system etc.). As the quality of existing standards differs from state to state, also the need for enhancement of the information and equipment varies between the member states of the Alpine Convention.

In principle, tourism demand has to be seen as an **additional market potential for public transport** as public transport might be regarded as a tourist product in many cases.

5.2.3 Pricing and ticketing

Lump sum tickets valid on the resort- level or even regionally make public transport easily accessible and understandable for tourists (and inhabitants).

Packages combining touristic products such as the entrance fee of touristic attractions and **public transport tickets** have been discussed as a powerful solution to increase public transport attractiveness. ‘Tourism cards’ which allow the nationwide usage of public transport services or at least within the catchment area of the resorts have been already implemented in various Alpine regions. Those offers guarantee good local and regional accessibility for the tourists and facilitate the more frequent use of the public transport.

³⁸ Alpine Pearls is an association of 22 resorts in the Alpine Arc promoting sustainable mobility and tourism, s. www.alpine-pearls.com

5.2.4 Co-operation between transport and tourism

A good co-operation between municipalities, transport operators and tourism agencies is a key to guarantee a good quality of the whole transport chain and to enlarge the market share of public transport.

A more intense co-operation between the sectors tourism and transport is important and needs to be implemented at different levels.

- At the **national level** through a close co-operation between transport operators and the national incoming agencies (e.g. common national information portals as the example of Switzerland shows)
- At the **regional and local level** through a close co-operation between local transport operators and local tourism authorities with clear and readable information on how to access the resorts by public transport and on services (e.g. luggage transfer).

It is agreed that a bottom-up approach which **integrates the objective of sustainable mobility in all decision making processes in the resorts** should be implemented.

Finally, mobility centers which are integrative parts of or which co-operate with tourism information centers may provide tailor made information for tourists.

6 Annex I: Abstracts of the national case studies

6.1 *Austrian case study*

Within the framework of the Alpine Convention transport group the sub-group "sustainable mobility" agreed to conduct an implementation study on the means of access, by public transport, to alpine tourist stations from major European origin regions and cities of Tourists.

The Austrian Federal Ministry of Agriculture, Forestry, Environment and Water Management (BMLFUW) together with France are in charge of the sub-group "sustainable mobility" and commissioned the Austrian national study.

Within the Austrian study 13 regions were analyzed regarding their accessibility from major European origin regions. On the basis of tourist data the most important countries of origin were identified and the essential train connections for the arrival were explored. Here not only the travel time and interchange frequency was considered but also the service on board. On a random basis travel costs of different modes of transport – train, plain and private car – were calculated and compared. Also the mobility on location in the regions was part of the study.

The regions

The 13 Austrian regions are: Gesäuse, Dachstein-Tauern, Stadt Graz (all Styria), Weissensee (Carinthia), Pyhrn-Priel (Upper Austria), Salzkammergut (Upper Austria, Salzburg, Styria), Tennengau und Pongau (both Salzburg), Nationalpark Hohe Tauern (Carinthia, Salzburg, Tyrol), Zillertal (Tyrol), Region Arlberg (Tyrol and Vorarlberg), Bregenzerwald und Montafon (both Vorarlberg). The regions are mainly located in the western part of Austria, distributed in the Alpine region with a focus on the Northern Limestone Alps and the Central Eastern Alps. From the area south of the main chain of the Alps the region Weissensee is part of the study. On the verge of the Alpine convention area the city of Graz with a separate role as regional capital is located.

The regions differ greatly in their size: Weissensee consists only of the municipality; the region Salzkammergut, on the other hand, includes 45 municipalities. In the study a total of 193 municipalities with some 760.000 inhabitants were analyzed.

With the exception of the regions Weissensee and Bregenzerwald all regions have one or more regional or major railway stations within their area. The regions Gesäuse, Salzkammergut, Zillertal und Montafon only have regional railway access.

Tourism within the regions

The regions invite to various activities in winter and summer. In 2006 around 33.9 million overnight stays and 6.7 million arrivals were registered. The average duration of stay was just short of 5 days and every resident accounted for 45 overnight stays per year.

The majority of tourists originate from Germany (2.7 million) and Austria (2 million). In the eastern part of Austria the visitors from Austria (Vienna, Lower Austria), in the western part German tourists (Bavaria, Baden-Wuerttemberg) outweigh. Additional important origin countries are the Netherlands and Italy, for the western regions also Switzerland. In the future more guests from the new member states (Czech Republic, Hungary, Slovenia and Poland) are expected.

Apart from the overnight staying tourism the daily tourism is particularly in the western regions an important issue. Especially on weekends the “day tourism” leads to heavy congested traffic.

Mobility behaviour of the journey

The mobility behaviour of the journey is coherent over all regions: according to estimations of the regions around 80 to 90% of the guests arrive with their private car, in contrast less than 10% arrive by train. Reasons for using their car are the necessity for arrival (especially in the winter) as well as the mobility on location (especially in the summer). Reasons for not using the train are the interchange frequency and the luggage. Only the municipality Werfenweng approaches with 20% a significant higher share of arrivals by train: for many years Werfenweng has been specializing on car free arrival and has different offers for the soft arrival as well as for the car free mobility on location.

Accessibility from the most important origin countries

For the international and national accessibility the train connections to the nearest intercity station were analysed. Especially the arrival from the Viennese area, southern Germany and Switzerland are very attractive because of direct trains into most regions. For winter tourists seasonal charter trains from northern Germany, the Netherlands and Belgium to skiing areas in Salzburg, Tyrol and Vorarlberg were established. Such (seasonal) direct trains from Germany and the Benelux are missing in the first place for the regions in Salzburg, Styria, Upper Austria and Carinthia.

Some regions have an increasing amount of tourists from the eastern neighbour states, which for other regions are future markets. The public transport relations from these countries are especially unattractive concerning the number of connections and the travel time. This applies also for connections from Italy.

Tourist offers to car free arrival

Seven of the 13 regions already have offers for car free arrival. Three regions have whole packages for the arrival without private car. The Austrian Alpine Pearls Werfenweng,

Hinterstoder and Neukirchen am Großvenediger include in addition to the arrival by train the transfer to the hotel, the overnight stay and various regional tourist offers.

Daily tourists can use the „Snow&Fun“-ticket when travelling by train to skiing areas of the regions Gesäuse, Dachstein-Tauern, Salzkammergut and Nationalpark Hohe Tauern, which includes the arrival, transfer and a one day ski pass.

Service on trains

Most international trains provide an on-board restaurant or service; partly the trains have additional equipment like special seats for disabled or children corners on board. Luggage service is available from all origin countries; however reservations have to be made prior to departure (sometimes six days earlier) and cost extra.

Link into the region

The (international) railway stations are the connection into the region. These stations have a manned ticket sale and additional ticket machines, for the most part are barrier-free resp. partly barrier-free. These stations are the public transport node into the region. The connections are largely co-ordinated with the long-distance traffic, partly there are longer waiting periods (e.g. in the Gesäuse) respectively the connecting bus only runs on weekdays (e.g. Greifenburg in the region Weissensee). Another possibility in all regions to get to one's accommodation is a touristic collecting service. Furthermore to continue the journey taxis are available on every station.

Journey costs

For some destinations travel costs were calculated and compared on a random basis. Train costs proved to be hard to investigate because of the diversity of reductions and offers. Altogether the pricing can be judged as not transparent.

The costs for the private car depend on the point of view. If only the perceived costs are taken into account (fuel costs, badge) only single persons with reduced train fees travel cheaper. But if all “real costs” are considered, most journeys are cheaper with the train. “Real costs” incorporate abrasion, depreciation, fuel and oil, maintenance, taxes and charges, insurances etc.

Also transport chains were analysed randomly and costs for flight, train /bus as well as private car were compared. It shows that because of low-cost carriers flying is in most cases cheaper than going by train.

Information about the arrival

Most regions present information about the arrival on their web pages with links to the Austrian railways, partly also for international railway operators. Only three of the 13 regions have no information. One region (Region Arlberg) has in addition also schedules to important European cities on the web.

Mobility on location

Local and regional transport networks consist of regional trains and buses; in the region Salzkammergut the ship is also an issue. Especially in Graz, because of the urban structure, a very good public transport network exists. Remarkably good is the situation in the western regions with hourly bus intervals. Insufficient is the offer notably in the regions Gesäuse and Weissensee.

In eight of the 13 regions public transport providers, regional organisations or mobility service centres co-ordinate the integral marketing and development of public transport region wide.

In all regions soft mobility offers are available. These range from transport on demand for hiking, ski-buses, -trains and –taxis to liners or valley bus concepts.

Usually regional tourist destinations can be reached with public transport, in most cases with buses. Partly those buses only run two to four times a day. Unlike the availability of the private car trips with public transport have to be timed precisely.

Costs for the mobility on location

In the regions the charges of the particular linked transport system apply meaning one to two Euros for a single trip. Seven regions include mobility in their tourist cards. Tourists staying more than three days can use the public transport without charge. In the Tennengau region public transport is available for tourists for one Euro and in the Salzkammergut tourists get a 25% reduction.

Information on the mobility on location

Information on the mobility on location is provided in different qualities. Central available is information in those regions where public transport is organised in one hand. In general the western regions in Tyrol and Vorarlberg have information readily available. Six out of the 13 regions have no mobility information on their tourist websites, however some information can be found on the web pages of municipalities in these regions.

Noteworthy is the link of information on mobility and tourist facilities on the web sites of the regions Gesäuse (“Xeismobil”) and Montafon.

Potential for car free arrival

In the regions the share of arrivals by train lies under 10%. Experiences from Werfenweng show that far more is possible. Assuming that all regions push their share with appropriate measures up to 20%, additional 950.000 guests would arrive by train.

Measures in mobility and tourism

To make car free journeys more attractive, specific measures are necessary. Some measures belong to the transport sector, others to the tourist sector. To make the whole package work,

both sectors have to work closely together. Because of the origin of the guests not only regional and national, but especially international measures have to be implemented.

On the international level coherent platforms for sustainable travelling should have top priority. These platforms act as hub for different projects, players and target groups. For the customer one contact point should be created, where he finds comprehensive information on car-free arrival.

In the medium-term tour- and transport providers should tie up national and international packages for the regions which include in addition to the journey and mobility on location also overnight stay, entrance fees, etc.

In the long term additional seasonal train connections should be examined. Direct trains or connections with only one change from Northern Germany resp. the Netherlands, Czech Republic, Hungary, as well as Italy are recommended. Furthermore minimum standards for train service and the facilities of interchange stations should be established, implemented and controlled on national and international level.

For the regions it is essential and fairly easy to provide information on the arrival and the mobility on location in the short term. Some regions need to pack or adapt their schedule and initiate mobility on demand to tourist attractions. Where still needed, mobility service centres could enhance the schedule and the co-ordination between transport and tourism. Accompanying measures like car free centres or collecting parking sites could additionally animate guests to abandon their cars.

Finally measures to raise the consciousness of all players - tour- and transport operators as well as guests - are necessary to make a car-free arrival worthwhile.

Further research and survey demand

The study has shown that data concerning mobility behaviour of guests is not available on a regional level. For economic decisions in particular it is necessary to improve such data.

6.2 French case study

Accessibility by Public Transport to Alpine Tourist Stations

The study conducted by CETE de Lyon and CETE Méditerranée focused on the six most significant départements of the French Alps: Savoie, Haute-Savoie, Isère (North French Alps), Hautes-Alpes, Alpes-de-Haute-Provence and Alpes-Maritimes (South French Alps).

Table 12: Tourism in the French Alps: key figures (2005)

	North French Alps	South French Alps ³⁹	Total French Alps
Population (million inhabitants)	2.2	0.3	2.5
Number of tourists arrivals (million/year)	21.7	8.0	29.7
Number of nights (million/year)	122.6	48.0	170.6
% French tourists	66%	57%	63%
% German tourists	2%	8%	4%
% Belgian & Luxemburgian tourists	5%	12%	7%
% Dutch tourists	7%	8%	7%
% English & Irish tourists	10%	3%	8%
% Italian tourists	1%	7%	3%
% Swiss tourists	2%	2%	2%
% other foreign tourists	7%	3%	6%
% summer season	41%	56%	45%
% winter season	59%	44%	55%

About 2.5 million inhabitants live in the French Alps and about 30 million tourists arrive every year in this region. More than 80% of these tourists arrive by car. Therefore the pressure on the transport network and on the environment is very high:

- In some départements such as Hautes-Alpes (127'900 inhabitants), more than 260'000 tourists can be present the same day (including 130'000 foreign tourists).
- On peak Saturdays, the road traffic in the Tarentaise Valley to the winter sport resorts is about 35'000 vehicle/day (i.e. more than 100'000 persons). In the same time, only 20'000 persons access to the resorts by “TGV + Coach” because the capacity of the railway is limited.

³⁹ The Alpine part of the département of Alpes-Maritimes is not included in this table because standard figures do not make the difference between the Mediterranean part and the Alpine part of this département.

In order to evaluate the accessibility of the French Alpine tourist stations, the organisation and the efficiency of the full transport chain to 10 tourist stations was analysed on the basis of qualitative and quantitative criteria:

- In the North Alps: Les Deux Alpes (Isère), Les Karellis, Pralognan-la-Vanoise, Tignes (Savoie), Les Gets / Morzine / Avoriaz, Megève (Haute-Savoie).
- In the South Alps: Pra-Loup, Serre-Chevalier (Hautes-Alpes), Parc naturel régional du Queyras (Alpes-de-Haute-Provence), Auron (Alpes-Maritime).

Figure 13: The 10 tourist stations analysed in the French study



In particular, travel times and prices were estimated from different European cities to the 10 tourist stations:

- The travel time is a door-to-door travel time including access time to or from the railway station for public transport and congestion time for car.
- The price is
 - for public transport, the best price that can be found on internet by a tourist about one month before departure
 - for car, the price per person of oil and highway tolls on the basis of 3persons/car. It is considered being the subjective “marginal cost” that a tourist takes into account for his modal choice. It is different from the full cost that includes also insurance, maintenance, depreciation etc.

The two pictures bellow give the results for Paris, which is a typical origin of the tourists arriving in the French Alps. Other origins (London, Brussels, Lyon, Marseille) are studied in the complete report.

Figure 14: Travel time (door-to-door) from Paris to the 10 tourist stations of the French study

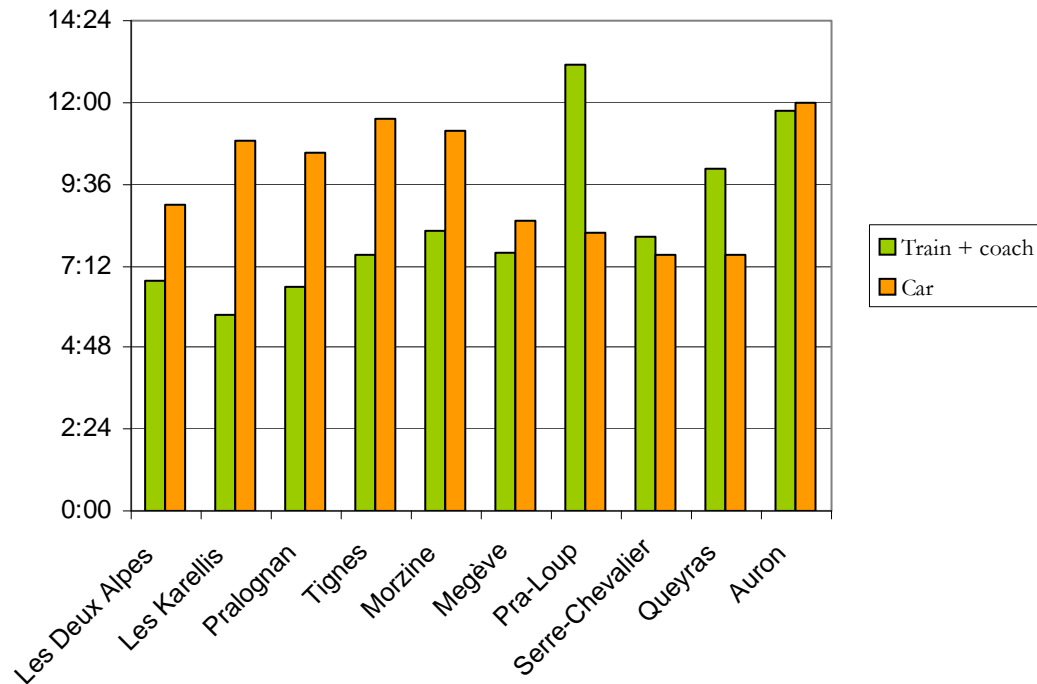
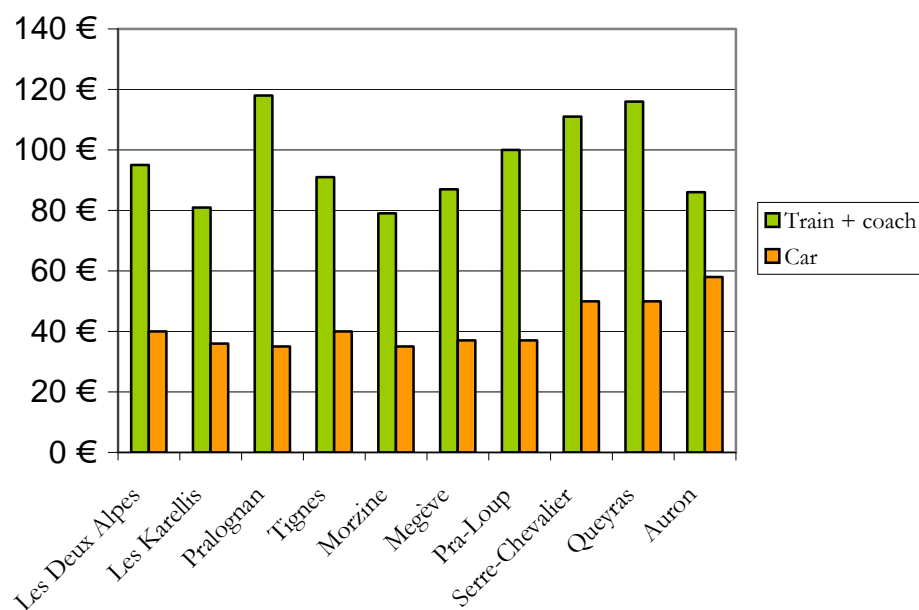


Figure 15: Travel price/person from Paris to the 10 tourist stations of the French study (base: 3 persons, marginal costs of car)



The main conclusions of this analysis are:

- In term of travel time, public transport is competitive in the North Alps thanks to the TGV and less competitive in the South Alps that is not directly accessible by TGV.
- In term of price, public transport is not competitive when compared to the marginal cost of car (generally taken into account by car’s users). However public transport would be competitive compared to the full cost of car.
- The full public transport chain must be optimised. Good connections between train and coaches can significantly improve the efficiency and the attractiveness of the public transport supply, even if the region is no directly accessible by TGV.
- Packages including tourism and public transport provision for the whole family should be proposed in order to improve the competitiveness of public transport.
- A website should deliver information on door-to-door travel time and full costs to access to the Alpine tourist stations from the different European cities. Integrated public transport tickets (train + coach) and tourism + public transport packages should be sold on this website.

6.3 German case study

The first part of the German case study deals with long distance railway connection of the German tourism regions in the Alps, and the organisation of transport of the “last mile”. The Study focused on the two districts Berchtesgadener Land and Miesbach and the towns Garmisch-Partenkirchen, Oberstdorf and Bayrischzell.

The second part outlines direct rail connections from Germany to other alpine states.

The study also asks for reasons for the small use of public transport.

Origin of the Tourists

Between 75 % and 95 % of the tourists in the examined German alpine region come from the area of the Federal Republic of Germany. The main Länder of origin are Nordrhein-Westfalen, Baden-Württemberg and Bavaria. The main Countries of origin of foreign tourists are the Netherlands, Great Britain, Austria, Switzerland and Belgium. The average duration of stay is between 3.5 and 5 days.

For this reason it seems to be less important for the German alpine region to have a good international accessibility. However the attractiveness of the German alpine region for foreign tourists could be possibly increased by attractive international public transport offers.

Accessibility

The study shows, that there is a good accessibility of the municipalities Garmisch-Partenkirchen and Oberstdorf from most parts of Germany. Especially from the main Länder of origin there are good rail connections with direct trains or only one change. But some direct trains are limited on Saturday only. A little worse, but also not bad is the situation in Bayerischzell and Berchtesgaden. Especially the accessibility of these municipalities from the Eastern parts of Germany is less good. It exists an Bavarian wide highly synchronised timetable („Bayern-Takt“)

The study also shows, that in some cases direct trains are less attractive (slower) and not lucrative for the DB AG.

More than 80 % of the Tourists travel by car. The part of rail travelers is about 13 %. The rest uses other means of transport.

Local Mobility

The treated regions are provided with a good local mobility The stations are served by local public transport (bus or call-a-taxi) with a good connection. Some regions also provide Ski busses, taxi and sometimes rental car.

In some cases the timetables could be better co-ordinated. A further problem is, that in case of delay and irregularity the connection as a rule not is guaranteed.

Transnational Connections

There are relatively good transnational direct connections to Switzerland. Direct connections into the alpine regions of Austria especially from central and north Germany are more or less lacking.

Problems of Public Tourism Transport

The following problems of public tourism transport were worked out in a Workshop with representatives of the rail and bus companies as well as tourism enterprises

1. For the rail companies the tourism transport is less attractive because of a strong varying emergence of passengers.
2. Changing trains sometimes is more attractive than direct connections because they are much faster for technical reasons. On the other hand luggage or little children can complicate changing trains
3. Public transport partly is badly co-ordinated with the travel behaviour of tourists
4. Knowledge about mobility at the vacation resort often is missing. In the case of delay and irregularity the connection is not guaranteed
5. There is also a weak marketing of combined packages and an undeveloped co-operation between operators, transport companies and communities. Information by resorts about accessibility by public transport varies.

6.4 Italian case study

Introduction

It is estimated that approximately 20% of the traffic in the Italian Alps derives from tourism and hiking⁴⁰, representing a considerable quota of total mobility in the area.

The balancing of the modal allocation in favour of public transportation represents therefore the primary strategic objective for the sustainable mobility policies of Italy for tourist, residential and business traffic flows.

This balancing process touches upon Alpine tourist mobility from at least two perspectives:

- The accessibility to tourist areas and their internal mobility;
- The long distance transportation from residential areas to tourist sites.

Accessibility and local mobility are functions generally supported by those local institutions, which aim at reducing the use of car through the promotion of public services and tourist transportation with reduced environmental impact.

On the other hand, long distance rail transport is supplied mostly by the main railway company⁴¹, which promotes the use of the train for tourist mobility from main residential areas to Alpine tourist resorts.

This document represents the Italian contribution for the identification of the general policies and specific projects incentivising the use of the train or, generally, the use of public transportation for Alpine mobility.

Sustainable mobility within tourist resorts

Celebrated Italian Alpine resorts received the recognition of the prestigious European “Alpine Pearls” project. Within this initiative several Alpine resorts in Austria, France, Germany, Italy, Slovenia and Switzerland were identified, which all support soft mobility policies. Twenty different sites have been identified in the Alpine Arc, ten of which fall within the Italian territory. Policies adopted in this area aim at a car-free tourism and support instead shuttle buses or local train transportation.

Italian “Alpine Pearls” suggest an alternative mobility service as synthesised below.

⁴⁰ Do.it, “La mobilità dolce sostiene il turismo in montagna”, Ambiente Trentino, www.ambientetrentino.it/evidenze/documento.php?id=213 (last accessed: 14 April 2008).

⁴¹ The main Italian railway company is the Ferrovie dello Stato group, a mostly public company, which comprises Trenitalia, the main passenger and freight operator, Rete Ferroviaria Italiana (RFI), the owner of the rail network and most stations, are the key companies of the group. Other main actors in trans-Alpine rail transport are Cisalpino, Artesia, Elipsos, companies owned 50% by Trenitalia and 50% by the Swiss, French, Spanish main rail companies respectively. TILO is a regional operator between the Ticino Kanton and Lombardia Region, also owned 50% by Trenitalia and 50% by the Swiss rail operator. At the local and regional scale, the services of Trenitalia are often developed in close coordination Regional authorities, which often also sponsor them.

Table 13: Italian "Alpine Pearls" – projects for sustainable mobility

Tourist resort	Closest major station	Departure or main reference station	Link to tourist resort
Chamois	Chatillon	Aosta, Turin, Milan	Regional Bus Chatillon-Valtounenche to Buisson; from Buisson, public cableway.
Nova Ponente	Bolzano	Bolzano	Local bus departing from the Bolzano station and directed to Nova Ponente and neighbouring towns.
Forni di Sopra	Udine, Carria Calalzo di Cadore,	Udine	Buses to Tolmezzo via Forni di Sopra; depart from Udine station (94 km); free shuttles from the Ronchi dei Legionari Airport.
Cornedo-Collepietra	Bolzano	Bolzano	Buses leave for Collepietra (14 km), 12 times a day; hotel shuttles are also available.
Pieve di Cadore	Calalzo, Pieve di Cadore	Belluno, Venice, Padua	Trains from Venice or Padua or buses from Belluno, Venice or Conegliano directed to Pieve di Cadore; Regional trains or buses connecting Pieve di Cadore with Cortina, Dobbiaco, Lienz, Auronzo, Tre Cime di Lavaredo, Forni di Sopra and Sauris.
Racines	Sterzin	Brenner	All the Intercity and Eurocity trains that stop at Brenner; regional trains or buses to Vipiteno/Sterzing, then taxi or bus to Racines.
Sauris	Udine, Villach	Udine	Buses or other public transport means from Udine to Sauris; additional shuttle buses during the high season.
Tires	Bolzano	Bolzano	SAD buses from the Bolzano station to Tires; hotel shuttles also available.
Funes	Klausen, Bressanone	Bolzano	Train from Bolzano to Bressanone or Eurocity from Munich to Bressanone, then taxi to Funes.
Nova Levante	Bolzano	Bolzano	Buses Bolzano-Nova Levante; hotel shuttles also available.

Besides the “Alpine Pearls”, many Italian municipalities support environment friendly tourist mobility.

Some of the major initiatives are reported below:

Table 14: Initiative for a sustainable motility of Alpine Italian municipalities

Tourist resort	Closest major station	Departure or main reference station	Link to tourist resort
Pila	Chivasso	Aosta, Turin, Milan	By train, from Milan, Turin or Chivasso to Aosta; from Aosta to Pila by cable-way. By bus, with the winter bus “Freccia delle Nevi” from Genoa and Riviera di Levante to Pila. By air, AirValeé flights to Turin or Aosta, then buses to Pila.
Val di Sole	Daolasa, Commezzadura	Trent	Railway Trent-Malè-Marilleva, then cableway from Daolasa-Commezzadura to Val di Sole.
Obereggen – Plose - Alpe di Siusi	Ponte Gardena, Bressanone	Verona, Bolzano	On Sunday, from 15 January to 26 February, trains from Verona Porta Nuova: stops at Domegliara, Bolzano, Ponte Gardena and Bressanone.
Val Gardena	Chiusa, Bressanone	Bolzano	Buses from the Bolzano station to Val Gardena.
Prato Nevoso	Mondovì	Turin, Savona	Buses from the Mondovì station to Prato Nevoso.
Dolomiti – Val di Sole	Trent	Trent	Train “Dolomiti Express” joining Trent to the main ski resorts on the Dolomiti Mountains.

The analysis of these Alpine municipalities shows a widespread trend in favour of the adoption of low emission shuttle buses (LEVs – Low Emission Vehicles), often integrated with a parking network for the transportation of tourists to leisure, skiing and environmental resorts. Such services are often promoted by private actors such as major hotels.

One of the most interesting solutions for reducing pollution identified in this analysis is the use of cableways for collective transport. Cableways can also guarantee access to remote areas.

Train services for long distance sustainable mobility

Lacking official traffic data on long distance mobility at the national scale, the main initiatives supported by Trenitalia to promote train use for reaching the Alpine tourist resorts are highlighted in this document. Relevant issues such as the availability of information to the general public concerning these initiatives or their status, experimental or not, their duration, recent or established are not tackled in the economy of this analysis but are worth dealing with in another context.

Integrated tickets

For those trains which pass by or stop in Verona and Bolzano, tourist can buy an integrated lump sum tickets to Obereggen, Plose and Alpe di Siusi. Those tickets include not only the shuttle bus ride, but also assistance, a ski pass and even the tasting of local products. Furthermore, it offers a free reservation for train and bus as well as specific room for sky luggage.

The “Dolomiti Express” trains: The “Dolomitibus” company, in collaboration with Trenitalia, runs special trains, the “Dolomiti Express”, connecting Trento with all main neighbouring ski resorts (e.g. Val di Sole). The train stops are next to the ski-lifts and cableways make the use of private transport to reach the valley superfluous for certain ski resorts.

Such initiatives created an integrated “rail-tyre-cable” system, which significantly contributed to reduce polluting emissions.

Integration between rail and cableways

The Pila municipality promoted an integrated public transport system based on the complementarities of train and cable. The station serves the Turin-Milan/Chiasso-Aosta line and is integrated with a cable to reach the ski resort. During the winter season, the “Freccia delle nevi” train is activated. It connects Genova and the Riviera di Levante with the Pila resort. Furthermore, an integrated shuttle bus is available for tourists to reach the ski slopes.

The “Trenotrekking” system

Trenitalia, in collaboration with the Club Alpino Italiano (CAI - Italian Alpine Club), promoted the Trenotrekking system. Trenotrekking is finalized at promoting the use of the train among hikers through a favourable pricing policy.

Door-to-door luggage service

The luggage carrier service allows the customers of the high speed train provider, Eurostar Italia⁴², to book a luggage service for 5 euros. This traditional luggage service was recently reactivated at the Roma Termini, Florence Santa Maria Novella and Bologna and Milan Centrale stations.

Another more innovative service is represented by Easybag, fruit of a Trenitalia-DHL collaboration, transferring luggage from home to the final destination (hotels, tourist resorts etc.). However, this “door-to-door” service is only available for international travel and it is subject to quite restrictive conditions, with a starting price of € 30 for 25 kg of luggage and a minimum number of 20 travellers, thus excluding individual and most family travellers. Easybag is available especially for groups of skiers and hikers directed towards France, Austria, Germany, Switzerland and Slovenia.

An alternative service, this time not in collaboration with Trenitalia and only available for national travel, is the luggage service by TNT, another express courier. For a starting price of 25 euros for the first piece of luggage and 16 for the next ones, the service takes the luggage from the door of your home to the door of your holiday resort.

⁴² Eurostar Italia is a network of higher speed intercity trains operated by Trenitalia.

Issues with train services for Alpine tourism

The use of private vehicles is clearly prevalent in Italian mountain mobility. CSST (Centro Studi Sistemi Trasporti) estimates that approximately 90% of tourists in mountain areas reach their destination by private means of transportation. Italians seem to prefer to use private cars because they can reach mountain areas in a flexible and capillary manner. Unlike public transportation, private vehicles do not rely on schedules for departure or arrival. Moreover, the use of cars allows reaching even remote areas. Furthermore, public transportation is perceived by some as not reliable nor punctual, as connections and schedules are not always well planned and organized.

One of the main obstacles to a wider use of train transportation to mountain resorts is the carrying of luggage. The luggage capacity of long distance trains or buses cannot be compared to that of many touring cars. As mentioned above, on some particularly used train lines, luggage transfer services from door to door are available. However, since there is no data available on such service, it is difficult to evaluate its impact. Another important development the impact of which is hard to evaluate on the short, medium and long term is the ongoing process of privatisation of the rail service, which will certainly impact the competitiveness of rail transport vis-à-vis other modes of transportation, as well as the supply of existing and future rail services.

The unavailability, on the one hand, of reliable and complete official train and transportation data and, on the other, of railway archives, which could grant a continuous flow of information, concerns almost all services related to Italian tourist mobility in the Alps. It represents a concrete obstacle for a detailed system analysis⁴³.

⁴³ See: Stefano Maggi, *In treno per diporto. Dal turismo ferroviario alle ferrovie turistiche. Esperienze e prospettive*, Copinfax, Siena 1997; see also Andrea Giuntini, “Il turismo ferroviario in Italia dalle origini all’istituzione dei “treni popolari”, paper presented at the XIII Economic History Congress, Buenos Aires 2002, <http://eh.net/XIIICongress/cd/papers/4Giuntini191.pdf> (last accessed: 14 April 2008).

6.5 *Swiss case study*

The aim of the Swiss report at hand is to investigate and evaluate the accessibility of Swiss Alpine destinations. Hence, within this report various good examples concerning public transport in Switzerland, both for urban and rural areas have been gathered. All mobility services with relevance for the tourism industry were analysed based on the concept of the mobility chain, which consists of the pre-trip, the travelling, the mobility during the stay and the post-trip phases. For each phase good Swiss examples that may motivate more people to use public transport are presented in detail. Based on the analyses of these examples, it is possible to provide suggestions for improvement. Conceptually speaking, they might range from improvements of the data base and the knowledge in planning to investments in infrastructure and transports to the marketing of products in all the phases of the mobility chain. In detail, the following seven examples for the case of Switzerland have been examined.

The examples for the pre and post-trip phase focus on two topics: First, various all-access cards to public transport for incoming Tourists in Switzerland provided by tourist web sides have been highlighted: mainly focused on Swiss Travel System (STS) and its UK companion side Swiss Travel Centre (STC). Due to STS and STC there is a high acceptance of various travel cards for incoming travellers of Switzerland. STS and STC provide reduced fares and all-in-one-Ticket for the usage of trains, coaches (Postauto), and boats. Second, after seven years of planning and conception SchweizMobil (Switzerland Mobility) - a large-scale project for sustainable mobility - has been started in April 2008 in Switzerland. Its main focus lies on Human Powered Mobility (HPM) which includes pedestrian traffic, hiking, cycling as well as getting around on vehicle-type devices (such as inline, roller skates, canoes and so forth) in conjunction with public transport. The offers of SchweizMobil are distributed via an web platform.

Good practices for the travelling phase can be illustrated best by the following three examples: First, transnational direct alpine trains to Swiss tourism regions have been analysed. In particular the ICE Train going from Berlin (via Berne) to Interlaken has been examined. In sum, it is concluded that transnational high speed trains with a destination in the alpine regions are a necessity to achieve and maintain a high accessibility of an international-known tourism region. Second, a good example to reach the next ski slopes by using the suburban railway has been examined. The connection of Zürich to Unterterzen (Flumserberge) is a link between a ski region and a lively urban area. Consequently, it is an innovative example to awaken the interests of tourists in metropolitan Zurich. Foremost its prominent marketing of the cable car company Flumserberge contributes to the success of this example. The third example is the the tourist and commuter train “Glarner Sprinter” which connects the city of Zurich with the entrance of the tourist region “Glarus”. This example shows how important it is to define and promote a train not only as a “grey” mean of transport. Explicitly in this case the train route is loaded with the information of a proper shuttle to a less popular tourism region and day trip destination in north-eastern Switzerland, both for foreign and Swiss tourists.

The phase mobility during the stay is illustrated by following examples: First, the “Alpentäler Bus” (Alpine Valley Coach) has been examined. The service provided by “Alpentäler Bus” highly increases the accessibility of outlying valleys, both for the local car-less population and tourist travellers in Switzerland. Against the background of the improved nature tourism “Alpentäler Bus” has to be seen as a product innovation in regard to mobility service in tourism. Second, the usability of distinct mobility ticket in urban areas has been showed. The association of “Basel tourism” provides for every hotel guest a public transport ticket. This is financed by the visitor’s tax.

In total, with assistance of the seven examples a brief insight in recent best practices which combine tourism and transport for the case of Switzerland is given. To sum up, tourism transport has not only be seen in terms of movement within a tourist region itself, rather in a holistic marketing approach including different phases, such as pre-trip, the travelling itself, the mobility during the stay and the post-trip phases.

7 Annex II: Estimation of the tourists in the area of the Alpine Convention

In Annex 2, the detailed figures of the estimation of the tourists in the Alps are given by states. Those figures have been compiled from different sources.

7.1 Austria

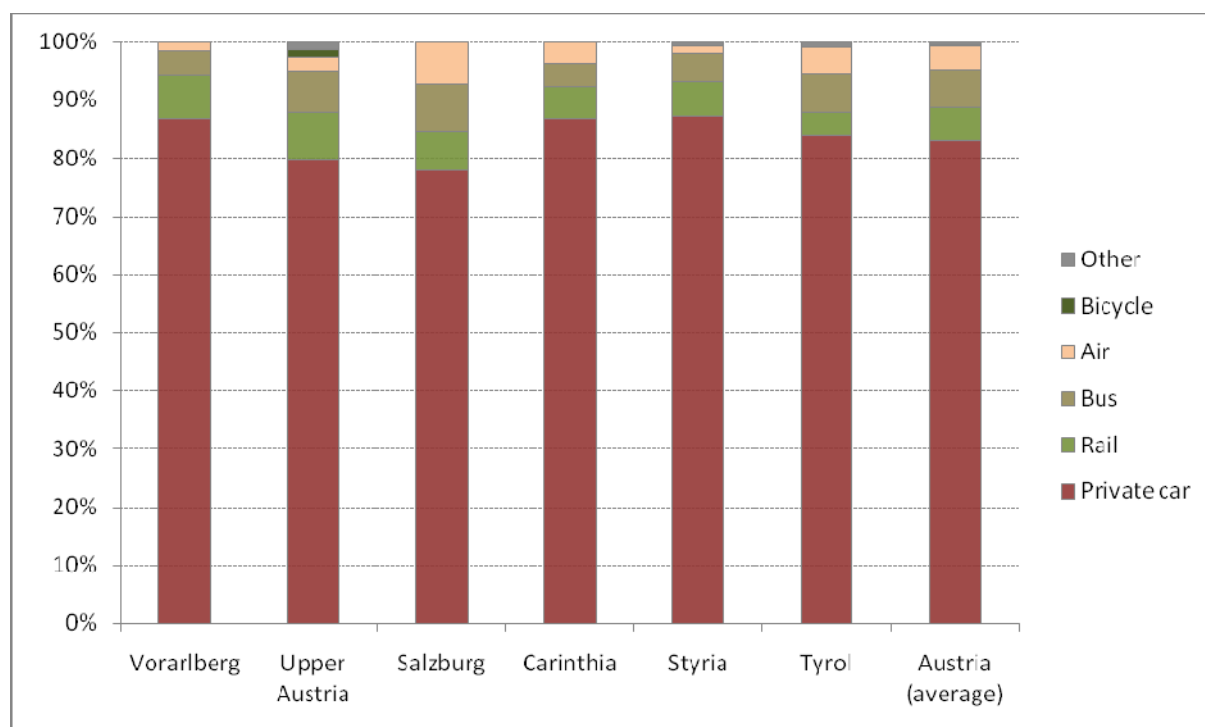
In Austria the figures has to be compiled at the level of communities as the delimitation of the territory of the Alpine Convention is based on the limits of the communities and not on the districts („Bezirk“) or the „Länder“. The figures of the number of tourist (“arrivals”) are given in table 11. These figures include the arrivals of the tourists in hotels, and others kind of accommodations (dwellings, campsites, youth hostels, refuges, private quarters and sanatoriums).

Table 15: Number of tourists in the Austrian Alps 2006

	Parts of Lower Austria, Upper Austria, Styria and Salzbourg located in the Alpine Convention area	Carinthia	Tyrol	Vorarlberg	Total Austria (Alpine Convention)
Austrian tourists	3,162,082	1,056,210	1,054,435	293,567	5,566,294
foreign tourists	4,246,961	1,410,791	7,478,848	1,512,231	14,648,831
of which from Germany	2,094,909	754,169	4,217,772	1,035,166	8,102,016
of which from Italy	224,849	175,992	295,292	19,997	716,130
of which from Netherlands	302,732	124,258	778,254	97,418	1,302,662
of which from Switzerland	97,288	31,653	429,956	187,943	746,840
of which from UK	190,374	18,031	306,318	28,849	543,572
of which from France	65,935	12,930	198,363	41,614	318,842
of which from Belgium	81,247	19,304	198,363	41,614	340,528
Others	1,189,626	274,454	1,054,530	59,630	2,578,240
Total	7,409,043	2,467,001	8,533,283	1,805,798	20,215,125

Source: Statistik Austria (2007), own compilation

Figure 16: Modal split of tourists to Austria in 2007



Source: ÖW (2008) T-Mona

7.2 France

In table 16 and 17, the figures for the number of tourists and overnight stays for France in 2005 are given. The figures have been compiled by F. Duprez from CETE de Lyon.

Table 16: Overnight stays in the French Alps 2005

	Alpes-de-Haute-Provence	Hautes-Alpes	Isère	Savoie and Haute-Savoie	Total French Alps
Overnight stays of French tourists (in million)	12.8	14.5	17.3	63.4	108.0
Overnight stays of foreign tourists (in million)	7.9	12.8	8.4	33.5	62.6
of which from Germany	12%	24%	10%	6%	11%
of which from Belgium – Luxembourg	37%	21%	11%	14%	18%
of which from Italy	5%	22%	8%	3%	8%
of which from Netherlands	20%	18%	30%	17%	19%
of which from UK – Ireland	6%	9%	17%	33%	23%
of which from Switzerland	8%	3%	4%	5%	5%
of which from other states	12%	3%	20%	22%	17%
Total number of overnight stays (in million)	20.7	27.3	25.7	96.9	170.6

Source : Direction du tourisme, Comités départementaux du tourisme et estimations du CETE de Lyon

Table 17: Tourist in the French Alps 2005

Estimation of the number of tourist (in thousand)	Alpes-de-Haute-Provence	Hautes-Alpes	Isère	Savoie and Haute-Savoie	Total French Alps
Average stay in days	5.5	6.5	4.2	6.2	5.7
French tourists	2,327	2,231	4,119	10,226	18,903
Foreign tourist	1,436	1,969	2,000	5,403	10,809
of which from Germany	172	473	200	324	1,169
of which from Belgium – Luxembourg	531	414	220	756	1,921
of which from Italy	72	433	160	162	827
of which from Netherlands	287	354	600	919	2,160
of which from UK – Ireland	86	177	340	1,783	2,386
of which from Switzerland	115	59	80	270	524
of which from other states	172	59	400	1,189	1,820
Total number of tourists	3,764	4,200	6,119	15,629	29,712

Source : Direction du tourisme, Comités départementaux du tourisme et estimations du CETE de Lyon

7.3 Germany

For Germany, a special exploitation of the tourism data by the Bavarian State Office for statistics for 2007 including the districts of city of Rosenheim, Berchtesgaden, Bad Tölz, Garmisch-Partenkirchen, Miesbach, Rosenheim, Traunstein, Kaufbeuren, Kempten, Lindau, Ostallgäu, Weilheim-Schongau and Oberallgäu, allocated inside the area of the Alpine Convention have been done. The figures are listed in table below.

Table 18: Tourists and overnight stays in the German Alps 2007

From	Tourists	Overnight stays
Germany	4,588,520	20,312,003
Belgium	30,737	107,762
France	39,315	106,195
UK	49,232	169,006
Ireland	3,156	10,865
Italy	85,071	162,485
Luxembourg	5,182	20,598
Netherlands	133,598	390,715
Austria	77,178	180,422
Switzerland	99,201	269,680
Others	424,001	2,443,048
Total	5,535,191	22,755,051

Source: Bavarian State Office for statistics 2008

7.4 Italy

For Italy the estimation of the number of tourist in the Italian Alps is based on the number of beds and the estimation of the average occupancy rate of the beds over one year by kind of accommodation and the average duration of a stay. In table 19 the number of beds is listed.

Table 19: Number of beds in the Italian Alps 2005

Number of beds	Hotels and similar establishments	Tourist campsites	Holiday dwellings	Other collective accommodation n.e.s.	Total
Torino	35,860	10,476	6,336	12,097	64,769
Vercelli	2,428	1,415	540	1,682	6,065
Verbano-Cusio-Ossola	14,261	17,981	1,598	3,372	37,212
Novara	6,240	8,836	412	583	16,071
Cuneo	13,854	8,339	2,832	8,598	33,623
Valle d'Aosta/Vallée d'Aoste	23,606	16,125	1,755	9,675	51,161
Imperia	16,844	11,608	3,404	3,822	35,678
Varese	10,406	7,108	668	780	18,962
Como	13,637	15,238	1,239	1,489	31,603
Sondrio	18,906	2,442	4,065	3,748	29,161
Bergamo	12,884	6,101	462	2,284	21,731
Brescia	38,786	55,166	8,290	6,211	108,453
Bolzano-Bozen	149,922	12,423	26,525	29,042	217,912
Trento	94,450	35,832	14,483	12,879	157,644
Verona	39,380	45,538	12,329	7,059	104,306
Vicenza	13,892	1,888	7,941	5,812	29,533
Belluno	20,653	11,920	24,401	9,759	66,733
Treviso	8,014	218	1,678	3,850	13,760
Pordenone	5,072	440	679	1,380	7,571
Udine	23,485	13,576	63,963	9,963	110,987
Gorizia	6,332	12,229	6,402	936	25,899
Total	568,912	294,899	190,002	135,021	1,188,834

Source: Eurostat (2008)

Based on an average occupancy rate and an average stay by categories (hotel, campsite, dwellings and other kind of accommodations) at NUTS 2 level, the figures in table 20 have been estimated.

Table 20: Number of overnight stays and tourists in the Italian Alps 2005

	Hotels and similar establishments	Tourist campsites	Holiday dwellings	Other collective accommodation n.e.s.	Total
Total overnight stays	72,576,950	18,455,267	11,634,691	7,404,044	110,070,952
Total number of tourists	22,748,732	2,649,936	1,402,747	1,601,129	28,402,545

Source: Eurostat (2008), own estimations

The estimation of the share of domestic and foreign tourists is based on Bätzing (2005) with 67% domestic and 33% foreign tourists.

7.5 Switzerland

For Switzerland the figures have to be compiled at the level of communities as the delimitation of the territory of the Alpine Convention which is based on the limits of the communities and not on the districts („Kanton“). For those cantons located only partly in the area of the Alpine Convention, estimations have been carried out.

Table 21: Number of overnight stays and tourists in the Swiss Alps 2006

	Number of tourists	Overnight stays
Switzerland	5,259,723	12,171,323
Germany	1,438,397	4,431,852
UK	641,519	1,855,918
USA	405,029	1,106,675
Japan	306,621	878,830
France	238,962	744,838
Netherlands	227,027	567,774
Belgium	187,708	447,248
Italy	147,703	346,087
Republik of Korea	113,839	277,781
India	92,222	222,294
Spain	77,873	183,812
Austria	60,078	155,188
Others	734,051	1,839,528
Total	9,930,752	25,229,148

Source: BFS (2008), own compilation

8 Abbreviations and sources

8.1 Abbreviations

ADT	Average daily traffic,
ALEX	Arriva-Länderbahn-Express
AT	Austria
BeNeLux	Belgium, Netherlands, Luxembourg
BE	Belgium
BOB	Bayerische Oberlandbahn
CAI	Club Alpino Italiano
CH	Switzerland
CO ₂	Chemical formula of carbone dioxide
CSST	Centro Studi Sistemi Trasporti
DB	Deutsche Bahn; German federal railways system
DE	Germany
DHL	Dalsey, Hillblom and Lynn is a Deutsche Post World Net company of Germany
DK	Denmark
EL	Greece
ES	Spain
FI	Finland
FR	France
GDP	Gross Domestic Product
HPM	Human Powered Mobility
HU	Hungary
ICE	Intercity Express trains
IE	Ireland
IT	Italy
LEVs	Low emission vehicles
LU	Luxembourg
NL	Netherlands
NUTS	Nomenclature of Territorial Units for Statistics
O-D	Original to destination
OECD	Organisation for Economic Co-operation and Development
ÖBB	Österreichische Bundesbahnen; Austrian federal railways system

PT	Portugal
RVA	Regionalverkehr Allgäu
RVO	Regionalverkehr Oberbayern
SI	Slovenia
SIMA	Syndicat Intercommunal du Massif des Aravis
TER	French regional train network
TGV	Train à grande vitesse ; high-speed train
SBB	Schweizerische Bundesbahnen; Swiss federal railways system
SNCF	Société Nationale des Chemins de Fer Français; French federal railways system
STC	Swiss Travel Centre
STS	Swiss Travel System
UK	United Kingdom

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