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TARGETED ANALYSIS

InTerAlp

Interface Territories across the Alpine region

Policy brief (DRAFT) //

September 2024

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Disclaimer

This document is a draft document.

The information contained herein is subject to change and does not commit the ESPON EGTC and the countries participating in the ESPON 2030 Cooperation Programme.

The final version of the report will be published as soon as approved.

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1 Understanding Interface Territories across the Alpine region

1.1 Alpine interface territories: A new geography

The ESPON InTerAlp project investigates **Interface Territories** across the **Alpine** region. They are a very specific type of territory, linking mountainous inner-Alpine areas with pre-Alpine lowlands: Highly dynamic flows and interdependencies as well as controversial stakeholder interests meet in a rather complex spatial framework (see Figure 1). Organizing sustainable spatial development in this geographical context is a challenge. This draft policy brief summarises first analytical findings and reflects on policy implications. The document will be enriched by the results of a forthcoming workshop, an online survey and several case studies, namely the Alpine Rhine Valley, Turin, Munich-Tyrol, Ljubljana/Julian Alps, Grenoble/Rhône-Alpes, Vienna/Lower Austrian Alps.

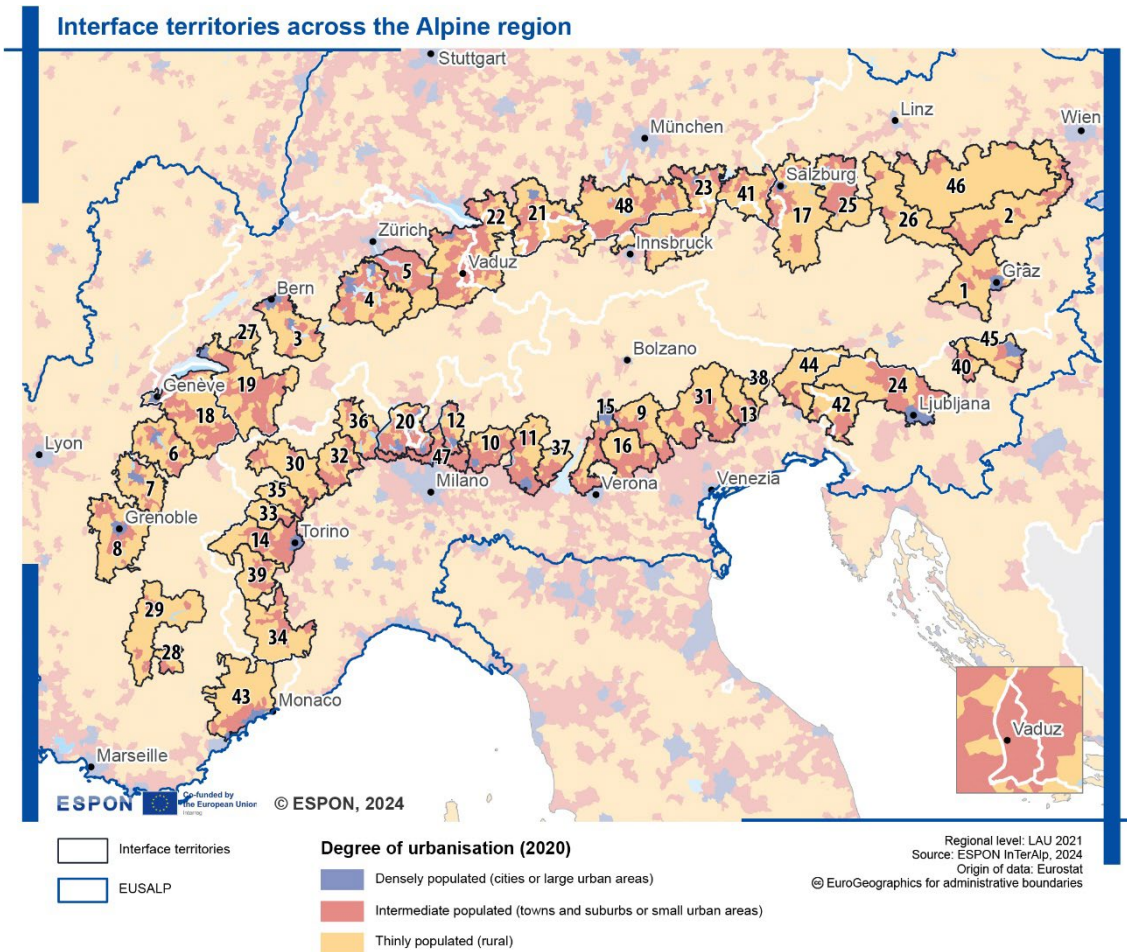
Figure 1 // View from above Garmisch-Partenkirchen towards the Munich metropolis (Photo: Günther 2024)



Alpine interface territories show a high degree of spatial diversity, including natural and vulnerable mountain areas as well as economically strong lowland areas and large urban centres. The spatial development dynamics of the areas situated *between* the inner and outer parts of the mountain areas have not yet been subjected to a comprehensive analysis.

The definition of interface territories is based on the Alpine settlement system, the transport infrastructure and morphological arguments such as topographical elevation and the river system. The concrete methodological definition is based on a) peri-Alpine 'starting points', b) inner-Alpine 'end points' and c) the lateral expansion of interface territories. By definition, interface territories do not overlap. Map 1 illustrates the delineation of Alpine interface territories. Table 1 shows the 48 Alpine interface territories classified according to their spatial typologies and assigned to designations. These interface areas are part of several overlapping governance frameworks (e.g. Alpine Convention, EUSALP), sometimes combine different spatial planning systems and show flows and interdependencies beyond their perimeters.

Map 1 // Interface territories across the Alpine region



The map shows that interface territories almost form a ‘ring’ around the morphological Alps, given the relatively high density of settlements in this area. However, the interface territories are of different characteristic and be categorized in three spatial typologies:

- **Core city interface territories** have a densely populated core city within their perimeter (e.g. Turin, Ljubljana/Julian Alps, Grenoble/Rhône-Alpes region, Bern/Thun, Salzburg). Those territories show a high gradient from densely populated to sparsely populated natural areas.
- **Semi-urbanized interface territories** bring together intermediately populated areas (e.g. Vienna/Mürz Valley, Zürich/Schwyz/Glarus, Vicenza/Schio). The semi-urbanized interface territories have a medium population density in more than half of their area. These areas mostly comprise a comprehensive transport infrastructure (railway and primary roads) and are linked by transport infrastructure to at least one Functional Urban Area (mostly in the peri-Alpine lowlands).
- **Rural interface territories** are rather sparsely populated (e.g. Sisteron/Gap, Aosta Valley, Liezen, Bulle, Bad Reichenhall/Berchtesgaden Alps, Gorizia/Nova Gorica). The rural interface territories are thinly populated and have a transport system based at least on primary roads (but not motorways). Whereas the core city and semi-urbanized interface territories are linked to large transport corridors, this is different for the rural interface territories.

Table 1 assigns the interface territories to these categories.

Table 1 // Spatial typology of Alpine interface territories

Interface territory	Core city	Semi-urbanized	Rural
(1) Graz (AT)	X		
(2) Vienna/Mürz Valley (AT)		X	
(3) Bern/Thun (CH)	X		
(4) Zug/Luzern (CH)	X		
(5) Zürich/Schwyz/Glarus (CH)		X	
(6) Annecy (FR)	X		
(7) Chambéry (FR)	X		
(8) Grenoble/Rhône-Alpes region (FR)	X		
(9) Bassano del Grappa (IT)			X
(10) Bergamo (IT)	X		
(11) Brescia (IT)	X		
(12) Lecco (IT)	X		
(13) Pordenone (IT)			X
(14) Turin (IT)	X		
(15) Trento (IT)	X		
(16) Vicenza/Schio (IT)		X	
(17) Salzburg (AT/DE)	X		
(18) Geneva/Annemasse/Thonon-les-Bains (CH/FR)	X		
(19) Rhone Valley (CH/FR)	X		
(20) Lugano (CH/IT)	X		
(21) Allgavia (DE/AT)	X		
(22) Alpine Rhine Valley (DE/CH/AT/LI)	X		
(23) Rosenheim (DE/AT)	X		
(24) Ljubljana/Julian Alps (SI/AT)	X		
(25) Gmunden (AT)		X	
(26) Liezen (AT)			X
(27) Bulle (CH)			X
(28) Digne-les-Bains (FR)			X
(29) Sisteron/Gap (FR)			X
(30) Aosta Valley (IT)			X
(31) Belluno/Piave Valley (IT)		X	
(32) Biella/Borgomanero (IT)		X	
(33) Ciriè (IT)			X
(34) Cuneo/Cottian Alps (IT)		X	
(35) Cuorgnè (IT)			X
(36) Domodossola (IT)		X	
(37) Gavarado/Salò (IT)		X	
(38) Maniago (IT),			X
(39) Pinerolo (IT)		X	
(40) Velenje (SI)		X	
(41) Bad Reichenhall/Berchtesgaden Alps (DE/AT)			X
(42) Gorizia/Nova Gorica (IT/SI)			X
(43) Nice (FR)	X		
(44) Udine (IT)			X
(45) Maribor (SI)	X		
(46) Vienna/Lower Austria fringe (AT)			X
(47) Milano fringe (IT)	X		
(48) Munich fringe (DE/AT)			X

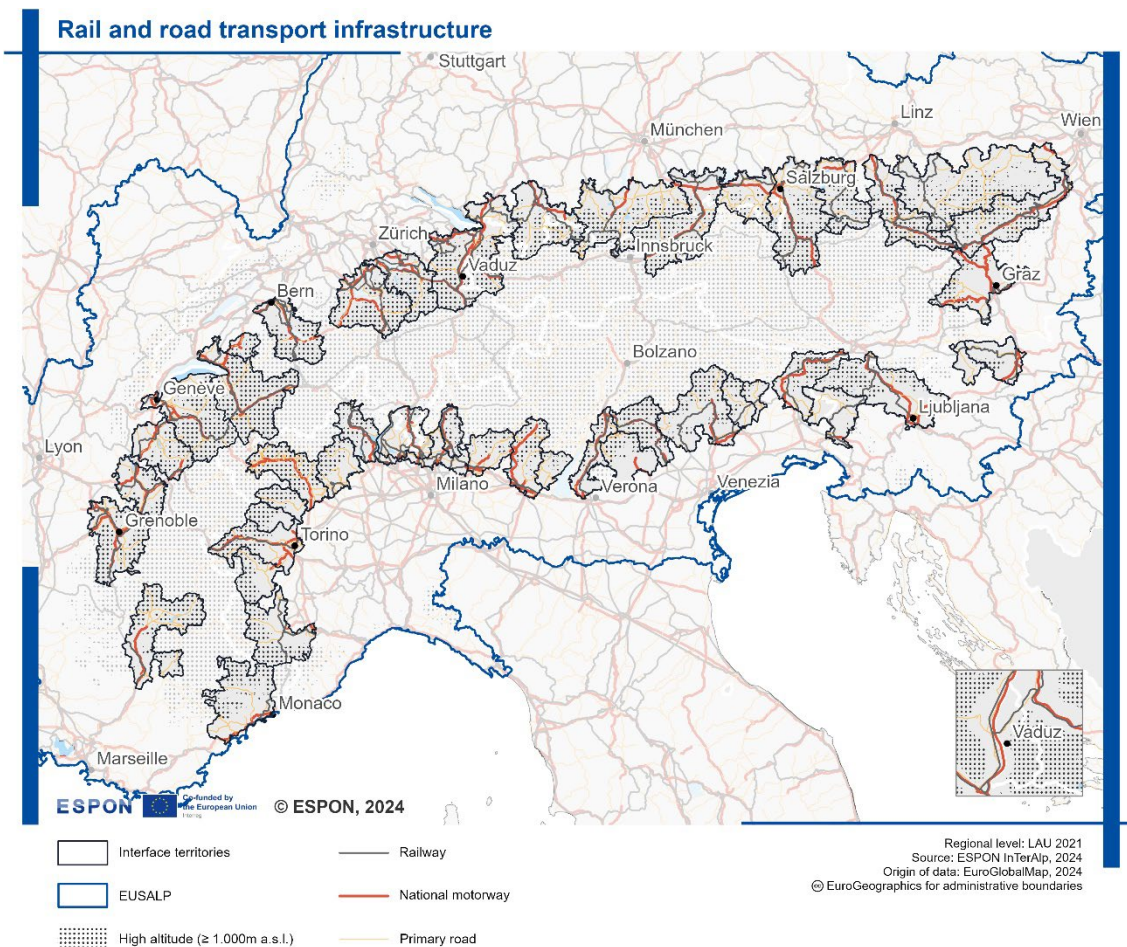
1.2 Interface territories as geographic funnels

Interface territories take a special role as gateway areas in the European spatial structure. They are areas where the main European transport infrastructure enters the Alpine highlands. Most frequented transalpine corridors originate and terminate within Alpine interface territories (e.g. Brenner, Gotthard, Fréjus). Others shows 'bottleneck constellations' (e.g. German Autobahn 7 ends in interface territory Allgovia near Füssen). Many areas have an important cross-road function, as connections entering the Alpine area and those going in parallel to the relief (e.g. Geneva, Grenoble, Alpine Rhine). Moreover, transit flows can also hinder intra-regional accessibility (towns along transit corridors often suffer traffic jams due to by-passing, e.g. Steinach am Brenner).

Map 2 shows the main transport infrastructure across the Alpine region. The map illustrates railways, national motorways as well as primary roads. The Alpine interface territories are displayed in a dark blue outline, while those areas above 1,000 metres above sea level are shown with a dotted point signature.

Across the Alpine area, interface territories are located where space is getting 'narrower'. Only a limited number of road and railway axes carry the flows, often in rather small corridors. In this situation, especially core city and semi-urbanized interface territories tend to be 'hot spots' of transport and mobility policies.

Map 2 // Geographic funnel situations within interface territories

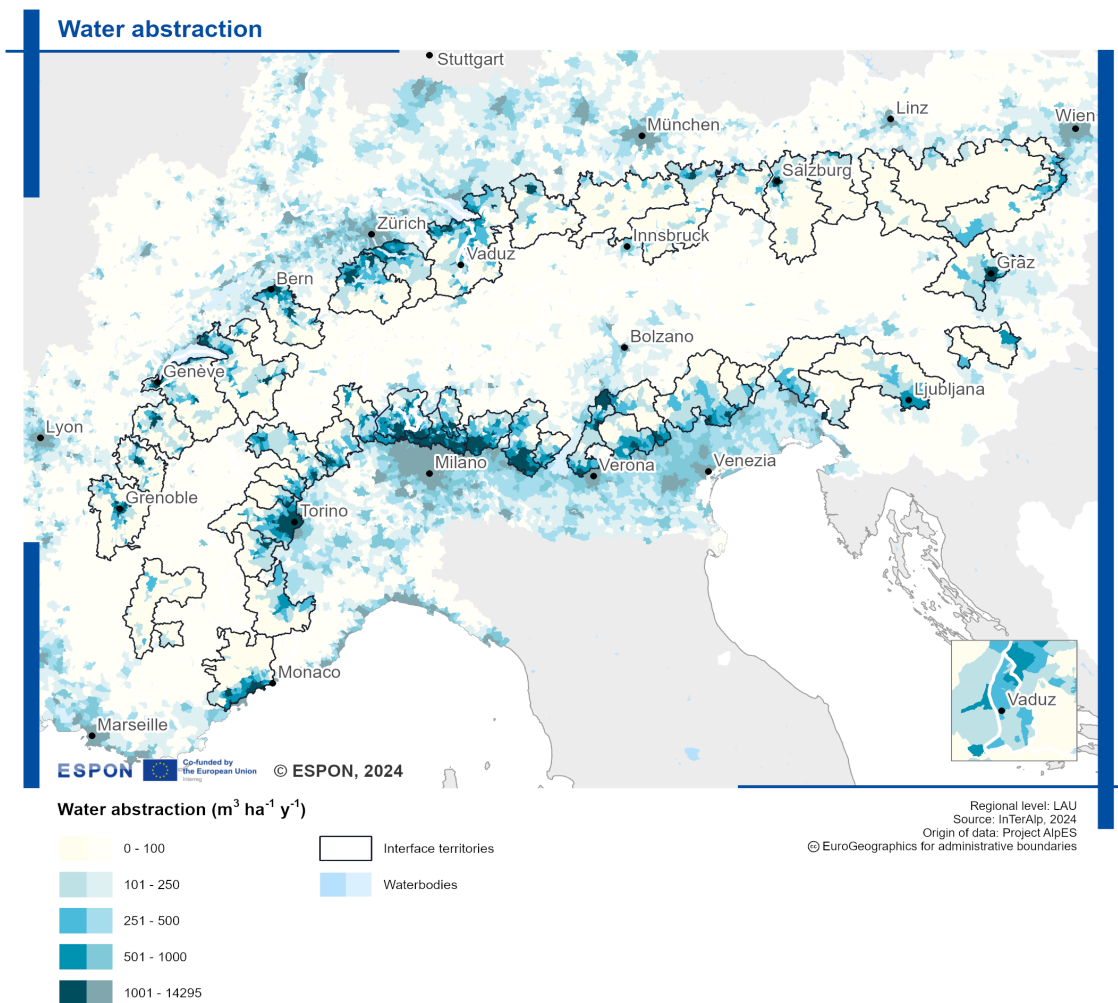


1.3 Territories with sharp contrasts

Interface territories represent strong ‘connectors’ situated between high mountain regions and the surrounding lowlands. Transport connectivity is crucial for socio-economic prospering. At the same time, ecological connectivity is crucial for wildlife plagued by habitat fragmentation (i.e. the physical disintegration of continuous habitats into smaller patches) induced by land use dynamics, urban sprawl and human activities. Core city interface territories see particularly sharp contrasts between low and high connectivity areas, even if the other spatial types of interfaces are concerned as well.

Map 3 shows the sharp contrasts in interface territories exemplified by water abstraction: the range of values within the interface territories connects the lowland areas that have the highest abstraction rates with the mountainous areas that are generally characterized by low abstraction rates due to low population density. It is worth mentioning that a series of further indicators display similar patterns (e.g. ecological connectivity, opportunities for recreation, and also socio-economic indicators like population development).

Map 3 // Areas of sharp contrasts: a territorial specificity of interface territories



2 Summarizing policy implications

The brief introduction to the geographical category of interface territories shows its general relevance and geographical specificity. At this point, the policy implications can be summarized in the following three postulates.

2.1 Recognize Alpine 'interface territories' as a specific geographic category

Interface territories are a particular spatial category that has not been explicitly framed from policy perspectives, yet. The policy framing has to consider the following key points: Especially core city and semi-urbanized interface territories are characterized by funnel positions, gateway functions and narrowing situations. They are areas of high territorial diversity, where lowland meets mountains and the degree of urbanization is very often heterogeneous. Due to this geographical structure, the areas often comprise sharp socioeconomic and ecological contrasts (e.g. ecological connectivity, opportunities for recreation, population development). This positioning comes along with a territorial dilemma for all interface territories, as there is often less spatial scope for high land use demands due to the very limited quantity of space. Due to their functional nature and the misfit with existing administrative structures, a functioning infrastructure and protection regimes are particularly challenging – not just in core city and semi-urbanized but also in rural interface territories.

Recognizing this specific geography means to understand interface territories as a relevant category alongside high mountain areas, metropolitan regions, transnational corridors and lake regions. This is a precondition towards an improved knowledge base and systematic reflection, as well as for the development of effective policies. Focusing the relevant flows, structures as well as potentials and challenges means to aim at a tailor made strategy of territorial development.

2.2 Address the specific challenges of interface territories

The specific character of the interface territories comes along with particular challenges. Even if the national affiliations and contexts vary largely across the 48 Alpine interface territories, there are a series of common challenges.

On the one hand, the density of important functions, flows, and dynamics is a characteristic feature. Transport infrastructure links places on various scales; freight flows represent the backbones of an integrated economy; and settlement systems typically develop along the topographic axes as in particular, the valleys. To a certain extent, mountainous areas are both transit spaces and magnets for flows from lowlands (e.g. tourism, recreation, commuting). This results in significant potential for sustainable transport in terms of modal shift and multi-modal hubs. The funneling of flows from pre-Alpine areas into narrow transport axes in mountainous areas requires high territorial knowledge for spatial development. As such, effective spatial planning is essential for the transport and mobility sector, particularly in interface territories.

On the other hand, the scope for development is rather limited, given the topographic context with often steep relief, and the numerous elements of protection regimes (habitats, green corridors, etc.). Simplifying to a certain extent, this dilemma can be captured as '*double demand on half the space*'. Addressing this dilemma calls for a systematic spatial planning and development approach.

2.3 Develop particular governance for interface territories

Interface territories do not systematically exist at the governance level. They are often confronted with issues of mandate perimeters: administrative delineations are not always congruent with functional flows and interdependencies. Some of these issues are linked to municipal and regional perimeters, as e.g. close to pre-Alpine metropolitan regions; others are part of border regions of Alpine national states.

As a final and optimal governance perimeter can hardly be defined, the concept of *soft spaces* comes into play: linking existing territories and tools is important in order to come to new decisions. Inter-municipal cooperation, cross-border cooperation and other multi-level governance elements have to work towards good solutions. Developing 'interface governance' includes political recognition, learning processes across different interface territories, and the testing of specific instruments (LAG, ITI, sectoral cooperation etc.).

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