



# D.T1.1.5 BASELINE STUDY - STYRIA

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Report

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## REIF Baseline Study - Styria

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## 1. Introduction

The deliverable “Regional Baseline Study - Styria” (status quo of rail freight services) in WP 1 (D.T1.1.5) comprises the overall picture of the current situation for (rail) freight transport in the region of Styria in Austria.

First, there will be a Territorial Analysis (2) to give a general overview about the region of Styria. The focus will then lay on the territorial analysis of the region and its catchment area regarding regional rail freight infrastructure and services, e.g. industrial clusters and sites, rail infrastructure, intermodal facilities, transport flows, network classification etc. Maps and figures will visualise the status quo of the regional rail freight transport.

Section (3) continues with a Policy Analysis regarding rail freight infrastructure and services by analysing policy documents on national and regional level, including goals and strategies as well instruments. Also important here is the question who is responsible and who has power and influence in the sector of rail freight transport.

After that follows a regional stakeholder mapping (4). This section lists important stakeholders out of politics, economy and civil society for regional rail freight transport. They will be described by their role, importance and contribution to the REIF project and classified in the categories of their influence on the project (low or high) and their level of interest in the project (low or high).

The analysis completes with a SWOT Analysis (5) by rounding up strengths, weaknesses, opportunities and threats in the field of regional rail freight transport.

Finally, section (6) concludes the baseline study with a Recommendation/Outlook for the future work in the project.

## 2. Territorial Analysis

Styria (German: Steiermark) is a state located in the southeast of Austria. Covering 16,401 km<sup>2</sup>, Styria is the second largest of the nine component states of Austria with around 1,243,000 inhabitants. (1.1.2019). The number of inhabitants is continuously growing since 2002.

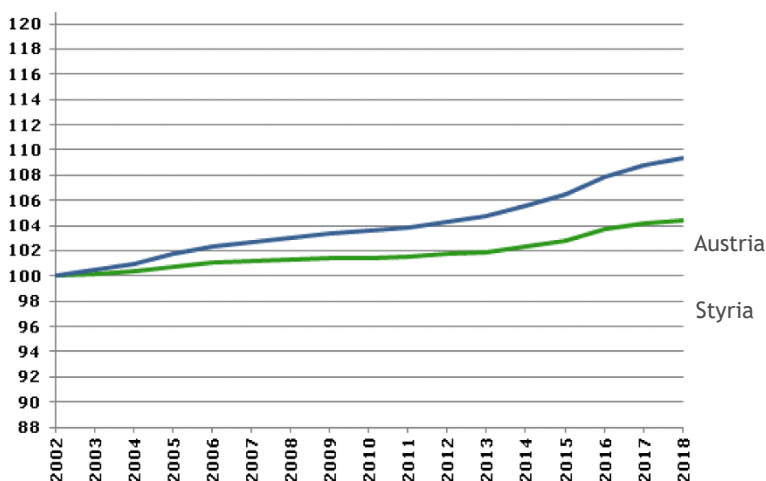
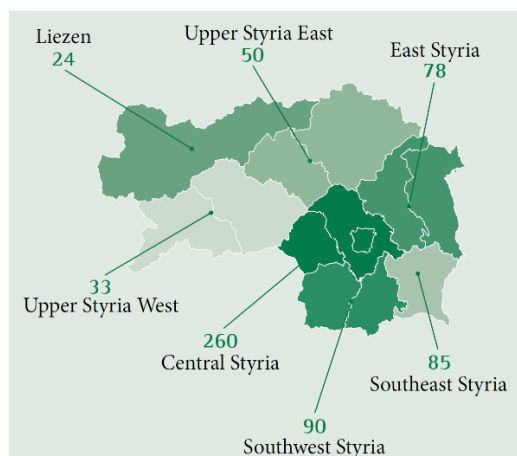


Figure 1: Population development 2002-2018

Source: Labour market profile Styria 2018

Styria has a very heterogeneous spatial structure due to its regions. In addition to the central area of Graz and its surrounding area, the most important economic and labour market centres are located in Upper Styria (Bruck an der Mur, Leoben, Kapfenberg). The economic structure of the Styrian rural regions is rather small-scaled, with agriculture still playing an important role. Especially in Eastern Styria, Western Upper Styria and Liezen, tourism contributes significantly to the economic development.

Styria's neighbour to the South is Slovenia. Within Austria, the contiguous states are Carinthia, Salzburg, Upper Austria, Lower Austria, and The Burgenland. The capital city is Graz, the second largest city in Austria with around 289,000 inhabitants at the beginning of 2019. Other large cities of Styria are Leoben (24,600 inhabitants), Kapfenberg (22,800 inhabitants) and Bruck an der Mur (15,800 inhabitants). Around 443,000 people are living in the region of Graz - including the surrounding district Graz-Umgebung. It is the region with the highest population density among all Styrian districts (see chart below).



Map 1: Population density of Styria (inhabitants per km<sup>2</sup>)

Source: Styria in numbers 2018

## The Region Styria and its catchment area

### Industrial clusters/ branches

Styria has a long industrial tradition and is an R&D and export-oriented federal state. Styria is a world market leader in niches of the quality segment, e.g. in the manufacture of railway rails, railway systems, high-quality steel products, vehicles and machinery. Styria today has the highest R&D rate among the Austrian provinces.

The following sectors were defined as guiding markets in the “Economic Strategy Styria 2025”:

- Mobility: automotive sector, rail systems, aerospace
- Green-Tech: green energy, green resources, green buildings, timber
- Health-Tech: health and food

According to the economic strategy 2025, the technological core competences of the Styrian economy are materials and material technologies, machinery and plant engineering as well as digital technologies including sensor technology and microelectronics. The following map summarises the industrial clusters in Styria:

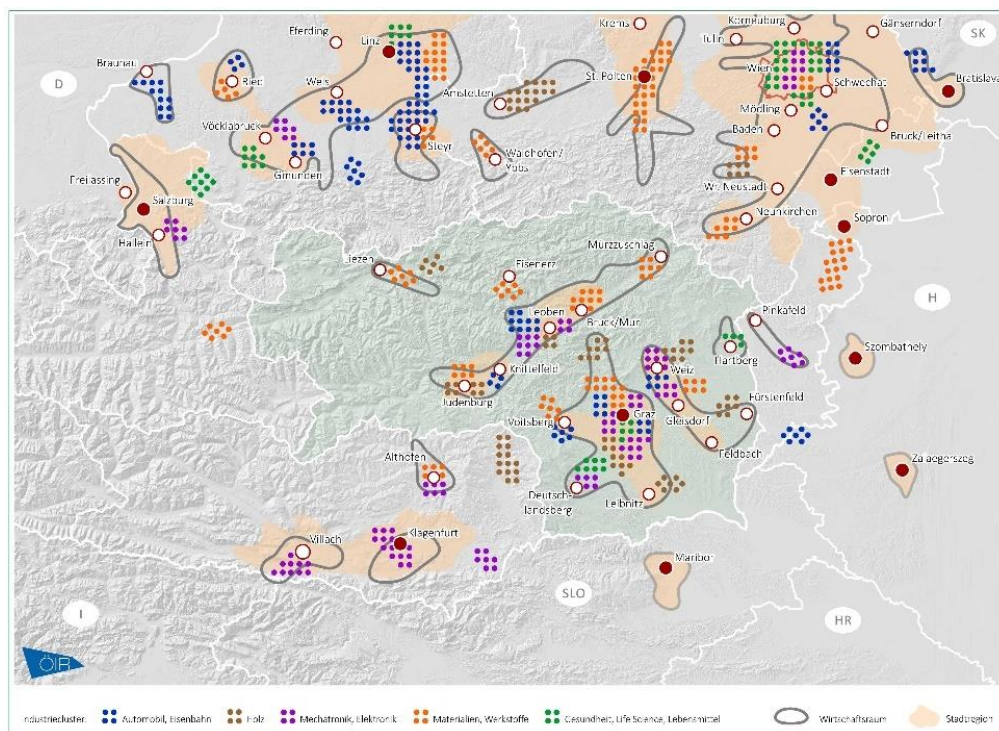
- Automotive, rail
- Timber
- Mechatronics, electronics
- Materials and material technologies
- Health, life science, food

### Industrial sites

The economic areas in Styria are as follows (see map below):

- The Upper Styrian central region: from Judenburg to Mürzzuschlag
- The central area of Graz: from Leibnitz to Frohnleiten, including Voitsberg and Deutschlandsberg
- The economic area Weiz - Feldbach - Fürstenfeld
- The economic area Hartberg
- The Liezen economic area

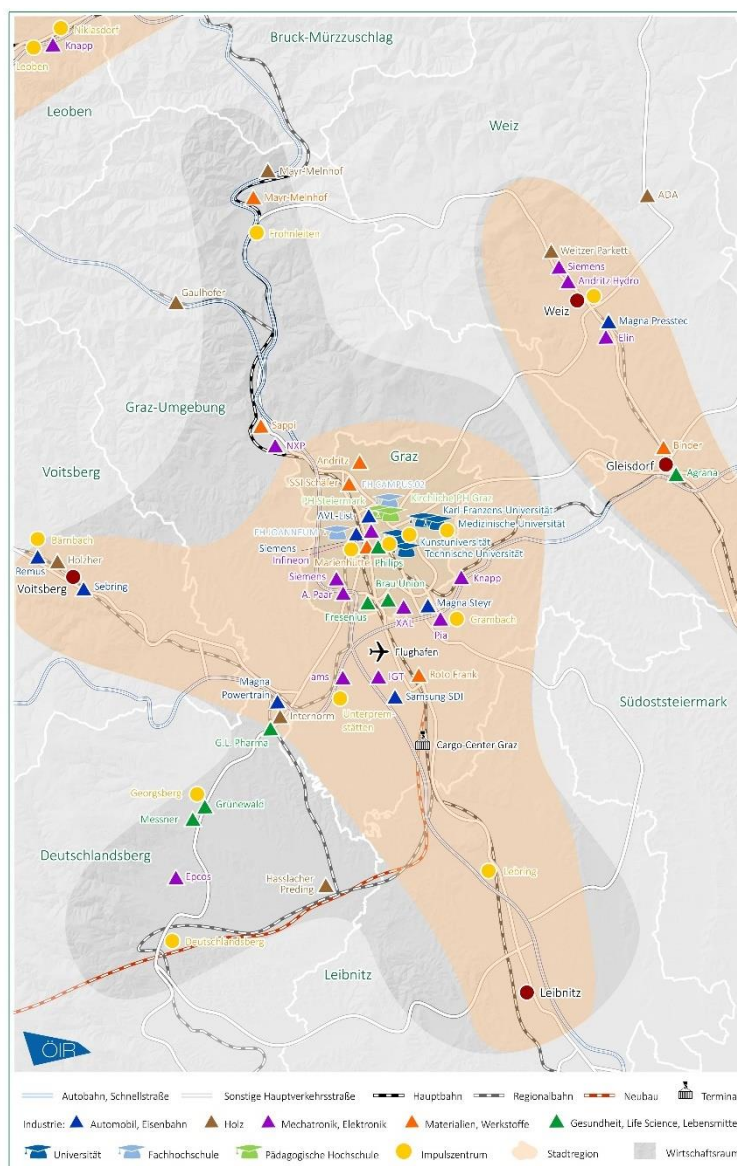
The map includes companies with more than 200 employees. Individual companies are grouped together to point clouds.



Map 2: Economic and central areas in Styria and neighbouring regions

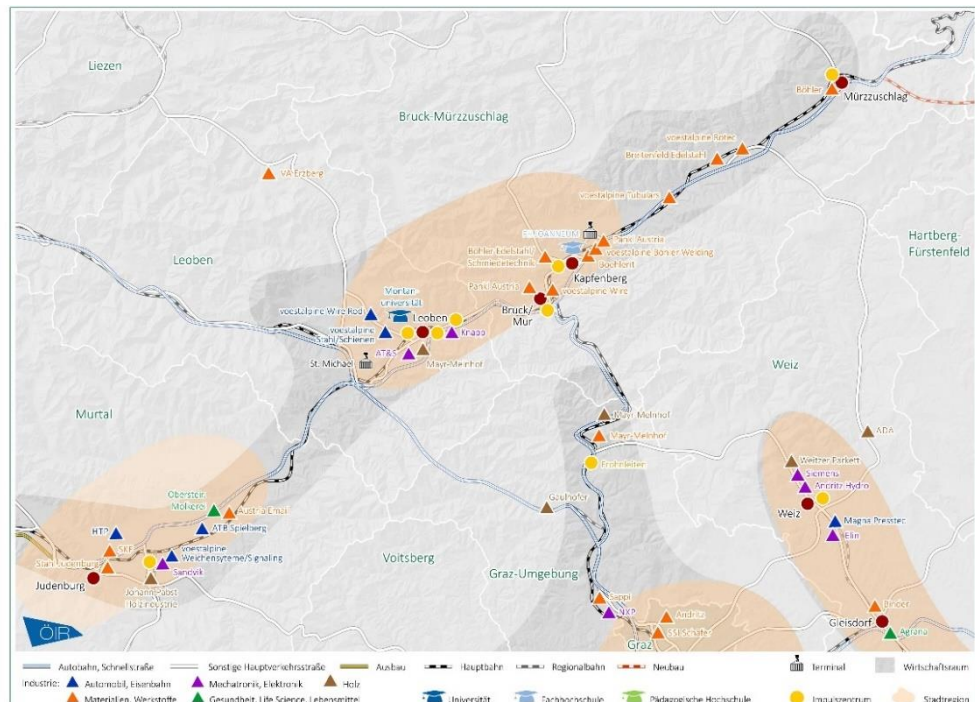
(find the enlarged maps at the appendix)

The most important industrial sites are situated in the central regions of Graz and Upper Styria (see maps below).



Map 3: Economy, education and transport in the central region of Graz





Map 4: Economy, Education and Transport in the central region of Upper Styria

The **automotive and railway industries** of Styria are concentrated in the central regions of Upper Styria and Graz and in the economic region of Weiz - Gleisdorf - Feldbach. Leading companies are voestalpine, Magna and AVL-List.

The **timber processing industry** is represented in all economic areas of Styria. The most important companies are Mayr-Melnhof, Internorm, Gaulhofer, Johann Pabst Holzindustrie, ADA Möbelfabrik, Weitzer Parkett, Hasslacher Preding and Admonter Holzindustrie.

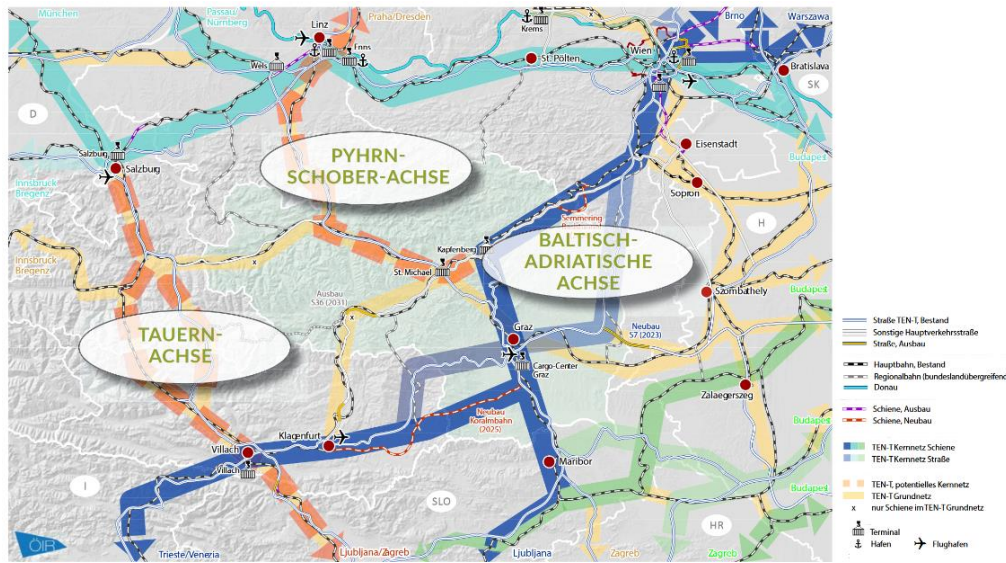
The **mechatronics and electronics industries** are located in the central regions of Upper Styria and Graz and in the economic area Weiz - Feldbach. The most important companies include AT&S, Knapp and Sandvik in the central region of Upper Styria, Siemens, Knapp, NXP, Anton Paar, PIA, XAL, IGT, Epcos and ams in the central region of Graz as well as Siemens Andritz Hydro and Elin in the region Weiz - Gleisdorf - Feldbach.

The cluster **“materials and materials technologies”** is represented in all economic regions of Styria, especially in the Upper Styrian central region. Among the most important companies are voestalpine, Böhler, Boehlerit, Pankl, Breitenfeld Edelstahl, Austria Email, SKF, Stahl Judenburg and Mayr-Melnhof. Leading companies in the central Graz area are Andritz, Sappi, SSI Schäfer, Marienhütte, Roto Frank, in the economic area Weiz - Gleisdorf - Feldbach the Binder company, in the Liezen area the Liezen machine factory and foundry.

The **health, life science and food cluster** is not yet strongly represented in Styria, but has a high growth potential. The most important companies are located in the central area of Graz, including Brau Union, Philips Health Systems, G.L. Pharma, Grünewald and Messner. In the economic area Weiz - Gleisdorf - Feldbach the company Agrana in Gleisdorf is to be mentioned.



<p><b>Rail infrastructure</b></p>	<p>The Styrian rail network currently consists of around 1,000 kilometres of railway lines. The railway network for passenger and freight traffic comprises the network of the Austrian Federal Railways (ÖBB) with approx. 550 km on main lines and 140 km on secondary lines, the lines of the Styrian Provincial Railways (Steiermärkische Landesbahnen) with approx. 100 km and the lines of the Graz-Köflacher Railway (GKB) with approx. 90 km(see following map and annex).</p> <p>The other lines are feeder lines with private freight traffic as well as lines that were closed down, but are still used for excursions, nostalgic trips, etc. by private associations.</p> <p>The majority of ÖBB's main rail network is part of the Austrian high-performance railway network (Eisenbahn-Hochleistungsstreckennetz), the Trans-European Railway network (TEN) or part of international corridors as well as various international agreements on fast passenger transport (AGC) or combined freight transport (AGTC, RailFreightCorridors RFC). More details on the network classification are given below.</p>
<p><b>Lines, tracks, electrification</b></p>	<p>The main railway lines in the Styrian railway network are:</p> <ul style="list-style-type: none"> <li>• Southern railway line: from Vienna via Semmering - Mürzzuschlag - Bruck/Mur - Leoben - Neumarkt - towards Klagenfurt and Bruck/Mur via Graz - Spielfeld - towards Maribor (SI)</li> <li>• Pyhrn-Schober railway line: from Leoben via Selzthal - towards Linz</li> <li>• Ennstal railway line: from Selzthal via Liezen - Schladming towards Bischofshofen</li> <li>• Styrian East railway line: from Graz via Gleisdorf - Fehring - towards Szentgotthard (HU)</li> </ul> <div data-bbox="405 965 1394 1630"> <p><b>Styrian railway infrastructure</b> existing network 2019</p> <p>The map shows the Styrian railway network with various lines and stations. Key lines include the Southern railway line (red), Pyhrn-Schober railway line (orange), Ennstal railway line (green), and Styrian East railway line (blue). Stations are marked with dots, and electrified lines are shown with solid lines. The map also shows the state border to Slovenia (SI) and Hungary (HU).</p> </div> <p>Map 5: Styrian railway infrastructure</p> <p>The main axes of the Styrian rail network are electrified and double-tracked (see map above and annex). Bottlenecks with single track lines are along the Pyhrn-Schober railway line (Spielfeld - Werndorf and Selzthal - Bosruck tunnel), the Styrian East railway line and the Ennstal railway line.</p> <p>Most regional lines are non-electrified and almost exclusively used for passenger transport. Only a few short regional lines for freight transport are electrified.</p>

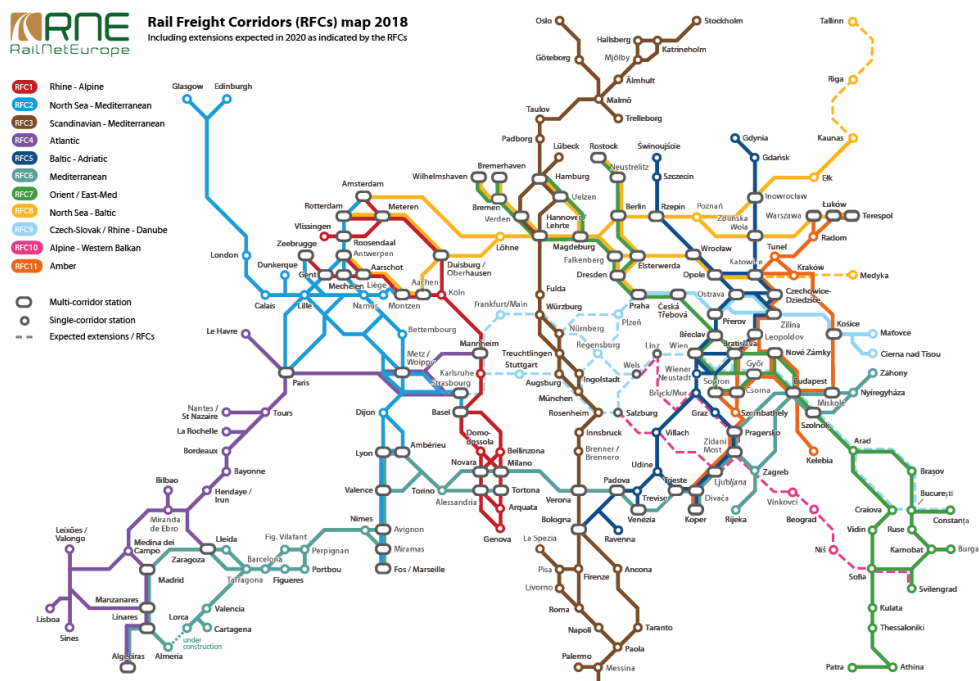
<p>- freight suitability</p>	<p>The main Styrian rail network is of Class D4, i.e. with an axial load of 22.5 tons or 8.0 t/m. It is thus suitable for freight transports and in line with the requirements of the TEN-T.</p> <p>With the completion of the Semmering base tunnel and the Koralm tunnel a flat trajectory from South-Western to North-Eastern Europe will be available for goods transport.</p> <p>Styria however misses a high capacity rail connection from the economic centres in central and the Northwest of Europe (including the North Sea harbours) to Southeast Europe particularly to the Harbours of Koper and Rijeka as well as to the east Adriatic and Western Balkan region. This is due to the single-tracked bottleneck from Selzthal to Linz and further North as well as to the rather steep (21‰) southern ramp to the Bosruck tunnel. This bottleneck hampers also the domestic connectivity of the industrial sites of Styria and Upper Austria.</p> <p>Additionally, the section Bruck and der Mur - Graz is well utilized. With the commissioning of the Koralm Railway (2025) this section will be at the limit of capacity, as several transport corridors (Baltic-Adriatic, Pyhrn-Schober and the regional transport between Leoben and Kapfenberg) pass along this track. Freight trains will be displaced by dense passenger traffic to off-peak and night times.</p>
<p>Network classification</p>	<p>All main transport axes of the Styrian railway network are part of the Trans-European Transport Networks (TEN-T). The future southern railway corridor with Koralm railway and Semmering base tunnel as well as the railway line Graz - Spielfeld - Maribor are part of the Baltic-Adriatic Corridor and thus part of the TEN-T core network. The other main transport axes in the Styrian railway network are part of the TEN-T comprehensive network:</p> <ul style="list-style-type: none"> <li>TEN-T Baltic-Adriatic core network corridor: from Vienna via Semmering - Mürzzuschlag - Bruck/Mur - Graz - Koralmbahn - towards Klagenfurt and Graz - Spielfeld - towards Maribor (SI)</li> <li>TEN-T comprehensive network: <ul style="list-style-type: none"> <li>Pyhrn-Schober railway line: from Leoben via Selzthal - towards Linz</li> <li>Ennstal railway line: from Selzthal via Liezen - Schladming towards Bischofshofen</li> <li>Styrian East railway line: from Graz via Gleisdorf - Fehring towards Szentgotthard (HU)</li> </ul> </li> </ul> <p>In close proximity to Slovenia and Hungary, the Styrian railway network serves as an important link between Austria and South Eastern Europe. The Pyhrn/Schober axis - in combination with the Tauern axis - is intended to close the gap in the TEN-T core network connecting Central and South-Eastern Europe as an essential alpine crossing (see map below and annex).</p>  <p>Map 6: Desired TEN-T-network for Styria</p>

In the course of the next TEN-T revision in 2023, the federal states of Styria, Carinthia, Upper Austria and Salzburg are aiming to include the two axes via Tauern and Pyhrn-Schober into the TEN-T core network. The Pyhrn-Schober axis (Linz - Selzthal - Graz - Maribor) should handle the heavy rail freight traffic, the Tauern axis (Salzburg - Villach - Ljubljana) the high-ranking passenger transport.

As indicated by the RailNetEurope (RNE) two Rail Freight Corridors (RFCs) are passing Styria.

The Baltic-Adriatic RFC (RFC 5) runs along the current Southern railway line from Vienna via Semmering - Mürrzuschlag - Bruck/Mur - Leoben - Neumarkt - towards Klagenfurt and via Graz - Spielfeld - towards Maribor (SI). It will be led over the Koralp Railway when it comes into operation.

The latest established RFC since 2018 is the Alpine-Western Balkan RFC (RFC10) which contains the Pyhrn-Schober axis and the Tauern axis as well. This RFC shall come in operation in 2020.



Map 7: Rail Freight Corridors



<p><b>Intermodal facilities</b></p>	<p>There are three publicly accessible freight terminals in Styria (see map above and annex):</p> <ul style="list-style-type: none"> <li>• the “Cargo Center Graz” terminal is located 15 km south of Graz</li> <li>• the Montan Terminal Kapfenberg,</li> <li>• and the Terminal St. Michael.</li> </ul> <p>All three terminals are suitable for bimodal rail-road transshipment. The next trimodal rail-road-inlandwaterway transshipment facilities are located on the Danube in Ennschafen, in the port of Krems, in the Linz city port and at the port of Vienna. The nearest seaports are the Adriatic ports of Trieste, Koper and Rijeka.</p> <p>The <b>Cargo Center Graz terminal</b>, Styria’s most important freight terminal, is part of the TEN-T core network. The key figures of the terminal (2018):</p> <ul style="list-style-type: none"> <li>• daily handling of around 10-12 trains and approx. 300 trucks, total volume more than 3,500 tons per day</li> <li>• Direct connections with container trains: Koper-Graz, Neuss-Graz, Bremerhaven/Hamburg-Wien-Enns/Graz</li> <li>• a total turnover of more than 200,000 containers per year</li> <li>• Single wagon traffic throughout Austria (daily)</li> </ul> <p>The <b>Terminal St. Michael</b> is located at the intersection of the A9 Pyhrn motorway and the S36 Murtal expressway, as well as on the high-level rail network. The main destinations by rail are Austria, Germany and Italy, by road Austria and Germany. The catchment area includes Leoben and the steel industry in Donawitz and Bruck/Mur.</p> <p>The <b>Montan Terminal Kapfenberg</b> is connected to Austrian Southern Railway (Südbahn) and via the S6 Semmering expressway to the high-ranking road network. This terminal specializes in mining goods, including ores and alloys for the steel industry from China, South Africa and South America that are bundled in Kapfenberg and delivered directly to the processing industry in the region, such as Böhler-Edelstahl or voestalpine. The annual transport volume is approx. 25,000 TEU, corresponding to 300,000 tons.</p> <p>The most important seaport for Styria and Austria is Koper. In 2018 the <b>port of Koper</b> handled 6.85 million tonnes of goods for Austria. There is daily rail traffic between the port of Koper and the Austrian distribution centres, both for container freight and for goods such as coal, iron ore, phosphates and fuels. Ten times a week there is a container freight connection to the distribution centre in Graz, while containers can be transported several times a week to Villach and Enns, and from there to other Austrian industrial centres. The modal split between road and rail freight transport for the Austrian market is clearly on rail transport (75 percent). Wood, paper, coal, iron ore and container consignments - 225,000 TEU last year - were at the top of the freight groups.</p>
<p><b>Transport flows</b></p>	<p>Styria is an important player within Austria’s economy. In the year 2017 about 12,4 million tons were imported (of a value of 17 billion EUR) and 9,3 million tons of goods (22 billion EUR) were exported. (Statistik Austria, Foreign Trade).</p> <p>Due to Styria’s location in the Alps, import and export flows from Northern and North Eastern Europe pass the Alpine crossings Schober (Pyhrn-Schober axis), Semmering and Wechsel (Baltic-Adriatic Corridor). These alpine crossings, are subject to periodic traffic counts. Latest data on both, road and rail transport are available for the year 2009 (in the survey of 2015 only limited information is published on rail transport).</p> <p>About 38 million tons are passing these corridors by road in the year 2015, rail transports account for about 16 million tons (excluding the minor rail connection across the Wechsel).</p> <p>The Schoberpass is the most important road freight crossing with more than 17 million tonnes passing 2015 (+17% since 2009), while rail transports account for 4,4 million tons (-19% since 2009). This disproportionate development of road and rail freight transport is also owed to the fact that the Pyhrn-Schober axis is single-tracked from Styrian Selzthal to Wels/Linz in the North.</p>



The Wechsel is the second important road axis with more than 15,3 million tons 2015 (+74% since 2009). At Semmering, the annual passage by road amounts to 5,6 million tons by road (equal to 2009 volumes) and almost 12 million tons by rail (+22% since 2009).

	Road							Rail					
	Mio. tons					%		Mio. tons				% p.a.	
	1999	2004	2009	2015	2017	04-15	99-15	1999	2004	2009	2015	04-15	99-15
Alpine crossing													
Reschen	1,2	2,0	1,2	1,2	1,0	-40%	0%	.	.	.	.	.	.
Brenner	25,2	31,1	26,2	32,4	36,3	4%	29%	8,2	10,2	13,1	13,8	35%	68%
Tauern	8,2	12,2	12,7	13,6	15,2	11%	66%	5,6	8,0	5,9	11,5	44%	106%
Schoberpass	11,2	14,6	14,3	17,1	18,8	17%	53%	4,6	5,4	4,3	4,4	-19%	-5%
Semmering	4,0	5,6	4,7	5,6	5,6	0%	40%	9,3	9,6	9,3	11,7	22%	26%
Wechsel	8,2	8,8	10,4	15,3	16,7	74%	87%	0,1	0,2	0,2	0,3	34%	221%
Schober, Semmering, Wechsel	23,4	29,0	29,4	38,0	41,1	31%	62%	14,0	15,2	13,8	16,4	8%	17%
Total	58,0	74,3	69,5	85,2	93,6	15%	47%	27,8	33,4	32,8	41,7	25%	50%

Table 1: Alpine crossing freight transport

Development of freight transport in Million tons by alpine crossing

Source: ÖIR based on Alpine crossing freight transport 2009, CAFT 2015; Summary Report on CAFT-Surveys 2014/15 ff

The alpine crossings - apart from Austrian domestic transport from and to Styria and Carinthia - are important transit routes between South or South-Eastern Europe and North or North-Eastern Europe. About 30% of the road freight transport volumes (Schober, Wechsel) and 20% of the rail freight volumes (Schober, Semmering) account for transit.

The particular transport flows are depicted in the following maps. Germany is clearly the most important economic partner. Unfortunately, transport flows from Styria to Italy are not included in this overview. Information on these flows is thus generated from Styria's foreign trade relations and described in subsequent paragraphs.

Alpine crossing	Road, 2015			Rail, 2009			
	Mio. tons			Mio. tons			
	Domestic	Exports	Transit	Domestic	Import	Exports	Transit
Tauern	12%	15%	62%	19%	19%	33%	29%
Schoberpass	35%	19%	28%	34%	21%	35%	10%
Semmering	61%	19%	3%	34%	29%	13%	25%
Wechsel	28%	28%	31%	.	.	.	.
Schober, Semmering, Wechsel	36%	23%	25%	34%	26%	20%	20%

Table 2: Alpine crossing freight transport by relation

Source: ÖIR based on Alpine crossing freight transport 2009, CAFT 2015; Summary Report on CAFT-Surveys 2014/15 ff





### Schoberpass road



### Schoberpass rail



### Semmering road



### Semmering rail



### Wechsel Road



Map 8: Alpine crossing freight transport through Styria by relation 2014/15

Source: DG MOVE (2018). Transalpine Freight Traffic Flows: Summary Report on CAFT-Surveys 2014/15





Austria and Styria have the most intensive economic ties with its traditional main trading partner Germany, in particular with the southwestern economic region of Germany (Bavaria and Baden-Württemberg). In 2017, almost 30% of Styrian exports went to Germany. Another important trading partner was Italy with 6.4%. The picture was similar for goods imports: Germany accounted for almost 40% of Styria's goods imports. Italy accounted for 6.3% of goods imports. In addition to motor vehicles and vehicle parts, Styria's most important export goods included machinery, electronic and electrical engineering products, iron and steel goods as well as paper and paper products. In 2017, these goods accounted for around two thirds (66%) of Styria's export turnover (Economical Report Styria 2018).

In Styria, the transport of steel and timber represents the largest share of the freight volume.

**Modal share development**

Comparing the development from 1999 to 2018, the Modal Split regarding to road transport volumes (tons) at the Styrian border rose at all crossings, from +10% points at the Schoberpass to +4% points at Semmering. The two rail projects Semmering base tunnel and Koralm tunnel will improve the conditions for rail transport. For the better connectivity between South-East Europe and the Mediterranean Harbors on the one hand side and the economic centres in the North and West of Europe on the other side, infrastructure investments along the Pyhrn-Schober-axis are needed to shift freight transports from road to rail. This holds true as the alternative route along the Tauern axis has a gradient of (30 ‰) and is thus not suited well for heavy rail freight transports.

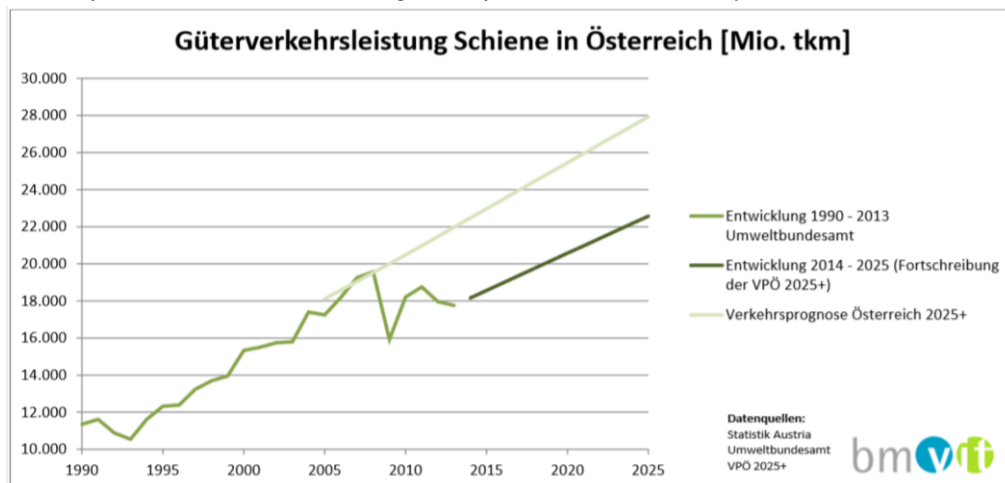
	1999	2009	2015	2018	1999-2018
	Modal Split				
Alpine crossing	Share road	Share road	Share road	Share road	% points
Reschen	.	.	.	.	
Brenner	75%	67%	70%	73%	-2%
Tauern	59%	68%	54%	65%	+6%
Schoberpass	71%	77%	80%	81%	+10%
Semmering	30%	34%	32%	35%	+5%
Wechsel	99%	98%	98%	99%	0%
Schober, Semmering, Wechsel	63%	68%	70%	73%	+10%
<b>Total</b>	<b>68%</b>	<b>68%</b>	<b>67%</b>	<b>72%</b>	<b>4%</b>

Table 3: Modal Split development

Source: DG MOVE: Observation and analysis of transalpine freight traffic flows, key figures 2018

### 3. Policy Analysis

- Steirisches Gesamtverkehrskonzept 2008 (StGVK): The strategic document on the development of mobility in Styria is already 12 years old, but is still up to date with regard to the goals in freight transport and international connections. The aim is to increase the share of rail transport in supra-regional and international freight traffic by upgrading the Styrian rail infrastructure to international standards and to reduce transport costs by rail. By means of a nationwide truck toll and monitoring compliance with legal regulations (toll evasion, tonnage restrictions, labour regulations, technical standards etc.), the reduction of transport costs by rail by supporting the liberalisation process, the bundling of freight flows and the formation of logistics platforms with cross-company process integration as neutral partners, equal conditions can be created in the freight transport market for road and rail transport and external cost factors can be internalised.  
<http://www.verkehr.steiermark.at/cms/beitrag/10911747/19512589>
- ÖBB Target Network 2025+ (2011): Target Network 2025+ is an expansion strategy for developing the rail infrastructure and is part of the "Overall Transport Scheme" for Austria. It contains investment in expansion and modernisation beyond the year 2025 and has been prepared by ÖBB-Infrastruktur on the basis of the Railway Act in close coordination with the Austrian Federal Ministry for Transport, Innovation and Technology (BMVIT) and the Federal Ministry of Finance, together with external transport planners. Target Network 2025+ is being implemented in several stages. The goal is an efficient infrastructure as basis for more trains, more freight and better synchronised scheduling.  
<https://infrastruktur.oebb.at/en/company/for-austria/future-rail-target-network>
- The Target Network for the horizon 2040 is currently being developed. Results are expected for the year 2023. Basis is the expected increase of the rail freight transport volumes in the next years:

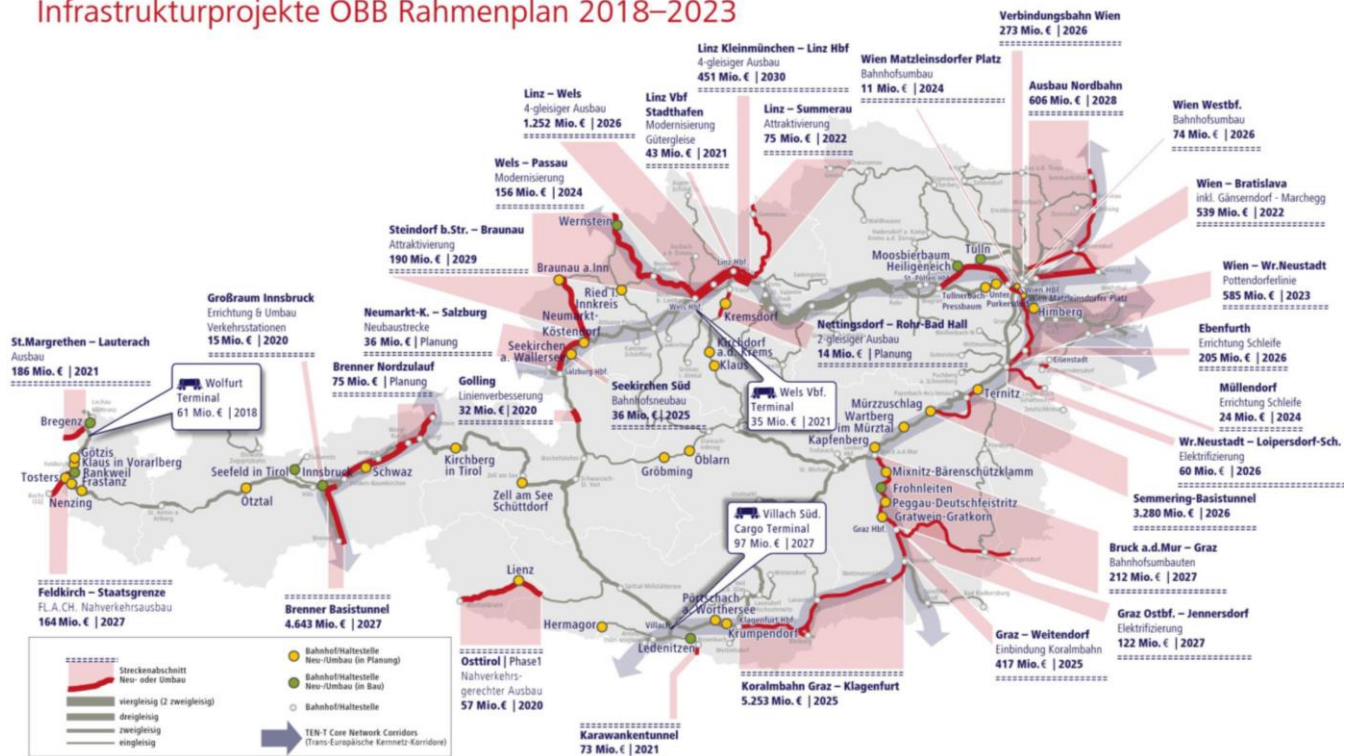


- Quelle: Leitstrategie Eisenbahninfrastruktur (BMVIT)
- Weißbuch Infrastruktur GKB 2025+ (2015): expansion of railway infrastructure of the GKB, mainly electrification and improvement of passenger train services, no measures to improve freight traffic.
- Styrian government's programme (2019): Regarding the freight transport in, out and into the Styrian region the main aims are streamlined to the strategic document STGVK. In particular, the aim is to finance road transport infrastructure in line with the polluter-pays principle and to increase investment in the expansion and attractiveness of the rail infrastructure (railway lines and the terminal Graz as the main hub in Styria) and freight transport services. Climate compatibility is the basis for the further development of mobility in Styria.  
<http://www.stvp.at/files/2019/12/Agenda-weiss-grün.pdf>
- Austrian government's programme 2020 - 2024:
- Freight transport is to be carried out in an energy-efficient, environmentally and climate-friendly manner. (see page 120)
- Make rail freight transport financially more attractive (adjustment of subsidies up to EU-approved levels, use mainly for cost-intensive area-wide service, companies with low transport volumes, modal shift, promotion of single wagon transport)
- Securing and expanding intermodal loading facilities in order to increase the efficiency of rail freight transport: promotion and support of direct rail connections to companies, including maintenance and operation; in the field of rezoning of industrial and commercial areas, connecting railways are to be promoted.
- Increased transport of goods that are specifically suited to the rail sector. (see page 132)



- ÖBB's framework plan for the expansion of the rail network 2018-2023: contains all expansion measures in the Austrian rail network for the next 5 years. Every year the Federation invests more than two million Euros in expanding and modernising the route network and the railway stations. Investment in the railway is twice as high as in roads. For the period 2018-2023, around € 13.9 billion is planned for expansion of the railway network. About € 3.7 billion are reserved for the expansion of the Southern railway line (Koralmbahn and Semmering base tunnel).  
[https://www.bmvit.gv.at/dam/jcr:44b7834b-37f1-4bcd-909c-0e8feea25204/praesentation\\_rahmenplan\\_oebb\\_2018.pdf](https://www.bmvit.gv.at/dam/jcr:44b7834b-37f1-4bcd-909c-0e8feea25204/praesentation_rahmenplan_oebb_2018.pdf)  
[https://www.bmvit.gv.at/themen/verkehrsplanung/ausbauplan/plan\\_oebb.html](https://www.bmvit.gv.at/themen/verkehrsplanung/ausbauplan/plan_oebb.html)

## Infrastrukturprojekte ÖBB Rahmenplan 2018–2023



Map 9: Framework plan for the expansion of the Austrian rail network 2018-2023

Source: ÖBB Infrastruktur AG, BMVIT

## 4. Regional Stakeholder Mapping

The involvement of major stakeholders is a key element for the projekt's results and the improvement of the regional rail freight transport in a climate compatible way. Cooperation and coordination between all relevant stakeholders is therefore fundamental and important.

Stakeholder	Role	Importance Relevance (High/ medium/low)	Contribution to the project	Benefits from the project	Conflicts (Potential, existing, former)	Current level of support	Strategies to improve the support
ÖBB- Infrastruktur AG	Company that builds and manages the main railway infrastructure	High	Assumption of strategic goals and implementation of infrastructural works	Funds and coordination on regional level	Missing infrastructu ral works	-	Showing the added value of infrastructure investitions
StLB, GKB	Companies that build and manage regional railway infrastructures	High	Assumption of strategic goals and implementation of infrastructural works	Funds and coordination on regional level	Missing infrastructu ral works	-	Showing the added value of infrastructure investitions
Railway undertakings RCA AG, LTE, StB	Operators	High	Data exchange of relevant freight flows	Additional potential for freight transport	Privacy of commercial data	Low	Showing the added value of data exchange
RRT CCG Terminal	Terminal operator	High	Assumption of strategic goals and implementation of infrastructural works	Funds and coordination on regional level, additional potential for freight transport	Missing infrastructu ral works	-	Showing the added value of infrastructure investitions
Chamber of commerce (WKO Steiermark)	represents the interests of Austrian companies	Medium	Data exchange of relevant freight flows	Better opportunities for freight transport	Privacy of commercial data	-	Showing the added value of data exchange
Industriellen- vereinigung Steiermark	representation of industry's interests	Medium	Data exchange of relevant freight flows	Better opportunities for freight transport	Privacy of commercial data	-	Showing the added value of data exchange
Freight Forwarders	Operators	High	Data exchange of relevant freight flows	Better opportunities for freight transport	Privacy of commercial data	-	Showing the added value of data exchange

Weblinks:

[www.verkehr.steiermark.at](http://www.verkehr.steiermark.at)

<https://infrastruktur.oebb.at/en/>

<https://www.railcargo.com/en/>

<https://www.wko.at/service/Austrian-Economic-Chambers.html>

<https://steiermark.iv.at/en/federation-austrian-industries>

<https://www.bmvit.gv.at/en/topics/railways.html>

		INTEREST	
		Low	High
INFLUENCE	Low	<b>Marginal Stakeholders:</b> Importance = low	<b>Operative Stakeholders:</b> Importance = medium/high • Interest groups
	High	<b>Relevant Stakeholders:</b> Importance = medium/high	<b>Key Stakeholders:</b> Importance = high • Railway Infrastructure • Railway Undertakings • Freight Forwarders

## 5. SWOT Analysis

The SWOT Analysis serves to identify key factors in the regional rail freight transport. These factors give an overview or a summary of the status quo of rail freight transport in the Styria region.

Strength	Weaknesses
All main transport axes are part of the TEN-T Networks. The southern railway corridor with Koralm railway and Semmering base tunnel as well as the railway line Graz - Spielfeld - Maribor are part of the Baltic-Adriatic Corridor and thus part of the TEN-T core network.	Styria misses a high capacity rail connection from the economic centres in central and the Northwest of Europe to Southeast Europe particularly to the Harbours of Koper and Rijeka as well as to the eastern Adriatic and Western Balkan region. This is due to the single-tracked bottleneck between Selzthal and Linz and further North as well as to the steep southern ramp to the Bosruck tunnel. This bottleneck hampers also the domestic connectivity of the industrial sites of Styria and Upper Austria. Another bottleneck along the Pyhrn-Schober-Corridor is the mainly single track section between Werndorf (south of Graz) and Spielfeld (border to SI).
The main Styrian rail network is electrified, and double-tracked, suitable for freight transports and in line with the requirements of the TEN-T.	The single track regional railway lines are not very suitable for economically successful freight transport.
The Styrian railway network serves as an important link between Austria and South Eastern Europe. The Pyhrn/Schober axis - in combination with the Tauern axis - is intended to close the gap in the TEN-T core network connecting Central and South-Eastern Europe as an essential alpine crossing.	With the commissioning of the Koralm railway (2025) the section Bruck and der Mur - Graz will be at the limit of capacity, as several transport corridors (Baltic-Adriatic, Pyhrn-Schober and the regional transport between Leoben and Kapfenberg) pass along this track.
Three publicly accessible freight terminals in Styria - all are suitable for bimodal rail-road transshipment. The Cargo Center Graz (CCG) terminal is the most important logistic node for national and international freight transport and part of the TEN-T core network.	Because of missing loading stations and companies' feeder lines away from the terminals the accessibility for rail freight transport is very poor. Single wagonload transport is not supported by the railway undertakings.
Opportunities	Threats
In the course of the next TEN-T revision in 2023, the federal states of Styria, Carinthia, Upper Austria and Salzburg are aiming to include the Pyhrn-Schober axis and the Tauern axis into the TEN-T core network.	Strong competition from road transport.
According to the Austrian government's programme 2020 - 2024 and the Styrian government's programme (2019) freight transport is to be carried out in an energy-efficient, environmentally and climate-friendly manner. This should increase the competitive opportunities for rail transport in the future.	The political will for true cost and restrictions in road transport to reach equal conditions in the freight transport market is undermined by the lorry lobby.
Availability of European, national and regional funds for the strengthening of railway infrastructure.	Lack of money for investments in railway infrastructure, further closing of railway lines, private feeder lines or loading points
Increase of the freight transport volumes in the next years.	The development of the railway network cannot keep up with the development of freight transport.

## 6. Recommendation/Outlook

This baseline study shows the current situation of regional freight transport in Styria. Styria's economy concentrates within the central region of Graz and the industrial region in Upper Styria. It is mainly export oriented. The three terminals form the access points to the national railway network and to the international corridors and markets. The main railway lines and international corridor lines are very well suitable for high-quality freight transport but not yet developed for the general increasing freight transport. The weakness in rail freight transport lies apart the central region and industrial region in Upper Styria. Missing loading stations and companies' feeder lines as well as missing of support for single wagonload transport by the railway undertakings push freight transport on the road.

The political programmes at national and regional level give reason to hope that rail freight transport will become even more important in the future. The conditions are good. But to achieve the goals, the expansion plans for the national and regional rail network must be made even more ambitious and implemented in right time:

- The rail-road terminal CCG as main logistic node has to be expanded.
- The Styrian railway network has to be developed in order to increase capacity and attractive rail paths for freight trains.
- Apart from the central region and industrial region in Upper Styria regional logistic nodes have to be developed with access to regional railway lines to concentrate regional freight transport.



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## 8. Appendix - Maps

Map A.1: Economic and central areas in Styria and neighbouring regions

Map A.2: Economy, education and transport in the central region of Graz

Map A.3: Economy, education and transport in the central region of Upper Styria

Map A.4: Styrian railway infrastructure - existing network 2019

Map A.5: Desired TEN-T-network for Styria

Map A.6: Rail Freight Corridors (RFCs)

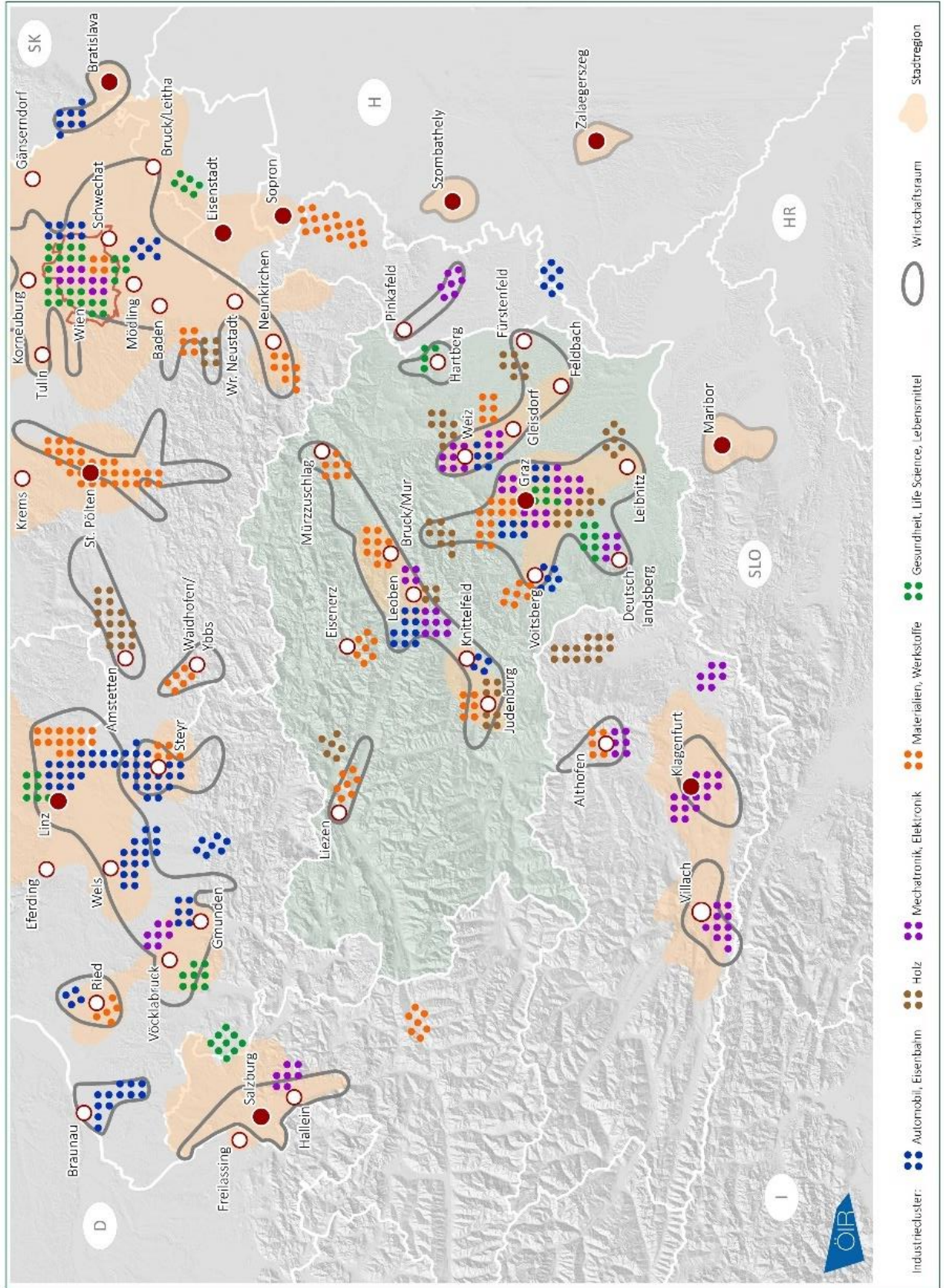
Map A.7: Rail freight transport 2009 via Semmering and Schoberpass

Map A.8: Framework plan for the expansion of the Austrian rail network 2018-2023



# Die Steiermark im überregionalen Kontext – Zentralräume, Wirtschaft und Verkehr

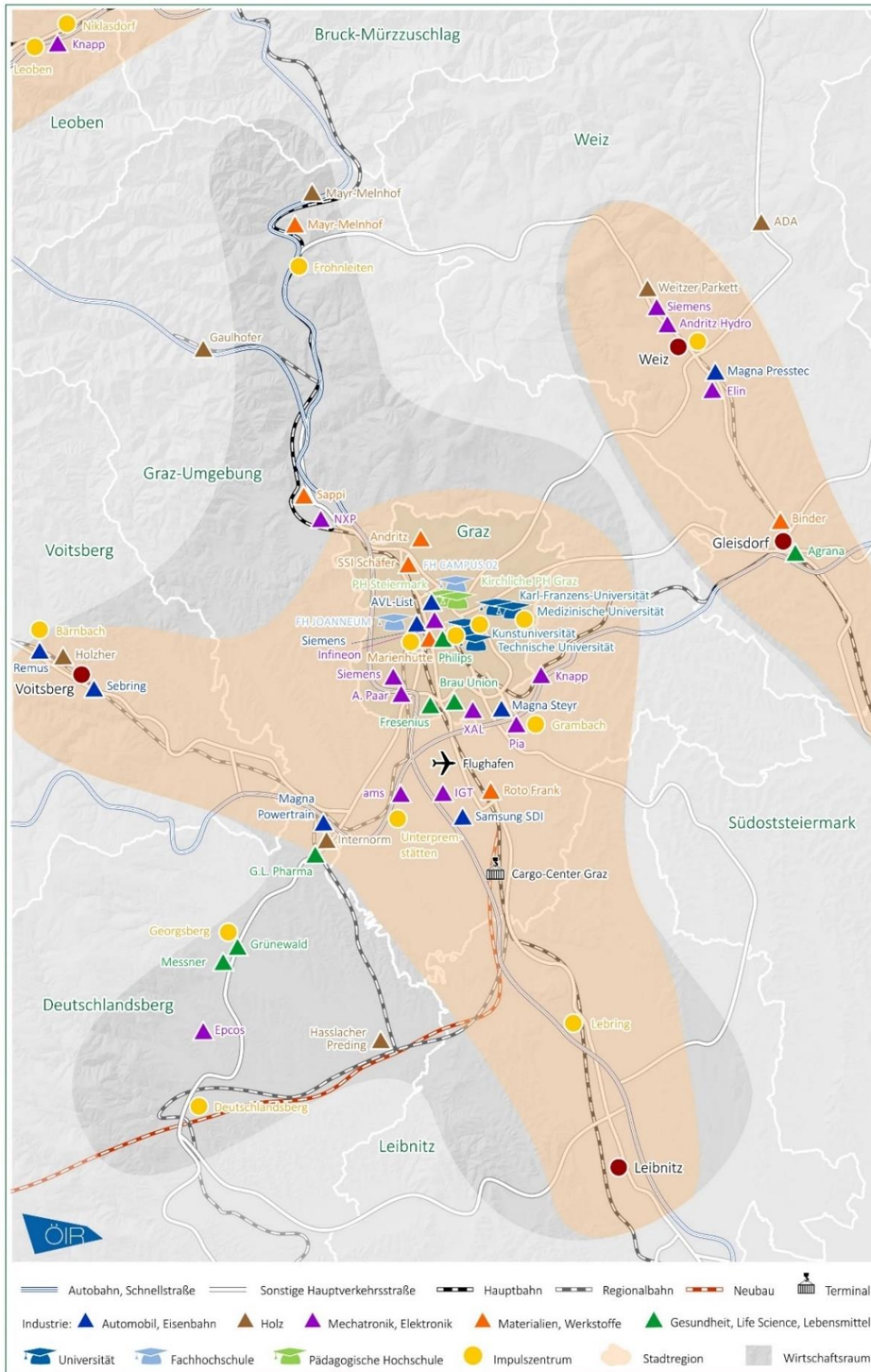
## Wirtschafts- und Zentralräume in der Steiermark und angrenzenden Regionen



Map A.1: Economic and central areas in Styria and neighbouring regions



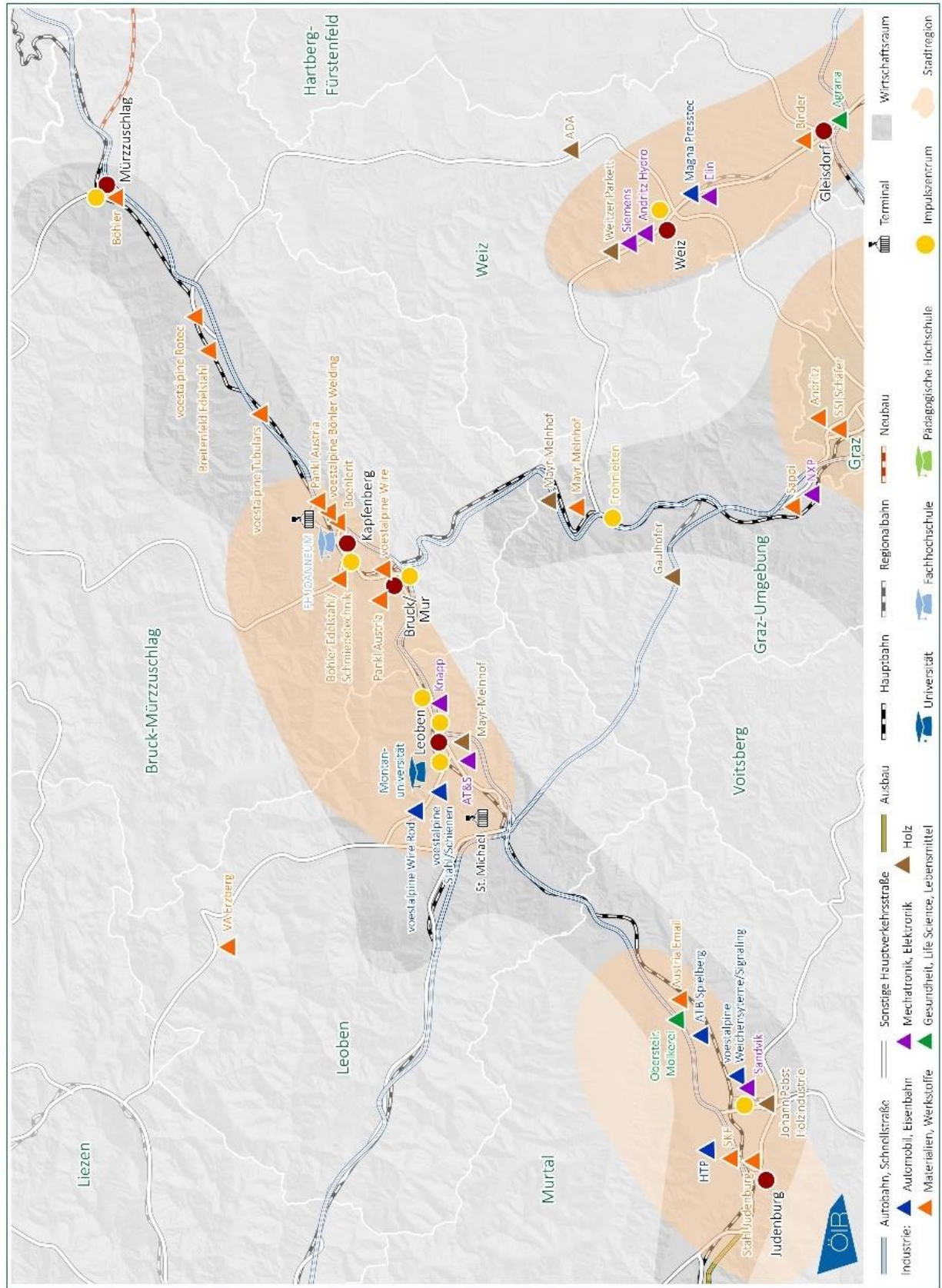
## Die Steiermark im regionalen Kontext – Zentralräume, Wirtschaft und Verkehr Wirtschaft, Bildung und Verkehr im Grazer Zentralraum



Map A.2: Economy, education and transport in the central region of Graz

# Die Steiermark im regionalen Kontext – Zentralräume, Wirtschaft und Verkehr

## Wirtschaft, Bildung und Verkehr im obersteirischen Zentralraum

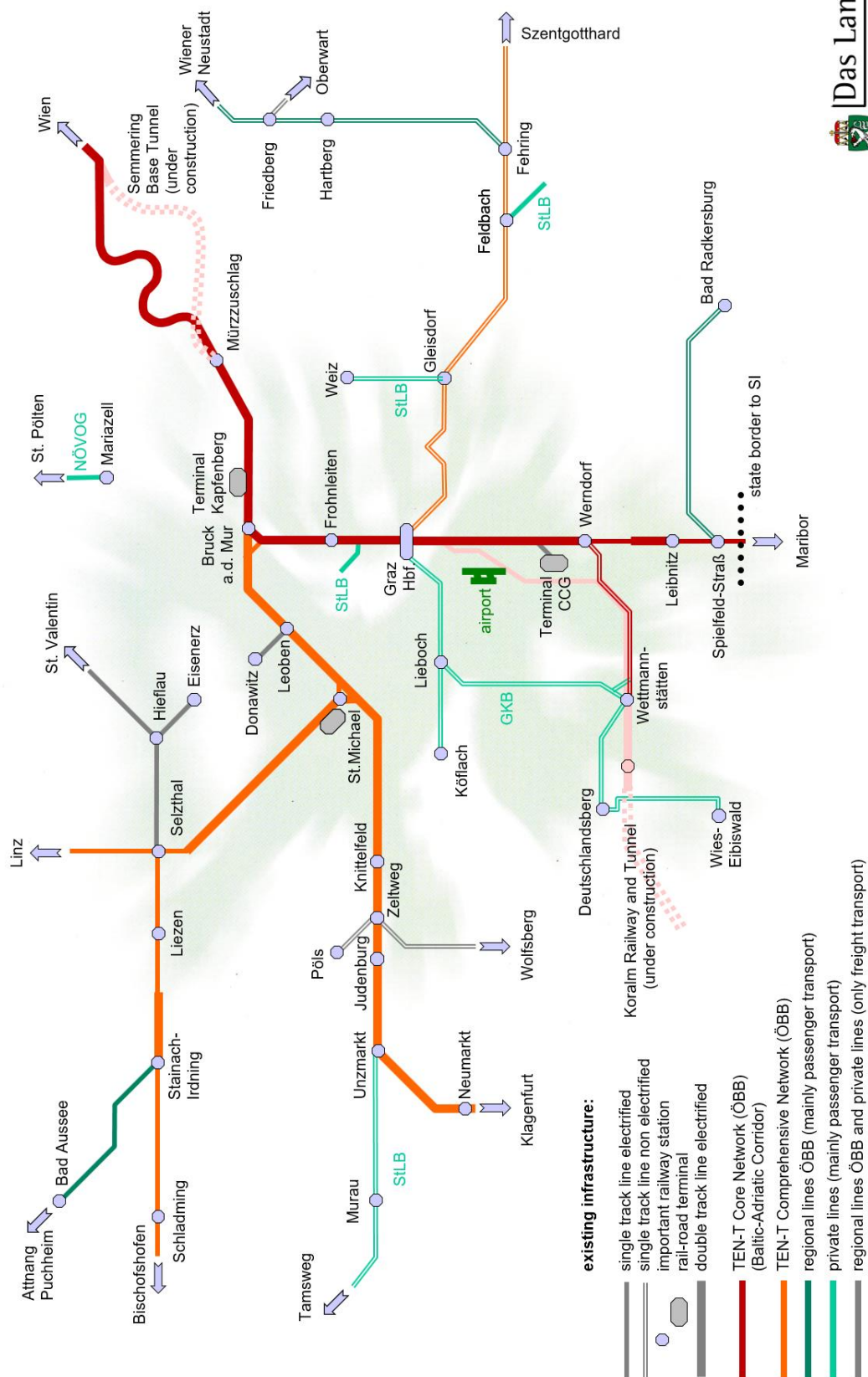


Map A.3: Economy, education and transport in the central region of Upper Styria



## Styrian railway infrastructure

existing network 2019



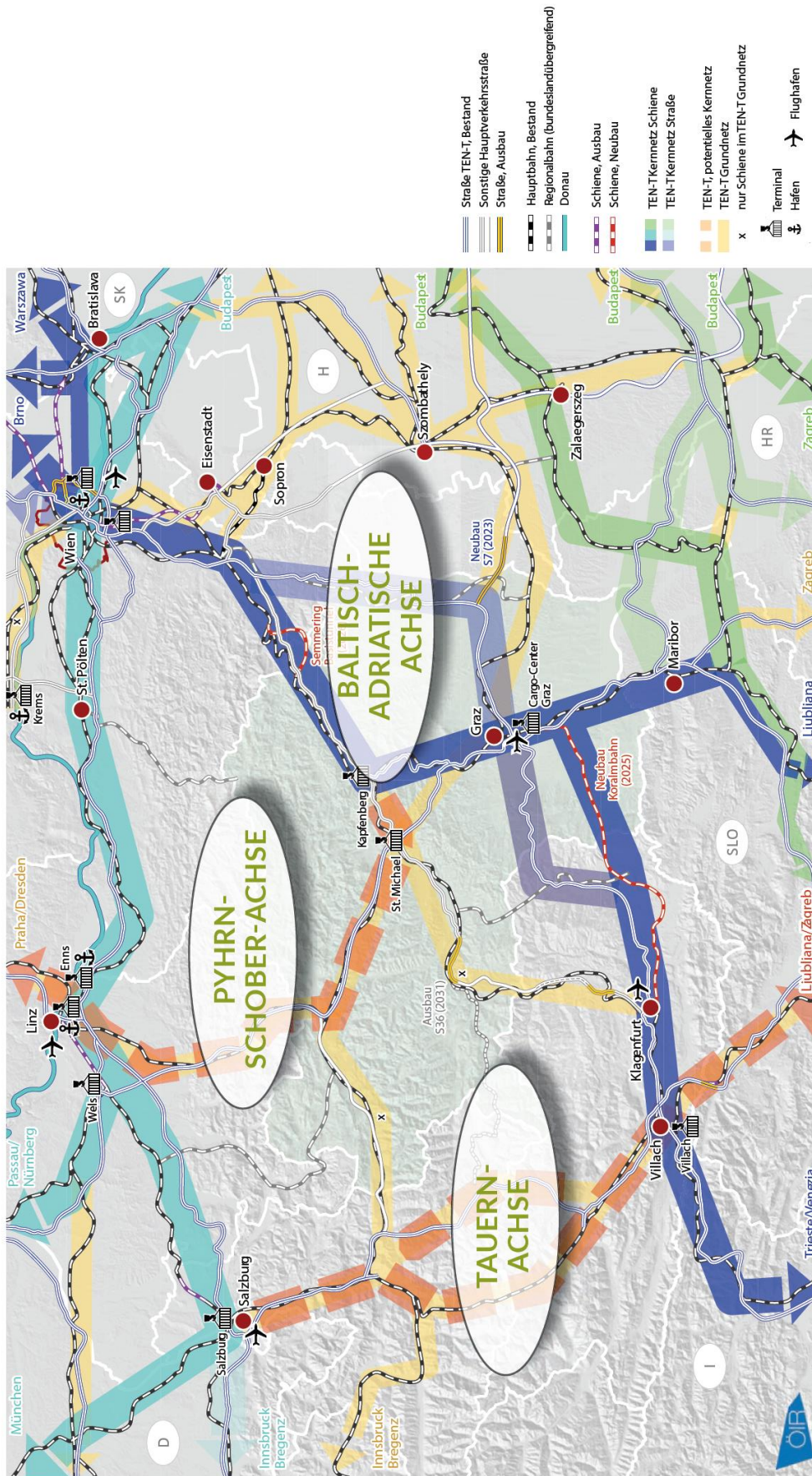
Das Land Steiermark

→ A16 Verkehr und Landeshochbau

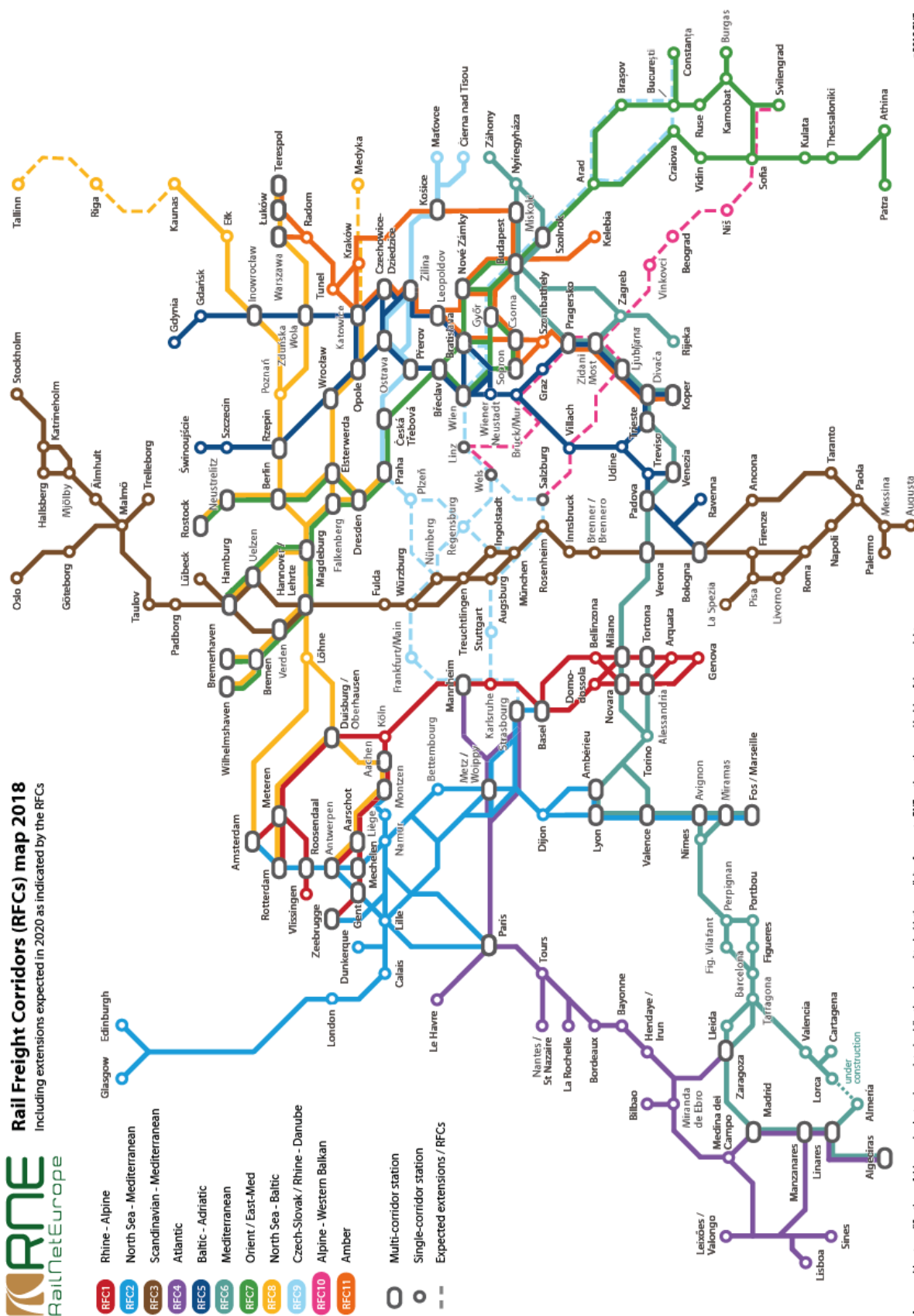
Map A.4: Styrian railway infrastructure - existing network 2019



# Die Steiermark im überregionalen Kontext – Zentralräume, Wirtschaft und Verkehr Verkehrsinfrastruktur Steiermark und angrenzende Regionen



Map A.5: Desired TEN-T-network for Styria



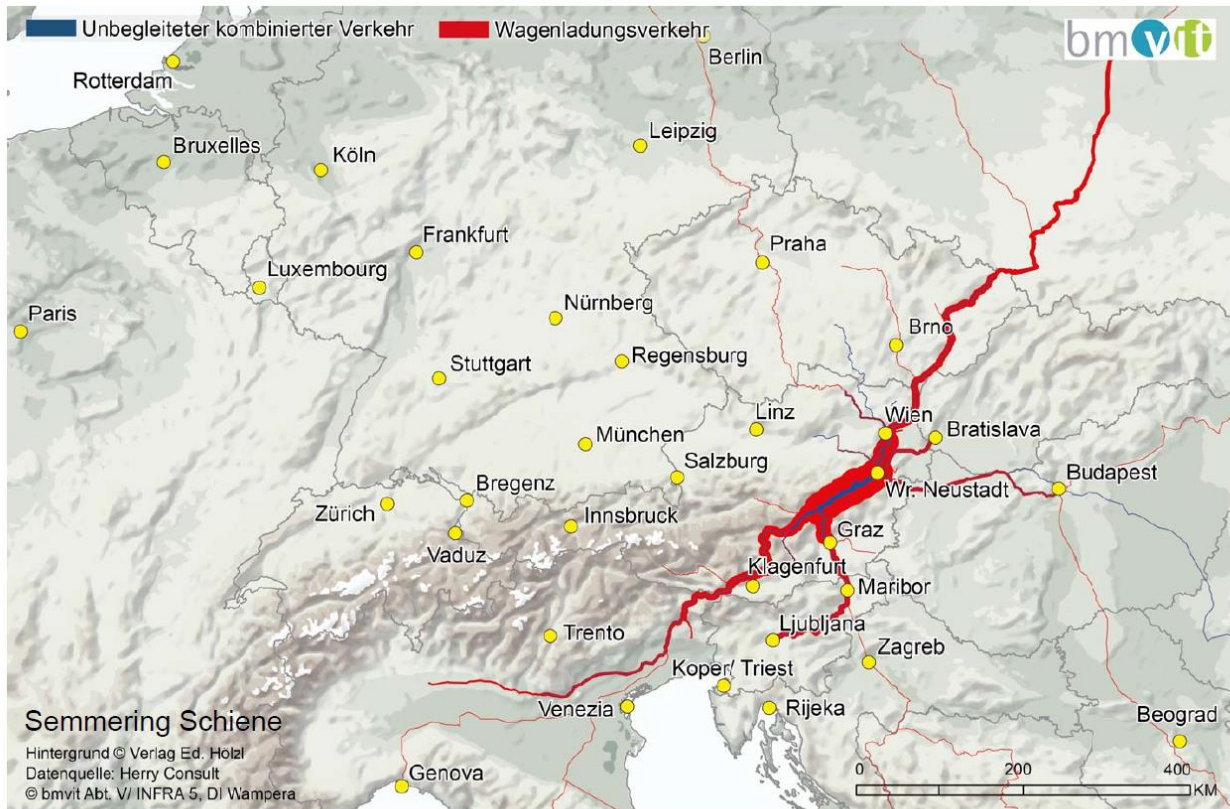
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Map A.6: Rail Freight Corridors (RFCs)

Source: RNE, <http://rne.eu/rail-freight-corridors/>





Semmering 2009 – Schienengüterverkehr – Verkehrsspinne Schiene

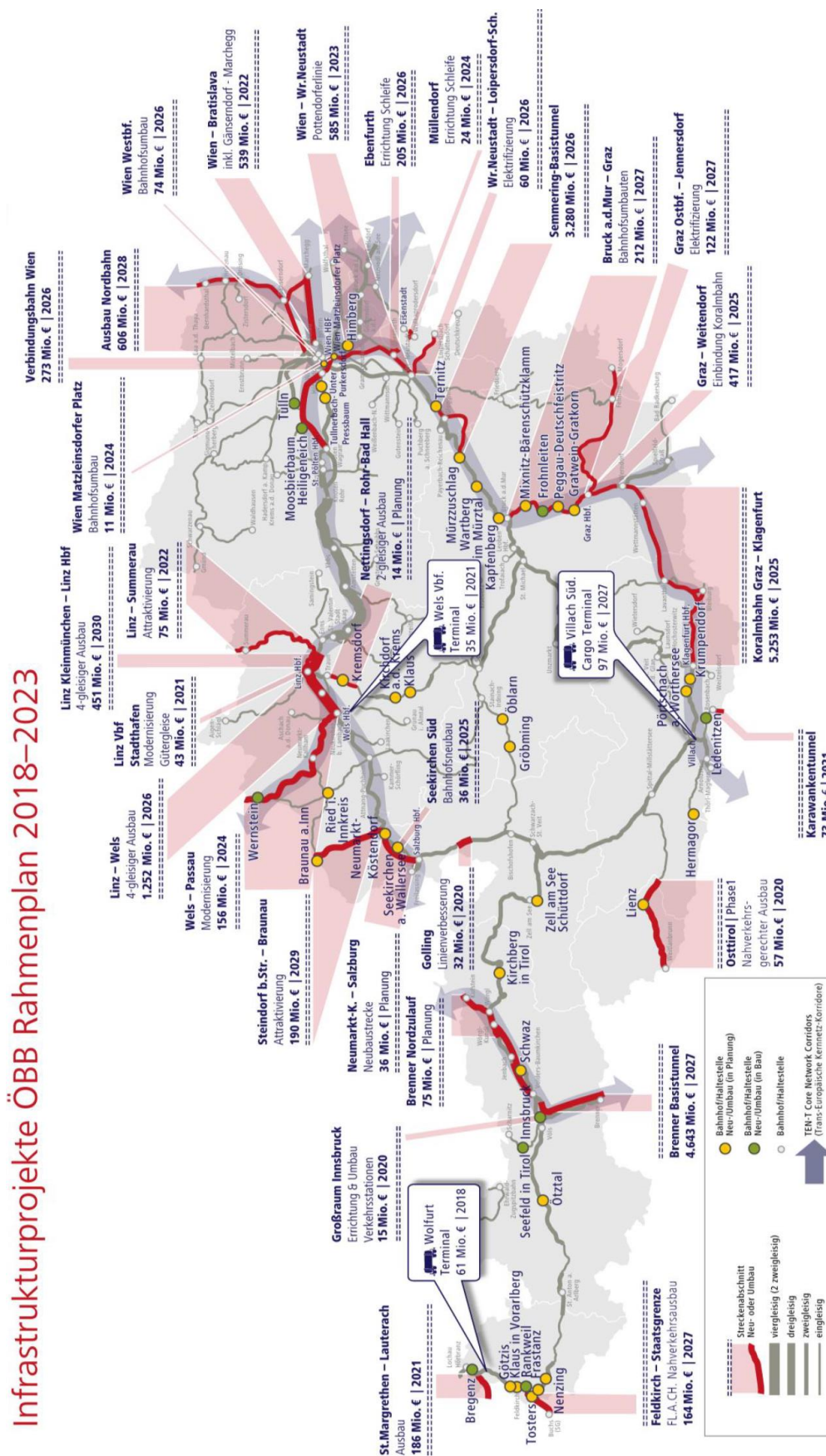


Schoberpass 2009 – Schienengüterverkehr – Verkehrsspinne Schiene

Map A.7: Rail freight transport 2009 via Semmering and Schoberpass

Source: BMVIT: Alpine Crossing Freight Transport Survey 2009 Austria





Map A.8: Framework plan for the expansion of the Austrian rail network 2018–2023

Source: ÖBB Infrastruktur AG, BMVIT





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