

Spatial Development and Innovation in Switzerland



Euskal Hiria 2009

Bilbao, 23.11.2009

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Switzerland



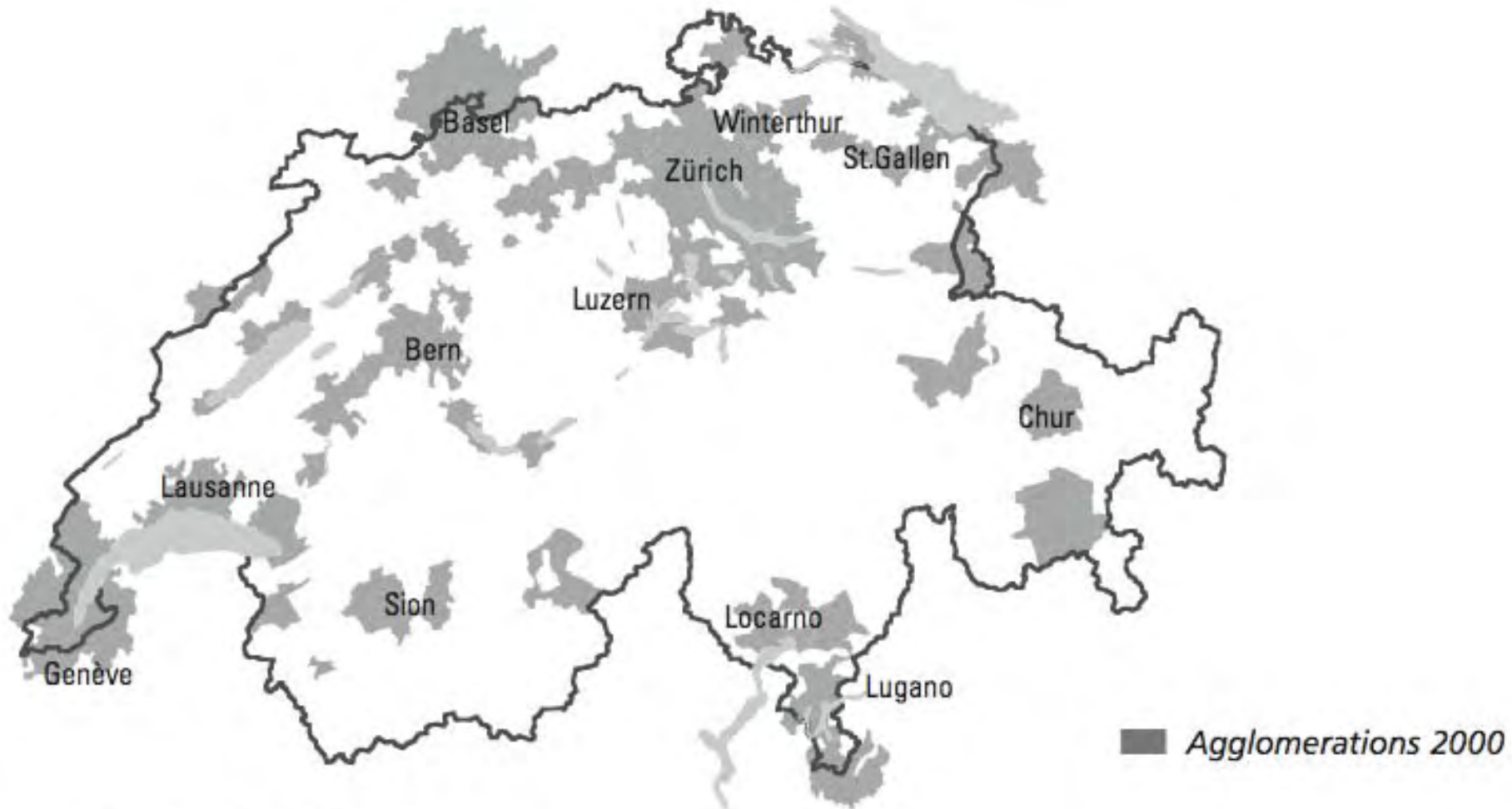


- Surface 41'285 km²
- Population 7.5 mio (75 % urban areas)
- Municipalities ~ 2'600
- Persons per household 2.3
- Average living space ~ 50 sqm per capita
- Average settlement area ~ 400 sqm per capita
- Degree of motorisation 505 cars / 1'000 residents
- Railway travel distance ~ 1'900 km per capita and year
- Mode of transportation
 - ~ 69 % cars
 - ~ 21 % public transport
 - ~ 8 % non-motorised transport



Inhabitants (2000)	town center	agglomeration
Zürich	363 273	1 080 728
Genève	177 964	645 608
Basel	166 558	731 167
Bern	128 634	349 096
Lausanne	124 914	311 441

Sources: INFOPLAN-ARE, GEOSTAT-BFS, SABE, © ARE

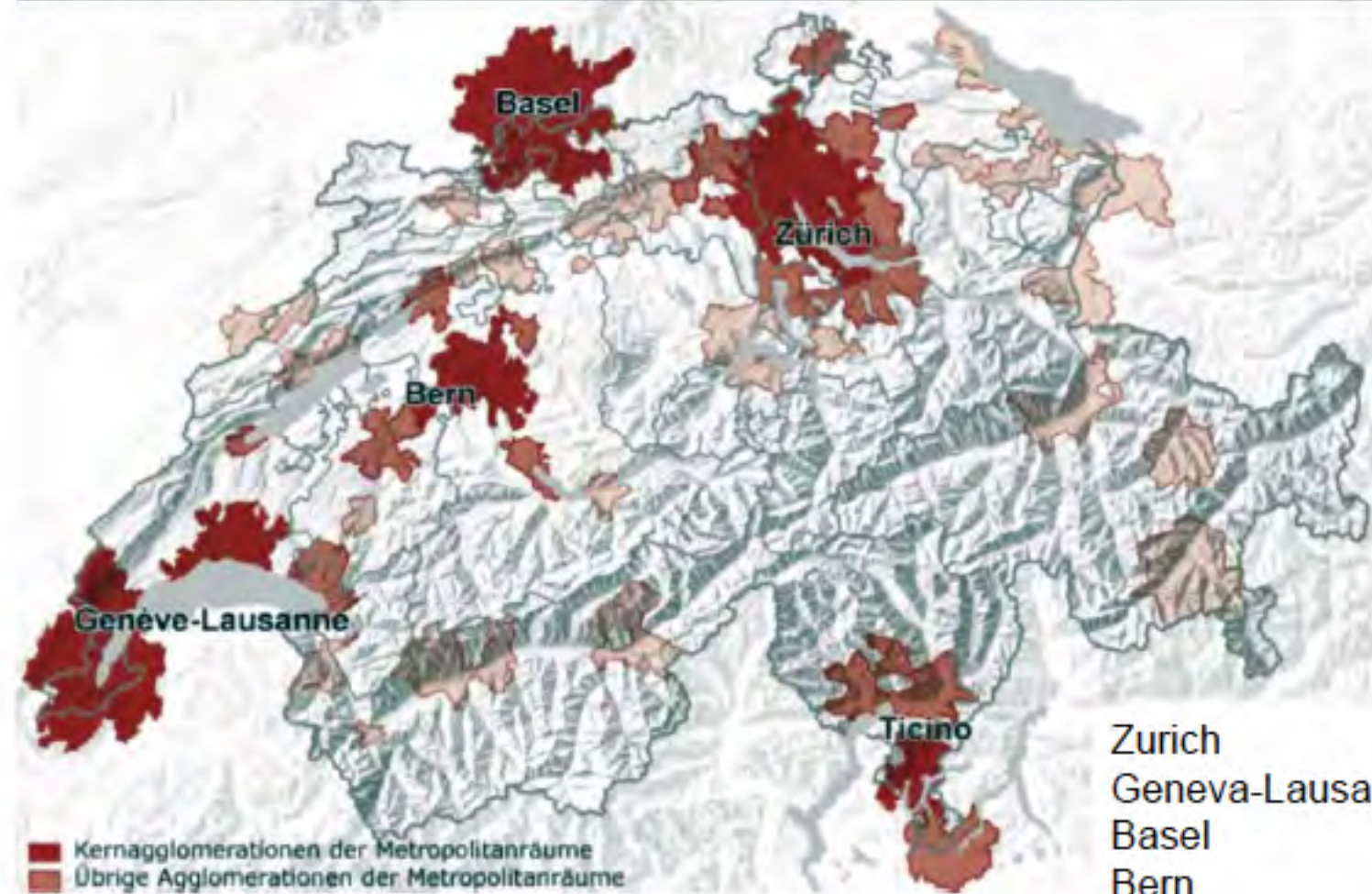


Source: INFOPLAN-ARF, GEOSTAT-BFS, SABE

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Metropolitan areas of Switzerland



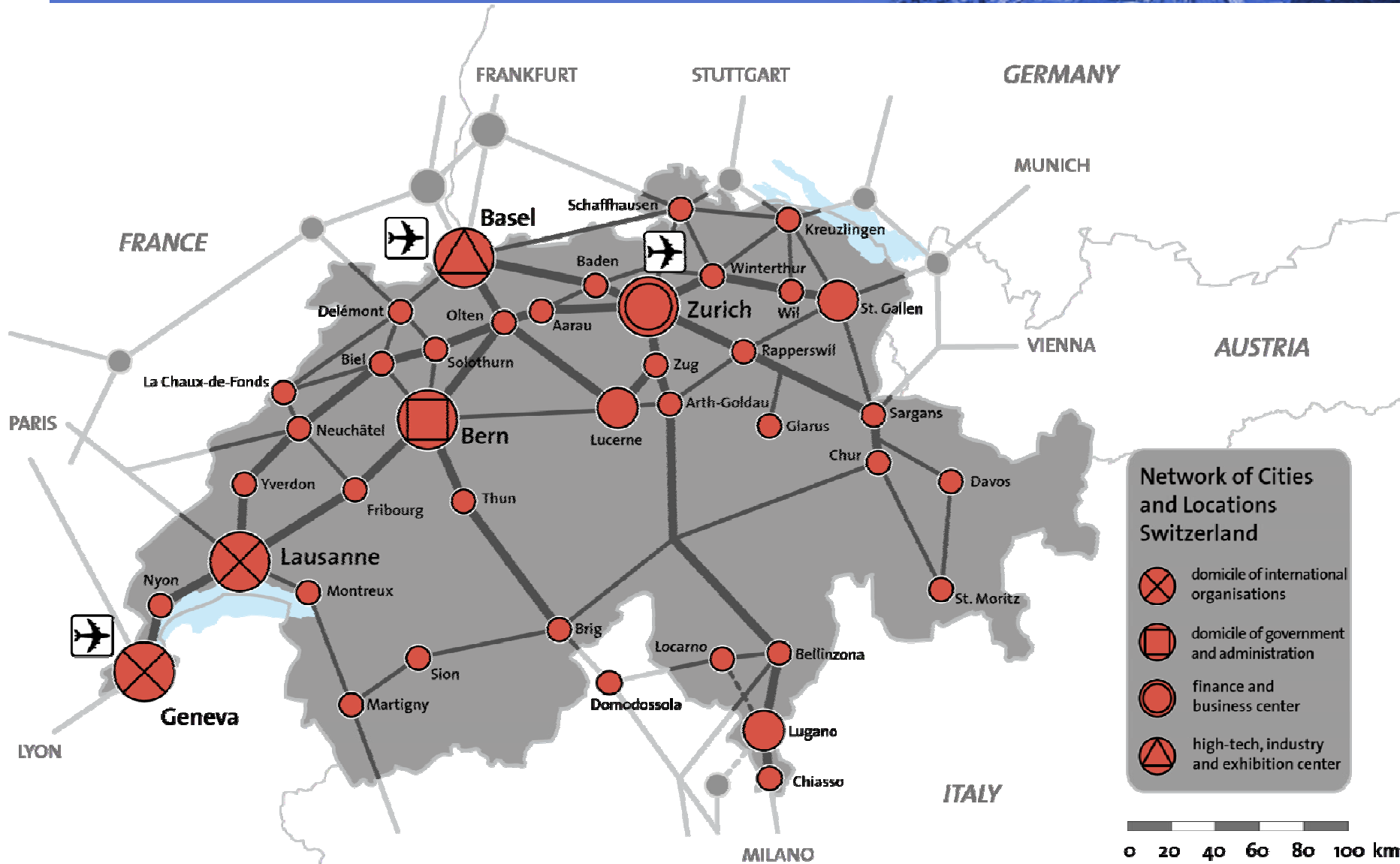
Zürich	1.6 mio.
Geneva-Lausanne	1.2 mio.
Basel	0.7 mio.
Bern	0.6 mio.
Ticino	0.5 mio.



Switzerland – traffic flows on the roads



Main spatial Strategy, Part I



7.6 Mio inhabitants, 41000 sqkm, only 30% is principally useable for settlement, agriculture, leisure, ca. 5 Mio (Mittelland = Area Lake Geneva – Lake Constanze) IRL ETH Zürich, 2009



Limattvalley 1955

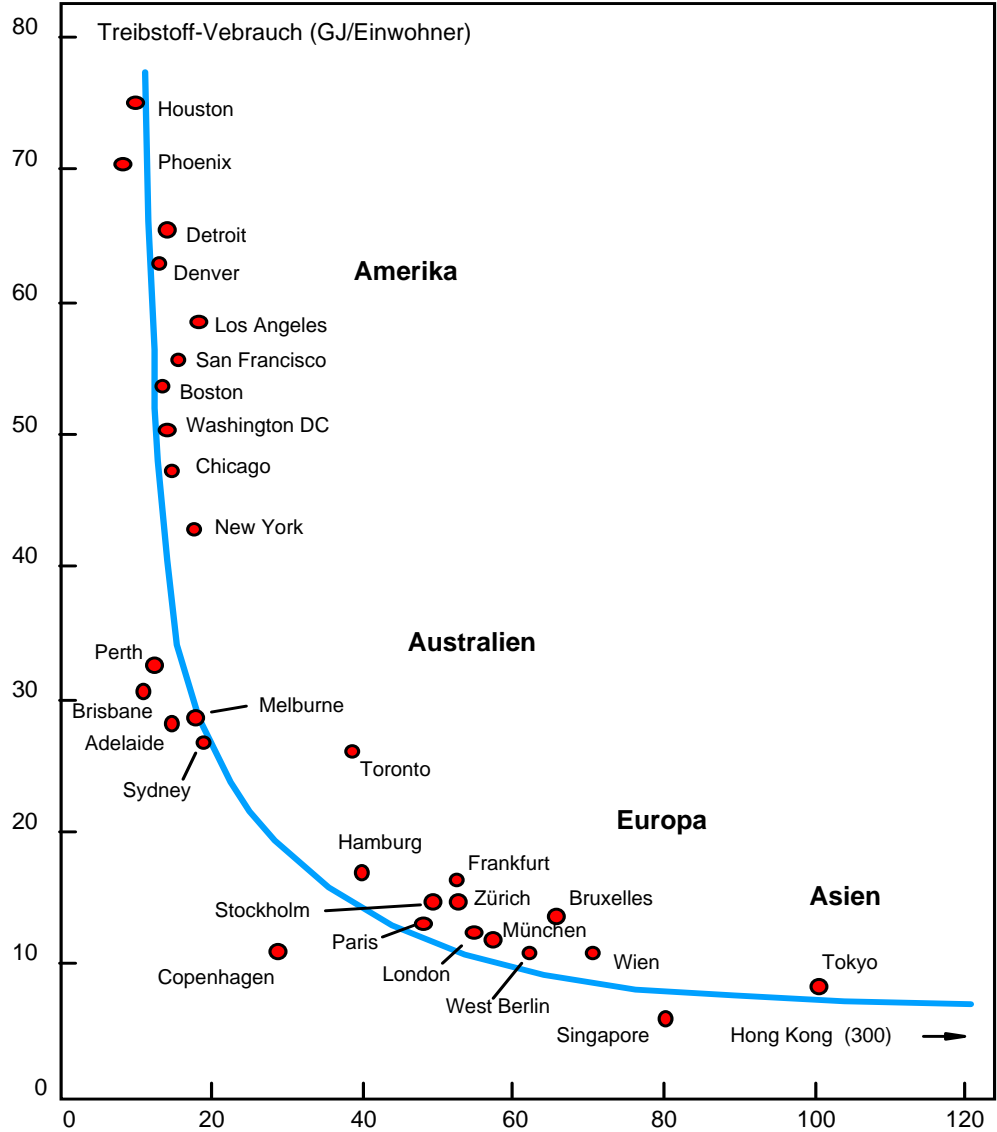




Limattal 1995



Global Trends: Density & Energy Consumption



Quelle : Kenworthy and Newman, 1989

Abundance of urban variety and artificial/cultural landscapes



The richness of proper sized cities and sound cultural landscapes is also an important locational factor



Minimum strategy of Spatial Development

- Ongoing Extension of Settlements
- Sustainable Development, Inner Renewal and Optimizing infrastructure and its maintainance
- Doing Nothing

* Strategies are leading thoughts for problemsolving

Legal Regulation – Constitutional Order

The Swiss Federal Constitution (BV 18. April 1999, update on 8. August 2006)
Article 75 : Spatial Planning

1 The Federation determines the principles of spatial planning. This obligates the Cantons and also serves a sustainable land-use and reasonable settlement development.

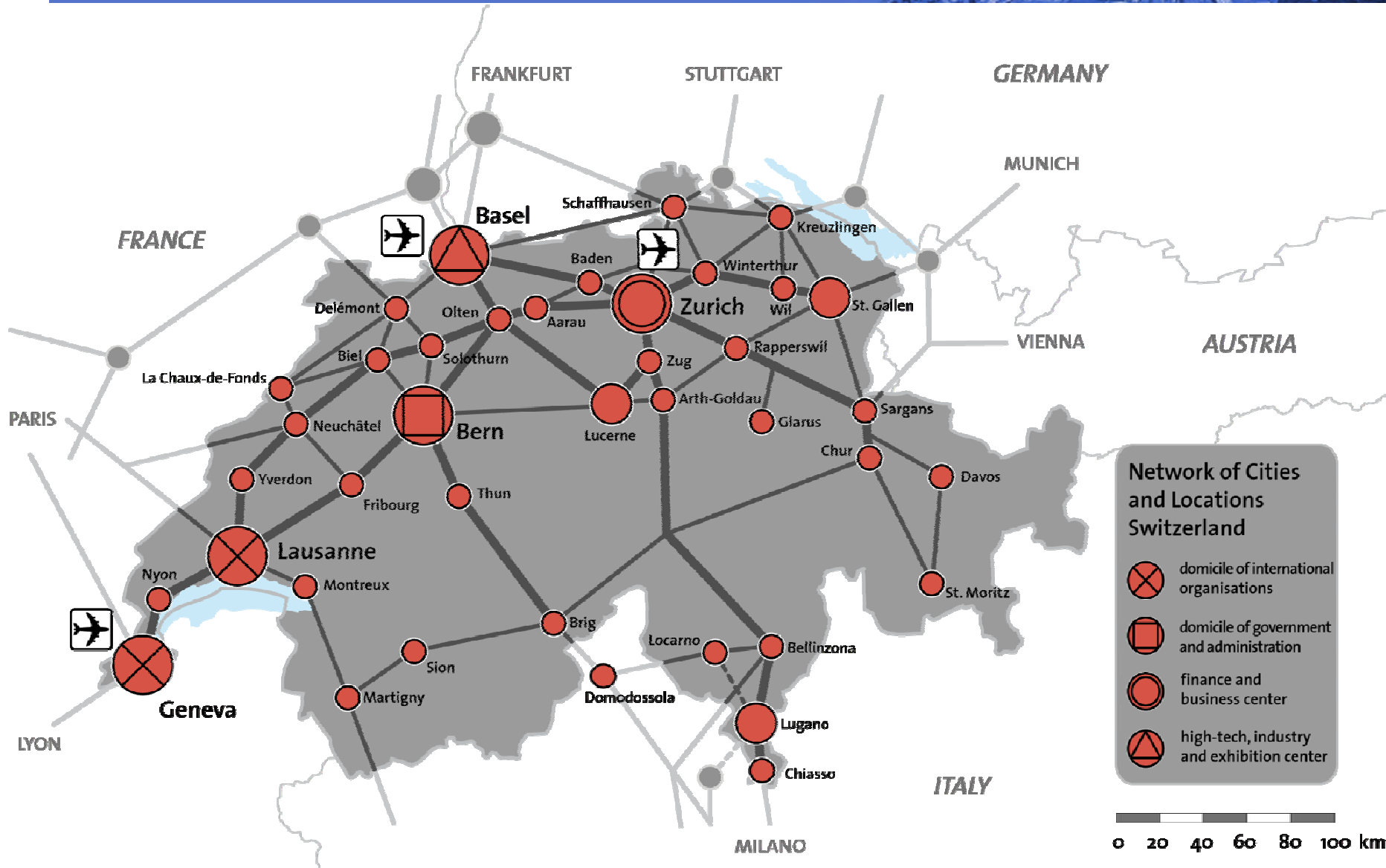
2 The Federation promotes and coordinates the efforts of the Cantons and cooperates with the Cantons.

3 By implementing of their tasks the Federation and the Cantons consider the requirements of spatial planning.




Planning and Building in Switzerland					
Structure of state	Planning levels	Legal basis	Instruments	Contents	Additional laws
Confederation	Spatial planning of the confederation	Law on spatial planning of 1979 (RPG)	Sectoral plans Sectoral strategies	Swiss Planning Policy Guidelines	e.g. Nature and Cultural Heritage Protection Act
Canton	Cantonal planning	Law on spatial planning of 1979 (RPG) Cantonal spatial planning and building regulation	Cantonal structure plan	Coordination of spatial projects Differentiation of building, agricultural and protection zones	e.g. canton ZH: Public Transport Act
	Regional planning		Regional structure plan	Intentions of the regions	
Municipality	Communal planning	Cantonal spatial planning and building regulation	Communal structure plan	Intentions of the municipalities (binding on authorities)	
			Land use plan Special land use plan	Area-wide definition of way of building and land use of the properties (binding on landowners)	
	Building regulations	Cantonal spatial planning and building regulation		Math. rules and procedures	
Local statutes			Communal building regulations	Commitments	

Strategic Tasks



IRL ETH Zürich, 2009

7.6 Mio inhabitants, 41000 sqkm, only 30% is principally useable for settlement, agriculture, leisure, ca. 5 Mio (Mittelland = Area Lake Geneva – Lake Constance)



Integrated Spatial and Infrastructural Development on the example of the backbone of the Swiss Spatial Strategy

The Railway-System



Revision of the Spatial Planning Law 2010/11

Public Election 2010/11 about Landscape Initiative
and revisioned Law

Spatial Planning and Development is a National Issue

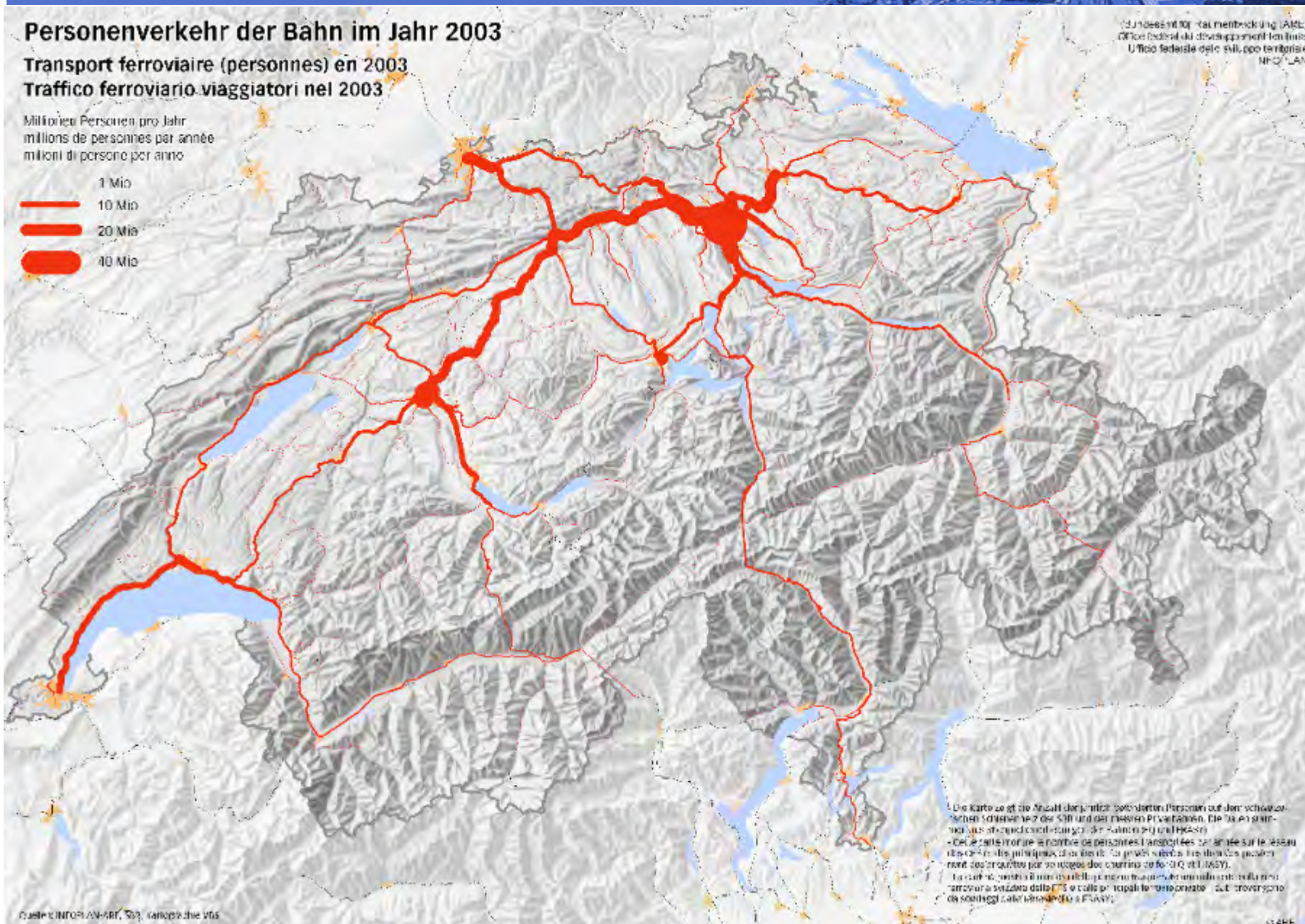


Personenverkehr der Bahn im Jahr 2003

Transport ferroviaire (personnes) en 2003

Traffico ferroviario viaggiatori nel 2003

Millionen Personen pro Jahr
millions de personnes par année
milioni di persone per anno



© Bundesamt für Raumentwicklung (ARE)
© Ufficio federale di sviluppo territoriale
Ufficio federale dello sviluppo territoriale
MAG. LAN

Quelle: ETH ZÜRICH, ARE, cartografia VRS

Die Karte zeigt die Anzahl der jährlich beförderten Personen auf dem schweizerischen Schienenetz der SBB und der meisten Privatbahnen. Die Linienstärke zeigt die Anzahl der Personen pro Jahr (in Millionen).
- Cette carte illustre le nombre de personnes transportées par année sur le réseau suisse des principales lignes de la Suisse romande. Les données présentées sont des moyennes par segment de courants de voyageurs (LGV).
- La cartografia mostra il numero di viaggiatori trasportati annualmente sulla rete ferroviaria svizzera delle SBB e delle principali ferrovie private. I dati provengono da sondaggi della ferrovia SBB e FSAS.



Güterverkehr der Bahn im Jahr 2000

Transport ferroviaire (marchandises) en 2000

Traffico ferroviario delle merci nel 2000

Millionen Tonnen pro Jahr
millions de tonnes par année
milioni di tonnellate per anno



Bundesamt für Raumentwicklung (ARE)
Office fédéral du développement territorial
Ufficio federale dello sviluppo territoriale
INFOPLAN



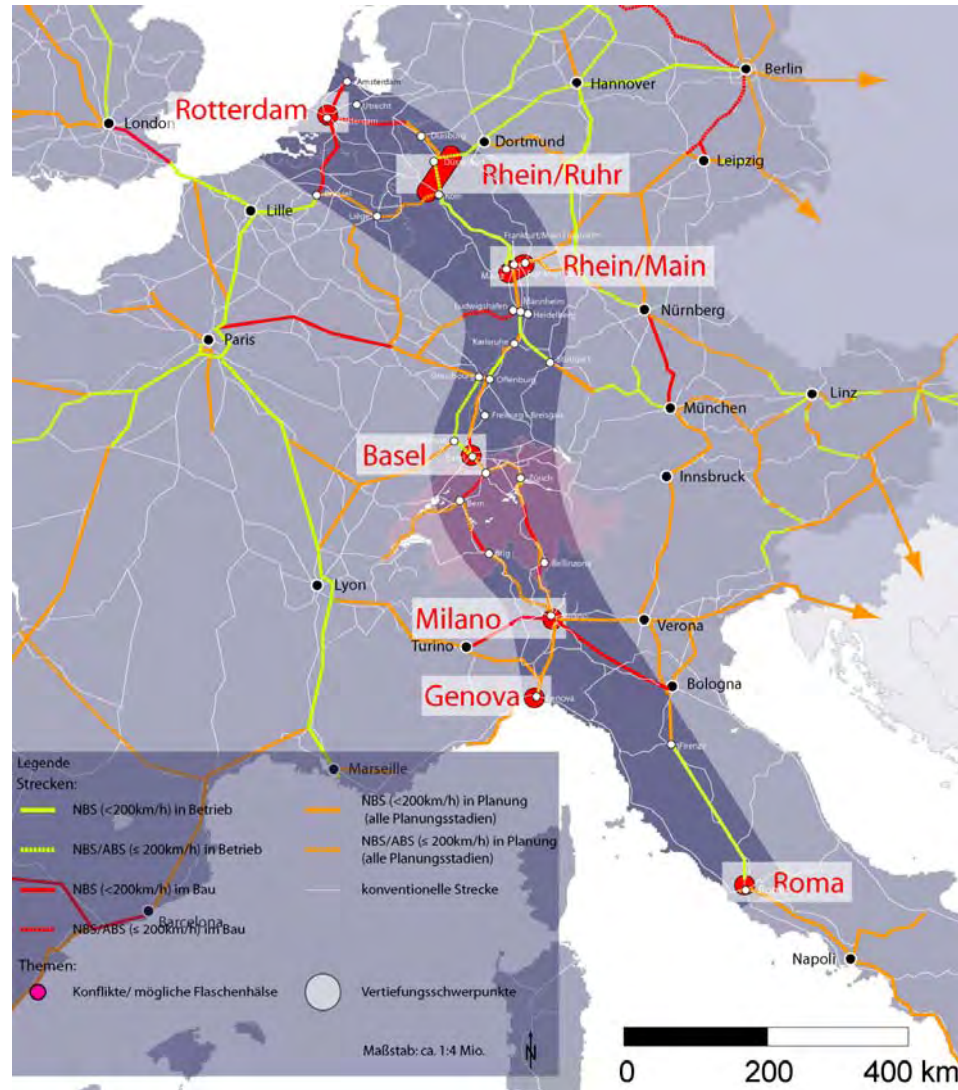
Die Karte zeigt die Güterverkehr der Schweizer Bundesbahnen (SBB) im Jahr 2000. Die Daten sind in Millionen Tonnen pro Jahr (Mio) unterteilt. Die Karte zeigt die Verteilung des Güterverkehrs auf dem Schweizer Schienennetz. Die höchsten Güterverkehrsvolumen sind in den Alpenregionen und in den Hauptachsen zu sehen. Die Karte ist ein Produkt des Bundesamts für Raumentwicklung (ARE) und des Informationsbundesamts (INFOPLAN).

Report on national strategy for Infrastructure (Nov. 2009), Gen. Secretary UVEK, Swiss Federation

Kapazitätsengpässe Schiene 2020 (rot: überlastete Strecken / Knotenpunkte)

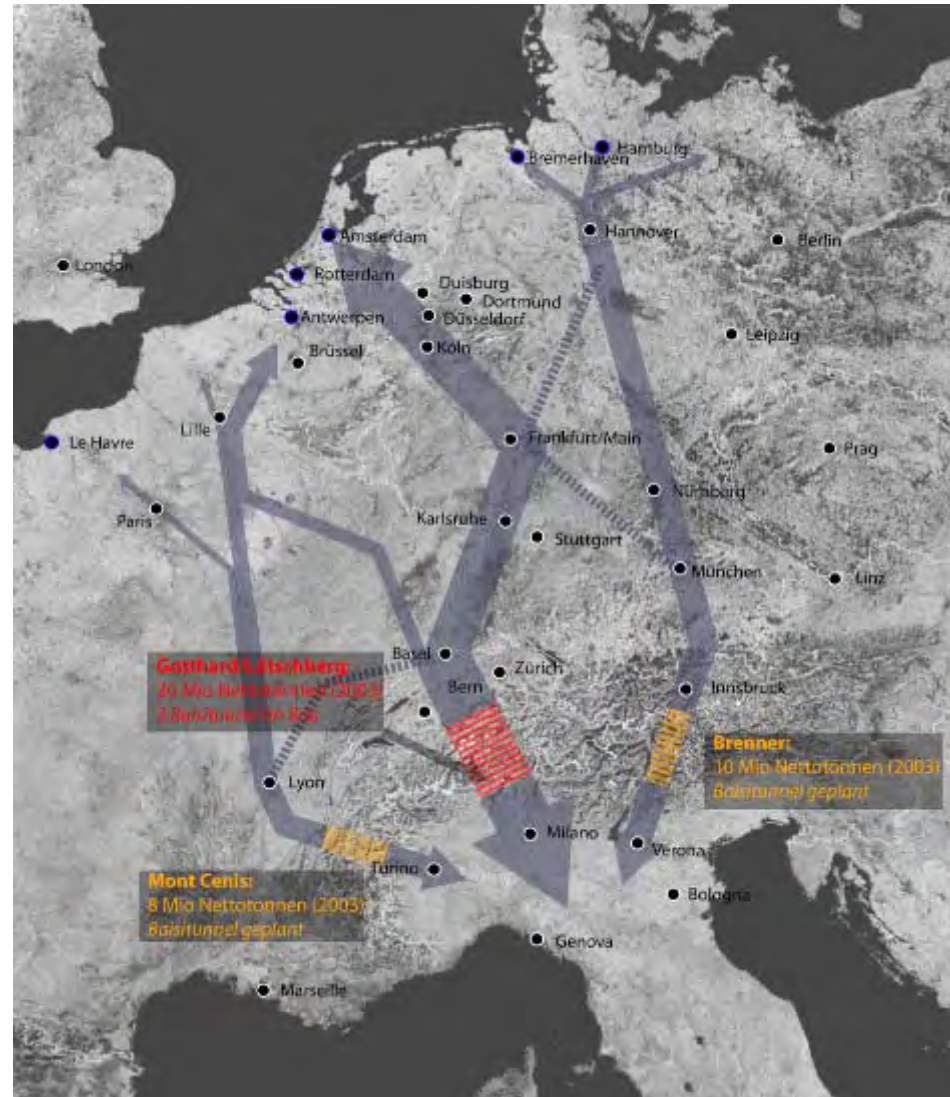


- In its catchment area are living ca. 70 Mio. inhabitants
- An area with the highest added value in Europe
- High traffic load within freight and passenger traffic

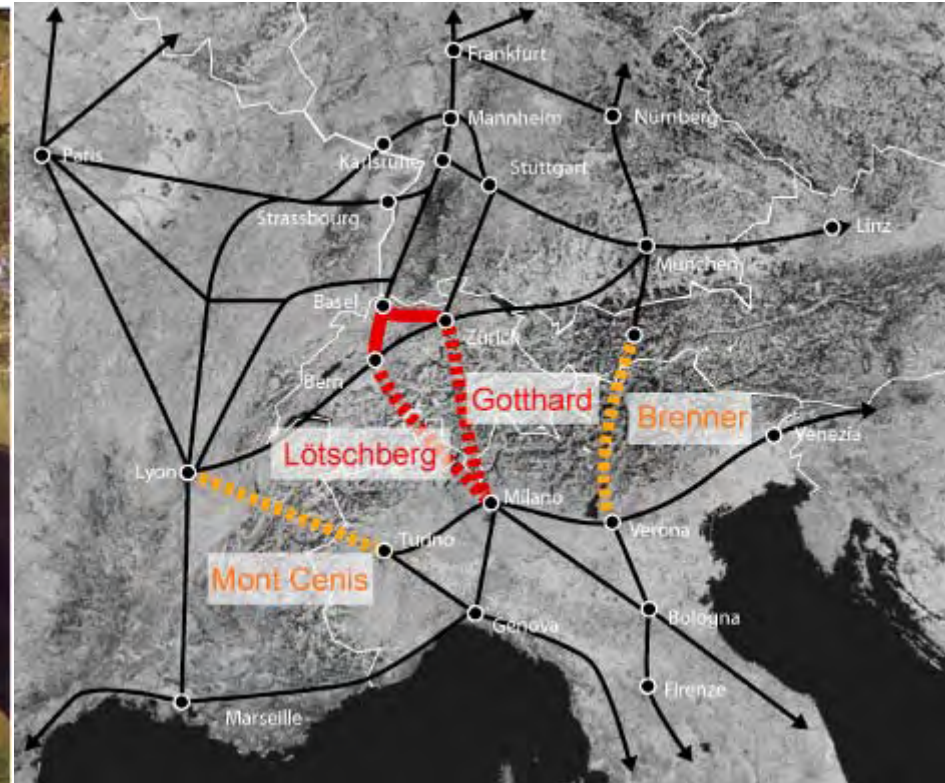


The North_South_Transversale is the most important Rail connection in North-South-Relation, especially important for freight traffic

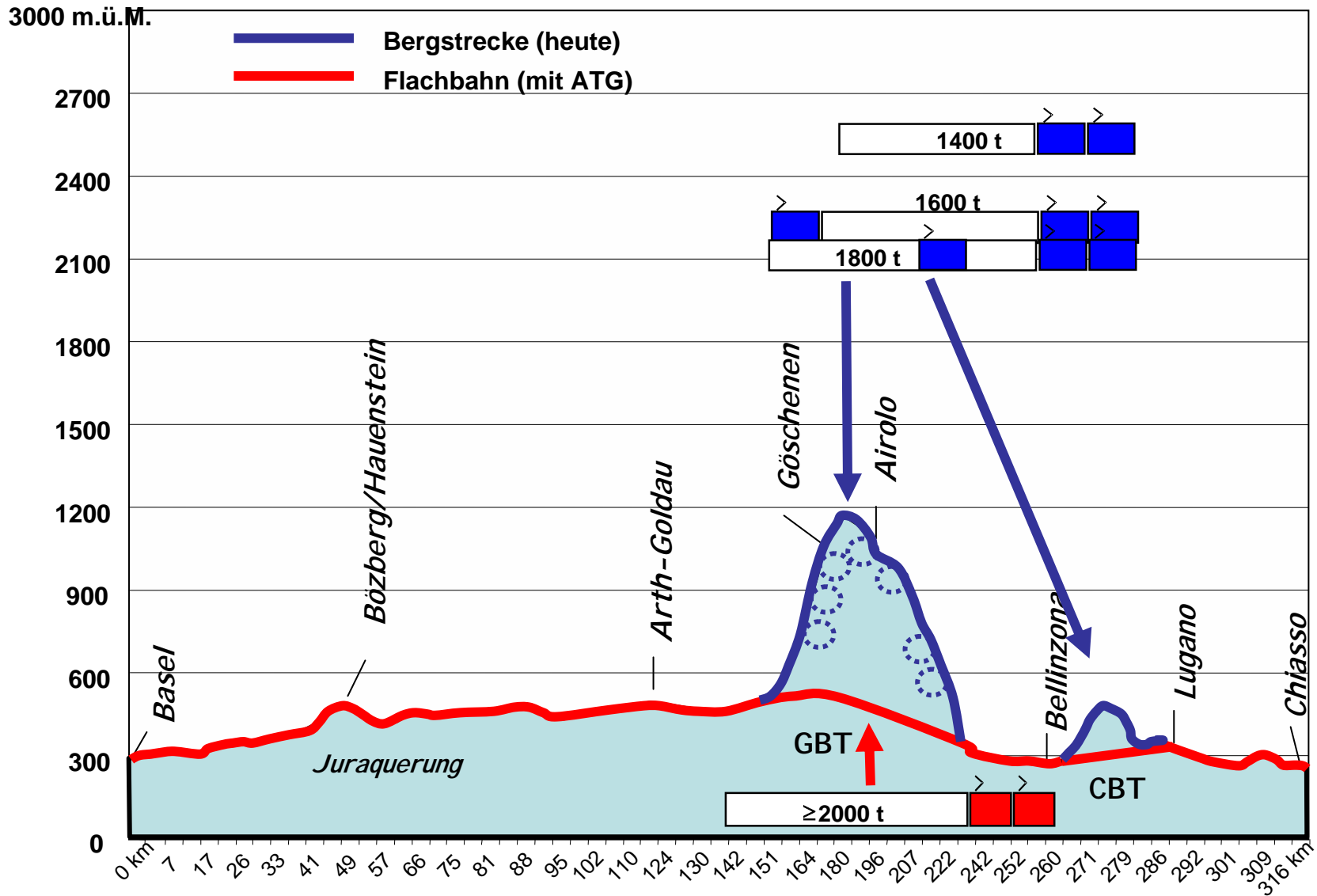
- 20 Mio. Nettotons via Gotthard and Lötschberg (2003)
- Main-Relation: Rotterdam - Rhur - Rhein/ Main - Bale - Milano



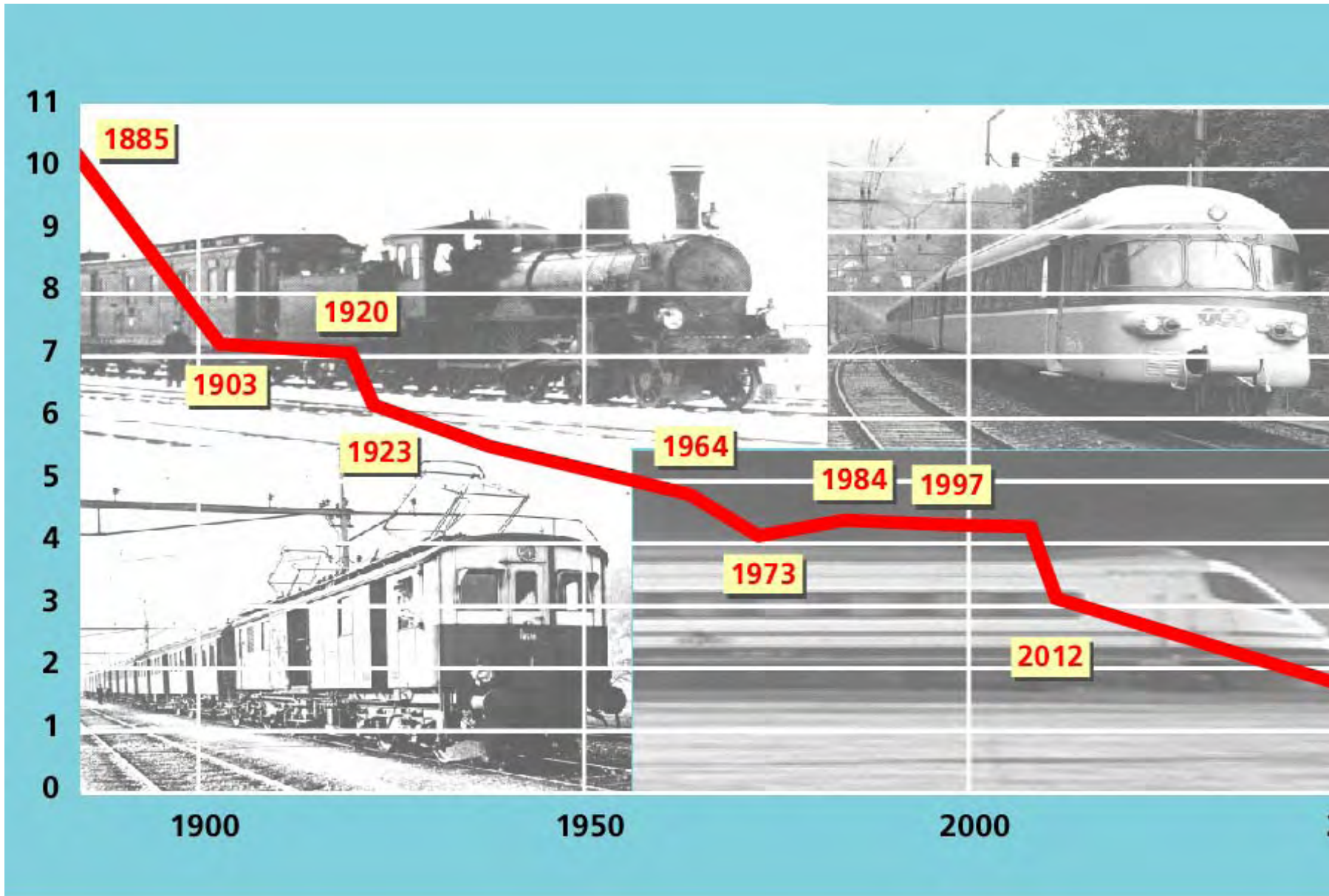
Übersicht: Die Nord_Süd_Transversale (NST) in Europa



Strategic Tasks







Reconstruction Main Railway Station of Zurich



Additional Capacity Main Railway Station Zurich



Foto: © Endaxon AG

Investments in the system Zurich 1.6 Billion CHF

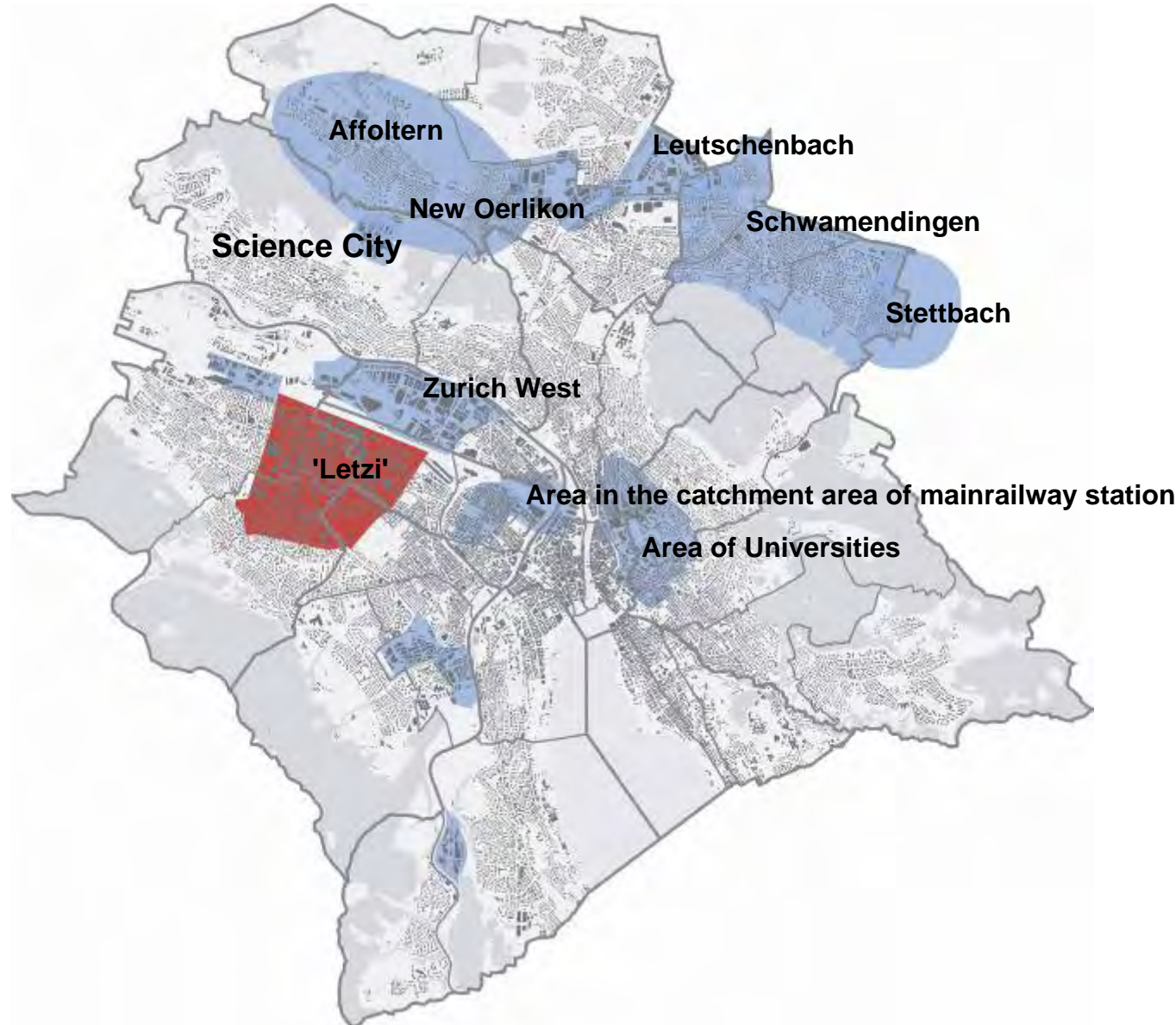


Gleisanlagen Altstetten-Kohlendreieck



Standort: Hochhaus Pfingstweidstrasse, Blickrichtung Uetliberg. Rot eingefärbt; die Letzigrabenbrücke

Possible Town Development Effects in Zurich

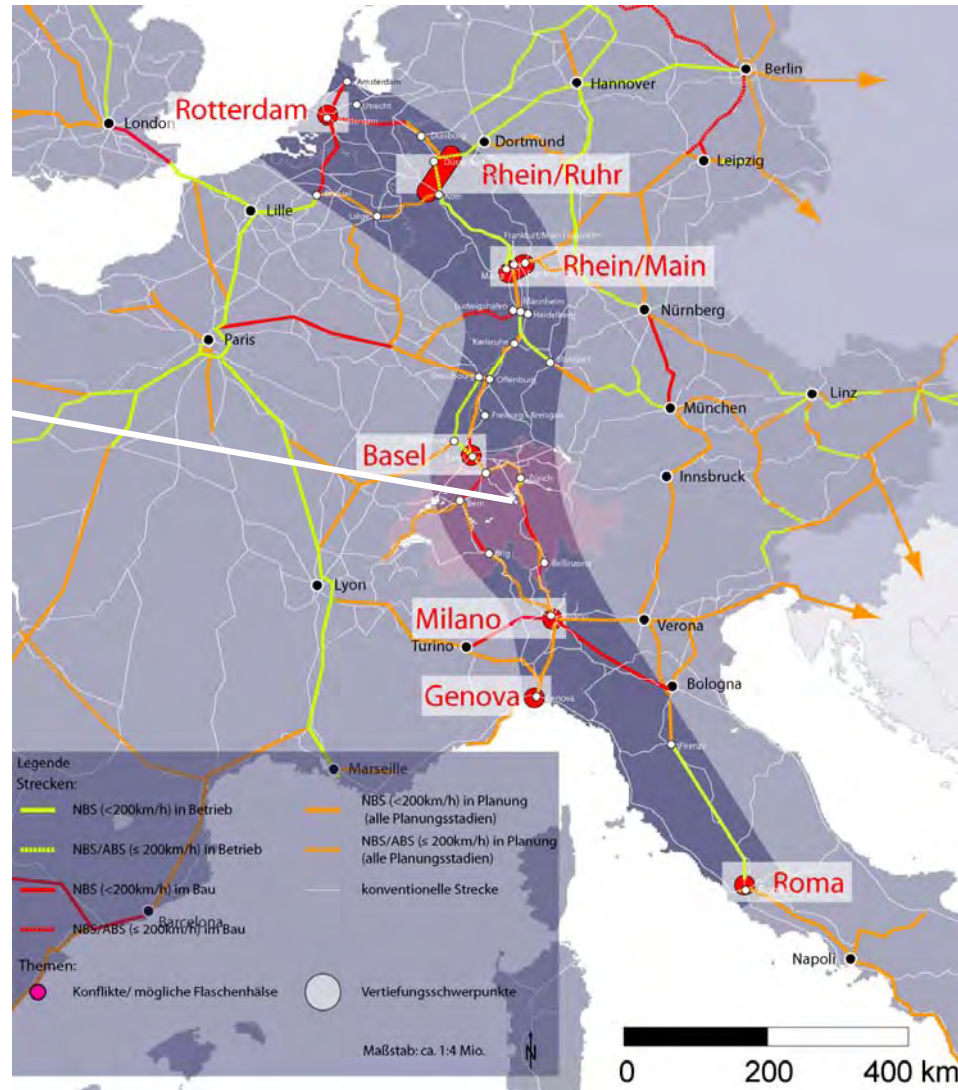


Source: townplanning office Zurich



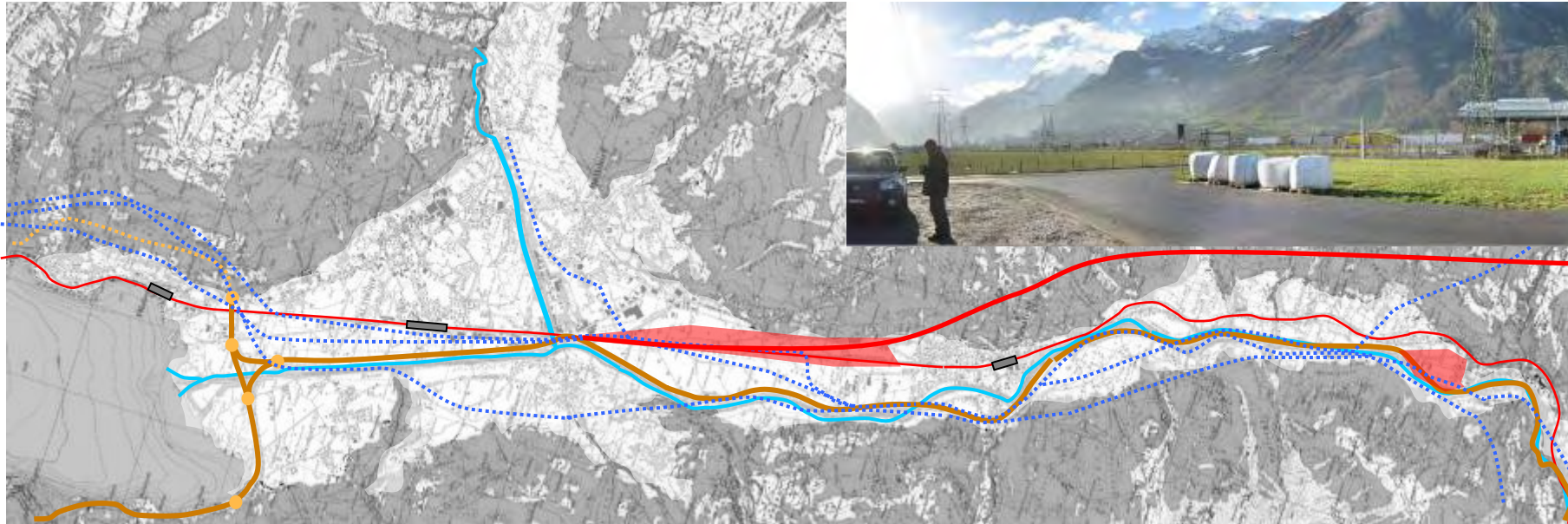
Urner Reussebene at Flüelen-Amsteg

Spatial Development of Valley areas due to the topography in Switzerland is a most difficult task. Different interests of land use have to be taken under consideration (rail, street, energy, floodprotection, agriculture)

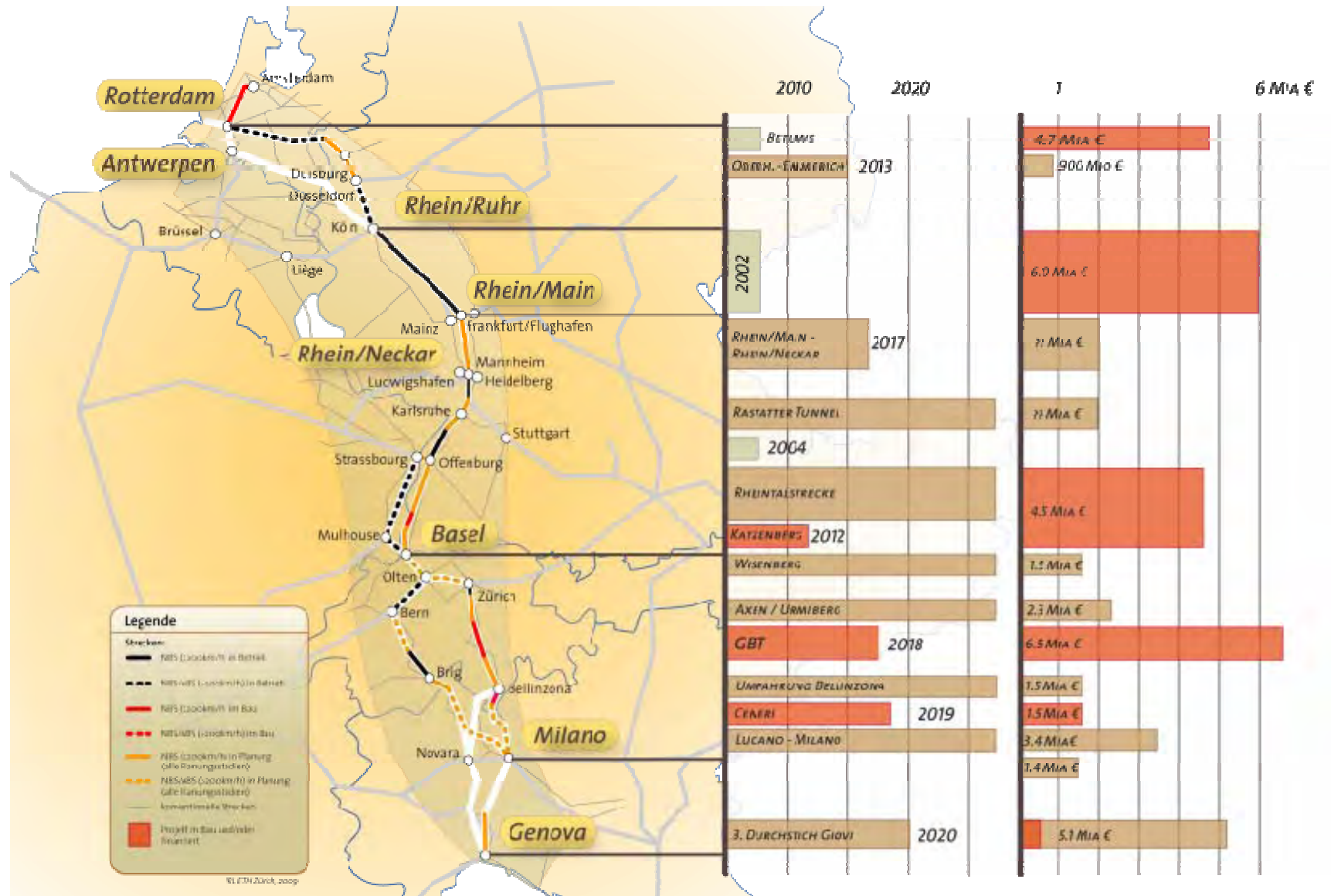




Infrastructures of National (European) Importance of often bundled in Valleys



Infrastructures in the Reuss Valley Canton Uri





Thank you for your attention!