

Railway Stations as Drivers for Sustainable Spatial Development

Prof. em. Dr. Bernd Scholl, UIC nextstation, Tehran, 11th November 2019



Overview

- 1 Strategies**
- 2 Cases**
- 3 Conclusions**

Strategies

- 1 Inward Development before Outward Development is the main Spatial Strategy
- 2 Railways are the Strategical Backbone of a sustainable Network of Cities and Locations
- 2 Railway Stations are the Cristallisation Points of Inward Development (Urban Density)

Cases

- 1 Switzerland and Zurich as the main Railway hub
- 2 European Corridors: As example Rhine Alpine and Orient/East Med Corridor
- 3 Frankfurt, Berlin and Vienna

Switzerland



IRAN

1'648'195 km²



Population: 82 Mio.; 50 P/ha

SWITZERLAND

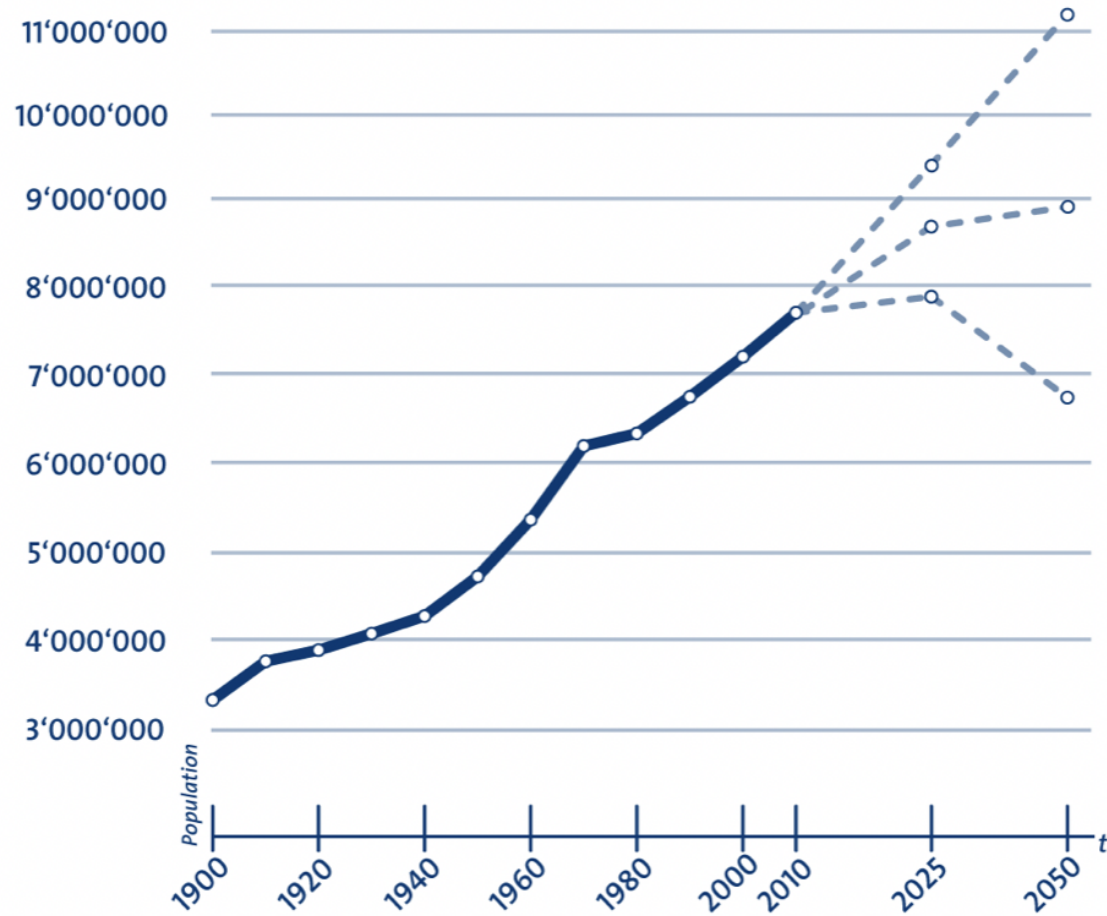
41'285 km²



8.6 Mio.; 212 P/ha

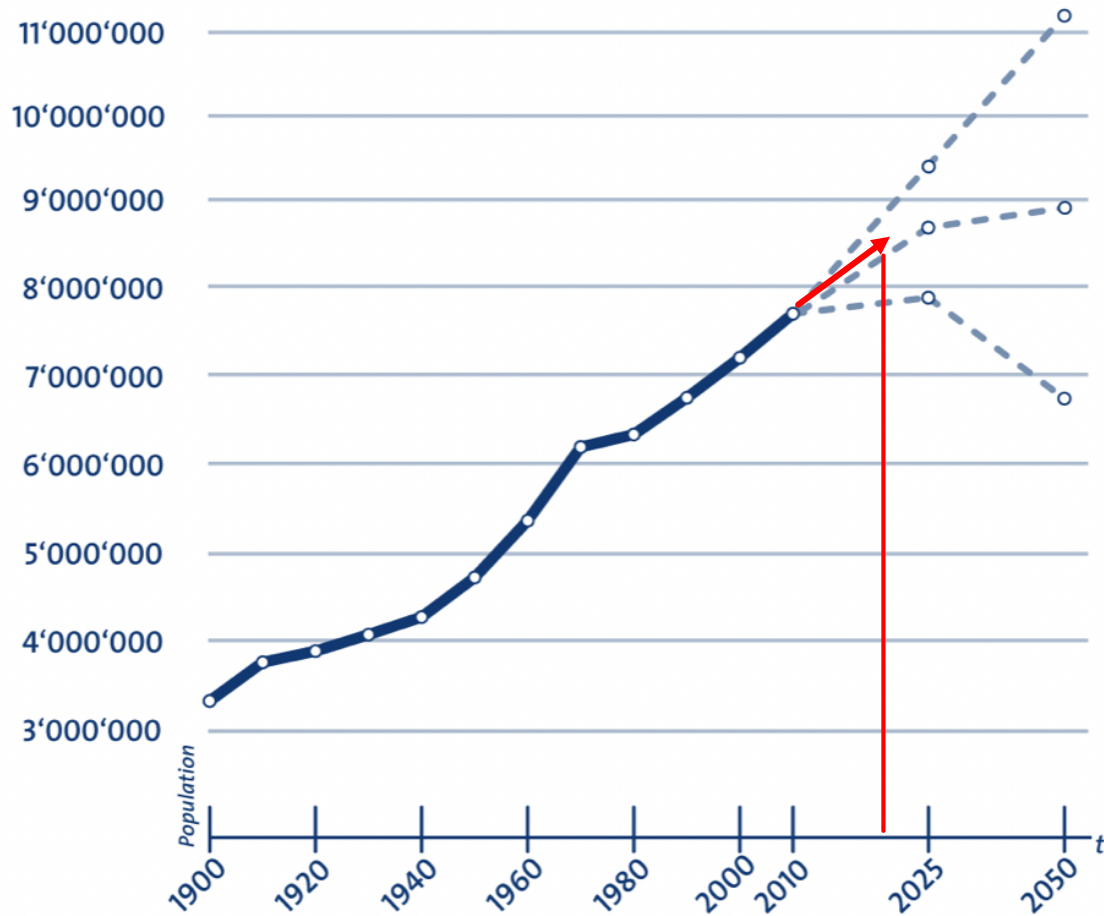
Projetion of Swiss Population Development (2010)

SWITZERLAND



Projetion of Swiss Population Development (2010)

SWITZERLAND



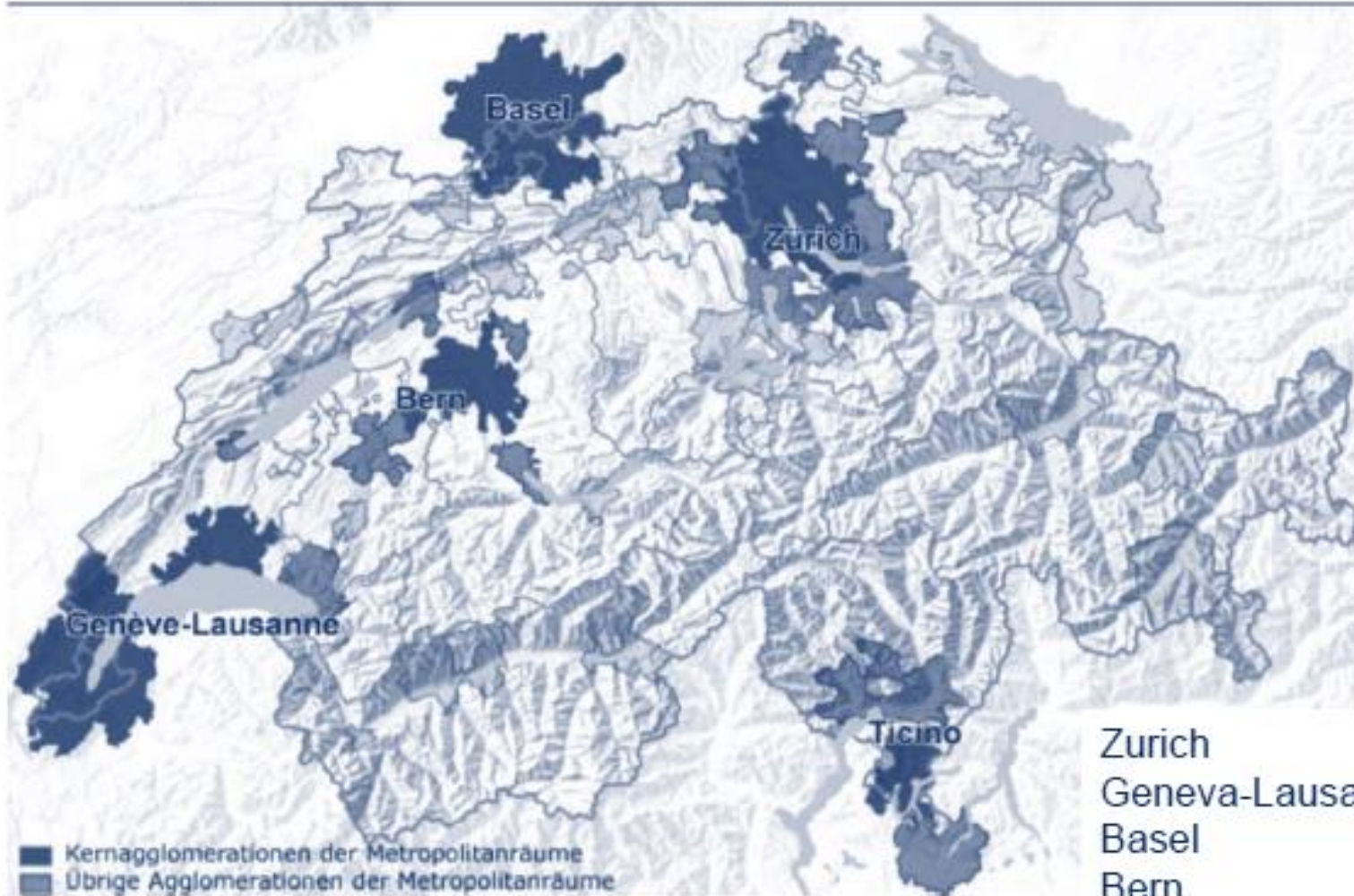
≈ 8.6 Mio.
(per Dec. 2018)

≈ average growth rate of last 10 years
0.9%

Challenge: Topographie

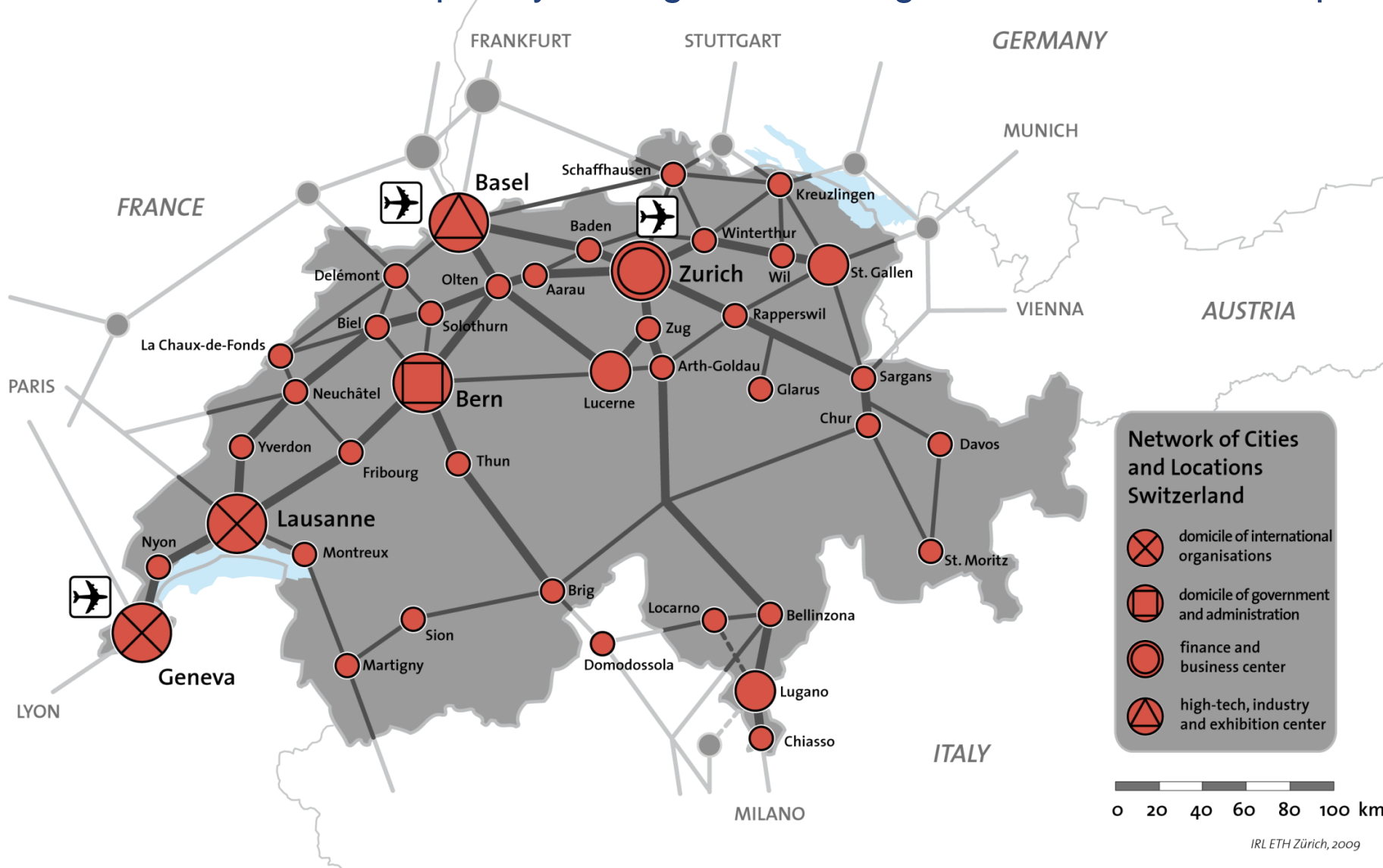


Metropolitan areas of Switzerland

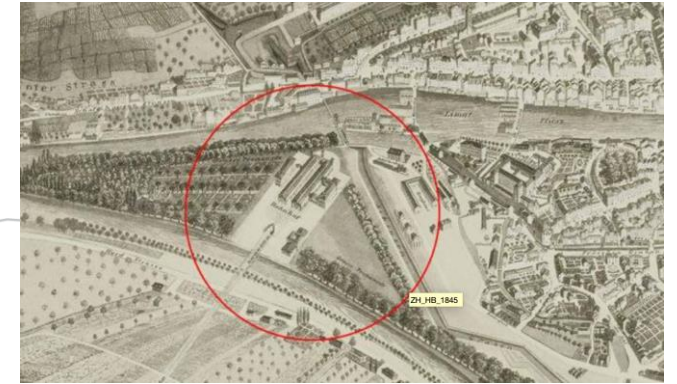
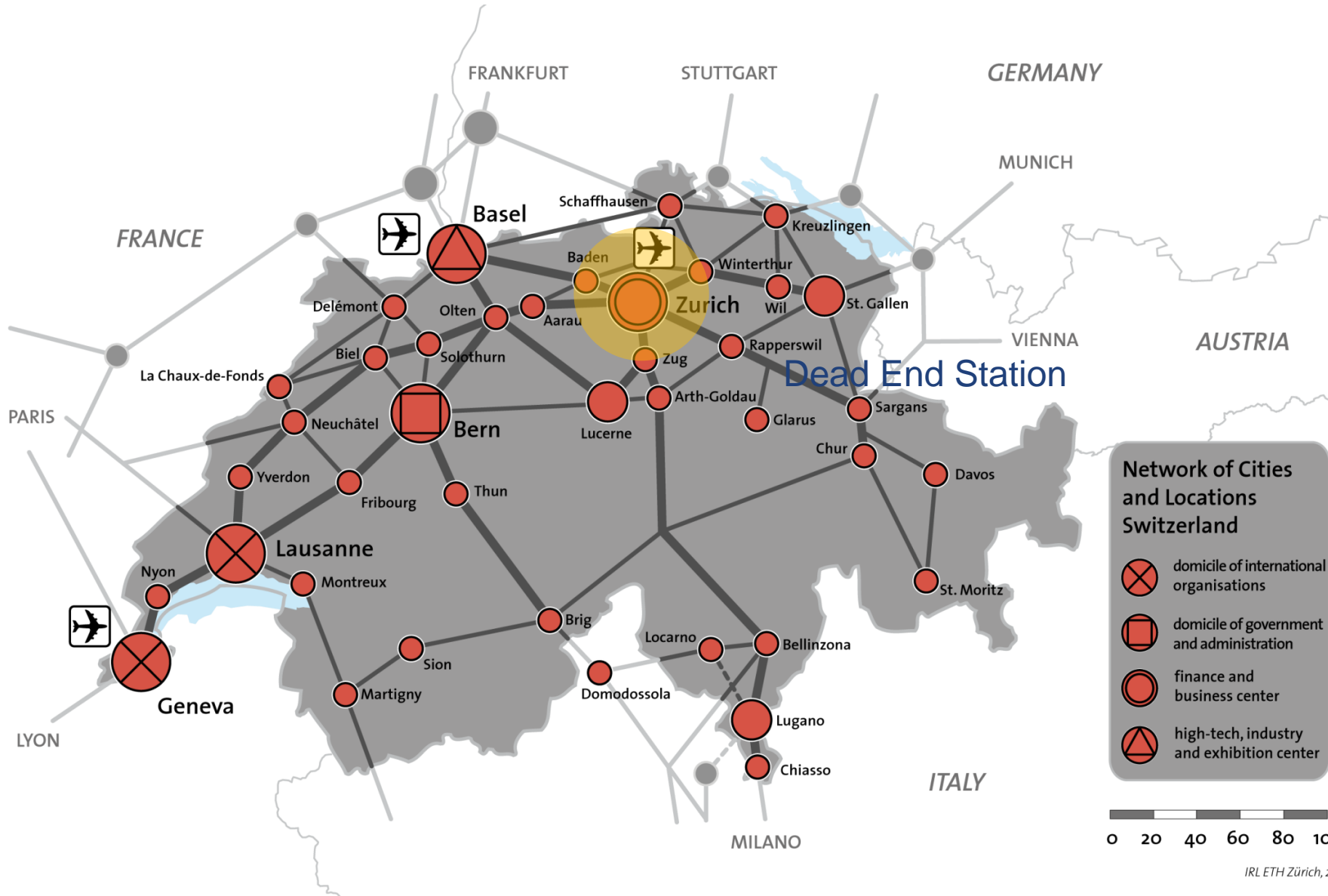


Zurich	1.6 mio.
Geneva-Lausanne	1.2 mio.
Basel	0.7 mio.
Bern	0.6 mio.
Ticino	0.5 mio.

Main National Spatial Strategy: Network of Cities and Locations, Railway System is the strategical backbone, Dense frequency of longdistance, regional trains and urban public transport system



Main Railway Hub Zurich: Dead End Station and two Through Stations, step by step



1845

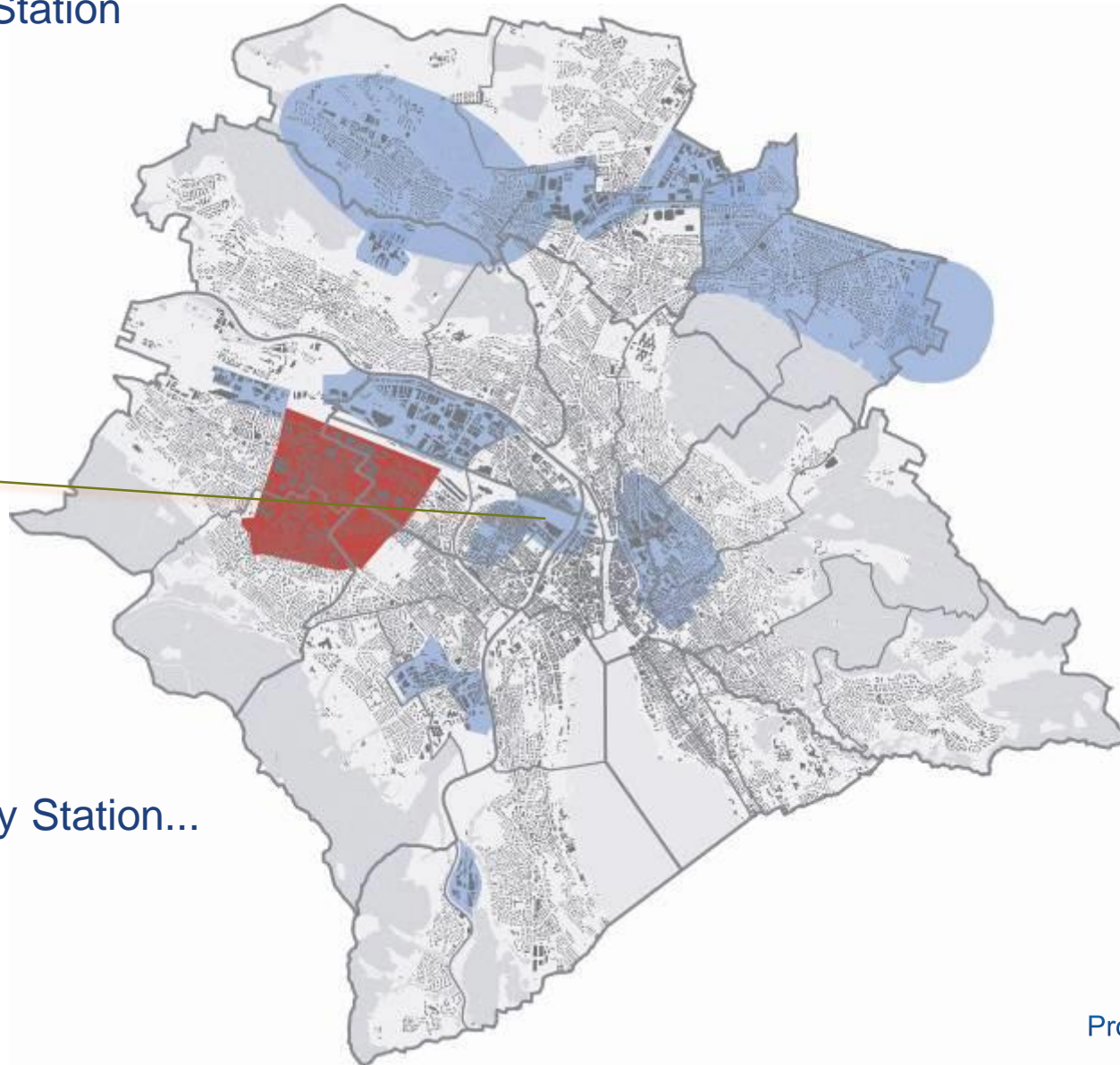


Network of Cities and Locations Switzerland

-  domicile of international organisations
-  domicile of government and administration
-  finance and business center
-  high-tech, industry and exhibition center

0 20 40 60 80 100 km

New Underground Railway Station



New Underground Railway Station...
„Löwenstrasse“

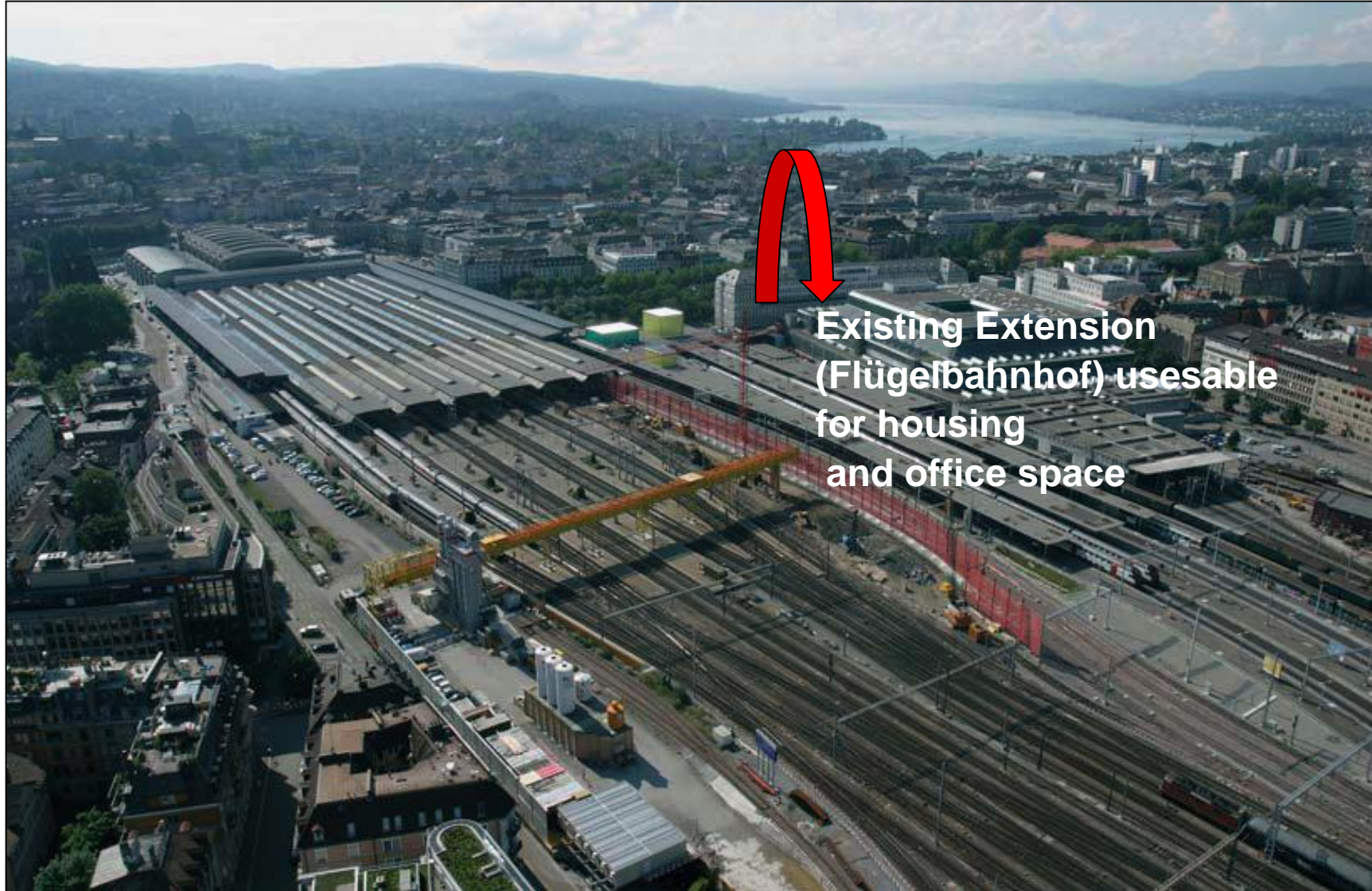
Additional Capacity with New Underground Railway Station Zurich





New Railway Station Underground

Additional Capacity Main with New Underground Railway Station Zurich and Chances for Inward Development



Railway Station 2016



Europaallee 2017

Investments to the Train System Zurich 1.6 Billion CHF



Gleisanlagen Altstetten–Kohlendreieck



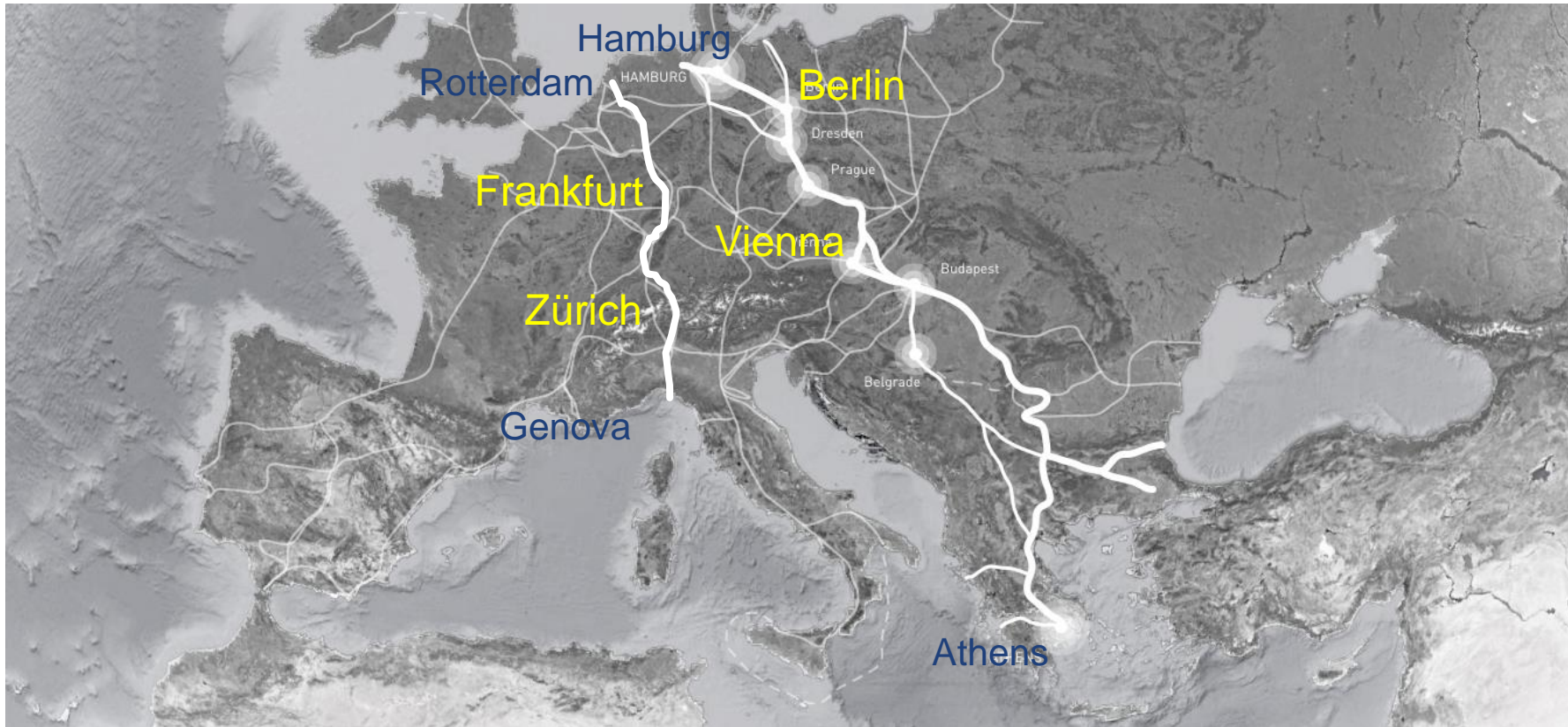
Standort: Hochhaus Pfingstweidstrasse, Blickrichtung Uetliberg. Rot eingefärbt; die Letzigrabenbrücke

Railway Stations as Crystallization Points for Inward Development



Main Railway Station Zürich, 450.000 passengers daily

European Railway Corridors_ Integrated Spatial and Railway Development Cases: Rhine Alpine Corridor and Orient/East Med Corridor



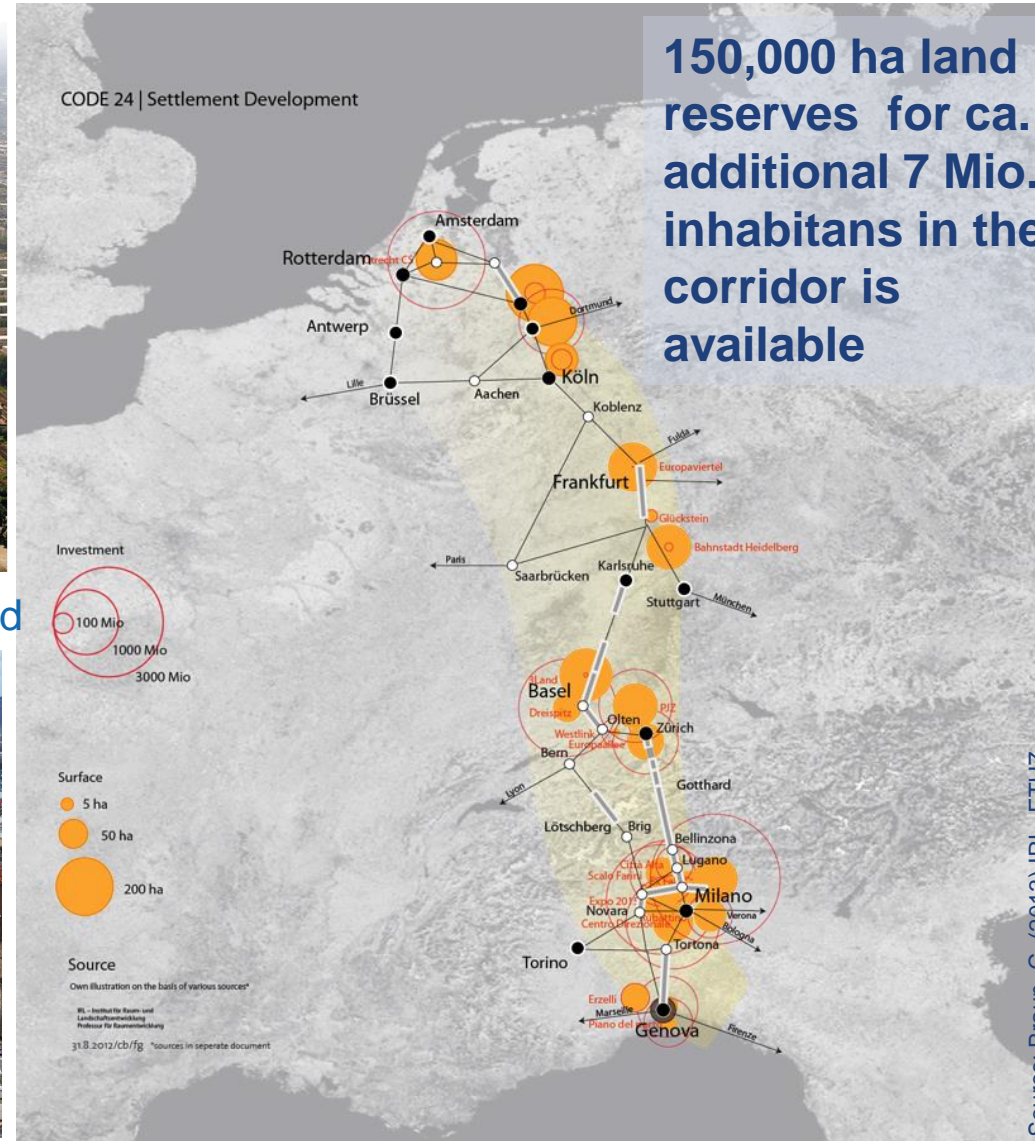
Railway Stations as Crystallization Points for Inward Development: Land Reserves in the Catchment Areas of Railway Stations of the Rhine Alpine Corridor



Frankfurt, Development Marshalling yard



Zürich, Development Central Station



EUROPEAN TEN-T CORE NETWORK CORRIDORS

Berlin | Central Station & Governmental Area



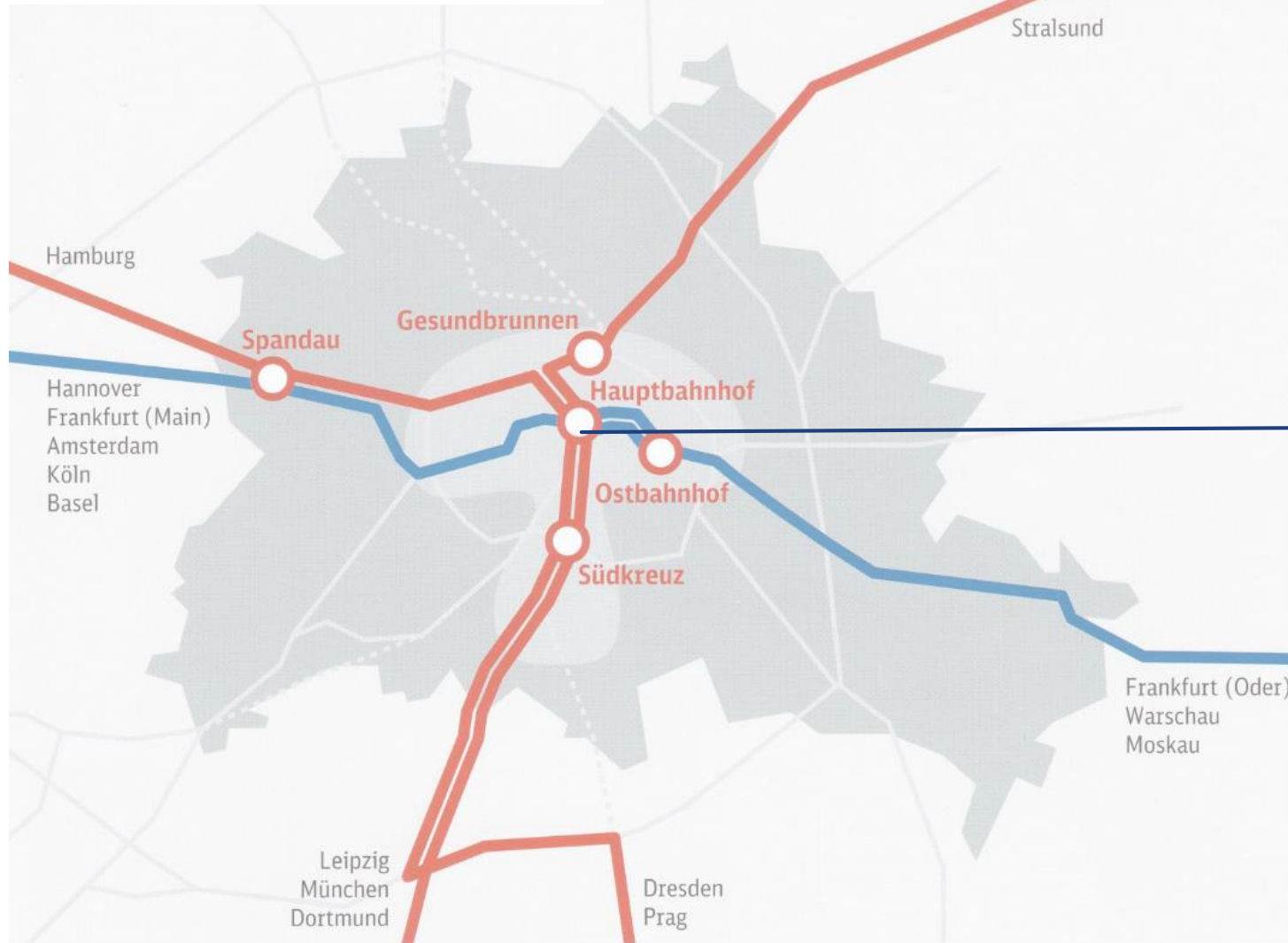
'Central station'

Construction on the traditional site for the new future of the city

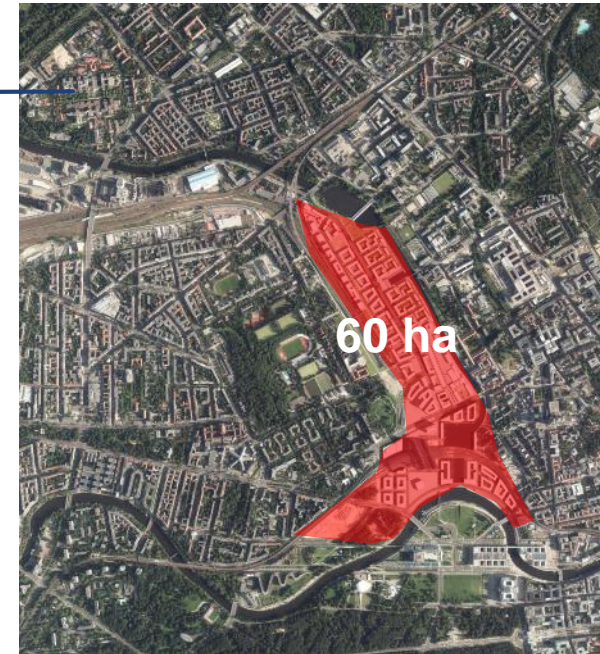
09/12/12

Source: www.europacity.com

New Central Station Berlin



Area Size



Berlin | Central Station 2016



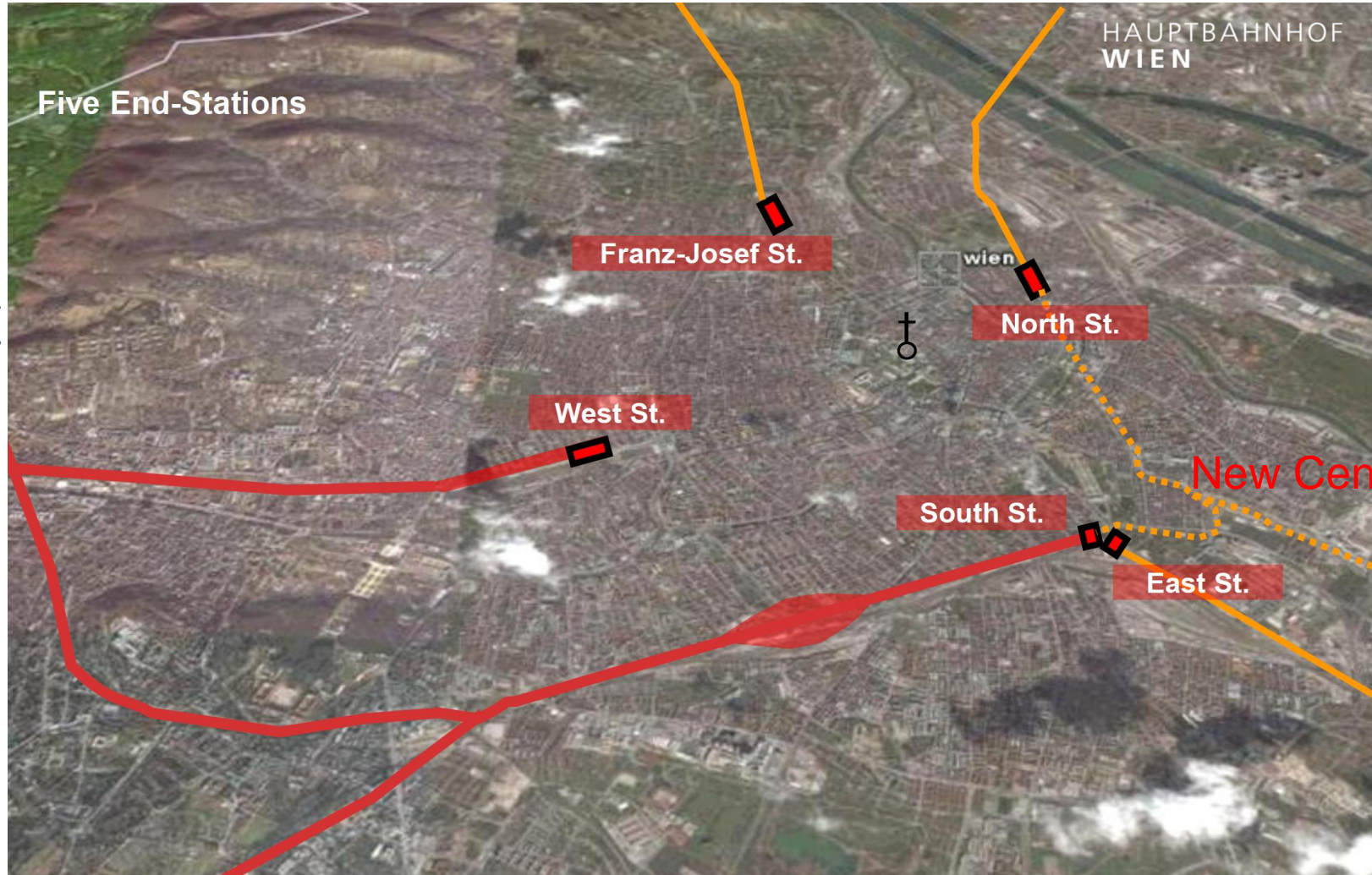
1989

2004



‘EuropaCity’: Mixed-use quartier for the improvement of urban life

Reorganisation of Railway Stations in Vienna and Transformation of Catchment Areas



Source: ÖBB, Poimer, ETH Zürich, Porta Symposium 2013

Railway Stations as Crystallization Points for Inward Development

Source: ÖBB, Stratil-Sauer, ETH Zürich 2013



New Central Station Vienna



Situation before, 2 Stations and Freight Station

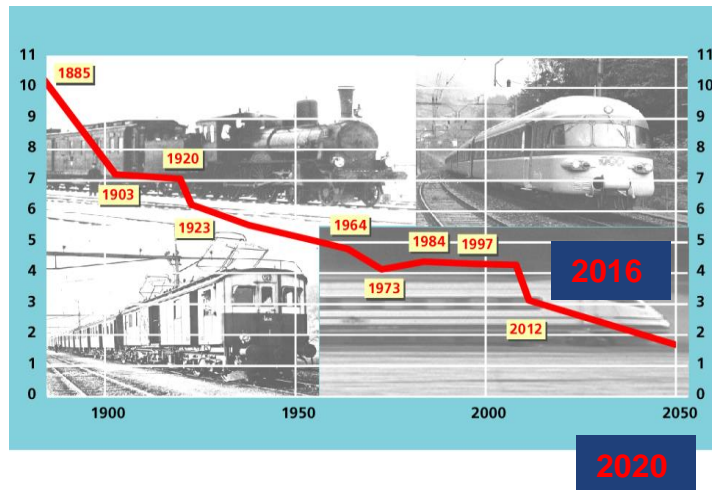
Railway Stations as Crystallization Points for Inward Development



New Central Station Vienna

Conclusions

- 1 Demand for sustainable Mobility: Investment in Railway is a strategic Driver for urban
- 2 Increase of Accessibility creates added values for public and private
- 2 Railway and City Development: Two Sides of the coin and Win – Win - Situation



Reduction of Travel Time Zurich- Milano from 11 to 3 hours

Gotthard Base Tunnel

Ceneri Base Tunnel Opening

© www.sengers.ch



Thank you
for your attention