

Public transport planning forum

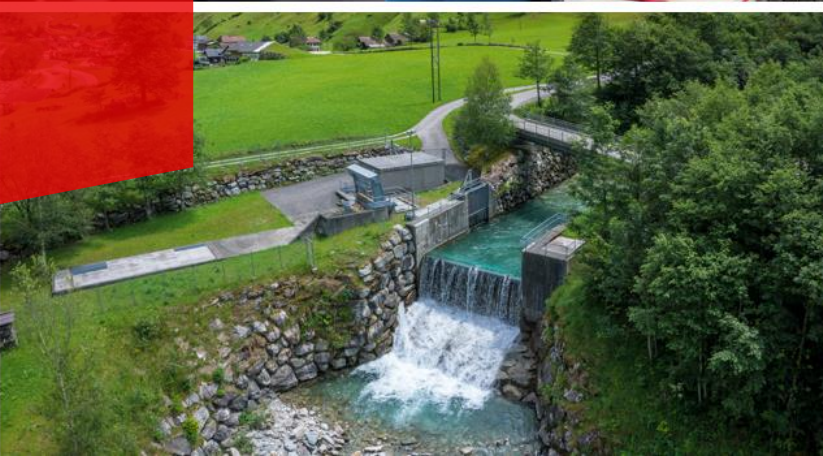
‘The rail network – desires, visions and reality’

Muntelier-Loewenberg, 20.06.2024

Peter Kummer
Member of the Executive Board
Head of Infrastructure

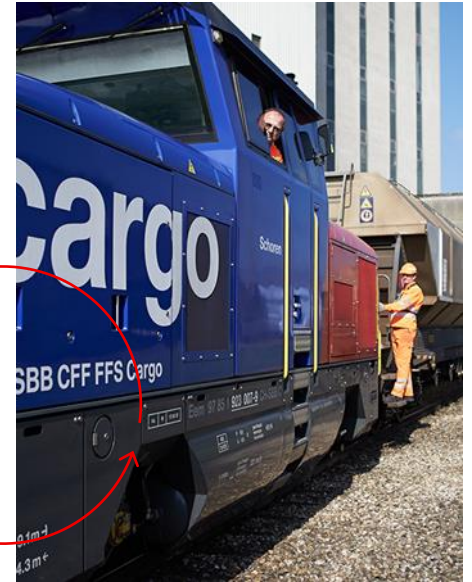
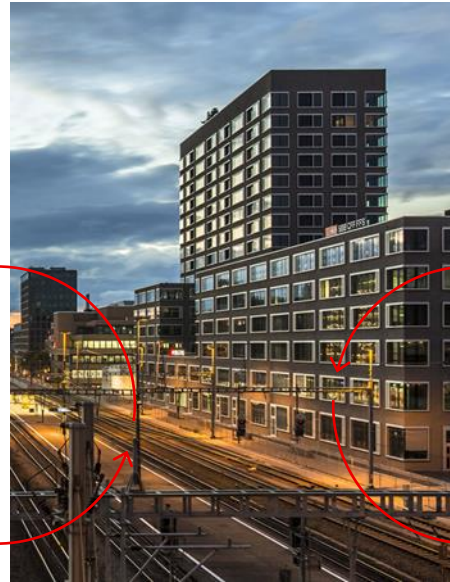
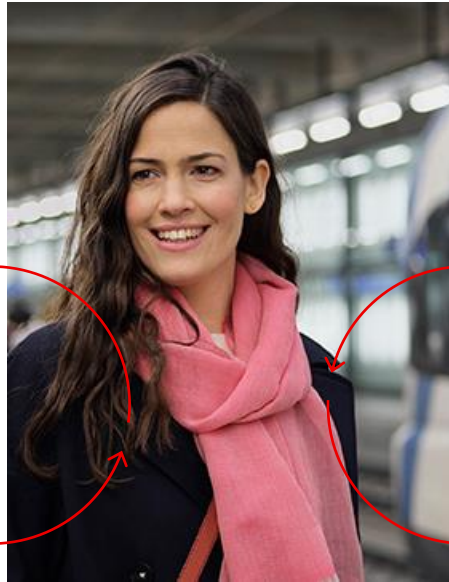


 SBB CFF FFS





As an integrated railway, we get Switzerland moving – every single day.



Passenger Services
Production
11,417 trains/day

Passenger Services
Markets
1.32 million
passengers/day

Real Estate
3,500 buildings

Infrastructure
3,266km network
10,000 employees
8 hydroelectric power
plants

SBB Cargo
175,000Nt goods/day

Group-level units & specialist management: Finance, Human Resources, Information Technology, Communications, Corporate Development, Safety and Production Quality, Legal and Compliance, Public Affairs and Regulation

SBB Infrastructure: our core tasks.



1. We develop the timetable and enable trains to run.

2. We provide reliable and safe rail, energy and telecoms networks.

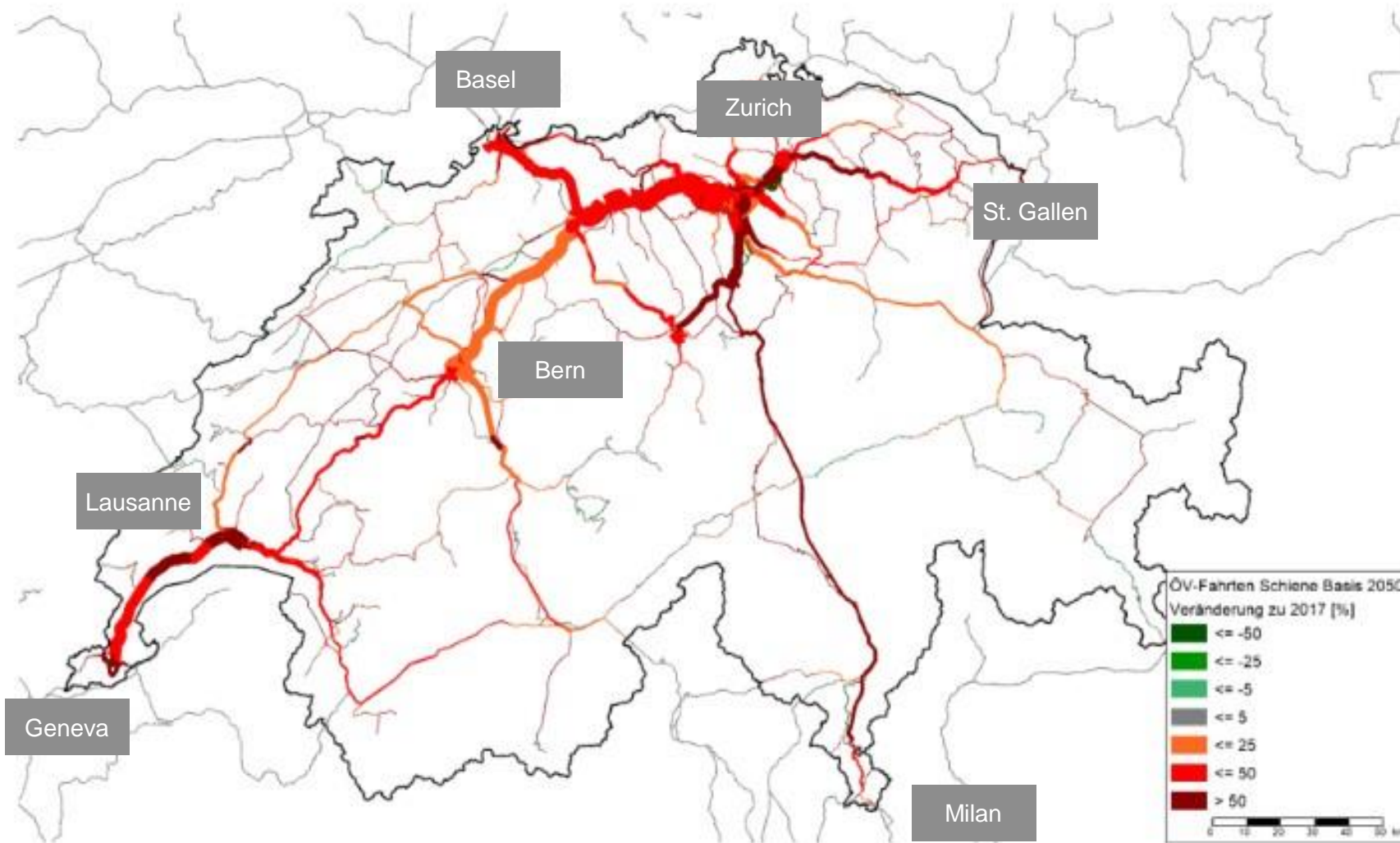


Challenge
Operation, construction
and development





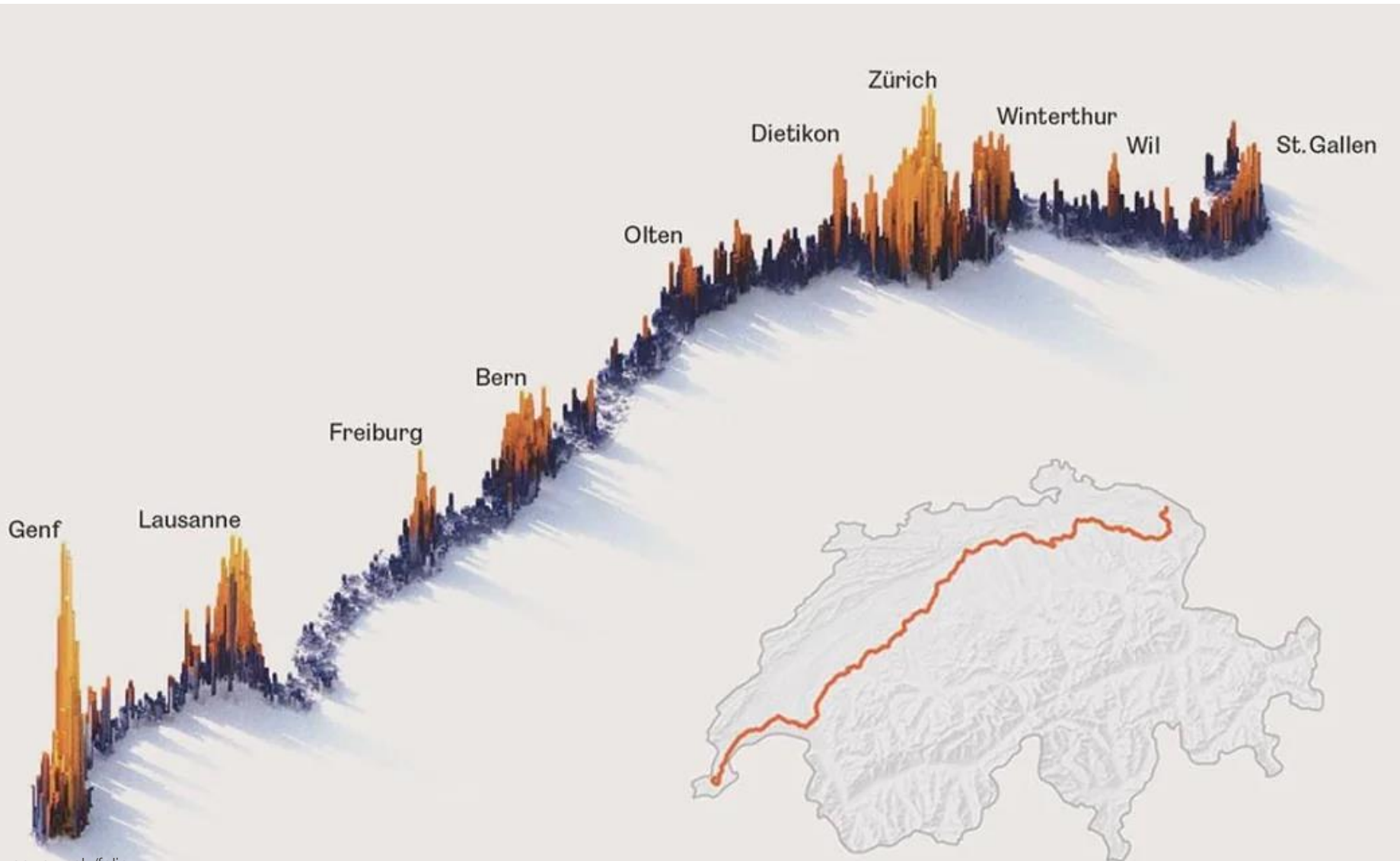
Demand is increasing, especially in densely populated areas.



- Need for mobility is increasing by up to 50%
- Expansion primarily on routes already heavily used today and in densely populated areas
- Particularly large numbers of customers affected

Abbildung 100: Entwicklung ÖV-Passagiere 2017-2050 – Szenario BASIS – Gesamt-Schweiz

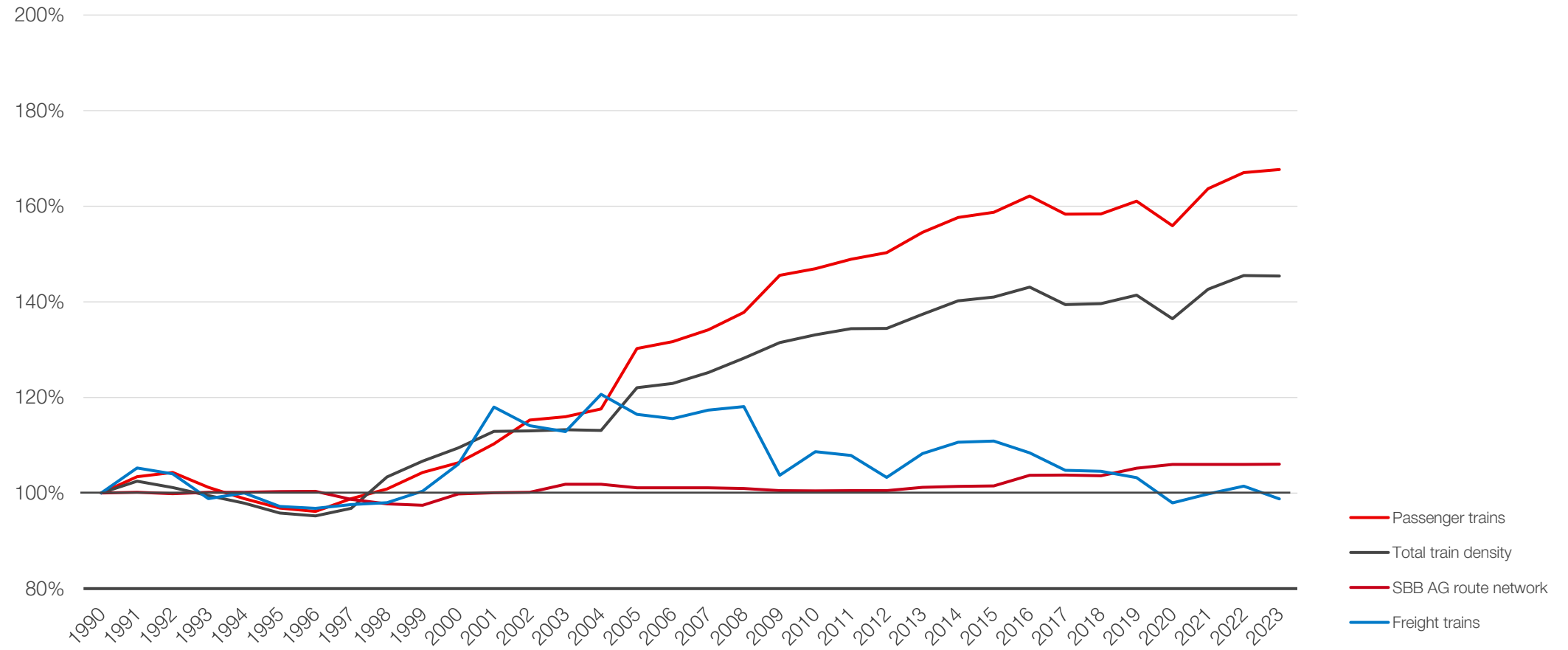
A third of the Swiss population lives along this railway line



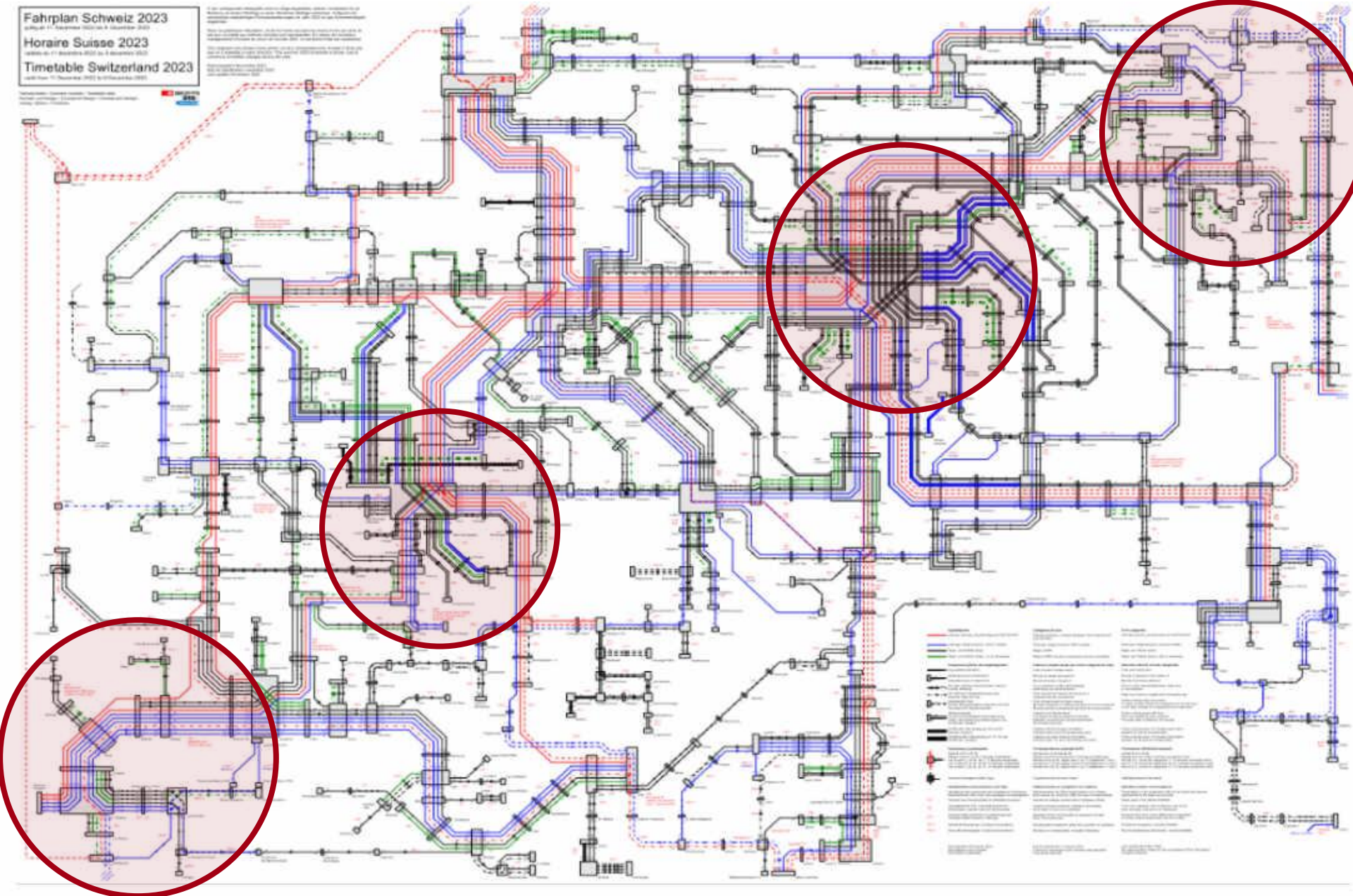
- Train journey from St. Gallen to Geneva
- Towers indicate population density along the railway line
- Highest peaks in Geneva and Zurich
- Low population density between Freiburg and Lausanne

Development of train density and route network.

Indexed data, base year 1990

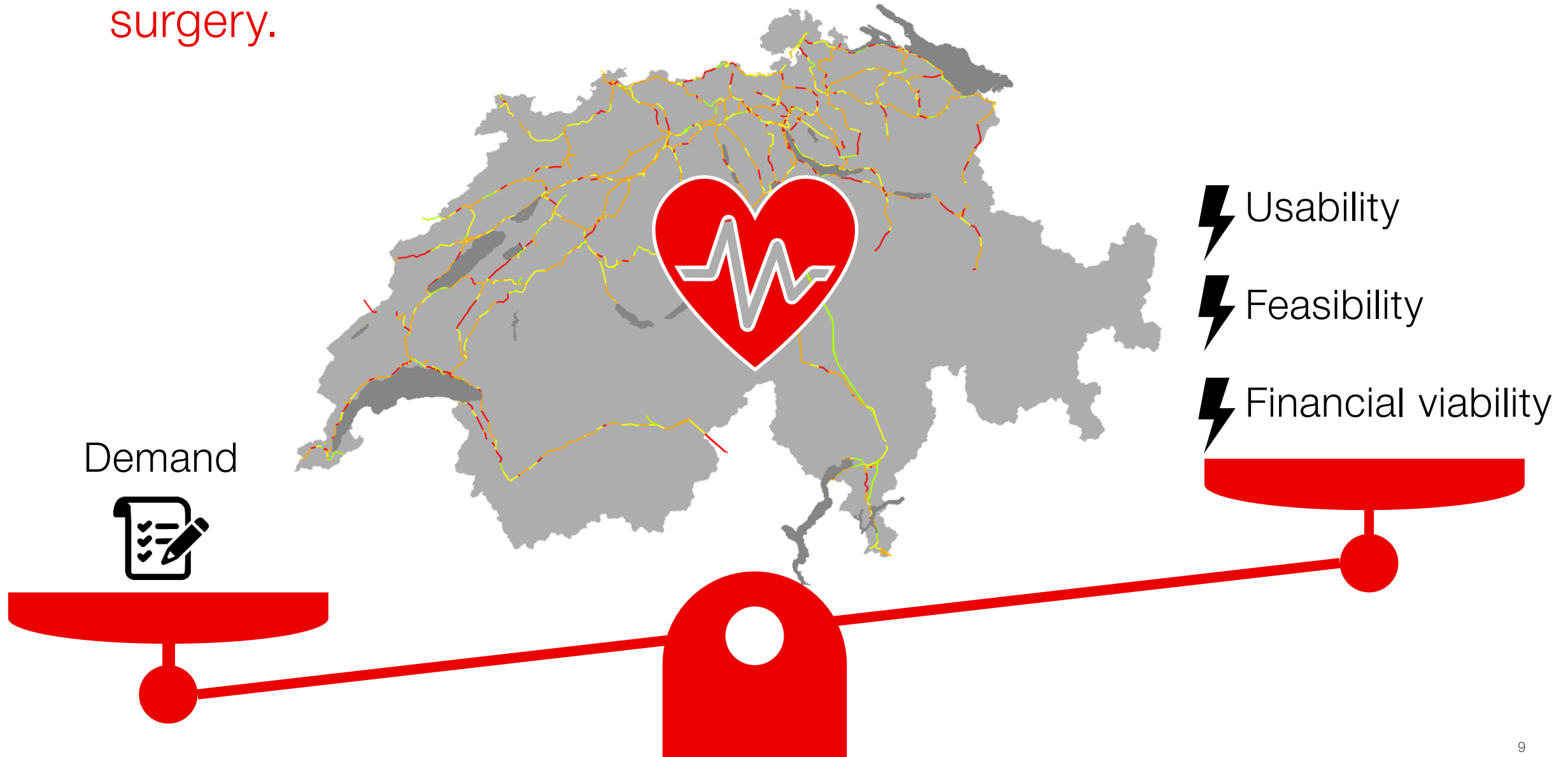


Comparing the network diagrams of 1982 and today.

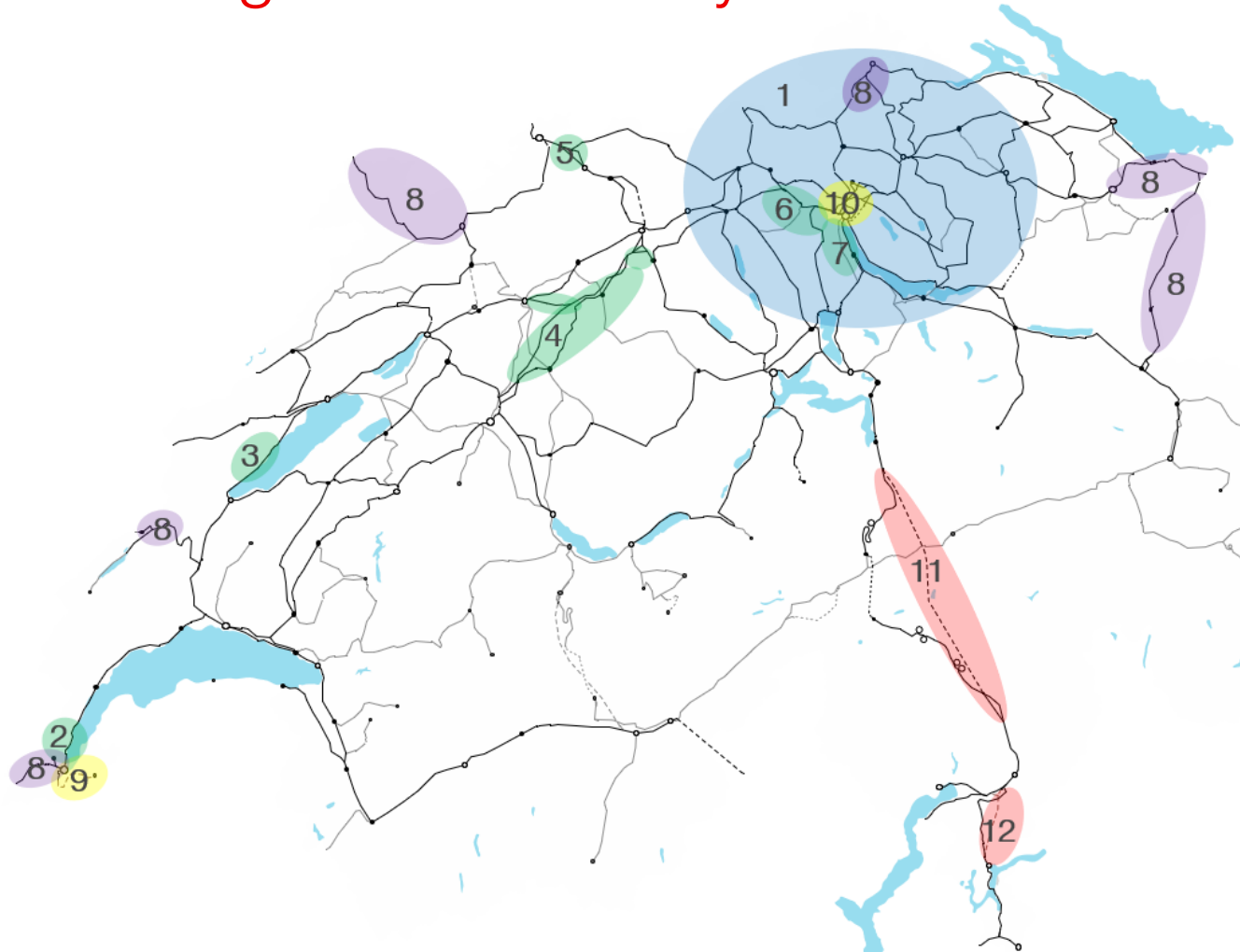


- More traffic between the nodal points
- Nodal points are more heavily used

Maintenance of infrastructure and expansion – open-heart surgery.



Operation with increasing level of complexity: Large-scale projects commissioned from 1990 onwards are entering the renewal cycle.



No. 1: S-Bahn Zurich incl. 4 partial extensions
(commissioned 1990-2018)

No. 2 to 7: Rail 2000 (commissioned 2001-2004)

No. 8 HSR connections (commissioned 2011-2020)

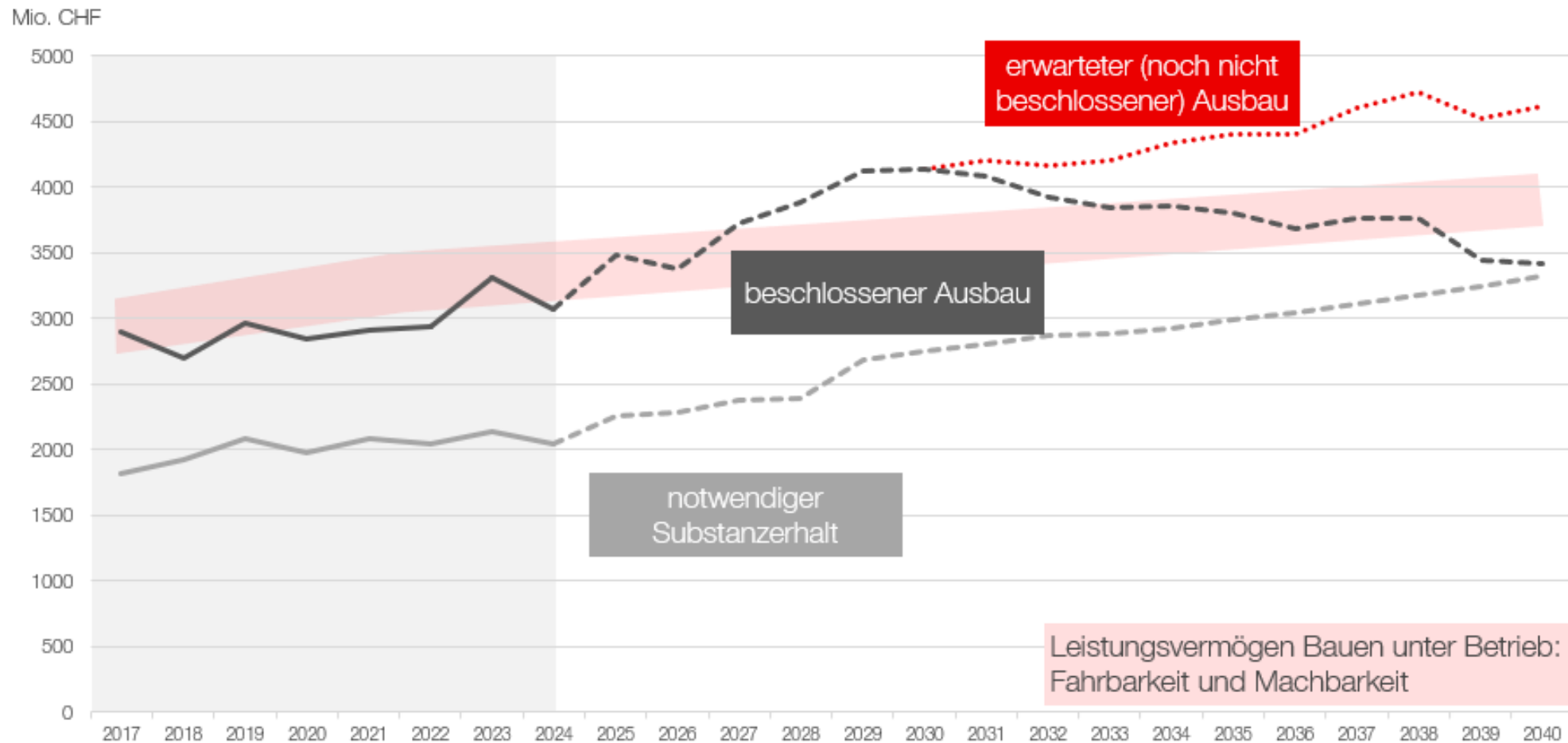
No. 9 and 10: Infrastructure fund projects (commissioned
2014/2019)

No. 11 and 12: NRLA Gotthard axis (commissioned 2016
/ 2020)

Not shown: 4m corridor (commissioned 2020, 720 million)

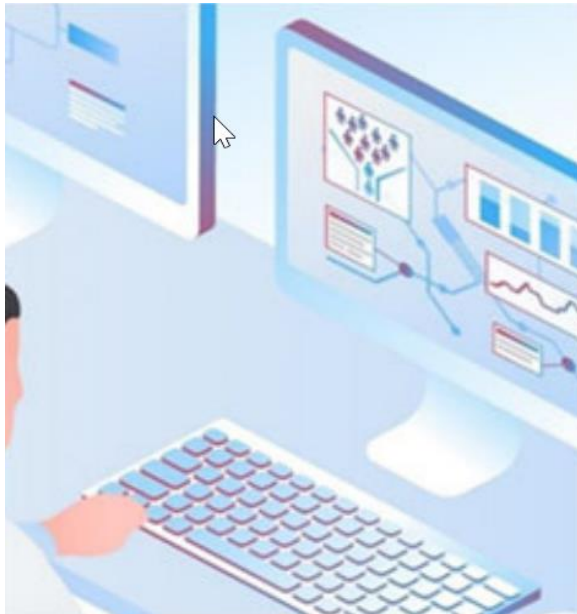
Total 26 billion

Quantity of construction work is reaching the limits of feasibility.

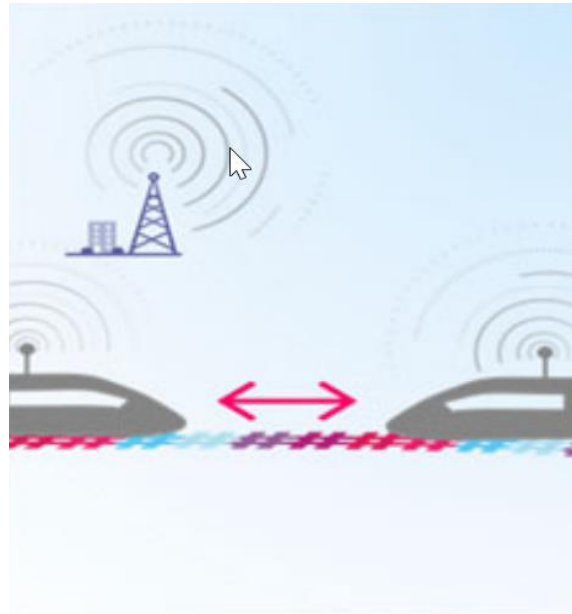


Datenstand 2023; Total Bauvolumen ohne Tunnel-Neubauten und Neubaustrecken.

Activity area 1: Smart travel instead of expansion.



Intelligent capacity planning
and traffic management
(TMS)



Travel at optimal distance with
train-centric safety logic
(ERTMS)

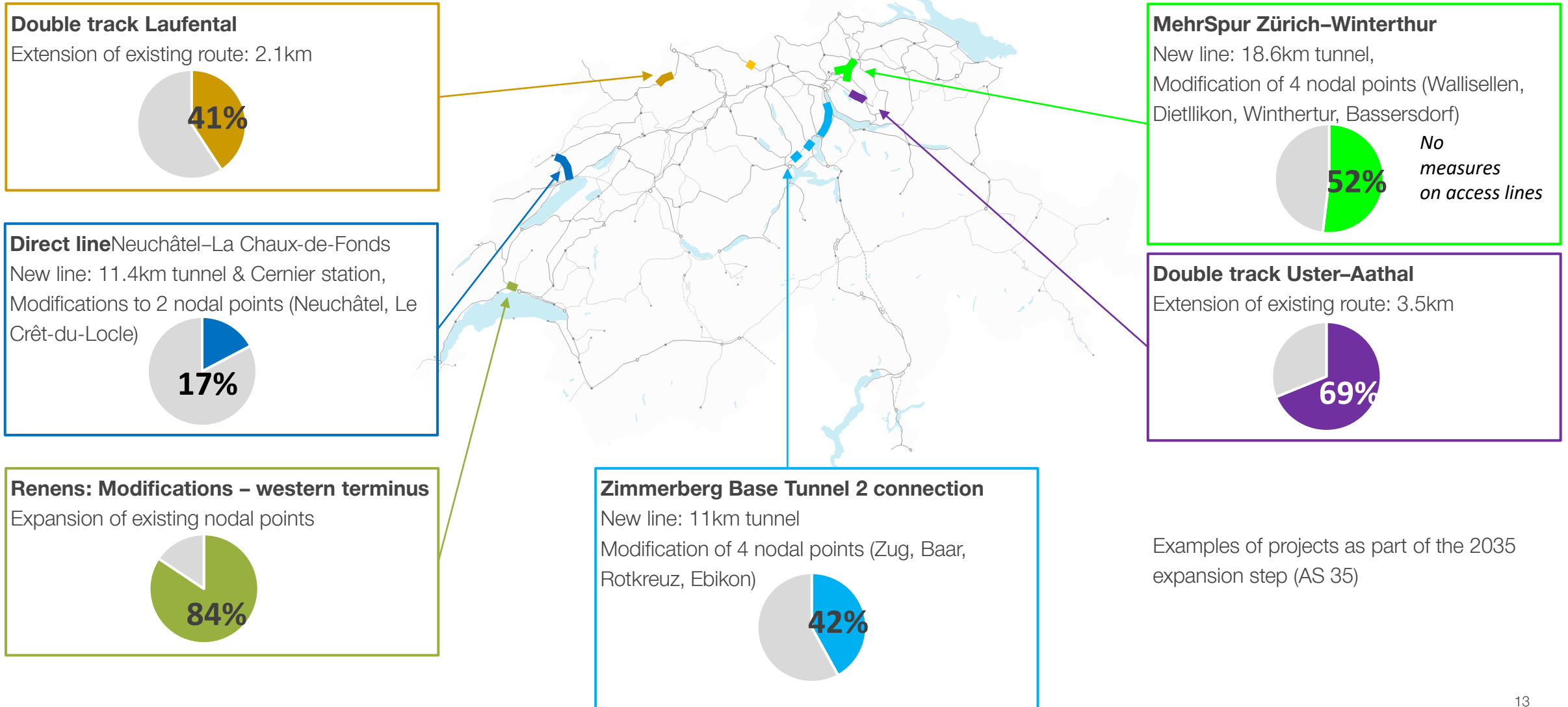


Optimised speed control
(ATO)

Make better use of existing infrastructure

1. Create more capacity through smart planning and control (TMS)
2. Create more capacity through smart safety systems (ERTMS)
3. Creating more capacity through automatic speed control (ATO)

Activity area 2: When expanding: sufficient utilisation of new routes.

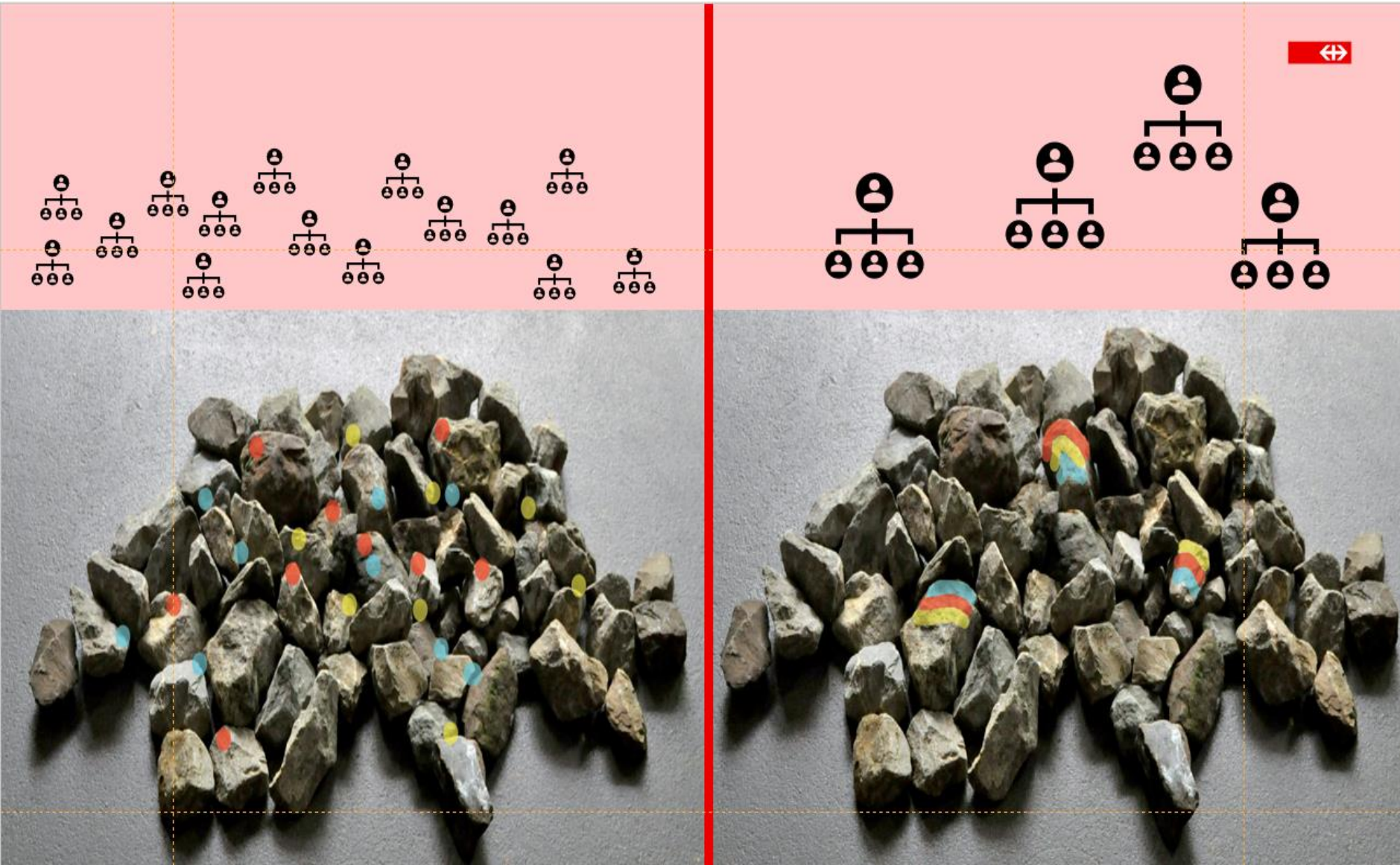


Activity area 3: Focus on renewal.



- Implementation of legal mandate: prioritise operation and maintenance of infrastructure over expansion
- Stabilise backlog in preservation of infrastructure
- Expansion – subsequent expenditures: 3% per year for maintenance and renewal of systems per billion invested
- Rescale and/or extend the timeframe of further expansion

Activity area 4: Improving the efficiency of construction work.



- Planning of expansion and maintenance of all system types
- 4-6 large construction clusters per year
- Definition of standard intervals in standard cases
- Targeted overall project organisation
- Minimise impact on customers and residents

Activity area 5: Investing in employees.



- Staff are our backbone
- Greater competition on the labour market
- SBB, Switzerland's fourth-largest employer, particularly hard hit
- Applicants' expectations are getting higher

Conclusion



- More traffic and more passengers
- Volumes of construction and maintenance are increasing
- Priorities are changing: holding back expansion, prioritising maintenance of existing infrastructure
- Better clustering of construction sites and long-term planning
- We can only succeed with highly motivated and talented employees.