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High-speed railway transport in the Slovak Republic

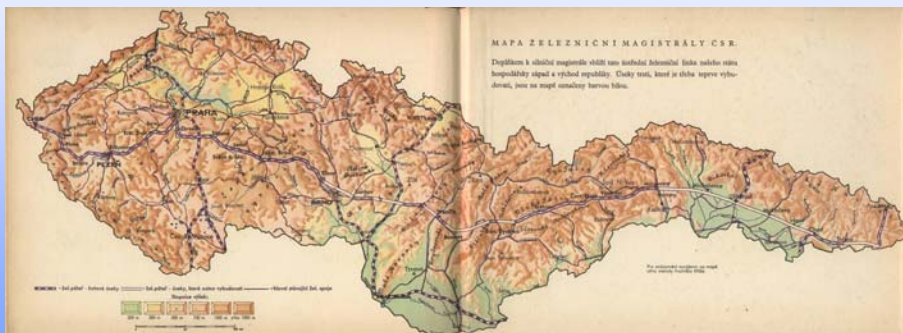
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History of HS network planning in the Slovak Republic

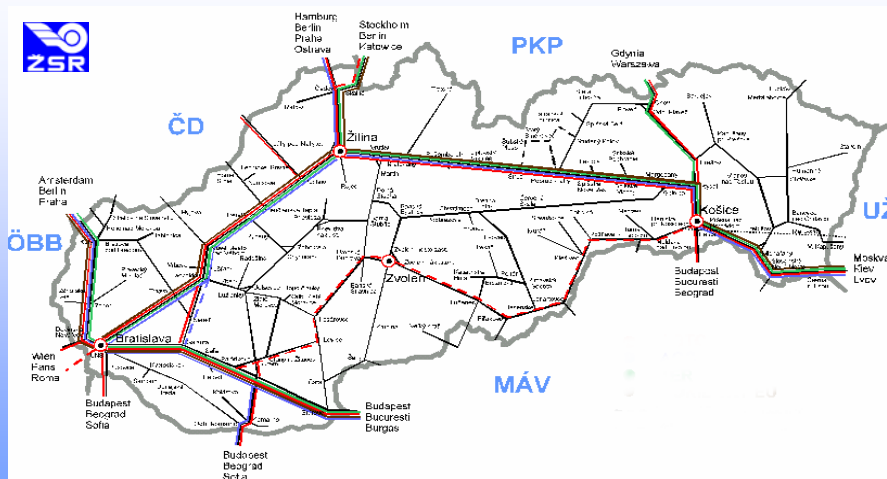


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Strategic planning in the 30th years of 20th century

Conventional railway infrastructure in the SR



Conventional line network – upgrading to AGC/AGTC standards
Corridor upgrading for max. speed of 160 km/h till 2020 (2025)



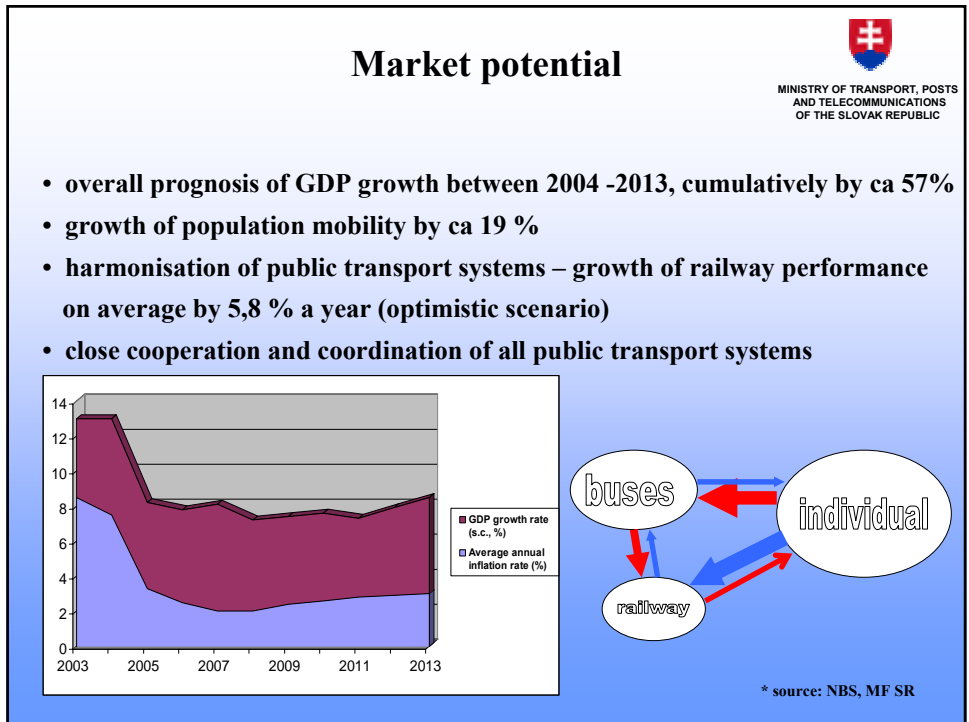
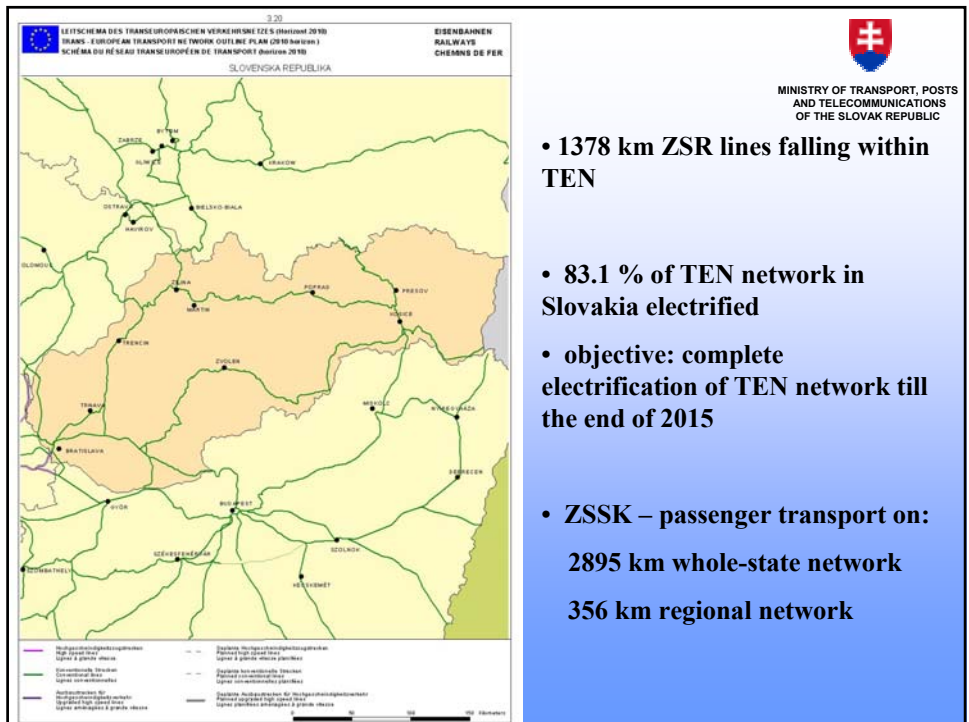
Conventional railway network

(as to 31st December 2006)



Length of network – 3.660 km

of which: 1) normal gauge	3.510 km
broad gauge	100 km
narrow gauge	50 km
2) single track	2.640 km
double track	1.020 km
3) electrified	1.556 km
- single	645 km
- double	911 km
non-electrified	2.104 km
- single	1.995 km
- double	109 km



Construction of high-speed railway network in the SR

Study – „Optimal system of high-speed lines in the territory of the SR“ (Sudop TRADE, Košice 1997)

Premises :

- **Concept study of high-speed lines in ČSFR – (SUDOP, 1990)**
- **Concept study of high-speed lines in ČSFR, supplement (SUDOP, 1991)**
- **Study on potential high-speed line connecting ŽSR to PKP (Sudop Trade Košice, 1994)**
- **Strategy of transport infrastructure development in the SR till 2000 (Transport Research Institute, Žilina 1995)**
- **EU documents – high-speed network in other EU countries**
- **Coordination with the projects and studies in the neighbouring countries**

Technical norms



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Basic technical parameters of the infrastructure:

- **critical running service speed of 250 km/h
(prospectively 300 km/h)**
- **max. allowed axle load of 22.5 t**
- **max grade of 12.5 %**
- **min. radius of curvature - 6620m**
- **traction system – 25 kV / 50 Hz**
- **combined passenger / freight operation**

Requirements of TSI HS

Map of HS lines in the Slovak Republic



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- There are 3 variants for HS line in the West – East direction
- Currently a feasibility study is carried out for all 3 alternatives

High-speed routes in the Slovak Republic



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Route 1 in the North - South direction

Bratislava – Žilina – state border with Poland

Route 2 in the West – East direction

State border with Austria - Bratislava – Nitra – Zvolen – Košice – state border with Ukraine

Connection to the HS network – coordination with the construction in the Czech Republic, Poland and Ukraine

Time schedule of the construction:

- Beginning of the construction : after 2020
- Duration of the construction : max. 10 years

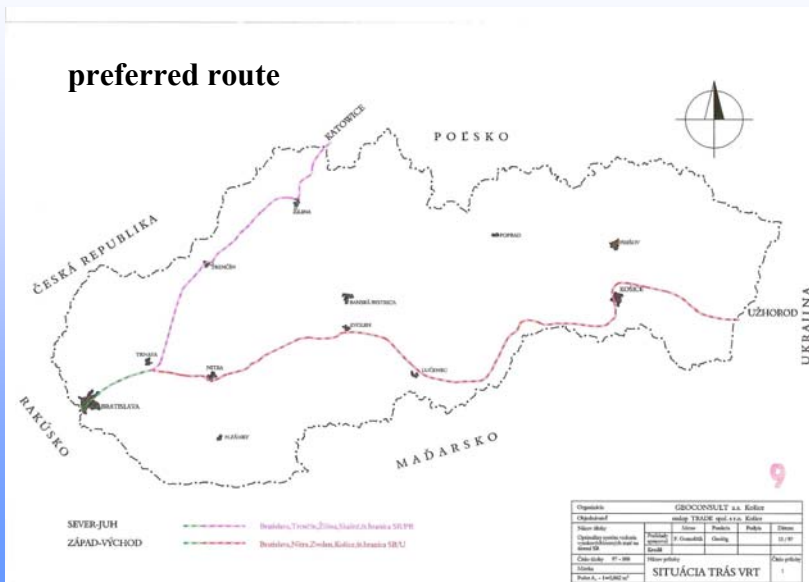
Investment costs for route 1 ca 8.3 billion EUR
route 2 ca 3.1 billion EUR

Map of HS lines in the Slovak Republic



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preferred route



Rolling stock for the HS line



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- intention in the past to procure 3 tilting units of 680 series from Alstom
- unresolved technical problems of the unit
- currently – consideration of procurement of coaches and locomotives of classical construction for speeds up to 230 km/h
- purchase of HS train sets after 2015 (2020)
- total operational demand ca 5 sets
- dislocation in the junctions in the towns of Košice and Bratislava