



Republic of Slovenia

Current state and development of
transportation system

Dr. Drago Sever

About me



Dr. Drago Sever, univ.dipl.eng. of civil eng.

Associated professor from the fields
Traffic eng. and Transportation technology

Director of Institute of transp. sciences
Head of the Chair of trans. technology and
organization

Subjects:

- Dynamics of traffic flow
- Theory of traffic flow
- Traffic technique I and II
- Transportation technology
- Transportation organization and other.

Drago.Sever@UM.SI

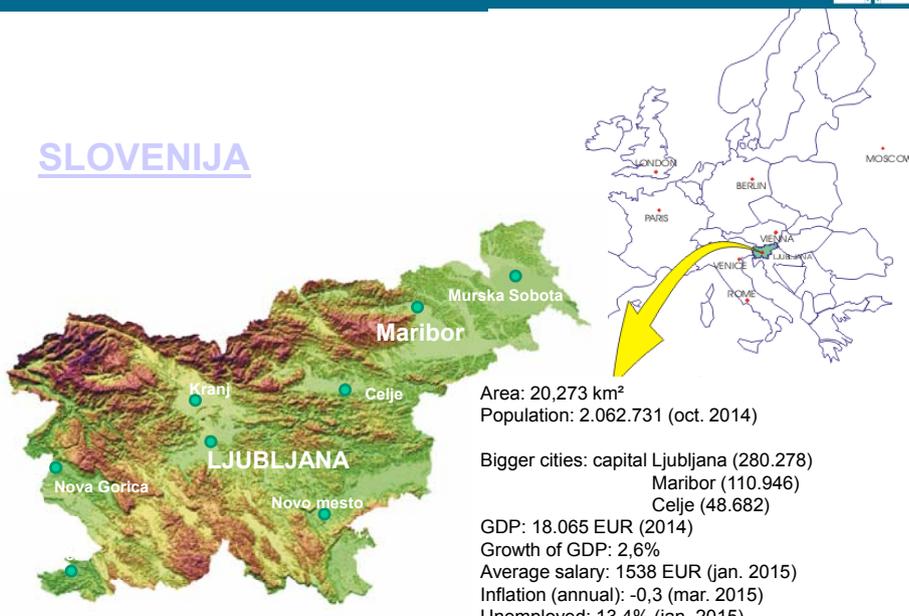
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Content 

- Current state of Slovenian transportation system
 - Road infrastructure
 - Rail infrastructure
 - Ports and airports
 - Operators
- Development strategy – sustainable transport development
- Conclusion

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SLOVENIJA 

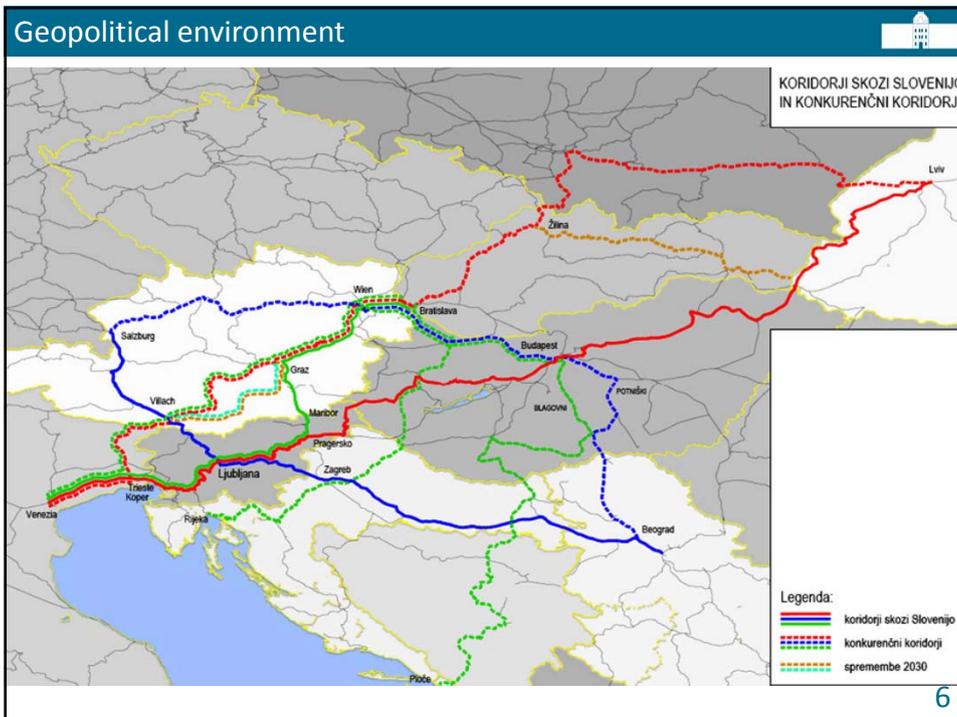
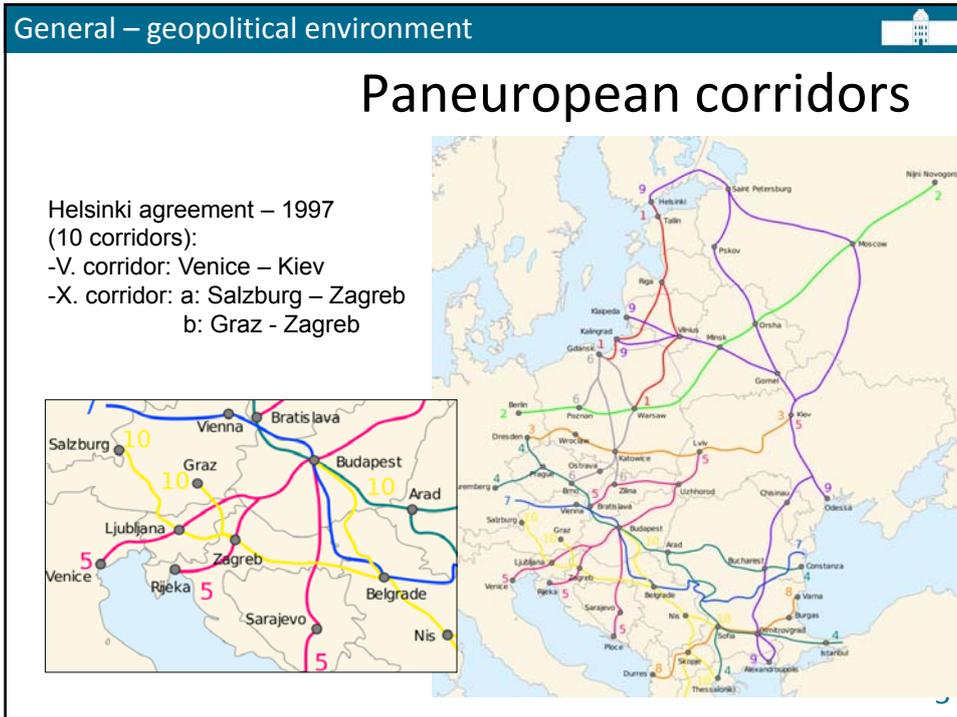


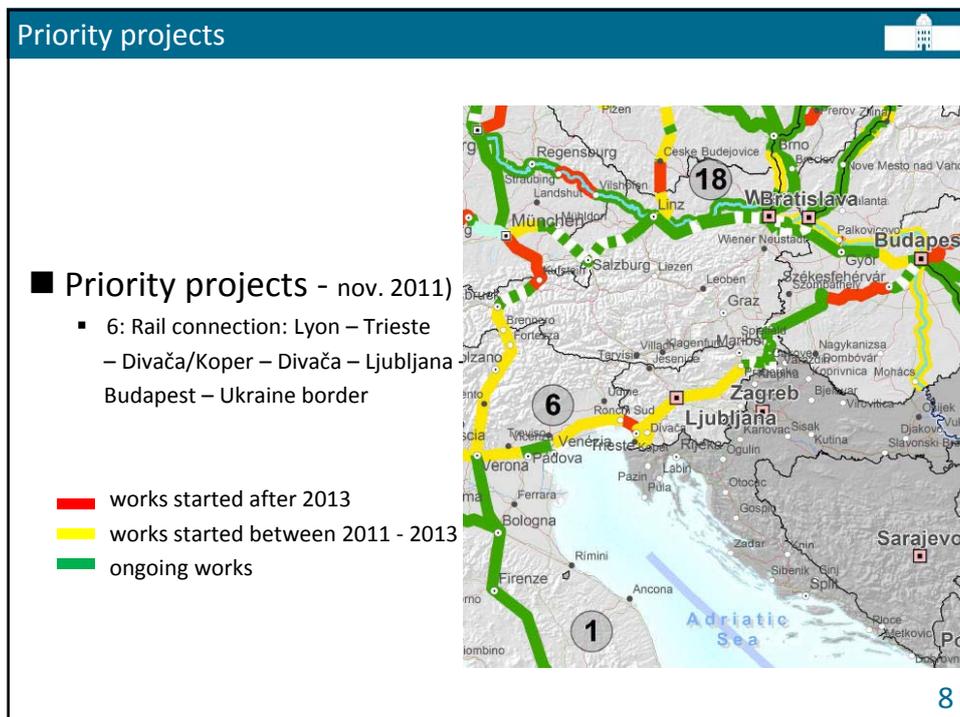
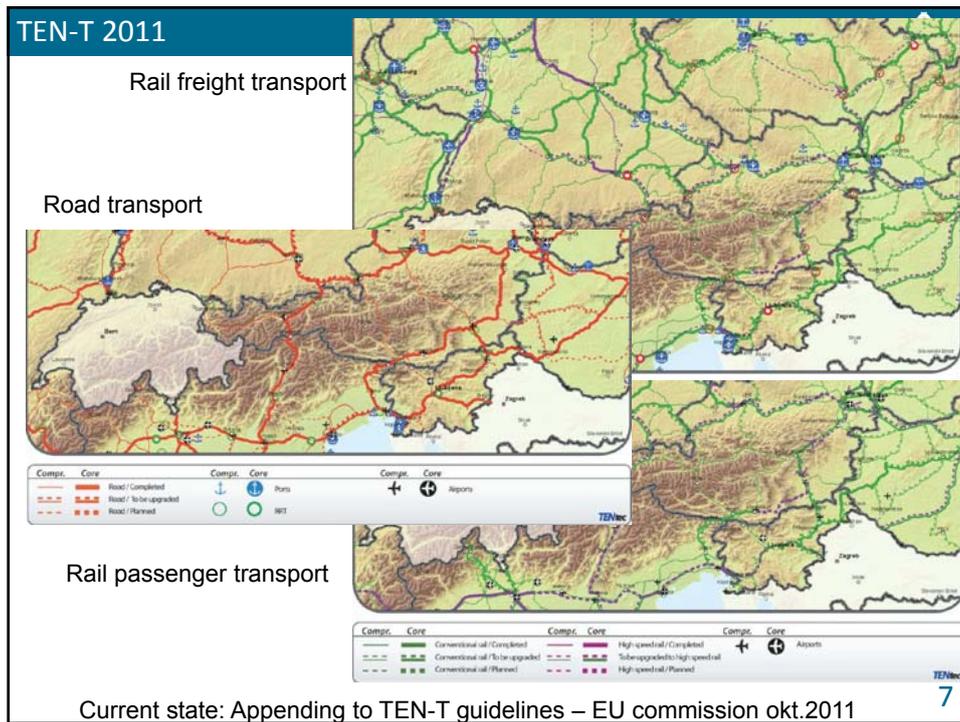
Area: 20,273 km²
 Population: 2.062.731 (oct. 2014)

Bigger cities: capital Ljubljana (280.278)
 Maribor (110.946)
 Celje (48.682)

GDP: 18.065 EUR (2014)
 Growth of GDP: 2,6%
 Average salary: 1538 EUR (jan. 2015)
 Inflation (annual): -0,3 (mar. 2015)
 Unemployed: 13,4% (jan. 2015)

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Danube region strategy

- Cross border cooperation in the frame of Danube region strategy, PA 1 (PA1b) accepted EU commission in 2011
- Preparation the new projects with added value (not only the track, connection points are needed)
- Put the new project into the evaluation scheme of the Danube region strategy



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General – geopolitical environment

Spatial planning axes in Slovenia



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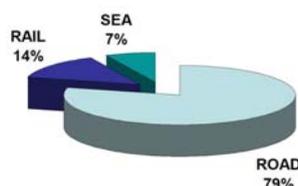
General – Export and import

EXPORT

	mil. \$	(%)
1. Germany	5.643	21
2. Italy	3.223	12
3. Austria	2.147	8
4. France	1.560	5.8
5. Russian	1.255	4.7
6. Croatia	1.184	4.4
7. Hungary	834	3.1
8. Serbia	810	3.0
9. Poland	756	2.8
10. Czech Rep.	678	2.5
Σ TOP 10	18.090	67.3

IMPORT

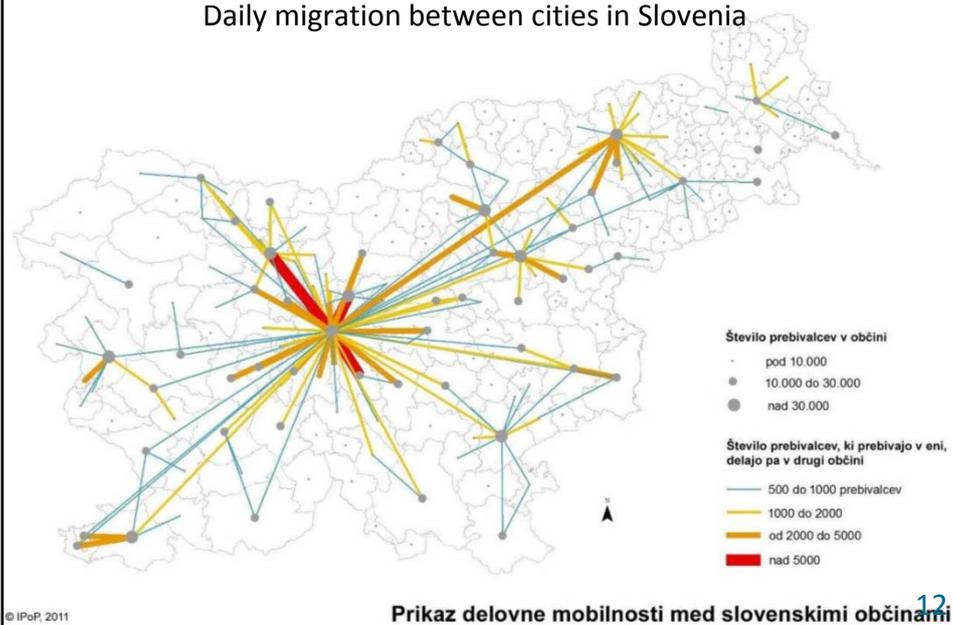
	mil. \$	(%)
1. Italy	4.979	17
2. Germany	4.435	16
3. Austria	2.271	7.9
4. China	1.559	5.5
5. France	1.168	4.1
6. Croatia	1.065	3.7
7. Hungary	911	3.2
8. South Korea	652	2.3
9. USA	627	2.2
10. Czech Rep.	625	2.2
Σ TOP-10	18.292	64.1



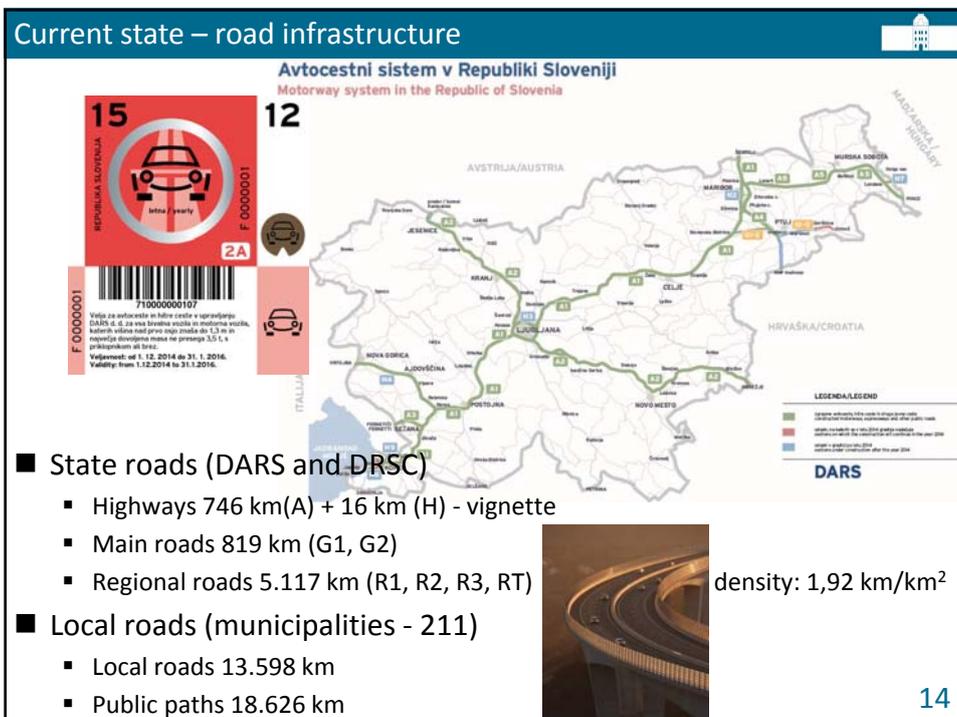
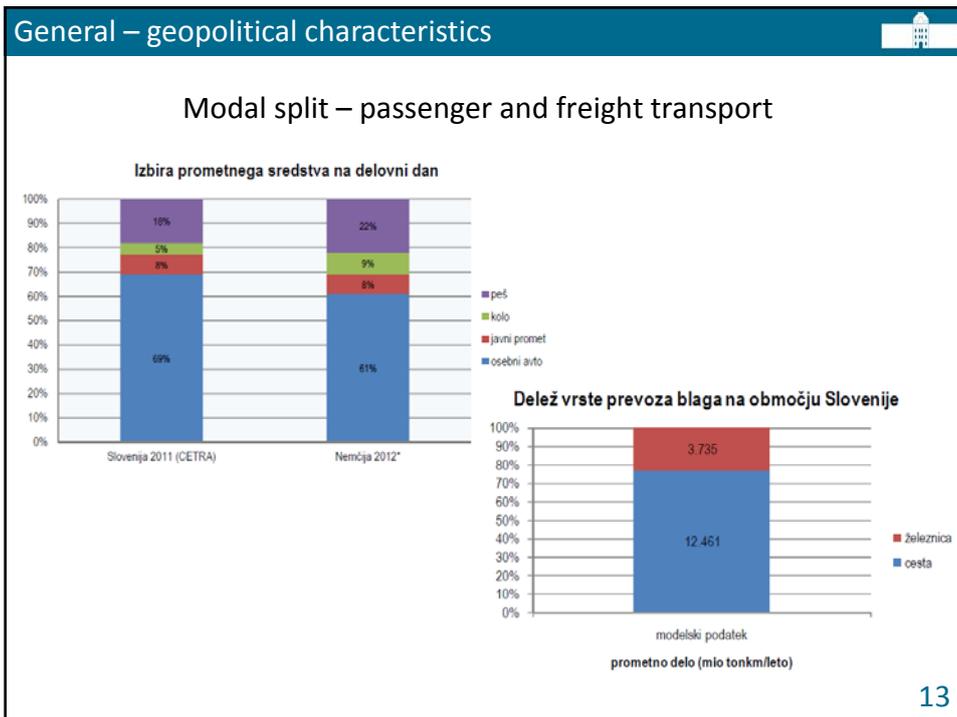
Source:
<https://atlas.media.mit.edu/en/profile/country/svn/11>

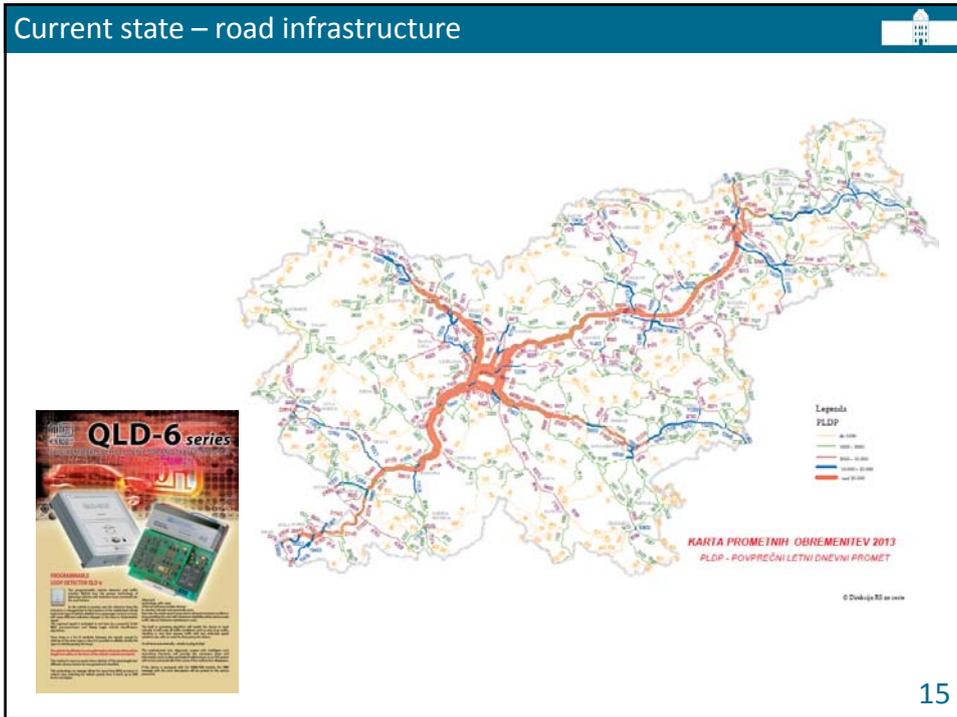
General – geopolitical characteristics

Daily migration between cities in Slovenia



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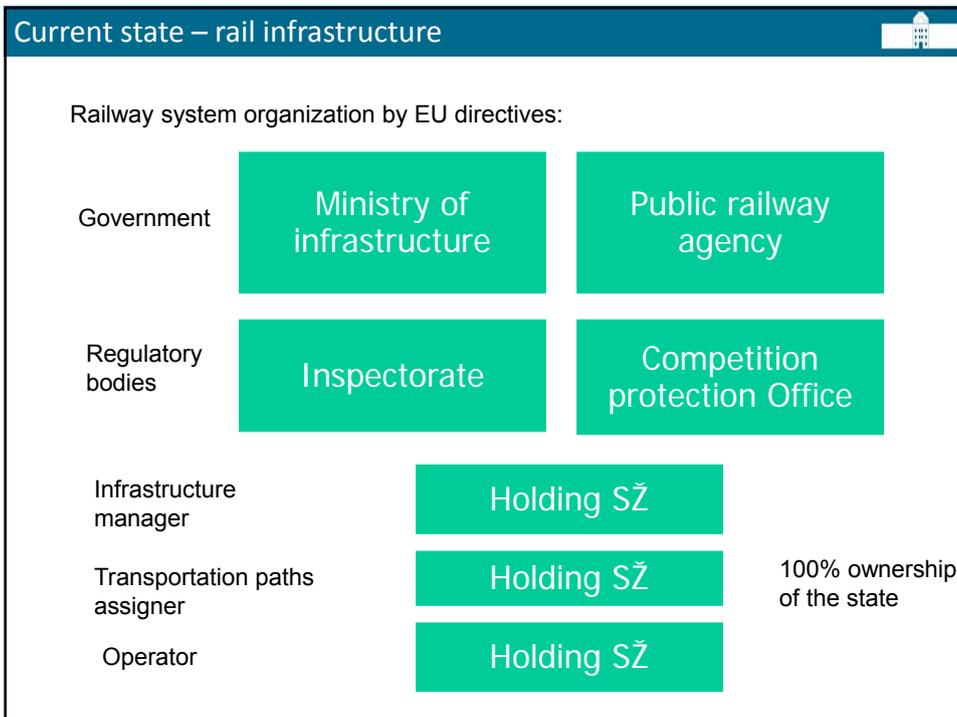
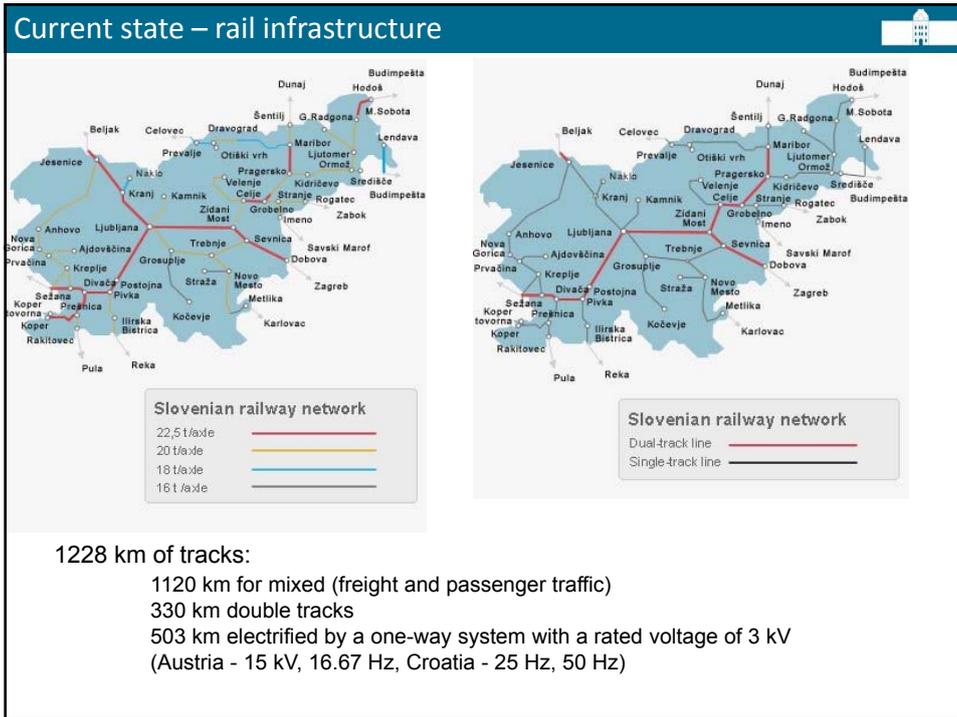
Current state – rail infrastructure

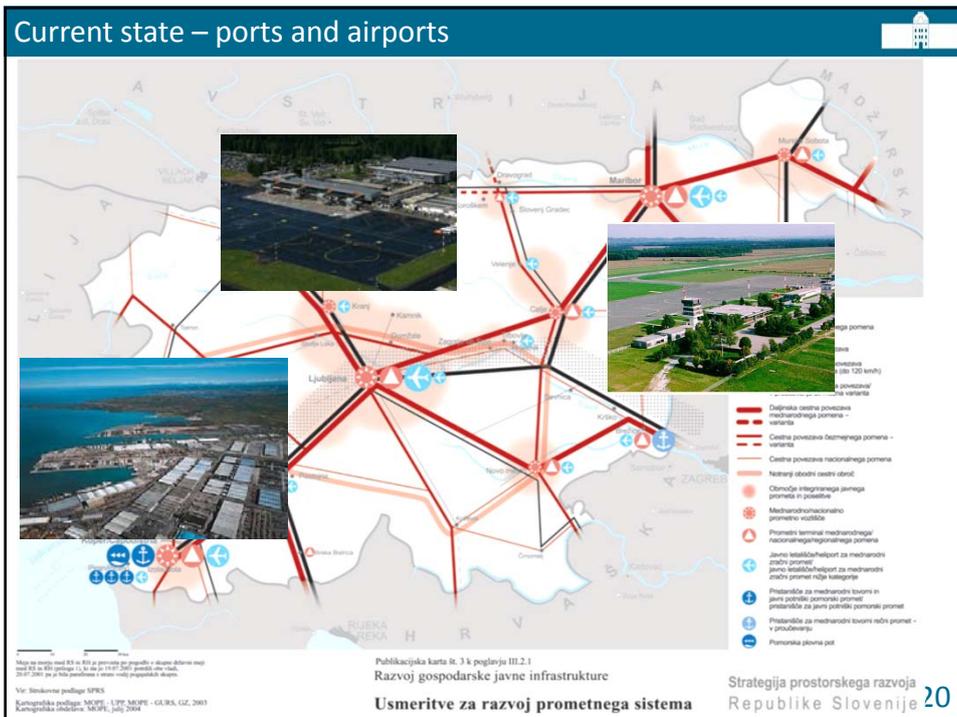
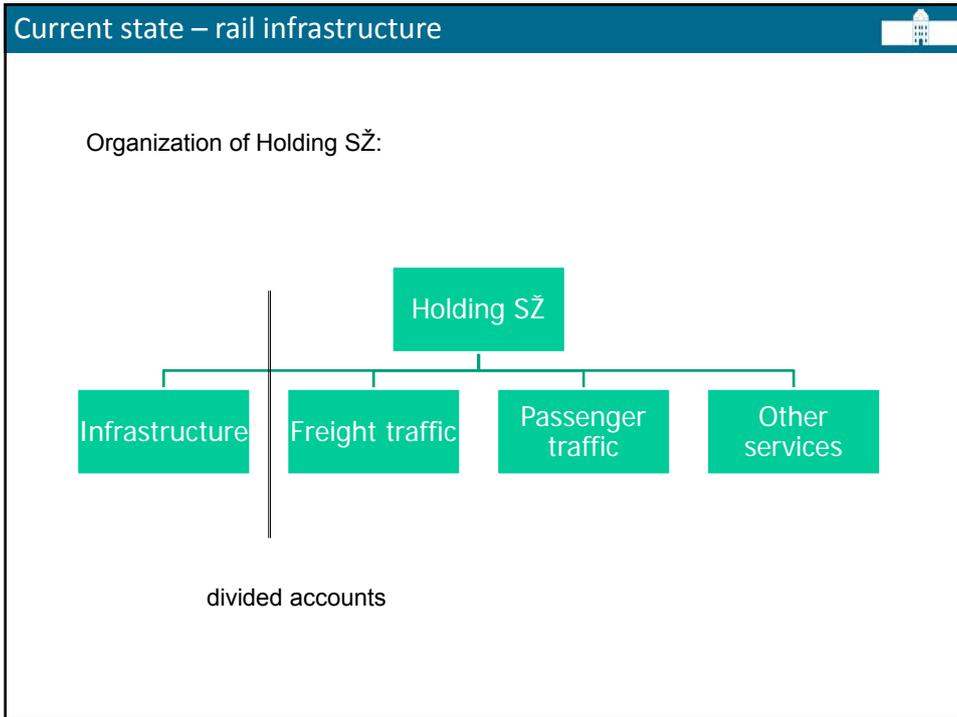
Rail history in SE Europe

- South railway Wien – Trieste (1841-1857)
- 2. June 1846 (Graz – Celje was opened)

Zidani most – Zagreb (1862)
Gobelno – Rogatec (1903)
Rogatec – Krapina (1930)

The figure contains a historical photograph of a long railway viaduct with multiple arches, set in a landscape with hills and trees. To the right is a map of the railway network in SE Europe, showing a dense network of lines. The map includes a scale of 1:10,000,000 and the text 'Mafstap - 1:10.000.000'.





Current state – ports and airports

NAPA Ports (Ravenna, Venice, Trieste, Koper, Rijeka)
 -6 to 8 days shorter transit times like from north european ports.
 - Efficient combination of cost, time and energy savings



	in tonnes	Jan - Sep 2012	Jan - Sep 2011	Index 12/11
Rijeka		6,488,252	7,056,505	-8.1%
Koper		13,249,312	12,562,991	+5.5%
Trieste		34,254,544	35,867,860	-4.5%
Venice		18,677,472	20,140,649	-7.3%
Ravenna		16,046,949	18,133,445	-11.5%
Total		88,716,529	93,761,450	-5.4 %

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Current state – ports and airports



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Current state – ports and airports



Aerodrome J. Pučnika Ljubljana:
 - main Slovenian airport
 -1,5 mio. passenger annual
 -10 daily operations
 -40,000 t cargo annual




Aerodrome E. Rusjana Maribor:
 - regional hub airport



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Current state – operators

Road sector:

<u>Logistics companies</u>	<u>Companies</u>	<u>Turnover in €</u>	<u>Employees</u>
Small companies	2.318	1.356.704.569	11.624
Middle companies	33	400.710.192	3.043
Large companies	24	1.664.272.487	22.115
TOTAL	2.375	3.421.687.248	36.783



7.082 Transport companies
 28.458 trucks over 3.5 tonnes load cap.
 31.303 professional drivers

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Current state – operators

Railway sector:
3 operators: SŽ, RailCargo Austria (till 2010), Adria Transport (till 2011)

Air sector: Adria Airways (national air operator)

13 planes:
A 320, A319 and CRJ

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Development strategy

Ministry of infrastructure:
Transportation development strategy in Republic of Slovenia

Main aim:

- to define development of transportation infrastructure till 2030
- to assure regular financing of transportation infrastructure
- to be possible of usage of EU funds 2014 – 2020

Type of analyses:

- modal split
- transportation efficiency
- spatial and social admissibility

Approach:

- transport model
- scenarios 2011 and 2030 > problems > alternative measures
- alternative analysis > list of relevant measures > priorities > strategy

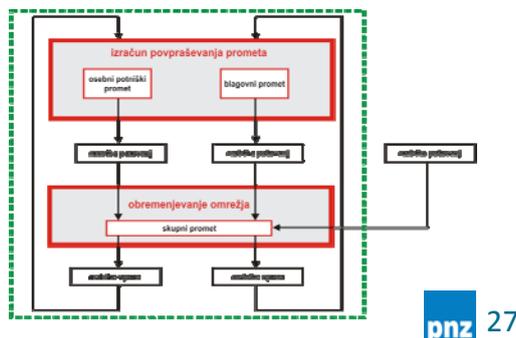
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Transportation model – main submodels

- macroscopic 4-levels model for passenger transport
- 5-levels for freight transport
- Model development, calibration and validation of motorization model
- Environmental impact models (gas emissions, hrup imisions, traffic safety)

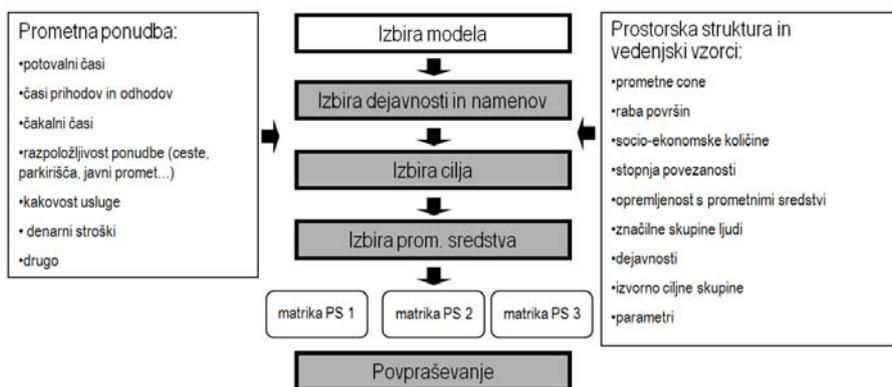
GENERAL APPROACH

- coning
- network modeling
- demand modeling
- loads
- calibration
- validation by international criteria

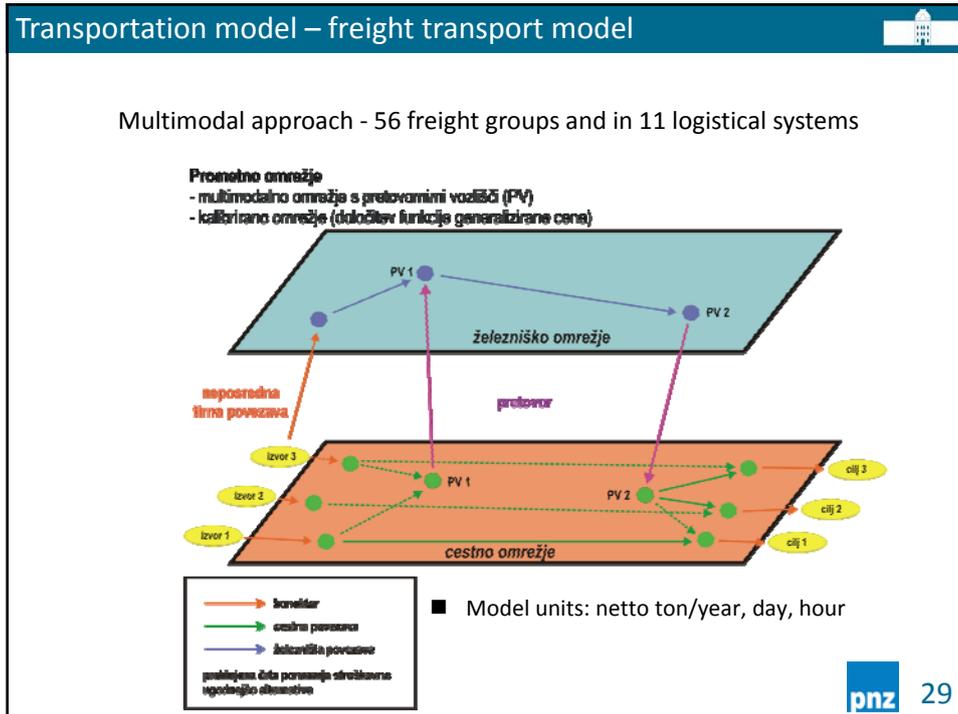


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Transportation model – passenger transport model



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Development strategy - Scenario „TO DO NOTHING“

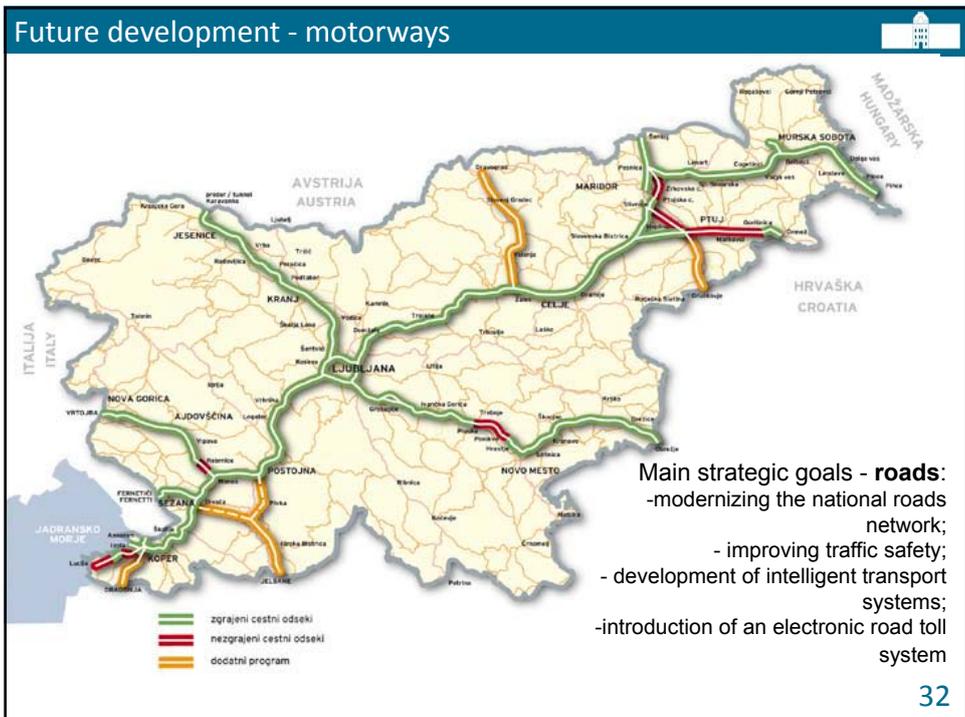
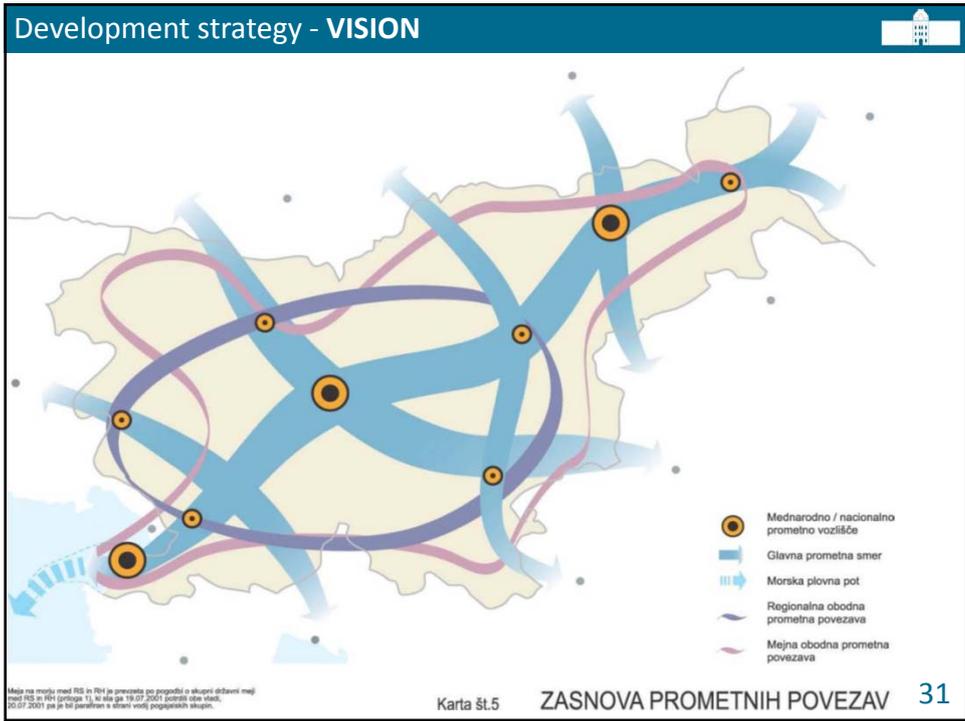
Conclusions (problems)

- modal split in passenger and freight transport will not follow sustainable mobility approach
- core TEN-T and overall rail network will not assure requirement of minimal TEN-T standards, will not assure relevant capacity in passenger practicability
- it is expected that over 230 km of road the capacity will be overdraft in 2030
- unbalancing between demand and supply
- low competitiveness of public transport
- irrelevant infrastructure of Port of Koper, airports

Measures (the list of wishes):

- to establish modern, integrated public passenger transport
- better quality of PPT (speed, frequency, P+R, cycling, walking)
- modernization of core TEN-T and regional rail network based at least on minimal standards (electrification, ERMTS)
- to establish the logistic centers
- modernization of road network (ITS, etc.), Port of Koper, airports

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Future development

Common projects on PP6:

- GSM-R
- ERTMS – corridor D
- Remote control of fixed installation of electric traction system

Main strategic goals - rail:

- development of the efficient and modern public railway infrastructure;
- shifting of freight from roads to rails;
- multimodality;
- safe and efficient transport.

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Most important projects

[... 2. rail track Divjača – Koper](#)
[... the Port of Koper?](#)

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Conclusion 

- Questions?

THANKS FOR YOUR ATTENTION!

Drago.Sever@UM.SI

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