

Challenges and Solutions with Rural Road Asset Management in Southeastern Europe

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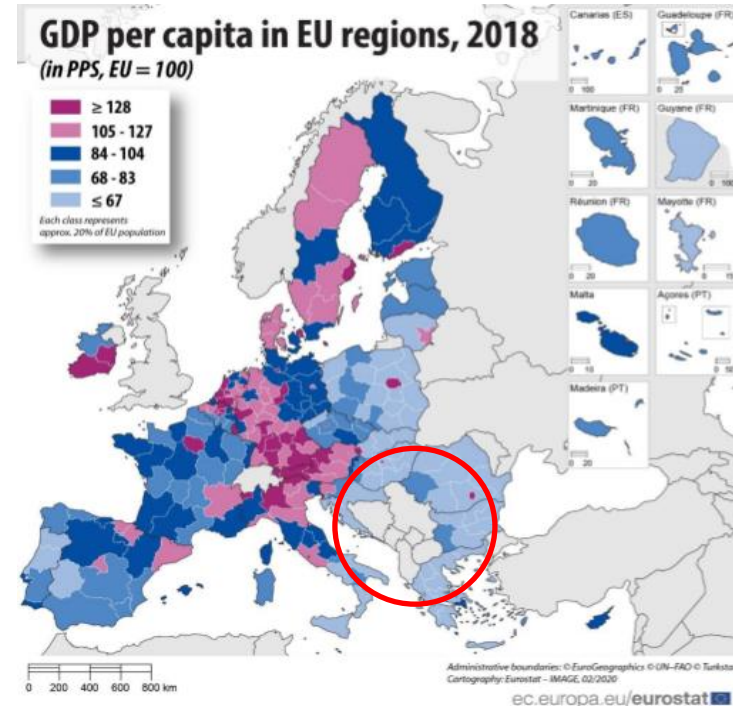
Outline

- General overview of the region
- Road networks
- Challenges
 - Maintenance backlog
 - Road safety
 - Environmental impact
- Recent developments and ongoing efforts



General overview of the region

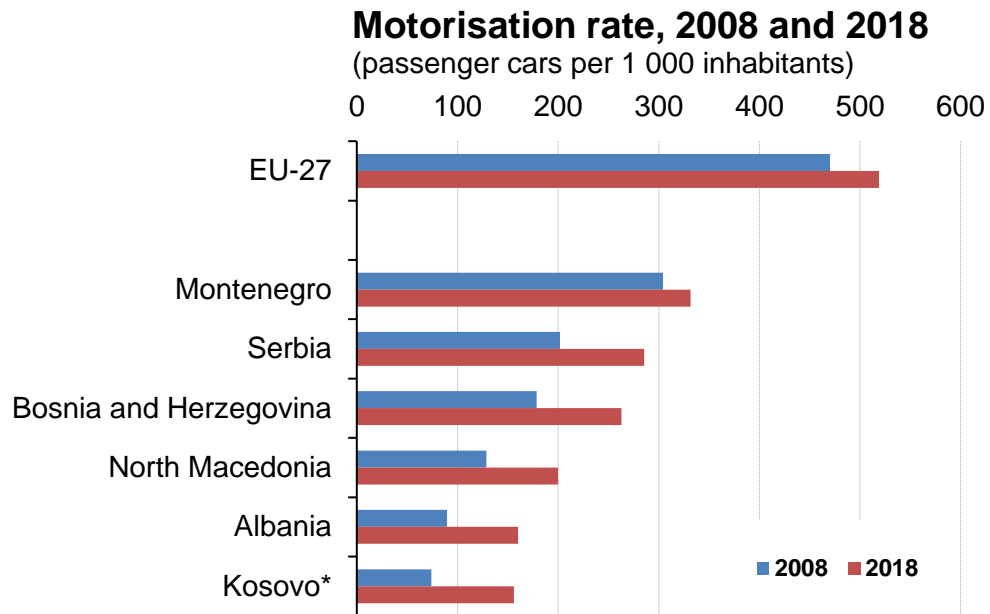
- The least developed region in Europe
- Includes four of the former Yugoslav republics: Bosnia and Herzegovina, Serbia, Montenegro, and Northern Macedonia, as well as Albania
- Surrounded by EU member states: Greece, Bulgaria, Romania, Hungary and Croatia
- GDP per capita ranges between **31** and **48** (in PPS, EU = 100)



Road Density & Motorization Rate

Country	Road density (excluding motorways)	
	m' per km ² of land area	km per 1,000 inhabitants
Albania	149	1.4
Bosnia and Herzegovina	342	5.0
Kosovo*	181	1.1
Montenegro	664	14.5
North Macedonia	573	6.9
Serbia	584	6.5
EU(27)	960	8.9

Source: Eurostat



*This designation is without prejudice to positions of status and is in line with UNSCR 1244/1999 and the ICJ Opinion on the Kosovo declaration of independence

Road Networks

Source: Eurostat

Country	Motorways			Roads (excluding motorways)		
	2008	2013	2018	2008	2013	2018
Albania	-	-	-	3,600	3,738	4,072
Bosnia and Herzegovina	28	50	198	17,500	-	-
Kosovo*	0	78	119	1,925	1,925	1,956
Montenegro	0	0	0	7,404	7,965	9,038
North Macedonia	237	259	287	13,685	13,898	14,272
Serbia	465	607	963	39,200	43,997	45,257
EU(27)	64,200	70,500	73,600	3,762,000	3,873,000	3,944,000

- Substantial increase in motorway network in recent years
- Albania has about 330 km of motorways constructed in recent years
- 40-km motorway section is under construction in Montenegro

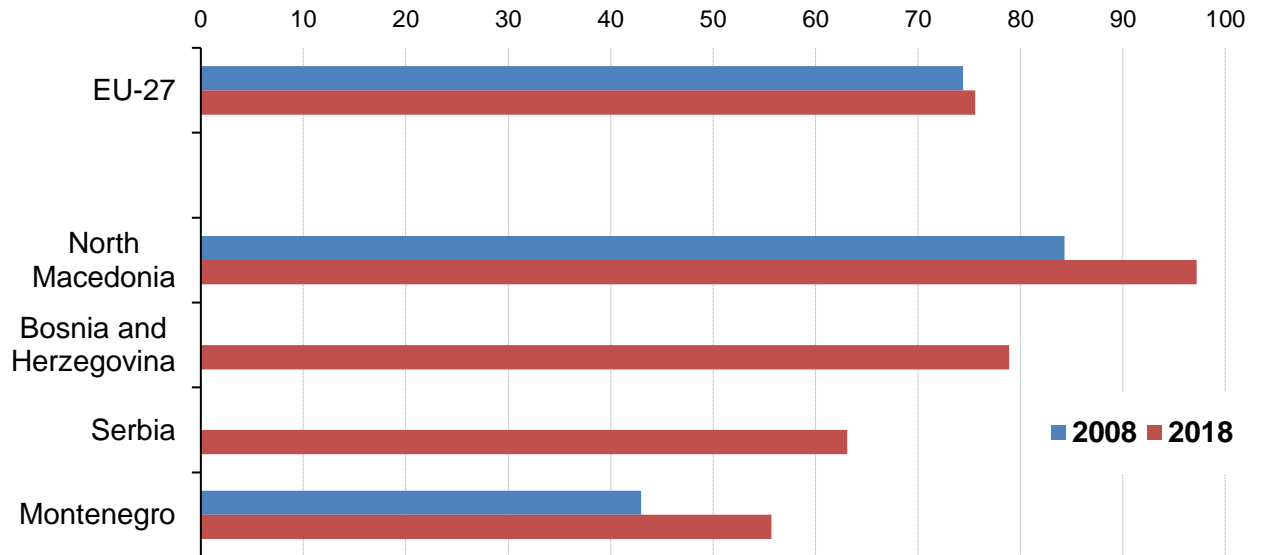
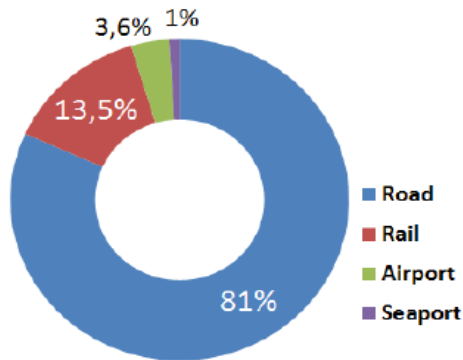
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Freight Transport

- Roads and highways are predominant mode of land transport in the region

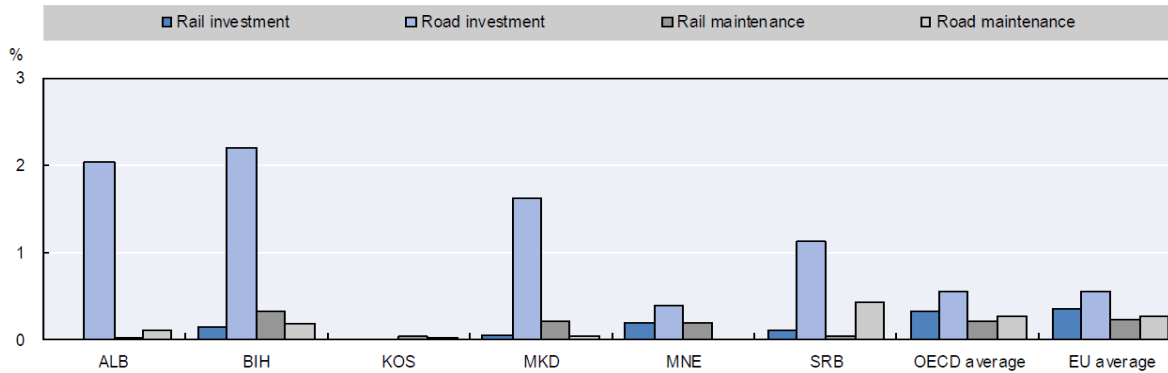
Share of road freight transport in total inland freight transport, 2008 and 2018

(%, based on tonne-km)



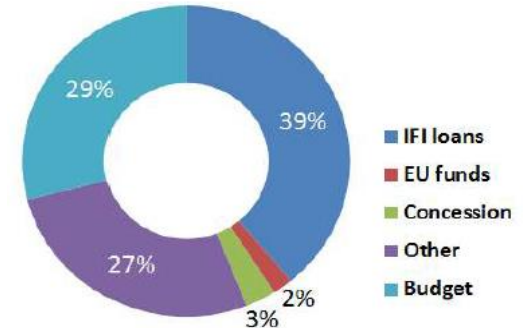
Rail and road transport infrastructure investment and maintenance (average 2013-15)

Spending as % of GDP



Source: OECD

- Substantial underfunding for routine and periodic maintenance → substantial maintenance backlog
- Maintenance funding usually postponed in favor of new investments, which makes road networks more vulnerable



Implementation of RAMS

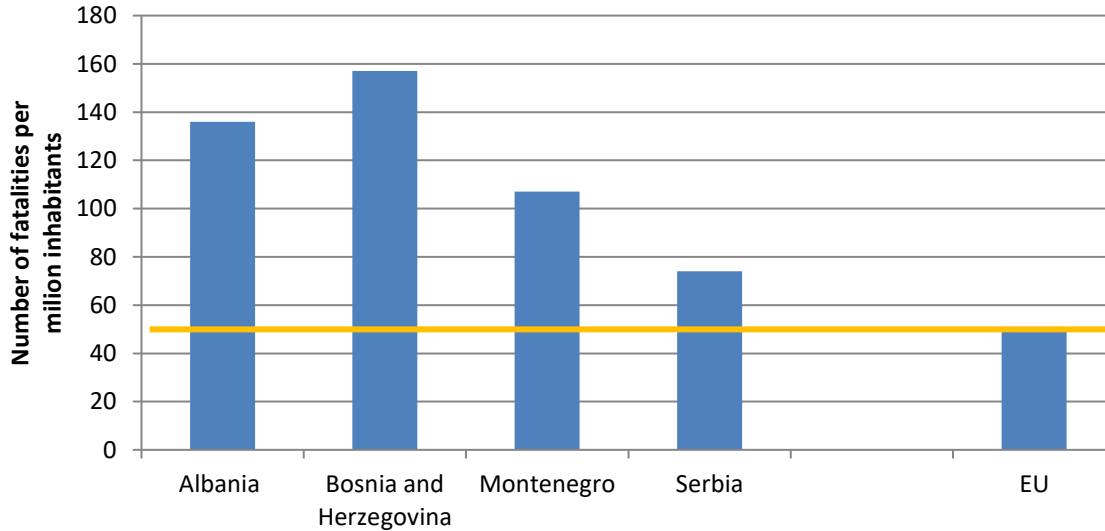
- RAMS - the exception rather than the norm
- In most countries/road agencies there were several attempts in the past to develop road databases and implement RAMS with limited success, primarily due to lack of capacity and management commitment
- The network level analyses are performed sporadically, primarily motivated with obtaining loans from IFIs

Implementation of RAMS

- Condition surveys are performed partially and irregularly
- Some agencies have procured the equipment for IRI & skid resistance survey and FWDs
 - The calibration of equipment is an issue, so quite often data are questionable
 - There is no systematic approach to network surveys
- Decision Support Tools used
 - HDM-4
 - Other systems (Routen, Deighton,)

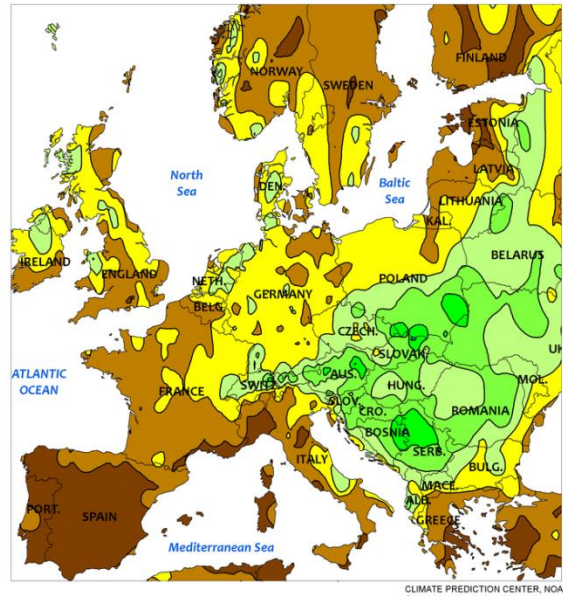
Road safety

- Decreasing trends in number of accidents and fatalities in recent years
- Still, substantially higher accident rates than in EU



Climate related events

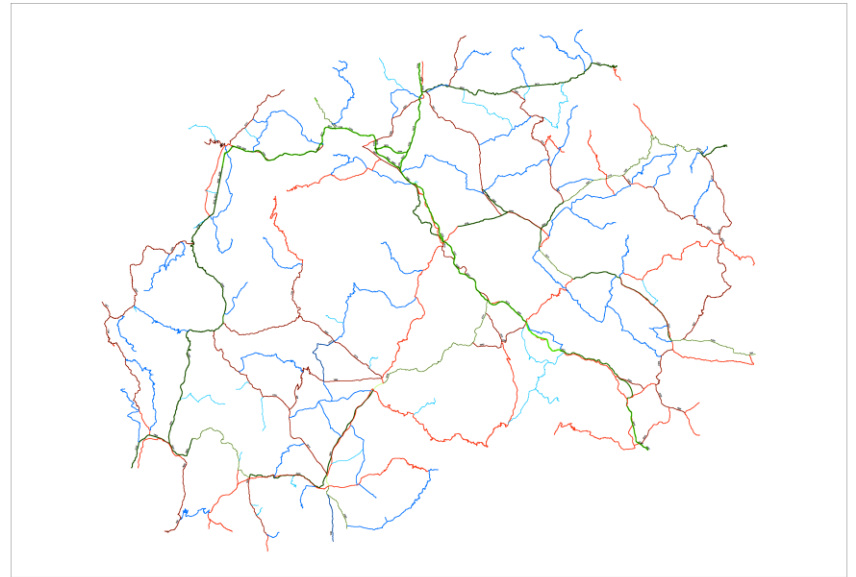
- Flooding
- Landslides
- Earthquake
- Heat waves



Few recent implementations and ongoing efforts

- RAMS implementation in Northern Macedonia (2018 – 2020) and Albania
- Ongoing efforts:
 - Serbia – comprehensive road network survey (after 11 years) and database update
 - Bosnia – just started RAMS implementation project for one of agencies (PC ROADS FBH)
 - Improvement of road safety in the region
 - WB supported studies on climate resilient road infrastructure (Albania, Northern Macedonia, Serbia)

PLDP - Sve kategorije puteva



Thank You!