

RAILWAY INFRASTRUCTURE IN THE REPUBLIC OF SERBIA

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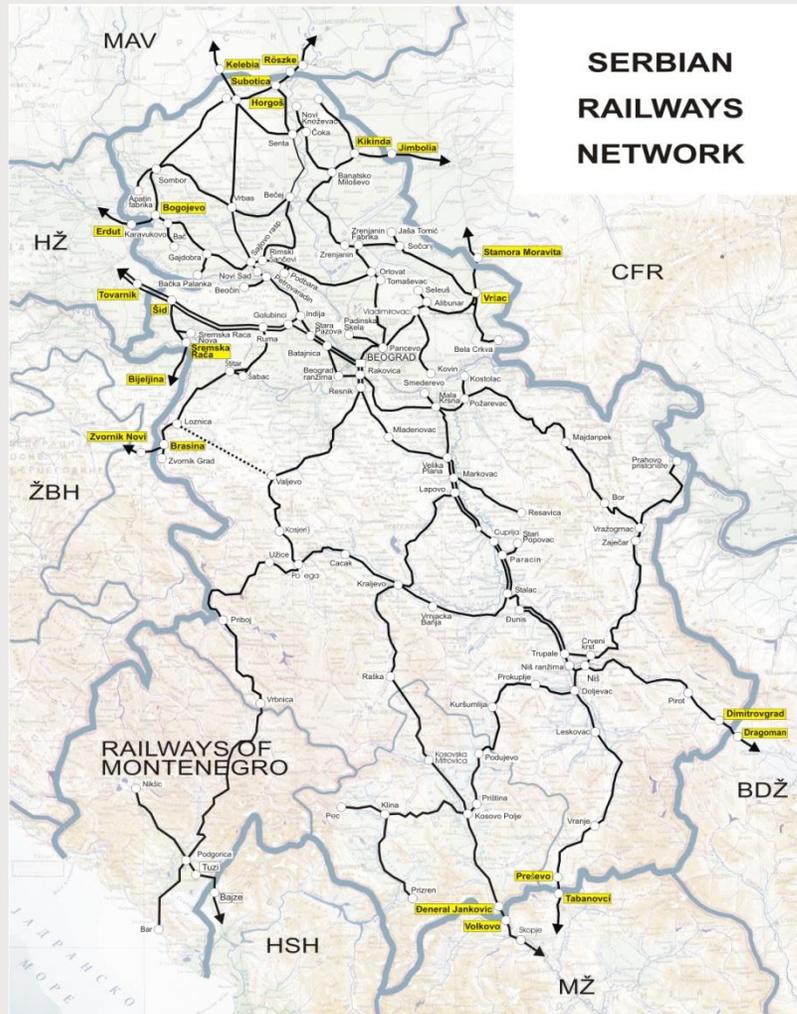
Traffic and Rail Infrastructure Access Department
"Infrastructure of Serbian Railways" JSC
Republic of Serbia



ABOUT THE COMPANY

- The first railway line Begrade – Niš: in 1884
- Founder: The Government of Serbia in 2015
- Managing the entire public railway network in the country
- 12% of the total State owned property in Serbia
- The value of the property: around EUR 3 billion
- Around 7,000 employees
- Financing through performance contract with Government (MAIC) and charging Track Access Charge (TAC) to RU

WHAT DO WE HAVE?



- 3.739 km of lines, 1.247 km electrified lines, 827 km lines on Corridor X
- 690 stations/stops, 531 switches, 334 tunnels, 981 bridges and 2135 level crossings
- transported 10.8 milions tons of goods
- transported 17.4 milions of passengers
- 15.8 milions train km (passenger trains 10.8 milions, freight trains 5 milions)
- 7.1 bilions gtkm (passenger trains 1.6 bilions, freight trains 5.5 bilions)



INTRODUCTION

- We are all witnesses of major climate changes in the last couple of decades
- Widespread flooding across Europe, intensive storms, hard winds, very hot summers, heavy winter conditions, heavy snowfall, etc.
- **The goal is that today's extreme weather becomes tomorrow's normal weather**
- Long life cycle of railway infrastructure
- Republic of Serbia has in the previous period invested and continues to do so, a lot of effort and funds in the railway infrastructure projects
- Even though Serbia does not have resilience plan for railway infrastructure, new lines are built and reconstructed in accordance with the EU practice and taking into account the factor of extreme weather and climate change

There is no specific strategy in the Republic of Serbia or comprehensive plan that is dealing with adaptation measures to climate change, but we are informed that cross-sectorial Climate Strategy and Action Plan is currently under development.

“Infrastructure of Serbian Railways” JSC did not a prepare a plan/strategy for adjusting to the climate changes because of two main reasons:

- 1) the biggest influences of climate changes are related to the departments of agriculture, hydrology, forestry, public health and biodiversity,
- 2) lack of base document on the state level and not favorable financial and human resources of the company.

COMPLETED RAILWAY PROJECTS

- In total about 137 km have been reconstructed and modernized on Corridor X since 2015 and about 306 million euros invested.
 - EIB 2 - section Gilje-Paracin-Cuprija(10,5 km)
 - Russian Loan 177,8 mil. dollars
 - Railway line Pancevacki most-Pancevo (14,9 km)
 - Three North sections on Corridor X (65,8 km)
 - Three South sections on Corridor X (46,5 km)



ONGOING RAILWAY PROJECTS



- Besides the 137 km of completed railway lines, works are currently being carried out on 125 km in the value of over 400 million euros.
- Section Rakovica-Resnik (7,5 km)
- Section Resnik-Valjevo (77,6 km)
- Section Stara Pazova-Novi Sad (40,4 km)

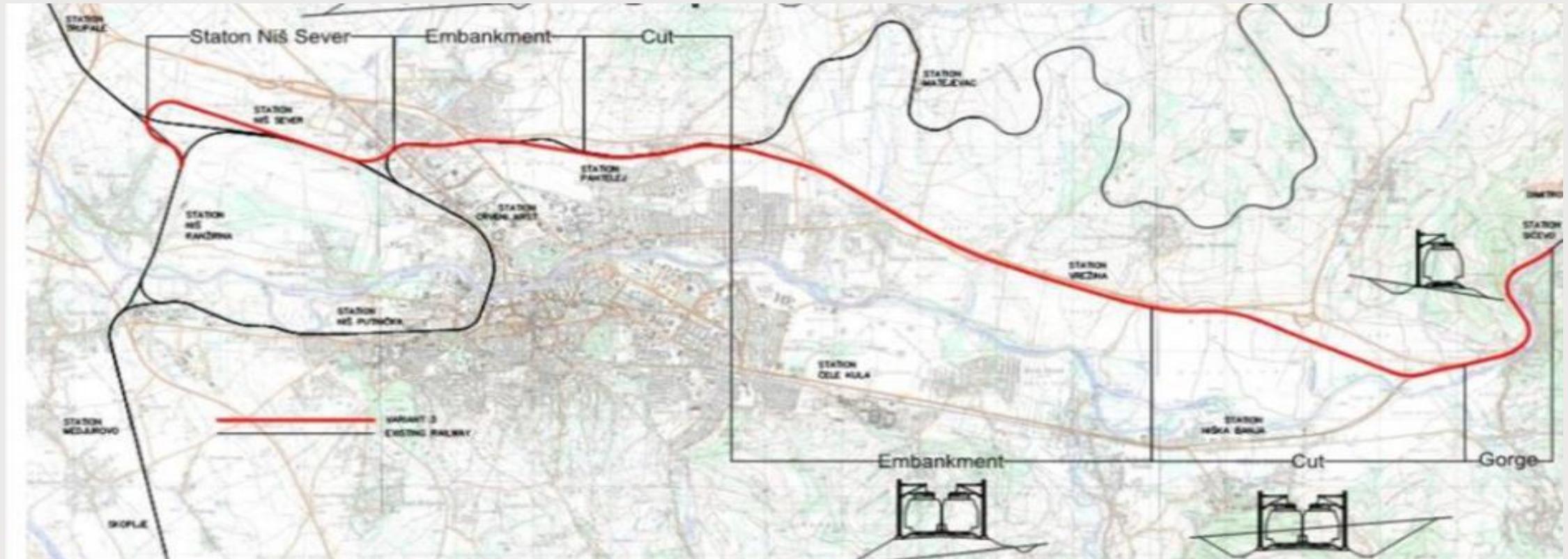


PLANNED RAILWAY PROJECTS

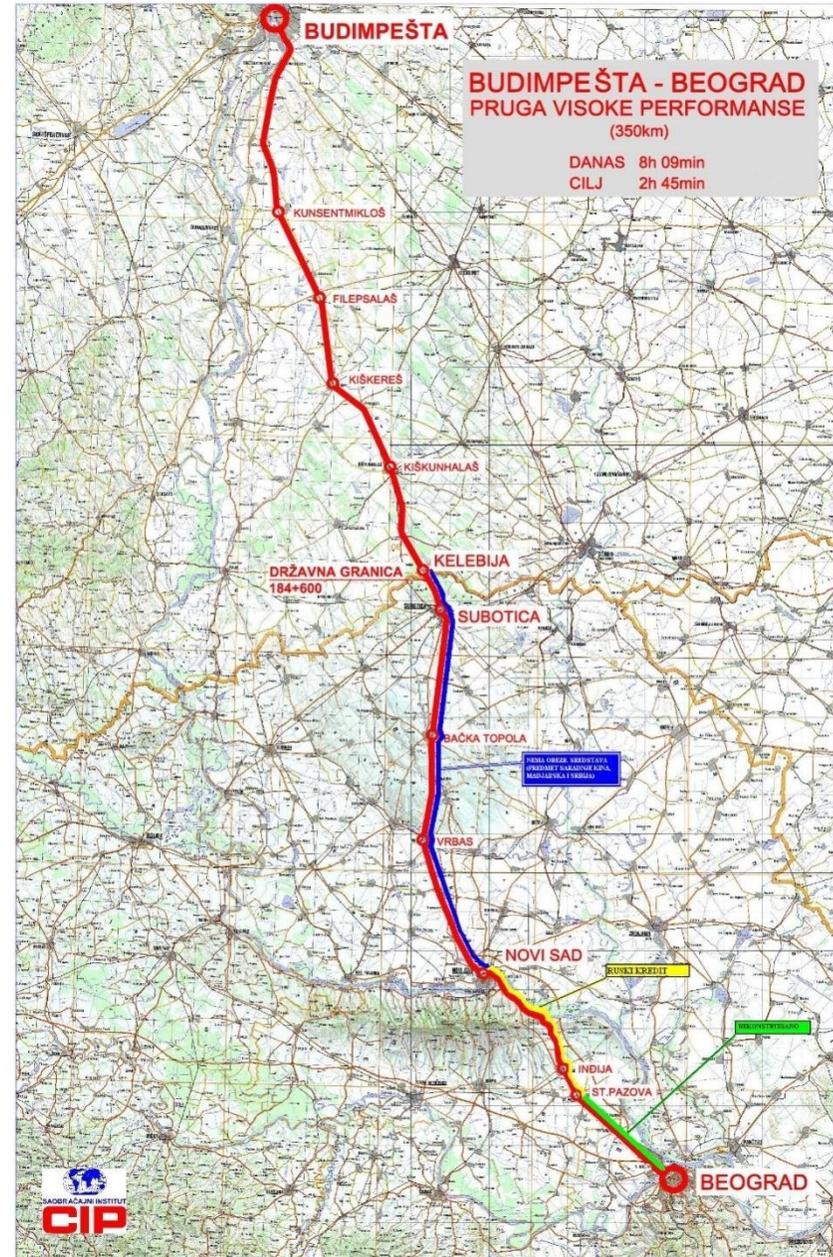
- Projects on Corridor X are expected to start in the near future on about 300 km of railway lines in the total estimated value of 1,7 billion euros
 - Section Beograd Centar-Stara Pazova (34,5 km)
 - Section Novi Sad-Subotica (107,4 km)
 - Railway line Nis-Dimitrovgrad (96 km)
 - Section Nis-Brestovac (23 km)
 - Section Jajinci-Mala Krsna (59 km)

The implementation schedule of planned projects will be in accordance with available funds

- Railway line Nis-Dimitrovgrad – project includes three parts:
 - Construction of Nis bypass (22 km)
 - Reconstruction and modernization of railway section Sicevo-Dimitrovgrad (80 km)
 - Nis-Dimitrovgrad Railway line electrification (86 km)

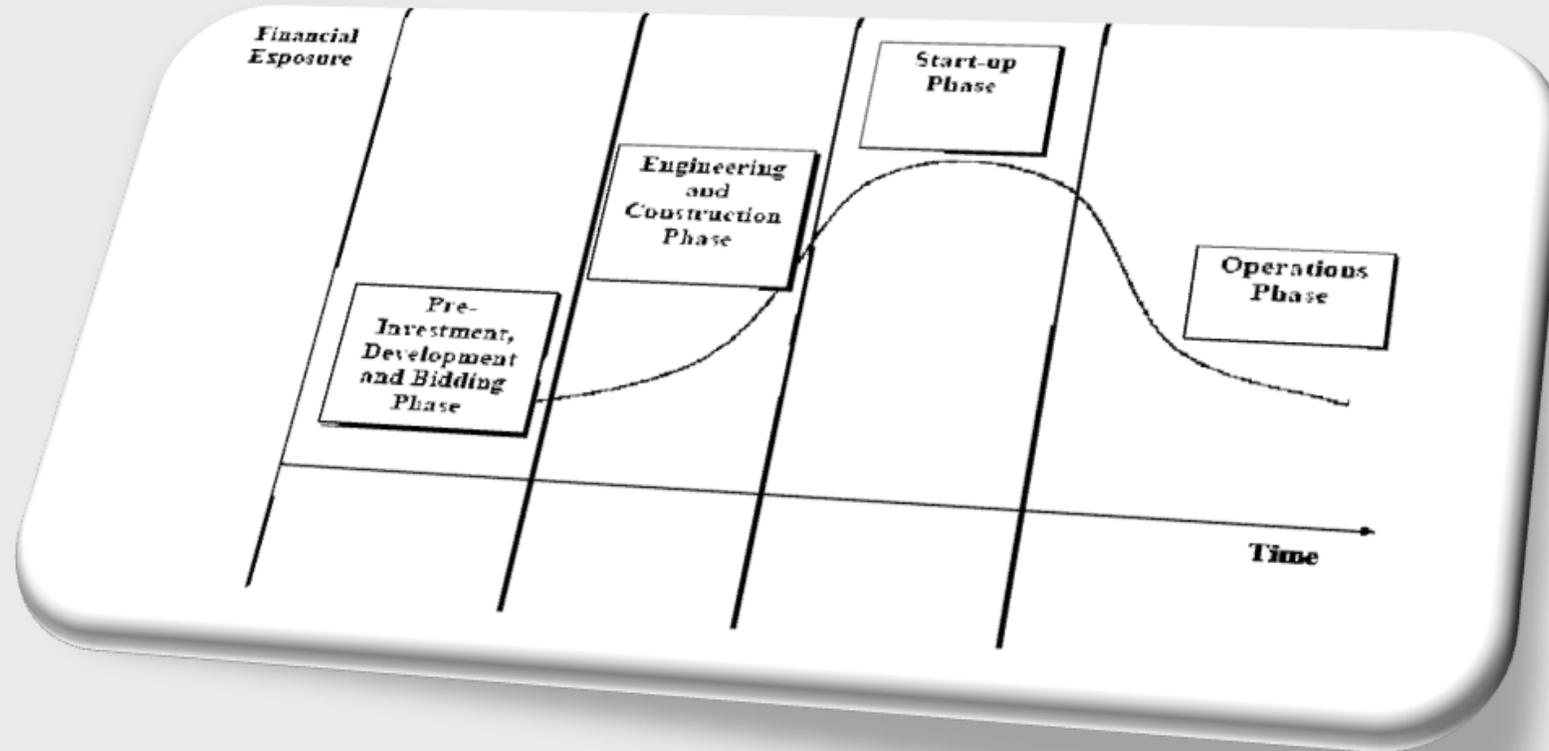


- Railway line Belgrade-Budapest – project includes three sections:
 - Section Beograd Centar-Stara Pazova (34,5 km)
 - Section Stara Pazova-Novi Sad (40,4 km)
 - Section Novi Sad-Subotica-state border (107.4 km)



Typical risks in transport

Stage	Risk
Regulatory	- Changes in environmental requirements
Demand analysis	- Traffic forecasts different than predicted
Design	- Inadequate site surveys and investigation - Inadequate design cost estimates
Administrative	- Building permits - Utility approvals
Land acquisition	- Land costs higher than predicted - Procedural delays
Procurement	- Procedural delays
Construction	- Project cost overruns - Flooding, landslides, etc. - Archaeological findings - Contractor related (bankruptcy, lack of resources)



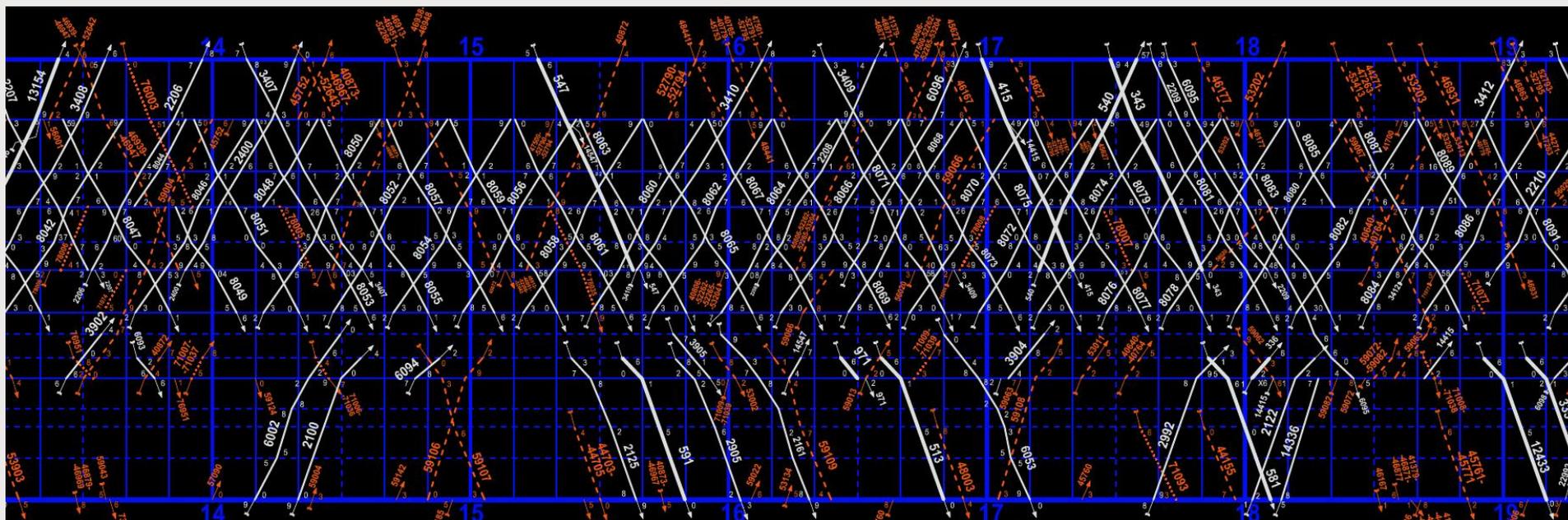
Levels of risks in different phases of a given infrastructure project

Source: EC Guide to Cost-benefit Analysis of Investment Projects Economic appraisal tool for Cohesion Policy 2014-2020, December 2014

CONCLUSION



- In order to increase the level of reliability of railway infrastructure and reduce traffic closures, company will focus its activities on introducing the Railway Management System (RMS) and Infrastructure Database (IDB), which will make it possible to manage, control and handle the data related to all elements of railway infrastructure and support planning maintenance and overhaul
- Finally it will become possible to manage all the activities related to maintenance and overhaul by reducing bussines risks and saving budget



THANK YOU FOR YOUR ATTENTION

