



**ECONOMIC COMMISSION
FOR EUROPE**



TRANS-EUROPEAN NORTH-SOUTH MOTORWAY (TEM)

4-7 June 2017, Dubrovnik, Croatia

PUBLIC COMPANY "REPUBLIC OF SRPSKA MOTORWAYS" Ltd.





- **MANAGEMENT, CONSTRUCTION, MAINTENANCE AND PROTECTION OF EXPRESSWAYS AND MOTORWAYS IN THE REPUBLIC OF SRPSKA ARE CARRIED OUT BY PUBLIC COMPANY “REPUBLIC OF SRPSKA MOTORWAYS” ltd**

The **motorway network** in RS includes following directions (alignments):

1. **Banja Luka – Gradiška L= 35 km**
2. **Mahovljani interchange**
3. **Banja Luka – Prnjavor, L=35,30 km**
4. **Prnjavor – Doboј, L =36,6 km**
5. **Glamočani – Mliništa, L = 92 km**
5. **Doboј – Vukosavlje, L = 46,6 km**
6. **Banja Luka – Prijedor– Novi Grad, L = 71 km**
7. **Vukosavlje – Bijeljina, L = 62 km**



APART FROM CONSTRUCTION OF MOTORWAY SECTIONS, STRATEGIC PLANS INCLUDE CONSTRUCTION OF FOLLOWING EXPRESSWAYS IN TOTAL LENGTH OF 468 KM:

- **Lukavica– Pale – Sokolac – Rogatica- Višegrad (128) KM**
- **Bijeljina – Zvornik– Sokolac (145 km)**
- **Sokolac – Rogatica – Foča – Gacko – Bileća – Trebinje (160 km)**
- **Prijedor– Kozarska Dubica– Donja Gradina (50 km)**
- **Banja Luka – Čelinac– Kotor Varoš– Obodnik (50 km)**
- **Stolac– Ljubinje– Trebinje– granica sa Crnom Gorom (95 KM)**

Previous, Current and future Activities



Asset management, routine maintenance, structural maintenance, operations?

- Asset management is the strategic business process approach to managing the **long-term** maintenance of roads
- Routine maintenance - All works and services which are believed to be necessary to achieve the best possible results with regard to the availability, reliability and sustainability of the Highway. These services are essential to ensure the safety of the road users and for the proper management and communication of all incidents as well as of all planned maintenance works and to ascertain that the condition and status of the Highway is maintained.
- Structural maintenance
- Operations (of the motorway) is basically management and control of all motorway operations including but not limited to: incident detection and control, traffic control, liaison with the police and public, road lane closures, movement of emergency services...

Operation and Maintenance Control Centre



TRANS-EUROPEAN NORTH-SOUTH
MOTORWAY (TEM)

Organizational structure of roads and highways asset management?

- Most governments have usually established a separate agencies to manage road subsector
- The key element to establish organizational structure of roads asset management is the need to improve the efficiency of the management and financing of road infrastructure
- The main factor affecting the efficiency includes: lack of clear responsibilities, human resources constraints, weak management information systems, inadequate financing, perception of roads as public good (higher user participation)...

Concerning routine maintenance and KPIs:

- Key performance indicators (KPIs) are designed to be objective measures of performance for a road authority. There are several aspects that need to be addressed in asset management KPIs for roads:
 - Performance – which are functionally related such as measuring skid resistance, rutting texture, and roughness
 - Visual appearance
 - Structural – which include determination and calculation of remaining life

- However, KPIs do not cover just asset condition, but should in outsourcing situation expand to include non-technical measures of performance such as :
 - Speed of repair response to road defects
 - Compliance with inspections plans
 - Road safety
 - Smoothness of ride
 - Traffic management
 - Environmental impact
 - User satisfaction
 - etc

- KPIs delivery should be measured by providing rectification period and underperformance points for each underperformance situation. If any parts of operation and maintenance of the highway fails to be performed in accordance with quality level defined by the Contract such failure is defined as an underperformance situation

Concerning structural (periodical) maintenance:

- Special sections with tables of key performance indicators should be identified and listed which will be used as performance markers for the measure. These indicators include elements such as percentages, ratios, indexes, and condition states to verify if and when the performance standards are met. What is your strategy? – preventive, reactive?
- These measures exist for different elements but are the most significant for structural maintenance. However it is very important to understand how these specific mechanisms work because they set the benchmarks the audits, inspections and verifiers use for comparison and assessment.
- optimizing resources allocation???

Risk management

- The foreseeable risks are documented within **risk plan** and set of actions to be taken to prevent or reduce the risk from occurring
- Developing clear risk plan is an important activity withing the planning phase as it is necessary to mitigate all cricital risks prior entering to the Execution phase-in this case maintenance

THANK YOU FOR YOUR ATTENTION

TRANS-EUROPEAN NORTH-SOUTH
MOTORWAY (TEM)