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## **ALBANIAN ROADS AUTHORITY**

### **Results-based Road Maintenance and Safety Project (RRMSP)**

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### **Consultant Services**

for

### **Road Safety Technical Assistance**

# **National infrastructure safety improvement program**

D-2.6 Appendix 1

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**Country:** Albania

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**Consultant:** JV NTU International A/S / EPTISA Servicios De Ingenieria S.L.

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## DOCUMENT CONTROL

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## **EXECUTIVE SUMMARY**

This document constitutes one of the outcomes of the Activity 2.5 of Component 2 of the Road Safety Technical Assistance (TA) under the Results-Based Road Maintenance and Safety Project (RRMSP) aimed to evaluate the efficiency and effectiveness of improved rural and urban road infrastructure safety programs in high-risk corridors and areas.

In particular, this document describes a national infrastructure safety improvement program. It mainly builds on the analyses and documents produced in Tasks 1 and 3 and intends to systematise the various recommendations into a programme whose aim is to improve the safety of road infrastructure in Albania.

The programme is translated into action plans which, for different time horizons, provide the necessary information to make it operational.

The national infrastructure safety improvement program is founded on two pillars:

- 1. Road infrastructure safety management**
- 2. Safer roads**

The first encompasses a series of actions that should be undertaken in order to implement an effective system for defining issues and priorities, in line with the provisions of Directive 2008/96/EC.

The second lists a series of infrastructural measures that should be implemented (i) to respond to the recurrent road safety issues encountered and (ii) to make safe the locations identified as high risk.

Each program is broken down into action plans defining the subject matter, timeframe and indicative cost.

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## LIST OF ABBREVIATIONS AND ACRONYMS

AADT	Average Annual Daily Traffic
ADF	Albanian Development Fund
ANPR	Automated Number Plate Recognition
ARA	Albanian Road Authority
ARC	Albanian Road Code
ARDCS	Albania Road Design and Construction Standards
ARDM	Albanian Road Design Manual
ASP	Albanian State Police
ATC	Automatic Traffic Counts
ATP	Albanian Traffic Police
BSM	Blackspot management
CBMIE	Controlling Body in Ministry of Infrastructures and Energy
CSG	Central Steering Group
DRST	Directorate of Road Safety and Traffic
DRST	Directorate of Road Safety and Traffic
EC	European Commission
EG	Expert Group at the local level
ERA	Emergency Response Albania
EU	European Union
GDRTS	General Directorate of Road Transport Services
GoA	Government of Albania
GRD	General Roads Directorate
IMRSC	Inter-ministerial Road Safety Committee
INSTAT	Institute of Statistics
IoT	Institute of Transports
IPA	Instrument for Pre-Accession Assistance
iRAP	International Road Assessment Program
ITS	Intelligent Traffic System
JV	Joint Venture
M&E	Monitoring and Evaluation
MI	Ministry of Interior
MIE	Ministry of Infrastructure and Energy
NGO	Non-Governmental Organization
NSM	Network Safety Management
PAMECA	Police Assistance Mission of the European Community to Albania
PIARC	World Road Association
QKUM	National Emergency Medical Center
RRMSP	Results-based Road Maintenance and Safety Project
RSA	Road Safety Audit
RSAIU	Road Safety Audit and Inspection Unit
RSI	Road Safety Inspection
RSIA	Road Safety Impact Assessment
RSM	Road Safety Management
RSS	Road Safety Sector

SEETO	South-East Europe Transport Observatory
TA	Technical Assistance
TERN	Trans European Road network
ToR	Terms of Reference
TS	Technical Secretariat
WB	World Bank
WHO	World Health Organization

## 1. Introduction

This document constitutes one of the outcomes of the Activity 2.5 of Component 2 of the Road Safety Technical Assistance (TA) under the Results-Based Road Maintenance and Safety Project (RRMSP) aimed to evaluate the efficiency and effectiveness of improved rural and urban road infrastructure safety programs in high-risk corridors and areas.

In particular, this document describes a national infrastructure safety improvement program. It mainly builds on the analyses and documents produced in Tasks 1 and 3 and intends to systematise the various recommendations into a programme whose aim is to improve the safety of road infrastructure in Albania.

The programme is translated into action plans which, for different time horizons, provide the necessary information to make it operational.

## 2. Program basics

The national infrastructure safety improvement program is founded on two pillars:

- 3. Road infrastructure safety management**
- 4. Safer roads**

The first encompasses a series of actions that should be undertaken in order to implement an effective system for defining issues and priorities, in line with the provisions of Directive 2008/96/EC.

The second lists a series of infrastructural measures that should be implemented (i) to respond to the recurrent road safety issues encountered and (ii) to make safe the locations identified as high risk.

Each program is broken down into action plans defining the subject matter, timeframe and indicative cost. Details are given in the following chapter.

## 3. Action Plans

### 3.1 Road infrastructure safety management

The program consists of the following action plans:

1. Road Safety Audits
2. Road Safety Inspections
3. iRAP assessment
4. Network safety management



## 1.1 ROAD SAFETY AUDITS

**Competent organisation:** MIE / ARA

**Issue:**

The practice of Road Safety Audits (RSAs) is not yet implemented on a regular basis in Albania and the provisions of Instruction no. 9 of 3/7/2012 are not yet fully operational.

**Implementation:**

RSAs gradually become common practice in Albania and are carried out by auditors qualified according to Instruction No. 9.

The MIE, as Controlling Body, supervises the process and ensures that RSAs are carried out by qualified personnel.

ARA (and any other road operators) has a dedicated Unit to organise RSAs.

**Results:**

- Road projects are subject to RSAs at all stages
- New roads are safer and have a lower life cycle cost

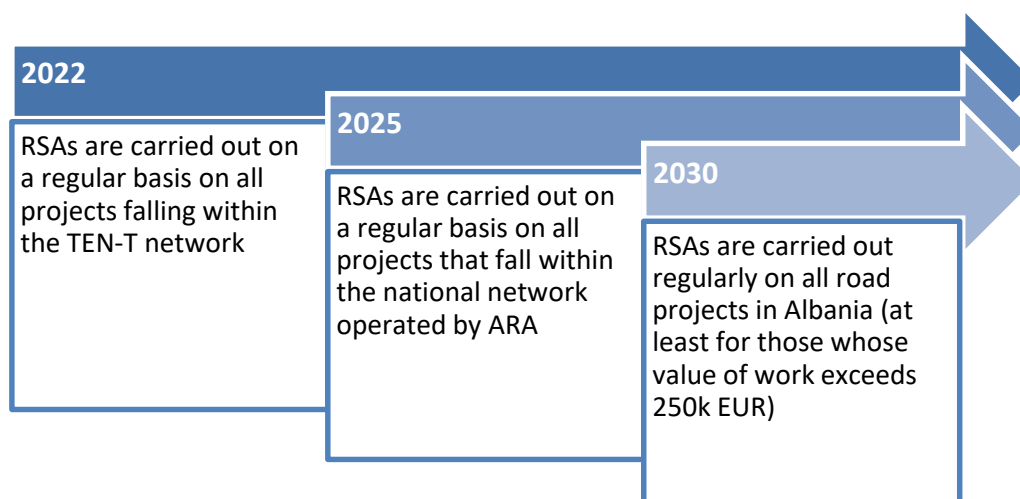
**Key performance indicators:**

- No. of RSAs carried out
- Km of roads audited

**Estimated cost:**

- 0.2-0.3 Mln EUR / year

**Roadmap:**



## 1.2 ROAD SAFETY INSPECTIONS

**Competent organisation:** MIE / ARA

**Issue:**

The practice of Road Safety Inspections (RSIs) is not yet implemented on a regular basis in Albania and the provisions of Instruction no. 9 of 3/7/2012 are not yet fully operational.

**Implementation:**

RSIs gradually become common practice in Albania and are carried out by inspectors qualified according to Instruction No. 9.

The MIE, as Controlling Body, supervises the process and ensures that RSIs are carried out by qualified personnel.

ARA (and any other road operators) has a dedicated Unit to organise RSIs.

**Results:**

- Road network is subject to periodic RSIs
- Existing roads are safer and have a lower life cycle cost

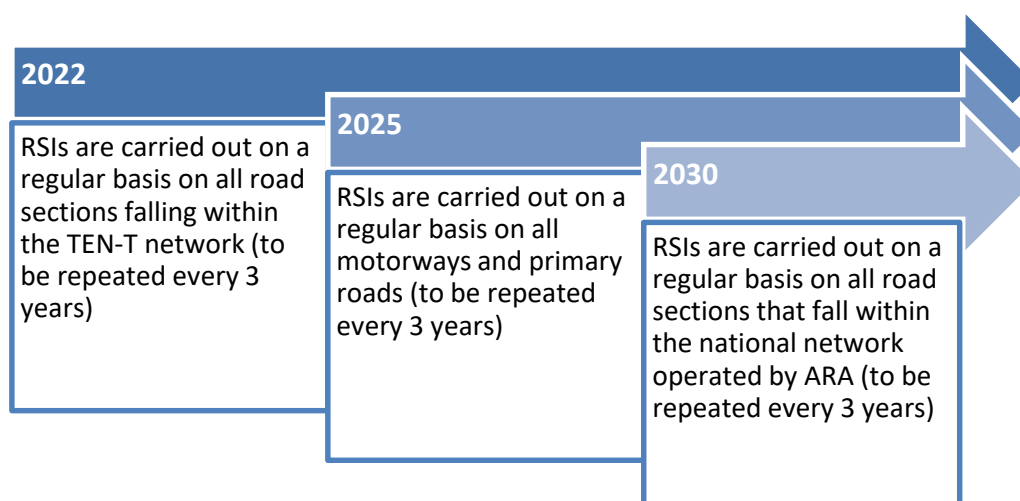
**Key performance indicators:**

- Km of roads inspected
- No. of crashes (and casualties) on the inspected roads (before and after the implementation of mitigation measures)

**Estimated cost:**

- 0.1-0.7 Mln EUR / year

**Roadmap:**



## 1.3 iRAP ASSESSMENT

**Competent organisation:** ARA

**Issue:**

There is no uniform coverage of iRAP surveys. Consequently, there is insufficient information on the in-built safety of road infrastructure.

**Implementation:**

iRAP assessments are carried out regularly and uniformly across the road network by accredited personnel.

**Results:**

- Road network is subject to periodic iRAP assessments
- Changes in in-built safety, whether positive or negative, are objectively highlighted through the iRAP Star Rating
- Safer Roads Investment Plans (SRIPs) are regularly prepared

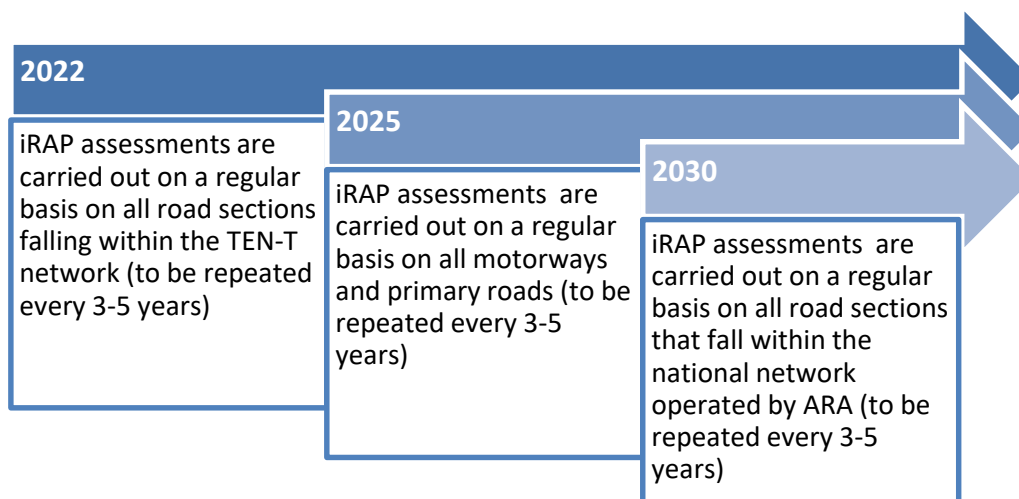
**Key performance indicators:**

- Km of roads assessed
- Star Rating
- Fatal and Severe Injury (FSI) estimation

**Estimated cost:**

- 0.1-0.2 Mln EUR / year

**Roadmap:**



## 1.4 NETWORK SAFETY MANAGEMENT

**Competent organisation:** MIE / Institute of Transports

**Issue:**

Network safety management currently relies on poor data and would need to be further developed.

**Implementation:**

Network safety management is implemented regularly and is fed by complete, up-to-date and quality data. Crash data comes from a completely restructured database complete with all the fields needed to locate crashes unambiguously and to cluster them according to predefined criteria<sup>1</sup>.

Management is carried out with modern software that automates procedures.

**Results:**

- The risk map of the network is regularly (annually) updated
- Locations with a high concentration of crashes are regularly (annually) identified

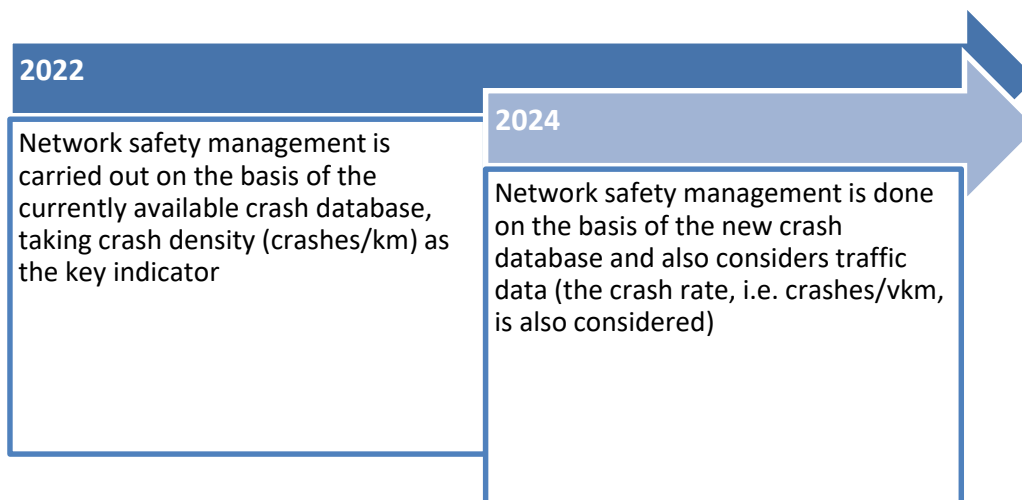
**Key performance indicators:**

- No. of locations with a high concentration of crashes (i.e. “blackspots”)

**Estimated cost:**

- 0.1 Mln EUR / year

**Roadmap:**



### 3.2 Safer roads

The program consists of the following action plans:

1. Mass action treatment of rural curves
2. Mass action treatment of rural settlements
3. Mass action treatment of urban pedestrian crossings
4. Making high-risk sites safe

<sup>1</sup> The development of a new crash database is not part of this action plan and is defined under Component 3 activities

## 2.1 MASS ACTION TREATMENT OF RURAL CURVES

**Competent organisation:** ARA

**Issue:**

Many run-offs are observed, mainly on bends.

**Implementation:**

Low-cost delineation treatments are implemented to the dangerous curves.

[Details are available on *D-2.5 Appendix 5 – Mass Action Programme Guidelines*]

**Results:**

- Rural curves are better delineated and safer

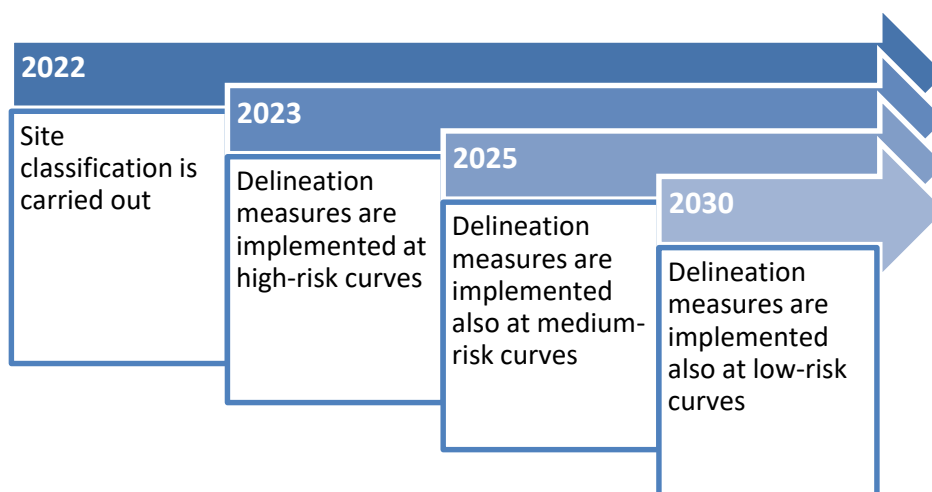
**Key performance indicators:**

- No. of implemented schemes
- No. of run-off crashes at bends

**Estimated cost:**

- 5,000-10,000 EUR/site

**Roadmap:**



## 2.2 MASS ACTION TREATMENT OF RURAL SETTLEMENTS

**Competent organisation:** ARA / Municipalities

**Issue:**

Many crashes involving vulnerable users are observed on rural roads, especially at small villages.

**Implementation:**

Speed management treatments are implemented to crossings of settlement on rural roads.

[Details are available on *D-2.5 Appendix 5 – Mass Action Programme Guidelines*]

**Results:**

- Entrance to small settlements is highlighted
- Speed is reduced at settlement crossings

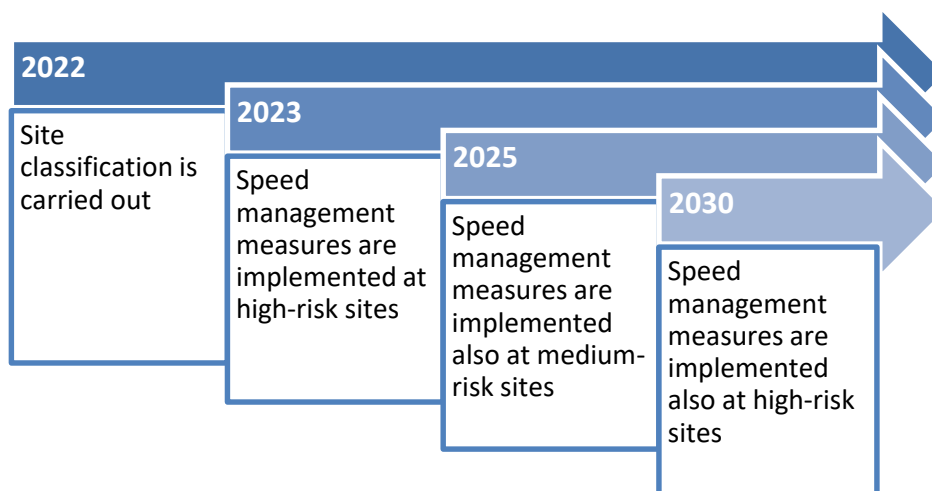
**Key performance indicators:**

- No. of implemented schemes
- No. of crashes involving pedestrians on rural roads

**Estimated cost:**

- 10,000-30,000 EUR/site

**Roadmap:**



## 2.3 MASS ACTION TREATMENT OF URBAN PEDESTRIAN CROSSINGS

**Competent organisation:** Municipalities

**Issue:**

Many crashes involving pedestrians are observed on urban areas, especially when they cross a street.

**Implementation:**

New pedestrian crossing treatments are implemented.

[Details are available on *D-2.5 Appendix 5 – Mass Action Programme Guidelines*]

**Results:**

- Pedestrians are more visible and protected at crossings

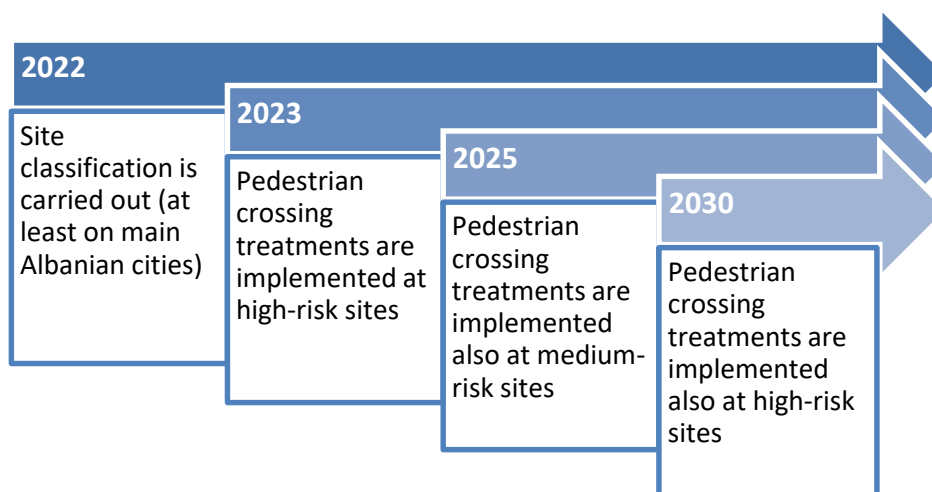
**Key performance indicators:**

- No. of implemented schemes
- No. of crashes involving pedestrians on urban areas

**Estimated cost:**

- 2,000-10,000 EUR/site

**Roadmap:**



## 2.4 MAKING HIGH-RISK SITES SAFE

**Competent organisation:** ARA

**Issue:**

Along certain road sections there is an anomalous concentration of crashes.

**Implementation:**

Countermeasures are implemented to cope with abnormal concentrations of crashes.

[Details are available on *D-2.4 Appendix 1 – List of typical high-risk locations and recommended countermeasures*]

**Results:**

- Roads are safer and high-risk locations are eliminated

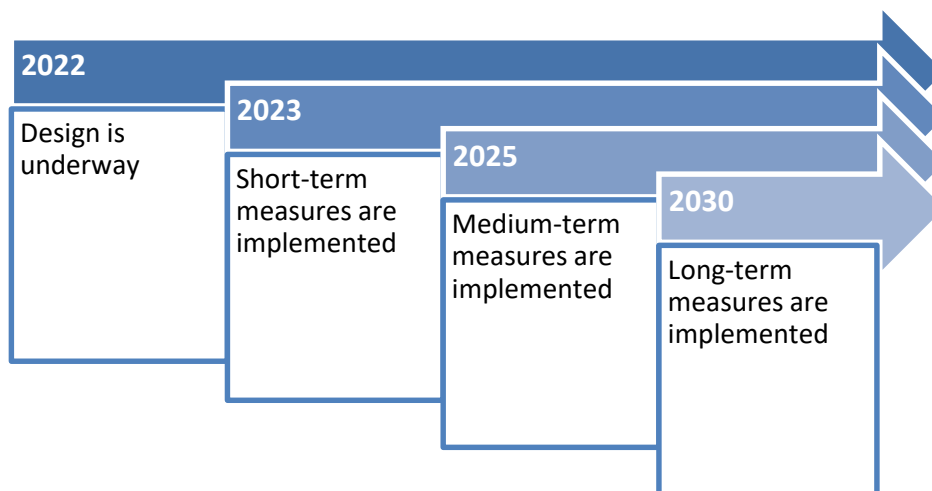
**Key performance indicators:**

- No. of implemented schemes
- No. of crashes (and casualties) on the selected roads (before and after the implementation of countermeasures)

**Estimated cost:**

- 20-100 M EUR<sup>2</sup>

**Roadmap:**



<sup>2</sup> The highest value corresponds to a scenario in which all countermeasures are implemented, including those requiring major infrastructural interventions