



Interreg



Danube Transnational Programme

RADAR

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Your Road Safety is on our RADAR.

O.T.3.2.a Databases on Pilot Actions

TA1 SRIP – BIH



RADAR – Risk Assessment on Danube Area Roads



<https://www.interreg-danube.eu/radar>

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1. Introduction

RADAR (Risk Assessment on Danube Area Roads) aims to improve the road infrastructure safety in the Danube region by raising capacity and enhancing transnational cooperation for all road users, including vulnerable road users on Danube major, secondary and tertiary road networks. One of RADAR's main tasks is to identify risk on road networks and offer plans to systematically reduce that risk by improving infrastructure and road layout.

TA 1 - Thematic area 1 of the RADAR Project– Safer Roads Investment Plans follows the broadest approach of targeting all road users and implement countermeasures based on what is most financially effective benefit-cost ratio.

Safer Roads Investment plans (SRIPs), based on relevant input data, such as road inspections or road surveys, road data coding and road assessment, provide a set of available and cost-effective proven countermeasures for improving infrastructure road safety, in terms of preventing potentially dangerous situations, prevention of road crashes and in event of road crash, reducing seriousness of injuries for accident participants.

In the framework of Work package 5 of the Project, Bosnia and Herzegovina Automobile Club (BIHAMK) is responsible for implementing Pilot action project on Thematic area 1- SRIP.

The Pilot consists from several main stages - research and gathering of the data needed, data analysis, road assessment and analysis of the results, safer roads investment plan preparation and as a final result- preparing of implementation ready design plan.

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Road accidents statistics, including black spot locations and information on the traffic intensity-AADT, as well as information on road geometry of selected road sections was selected by BIHAMK and consultations with relevant institution (JP Ceste Federacije BiH) for the purposes of the Pilot project and is applied in the database. BIHAMK road safety experts and the Contractor for the Road survey and SRIP preparation used this information as output data for their further activities and relevant services required.

In compliance with Output 5.2 of the Project, Data collected along the implementation of the Pilot Action is stored in a database with information on i.e. road layout characteristics, lengths and cross-sections, traffic data, type of problem observed such as accident/casualties data and statistics, types, star ratings and precise locations and cost of countermeasures prescribed as described above.

2. Pilot Actions Database

2.1. Output Data for the Analysis report

Pilot action on SRIP (Safer Road Investment Plan) in Bosnia and Herzegovina includes survey of 227 km of roads and code the video survey data according to the International Road Assessment Programme (iRAP) Survey and Coding specification.

For the implementation of the Pilot project it was necessary to collect crash data, traffic flow on selected sections of roads.

The data we needed for the implementation of the project, which BIHAMK collected for the selected sections are:

- Mark and the type of road
- Description of the start and end places of the road section
- Description of the start and end point of the road section
- Length of road section
- Average AADT
- Number of accidents
- Fatal + Serious + SLIGHT
- Number of fatal accidents
- Number of killed people
- Number of serious accidents
- Number of serious injured
- Number of slight accidents
- Number of slight injured.

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Based on data on actual accidents and traffic flow, the Risk Map provides an objective view of the places on the road network where people are killed or injured and where the risk of collision is highest, combining the risk for road users, vehicles and the environment on the road.

In Bosnia and Herzegovina there is no collective database where all information is stored, so BIHAMK requested all data in written form from the competent Ministries and institutions.

The Ministry of the Interior provided us the data on traffic accidents for a certain period (2016.-2018.) and for selected sections of roads.

Data on the average AADT for period 2016.-2018. is downloaded from the website of the Public Company Roads of the Federation of BH (JP Ceste Federacije BiH), which are responsible for counting traffic on magistral (main) roads in B&H.

The following images are screenshots of the database.

| 2016-2018 | | | | | | | | | | | | | |
|---------------------------|---|--|--|---|---|---------------------|--------|---------------------------|-------------------------|-----------------------------|---------------------------|----------------------------|--------------------------|
| | Oznaka i kategorija ceste (MARK AND THE TYPE OF ROAD) | ER-dionica (DESCRIPTION OF THE START AND END PLACES OF THE ROAD SECTION) | Opis početne i završne tačke ER-dionice (DESCRIPTION OF THE START AND END POINT OF THE ROAD SECTION) | Dužina ER-dionice (km) (LENGTH OF ROAD SECTION) | Prosječni PGDS na ER-dionici u analiziranom periodu (posljednji podaci 2016) (AVERAGE AADT) | Number of accidents | F+S+SL | Number of fatal accidents | Number of killed people | Number of serious accidents | Number of serious injured | Number of slight accidents | Number of slight injured |
| Kanton | | | | | | | | | | | | | |
| Kanton | Oznaka i kategorija ceste (MARK AND THE TYPE OF ROAD) | ER-dionica (DESCRIPTION OF THE START AND END PLACES OF THE ROAD SECTION) | Opis početne i završne tačke ER-dionice (DESCRIPTION OF THE START AND END POINT OF THE ROAD SECTION) | Dužina ER-dionice (km) (LENGTH OF ROAD SECTION) | Prosječni PGDS na ER-dionici u analiziranom periodu (posljednji podaci 2016) (AVERAGE AADT) | Number of accidents | F+S+SL | Number of fatal accidents | Number of killed people | Number of serious accidents | Number of serious injured | Number of slight accidents | Number of slight injured |
| TK | M 4, M 18 | ŠIČKI BROT - SIMIN HAN | 0+000 - 13+000 | 13 | 19731 | 407 | 189 | 1 | 1 | 33 | 41 | 188 | 319 |
| TK | M 4 | DOBOJ(raskriće RS) - JOHOVAC | 4+650-18+000 | 13,35 | 10514 | 398 | 191 | 9 | 9 | 26 | 34 | 156 | 306 |
| TK | M 4 | JOHOVAC - LUKAVAC | 18+000-44+000 | 26 | 10514 | 103 | 66 | 8 | 9 | 12 | 17 | 46 | 98 |
| TK | M 4 | LUKAVAC - ŠIČKI BROT | 44+000-52+410 | 8,41 | 11552 | 65 | 42 | 2 | 2 | 5 | 5 | 35 | 71 |
| TK | M 4 | SIMIN HAN - MEĐAŠ | 13+000-22+000 | 9 | 10086* | 79 | 59 | 2 | 3 | 9 | 13 | 48 | 87 |
| TK | M 4 | MEĐAŠ - (DR.rs) CEPARDE | 22+000 - 35+330 | 13,33 | 11005 | 197 | 117 | 1 | 1 | 9 | 9 | 100 | 177 |
| TK | M 18 | PRIBOJ (gr. RS) - SIMIN HAN | 72+350-85+420 | 13,07 | 3085 | 102 | 37 | 0 | 0 | 5 | 4 | 32 | 50 |
| TK | M 18 | ŠIČKI BROT - ŽIVINICE | 0+000 - 13+000 | 13 | 15366 | 156 | 72 | 4 | 4 | 5 | 5 | 63 | 131 |
| TK | M 18 | ŽIVINICE - VITALJ | 13+000-43+000 | 30 | 8035 | 199 | 111 | 1 | 2 | 12 | 17 | 98 | 173 |
| TK | M 18 | VITALJ - (granica ZDK) BJELIŠ | 43+000 - 60+000 (45+000 - 57+000) | 17 | 3930 | 368 | 180 | 4 | 4 | 22 | 22 | 154 | 154 |
| KS | M 18 | OLOVO (gr. ZDK) - SEMIZOVAC | 67+000 - 106+000 (75+000 - 106+000) | 39 | 5408 | 266 | 77 | 2 | 3 | 18 | 26 | 57 | 123 |
| KS | M 18 | SEMIZOVAC - SARAJEVO | 106+000 - 119+000 | 13 | 20010 | 886 | 125 | 0 | 0 | 28 | 31 | 97 | 155 |
| * - podaci iz 2015 godine | | | | | | | | | | | | | |

* - podaci iz 2015 godine

Table 1. Total database for the period 2016-2018

| 2016 | | | | | | | | | | | | | |
|--------|---|--|--|---|---|---------------------|--------|---------------------------|-------------------------|-----------------------------|---------------------------|----------------------------|--------------------------|
| Kanton | Oznaka i kategorija ceste (MARK AND THE TYPE OF ROAD) | ER-dionica (DESCRIPTION OF THE START AND END PLACES OF THE ROAD SECTION) | Opis početne i završne tačke ER-dionice (DESCRIPTION OF THE START AND END POINT OF THE ROAD SECTION) | Dužina ER-dionice (km) (LENGTH OF ROAD SECTION) | Prosječni PGDS na ER-dionici u analiziranom periodu (posljednji podaci 2016) (AVERAGE AADT) | Number of accidents | F+5+SL | Number of fatal accidents | Number of killed people | Number of serious accidents | Number of serious injured | Number of slight accidents | Number of slight injured |
| TK | M 4, M 18 | ŠIČKI BROT - SIMIN HAN | 0+000 - 13+000 | 13 | 19731 | 129 | 61 | 0 | 0 | 9 | 16 | 63 | 115 |
| TK | M 4 | DOBOJ(raskrižje RS) - JOHOVAC | 4+650-18+000 | 13,35 | 10514 | 131 | 67 | 3 | 3 | 8 | 9 | 56 | 104 |
| TK | M 4 | JOHOVAC - LUKAVAC | 18+000-44+000 | 26 | 10514 | 38 | 23 | 2 | 2 | 5 | 6 | 16 | 31 |
| TK | M 4 | LUKAVAC - ŠIČKI BROT | 44+000-52+410 | 8,41 | 11552 | 19 | 10 | 0 | 0 | 3 | 3 | 7 | 11 |
| TK | M 4 | SIMIN HAN - MEĐAŠ | 13+000-22+000 | 9 | 10086* | 22 | 17 | 0 | 0 | 4 | 4 | 13 | 20 |
| TK | M 4 | MEĐAŠ - (DR.rs) CEPARDE | 22+000 - 35+330 | 13,33 | 11005 | 47 | 28 | 0 | 0 | 4 | 4 | 17 | 27 |
| TK | M 18 | PRIBOJ (gr. RS) - SIMIN HAN | 72+350-85+420 | 13,07 | 3085 | 31 | 12 | 0 | 0 | 2 | 2 | 10 | 14 |
| TK | M 18 | ŠIČKI BROT - ŽIVINICE | 0+000 - 13+000 | 13 | 15366 | 47 | 25 | 4 | 4 | 1 | 1 | 20 | 46 |
| TK | M 18 | ŽIVINICE - VITALJ | 13+000-43+000 | 30 | 8035 | 56 | 44 | 0 | 0 | 3 | 3 | 41 | 71 |
| TK | M 18 | VITALJ - (granica ZDK) BJELIŠ | 43+000 - 60+000 (45+000 - 57+000) | 17 | 3930 | 144 | 70 | 3 | 3 | 9 | 9 | 58 | 58 |
| KS | M 18 | OLOVO (gr. ZDK) - SEMIZOVAC | 67+000 - 106+000 (75+000 - 106+000) | 39 | 5408 | 88 | 21 | 0 | 0 | 4 | 4 | 17 | 26 |
| KS | M 18 | SEMIZOVAC - SARAJEVO | 106+000 - 119+000 | 13 | 20010 | 371 | 43 | 0 | 0 | 8 | 9 | 35 | 55 |

* - podaci iz 2015 godine

Table 2. Database for 2016.

| | | | | | | 2017 | | | | | | | |
|--------|--|---|---|--|---|---------------------|--------|---------------------------|-------------------------|-----------------------------|---------------------------|----------------------------|--------------------------|
| Kanton | Oznaka i kategorija ceste (MARK AND THE TYPE OF ROAD) | ER-dionica (DESCRIPTION OF THE START AND END PLACES OF THE ROAD SECTION) | Opis početne i završne tačke ER-dionice (DESCRIPTION OF THE START AND END POINT OF THE ROAD SECTION) | Dužina ER-dionice (km) (LENGTH OF ROAD SECTION) | Prosječni PGDS na ER-dionici u analiziranom periodu (posljednji podaci 2016) (AVERAGE AADT) | Number of accidents | F+5+SL | Number of fatal accidents | Number of killed people | Number of serious accidents | Number of serious injured | Number of slight accidents | Number of slight injured |
| TK | M 4, M 18 | ŠIČKI BROT - SIMIN HAN | 0+000 - 13+000 | 13 | 19731 | 135 | 66 | 1 | 1 | 13 | 14 | 63 | 110 |
| TK | M 4 | DOBOJ(raskrižje RS) - JOHOVAC | 4+650-18+000 | 13,35 | 10514 | 128 | 54 | 3 | 3 | 11 | 12 | 40 | 104 |
| TK | M 4 | JOHOVAC - LUKAVAC | 18+000-44+000 | 26 | 10514 | 34 | 26 | 5 | 6 | 4 | 6 | 17 | 38 |
| TK | M 4 | LUKAVAC - ŠIČKI BROT | 44+000-52+410 | 8,41 | 11552 | 27 | 22 | 2 | 2 | 1 | 1 | 19 | 42 |
| TK | M 4 | SIMIN HAN - MEĐAŠ | 13+000-22+000 | 9 | 10086* | 31 | 23 | 1 | 2 | 3 | 7 | 19 | 38 |
| TK | M 4 | MEĐAŠ - (DR.rs) CEPARDE | 22+000 - 35+330 | 13,33 | 11005 | 78 | 48 | 0 | 0 | 2 | 2 | 46 | 76 |
| TK | M 18 | PRIBOJ (gr. RS) - SIMIN HAN | 72+350-85+420 | 13,07 | 3085 | 46 | 13 | 0 | 0 | 2 | 2 | 11 | 20 |
| TK | M 18 | ŠIČKI BROT - ŽIVINICE | 0+000 - 13+000 | 13 | 15366 | 50 | 21 | 0 | 0 | 0 | 0 | 21 | 36 |
| TK | M 18 | ŽIVINICE - VITALJ | 13+000-43+000 | 30 | 8035 | 73 | 34 | 1 | 2 | 5 | 10 | 28 | 50 |
| TK | M 18 | VITALJ - (granica ZDK) BJELIŠ | 43+000 - 60+000 (45+000 - 57+000) | 17 | 3930 | 119 | 69 | 1 | 1 | 9 | 9 | 59 | 59 |
| KS | M 18 | OLOVO (gr. ZDK) - SEMIZOVAC | 67+000 - 106+000 (75+000 - 106+000) | 39 | 5408 | 88 | 26 | 1 | 1 | 9 | 15 | 16 | 41 |
| KS | M 18 | SEMIZOVAC - SARAJEVO | 106+000 - 119+000 | 13 | 20010 | 311 | 48 | 0 | 0 | 8 | 8 | 40 | 65 |

* - podaci iz 2015 godine

Table 3. Database for 2017.

| 2018 | | | | | | | | | | | | | |
|--------|---|--|--|---|---|---------------------|--------|---------------------------|-------------------------|-----------------------------|---------------------------|----------------------------|--------------------------|
| Kanton | Oznaka i kategorija ceste (MARK AND THE TYPE OF ROAD) | ER-dionica (DESCRIPTION OF THE START AND END PLACES OF THE ROAD SECTION) | Opis početne i završne tačke ER-dionice (DESCRIPTION OF THE START AND END POINT OF THE ROAD SECTION) | Dužina ER-dionice (km) (LENGTH OF ROAD SECTION) | Prosječni PGDS na ER-dionici u analiziranom periodu (posljednji podaci 2016) (AVERAGE AADT) | Number of accidents | F+5+SL | Number of fatal accidents | Number of killed people | Number of serious accidents | Number of serious injured | Number of slight accidents | Number of slight injured |
| TK | M 4, M 18 | ŠIČKI BROD - SIMIN HAN | 0+000 - 13+000 | 13 | 19731 | 143 | 62 | 0 | 0 | 11 | 11 | 62 | 94 |
| TK | M 4 | DOBOJ(raskršće RS) - JOHOVAC | 4+650-18+000 | 13,35 | 10514 | 139 | 70 | 3 | 3 | 7 | 13 | 60 | 98 |
| TK | M 4 | JOHOVAC - LUKAVAC | 18+000-44+000 | 26 | 10514 | 31 | 17 | 1 | 1 | 3 | 5 | 13 | 29 |
| TK | M 4 | LUKAVAC - ŠIČKI BROD | 44+000-52+410 | 8,41 | 11552 | 19 | 10 | 0 | 0 | 1 | 1 | 9 | 18 |
| TK | M 4 | SIMIN HAN - MEĐAŠ | 13+000-22+000 | 9 | 10086* | 26 | 19 | 1 | 1 | 2 | 2 | 16 | 29 |
| TK | M 4 | MEĐAŠ - (DR.rs) CEPARDE | 22+000 - 35+330 | 13,33 | 11005 | 72 | 41 | 1 | 1 | 3 | 3 | 37 | 74 |
| TK | M 18 | PRIBOJ (gr. RS) - SIMIN HAN | 72+350-85+420 | 13,07 | 3085 | 25 | 12 | 0 | 0 | 1 | 0 | 11 | 16 |
| TK | M 18 | ŠIČKI BROD - ŽIVINICE | 0+000 - 13+000 | 13 | 15366 | 59 | 26 | 0 | 0 | 4 | 4 | 22 | 49 |
| TK | M 18 | ŽIVINICE - VITALJ | 13+000-43+000 | 30 | 8035 | 70 | 33 | 0 | 0 | 4 | 4 | 29 | 52 |
| TK | M 18 | VITALJ - (granica ZDK) BJELIŠ | 43+000 - 60+000 (45+000 - 57+000) | 17 | 3930 | 105 | 41 | 0 | 0 | 4 | 4 | 37 | 37 |
| KS | M 18 | OLOVO (gr. ZDK) - SEMIZOVAC | 67+000 - 106+000 (75+000 - 106+000) | 39 | 5408 | 90 | 30 | 1 | 2 | 5 | 7 | 24 | 56 |
| KS | M 18 | SEMIZOVAC - SARAJEVO | 106+000 - 119+000 | 13 | 20010 | 204 | 34 | 0 | 0 | 12 | 14 | 22 | 35 |

* - podaci iz 2015 godine

Table 4. Database for 2018.

2.2. Output Data for SRIP

Since the magnitude of data collected is too large, data is stored in separate excel file.