

EaP Road Safety Cooperation
Crash Data System and Crash Data Analysis
August 29th, 2018
VC meeting, **ARMENIA**

- Various data sets and importance of CADaS data set to all RS stakeholders with special focus on State Road Agency and Patrol (traffic) Police

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INTERNATIONAL CRASH DATA AND ROAD
SAFETY SPECIALIST



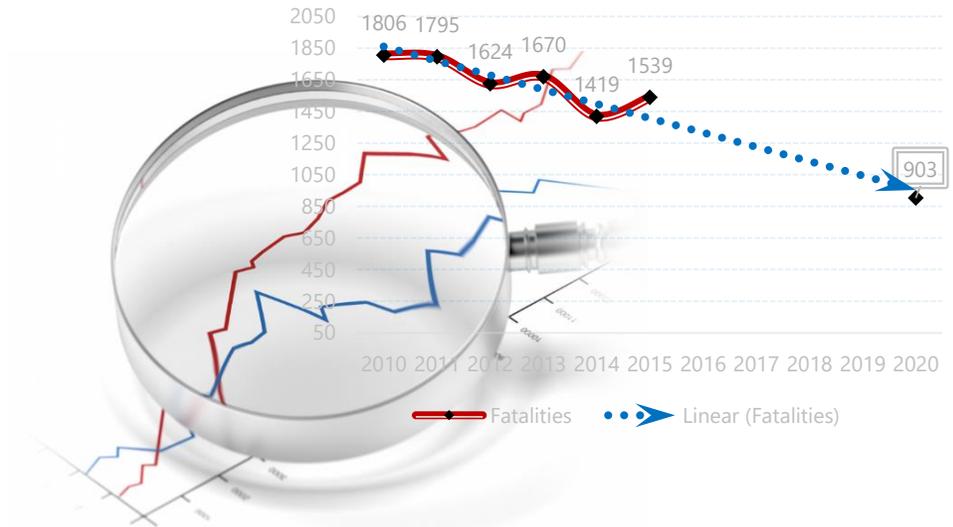
INTRODUCTION

ROAD SAFETY MANAGEMENT

Monitoring of road safety situation:

- Road accidents and their consequences,
- Road safety performance indicators,
- Attitudes towards risks in road traffic,
- Data on road, road equipment,
- Data on risky sections and dangerous places,
- Data on traffic, registered motor vehicles and trailers,
- Traffic violations, etc.

- Road Safety Strategy
- Road Safety Action Plan



THE IMPORTANCE OF DATA

Integrated Road Accidents Database

- General data (population, area, ... statistics);
- Roads data;
- Traffic data;
- Road accidents data;
- Injuries data;
- Traffic fines data;
- Data about damage, costs and losses...



Importance of Integrated Road Accidents Database

- For Road Safety Analysis
- Define the current state
- Define the wanted state
- Evaluate the measures in road safety
- Evaluate the situation in Road Safety
- “BENCHMARKING”
- ...



DATASETS – GOOD AND QUALITY ROAD SAFETY DATABASE

- Traffic accidents
- Traffic violations
- Intermediate traffic indicators
- Roads
- Traffic signals, road equipment, chainage...
- Traffic counters
- Values of SPI (Safety Performance Indicators)
- Dangerous places (black spots)
- Nodes of state roads
- Bridges
- Tunnels
- Landslides
- Railway crossings
- ITS measures
- Response time of emergency medical services
- Municipalities, districts, police departments
- Drivers' attitudes regarding dangerous situations
- Negligent drivers
- Lecturers, examiners, instructors
- Tachograph workshops and technicians
- Local bodies for road safety
- Technical characteristics of motor vehicles...

Data sets collected by Traffic police



Basic CADaS structure



I Accident related variables



II Road related variables



III Traffic Unit (vehicle and pedestrian) related variables



IV Person related variables

CADaS variables

Accident

13

ACCIDENT ID
ACCIDENT DATE
ACCIDENT TIME
NUTS
LAU
WEATHER CONDITIONS
LIGHT CONDITIONS
ACCIDENTS WITH PEDESTRIANS
ACCIDENTS WITH PARKED VEHICLES
SINGLE VEHICLE ACCIDENTS
AT LEAST TWO VEHICLES - NO TURNING
AT LEAST TWO VEHICLES - TURNING OR CROSSING
HIT & RUN ACCIDENT

Road

25

ACCIDENT ID
LATITUDE
LONGITUDE
E-ROAD
E-ROAD KILOMETRE
FUNCTIONAL CLASS - 1st ROAD
FUNCTIONAL CLASS - 2nd ROAD
SPEED LIMIT - 1st ROAD
SPEED LIMIT - 2nd ROAD
MOTORWAY
URBAN AREA
JUNCTION
RELATION TO JUNCTION / INTERCHANGE
JUNCTION CONTROL
SURFACE CONDITIONS
OBSTACLES
CARRIAGEWAY TYPE
NUMBER OF LANES
EMERGENCY LANE
MARKINGS
TUNNEL
BRIDGE
WORK ZONE RELATED
ROAD CURVE
ROAD SEGMENT GRADE

Traffic unit

18

ACCIDENT ID
TRAFFIC UNIT ID
TRAFFIC UNIT TYPE
VEHICLE SPECIAL FUNCTION
TRAILER
ENGINE POWER
ACTIVE SAFETY EQUIPMENT
VEHICLE DRIVE
MAKE
MODEL
REGISTRATION YEAR
TRAFFIC UNIT MANOEUVRE
FIRST POINT OF IMPACT
FIRST OBJECT HIT IN
FIRST OBJECT HIT OFF
VEHICLE INSURANCE FOR DRIVER/RIDER
HIT & RUN
REGISTRATION COUNTRY

Person

21

ACCIDENT ID
TRAFFIC UNIT ID
PERSON ID
DATE OF BIRTH
GENDER
NATIONALITY
INJURY SEVERITY
ROAD USER TYPE
ALCOTEST
ALCOTEST SAMPLE TYPE
ALCOTEST RESULT
ALCOHOL LEVEL
DRUG TEST
DRIVING LICENSE ISSUE DATE
DRIVING LICENSE VALIDITY
SAFETY EQUIPMENT
POSITION IN/ON VEHICLE
DISTRACTED BY DEVICE
PSYCOPHYSICAL / PHYSICAL IMPAIRMENT OR CONDITION
TRIP/JOURNEY PURPOSE
INJURY MAIS SCALE

Road accidents causes

Contributory factors

9 groups

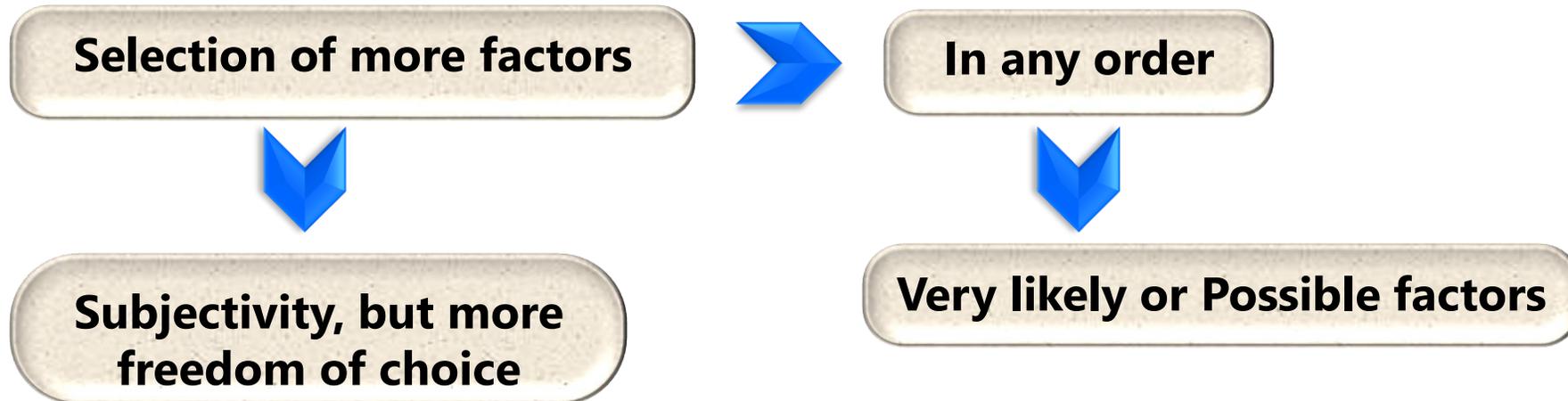
84 contributory factors

	101	102	103	104	105	106	107	108	109	
Road Environment Contributed	Poor or defective road surface	Deposit on road (e.g. oil, mud, chippings)	Slippery road (due to weather)	Inadequate or masked signs or road markings	Defective traffic signals	Traffic calming (e.g. speed cushions, road humps, chicanes)	Temporary road layout (e.g. contraflow)	Road layout (e.g. bend, hill, narrow carriageway)	Animal or object in carriageway	
Vehicle Defects	Tyres illegal, defective or under-inflated	Defective lights or indicators	Defective brakes	Defective steering or suspension	Defective or missing mirrors	Overloaded or poorly loaded vehicle or trailer				
Injudicious Action	301 Disobeyed automatic traffic signal	302 Disobeyed 'Give Way' or 'Stop' sign or markings	303 Disobeyed double white lines	304 Disobeyed pedestrian crossing facility	305 Illegal turn or direction of travel	306 Exceeding speed limit	307 Travelling too fast for conditions	308 Following too close	309 Vehicle travelling along pavement	310 Cyclist entering road from pavement
Driver/Rider Error or Reaction	401 Junction overshoot	402 Junction restart (moving off at junction)	403 Poor turn or manoeuvre	404 Failed to signal or misleading signal	405 Failed to look properly	406 Failed to judge other person's path	407 Passing too close to pedestrian	408 Sudden braking	409 Swerved	410 Loss of control
Impairment or Distraction	501 Impaired by alcohol	502 Impaired by drugs (illicit or medicinal)	503 Fatigue	504 Uncorrected, defective eyesight	505 Illness or disability, physical or mental	506 Not displaying lights at night or in poor visibility	507 Cyclist wearing dark clothing at night	508 Driver using mobile phone	509 Distraction in vehicle	510 Distraction outside vehicle
Behaviour or Inexperience	601 Aggressive driving	602 Careless, reckless or in a hurry	603 Driving too fast for conditions or slow vehicle (e.g. tractor)	604 Learner or inexperienced driver/rider	605 Inexperience of driving on the left	606 Unfamiliar with model of vehicle	607			
Vision Affected by	701 Stationary or parked vehicle(s)	702 Vegetation	703 Road layout (e.g. bend, winding road, hill crest)	704 Buildings, road signs, street furniture	705 Dazzling headlights	706 Dazzling sun	707 Rain, sleet, snow or fog	708 Spray from other vehicles	709 Visor or windscreen dirty or scratched	710 Vehicle blind spot
Pedestrian Only (Casualty or Uninjured)	801 Crossing road masked by stationary or parked vehicle	802 Failed to look properly	803 Failed to judge vehicle's path or speed	804 Wrong use of pedestrian crossing facility	805 Dangerous action in carriageway (e.g. playing)	806 Impaired by alcohol	807 Impaired by drugs (illicit or medicinal)	808 Careless, reckless or in a hurry	809 Pedestrian wearing dark clothing at night	810 Disability or illness, mental or physical
Special Codes	901 Stolen vehicle	902 Vehicle in course of crime	903 Emergency vehicle on a call	904 Vehicle door opened or closed negligently						*999 Other - Please specify below

CONTRIBUTORY FACTORS: events and actions that have direct or indirect impact on the occurrence of road accidents



Britain model of contributory factors (STATS)



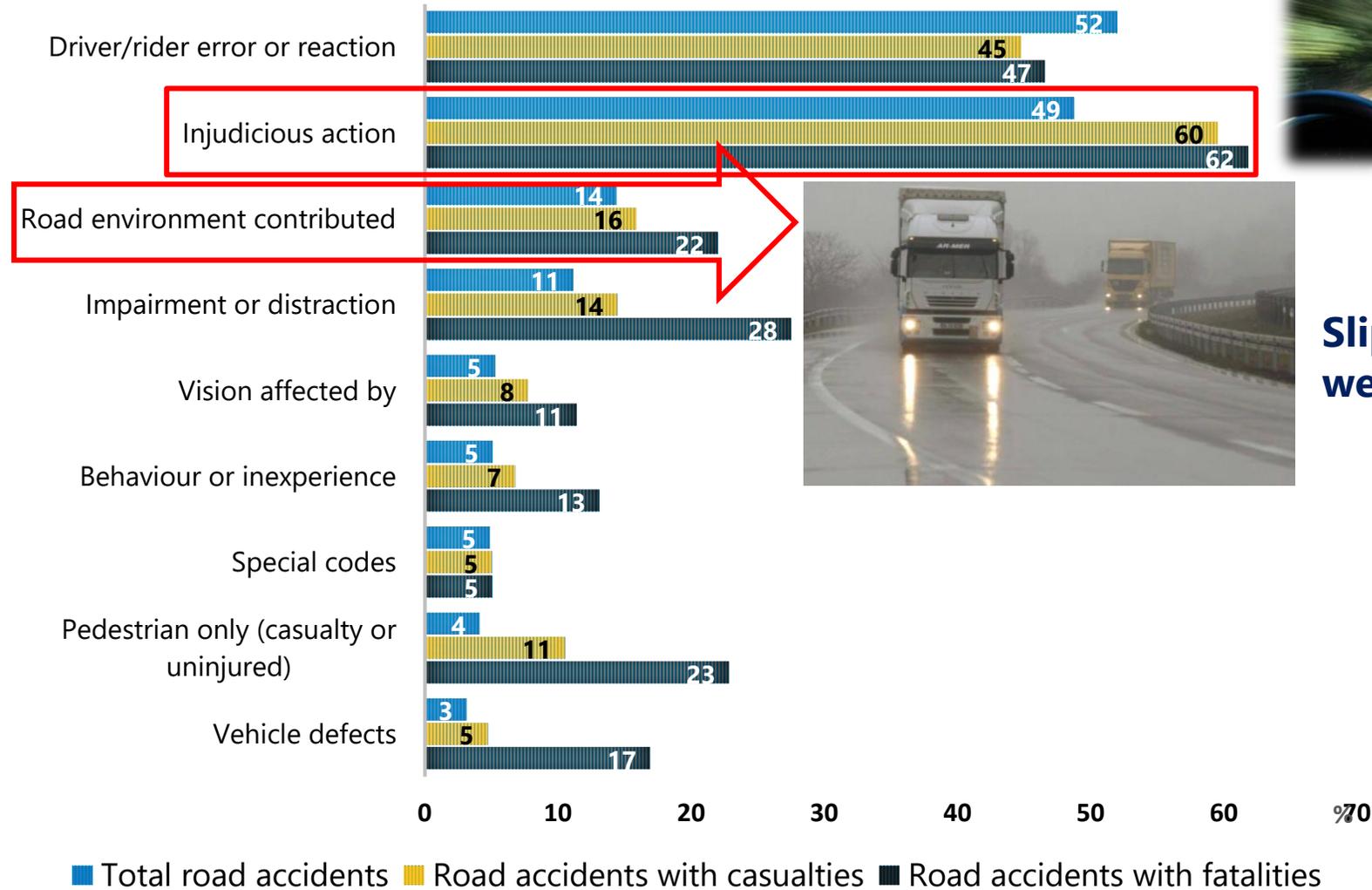
Analysis of contributory factors



Travelling too fast for traffic and road conditions



Slippery road due to weather condition



(Source: Kukić et al., Serbia, 2016)



**ACCIDENTS WITH
PEDESTRIANS**

**ACCIDENTS WITH PARKED
VEHICLES**



**SINGLE VEHICLE
ACCIDENTS**

**AT LEAST TWO VEHICLES -
NO TURNING**



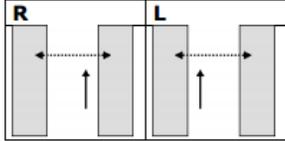
**AT LEAST TWO VEHICLES -
TURNING OR CROSSING**

Road accident types

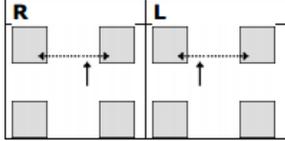


ACCIDENTS WITH PEDESTRIANS SKETCHES

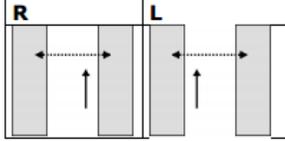
A-8.01 Pedestrian crossing street – no turning of vehicle - outside a junction



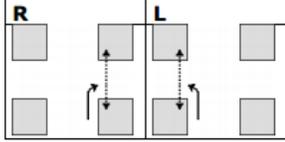
A-8.02 Pedestrian crossing street – no turning of vehicle - at a junction



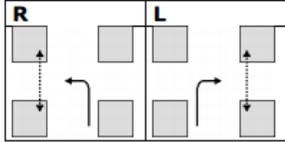
AA-8.51 Pedestrian crossing street - no turning of vehicle – not specified



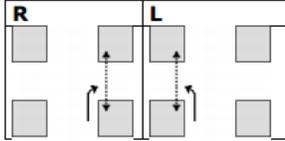
A-8.03 Pedestrians crossing - turning of vehicle turning right (left)



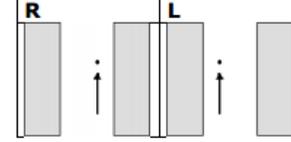
A-8.04 Pedestrians crossing - turning of vehicle turning left (right)



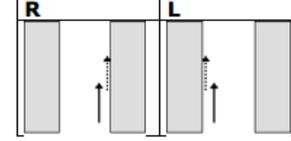
AA-8.52 Pedestrians crossing - turning of vehicle – not specified



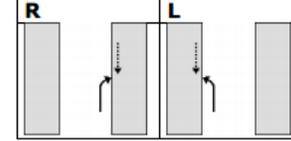
A-8.05 Pedestrian stationary in the road



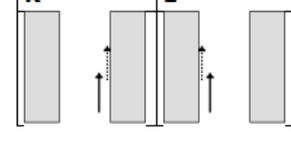
A-8.06 Pedestrian walking along the road



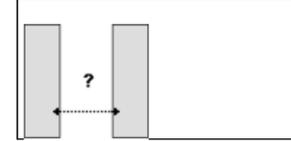
A-8.07 Pedestrians on pavement or bicycle lane



AA-8.53 Pedestrian walking along the road or stationary in the road

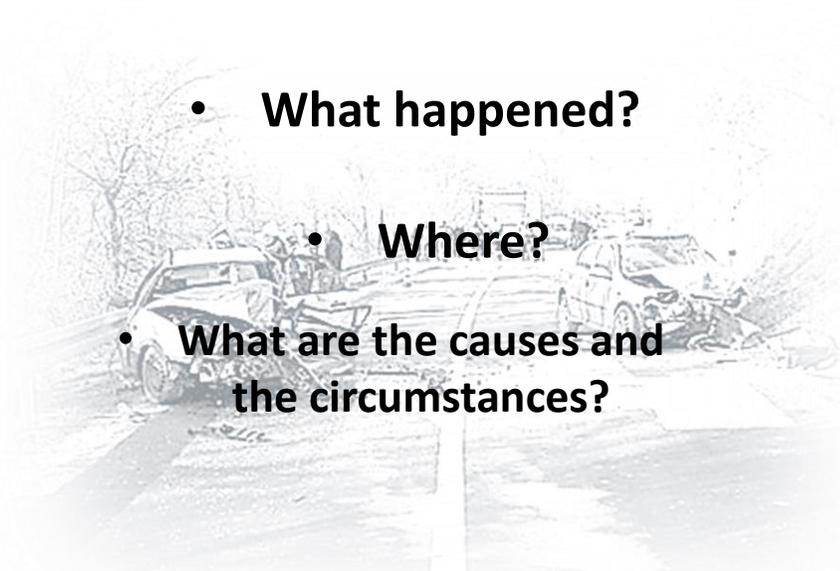


A-8.08 Pedestrian others



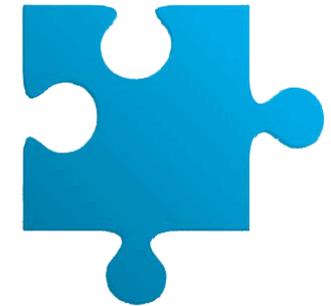
Importance of CADaS in practice

Independent evaluation of the road impact on the occurrence and the consequences of the road accident



- What happened?
- Where?
- What are the causes and the circumstances?

**OUT THE SCENE
ON THE SCENE**



Have ROAD and ROAD ENVIRONMENT contributed to the occurrence and consequences of road accident



The possibility of avoiding the accident

Serbian experience in contributory factors analyses



„Road and road environment contributed“
22% in fatal road accidents

(Source: Kukić et al., Serbia, 2016)

Importance of CADaS in practice

TYPE - head on collisions

Maneuver -
Overtaking vehicle

Single carriageway -
two way street

Speed limit 80
km/h

Outside urban
area

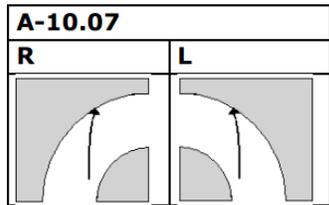


**Construction of auxiliary
passing lanes**



Importance of CADaS in practice

TYPE - single vehicle accident in a bend



Curve

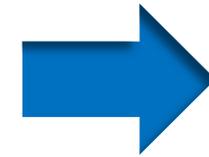
Maneuver - Straight forward / normal driving

Outside urban area
Speed limit 80 km/h

Markings – only separating lanes

Single carriageway - two way street

Vehicle hit a tree after leaving the carriageway



MEASURES



Importance of CADaS in practice

TYPE - Pedestrian crossing street – outside a junction

Maneuver - Crossing (on pedestrian crossing)

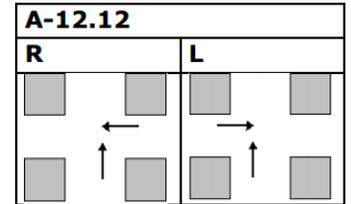
Light conditions - Darkness street lights unlit

TYPE - At least two vehicles - crossing (no turning) - different roads

Maneuver - Straight forward/normal driving

Junction – At-grade - crossroad

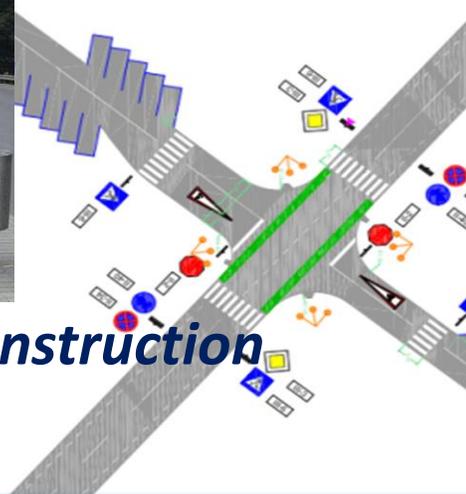
Bicyclist involved



Lighting improvements at pedestrian crossings



Bike lane and path construction and marking



Importance of CADaS in practice

OBSTACLES

Indicates the presence of obstacles on the carriageway

YES

Road obstacle(s) was (were) present at the accident site

NO

No road obstacle(s) was (were) present at the accident site

- Includes any **animal standing or moving** (either hit or not) within the carriageway
- Includes **any object not supposed to be on the road**, which obstructed the movement of the traffic unit(s)



Importance of CADaS in practice

FIRST OBJECT HIT IN CARRIAGE WAY

None

Object from previous accident

Parked vehicle

Bridge

Bollard/refuge

Central island of roundabout

Kerb

Animal (except ridden animal)

Other object

Train

FIRST OBJECT HIT OFF CARRIAGE WAY

Road sign/traffic signal

Lamp post

Pole

Tree

Bus stop/shelter

Central crash barrier

Crash barrier beside carriageway

Ditch

Parked vehicle

Stone/rock/mountain side

Fence

Submerged in water

Other permanent object



IMPORTANT ACTIVITIES FOR STARTING CADaS DATA COLLECTION IN TRAFFIC POLICE

Launching the **PILOT project** dedicated to accident data collection in accordance with **CADaS** (duration of Pilot maximum 2 months)

1

Conducting **special TRAINING** for traffic policeman and police officers who will be in charge for Pilot Project – CADaS data collection (maximum 1 week)

2

Parallel with PILOT project launching **Project for improvement of existing road accident database** and software application in accordance with CADaS

3

TESTING the improved software application for accident data collection and conducting TRAINING for accident data collection in accordance with CADaS across the Country (maximum 3 months)

4

IMPORTANT ACTIVITIES FOR STARTING CADaS DATA COLLECTION IN TRAFFIC POLICE

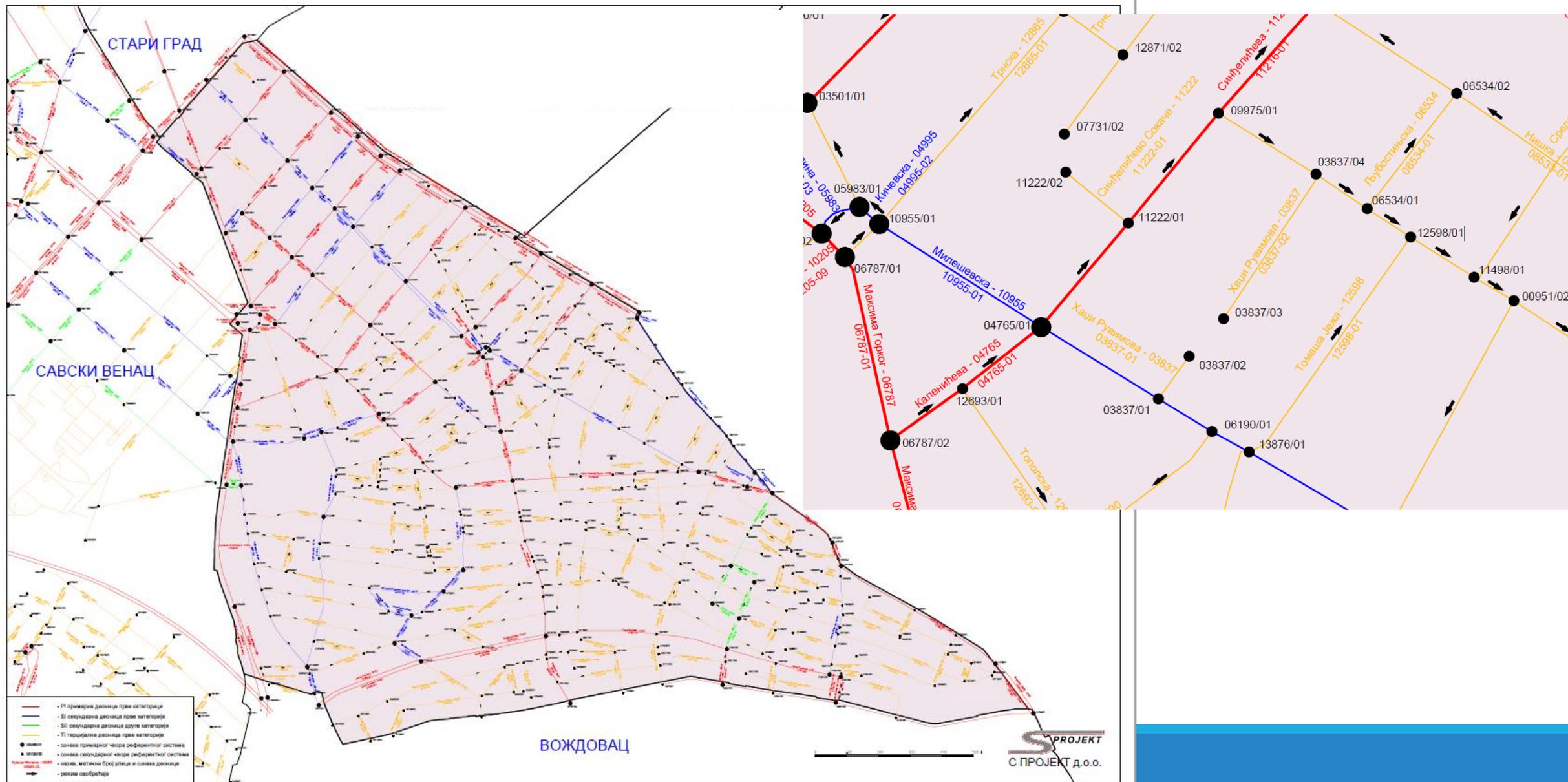
Activities related to CADaS data collection and improving of existing road accident database in accordance with CADaS should be recognized in **Road Safety Action Plan of each country.**

Starting point for OFFICIAL data collection by Traffic Police units in accordance with CADaS should be **1 January 2011?**

Examples of important data set for the State Road Agency



Data about roads – Digitalization of road network

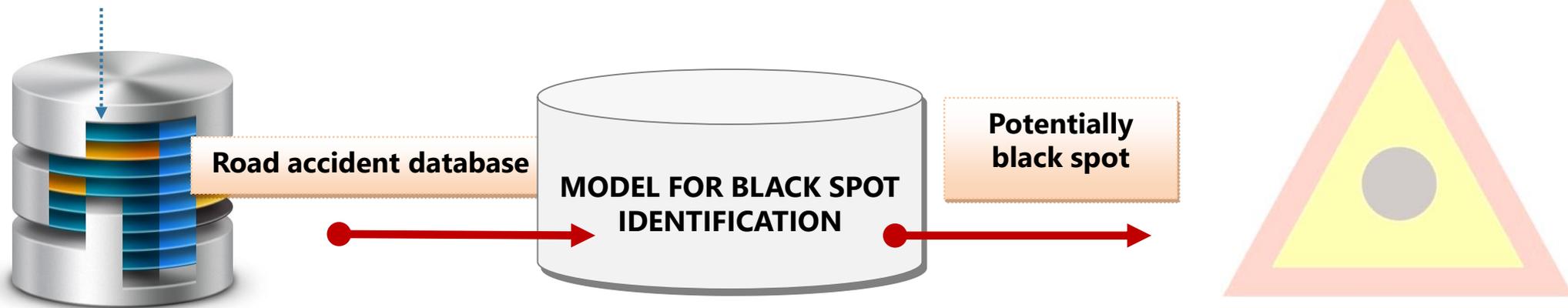


Black Spot Management – BSM

- Modern procedure for improving road safety

- **Reactive tool – objective method –**
- **based on road accident data**

- **Road accidents and consequences of road accidents**



CADaS recommendations of EU, that are relevant for Black Spot Management

CURRENT

GPS coordinates???

Urban area (inside, outside)

Junction – exist within other variables???

FUTURE

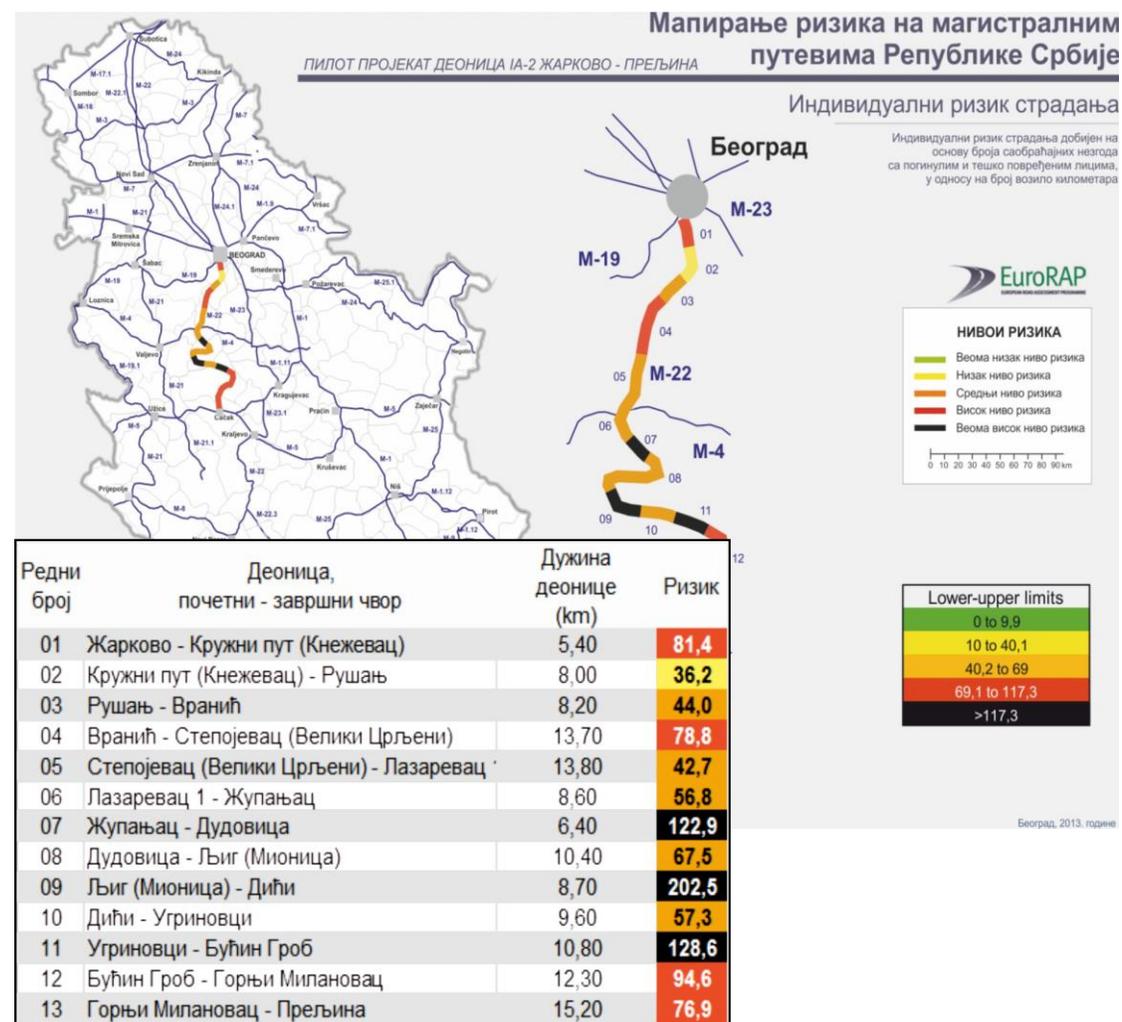
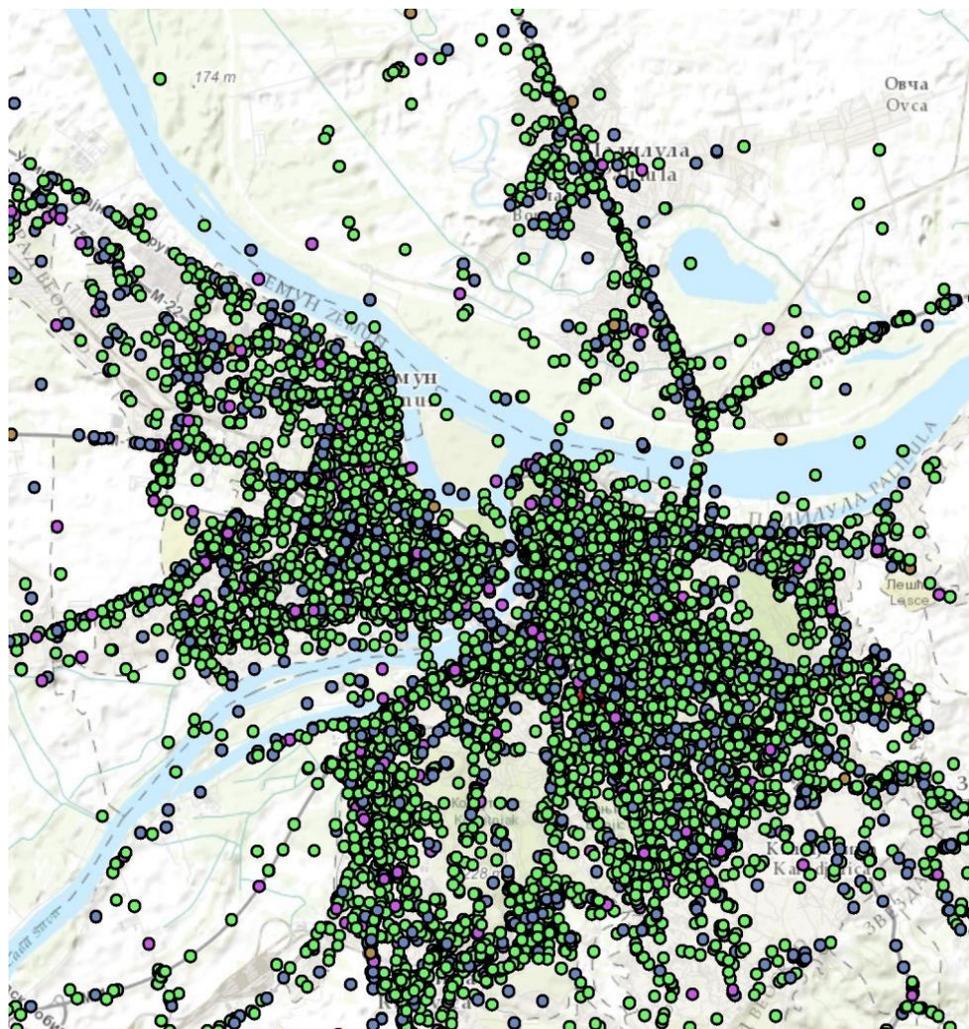
Accident location – Latitude and Longitude

Urban area (inside, outside)

Junction (Crossroad, Roundabout, T or staggered junction, Multiple junction, Grade intersection)

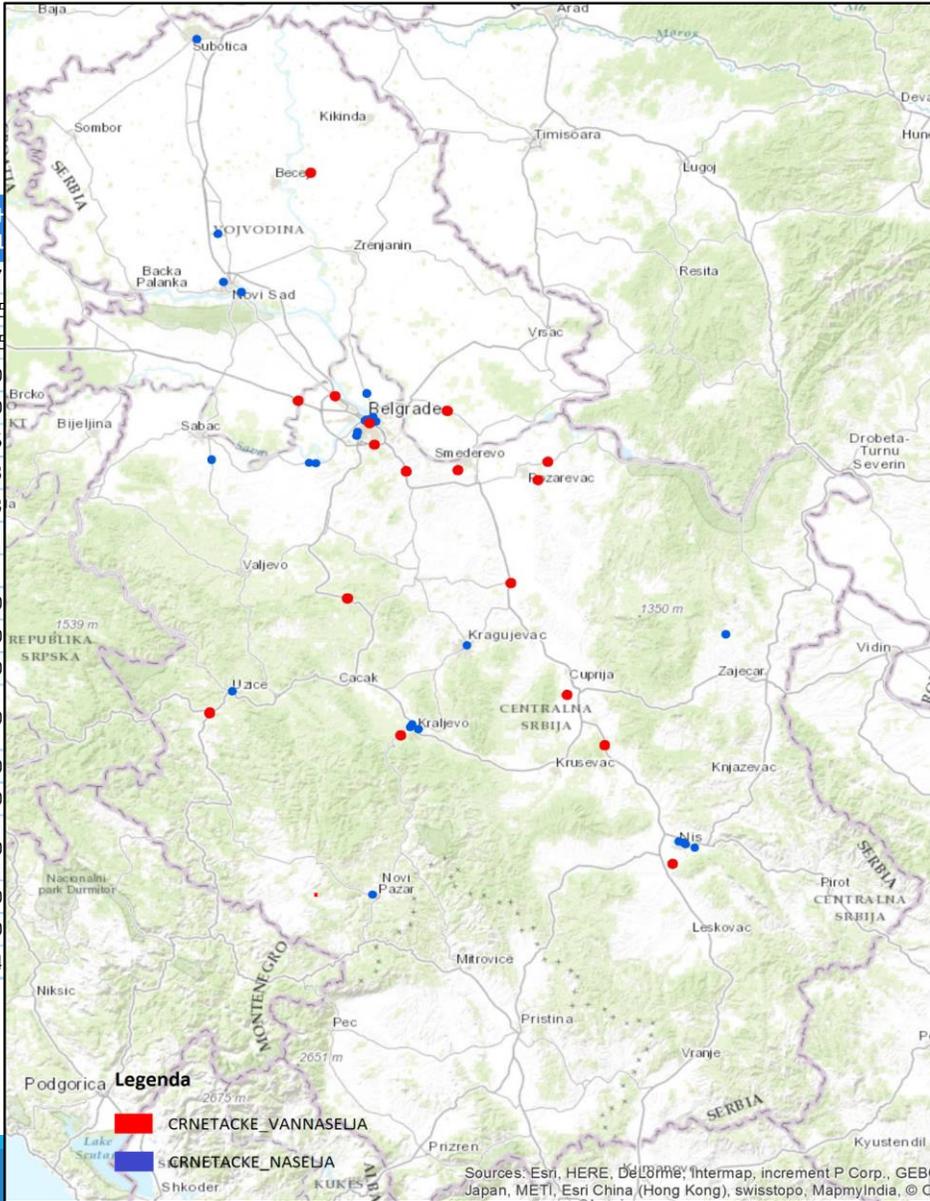


Examples of road accident analyses for the needs of the State Road Agency



Examples of road accident analyses for the needs of the State Road Agency

Ранг ОМ	ИД ОМ	Општина ОМ	ПУ ОМ	ОМ у НАСЕЉУ	Х коор.	У коор.	ПБСН	ПОГ	ТПП	ЛТП	СН ПОГ	СН ТПП	СН ЛТП	СН М
I (1)	1103781	Вождовац	Београд	НЕ	20,4692800	44,7896500	214	1	6	93	1	6	69	17
I (2)	1047163	Звездара	Београд	ДА	20,4980342	44,7959966	213	2	4	3	2	4	3	25
I (3)	1114418	Звездара	Београд	ДА	20,4988400	44,7956800	213	2	4	3	2	4	3	25
I (4)	1098576	Чајетина	Ужице	НЕ	19,7382740	43,7828980	181	4	3	5	2	1	1	0
I (5)	1051961	Чајетина	Ужице	НЕ	19,7376200	43,7800280	181	4	3	5	2	1	1	0
II (6)	1061701	Вождовац	Београд	НЕ	20,4927805	44,7157243	172	2	2	5	2	0	2	5
II (7)	1100265	Бор	Бор	ДА	22,1035185	44,0565106	172	2	1	2	2	0	2	3
II (8)	1070944	Бор	Бор	ДА	22,1030413	44,0563532	172	2	1	2	2	0	2	3
II (9)	1080602	Ражањ	Ниш	НЕ	21,5479050	43,6678400	171	2	0	1	2	0	1	1
II (10)	1104003	Ражањ	Ниш	НЕ	21,5483439	43,6671758	171	2	0	1	2	0	1	1
II (11)	1090941	Гроцка	Београд	НЕ	20,6381550	44,6242080	170	2	0	2	2	0	0	0
II (12)	1069596	Нови Бечеј	Зрењанин	НЕ	20,2005740	45,6474760	170	2	0	0	2	0	0	0
II (13)	1108567	Гроцка	Београд	НЕ	20,6386940	44,6224320	170	2	0	2	2	0	0	0
II (14)	1094402	Горњи Милановац	Чачак	НЕ	20,3703700	44,1817300	170	2	0	1	2	0	0	0
II (15)	1094019	Ковин	Панчево	НЕ	20,8257570	44,8325130	170	2	0	0	2	0	0	0
II (16)	1102249	Нови Бечеј	Зрењанин	НЕ	20,2005740	45,6474760	170	2	0	0	2	0	0	0
II (17)	1083364	Горњи Милановац	Чачак	НЕ	20,3683900	44,1819980	170	2	0	1	2	0	0	0
II (18)	1051943	Ковин	Панчево	НЕ	20,8277600	44,8319800	170	2	0	0	2	0	0	0
II (19)	1108965	Шабац	Шабац	ДА	19,7468372	44,6640384	170	2	0	0	2	0	0	0
II (20)	1061834	Палилула	Београд	ДА	20,4578707	44,8917567	170	2	0	0	2	0	0	4

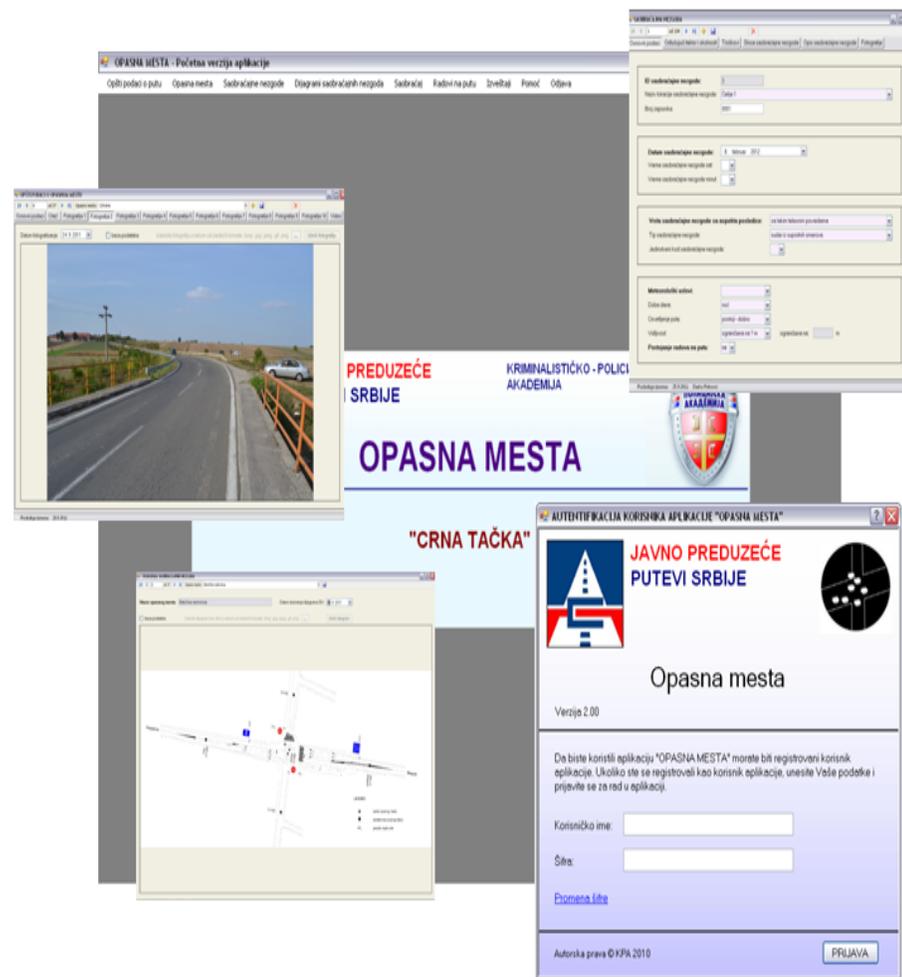
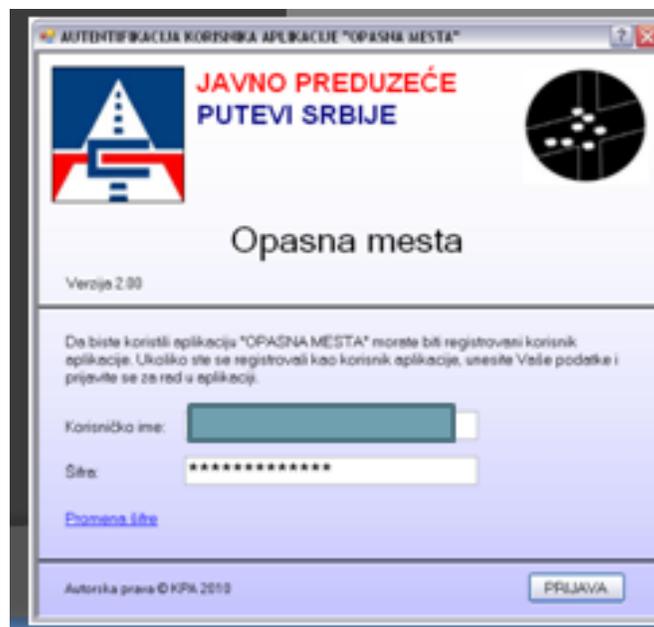


IDENTIFICATION OF BLACK SPOTS

BLACK SPOT DATABASE

► Main view of the application „Black Spots“

1. General road data
2. Black Spots
3. Road Accidents
4. Road Accidents Diagrams
5. Traffic
6. Working Zones
7. Reports
8. Help
9. Sign out



Examples of road accident analyses for the needs of the State Road Agency

Opšta analiza saobraćajnih nezgoda na deonici državnog puta IB reda sa oznakom 22, Novi Pazar (Banja) – Ribarići

Opšta analiza saobraćajnih nezgoda je urađena na osnovu podataka o saobraćajnim nezgodama koji su dobijeni iz Ministarstva unutrašnjih poslova – Uprave saobraćajne policije (MUP-USP), kada su dobijeni podaci o broju SN upitnika, odnosno identifikacionom broju svake saobraćajne nezgode koja se dogodila na predmetnoj deonici – državni put IB reda sa oznakom 22, Novi Pazar (Banja) – Ribarići. Podaci o identifikacionim brojevima saobraćajnih nezgoda su dobijeni od strane područnih policijskih stanica, a ne iz baze podataka saobraćajnih nezgoda MUP-USP. Tek nakon dobijanja podataka od strane područnih policijskih stanica, izvršena je pretraga baze podataka saobraćajnih nezgoda, tzv. baza „SN liste“, u okviru koje su izdvojeni podaci za potrebe opšte analize saobraćajnih nezgoda na predmetnoj deonici.

Deonica državnog puta IB reda sa oznakom 22, Novi Pazar (Banja) – Ribarići nalazi se na području lokalnih samouprava – grad Novi Pazar i opština Tutin. Analizirana deonica puta IB reda sa oznakom 22, Novi Pazar (Banja) – Ribarići dužine je 10,5 km. Petogodišnji period obuhvaćen analizom saobraćajnih nezgoda na deonici odnosi se na period od 2011. do 2015. godine.

U posmatranom periodu od 2011. do 2015. godine na deonici Novi Pazar (Banja) – Ribarići su se dogodile tri stotine i osamdeset (382) saobraćajne nezgode, od kojih je sedam (7) saobraćajnih nezgoda sa poginulim licima, dve stotine (200) saobraćajnih nezgoda sa povređenim licima, a sto sedamdeset pet (175) saobraćajnih nezgoda je samo sa materijalnom štetom bez povređenih lica.

Najveći broj saobraćajnih nezgoda dogodio se u poslednjoj godini posmatranja u 2015. godini, kada je zabeleženo osamdeset devet (89) saobraćajnih nezgoda. Isto tako, veliki broj saobraćajnih nezgoda dogodio se u prvoj godini posmatranog perioda u 2011. godini (82), što je imalo veliki uticaj na izgled linije treba, tako ova linija ima rastući karakter. Najmanji broj saobraćajnih nezgoda dogodio se u 2012. (65) i 2014. godini – 68 saobraćajnih nezgoda. **Generalno, u posmatranom periodu na deonici je zabeležena povećanje ukupnog broja saobraćajnih nezgoda.**

Situacija je slična i kod broja saobraćajnih nezgoda sa povređenim licima. U posmatranom periodu na deonici državnog puta IB reda sa oznakom 22, Novi Pazar (Banja) – Ribarići, ponovo je najveći broj saobraćajnih nezgoda sa povređenim licima u poslednjoj godini posmatranja – u 2015. godini, kada se na deonici dogodilo četrdeset pet (45) saobraćajnih nezgoda sa povređenim licima. Isto kao i kod ukupnog broja saobraćajnih nezgoda na deonici u posmatranom periodu uspostavljen je trend povećanja broja saobraćajnih nezgoda sa povređenim licima. Sličnost sa distribucijom ukupnog broja saobraćajnih nezgoda se može prepoznati u godinama u kojima se dogodio najmanji broj saobraćajnih nezgoda sa povređenim licima – u pitanju su 2012. i 2014. godina.

Na deonici državnog puta IB reda sa oznakom 22, Novi Pazar (Banja) – Ribarići dogodilo se sedam (7) saobraćajnih nezgoda sa poginulim licima, smrtno stradalo devet (9) lica. Saobraćajne nezgode sa poginulim licima dogodile su se u godinama 2011, 2012, 2013, 2014, 2015. Po dve (2) saobraćajne nezgode sa poginulim licima dogodile su se 2011, 2013. i 2014. godini, po jedna (1) saobraćajna nezgoda sa poginulim licima dogodila se 2012. i 2015. godini. Na deonici državnog puta IB reda sa oznakom 22, Novi Pazar (Banja) – Ribarići dogodilo se dve stotine i osamdeset (382) saobraćajnih nezgoda MUP-USP, od kojih je sedam (7) saobraćajnih nezgoda sa poginulim licima, dve stotine (200) saobraćajnih nezgoda sa povređenim licima, a sto sedamdeset pet (175) saobraćajnih nezgoda je samo sa materijalnom štetom bez povređenih lica. Ovo ukazuje da je problem bezbednosti saobraćaja na deonici nešto više prisutan na deonicama koje su kategorizovane kao „prolazak državnog put kroz naselje“, za razliku od kategorizacije „državni put van naselja“.

U posmatranom periodu dogodilo se sedam (7) saobraćajnih nezgoda sa poginulim licima u kojima je smrtno stradalo devet (9) lica. Saobraćajne nezgode sa poginulim licima pripadaju vrstama – vidovima saobraćajnih nezgoda „sletanje vozila sa kolovoza i udar u objekat pored puta“ – tri (3) saobraćajne nezgode i „sletanje vozila sa puta“ – dve (2) najteže saobraćajne nezgode. Po jedna (1) saobraćajna nezgoda sa poginulim licima se dogodila u sledećim vidovima: „prevrtanje vozila na putu“, „obaranje ili gaženje pešaka“ i „bočni sudar“. Saobraćajne nezgode „sletanja vozila sa puta“, „sletanje sa kolovoza i udar u objekat pored puta“ i „prevrtanje vozila na putu“, ukazuju na potencijalan doprinos puta nastanku najtežih saobraćajnih nezgoda.

Tabela 1. Broj i posledice saobraćajnih nezgoda u periodu 2011-2015. godina

	2011	2012	2013	2014	2015	Ukupno
SN PO	2	0	2	2	1	7
SN POV	41	35	43	36	45	200
SN MŠ	39	30	33	30	43	175
Ukupno SN	82	65	78	68	89	382
SN POG	2	0	2	2	3	9
LTP	7	8	18	15	6	54
LTP	47	39	51	49	65	251
Ukupno NAS	56	47	71	66	74	314



Grafik 1. Broj saobraćajnih nezgoda po godinama, period 2011-2015. godina

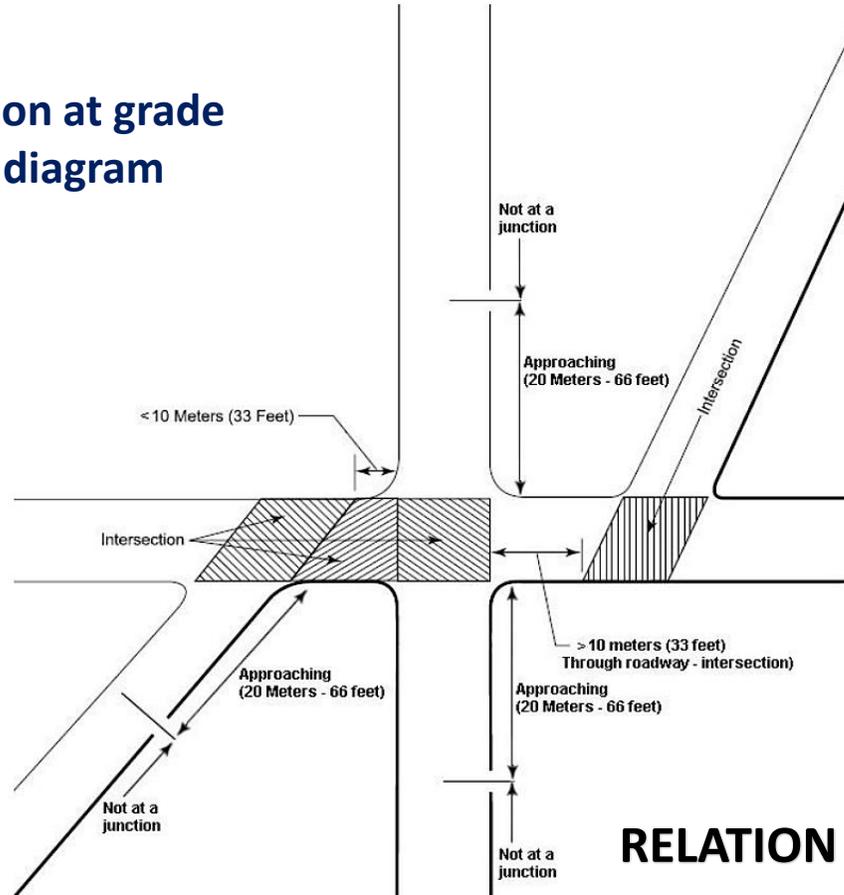


Grafik 2. Broj saobraćajnih nezgoda sa povređenim licima, period 2011-2015. godina

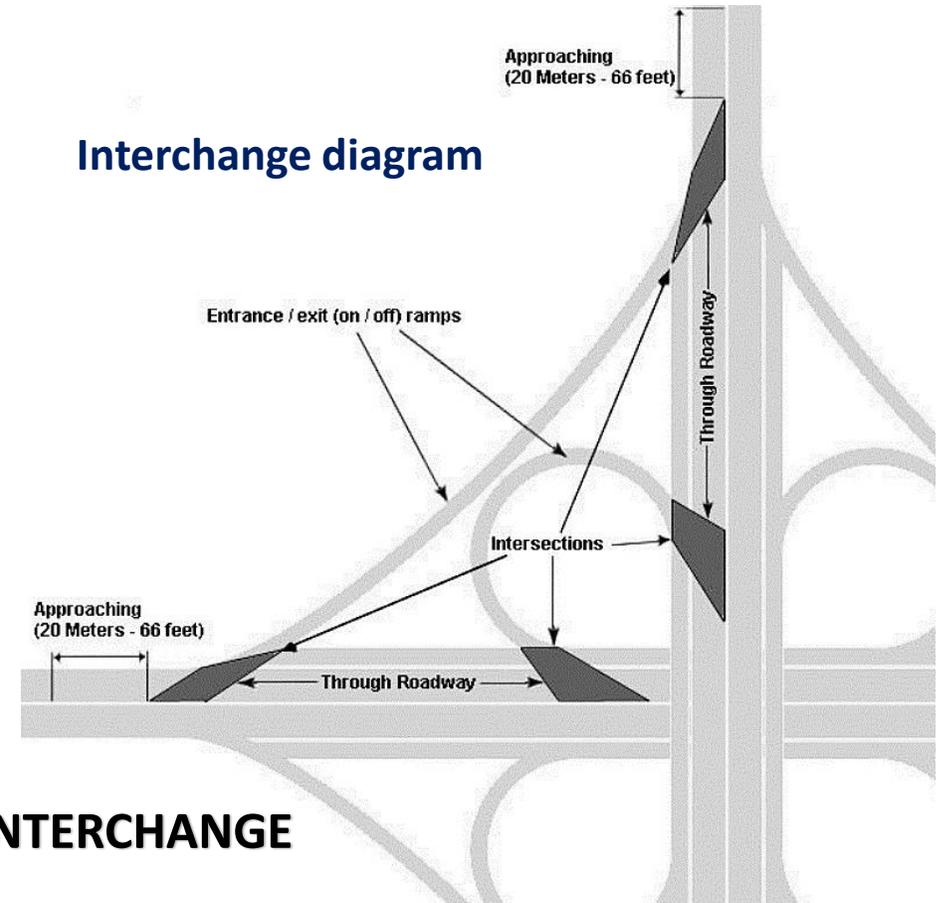
GENERAL ANALYSIS OF ROAD ACCIDENTS FOR THE SECTION

What is also important for BSM, RSA and RSI

Junction at grade diagram



Interchange diagram



RELATION TO JUNCTION / INTERCHANGE

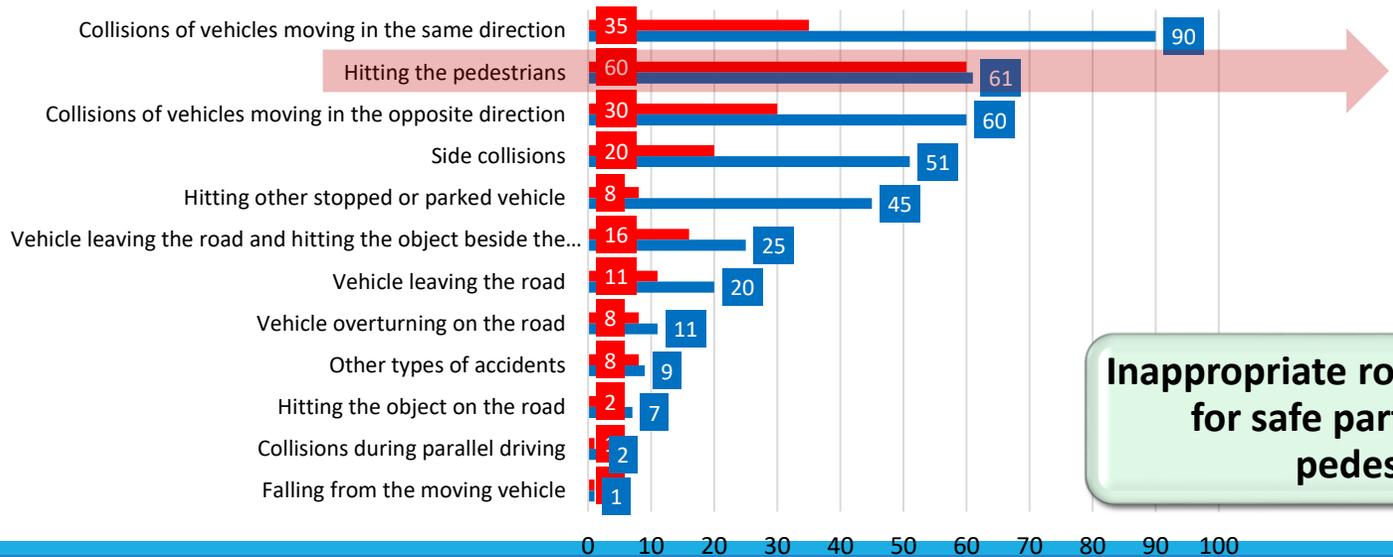
- ❑ Indicates the exact site of the junction / interchange where the accident occurred
- ❑ **Important for site-specific safety studies** to identify actual or potential safety problem locations

Examples of road accident analyses for the needs of the State Road Agency

GENERAL ANALYSIS OF ROAD ACCIDENTS

- For road
 - For sections
- Number and consequences of road accidents
 - Road accidents types
 - Temporal distribution (by month, by day of the week, by hour)
 - Ambient lighting conditions, etc.

Road accidents types



Frequent conflicts of motorized and non-motorized traffic

High number of road accident type „Hitting the pedestrians“

Inappropriate road infrastructure for safe participation of pedestrians

Lack of sidewalks along certain parts of road/section

■ Number of road accidents with injured ■ Total number of road accidents

Examples of road accident analyses for the needs of the State Road Agency

Traffic unit maneuver - > pedestrian maneuver

Crossing (on pedestrian crossing)
Crossing (on other point)
Walking on the carriageway, facing traffic
Walking on the carriageway, back to traffic
Standing or playing on the carriageway
Not on the carriageway (on sidewalk, pedestrian road, etc.)
Lying on the carriageway
Entering or getting out of a vehicle

Weather conditions

Rain

Urban area

Inside urban area

Speed limit

50 km/h

**IDENTIFICATION
OF PROBLEMS**



No sidewalk



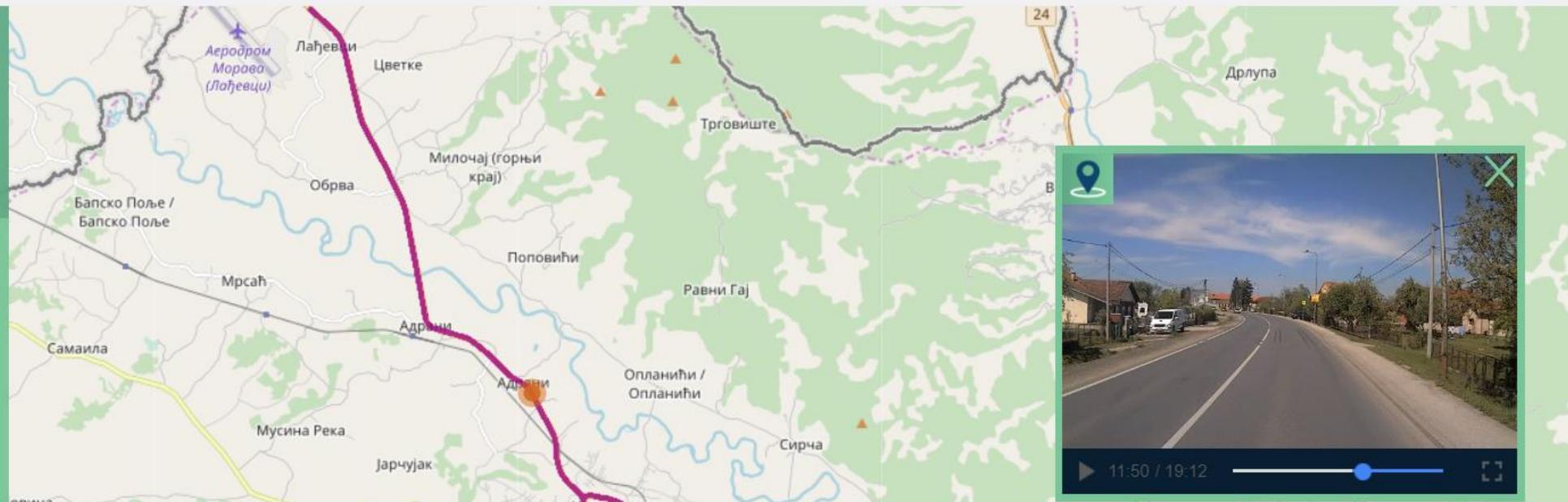
**DEFINITION OF
MEASURES**

**Construction
of sidewalk**



Video zapis

Prikaz dostupnih video zapisa



REZULTATI

Naziv deonice	Dužina [km]	Opis deonice	Geografska širina (Y) početna tačka	Geografska dužina (X) početna tačka	Geografska širina (Y) krajnja tačka	Geografska dužina (X) krajnja tačka	Tip puta
6	3.50272178	Ulica Dositeja Obradovića Kraljevo	43.72545	20.69741	43.731	20.65554	Put bez fizički razdvojenih kolovoznih traka
	19.97138507	Mataruška Banja - Lađevci	43.69595	20.59323	43.82223	20.6045	Put bez fizički razdvojenih kolovoznih traka

VIDEO materials about ROADS

COMBINATION of several attributes in the aim of choosing the road section for RSI

**Examples of important data set
defined and collected by Road Traffic
Safety Agency**



Road Safety

Database of Technical characteristics of motor vehicles

Browser address bar: <http://10.15.95.36/tkmv/Izvestaj>

Izvestaj : Listanje unetih po...

Dobrodošli, admin! [[Odjavi se](#)] | [Moji unosi](#) | [Moj Profil](#) |

Tehničke karakteristike motornih vozila

Početna | Pomoć | Administracija | Korisnici

Izveštaj o kontroli saobraznosti vozila

[Kreiranje novog unosa](#)

Prikaži samo parcijalne unose

Broj izveštaja:

Marka vozila: (proizvodaca) FYM / SA | Tip vozila: | Varijanta vozila: |

[Pretraži](#)

Datum pregleda	Ustanova	Nalogodavac	Podnosilac zahteva	Broj pregleda	Broj naloga	FabrickaOznaka	
11/16/2012 12:00:00 AM	Predstavništvo Opel Southeast Europe		Agencija za bezbednost saobracaja	NH 112/12	221-335-00-14037/2012-05	VDL BUS	Izmena
2/26/2013 12:00:00 AM	RANTONA d.o.o.		RANTONA d.o.o.	broj test	br ntaoga	(proizvodaca) FYM / SACHS	Izmena
3/30/2007 12:00:00 AM		Institut Vinča, Centar za motore i vozila	Institut za standardizaciju Srbije	NH 013 / 07 - 01-Admn.	7064 - 43 - 07 / 2007,	Fiat	Izmena
1/27/2005 12:00:00 AM		Institut Vinča, Centar za motore i vozila		NH 002/00-04		Opel/Vauxhall	Izmena

Windows taskbar: SR | 10:49 | 27.3.2013



Data set about attitudes in road safety

ASSP

FERG

bast

CMV

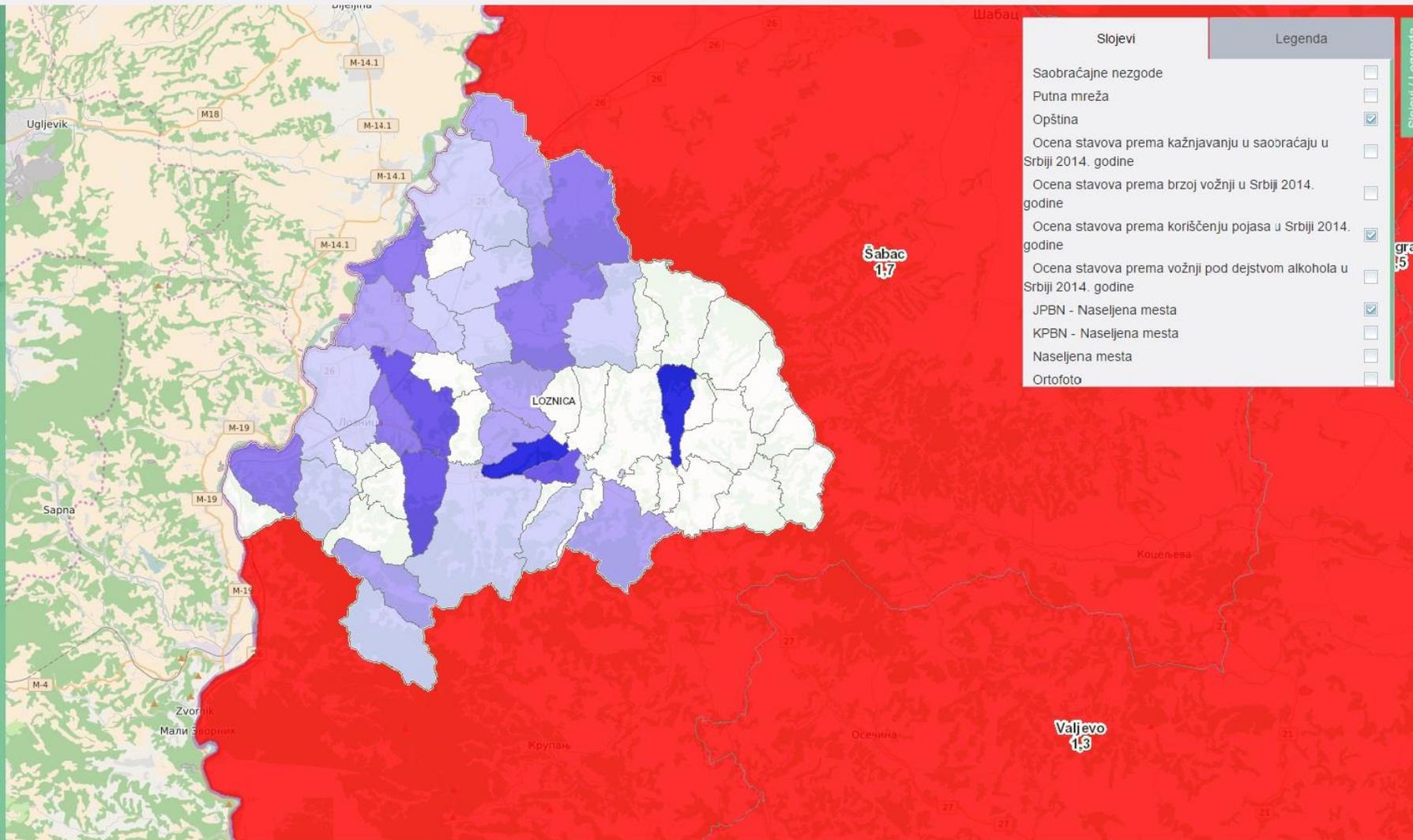
Ivana Arsenijevic

CMV > STAVOVI UČESNIKA U SAOBRAĆAJU O OPASNOSTIMA I RIZICIMA



Vizuelizacija

- ▶ OCENA STAVOVA PREMA KAŽNJAVANJU U SAOBRAĆAJU U SRBIJI 2014. GODINE
- ▶ OCENA STAVOVA PREMA BRZOJ VOŽNJI U SRBIJI 2014. GODINE
- ▶ OCENA STAVOVA PREMA KORIŠĆENJU POJASA U SRBIJI 2014. GODINE
- ▶ OCENA STAVOVA PREMA VOŽNJI POD DEJSTVOM ALKOHOLA U SRBIJI 2014. GODINE



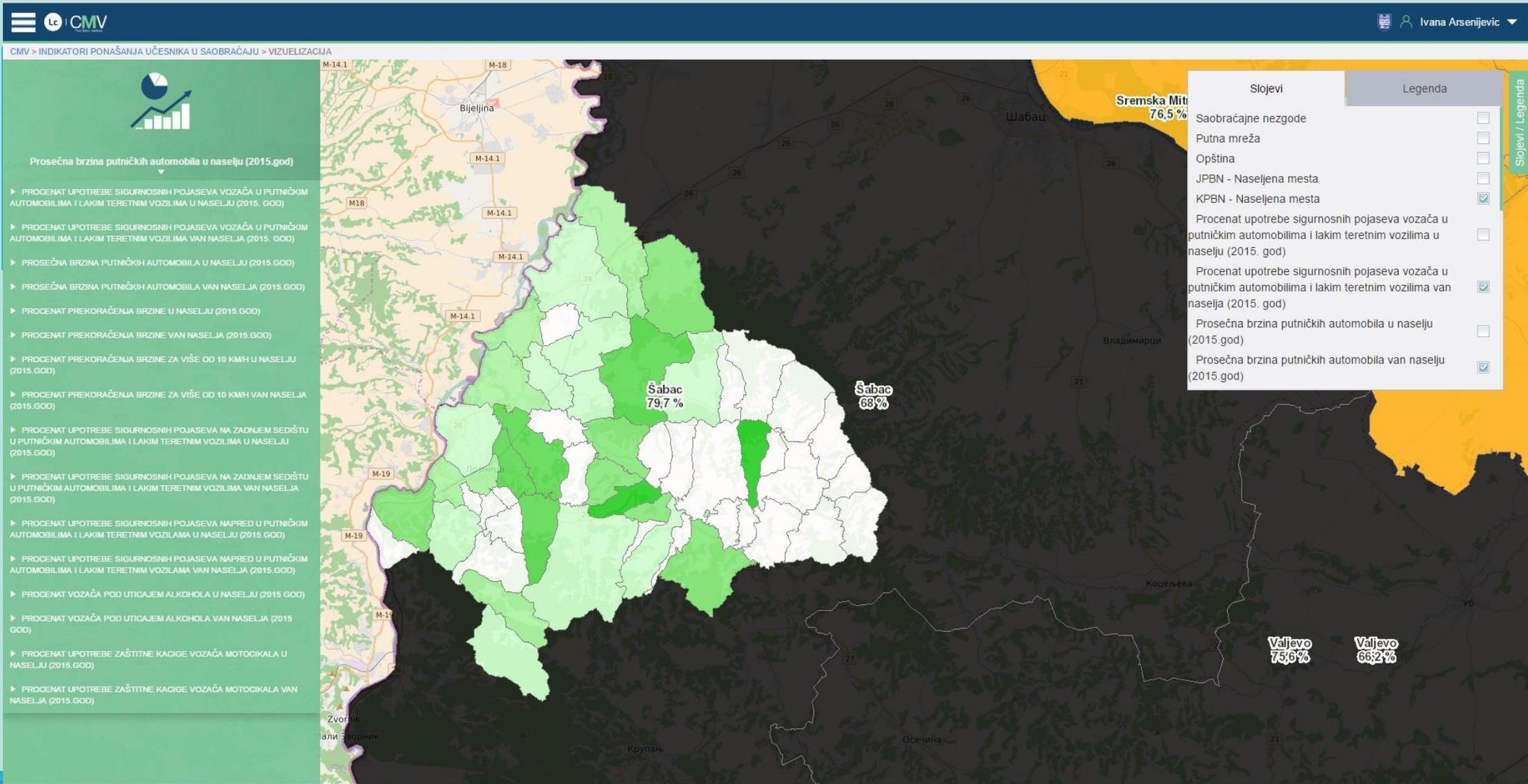
Slojevi / Legenda

Slojevi	Legenda
Saobraćajne nezgode	<input type="checkbox"/>
Putna mreža	<input type="checkbox"/>
Opština	<input checked="" type="checkbox"/>
Ocena stavova prema kažnjavanju u saobraćaju u Srbiji 2014. godine	<input type="checkbox"/>
Ocena stavova prema brzjoj vožnji u Srbiji 2014. godine	<input type="checkbox"/>
Ocena stavova prema korišćenju pojasa u Srbiji 2014. godine	<input checked="" type="checkbox"/>
Ocena stavova prema vožnji pod dejstvom alkohola u Srbiji 2014. godine	<input type="checkbox"/>
JPBN - Naseljena mesta	<input checked="" type="checkbox"/>
KPBN - Naseljena mesta	<input type="checkbox"/>
Naseljena mesta	<input type="checkbox"/>
Ortofoto	<input type="checkbox"/>

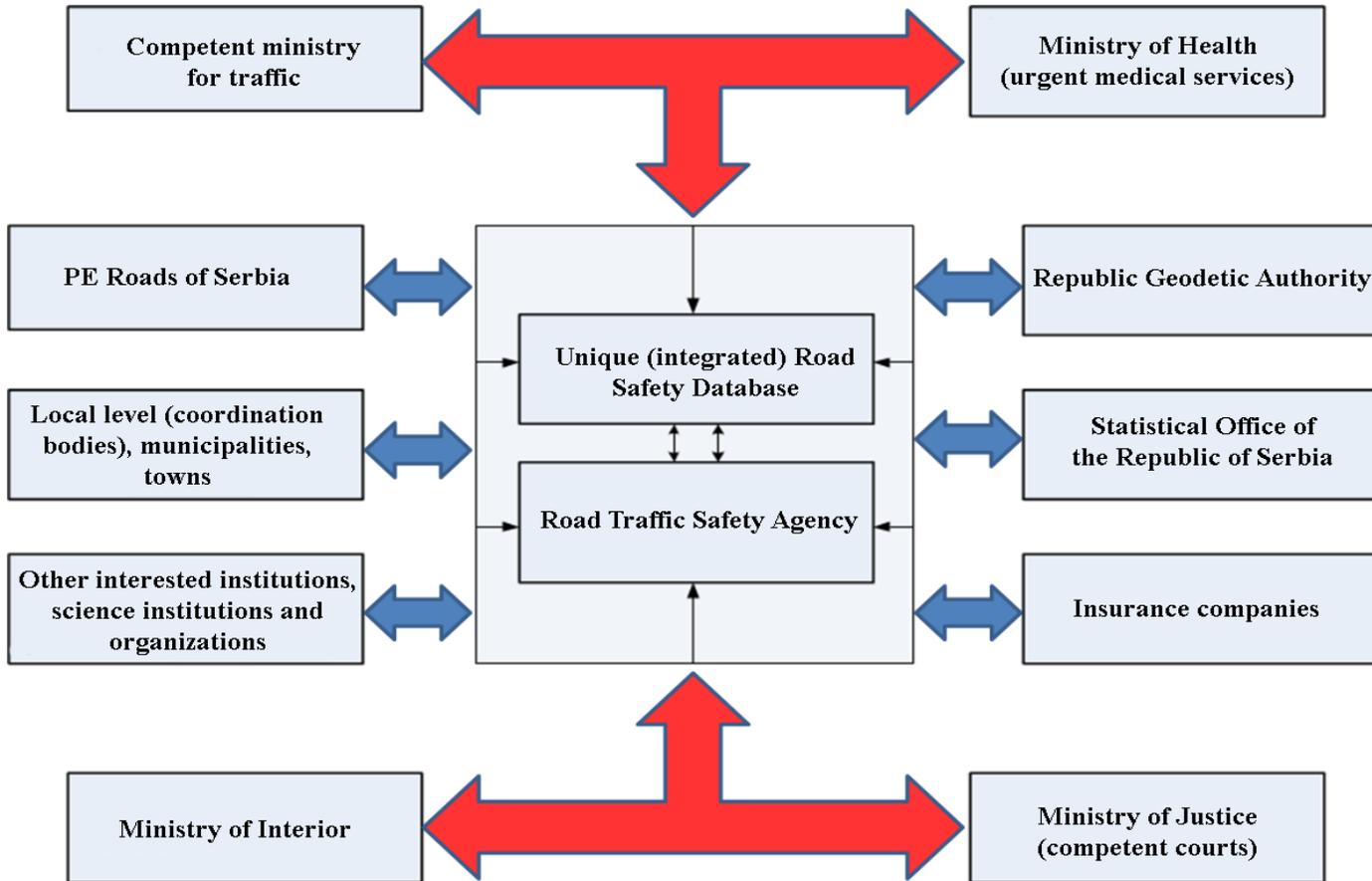
grad

5

Data set about safety performance indicators



COORDINATION WITH OTHER STAKEHOLDERS – ESPECIALLY IN SHARING THE ROAD SAFETY DATA



***THANK YOU FOR
YOUR ATTENTION!***

Dr. Dragoslav Kukić

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E mail: kukicdragoslav@gmail.com



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