



WESTBELT

TECHNICAL ASSISTANCE FOR COLLECTING ROAD SAFETY KPIS ON SEAT BELT
AND CHILD RESTRAINT SYSTEMS IN THE WESTERN BALKANS REGION
(PS/SRV/KPI/006/2023)

Western Balkans Transport Community
15th Technical Committee on Road Safety
Warsaw, 29th of September 2023)

Points covered in the information session

- Context and objectives
- Project team
- Project approach
- Method used
- Deliverables



Context and objectives



Context

- The **Road Safety Action Plan** committed to by the regional partners in the Western Balkans
- The **requirement for a pilot project** on collecting **at least one KPI** in the Western Balkans based on a harmonised (EU) Methodology
- The need for improvement and **harmonisation of road safety data collection** and dissemination in the region
- The need for strengthening the **Western Balkans Road Safety Observatory (WBRSO)**.



An abstract background graphic on the left side of the slide. It features several vertical orange bars of varying heights. Overlaid on these bars is a white line with circular markers at each data point. Some of the data points are labeled with numbers: '183.102' and '154.175'. The background is dark with some blurred light effects.

Objectives of the project

- To **collect and analyse data** for calculating **KPIs**
 - of the use of **seatbelts** and **child restraint systems (CRS)**
 - for each of the **six regional partners**
- To draft a series of **detailed reports** and contribute to the **dissemination** of the results
- To contribute to **capacity building** and **exchange of experience** in the region

A group of colorful wooden human figures standing in a line, representing a diverse project team. The figures are in various colors including blue, yellow, green, red, and brown. The text "The project team" is overlaid in the center.

The project team

Who am I?

Positions (former and actual)

- Former coordinator of the **Baseline** project
- Former Project Director of the **ESRA** initiative
- Project Coordinator of the **Trendline** project (at SWOV)
- Director of **Tilkon** Research & Consulting

Author of publications in relation to KPIs/SPIs in road safety

- Several reports for **Baseline**
- **ERSO** Thematic Report on road safety performance indicators
- **UNRSC** Guidelines on the UN global targets and associated indicators on road safety
- A **book** on KPIs (in Dutch)



Key project researchers and consultants



Wouter Van
den Berghe,
Project
Manager



Veronika
Valentová,
Deputy
Project
Manager



Jiří Ambros,
Data Expert



Eva Kšicová,
Methodology
Expert



Martin Šípek,
Trainer and
Data analyst



Ketino
Popiashvili,
Project
administration

Field researchers

Country	Name	Role	Affiliation
Albania	Brikena Tare	Team leader	Transport Expert at Transport Planning Department-Albanian Institute of Transport
	Bujar Kotri	Team member	Chief of Transport Planning Sector-Albanian Institute of Transport
Bosnia and Herzegovina	Marko Subotić	Team leader	University of East Sarajevo, Faculty of Transport and Traffic Engineering, Vojvode Mišića 52, Doboj, BiH
	Milenko Mičić	Team member	Traffic Engineering, BiH
Kosovo*	Mevlan Bixhaku	Team leader	Tempulli Academy, Institute for Road Safety and Transportation Research, XK
	Ramadan Duraku	Team member	Tempulli Academy, Institute for Road Safety and Transportation Research, XK
	Gezim Hoxha	Team member	Tempulli Academy, Institute for Road Safety and Transportation Research, XK
Montenegro	Boško Matović	Team leader	University of Montenegro, Faculty of Mechanical Engineering, Cetinjska 2, Podgorica, MNE
	Milenko Damjanović	Team member	University of Montenegro, Faculty of Mechanical Engineering, Cetinjska 2, Podgorica, MNE
North Macedonia	Verica Dančevska	Team leader	University St. Kliment Ohridski, Faculty of Technical Sciences, Department of Traffic and Transport
	Dejan Dančevski	Team member	University St. Kliment Ohridski, Faculty of Technical Sciences, Department of Traffic and Transport
Serbia	Lazar Savković	Team leader	S-Project LLC, Serbia
	Vesna Meštrović	Team member	Master Student, Faculty for Transport and Traffic Engineering, Serbia
	Kristina Radulović	Team member	Master Student, Faculty for Transport and Traffic Engineering, Serbia
	Jovana Trbojević	Team member	Master Student, Faculty for Civil Engineering, Serbia

KPIs



What's in a name...

Terminology

KPIs = "Key Performance Indicators"
(used by European Commission)

Other terms

- "Road Safety Performance Indicators" (RSPIs)
- "Safety performance indicators" (SPIs)

Meaning

A KPI is a number that provides information about a particular process or situation.

In road safety, KPIs in general refer to the contributory factors of road safety.

Why use road safety KPIs?

Set targets to be achieved in the medium and long term
(e.g., increase of the percentage of drivers wearing a seatbelt to 95%)

Monitor progress towards targets
(e.g., how far are we away from reaching the targets?)

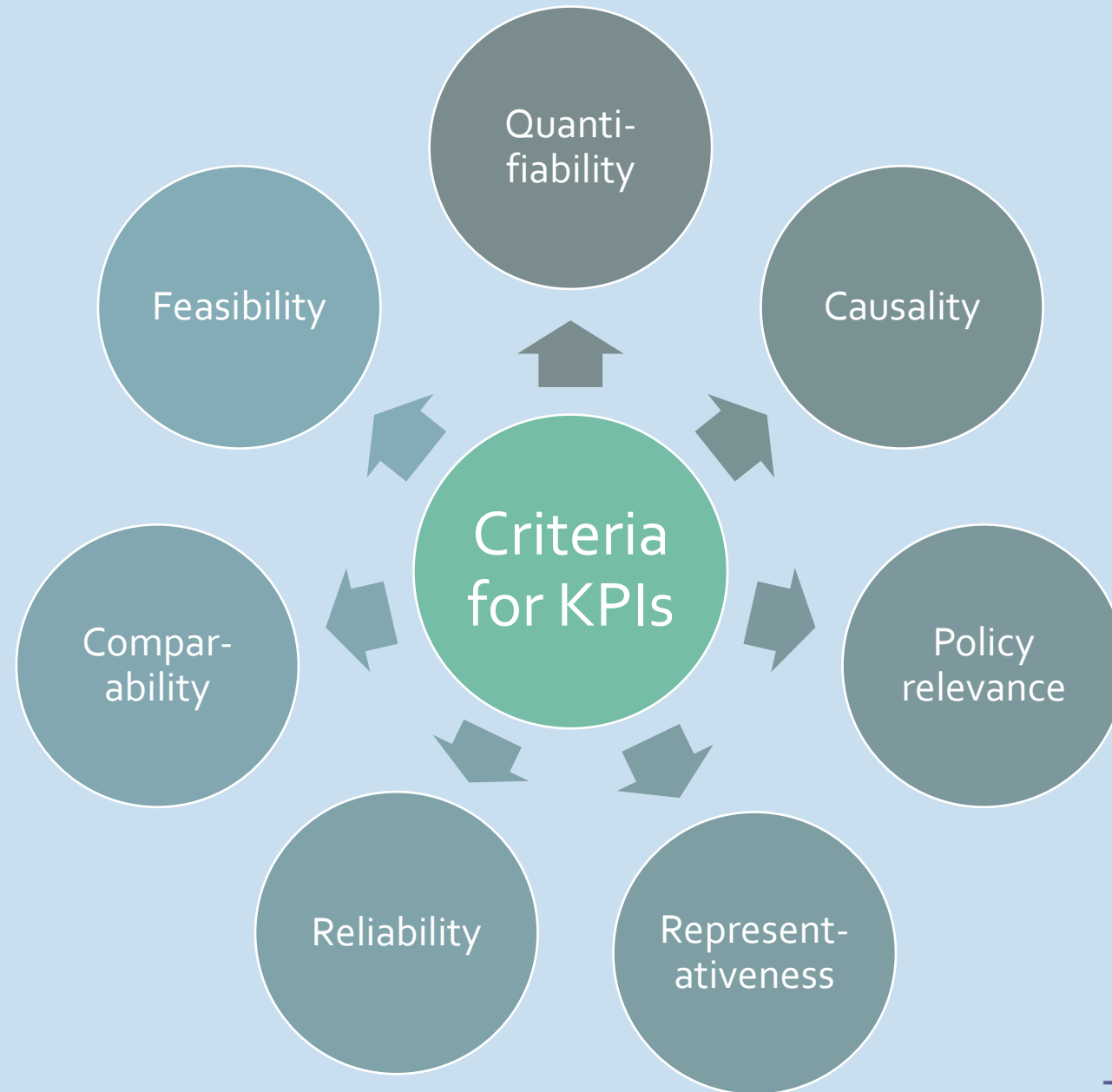
Identify policy measures that need to be taken
(e.g., increase enforcement by the police)

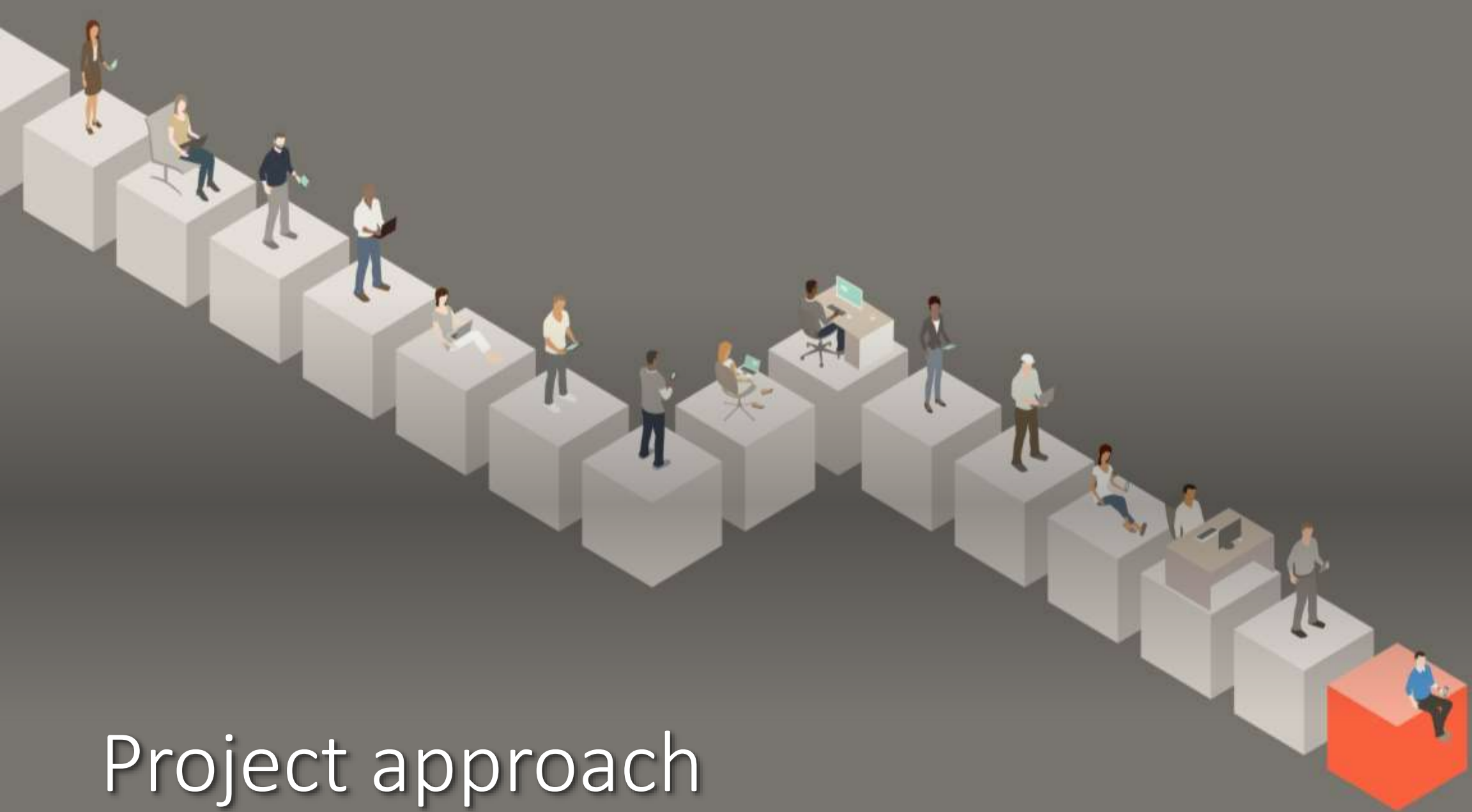
Assess whether the policy measures implemented have led to the desired results
(e.g., increasing the number of vehicle occupants wearing a seatbelt)

Monitor changes in contributing factors
(e.g., are females doing better than males?)

Detect emerging trends at an early stage
(e.g., decrease in use of seatbelts at the rear side)

Criteria for selecting road safety KPIs





Project approach

Key components of the approach

Selection of observation locations

Training of field researchers (regional partners welcome!)

Road-side observations by field researchers

Use of the SPIn application for recording observations


Data analysis and reporting

Important milestones and deadlines

Deliverable/activity	Milestones / deadlines
Start of project	18 August 2023
Kick-off meeting	25 August 2023
Selection of field researchers	15 September 2023
Information sessions	19 September 2023 (online) 29 September 2023 (Warsaw)
Methodology Training plan Inception report for TCT	27 September 2023
Training sessions for measurements	3/4/6 October 2023
Data collection Data analysis Progress report	10 November: Data collection 31 December: Data analysis 18 January: Progress Report
Thematic Reports	16 February
Brochure Final report	1 March 17 March
Meetings with regional partners	6 meetings before 18 March
Meeting on final results	<i>(To be decided – mid March)</i>

GANTT Chart of main activities

Deliverable/activity	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar
Kick-off meeting								
Recruitment field researchers								
Methodology								
Training plan								
Inception report								
Information sessions								
Training sessions								
Data collection								
Data analysis								
Progress report								
Thematic Reports (6 + 1)								
Brochure								
Final report & meeting								
Capacity building								

A photograph of a road at night, viewed from the perspective of a driver. The road is dark asphalt, and a bright yellow line runs down the center. Two large, bright headlights illuminate the road ahead, creating a strong glare and highlighting the texture of the pavement. The road curves slightly to the right in the distance. The surrounding area is dark, with some green foliage visible on the right side. In the top left corner, there is a small teal rectangular bar.

Focus on the
road-side
observations

Criteria for selection of observation locations

Good **spread across the administrative units** of the regional partner (regions, cantons, local self- government, police administration unit, etc.)

Variation in terms of **geographical features** (plains, coasts, hills or mountains)

Sufficient **population density** in the neighbourhood of the location and different levels of **traffic volume** (low, medium and high intensity), but avoiding locations with very low traffic

Several types of **road use** (connection between city centres, daily commute, heavy commercial traffic, recreational traffic, etc.)

Safety of the observation locations

Adequate **visibility** and space for making observations.

Selection of observation locations

Observations of seatbelt use on **URBAN** and **RURAL** roads:



Observations of seatbelt use on **MOTORWAYS**:



List of locations (example: Albania)

Road number/ Street	Road Type	GPSX	GPSY	Google Maps	LSG
A1	Motorway	42.049587	20.314806	https://goo.gl/maps/FuNbMCd7mdbjHbgs7	Kukës
SH31	Rural	42.057767	20.421920	https://goo.gl/maps/tk1wEczkVdhMYysQ6	Kukës
Rruga Univesiteti	Urban	42.077455	20.422728	https://goo.gl/maps/Sorhw6KBbcN5iKXf7	Kukës
A1	Motorway	41.556216	19.673080	https://goo.gl/maps/3Z5QcC22umwGrNw57	Tiranë
SH56	Rural	41.259300	19.690312	https://goo.gl/maps/K4cc5zSzULeSobeE7	Tiranë
Rruga Hoxha Tahsim	Urban	41.333659	19.833704	https://goo.gl/maps/qauMZ3pry48aBB429	Tiranë
SH5	Rural	42.051822	19.532417	https://goo.gl/maps/jxh7FX7gLFETZ2557	Shkodër
Bulevardi Skënderbeu	Urban	42.066852	19.514036	https://goo.gl/maps/JD5hfQBVo7iXQ6FUA	Shkodër
A1 (SH2)	Motorway	41.317583	19.468982	https://goo.gl/maps/EPwGiAPYVXRnLyzg8	Durrës
Rruga Miqesia	Rural	41.352626	19.475084	https://goo.gl/maps/1vauhe1kk8LvHdSm7	Durrës
Rruga e Dëshmoreve	Urban	41.318883	19.445481	https://goo.gl/maps/PB2L52GkH4vq8ENh6	Durrës
A3	Motorway	41.105963	20.025151	https://goo.gl/maps/xo7wBPDfRdNcxb16	Elbasan
SH3	Rural	41.138663	20.147106	https://goo.gl/maps/MozehZFC3mZfLwrR8	Elbasan
Bulevardi Qemal Stafa	Urban	41.111994	20.078867	https://goo.gl/maps/SaKLJXJtE3nueLn7	Elbasan
A2	Motorway	40.673738	19.478534	https://goo.gl/maps/7pC5RvMHaqvMb17Y9	Fier
SH73	Rural	40.697992	19.595259	https://goo.gl/maps/pqhqochiYCNMNLSc6	Fier
Rr. Skenderbeu	Urban	40.734165	19.571266	https://goo.gl/maps/AnnbxoNXNLRyy7no8	Fier
Poliçan	Rural	40.653701	20.040766	https://goo.gl/maps/LoJyRYehhsoa66caA	Berat
Rruga Petrit Lulo	Urban	40.705106	19.952608	https://goo.gl/maps/5U226i3dAUPkULiP7	Berat
SH3	Rural	40.697385	20.865218	https://goo.gl/maps/M3e3qiSD54GoUsZu5	Korçë
Rruga Edit Durham	Urban	40.617965	20.775882	https://goo.gl/maps/Fu9K7eg13aEbU3Am7	Korçë
A2	Motorway	40.557562	19.462611	https://goo.gl/maps/aupBNnbYcRHdPGKn8	Vlorë
SH76	Rural	40.465823	19.550543	https://goo.gl/maps/kLw1anhDAMnk7Aio8	Vlorë
Rruga Riza Salati	Urban	40.464489	19.483290	https://goo.gl/maps/9HDm9TpMY54WT6RX7	Vlorë
SH4	Rural	40.313505	20.013832	https://goo.gl/maps/e4uBenySGxaZwCuN7	Tepelenë
Rruga Shullaz	Urban	40.297048	20.019965	https://goo.gl/maps/gvxn856nHEKresFR8	Tepelenë



Observation of the vehicles

Minimum number of observed vehicles

- Derived from / based on Baseline/Trendline guidelines
- Albania, Bosnia and Herzegovina, Kosovo, Montenegro, North Macedonia:
 - a minimum of **2000** observed vehicles overall for seat belt use, with a minimum of 750 observations for rural roads and 750 for urban roads;
 - a minimum of **100** observed vehicles with children among the occupants for roadside observation of CRS use, with a minimum of 40 observations for rural and urban roads.
- Serbia
 - a minimum of **3000** observed vehicles overall for seat belt use, with a minimum of 750 observations per road type;
 - a minimum of **150** observed vehicles with children among the occupants for roadside observation of CRS use, with a minimum of 20 observations per road type.

The SPIn application

- Mobile phone application for collecting Safety Performance Indicators (SPIs), developed by CDV.
- Browser-based mobile application running on Android platforms (for mobiles since 2019).
- Access to desktop version for data post-processing.
- Data are automatically transferred to the server: no need to manually transcribe records.
- Used by several EU countries in Trendline

In summary: using SPIn speeds up the data collection process and provides higher data quality.



Variables recorded

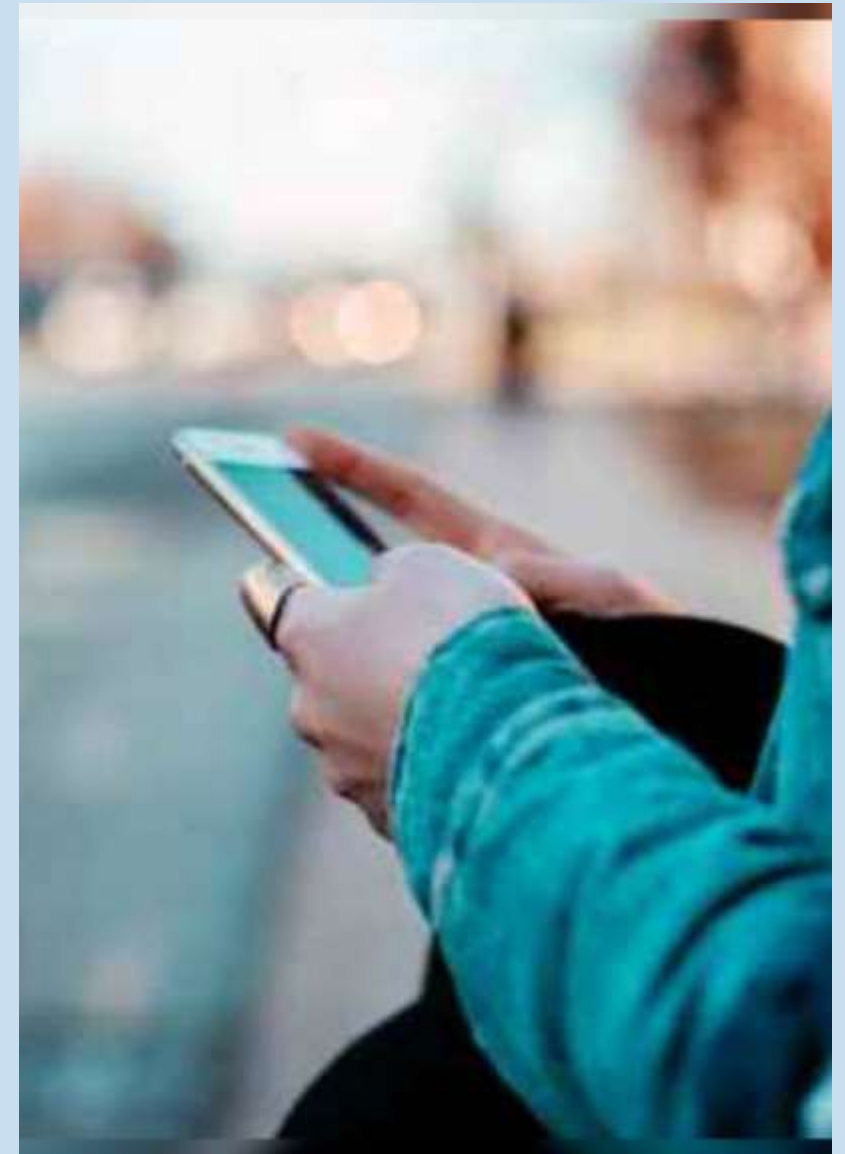
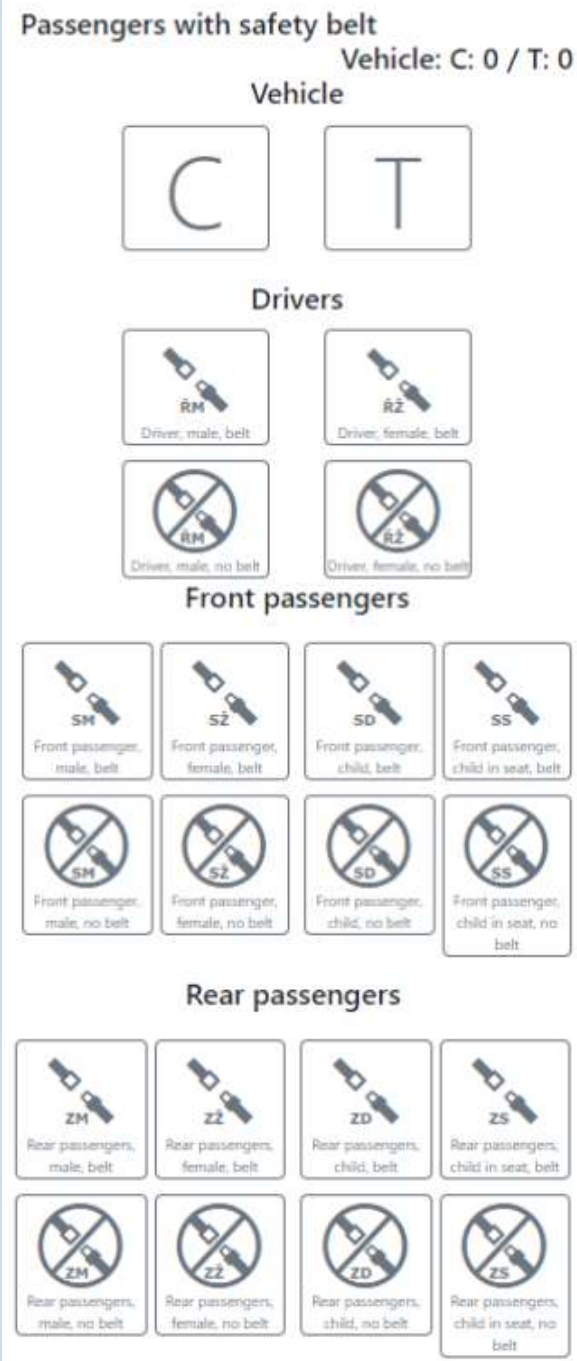
Seatbelt / No seatbelt

Place in the vehicle

- drivers
- front passengers
- rear passengers

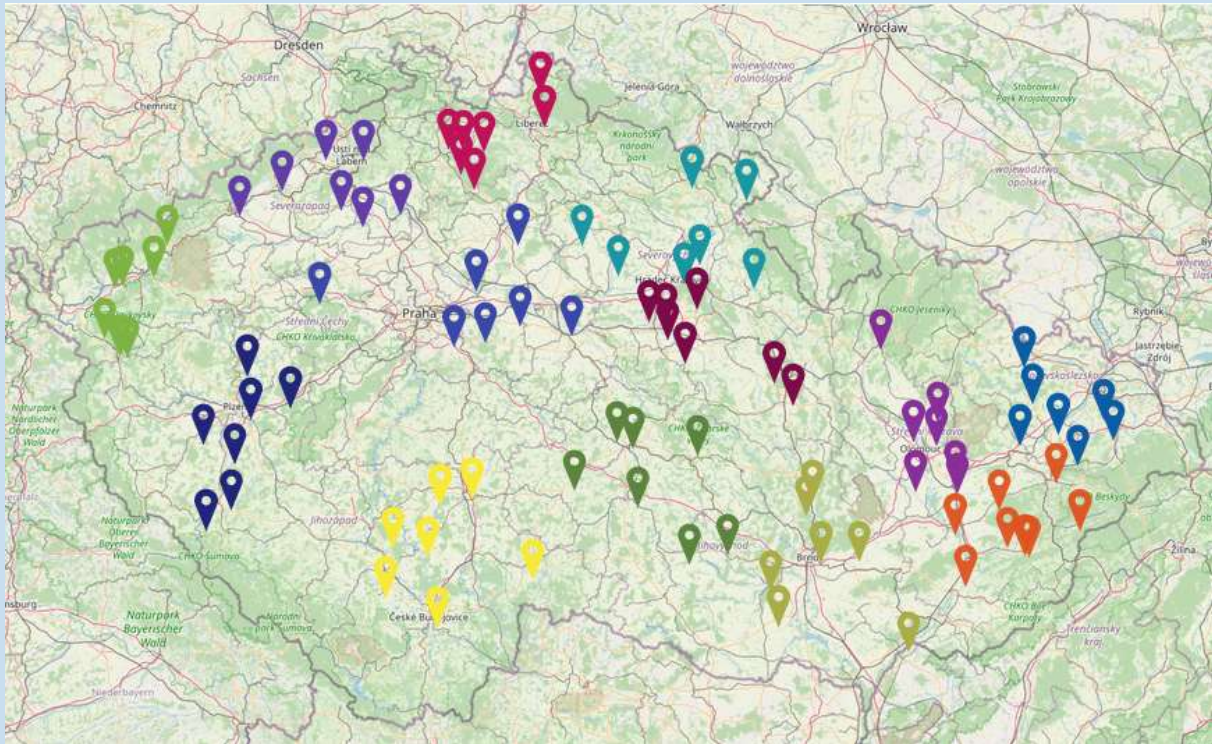
Occupant characteristics

- male
- female
- child
- child in seat



Data analysis (example)

Evaluation of all necessary parameters



Detail of collection for location Veselí nad Lužnicí - směr České Budějovice (C-Ex5-1448) (670), Type Safety belts

Exporty +

Metadata for this collection

Parameter	Value
Location	Veseli nad Lužnicí - směr České Budějovice (C-Ex5-1448)
Location ID	1448
Name of collector	roman.borsak@cdv.cz
Collection type	Safety belts
Collection start time	02. 07. 2023 10:53:13
Collection end time	02. 07. 2023 11:26:28
Day of week	Sunday
Number of collected values	348
Duplicate entry	No
Test entry	No

Map



Kontrola

Sums

Driver, male, with safety belt, car	Driver, male, without safety belt, car	Driver, female, with safety belt, car	Driver, female, without safety belt, car	Driver, male, with safety belt, truck	Driver, male, without safety belt, truck	Driver, female, with safety belt, truck	Driver, female, without safety belt, truck
146	1	43	0	2	0	0	0
Front passenger, male, with safety belt	Front passenger, male, without safety belt	Front passenger, female, with safety belt	Front passenger, female, without safety belt	Front passenger, child, with safety belt	Front passenger, child, without safety belt	Front passenger, child in seat, with safety belt	Front passenger, child in seat, without safety belt
31	1	78	0	5	0	0	0
Rear passenger, male, with safety belt	Rear passenger, male, without safety belt	Rear passenger, female, with safety belt	Rear passenger, female, without safety belt	Rear passenger, child, with safety belt	Rear passenger, child, without safety belt	Rear passenger, child in seat, with safety belt	Rear passenger, child in seat, without safety belt
3	0	4	0	22	1	11	0



Project deliverables

Overview of deliverables

Data-based deliverables

Data set of observations

Thematic report
Western Balkans

Thematic report for each
regional partner

Brochure (in cooperation
with TC Secretariat)

Administrative deliverables

Inception report

Progress report

Final report

Minutes of meetings

Other deliverables

Set of observation
locations

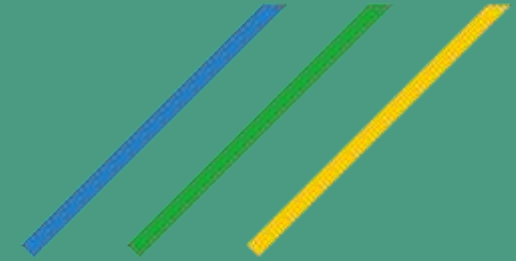
Methodology report

Presentations

Documentation on SPIn

**Technical Assistance for
collecting Road Safety KPIs
on
Seat Belt and Child Restraint
Systems in the Western
Balkans region**

Questions?



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Thank you for
your attention!