Road safety enforcement benchmarking study

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Background and objectives

This Activity aims to **support improvements in speed enforcement, seatbelts use and other traffic laws in the EaP countries and includes the following:**

- Benchmarking **of EaP countries performance** related to traffic enforcement;
- Identification of the most likely **challenges** in speed and other traffic laws enforcements based on international good practice;
- **exchange of good practices** related to enhancing enforcement;

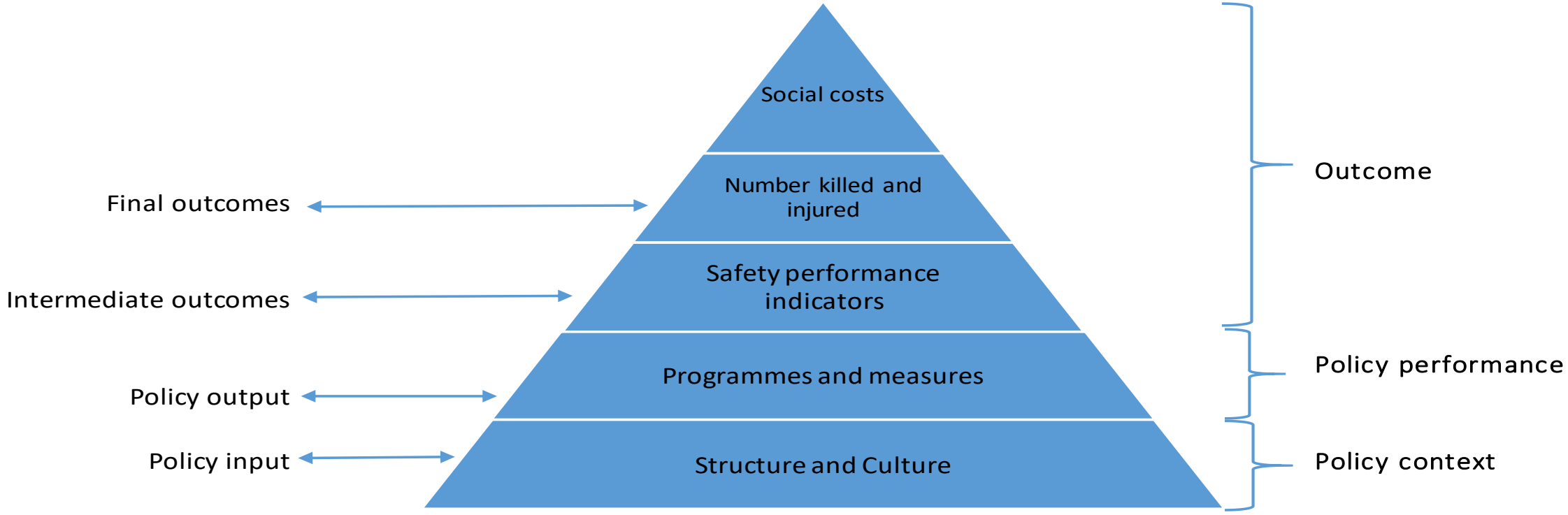
Structure of the presentation

- ✓ Benchmarking enforcement framework and days collection
- ✓ Country Profiles
- ✓ Benchmarking
- ✓ Country ‘diagnosis’ and recommendations

Benchmarking enforcement framework and data collection

Benchmarking framework

✓ A target hierarchy of five levels of results-focused road safety systems



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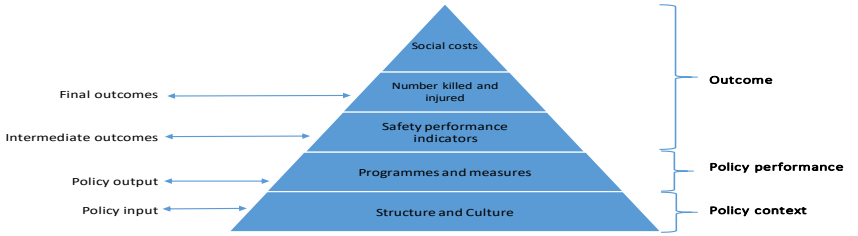
Policy input, output and outcomes



- ✓ **Institutional, strategic and operational framework** (i.e. policy input): results focus of the road safety management system, socio-economic background and road safety attitudes and perceptions.
- ✓ **Legislation, measures and programs** (i.e. policy output)
- ✓ To link the first two layers to the actual road crash outcomes, an intermediate layer contains **key road safety performance indicators** (KPIs) on issues regarding road user behaviour (e.g. speeding, drinking and driving)
- ✓ Final outcomes in terms of **road casualties** are necessary to understand the scale and detailed nature of safety problem.
- ✓ **Social costs** of road crashes / casualties

Results focus in traffic law enforcement

- ✓ Success should not be measured on the basis of the number of violations recorded or the amount of fines collected, but on the basis of the impact of specific enforcement actions on user behaviour and compliance, and eventually **the number of lives saved or will be saved on the basis of specific enforcement targets and relevant actions**.
- ✓ KPIs are crucial to measuring the performance of traffic law enforcement with respect to the specified targets, as **the results are first visible and measurable at the operational level** (behaviour and compliance)

Results focus in traffic law enforcement

✓ Monitoring of indicators of all layers allows to link the implemented enforcement efforts both with their targeted results and their actual impact.

Actions (Policy input)	Results (Policy output)	KPIs (Intermediate outcomes)	Targeted result (Final outcomes)
✓ Development of enforcement programme & action plan ✓ Communication ✓ Surveys on attitudes	✓ Enforcement implementation ✓ Campaigns	✓ Number of actions ✓ Number of controls / violations ✓ Share of traffic law compliance at operational level ✓ Number of campaigns / messages	✓ % road crash fatalities and injuries reduction

Traffic Enforcement Survey in EaP countries

- ✓ The **1st phase** took place on March 2019, through an on-line survey.

- ✓ As there was several missing pieces of information and data from the initial survey, **the 2nd phase, namely a follow-up survey** through standard questionnaire format, took place on April-May 2019.

Survey questionnaires

Part A. Strategic and operational framework (qualitative)

- Coordination, capacity and training, monitoring and evaluation

Part B. Legislation and measures (qualitative)

- Speed limits and speed management measures; BAC limits; Restraint systems; Demerit Point Systems

Part C. KPIs (quantitative)

	2012	2013	2014	2015	2016…
Number of mobile speed enforcement controls					
Number of ASE controls					
Number of speed offenders recorded in mobile controls					
Number of speed offenders recorded in ASE controls					
Amount of funding collected through fines for speeding					
Number of roadside breath tests					
Number of drivers exceeding the BAC limit					
Amount of funding collected through fines for alcohol					

Part (D) road safety outcomes (quantitative)

	2012	2013	2014	2015	2016…
Total number of traffic fatalities					
Total number of fatal crashes					
Number of speeding related fatal crashes					
Number of fatal crashes where at least one driver was above the BAC limit					
Number of driver / passengers not wearing seat-belt in fatal crashes					
Number of driver / passengers not wearing helmet in fatal crashes					

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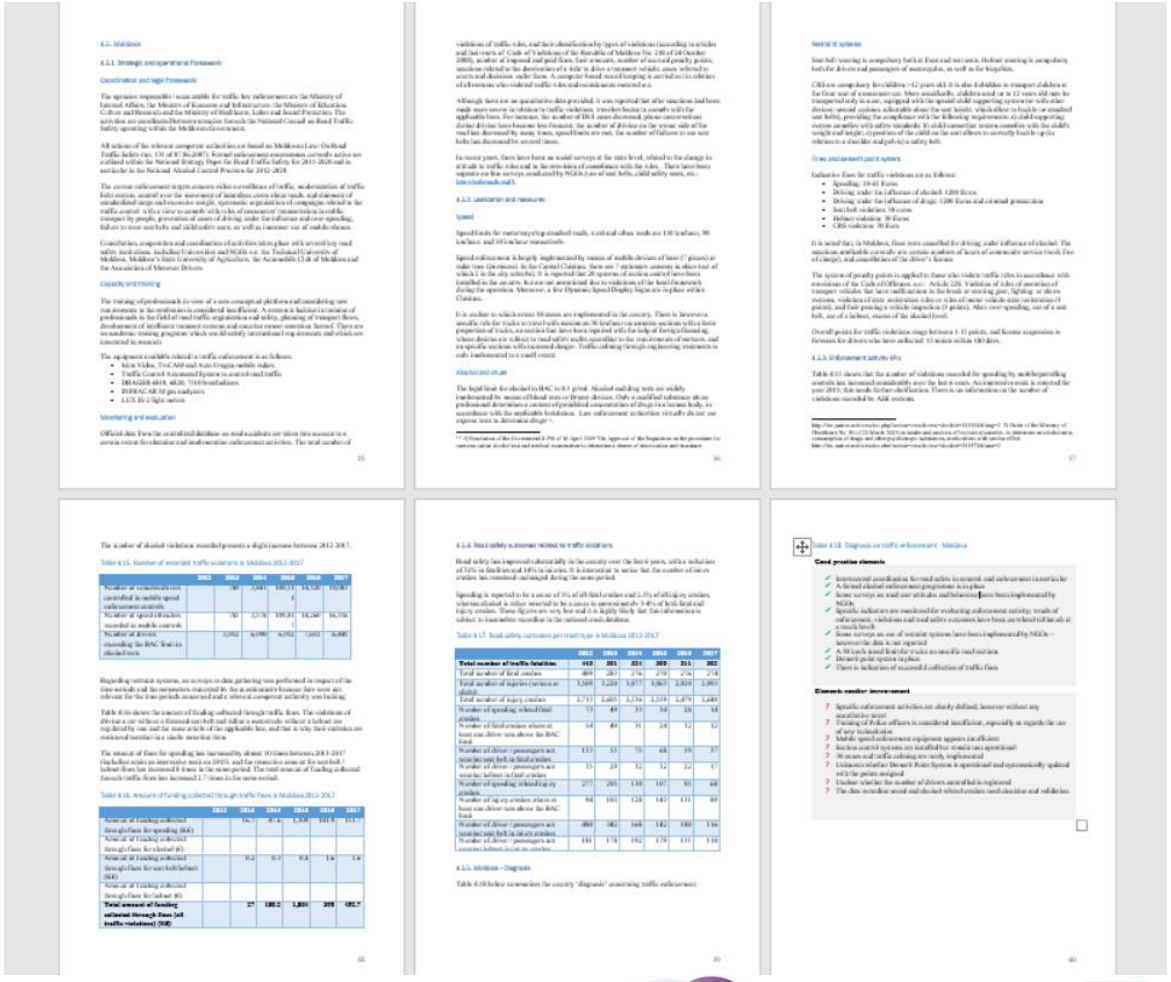
Traffic enforcement country profiles

Structure of traffic enforcement country profiles

- ✓ **Strategic and operational framework**
  - ✓ Coordination and legal framework
  - ✓ Capacity and training
  - ✓ Monitoring and evaluation
- ✓ **Legislation and measures**
  - ✓ Speed
  - ✓ Alcohol and drugs
  - ✓ Restraint systems
  - ✓ Fines and demerit point system
- ✓ **Enforcement activity KPIs**
  - ✓ Number of controls performed and violations recorded
  - ✓ Amount of funding collected through traffic fines
  - ✓ Share of traffic compliance among drivers
- ✓ **Road safety outcomes related to traffic violations**



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Example: Moldova

- ✓ **Strategic and operational framework**
- ✓ Coordination: **National Council on Road Traffic Safety** operating within the Moldovan Government
- ✓ Cooperation and (some) coordination of activities takes place with several key road safety institutions, including **Universities and NGOs** e.g. the Technical University of Moldova, Moldova's State University of Agriculture, the Automobile Club of Moldova and the Association of Motorcar Drivers.
- ✓ Enforcement **capacity and training** reported as insufficient
- ✓ **Equipment**: mobile devices of laser (7 pieces) or radar type (26 pieces), 7 stationary cameras in Chisinau (out of which 2 in the city suburbs). It is reported that 20 systems of section control have been installed in the country, but are not operational
- ✓ Formal enforcement programmes within the **National Strategy Paper for Road Traffic Safety** for 2011-2020 and in particular in the **National Alcohol Control Program** for 2012-2020
- ✓ Data taken into account (to a certain extent) for monitoring / evaluation include: data on road accidents, number of violations of traffic rules, number of imposed and paid fines, number of accrued penalty points and license suspensions.

Example: Moldova

- ✓ **Legislation and measures**
- ✓ **Speed limits**: motorways/top standard roads 110 km/hour, rural roads 90 km/hour, urban roads 50 km/hour.
  - ✓ 30-zones and traffic calming only implemented to a small extent.
  - ✓ A 30 km/h speed limit for trucks on specific road sections
- ✓ Legal limit for alcohol in **BAC** is 0.3 gr/ml. Alcohol and drug tests are widely implemented by means of blood tests or Drager devices
- ✓ All **restraint and protection systems** are compulsory: seat belt use (front and rear seata), helmet, Child Restraint Systems
- ✓ Instead of fines for driving under influence of alcohol, the sanctions are hours of community service and cancellation of the driver's license.
- ✓ **Demerit Point System** for traffic and transport rules violations (e.g. vehicle registration and maintenance)

Example: Moldova

✓ **KPIs on traffic enforcement: Number of violations per type**

	2012	2013	2014	2015	2016	2017
Number of vehicles/drivers controlled in mobile speed enforcement controls		789	3,881	109,111	14,320	19,003
Number of speed offenders recorded in mobile controls		785	3,578	109,017	14,260	16,316
Number of drivers exceeding the BAC limit in alcohol tests		5,952	6,990	6,952	7,612	6,445

- ✓ the number of violations recorded for speeding by mobile/patrolling controls has increased considerably over the last 6 years
- ✓ Impressive peak for year 2015; this needs further clarification.
- ✓ No information on violations recorded by ASE systems.

Example: Moldova

✓ **KPIs on traffic enforcement: Amount of funding collected through fines**

	2012	2013	2014	2015	2016	2017
Fines for speeding (K€)		16.7	47.6	1,309	141.9	151.7
Fines for alcohol (K€)						
Fines for seat belt/helmet (K€)		0.2	0.3	0.8	1.6	1.6
Fines for helmet (K€)						
Total amount of fines (all traffic violations) (K€)		27	180.2	1,864	390	492.7

- ✓ The amount of fines for speeding has increased by almost 10 times between 2013-2017 (including again an impressive peak on 2015)
- ✓ Seat belt / helmet fines collected increased 8 times in the same period.
- ✓ The total amount of funding collected increased 2.7 times in the same period.

Example: Moldova

- ✓ **Road safety outcomes**
  - ✓ Reduction of 32% in fatalities and 14% in injuries.
  - ✓ The number of injury crashes has remained unchanged.
  - ✓ Speeding is reported to be a cause of 5% of all fatal crashes and 2.5% of all injury crashes
  - ✓ Alcohol is reported to be a cause in approximately 3-4% of both fatal and injury crashes.
  - ✓ Very low shares, possibly due to incomplete data recording?

	2012	2013	2014	2015	2016	2017
Total number of traffic fatalities	445	301	324	300	311	302
Total number of fatal crashes	409	283	276	270	276	274
Total number of injuries (serious or slight)	3,509	3,220	3,077	3,063	2,929	2,993
Total number of injury crashes	2,713	2,605	2,536	2,559	2,479	2,640
Number of speeding related fatal crashes	73	49	33	34	28	14
Number of fatal crashes where at least one driver was above the BAC limit	54	40	31	24	32	12
Number of driver / passengers not wearing seat-belt in fatal crashes	133	55	75	68	59	37
Number of driver / passengers not wearing helmet in fatal crashes	35	29	32	32	22	17
Number of speeding related injury crashes	277	295	130	107	95	68
Number of injury crashes where at least one driver was above the BAC limit	94	103	128	143	131	89
Number of driver / passengers not wearing seat-belt in injury crashes	480	342	168	142	180	116
Number of driver / passengers not wearing helmet in injury crashes	181	178	192	179	131	110

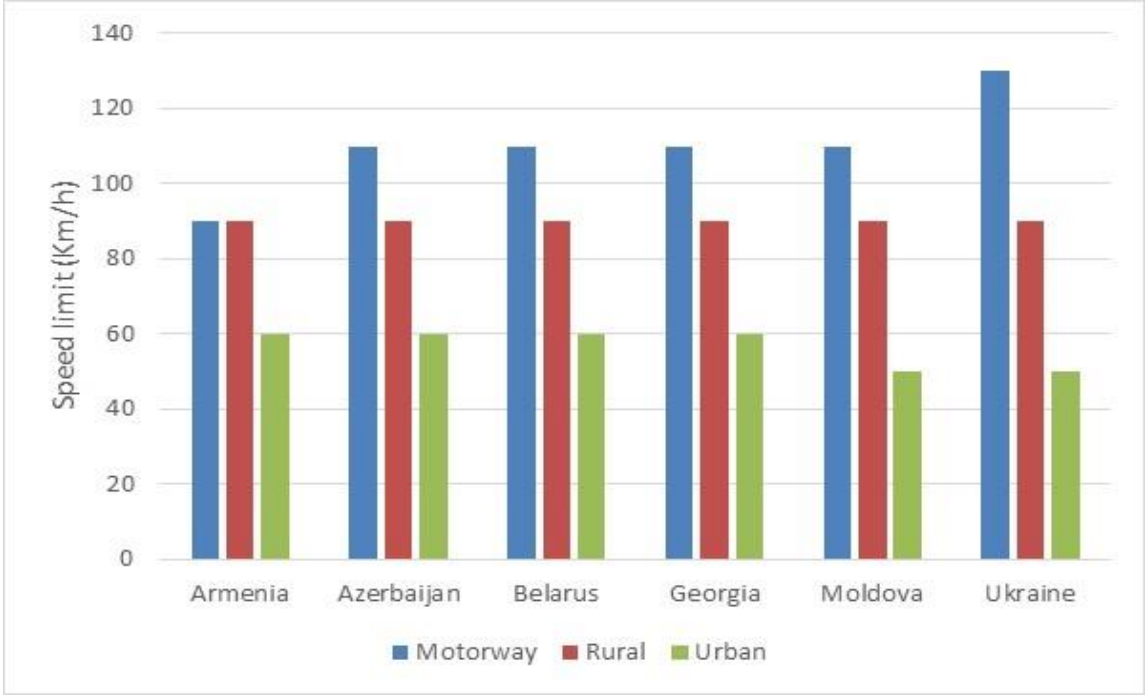
Benchmarking on traffic enforcement

Scope and limitations

- ✓ Due to data availability and quality limitations, the purpose of this exercise is primarily to highlight **the usefulness of and the potential for benchmarking on traffic enforcement** on the basis of existing data, the gaps in information and data and the areas for further data collection efforts.
- ✓ Several data elements reported need further checking and validation
- ✓ The comparisons are based on minimum common data elements available in the countries, and these may not always reflect the complete picture; it is strongly recommended to **consult the individual traffic enforcement country profiles** for more detailed information.

Speeding - Legislation and measures (1/3)

- ✓ **Speed limits**
- ✓ On motorways / top standard rural roads ranges between 90 km/h (Armenia) to 130 km/h (Ukraine), while other countries use 110 km/h.
  - ✓ Depends on the presence of standard motorways in the countries.
- ✓ In all countries, speed limits for other interurban roads are 90 Km/h.
- ✓ In urban areas typically 60 km/h, with the exceptions of Moldova and Ukraine who use 50 km/h.



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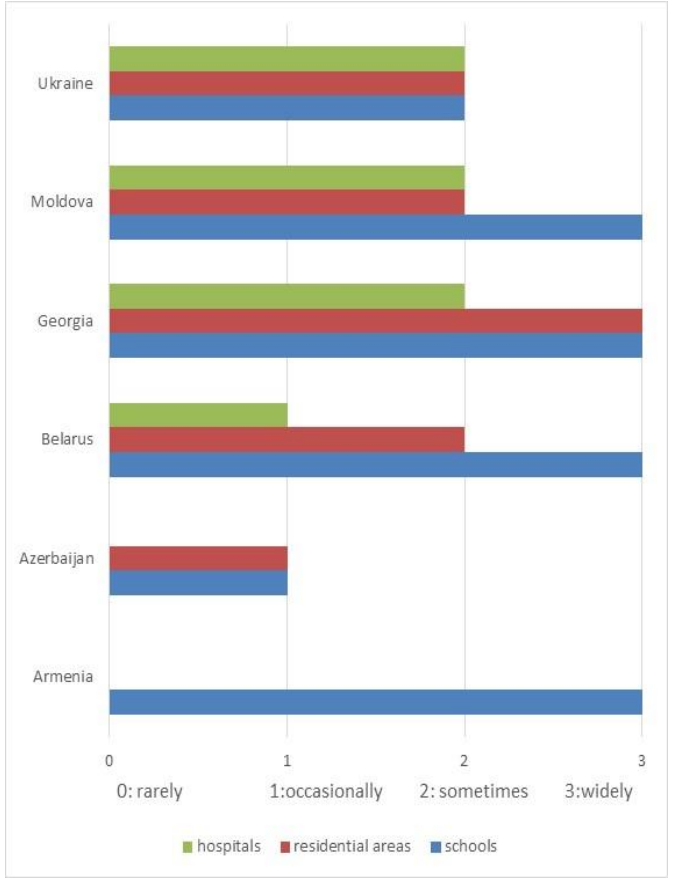
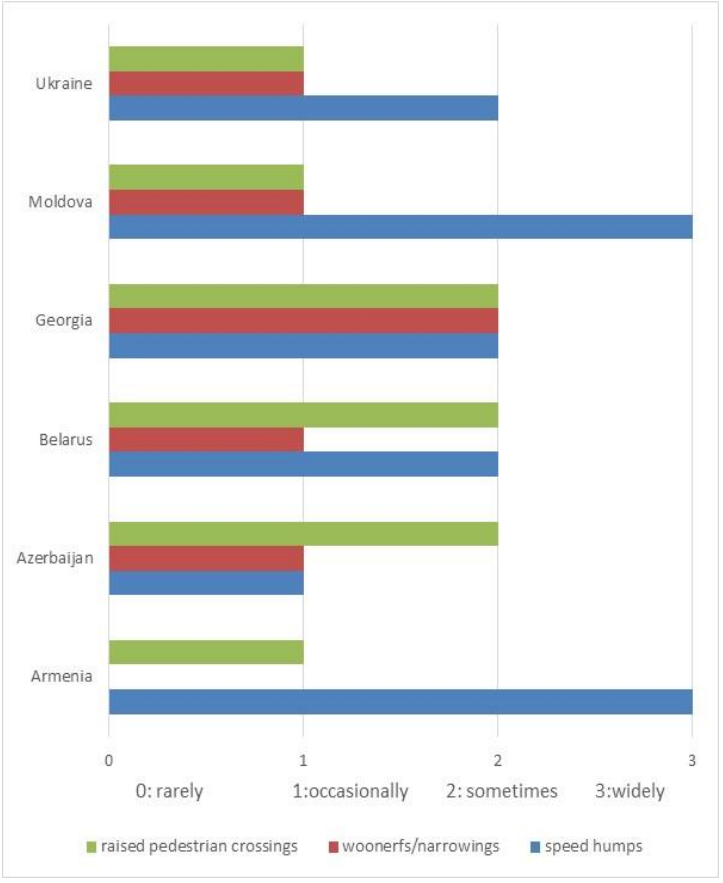
Speeding - Legislation and measures (2/3)

- ✓ **30-zones & traffic calming – engineering treatments**
- ✓ Speed limits are widely set at 30 km/h or lower are school areas, followed by residential areas.
- ✓ Azerbaijan is the only country reporting only scarse use of 30-zones in the country.
- ✓ Speed humps are widely implemented in Armenia and Moldova, and sometimes implemented in Ukraine and Georgia.
- ✓ Raised pedestrian crossings are implemented to some extent in Belarus, Georgia and Azerbaijan.





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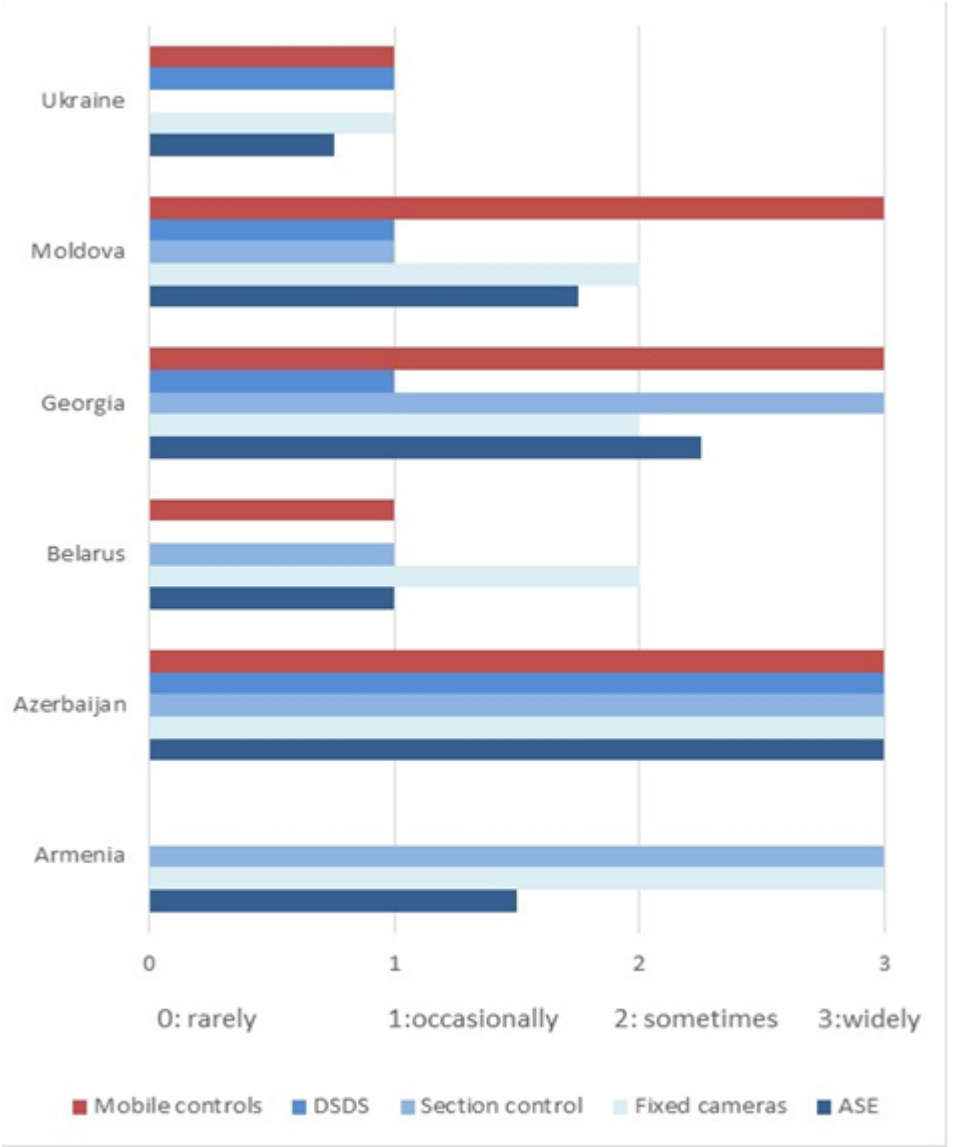
Speeding – Legislation and measures (3/3)

- ✓ **Types of speed enforcement**
- ✓ Mobile controls are widely implemented in Azerbaijan, Moldova and Georgia.
- ✓ ASE systems are overall more widespread in Azerbaijan and Georgia, followed by Armenia and Moldova.
- ✓ The most common ASE system in all countries is fixed cameras.
- ✓ Section control is reported to be widely implemented in Armenia, Azerbaijan and Georgia.
- ✓ DSDS are only scarcely implemented in the vast majority of countries.
- ✓ In total, enforcement activity are reported to be most widely implemented in Azerbaijan, and less widely implemented in Ukraine.



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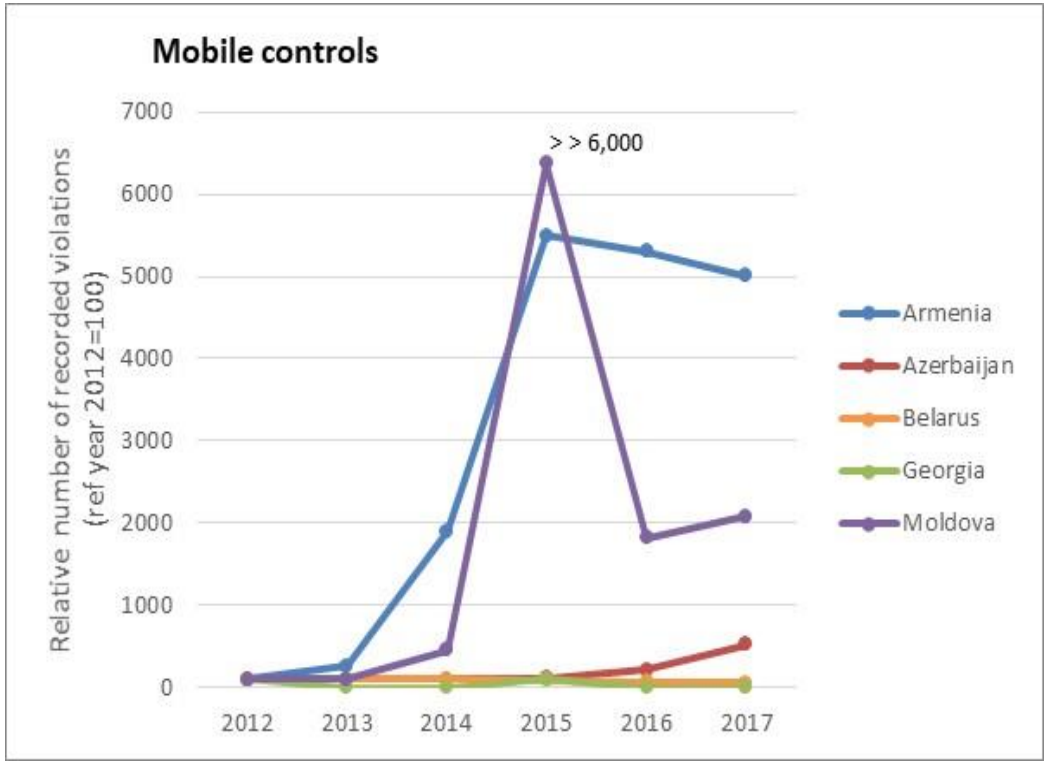
Speeding - Enforcement KPIs (1/3)

- ✓ **Relative number of speed violations 2012-2017 (reference year 2012=100) – Mobile controls**
- ✓ Impressive increase in Armenia and Moldova, suggesting intensification of enforcement during that period.
  - ✓ In both countries, a slight decline in the last couple of years: loosening of enforcement controls, or an actual change of behaviour of drivers?
- ✓ In Azerbaijan there is also an increasing trend.
- ✓ The number of recorded offenses in Georgia appears to fluctuate, with no clear increasing trend.
- ✓ In Belarus, speeding violations recorded in mobile controls have declined during the examined period.



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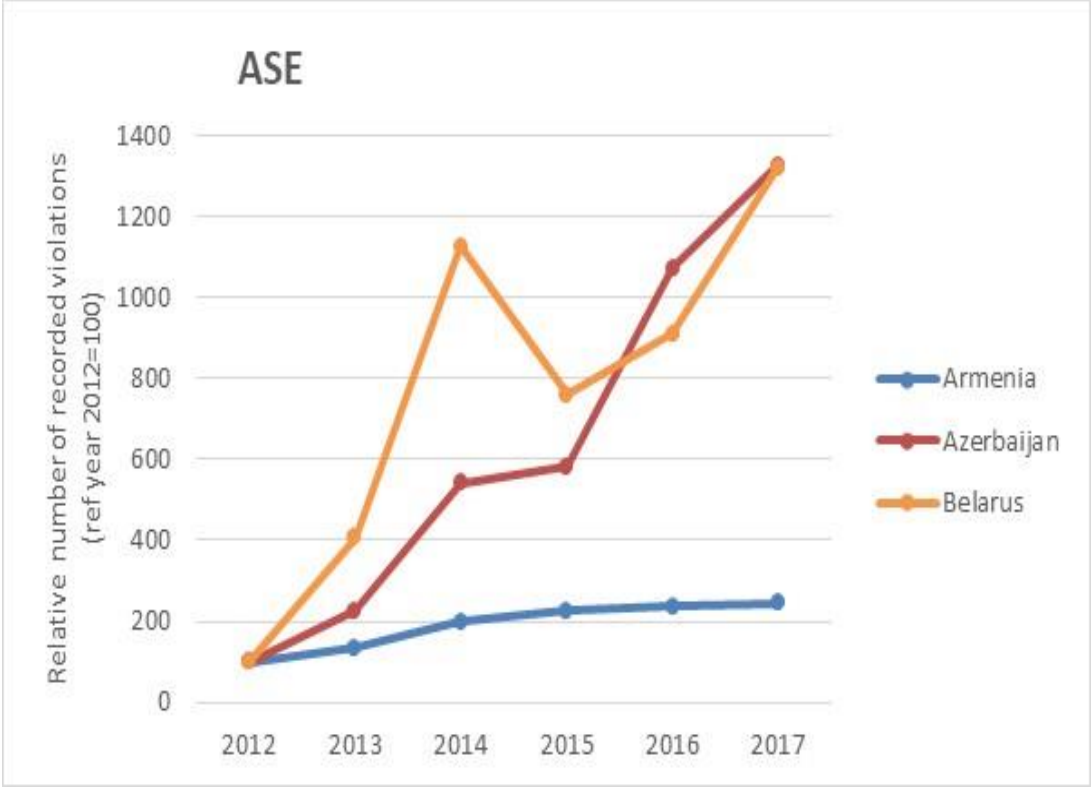
Speeding - Enforcement KPIs (2/3)

- ✓ **Relative number of speed violations 2012-2017 (reference year 2012=100) – ASE**

- ✓ In Belarus and Azerbaijan there have been huge increases in the number of speed violations recorded through ASE;
  - ✓ suggests a shift from 'traditional' patrolling to ASE systems in the examined period.

- ✓ Mildly increasing trend of violations recorded in Armenia, in accordance to the trend of mobile controls violations
  - ✓ suggests intensification of all types of enforcement in the country.



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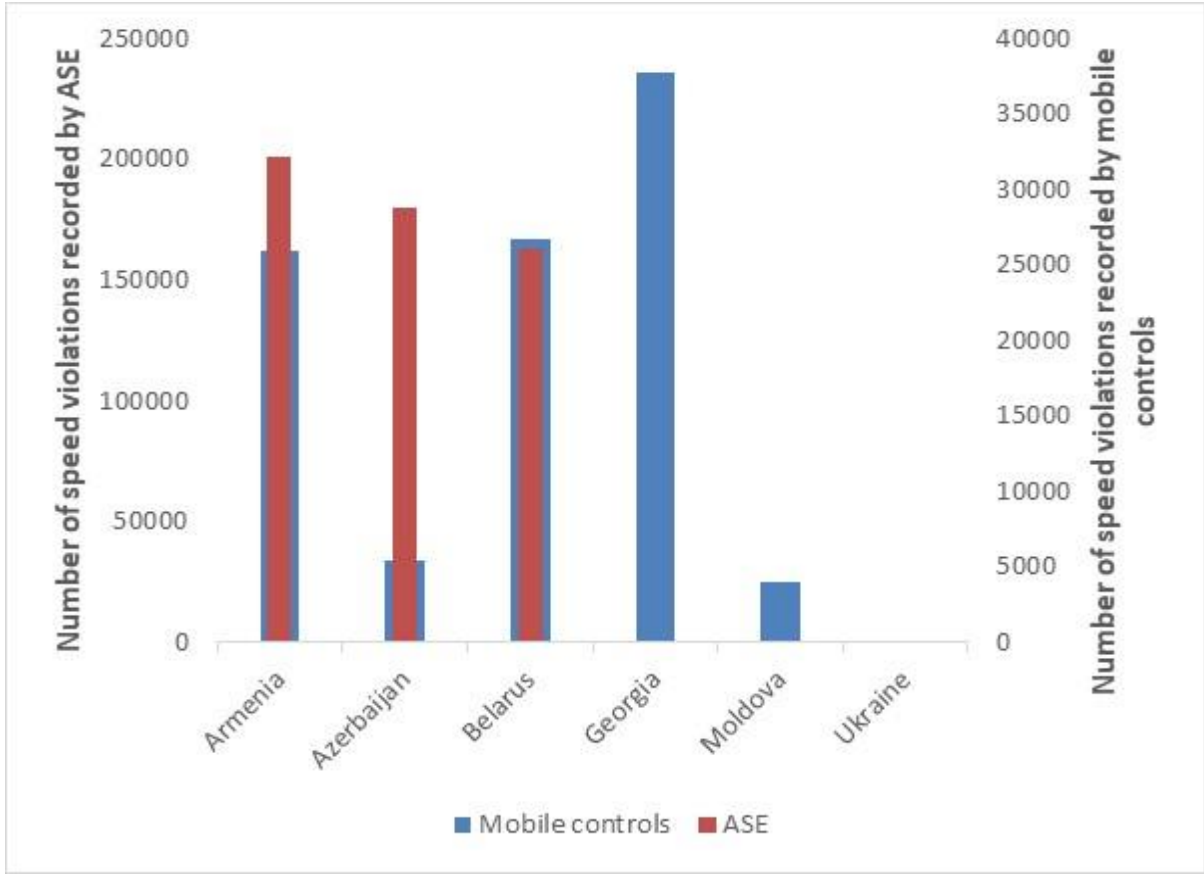
Speeding - Enforcement KPIs (3/3)

- ✓ **Number of speed offenders recorded per million inhabitants, 2017**
- ✓ Mobile controls (right axis) and ASE (left axis)
- ✓ The highest number is observed in Armenia and Belarus (both mobile controls and ASE) followed by Georgia (mobile controls only).
- ✓ Azerbaijan and Moldova have a much lower number of violations per population (mobile controls only).
  - ✓ Reflect actual lower violation rates? Or simply lower intensity of enforcement activity?



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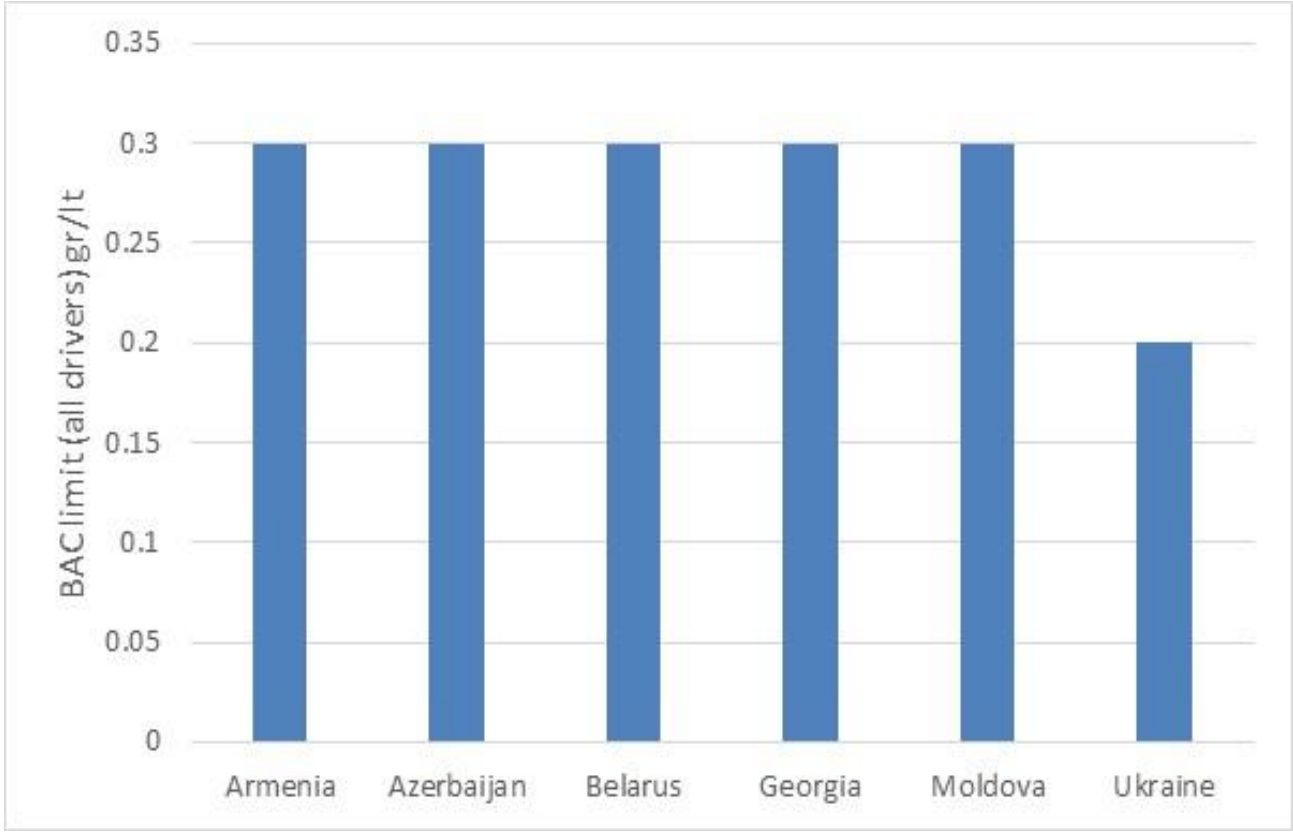
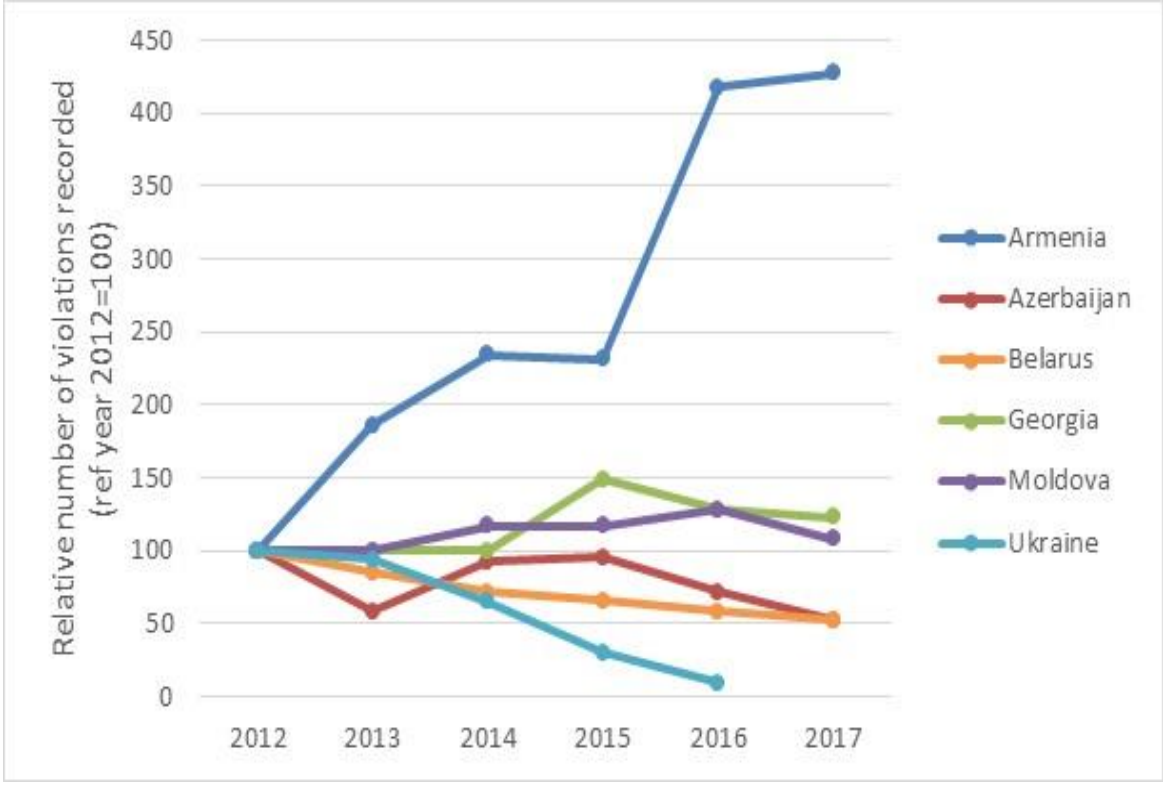
Alcohol - Legislation and measures

- ✓ **BAC limits**
- ✓ All countries have BAC limit of 0.3 gr/lt except for Ukraine that has 0.2.
- ✓ None of the countries has special limits for professional drivers, novice drivers etc.



Alcohol - Enforcement KPIs (1/2)

- ✓ **Relative number of alcohol violations 2012-2017 (reference year 2012=100)**
- ✓ Impressive increase n Armenia, suggesting an intensification of alcohol enforcement during that period.
- ✓ In Azerbaijan, Georgia and Moldova, after an increase during the first years, there is a decrease in the last couple of years.
- ✓ Ukraine and Belarus shows a constantly decreasing trend in the number of recorded alcohol violations.
- ✓ *Are declines due to loosening of enforcement controls, or to actual change of behaviour of drivers?*



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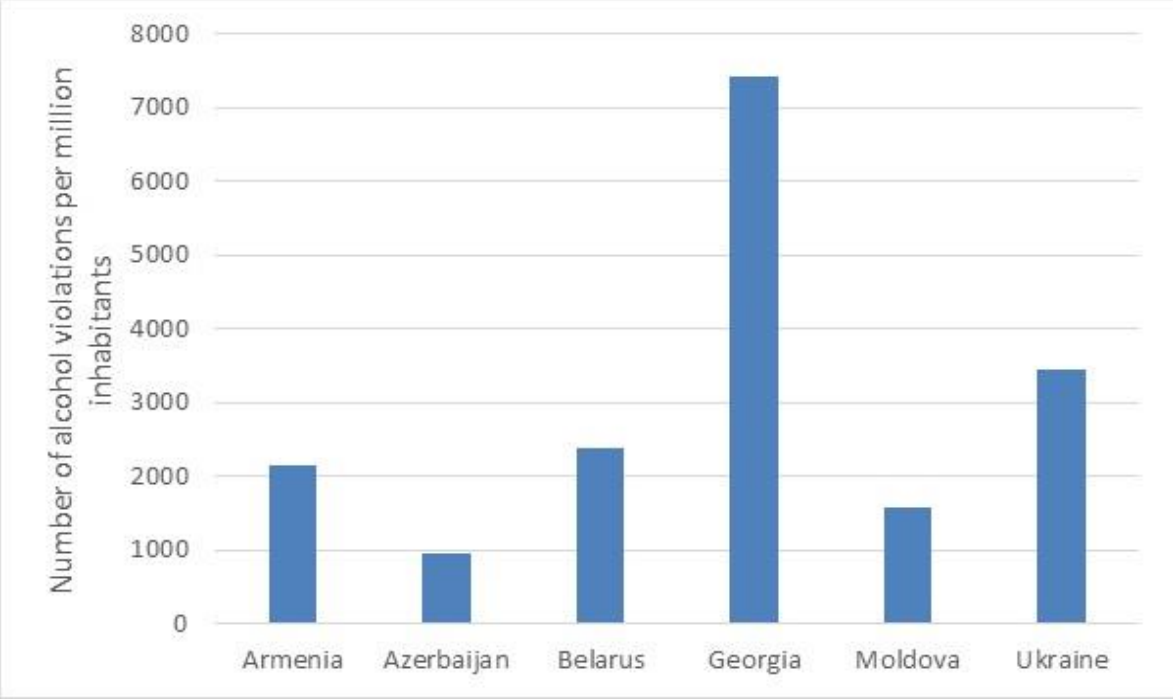
Alcohol - Enforcement KPIs (2/2)

- ✓ **Number of alcohol offenders recorded per million inhabitants, 2017**
- ✓ The highest rate of alcohol offenders per population is observed in Georgia, followed by Ukraine.



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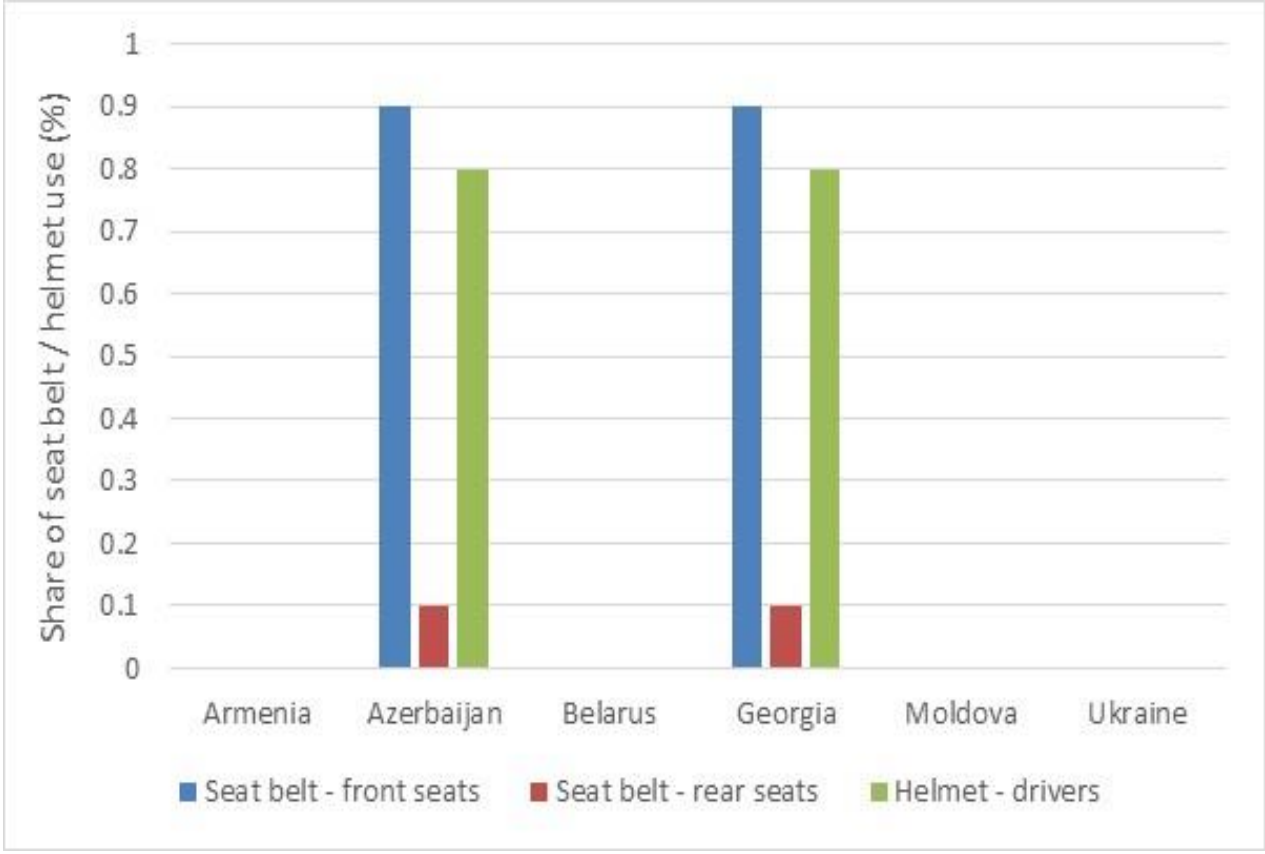
Restraint systems - Legislation and measures

✓ Seat belt and helmet laws (compulsory use)

	Seat Belt front seats	Seat Belt rear seats	Helmet motorcycle drivers	Helmet bicyclists	Child Restraint Systems (CRS)
Armenia	✓	✓	✓	✗	✗
Azerbaijan	✓	✓	✓	✓	✓
Belarus	✓	?	✓	✗	✓
Georgia	✓	✗	✓	✗	?
Moldova	✓	✓	✓	✓	✓
Ukraine	✓	✓	✓	✗	✓

Restraint systems - KPIs

- ✓ **Share of drivers using seat belts / helmets 2017**
- ✓ Only Azerbaijan and Georgia reported this information, which is available through recent roadside surveys typically organised by NGOs or Universities.
- ✓ Both countries reported “equal” rates for all types of protective systems.
- ✓ In Georgia some of the information is available for different road types
  - ✓ e.g. seat belt and helmet wearing are increased on top standard national roads (please see country profile for details).



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Country ‘diagnosis’ & recommendations

Armenia

Good practice elements

- ✓ Presence of National Strategy and Action Plan for road safety
- ✓ Enforcement activity taking into account road crash trends and statistics (although in a non-systematic way)
- ✓ Extensive ASE scheme in place, including fixed cameras and section control, both in interurban and urban areas
- ✓ Extensive traffic calming and 30-zones in urban areas
- ✓ Important intensification of traffic enforcement, huge increases in the number of traffic violations recorded for key offenses (speeding and alcohol)
- ✓ Use of the 30-days definition of traffic fatality

Elements needing improvement

- ? No systematic coordination on traffic enforcement
- ? No formal enforcement programmes, no specific targets and monitoring/evaluation procedures
- ? Little or no dedicated training programmes for Police Officers
- ? Lack of Demerit Point System for traffic offenses
- ? Lack of data on the number of drivers controlled per type of violation.
- ? Lack of data on the amount collected from traffic fines
- ? The figures reported for road safety outcomes (fatalities, injuries, crashes) need to be cross-checked and confirmed.
- ? Lack of data on alcohol-impaired drivers involved in traffic crashes.

Azerbaijan

Good practice elements

- ✓ A shared responsibility on enforcement between national and municipal authorities, clearly assigned coordinator.
- ✓ A formal enforcement programme with six-months action plans
- ✓ Systematic coordination of enforcement with road safety campaigns and other awareness raising actions.
- ✓ Systematic training programmes for Police Officers
- ✓ Planning of enforcement activity based on monitoring of road crashes and traffic violations recorded
- ✓ Extensive ASE in place, both in interurban and urban roads; DSDS also in place.
- ✓ Demerit Point System in place
- ✓ Data available on seatbelt and helmet wearing rates
- ✓ Road safety outcomes (fatalities and injuries) due to violations are available – but their quality is unknown

Elements needing improvement

- ? Limited implementation of 30-zones and engineering traffic calming schemes
- ? Unknown whether the Demerit Point System is systematically updated.
- ? Lack of data on the number of drivers controlled per type of traffic violation
- ? The amount of funding collected from speeding fines is not in accordance with the large increase in violations recorded
- ? Data on the amount of funding collected through traffic fines need cross-checking
- ? Road safety outcomes (fatalities, injuries, crashes) involving traffic violations need to be cross-checked.
- ? The 30-days definition of fatality is not adopted in the country

Belarus

Good practice elements

- ✓ Road safety programmes dedicated to traffic law enforcement within the country's road safety strategy.
- ✓ Systematic cooperation with NGOs and user associations for awareness raising and campaigns.
- ✓ An evaluation framework of road safety and programmes with specific indicators
- ✓ A tendency (to be confirmed) to shift from mobile/patrolling to ASE systems for speeding
- ✓ Traffic calming and 30-zones implemented to a fair extent
- ✓ The country adopts the 30-days definition of traffic fatality

Elements needing improvement

- ? Unclear to what extent and by which data the evaluation of enforcement programmes takes place
- ? No Demerit Point System in Place
- ? Lack of data on the share of seat belt / helmet wearing in the country
- ? Lack of detailed information about ASE systems in place
- ? Lack of data on the amount of funding collected through traffic fines
- ? Lack of data on the number of drivers controlled in traffic enforcement per type of violation
- ? Road crashes and casualties data need to be checked for completeness.

Georgia

Good practice elements

- ✓ Inter-sectoral coordination for road safety (including vertical coordination i.e. from national to local authorities)
- ✓ Road safety Action plan with specific monitoring indicators
- ✓ Dedicated training of Police Officers, and periodic retraining
- ✓ Complete equipment of patrolling units for enforcing all key violations
- ✓ Extensive ASE scheme, including section control
- ✓ 30-zones extensively implemented around schools and in residential areas
- ✓ Regular enforcement of key drugs (to be confirmed)
- ✓ Demerit Point System in place
- ✓ Data available on seatbelt and helmet wearing rates
- ✓ There is indication of effective collection of traffic fines

Elements needing improvement

- ? Lack of targets and monitoring/evaluation procedures dedicated to traffic law enforcement activity
- ? Seat belt use not compulsory for rear seats
- ? CRS legislation is unclear
- ? Lack of data on the number of drivers controlled for key traffic offenses
- ? Registration of traffic offences appears to be incomplete
- ? The 30-days definition of fatality is not implemented in Georgia.

Moldova

Good practice elements

- ✓ Intersectoral coordination for road safety in general, and enforcement in particular
- ✓ A formal alcohol enforcement programme in place
- ✓ Some surveys on road user attitudes and behaviour have been implemented by NGOs
- ✓ Specific indicators are monitored for evaluating enforcement activity; trends of enforcement, violations and road safety outcomes have been correlated (although at a rough level)
- ✓ A 30 km/h speed limit for trucks on specific road sections
- ✓ Demerit point system in place
- ✓ Successful collection of traffic fines

Elements needing improvement

- ? Specific enforcement activities are defined, however without any quantitative target
- ? Training of Police officers is considered insufficient, especially as regards the use of new technologies
- ? Mobile speed enforcement equipment appears insufficient
- ? Section control systems are installed but remain non operational
- ? 30-zones and traffic calming are rarely implemented
- ? Unknown whether Demerit Point System is systematically updated
- ? Unclear whether the number of drivers controlled is registered
- ? Data regarding speed and alcohol-related crashes need checking and validation

Ukraine

Good practice elements

- ✓ Road safety strategy and action plan currently active, including enforcement actions
- ✓ A multi-sectoral working group assigned to implement (and assess) road safety awareness campaigns
- ✓ Dedicated and on-going training for Police officers
- ✓ Road safety is monitored by the Police on the basis of specific indicators
- ✓ 30-zones (20-zones) are legally foreseen for residential and pedestrian areas
- ✓ Low BAC limit
- ✓ Accurate recording of seat belt / helmet violations and relevant amount of funding collected through fines

Elements needing improvement

- ? Low density of ASE systems (speed cameras).
- ? Traffic calming engineering measures are rarely implemented
- ? Demerit Point System in place but not operational
- ? Lack of accurate and complete data on the number of drivers controlled and the violations recorded for basic violations (speed, alcohol)
- ? Lack of sufficient data on the amount collected from traffic fines for basic violations (speed, alcohol)
- ? Lack of detailed time series data on crashes, injuries and fatalities per type of violation involved

Common challenges on enforcement

- ✓ **Formal enforcement programmes** are rarely in place, specific quantitative targets for enforcement activity were not reported.
- ✓ Enforcement activity at the operational level is **monitored to limited extent**, mostly in relation to general road safety trends; no formal evaluation procedures are in place.
- ✓ **The equipment available for enforcement** varies largely between countries; while in some countries there is recently clear focus on installing ASE systems, in other countries mobile controls through standard Police patrolling remains the main type of enforcement.
- ✓ It is recommended that countries **strengthen their efforts on both mobile and fixed means** of enforcement, as these serve different purposes.
- ✓ **Legislation in the EaP region** is generally less rigid compared to other European countries.
  - ✓ Speed limits in urban areas mostly 60 Km/h, while the internationally <50 km/h
  - ✓ 30-zones and traffic calming are implemented to a limited extent.
  - ✓ BAC limits are less strict, without specific limits for certain groups e.g. professional drivers, novice drivers etc.
  - ✓ Seat belt use laws for rear seats, as well as Child Restraint Systems laws should be adopted.

Data challenges

- ✓ Azerbaijan, Georgia and Moldova provided more complete data than the other countries
- ✓ **Several useful KPI data elements are not available** (number of drivers controlled, seat belt & helmet wearing rates)
  - ✓ Not possible to calculate violation rates (violations / controls)
  - ✓ Not possible to link enforcement effort with intermediate outcomes (behaviour)
- ✓ **Road safety outcomes** are not comparable between countries
  - ✓ **30 days definition**
  - ✓ Speeding is often **over-represented** as a crash causation factor in national crash data
  - ✓ Seat belt / helmet wearing and BAC test results of crash victims are known to be very **incompletely registered** in national crash data.
  - ✓ *When such biases are involved in crash data elements, it is still possible that **the annual development at national level** can be correctly interpreted - hence the importance of systematically collecting the data.*

Thank you for your attention!