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WG2 – General trends and country examples

Minsk, October 17th, 2018

Structure of the presentation

- ✓ Enforcement objectives and effectiveness conditions
- ✓ Recent trends and country testimonials on enforcement in the EU
- ✓ Analysis of detailed examples
  - Greece: speed and alcohol enforcement
  - Austria: ASE ‘section control’

Background

- ✓ As part of road safety cooperation between EaP countries in road safety Working Group 2 on Speed Management and Traffic Enforcement, the WB aims to support improvements in speed enforcement, seatbelts use and other traffic laws, and eventually contribute to sustainable reduction in number of traffic fatalities in these countries, by means of:
  - developing comparison of EaP countries performance in traffic enforcement;
  - identifying most likely challenges in speed and other traffic laws enforcements based on international good practice;
  - exchange of international good practices in improving enforcement;
  - developing relevant projects for international financing, which should contribute to improvements,

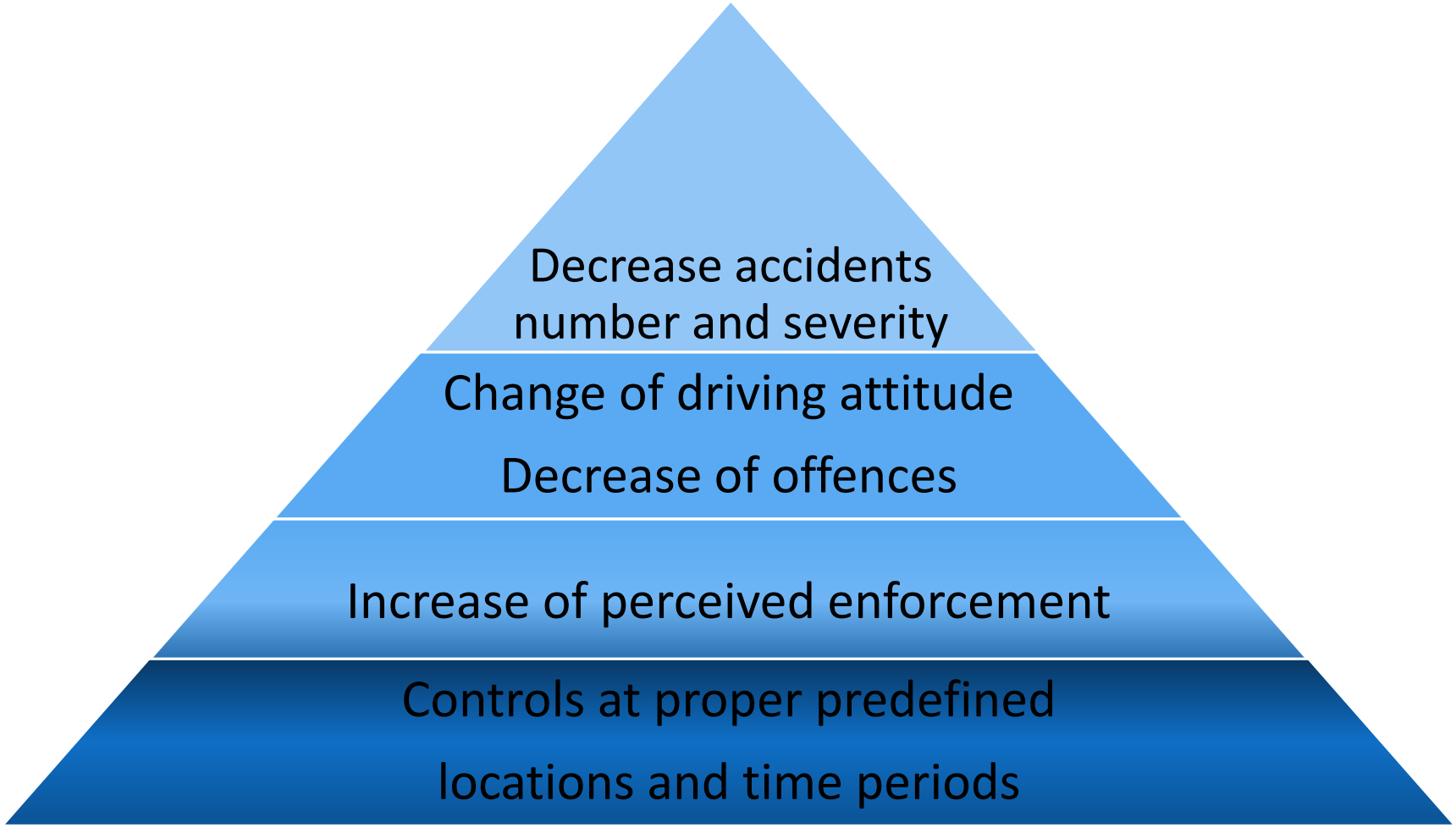
Objectives

- ✓ To present the recent general trends in enforcement in the EU
  - Speed, alcohol and seat belt
  - Country examples and recent testimonials

- ✓ To present two EU countries detailed case studies on earlier efforts in implementing effective enforcement measures
  - Greece: intensification of mobile controls
  - Austria: ASE / section control

Enforcement objectives and effectiveness conditions

Road Safety Enforcement Programmes Objectives



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Enforcement effectiveness conditions

- ✓ Accompanied by sufficient publicity;
- ✓ Take place regularly over a long period;
- ✓ Unpredictable and difficult to avoid; combine highly visible and less visible activities;
- ✓ Focus on traffic offences that have a direct, proven relationship with collisions or their severity (e.g. speeding, drink and drug driving, failure to wear a seat belt, red-light running, close following, mobile phone use…);
- ✓ Take place at locations and at times where violations are expected to have the most effect on safety;
- ✓ Followed by a sanction that is effective, proportionate and dissuasive (e.g. financial penalty, penalty points, retraining course, alcohol interlock-based drink driver rehabilitation programmes).

Recent trends and testimonials

International experience

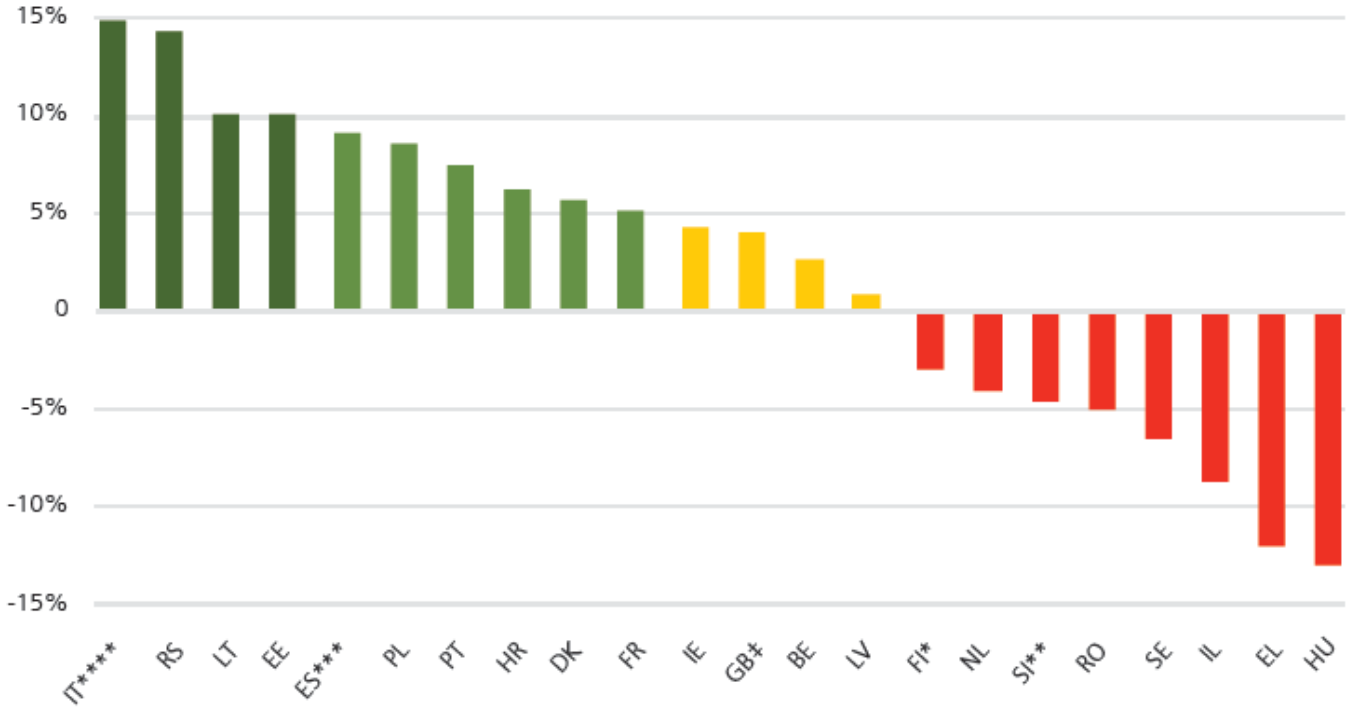
- ✓ Cost-benefit analysis results for road safety enforcement in different countries are very satisfactory for all types of enforcement schemes

Enforcement scheme	Country	B/C ratio range	
Concentrated general enforcement	Israel	3,5	5,0
Tripling stationary speed enforcement	Norway	6,5	
Tripling alcohol and seat belt enforcement	Norway	1,2	3,6
Increasing alcohol controls	Sweden and Norway	1,5	
Increasing speed controls	Sweden and Norway	2,0	8,8
Section automatic speed control on motorways	Austria	5,5	
Red light violations enforcement cameras	Scotland	2,2	
Red light violations enforcement cameras	Sweden	1,7	
Alcohol enforcement + publicity campaign	New Zealand	7,0	
Increased road safety enforcement + publicity campaign	Australia	3,9	7,9
Risky driving enforcement + publicity campaign	Switzerland	20,0	

- ✓ Source: ROSEBUD European project (2005)

Recent trends on speed enforcement

- ✓ Annual change in the number of speeding tickets 2010-2015
- ✓ An overall increase in speed offences detected throughout the EU, mainly due to the extension of safety camera networks in Central and Eastern European countries.
- ✓ Speeding tickets went up in 14 countries, while 8 registered a decrease.
- ✓ Countries where the numbers of speeding tickets have increased have achieved better-than-average reductions in road deaths
- ✓ Source: ETSC (2016)



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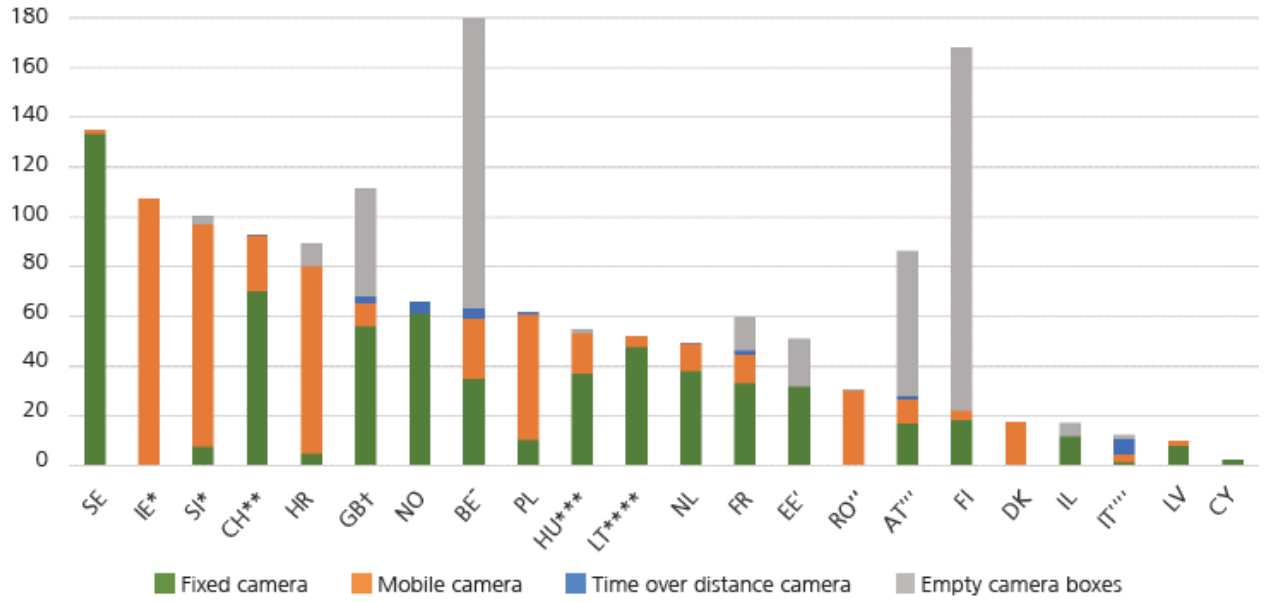
Speed cameras in Europe

- ✓ Number of safety cameras per million inhabitants in 2015, ranked by the number of fixed, mobile and section control (time-over-distance) cameras taken together



Source: ETSC (2016)

- ✓ The use of cameras to enforce speed limits is difficult to compare across countries because there is no standard specification for them
- ✓ Some countries (e.g. Sweden) have a high density of cameras but the times of operation are low. Other countries may have fewer cameras but operate them for longer periods.

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Testimonials on recent developments - Speed enforcement

Estonia

- ✓ Between 2010 and 2015, the number of speeding tickets has grown by 57%. Over the last six years the number of roadside police speed checks remained stable, but the number of tickets has increased following an extension of the safety camera network. The camera system is still young: the first one was installed in 2010, and 67 safety cameras are currently in place. The plan is to gradually extend the network each year until 2019

Spain

- ✓ 104 new safety cameras have been deployed between 2010 and 2015: 59 mobile, 29 fixed and 16 time-over-distance systems. As a result, 91% of all speed offences were detected automatically in 2015. The number of speeding offences followed up improved: 76% of speeding offenders, detected automatically and by the police, received a ticket in Spain in 2015, compared to 64% in 2009.
- ✓ Source: ETSC (2016)

Testimonials on recent developments - Speed enforcement

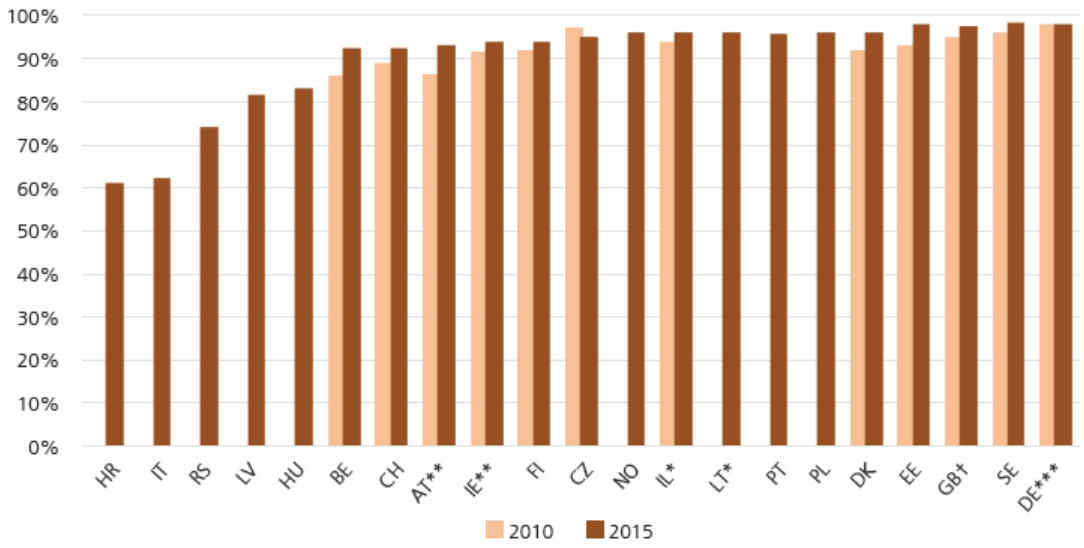
Ireland

- ✓ In 2010, the Irish police launched a mobile safety camera scheme and identified a large number of road sections with a history of collisions where speed was a contributing factor. Currently 1031 sections of road are identified as speed enforcement zones with safety cameras housed in marked vans. The vans are driven by a private company but the tickets are processed by the police. The contractor operating the cameras has to provide at least 6000 hours of speed enforcement each month (so the target is not the number of violations).
- ✓ A recent study revealed that the benefits of safety camera outweighed the costs by more than five to one, generating a benefit to Irish society of over 70 million Euro each year, with almost 92% being delivered in the form of reduced collision levels. However, the operational costs of running safety cameras in Ireland (16 million Euro a year) are more than double the fine income they generate (6.9 million Euro a year).

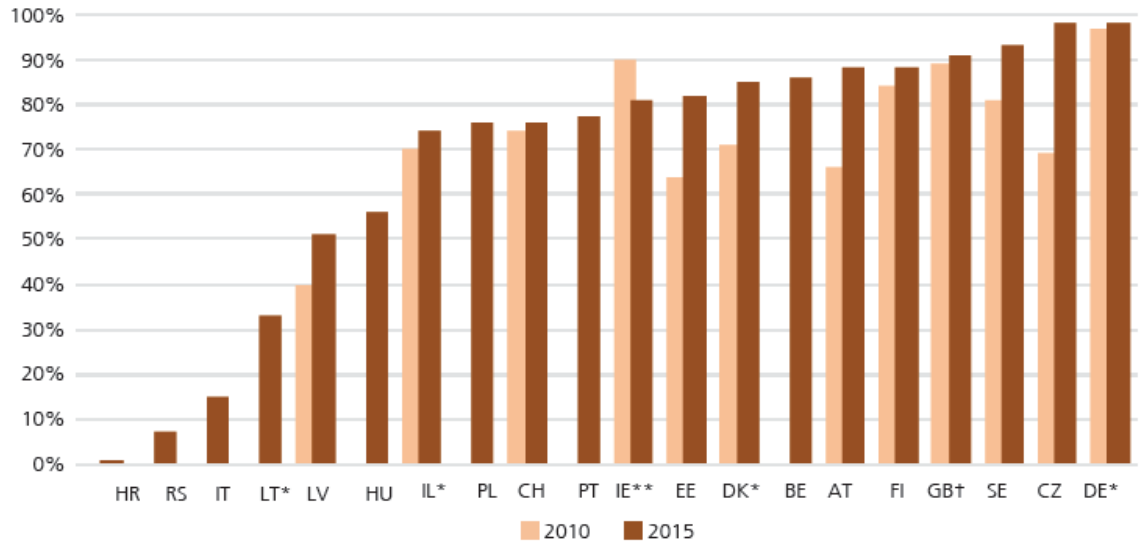
Source: ETSC (2016)

Recent trends in seatbelt wearing

- ✓ Passenger cars and vans passengers, 2010-2015
- ✓ Front seats



Rear seats



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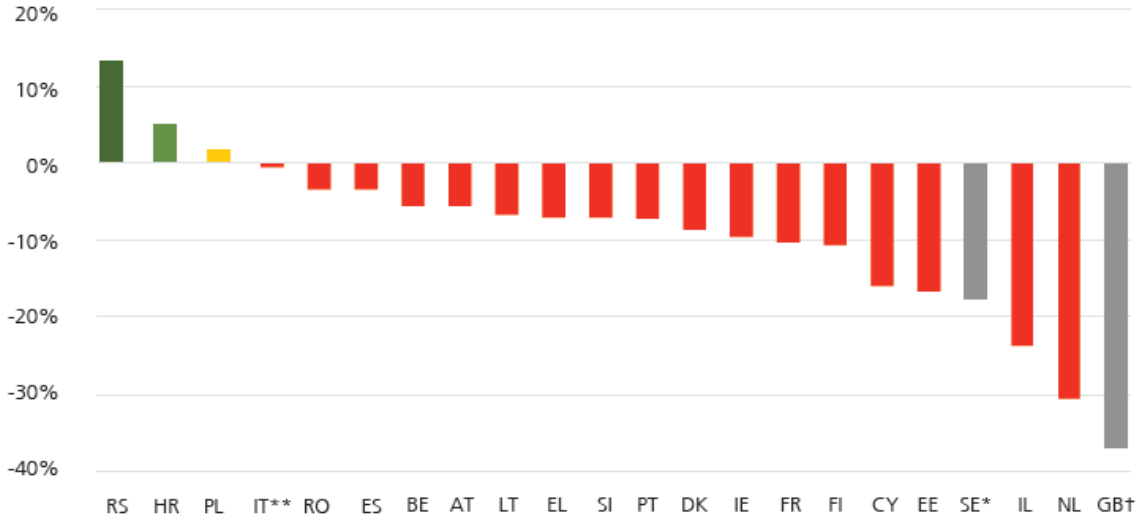
Recent trends in seatbelt enforcement

- ✓ **Annual change in the non use of seat belt fines 2010-2015**



- ✓ The number of tickets for failure to wear a seat belt is highest in Serbia and Romania with 25 and 24 tickets per 1000 inhabitants, followed by Croatia with 23 tickets per 1000 inhabitants and Slovenia with 20 tickets per 1000 inhabitants last year.
- ✓ Seat belt enforcement is not a primary target for the police in many EU member states

Source: ETSC (2016)

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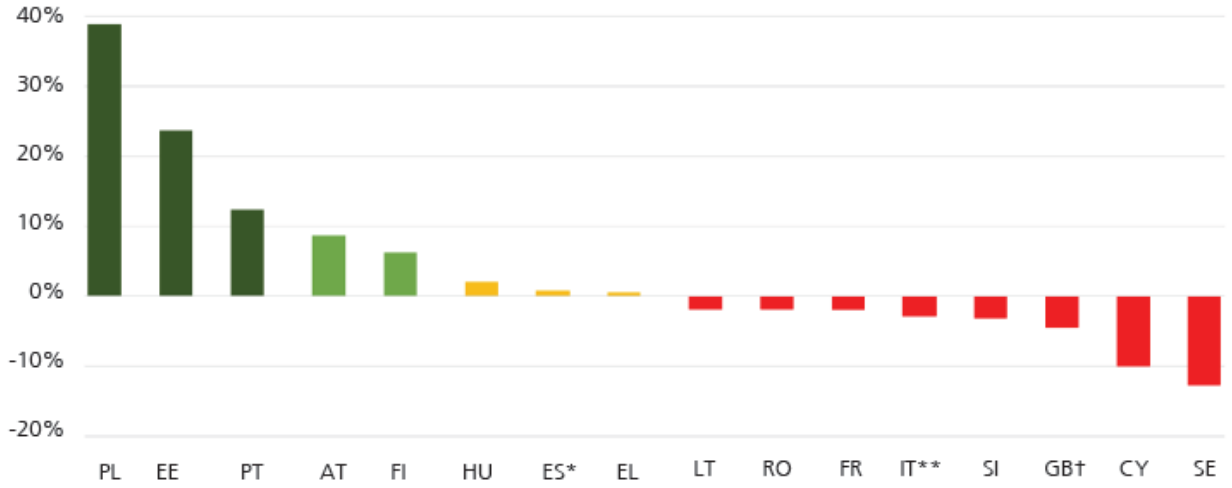
Success factors for seatbelt enforcement

- ✓ Enforcement in combination with efficient informational and public awareness campaigns.
- ✓ Mild and continuous enforcement following in time the messages of the awareness campaign.
  - Frequent and short campaigns
  - Random vehicles' control
  - Rear seat belt enforcement
- ✓ Impose seatbelt use through relevant incentives.
- ✓ Utilization of warning devices inside the vehicle.

Recent trends in alcohol enforcement

- ✓ Annual change in the number of alcohol checks 2010-2015



- ✓ Drivers across the EU think that they are unlikely to be stopped for an alcohol breath test. 58% of respondents to the SARTRE survey declared that they have not been checked for drink driving in the past three years

Source: ETSC (2016)

Testimonials on recent developments - Alcohol enforcement

Estonia

- ✓ The number of alcohol road side breath tests grew by more than six times in the last six years from 105 in 2010 to 677 tests per 1000 inhabitants in 2015. Opinion polls show that 92% of drivers think drink and drug driving is dangerous.
- ✓ The longstanding support from citizens and authorities for drink driving prevention and enforcement activities helped in achieving such a high number of drink driving checks.

Source: ETSC (2016)

Testimonials on recent developments - Alcohol enforcement

Poland

- ✓ The number of drink driving checks in Poland in 2015 amounted to nearly half the population, from 88 in 2010 to 466 checks per 1000 inhabitants in 2015.
- ✓ For many years fighting drink driving has been high on the police agenda. But a severe collision caused by a drunk driver in 2014 where 6 people were killed was a turning point. Following this tragic event, the number of tests increased steadily from 8.9 million tests in 2013 to 17.8 million in 2015. The increase as made possible by new alcohol screening devices which enable traffic police to rapidly distinguish between sober drivers and those who need to pass a second test to confirm their impairment.

Source: ETSC (2016)

Alcohol interlocks

- ✓ Alcohol interlocks are an effective countermeasure in the fight against drink driving.
- ✓ In many EU countries the technology has found its way on a voluntary basis into vehicles which are used for the transport of goods or passengers.
- ✓ More and more countries in Europe are adopting legislation for the use of alcohol interlocks in rehabilitation programmes for first-time high-level offenders and for recidivists.
- ✓ Alcohol interlock law for drink driving offenders and/or professional drivers has been introduced in Belgium, Denmark, Finland, France, the Netherlands, Poland and Sweden.

Challenges in traffic rules enforcement in the EU

- ✓ Under the EU Recommendation adopted in 2004, countries were advised to set up national enforcement plans containing a strategy on enforcement activities in at least three areas of non-compliance – speeding, drink driving and seat belts. However, only few countries (e.g. Croatia, the Czech Republic, Cyprus, France, Finland, Greece, Ireland, Romania and Spain) have some kind of national enforcement strategies in place.
- ✓ In most countries, the scarce resources allocated for enforcement are not always used optimally. Much of the knowledge and good practice in place in the best performing and fastest progressing countries have yet to be translated into long-term strategies.
- ✓ In several countries, the number of police officers on the roads enforcing driving laws has dropped, following pressure to reduce public spending.

Example 1: Intensification of mobile enforcement in Greece (1998-2004)

Background

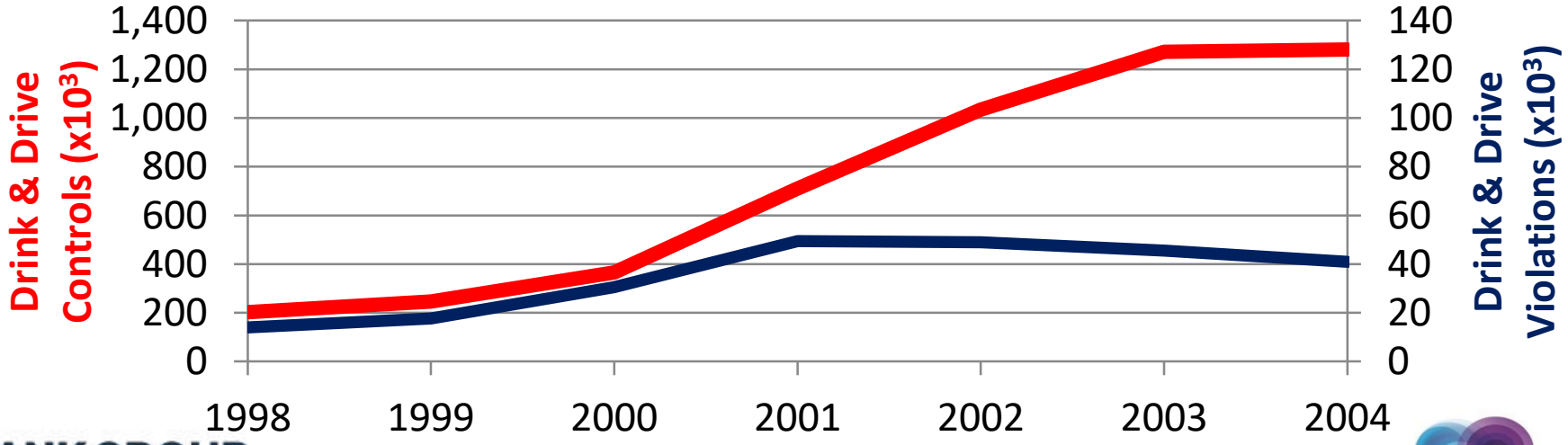
- ✓ Within the goals of the 1st National Strategic plan for road safety 1998-2008, the intensification of enforcement was foreseen
- ✓ From 1998 to 2004, the enforcement effort was dramatically intensified with focus on:
  - Speed (roadside speed measurements with laser guns)
  - Alcohol (roadside breath tests with alcoholometers)

Development of enforcement vs. road safety outcomes

Greece	1998	1999	2000	2001	2002	2003	2004	Change 1998-2004
Road crashes with casualties	24,819	24,231	23,001	19,671	16,809	15,751	15,509	-38%
Road Fatalities	2,182	2,116	2,088	1,895	1,654	1,605	1,670	-26%
Number of registered vehicles (1000)	4,323	4,690	5,061	5,390	5,693	5,968	6,257	45%
Drink & Drive Controls	202,161	246,611	365,611	710,998	1,034,502	1,271,273	1,281,102	534%
Drink & Drive Violations	13,996	17,665	30,507	49,464	48,947	45,546	40,986	193%
Speeding violations	92,122	97,947	175,075	316,451	418,421	447,249	382,970	316%

Effect of enforcement on violations

- ✓ During the first years of the intensification, an increased number of controls resulted in increased number of violations registered,
- ✓ On 2001, a further increase in alcohol controls resulted for the first time in lower number of violations compared to the previous year
- ✓ This reflects the change of behaviour of drivers, due to the increased perceived level of enforcement



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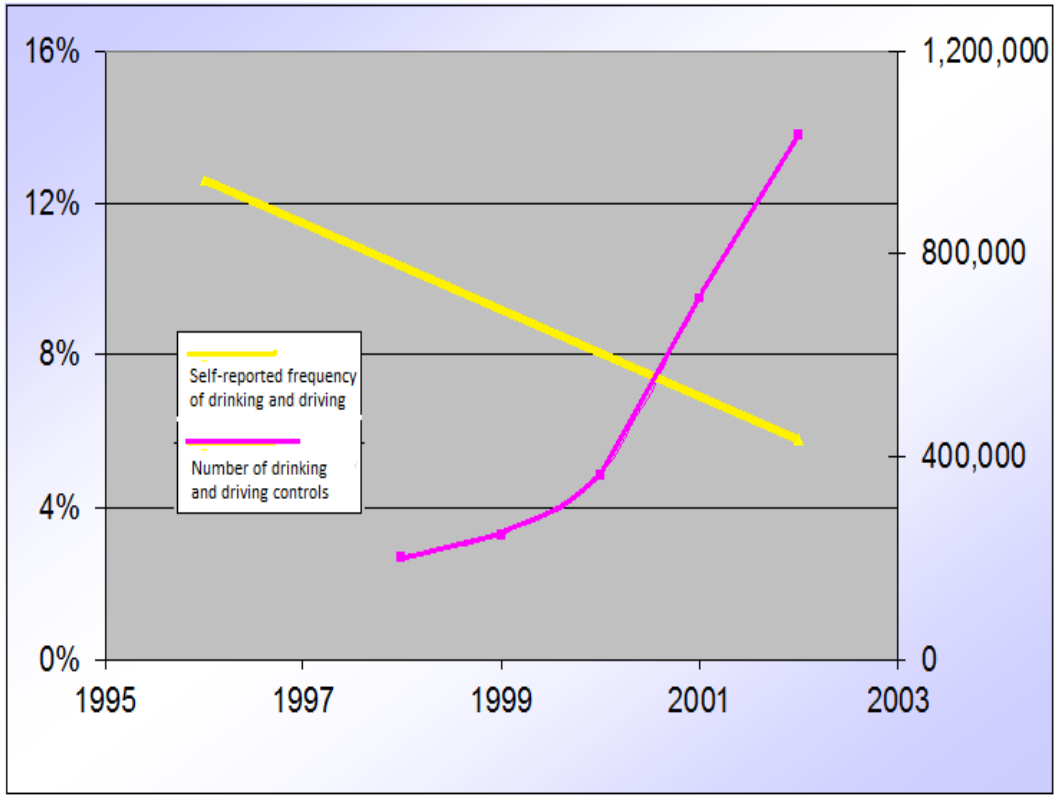
Effect of enforcement on behaviour

- ✓ The self-reported frequency of driving under the influence of alcohol was halved during the period of enforcement intensification
- ✓ From 13% on 1996 to 6% on 2002
- ✓ Both figures are likely to be under-estimated (self-reported data) - but the same bias exists in both measurements therefore the relative difference is correctly reflected



- ✓ Source: SARTRE European project - Surveys on attitudes of road users on road safety (1996, 2002)

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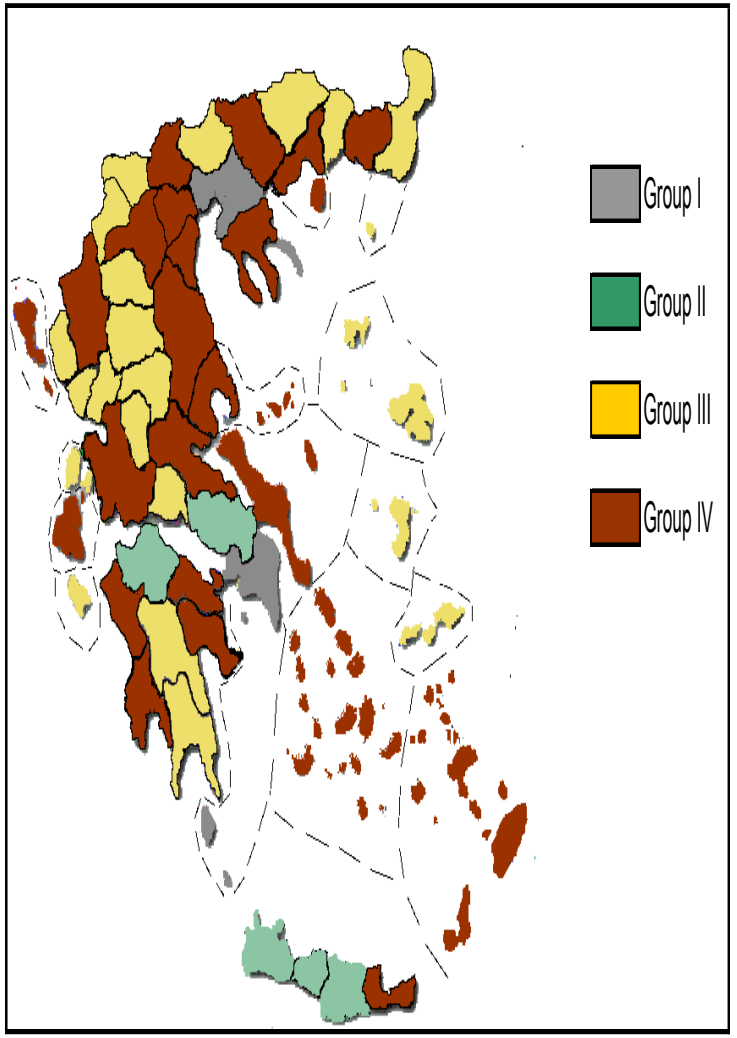
Effect of enforcement on crashes

- ✓ Clustered the 52 prefectures of Greece in 4 groups, based on road network, population density, vehicle ownership, traffic violations and accidents
- ✓ Poisson regression models for road safety in Greece in relation to enforcement and other socioeconomic indicators
  - ✓ Models with no time halo effect of enforcement ("conservative" scenario)
  - ✓ Models with a two-months time halo effect of enforcement ("best" scenario)
- ✓ The effect of enforcement was significant in 2 Groups:
  - ✓ Prefectures with significant interurban traffic
  - ✓ Rural prefectures and the islands



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Cost-benefit analysis

	Conservative scenario	Best Scenario
Number of accidents prevented	**772**	**1,142**
Average accident cost (€)	128,972	128,972
Present value of benefits (€)	107,980,919	159,681,549
Cost of speed enforcement (€)	14,814,729	
Cost of alcohol enforcement (€)	24,709,862	
Total Enforcement Cost (€)	39,524,591	
Benefit - Cost Ratio	**2.73**	**4.04**

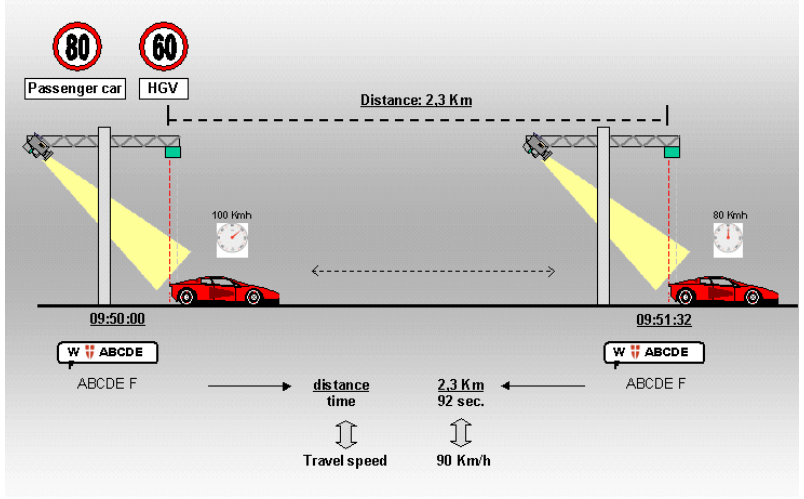
Follow up actions

- ✓ Although the National Strategic Plan was never fully implemented, and the High Level Inter-Ministerial Committee on road safety became inactive, the successful intensification of enforcement resulted in long-term effects
- ✓ The decrease in violations and risky behaviours sustained, although the number of controls slightly decreased in the last decade.
- ✓ A change in road safety attitudes and road safety culture was achieved in the period 1998-2004, which is largely attributed to enforcement.

Example 2: Introduction of ASE ‘section control’ in Austria, 2003

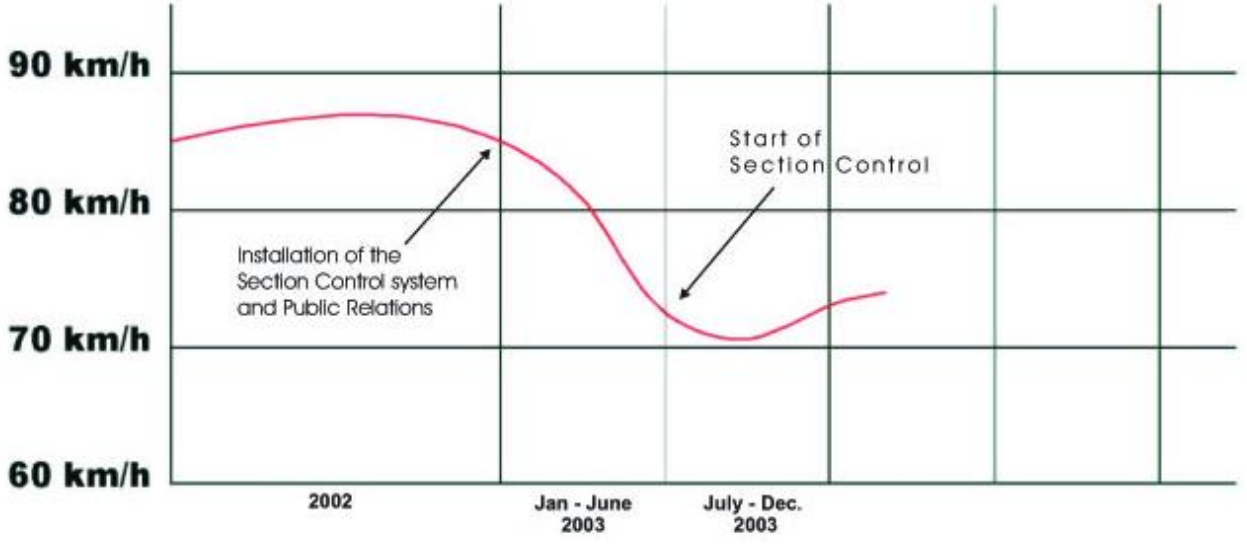
Background

- ✓ In close cooperation with the Ministry of Transport, the Federal Ministry of the Interior and the municipality of Vienna, in August 2003 the Austrian highway operator (ASFINAG) introduced a new instrument of traffic surveillance to reduce accidents and traffic delays in the Kaisermühlen tunnel on A 22 Donauufer motorway, one of Vienna's most frequented motorways.
- ✓ Section Control measures speed not only at a certain point in space and time but calculates the average speed by means of passage time in a defined area



Effect of the system on behaviour

- ✓ Mobile and stationary speed control (in use before the Section Control started operating) showed the average speed of all vehicles to be 85 km/h
- ✓ This value decreased to about 70 km/h shortly after the introduction of the measure.
- ✓ Further speed measurements implemented after a 6 months period revealed that average speed leveled off to 75 km/h



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Effect of the system on safety

- ✓ A before-and-after study estimated the safety effects of the system on crashes in 2005
- ✓ The numbers in the 'before' period were corrected for random fluctuations, on the basis of traffic development.
- ✓ A comparison group was defined including the motorway network of Austria

Accident type	Best estimate of % reduction	95% confidence interval
Injury accidents	-31	(-35; -26)
Fatalities	-100	not computed due to small numbers
Seriously injured	-100	not computed due to small numbers
Slightly injured	-28	(-39; -13)

Cost-Benefit analysis and other revenues

Monetary values (€) 2005	Benefits	Costs
Road traffic emissions	79,108	
Accidents	1,025,903	
Installation and maintenance		246,337
Total	1,105,011	
Benefit-Cost ratio	**5.4**	

- ✓ Revenue from collected fines due to speed violations on 2005 was 1,427,650 €

Follow-up actions

- ✓ The effectiveness of the system at the Kaisermühlen Tunnel was confirmed: No fatalities and 50 percent fewer accidents with injuries since its commissioning in 2003.
- ✓ Section control works 24 hours a day, 7 days a week, which means the chance of being caught is close to 100 percent.
- ✓ The operators currently use five stationary Section Control systems and 14 mobile systems (per traffic direction) near building sites. The stations are defined by the Federal Minister for Transport, Innovation and Technology (BMVIT) in accordance with the road traffic regulations.

Thank you for your attention!