

MODULE 2

SAFER ROAD USERS:

DESIGNING AND IMPLEMENTING EFFECTIVE ENFORCEMENT PROGRAMMES

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GLOBAL
ROAD SAFETY
PARTNERSHIP





FUNDAMENTAL PRINCIPLES OF EFFECTIVE ROAD POLICING

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INTERNATIONAL



FEDERATION



ABOUT US

We work alongside the private sector, civil society, multilateral and government partners including police and related enforcement agencies.



Focused mainly on L/MIC countries across the Asia - Pacific, Africa and Latin America.

EXAMPLES OF WHAT WE DO



- Leadership & management – focused on building organizational capability;
- Develop/support the adoption of an evidenced-based approach to enforcement
- Coaching, mentoring & technical assistance to support officer development;
- Implementation of Train-the-Trainer models to ensure sustainability;
- Media, advocacy & communications training;
- Support & advocate for legislative enhancement/improvement;
- Provide technical assistance for resource procurement through adoption of contemporary best practice i.e. breathalyzer, speed detection devices.



CAPACITY BUILDING PROGRAM AIMS

To improve and enhance road safety knowledge and to develop/strengthen the capacity and capability of enforcement agencies to enforce laws relating to road safety causative risk factors, with a particular emphasis on low-and-middle-income countries.



KEY OBJECTIVE



Position enforcement agencies to actively contribute to achieving measurable public health outcomes in the prevention of death and disability caused by road traffic crashes.



CONSIDER THIS:

Q: Why is enforcement necessary?



Q: What is the roles of traffic/ road police?



Q: What is high value enforcement?

POLICE LEGITIMACY

Reflects the belief that the police ought to be allowed to exercise their authority to maintain social order, manage conflicts, and solve problems in their communities.

Legitimacy is reflected in three judgments:

- ✓ *Public trust and confidence in the police.*
- ✓ *The willingness of citizens to defer to the law and to police authority,*
- ✓ *A belief that police actions are morally justified and appropriate to the circumstances.*

WHY IS LEGITIMACY IMPORTANT?

To maintain social order within communities:

- Promotes a sense of public trust in police
- Facilitates law abiding behavior
- Fosters compliance and cooperation
- Increases reporting of crimes to police

When police promote feelings of fairness and trust within the community it will result in:

- ↑ increased compliance
- ↓ decreased crime and disorder



ENFORCEMENT IN ROAD SAFETY

- **Limited public understanding of the link between their behaviours and their**
 - risk of being in a crash
 - severity of outcome if involved in a crash
- **People are not good at assessing risk**
 - Illusion of control (I'm a good driver, I can control vehicle)
 - Familiarity with local roads (I am only going a short distance)
- **Experience shows us that enforcement can change behaviour which can then change attitudes and levels of moral acceptance**
- **Strong track record of changing behaviour and attitudes using enforcement + education when they are used together**

INTERNATIONAL FOCUS

- Reduce speeding –
Globally, the number one problem!
- Increase the perception of enforcement:
 - Speeding
 - Drink-driving
 - Seatbelts & Child Restraints
 - Correct Helmet Wearing
- Target high risk drivers and dangerous/careless road user behaviour
- **Dosage intensity** - how often & how much enforcement is required to change behaviour?



THE ROLE OF ENFORCEMENT

Road Policing enforcement involves three processes:

1. Setting of appropriate traffic laws
 - Blood alcohol limits, speed limits, helmet & use of restraints, setting penalties
2. On-road policing methods
 - Roadside breath testing, speed cameras, officer speed and offence detection
3. Application of sanctions
 - Monetary fines, demerit points, loss of licence.

It is most effective when it encourages community-wide compliance with road rules (and doesn't just involve apprehending and punishing offenders)

DETERRENCE THEORY

- Influence a potential traffic offender through ‘fear’ of detection and the consequences to avoid offending.
- Targets ALL road users
- Has the potential to **influence ALL** road users



Source: MUARC Research Report, 270 Sept. 2006

DETERRENCE PRINCIPLES (1)

3 Elements:

1. Perceived risk of detection
2. Severity of punishment
3. Immediacy of punishment

The higher the perceived risk of detection, the less likely a road user is to commit an offence.

DETERRENCE PRINCIPLES (2)

General (Simple Behaviours)

Deter potential offenders through:

- Fear of detection
- Fear of the consequences

e.g. drink driving, driver license or vehicle offence penalties targeted through random checks, mass media promotion.

Specific (Complex Behaviours)

Deter potential offenders through their experience of detection and the consequences, to avoid reoffending.

e.g. drink driving – maximizing detection of offending drivers; introduction of alcohol interlocks, demerit points, jail term etc.

ENFORCEMENT USING DETERRENCE

Relies upon road user fearing they will be caught including fear of the consequences.

- **Perceived risk of apprehension** - *Do I think I will be caught?*
- **Threat of sanctions**
 - **Perceived Certainty of Punishment**
Will I receive the penalty if caught?
 - **Perceived Severity of Punishment**
Are the penalties harsh?
 - **Perceived Swiftness of Punishment**
Will I be punished in a timely way?



Must adopt an **'anybody, anywhere, anytime'** approach



CHANGE PROCESS

Behaviour Change



Attitude Change



**Moral acceptance of the
law & increased 'voluntary'
compliance**

I wear my seatbelt because I don't want to get caught & penalized; but I still have negative attitudes towards seatbelts

My attitude changes to match my seatbelt wearing behaviour; I now have a positive attitude to restraint use

I agree with the law and now I voluntarily comply, irrespective of penalty or chance of getting caught

KEY ELEMENTS

- ✓ **Highly Visible**
As many drivers as possible should see highly visible testing.
- ✓ **Rigorously Enforced**
*No one avoids testing, regardless of occupation or status.
All are treated the same.*
- ✓ **Sustained**
*Enforcement targets the correct times and is sustained
throughout each year and is unpredictable.*
- ✓ **Well publicised**
Publicity & media support greatly enhances impact.



MASS MEDIA SUPPORTING ENFORCEMENT



GLOBAL STATUS REPORT ON ROAD SAFETY 2015

*The most positive changes to road user behaviour occur when road safety legislation is supported by **strong and sustained enforcement and public awareness.*** (page 7)



MASS MEDIA SUPPORTING ENFORCEMENT

- Mass media campaigns linked to enforcement raise awareness about the dangers of certain high risk behaviours and garner greater public support for new legislation, stricter enforcement and stronger penalties.
- Campaigns make it easier for governments and Police to act by reducing some of the resistance that they might otherwise encounter.
- When a community are informed the risks associated with certain high risk behaviours (e.g., speeding) and are convinced it's unacceptable, it's more likely to support speed reduction measures as well as other more general road safety interventions.

Source: Managing Speed, World Health Organisation, 2017





HIGH VALUE ENFORCEMENT – WHAT IS IT?

- Adequate infringement & penalty system with solid judicial support
- Involves strong partnerships between enforcement agencies and other road safety stakeholders
- Enabled by sufficient ongoing funding and adequate human and technological resources
- Established clear and unambiguous strategies supported by appropriate enforcement plans and targets (KPIs)
- Crash analysis required to confirm crash causes, locations and times?



UNDERREPORTING OF CRASHES

A fundamental problem worldwide!

A meta-analysis based on 49 studies in 13 countries showed that regardless of severity of the injury reporting was incomplete.

- *Road traffic fatalities are frequently significantly under-reported*
- *Road traffic injury reporting rates vary widely*

Many countries significantly under-report road fatalities and inaccurately record the causes!

POLICE CRASH REPORTING

Strengths

- Can be excellent sources of information about circumstances surrounding fatalities and injuries

Weaknesses

- Thorough investigation and reporting is not usually a norm
- Often inaccessible due to legal issues
- Often: not standardized, not computerized, not centralized, not easily available (particularly in L/MICs)
- Disconnect between police and health sources
- In motor vehicle crashes - undercount (on the road vs. 24 hours vs. 30 days)
- Underreporting of vulnerable road users:
pedestrians, motorcyclists, bicyclists

EVIDENCE BASED – OUTCOME FOCUSED

- **Long term risk profiles by geographical area**
 - Study crash trends
 - Analysing local knowledge, events, public complaints, licensed premises.
- **Understanding the crash environment (roads and roadsides)**
- **Inform tasking documents**
 - help give direction
 - identify priorities
- **Understood and accepted by front line enforcement personnel**
- **Enable evaluation**
 - Enforcement (tickets issued, no. breath tests conducted etc.)
 - Risks (crash types, vehicle type involved, demographic profiles)
 - Visibility (hours delivered)



INTERNATIONAL ENFORCEMENT SUCCESS

- ✓ Having relevant road safety focused legislation with appropriate penalties & strong, consistent enforcement;
- ✓ Ensuring enforcement is data driven & planning is based on credible evidence & intelligence;
- ✓ Continuous, targeted enforcement campaigns—e.g., speeding, drink driving, helmets & s/belts;
- ✓ Ongoing evaluation of enforcement actions and outcomes.
- ✓ Combining enforcement with sustained education and public awareness campaigns;

Countries who have achieved and sustained road safety results have done so by implementing effective road safety policies including innovative & effective enforcement strategies which are evidence based and intelligence led.

WHAT'S NEEDED TO GET THERE

- A trained professional and motivated workforce that are paid well and have a defined career path including minimum standards of entry;
- A dedicated source of funding so enforcement can be sustained in the long term;
- A defined relational road safety/mobility strategy;
- Evidence-based enforcement strategy, data-led action plans and clearly defined operating procedures;
- Strong partnership between police/enforcement agency and other key road safety stakeholders
- Adequate infraction and penalty system that is transparently applied
- Sufficient levels equipment that are well maintained (including certification and calibration procedures).

CONCLUSION

Many challenges implementing contemporary best practise enforcement in L/MICs

Key priorities:

- Strong institutional leadership;
- Identify and adopt innovative enforcement practices and interventions (addressing high, medium & low cost options);
- Enhance the training of police and related enforcement agencies;
- Recognise and adapt to changing community expectations about enforcement and promote its relationship to sustainable public health outcomes;
- Leverage safety improvements from other sectors and regions.

CRASH REPORTING AND ROAD SAFETY PERFORMANCE MONITORING



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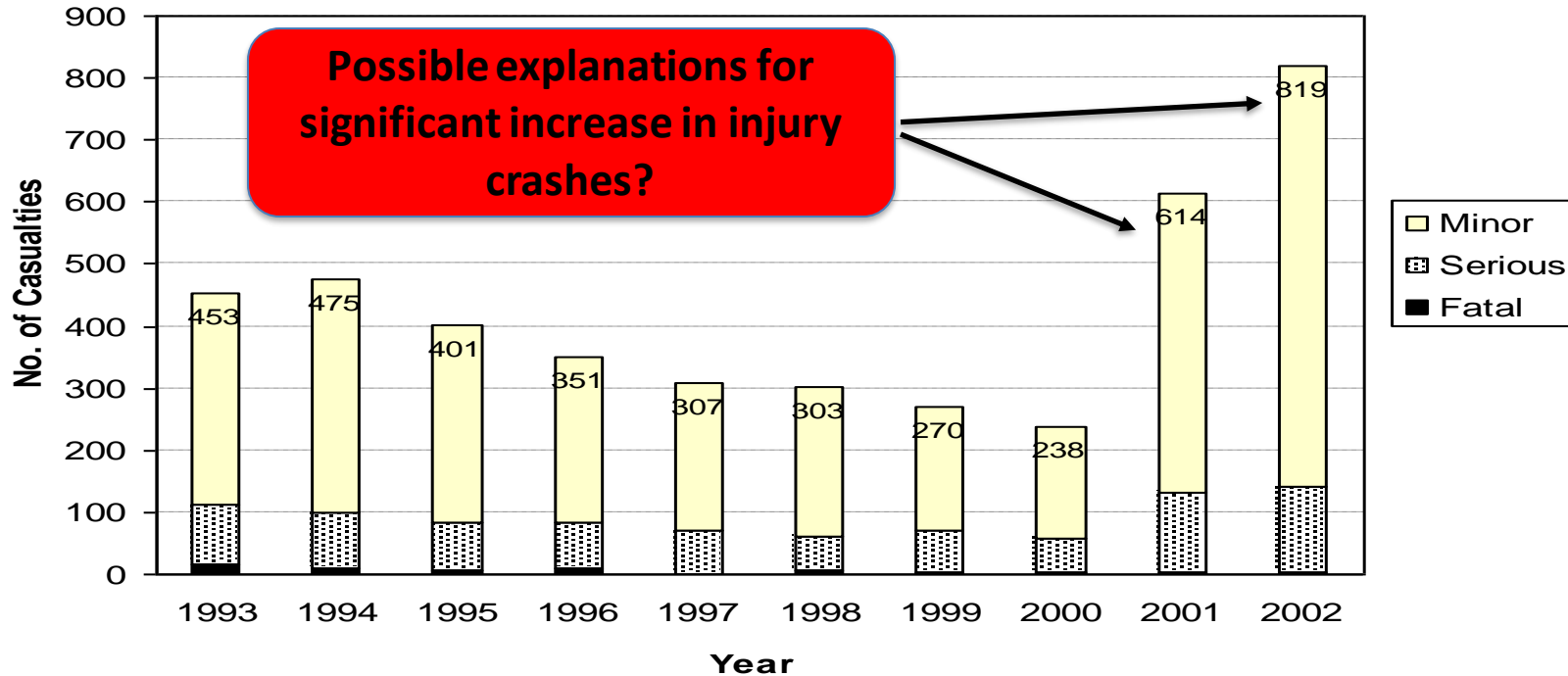
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Dave Cliff
CEO GRSP

What could be occurring in this city?

**Fig. 2a Number of Casualties
Dunedin City All Roads (Urban & Rural)**



POLL QUESTION - POSSIBLE EXPLANATIONS FOR MAJOR INCREASE IN REPORTED INJURY CRASHES?



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- A. Road policing stopped and police focussed on other priorities.**
- B. Speed limits were increased significantly.**
- C. Major series of random serious crashes occurred in 2001 and 2002.**
- D. Police began to audit crash files and clarify crash related injuries for all crashes.**
- E. None of these explanations.**

GLOBAL PROBLEM – UNDER REPORTING CRASH FATALITIES



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Figure 1⁵ - Average road crash fatality reporting rate by country income level

Analysis by the Global Road Safety Facility of the World Bank based on World Health Organisation data	Percentage of Under-reporting in Low, Middle- and High-Income Countries
Country Classification	Percentage Under-reporting of road crash fatalities
Low Income	84%
Middle Income	51%
High Income	11%

GLOBAL STATUS REPORT ON ROAD SAFETY – WORLD HEALTH ORGANISATION

Reported Fatalities = 4,352
WHO Estimated Fatalities = 27,326

Ethiopia

Population: 102 403 200 | Income group: Low | Gross national income per capita: US\$ 660



INSTITUTIONAL FRAMEWORK

Lead agency	Ministry of Transport
Funded in national budget	Yes
National road safety strategy	Yes
Funding to implement strategy	Partially funded
Fatality reduction target	50% (2011-2020)

SAFER ROADS AND MOBILITY

Audits or star rating required for new road infrastructure	No
Design standards for the safety of pedestrians / cyclists	Partial
Inspections / star rating of existing roads	No
Investments to upgrade high risk locations	No
Policies & investment in urban public transport	Yes

SAFER VEHICLES

Total registered vehicles for 2015/2016	708 416
Cars and 4-wheeled light vehicles	—
Motorized 2- and 3-wheelers	—
Heavy trucks	—
Buses	—
Other	—

Vehicle standards applied (UNECE WP.29)

Frontal impact standard	No
Electronic stability control	No
Pedestrian protection	No
Motorcycle anti-lock braking system	No

POST-CRASH CARE

National emergency care access number	National, single number
Trauma registry	Some facilities
Formal certification for prehospital providers	Yes
National assessment of emergency care systems	No

DATA

Reported road traffic fatalities (2015/2016)	4 352 (78% M, 22% F)
WHO estimated road traffic fatalities (2016)	27 326 (95% CI 21 494 - 33 159)
WHO estimated rate per 100 000 population (2016)	26.7

* Federal Police Commission, Data within 30 days of crash

SAFER ROAD USERS

National speed limit law	Yes
Max urban speed limit	60 km/h
Max rural speed limit	70 km/h
Max motorway speed limit	100 km/h
Local authorities can modify limits	Yes
Enforcement	0 1 2 3 4 5 6 7 8 9 10
Predominant type of enforcement	Manual
National drink-driving law	Yes
BAC limit – general population	≤ 0.08 g/dl
BAC limit – young or novice drivers	≤ 0.08 g/dl
Random breath testing carried out	Yes ¹
Testing carried out in case of fatal crash	All drivers tested
Enforcement	0 1 2 3 4 5 6 7 8 9 10
% road traffic deaths involving alcohol	4%*
National motorcycle helmet law	Yes
Applies to drivers and passengers	Yes
Helmet fastening required	No
Helmet standard referred to and/or specified	No
Children passengers on motorcycles	Not restricted
Enforcement	0 1 2 3 4 5 6 7 8 9 10
Helmet wearing rate	—
National seat-belt law	Yes
Applies to front and rear seat occupants	Yes
Enforcement	0 1 2 3 4 5 6 7 8 9 10
Seat-belt wearing rate	< 1% All occupants ²
National child restraint law	No
Children seated in front seat	Prohibited under 13 yrs
Child restraint required	—
Child restraint standard referred to and/or specified	—
Enforcement	—
% children using child restraints	—
National law on mobile phone use while driving	Yes
Ban on hand-held mobile phone use	Yes
Ban on hands-free mobile phone use	Yes
National drug-driving law	Yes

¹ Legislation requires probable cause to test drivers

² 2012/2013, Ethiopian Federal Police Commission

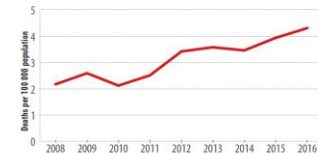
³ 2013/2014, Ethiopian Federal Police Commission

⁴ Legislation requires that children under 7 years be either accompanied by an adult or "bumped by an attachment device for safety purpose"

Deaths by road user category



Trends in reported road traffic deaths



REASONS FOR UNDER-REPORTING OF SERIOUS CRASHES



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- Some victims or next of kin choose not to report the death to police;
- Culpable injured drivers (*e.g. alcohol affected or unlicensed*) can avoid reporting their injuries to police to avoid prosecution;
- Police may not have the resources or systems to allow them to travel to remote rural crashes to attend (*e.g. no access to a vehicle, fuel or staff to attend*);
- Police attending crashes may inaccurately record injuries or fail to thoroughly report all injured victims where multiple casualties occur;
- Rural crashes less likely to be reported;

Reasons for under-reporting of serious crashes vary within and between countries.

REASONS FOR UNDER-REPORTING OF SERIOUS CRASHES (2)



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- Police may not follow-up with crash victims to fully capture information on injuries when they become known (*i.e. immediately after a crash, internal injuries and internal bleeding, delayed concussion, fractures, and other serious injuries may not be recognised and may only become apparent later*);
- Paper based or poor procedural systems may not correctly collate or accurately enter crash data;
- Data may be manipulated to reduce the number of FSI crashes to give the appearance of reducing road trauma;
- Injuries to cyclists, pedestrians, motorcyclists and the young are much less likely to be reported.
- Other reasons...

ESTIMATED RATIO – FATALITIES AND SERIOUS INJURIES

- **Wide variations in estimates of the ratio of serious injuries to fatalities** (*i.e. higher ratios where there are high volumes of pedestrians, cyclists and motor cyclists*).
- **World Bank estimate between 13:1 and 18:1 serious injuries to each fatality.**
- **Reasonable estimate – 15 serious injuries to each fatality.**

Global Road Safety Facility, World Bank (2020)

What does this mean in practice? If the actual number of fatalities is 100 per year, a reasonable estimate is that there are around 1,500 serious injuries.

FATAL AND INJURY CRASH DEFINITIONS



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The commonly applied road crash injury definitions are as follows;

- **Fatal Casualty** – death resulting from injuries sustained within 30 days of the crash
- **Serious Injury** – Fractures, concussion, severe cuts, other injury requiring medical attention or detention in hospital
- **Minor Injury** – Injury which is not serious, but which requires first aid or which causes discomfort or pain to the person injured

CRASH DATA QUALITY ISSUES

- Contributing factors (*factors that contributed to causing the crash*) are often not recorded and investigative standards are poor.
- Training and equipment is required to accurately identify;
 - **Crash location**
 - **Pre-crash speed estimates**
 - **Alcohol involvement**
 - **Whether seat belts were worn**
 - **Whether helmets worn**
 - **Vehicle safety factors**
 - **Plus a range of other factors**



Systematic improvements in crash investigation, reporting, recording and analysis will take time and investment.

BEHAVIOURAL OUTCOME MEASURES



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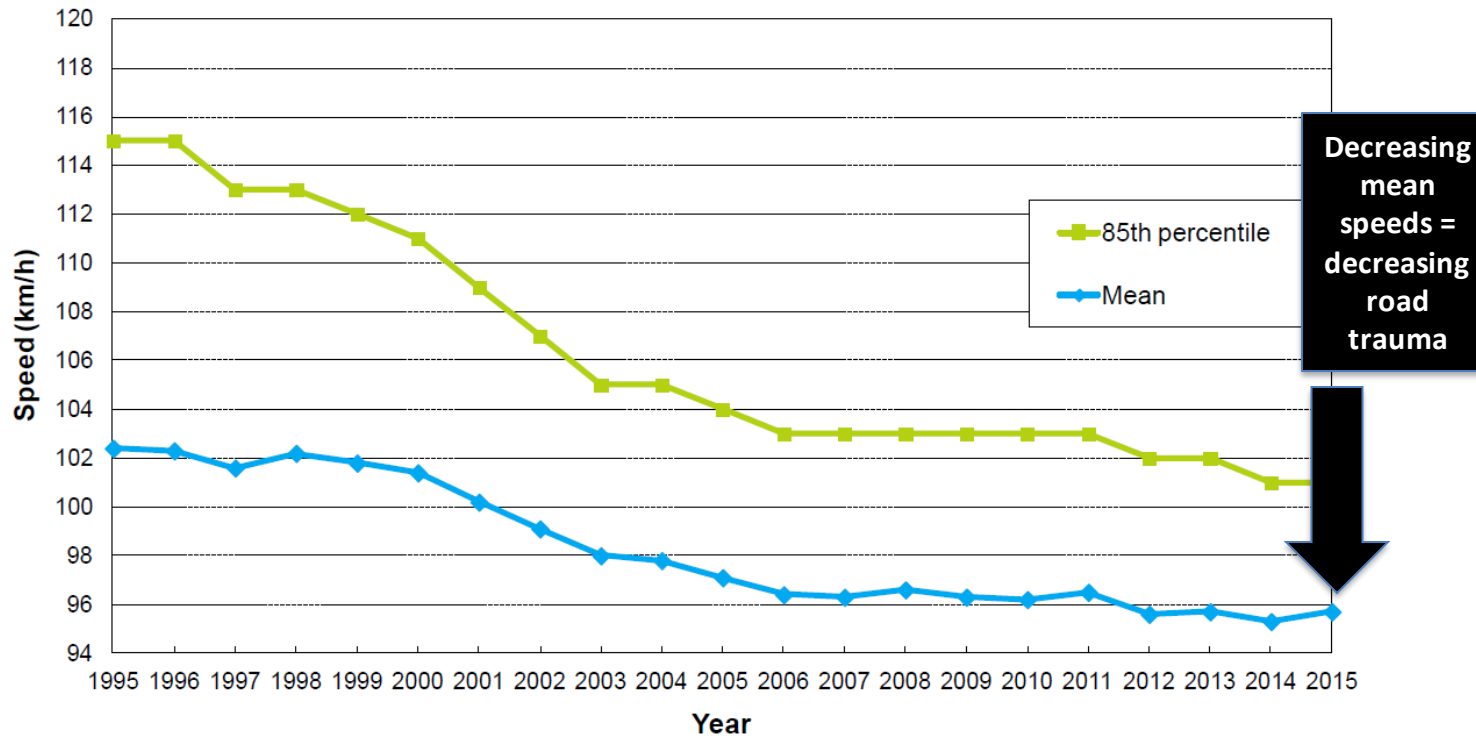
Final outcome - reduction in road traffic deaths and serious injuries

- Changes in behavioural outcome measures provide a barometer for final road safety outcome performance (overall trauma reduction).
 - I. **SPEEDING** - Reductions in free travel speed.
 - II. **DRINK DRIVING** - Reductions in percentages of drivers who are alcohol affected at night.
 - III. **SEAT BELTS** - Increases in vehicle passengers using seat belts/child restraints.
 - IV. **MOTOR CYCLE HELMETS** - Increase in correct wearing rates of quality motor cycle helmets.

A systematic, methodologically sound, and geographically relevant national survey of behavioural outcomes provides highly valuable data on improving or degrading road safety system performance.

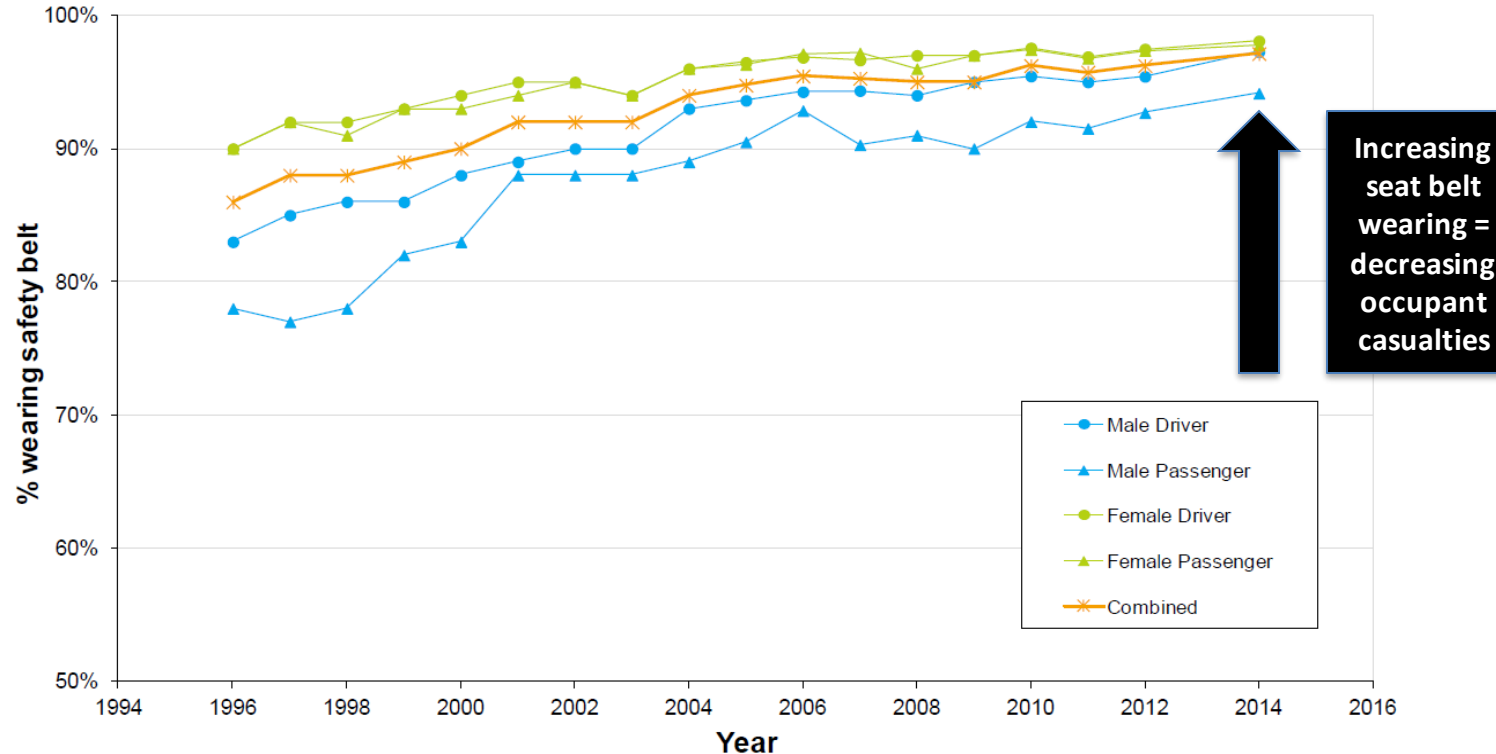
EXAMPLE OF SPEED SURVEY DATA

Open road car speeds



EXAMPLE OF SEAT BELT SURVEY DATA

Figure 1: Safety belt wearing rates for front seat adults, 1996-2014



PUBLIC ATTITUDES SURVEYS



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- Changes in public attitudes to road safety provide a secondary barometer of road safety outcome performance (*i.e. ESRA – E-Survey of Road Users’ Attitudes and cross country comparisons.*)
- Collecting comparable (inter)national data on road users’ opinions, attitudes, and behaviour with respect to road traffic risks.
- Examples include:
 - I. **Understanding the perceived likelihood of drivers being checked for alcohol (i.e. effectiveness of police drink drive enforcement)**
 - II. **Understanding perceptions of likelihood of being stopped for speeding (i.e. measure of police speed enforcement effectiveness)**
 - III. **Measuring support for seat belt enforcement (i.e. informing governments about public readiness for active seat belt enforcement.)**

PUBLIC ATTITUDE MEASUREMENT - ESRA



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Table 1: Themes covered within the ESRA1 questionnaire

Theme	Number of questions	Number of sub-questions and original variables
Attitudes towards road safety	3	64
Behaviour of other road users	2	18
Subjective safety and risk perception	2	28
Involvement in road crashes	2	15
Enforcement	6	11
Self-declared (unsafe) behaviour in traffic	2	31
Support for policy measures	2	23
Use of different transport modes	6	20
Other items (e.g. socio-demographic information)	7	12
Total	33	222

SUMMARY



The Global Road Safety Partnership is hosted by:



- ‘Reported’ fatal and injury casualty numbers are likely to be significantly under-reported and not representative geographically or by road user type.
- ‘Reported’ crash causes (contributing factors) are likely to be inaccurate.
- Regularly (annually) collecting important behavioral outcome measures allows countries to effectively monitor long term road safety performance.
- Behavioral outcome measures can be rapidly collected.
- Collecting public perceptions data (ESRA) is a secondary monitoring tool allowing cross national comparison and for road safety performance to be monitored over time.
- Surveys must be methodologically sound!

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