

Road crash and road crash injury data for setting and monitoring targets

UNECE Seminar on Improving Global Road Safety

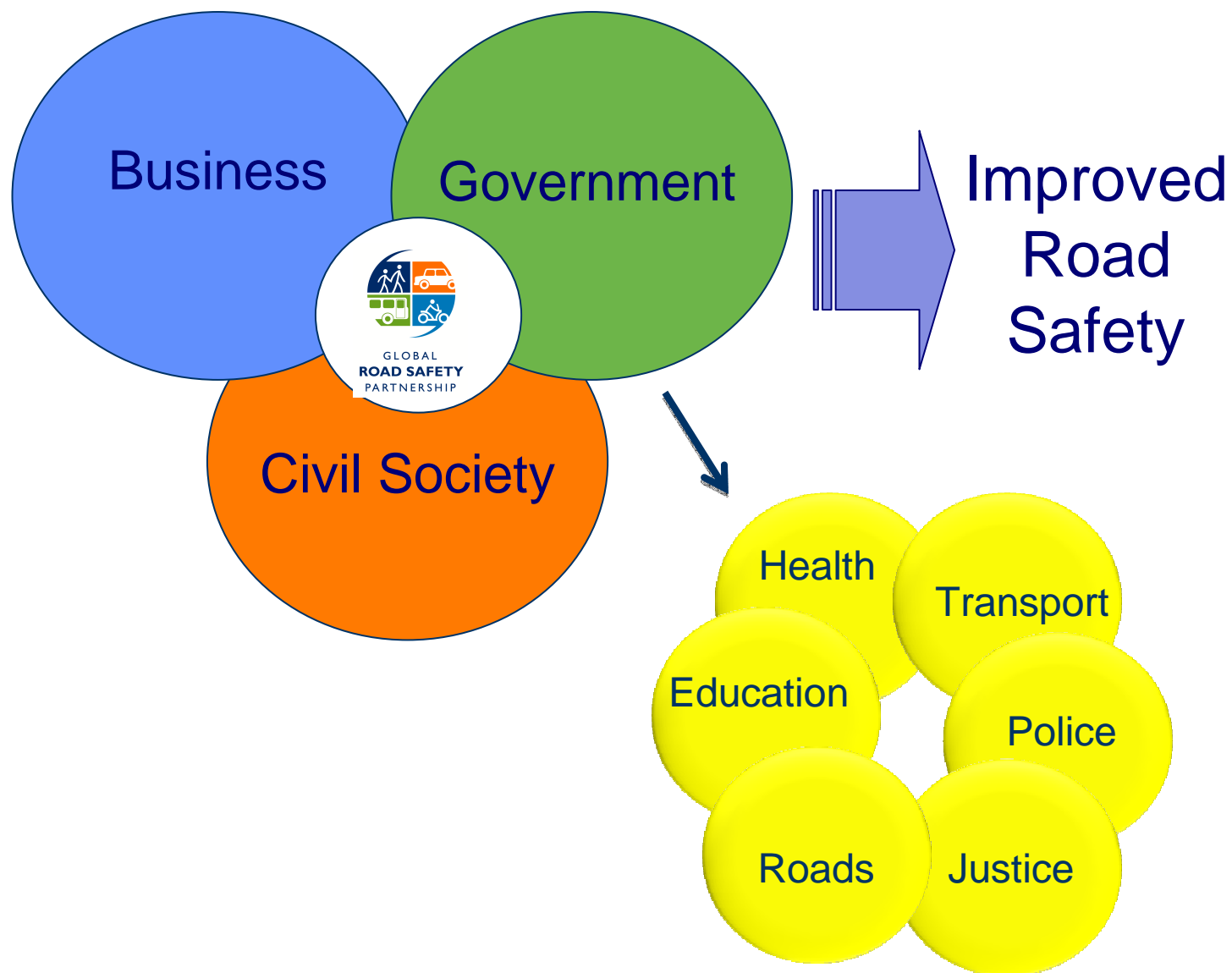
Minsk, Belarus 12 – 14 May, 2009

Kathleen Elsig, Global Road Safety Partnership

GRSP Mission

The Global Road Safety Partnership is a not-for-profit organisation dedicated to the sustainable reduction of road death and injury in low- and middle-income countries

Partnership – the core of GRSP





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Partnership – at every level



Global



Regional

Community



National



2009

Poland

Registered Association



PARTNERSTWO
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Partnerzy



Partnerzy Wspierający



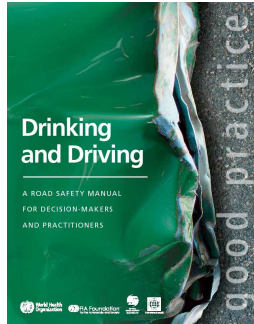
Partnerzy Honorowi





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What we do – implementation



Good Practice



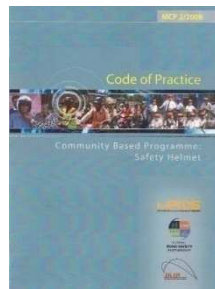
Knowledge Share



Global Advocacy



Regional Workshops



Project Guidelines



Demonstration Projects



Professional Development



Seat Belts



Safe routes
to school



Drink Driving



City Awards



Fleet Safety

2009



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Why collect data and build evidence on road crashes and road crash injuries?

Why data is important?

- Understand the problem and social and economic burden of road crashes and injury
- Plan effective interventions
- Advocate action and investment in road crash and road crash injury prevention programmes

Planning— data can help with...

- understanding the scope of the problem, also in comparison to other public health issues
- understanding crash and injury trends
- identifying high risk groups and locations
- identifying main risk factors (crash and injury)
- designing effective strategies, interventions
- facilitating objective decision-making about resource allocation (time, money)
- monitoring and evaluating effectiveness towards achievement of targets

Advocacy— data can help with ...

- illustrating to politicians and the public the magnitude of the problem and burden vs other (competing) social and economic issues
- aiding politicians demonstrate the value of unpopular policies (e.g. speed limits) to the public and solidly face opposition
- winning public support and demand for safer roads

Road crash and injury data indicators

Indicators are important tools for

- measuring the magnitude of a problem,
- setting targets and
- assessing performance

What are common indicators?

Number of injuries

Absolute figure of people injured
Serious or slight injuries

Number of deaths

Absolute figure of people killed

Fatalities per 10 000 vehicles

Ratio fatalities per vehicles

Fatalities per 100 000 population

Ratio fatalities to population

Fatalities per vehicle km travelled

Ratio fatalities to
vkm travelled

Disability adjusted live years (DALYS)

Healthy life years lost
due to disability and
mortality

2009

What are common data sources?

Police

Crash, victim, location, injury
related information

Health sector

Injury severity and costs, victim
related information

Insurance firms

Crash, victim, location, injury
related information

Companies with vehicle fleets

Same + damage and losses

Government planning departments

Population, exposure, health,
economic, fuel, pollution

Special interest groups

Research, advocacy, unions,
institutions involved in safety activities

International databases

IRTAD, CARE

Other sources - Special surveys

- In-depth crash investigations
- Community based surveys eg Red Cross
- Road user surveys - conflicts, seat belt and helmet wearing, speeds, drink-drive, violations
- Travel surveys and origin destination
- Crash costing
- Private sector studies – crashes involving people travelling for work purposes

Brazil -Health sector indicators

Sao Jose dos Campos

2007

2008

Fatalities and serious
injuries (per/10,000
vehicles)

14.04

12.49

Hospital admissions
from road crashes

866

569

Guaiba

48% reduction in hospital occupancies due to road crashes

63% reduction in related social, medical etc costs

2009

*Data for 2007 vs 2008



Additional indicators?

What data is needed to set and achieve targets that are evidence based?

Data needs for setting targets

What can be measured can be managed!

Minimum data needs for general road crash
and casualty reduction target setting

Data needs vary by type of intervention

Common
indicators
(slide 6)

Injury
severity
(slight,
serious)

Demographic
(age, gender,
population)

Traffic
volume
(by mode)

Safety
indicators
(speed, seat-
belts)

Crash
location

Vehicle
registration

Social,
health
economic
costs

Data reliability

- Accurate data is critical for setting achievable targets
- Shortfalls and under-reporting
influence understanding of the situation
complicate monitoring and evaluation, also for target setting purposes

Netherlands comparison of
police and health data (2007)

Up to 6% fatalities, 40% of in-patients and 86% of minor injuries were not reported by police

Other data concerns

- Poor quality and missing data
- Burden on police and health ‘collectors’
 - Police are not always sufficiently trained for data collection, e.g. injury definitions
 - Health sector sometimes lacks the tools and systems
- Inadequate analysis system
- Access to information restricted
 - This hinders proper planning, monitoring and evaluation of prevention interventions

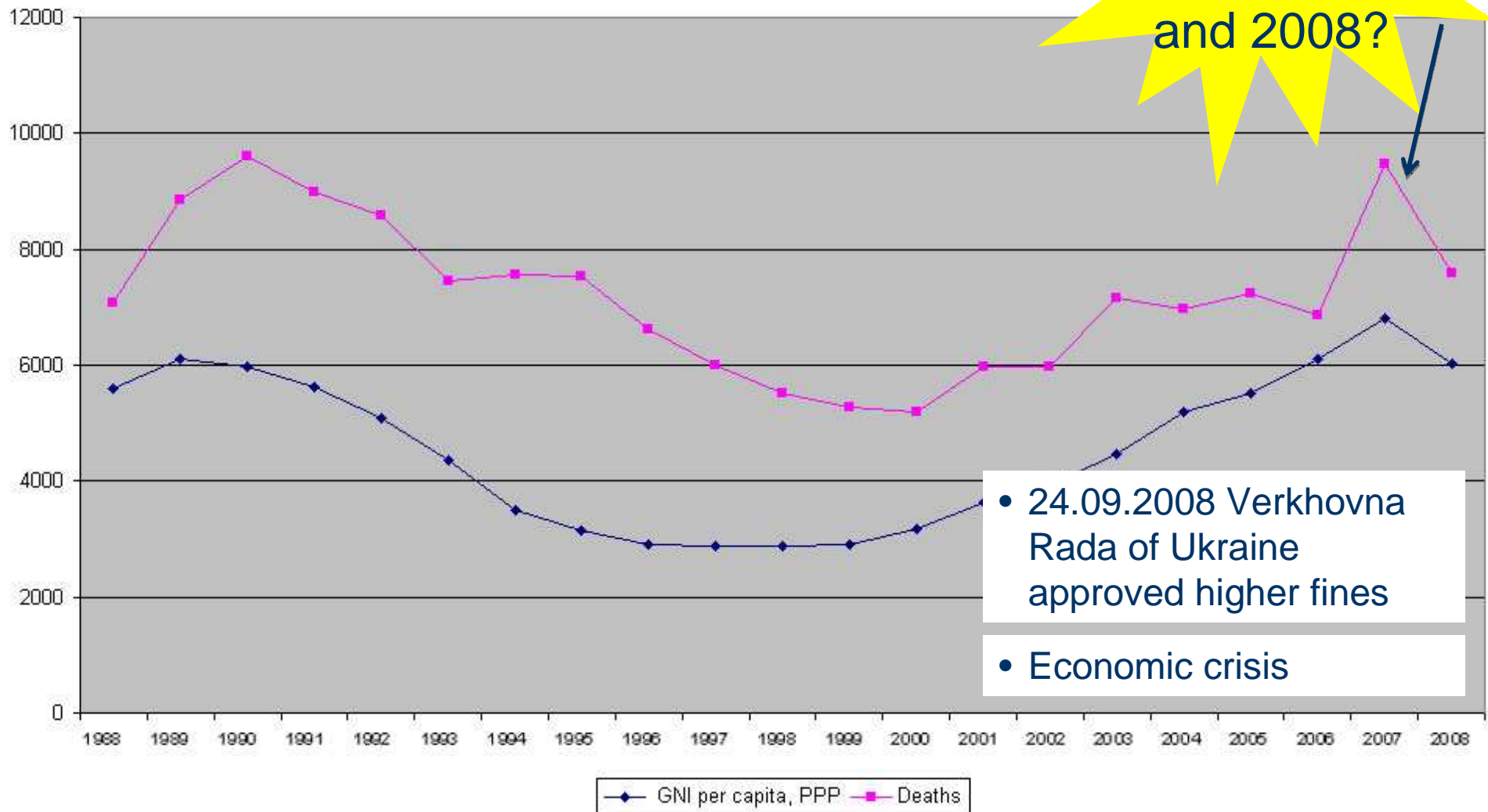
Other data concerns

- Use of vehicle registration can be problematical due to
 - delays in adding or removing vehicles
 - changes in definitions
- Changes in traffic system and economic factors (e.g. rise in oil price) can lead to changes in
 - choice of traffic mode
 - crash exposure

London congestion charge has contributed to 40 -70 fewer annual personal injury accidents in the zone*



Ukraine: road deaths and GNI/capita



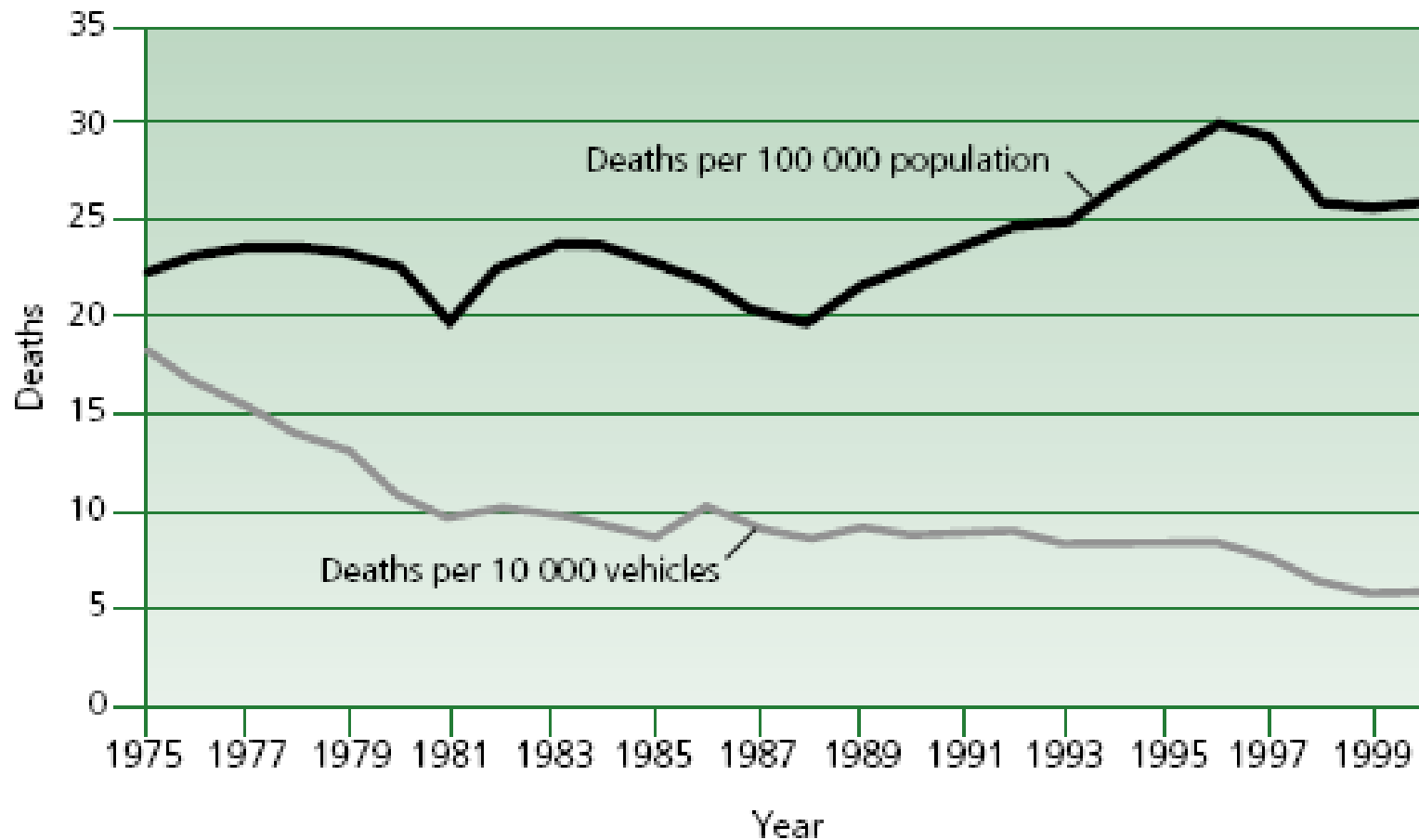
Sources: GNI/capita at PPP (US\$): World Bank except 2008 CIA. Road deaths World Road Statistics / DerzhavtotransDorNDI, except 2008 - DAI



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Data interpretation

Road traffic deaths in Malaysia



2009

Fatalities have increased more slowly than motorization rates but more quickly than growth in population

source: World report (2004)

Definitions

- Road accident
 - Involves moving vehicle or not?
 - Involves injury or not?
- Death
 - Police definition varies from dead on the spot to unlimited time
 - WHO recommendation within 30 days of crash
 - Note theory and practice often different
- Injury severity
 - Several definitions

Improving data quality

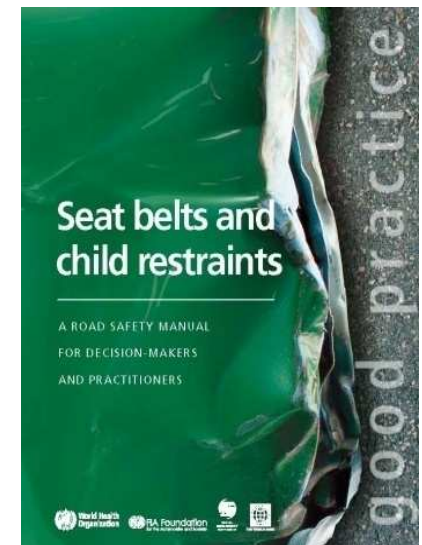
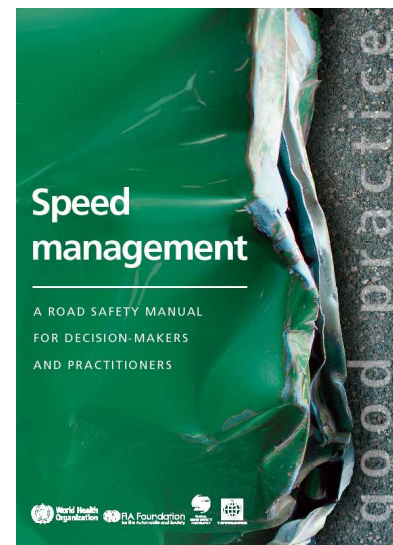
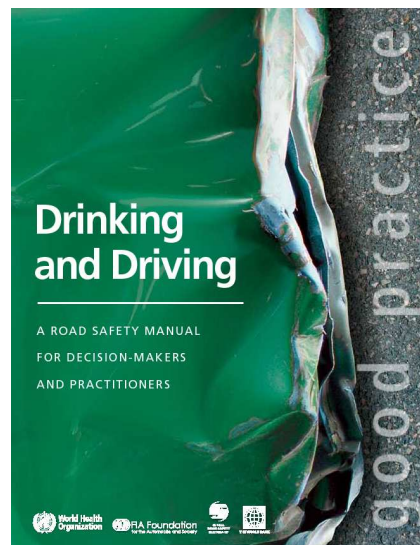
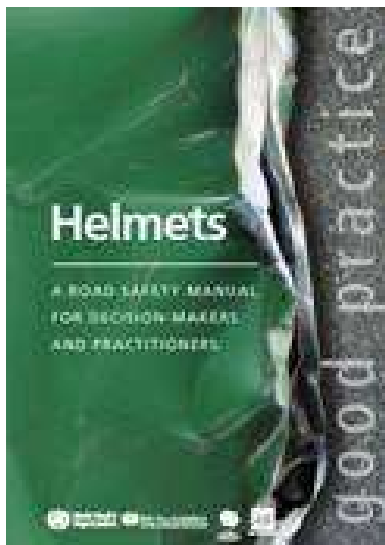
- Mandatory reporting requirement
- Regular training for police and health
- Standard definitions
- Simplify data requirements
- Quality control system
- Consider sampling



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UN Collaboration Good Practice Manuals

Build on the recommendations of the World report
Recipe books for good practice on main risk
factors implemented via a systems and
partnership approach



2009

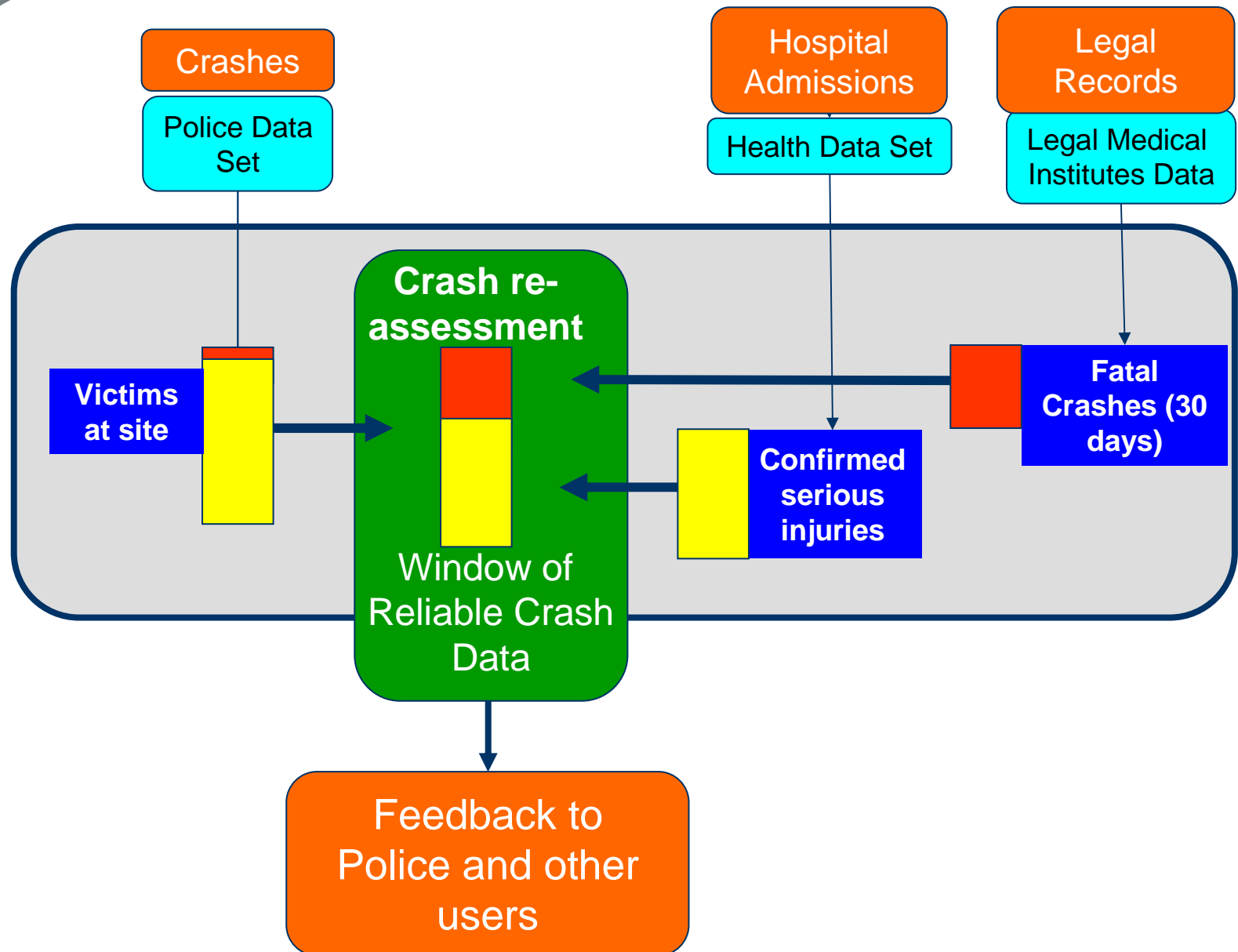
Data Systems (expected 2010)

Translations into many languages

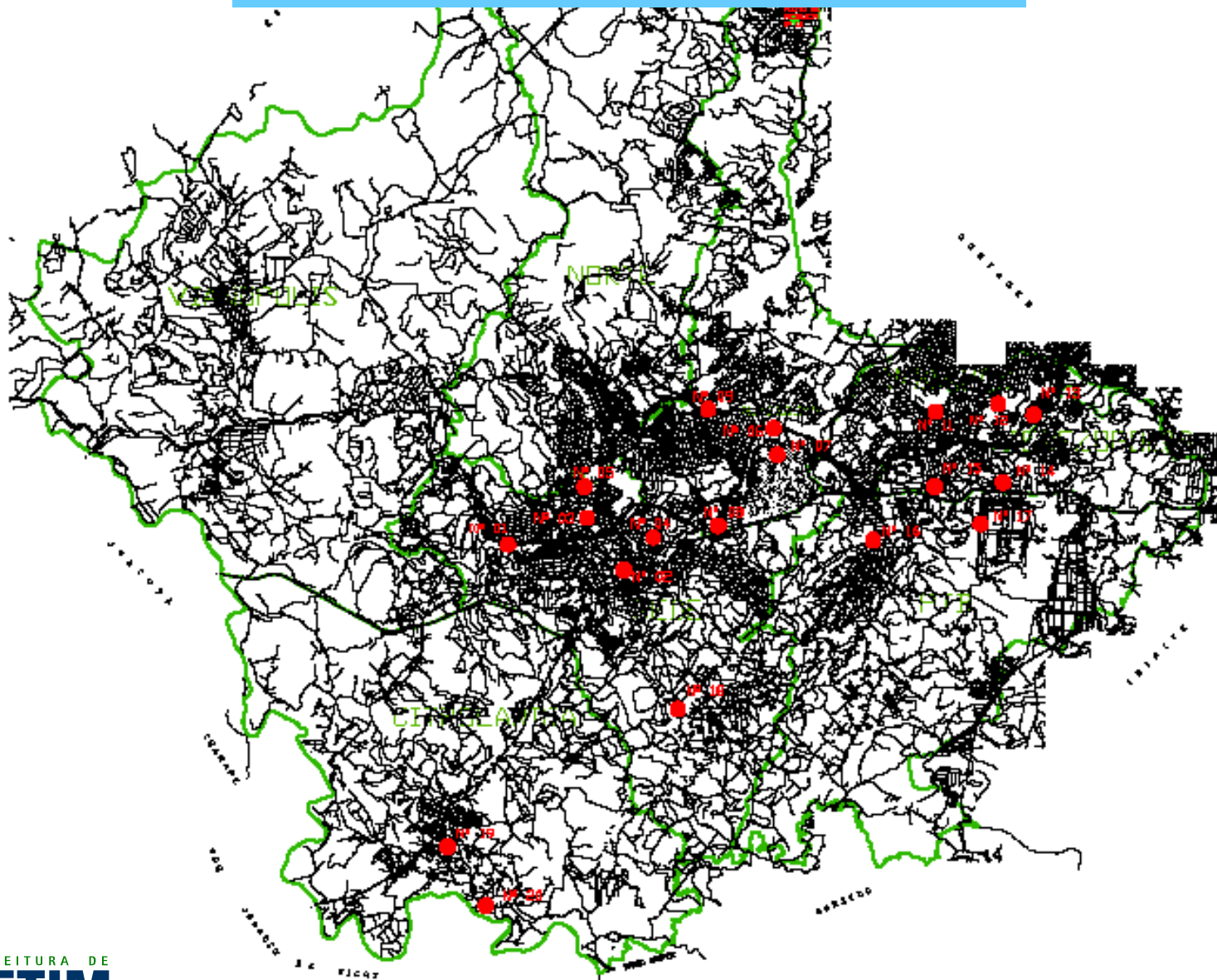


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GRSP in Brazil - Data Collection, Analysis



Mapping reliable data



Additional indicators?

What data is needed for effective interventions and target setting on the main risks and risk groups?

Seat-belts and child restraints

Drink-drive

Speed

Vulnerable road users (pedestrians, cyclists, elderly, children)

Young drivers

Professional drivers (fleet safety)

Discussion in small groups

- What kind of road safety data is collected in your country?
- Who is responsible for data collection, analysis, maintenance?
- How is the data reported? – public through media?
- Who has access to the data?
- What should data help you do?
- If you were to develop a strategy on the following issues, what data would you collect?
 - Seat-belts and child restraints?
 - Drink drive prevention?
 - Speed management?
 - A pedestrian safety?



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Example indicators

Drinking and driving

You can collect
this data through
surveys

See UNRSC
manual

- Police crash data
- BAC or BrAC levels – day, time, location, gender, age, vehicle type
- Health sector data on BAC, gender, age
- Crash type (single vehicle)
- Public opinion survey

Objectives and performance indicators (Olsztyn, Poland)

Possible Objectives	Possible Performance Indicators	Possible Measurement tools
Reduce the number of deaths, injuries drink-drive crashes	Fewer deaths, injuries from crashes involving driver with illegal BAC	<ul style="list-style-type: none"> • Police crash data ✓ • Health sector data
Reduce the number of drivers who are drinking and driving	Fewer drivers over the legal BAC limit	<ul style="list-style-type: none"> • Police breath test data ✓ • Health sector data by gender, age
Increase action in community to prevent drinking and driving	More community drink-drive prevention activities	<ul style="list-style-type: none"> • Pre/post campaign survey • Increase in number of community activities ✓
Increase number of drivers prosecuted for drink-driving	<ul style="list-style-type: none"> • Number of court cases for drink-drive • Fewer drunk drivers 	<ul style="list-style-type: none"> • Pre – post campaign data from justice ✓ • Increase in (RBT) ✓

Seat-belts, child restraints

You can collect
this data through
surveys

See UNRSC
manual



Sakhalin Island, Russia

- Wearing rates
 - occupant position, gender, age;
 - vehicle type
- Injury data from hospitals
- Vehicle inspection
- Changes in public opinion

2009

Place measured	2005 Before Campaign	2005 After Campaign	2006 Before Campaign	2006 After Campaign	2007 Before Campaign	2007 After Campaign	2008 Before Campaign
City Roads	4%	14%	14%	22%	31%	44%	79%.
Rural Roads	26%	51%.	56%	77%	72%		



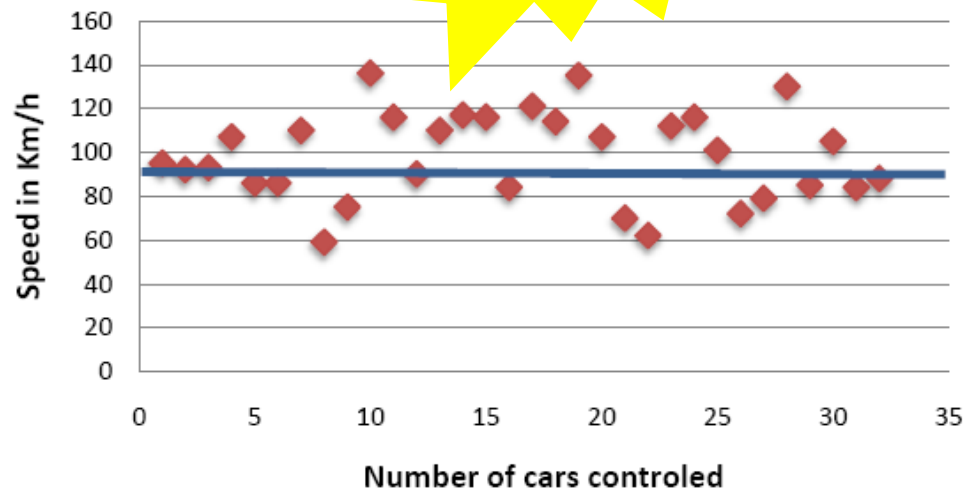
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Speed

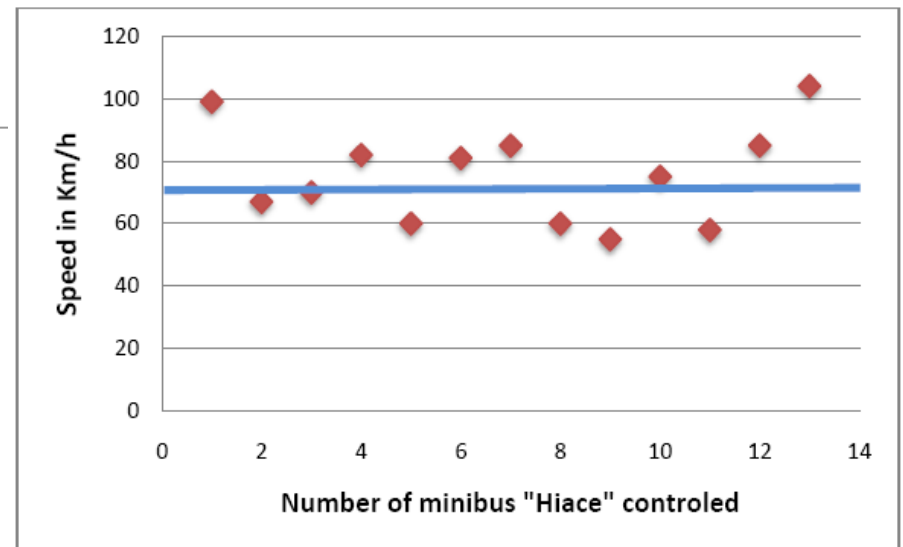
You can collect
this data through
surveys

See UNRSC
manual

- Speed trends at specific locations on the road network, days, times, vehicle types
- Crash type
- Injury data from hospitals
- Changes in public opinion



The blue line corresponds to the speed limit fixed by the law



The blue line corresponds to the speed limit fixed by the law on national road

GRSP Speed Survey
Niger

Vulnerable Road users (pedestrians, cyclists)

You can collect
this data through
surveys

- Crash location, time, day of week
- Road user (pedestrian, cyclist, age, gender)
- Average speed at location
- Observational survey
- Road crossing behavior

GRSP VRU project, Beijing

Pedestrians cross the street
from the surface of the road
per hour

Before
project

27

After
project

12

Work related road safety

You can collect
this data through
surveys

- Management policy on road safety
- Crash data
- Injury severity
- Damage claims
- Fuel costs
- Vehicle km travelled
- Number of vehicles in fleet

www.fleetsafetbenchmarking.net

www.orsa.org.uk

Also, global good practice manual on fleet safety in production (possible pilot testing 2010)



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Thank you for your attention!

www.grsroadsafety.org

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