



# ROAD SAFETY IN GLOBAL PERSPECTIVES

Introduction to the new Road Safety Requirements under the latest World Bank Environmental and Social Framework (ESF)

**Transport Global Practice**

Mrs. Alina Burlacu  
Transport Specialist  
World Bank Global Road Safety Facility

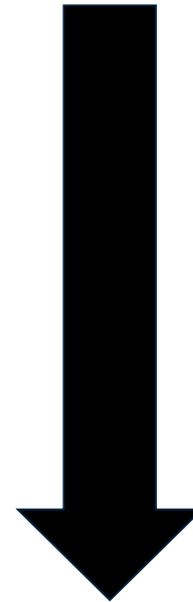
# The Importance of Road Safety



Source: iRAP

# Magnitude of the Road Safety Crisis

31<sup>st</sup> of August 1869 – First victim in a road crash

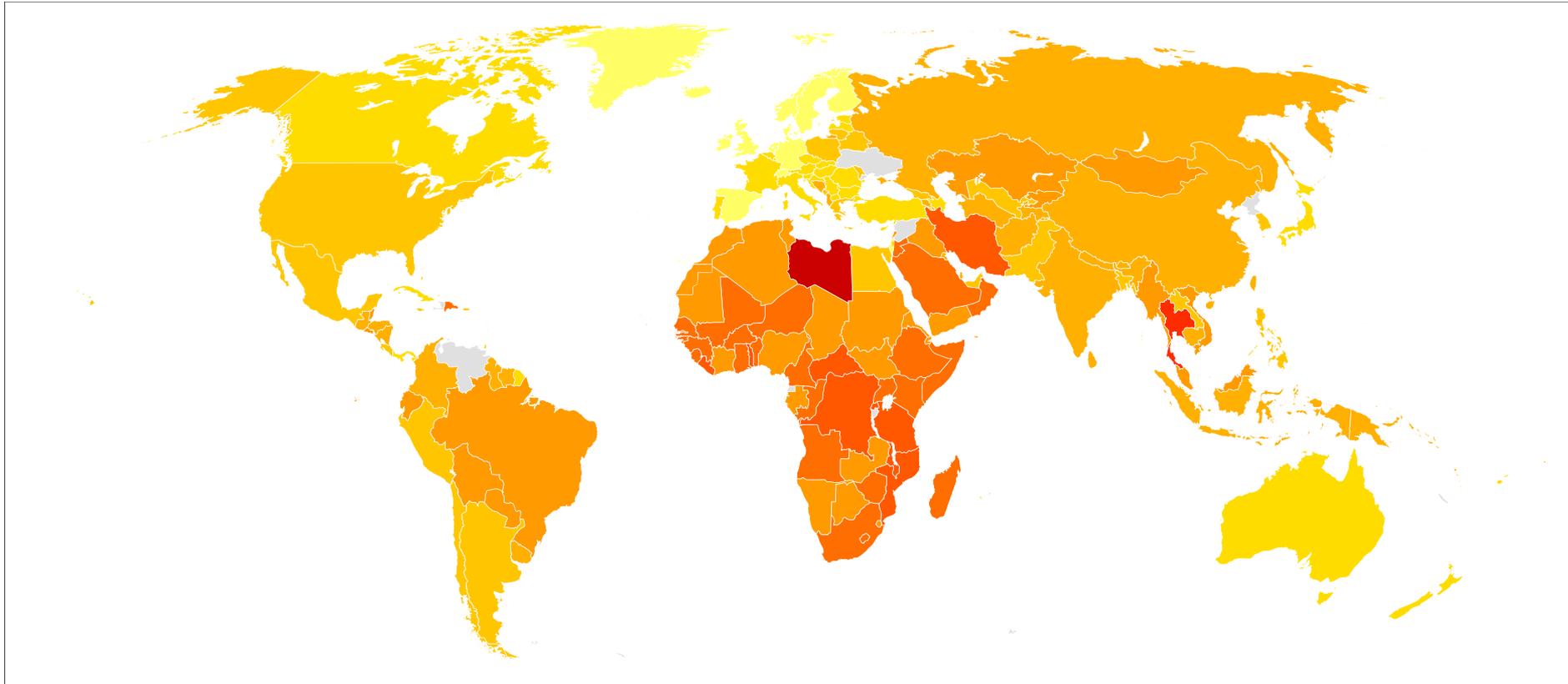


*Since then..*

More than **30 million fatalities** worldwide and  
hundreds of million injured

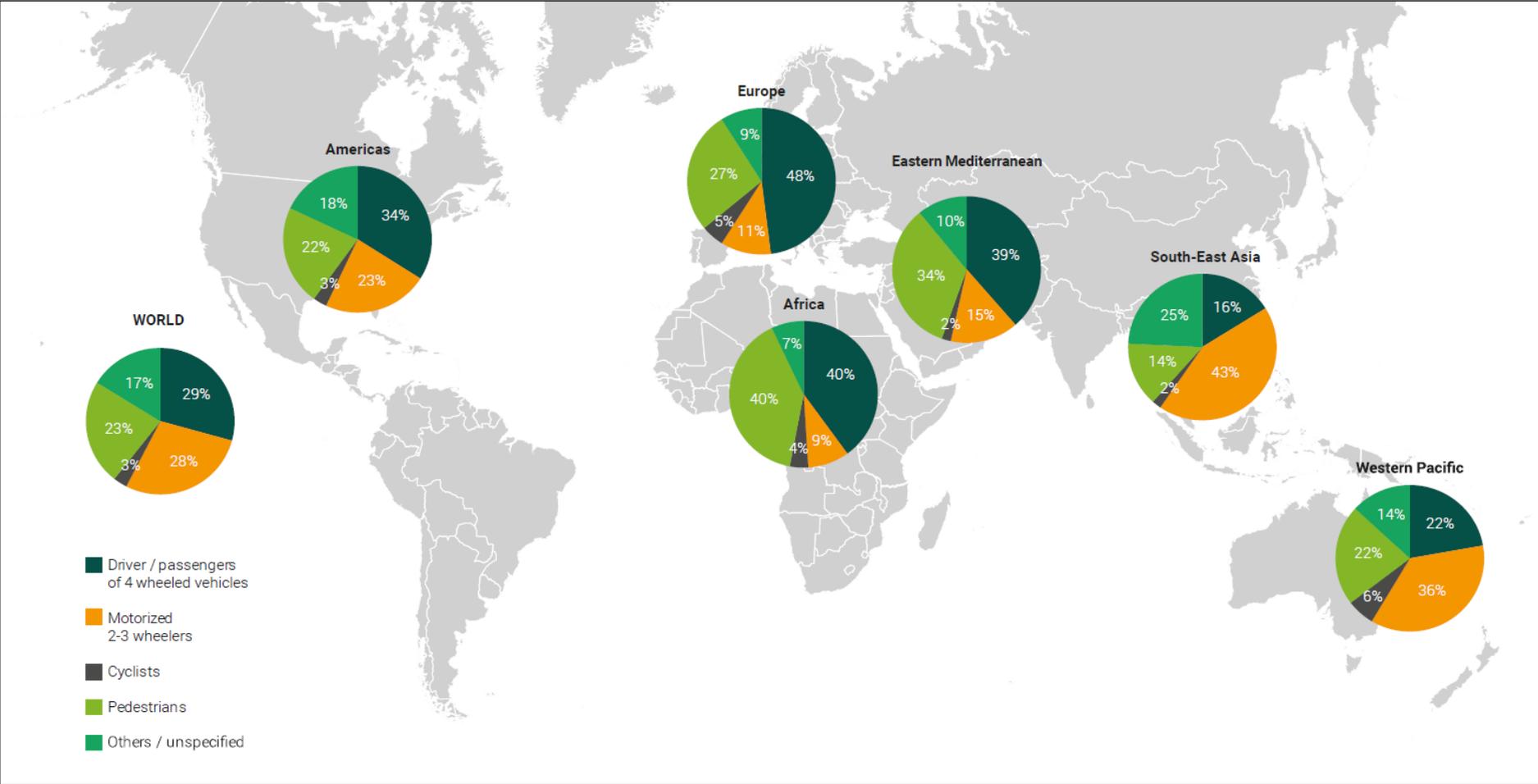
# Developing World Suffers Most

Death Rates per 100,000 Inhabitants (WHO, 2015)



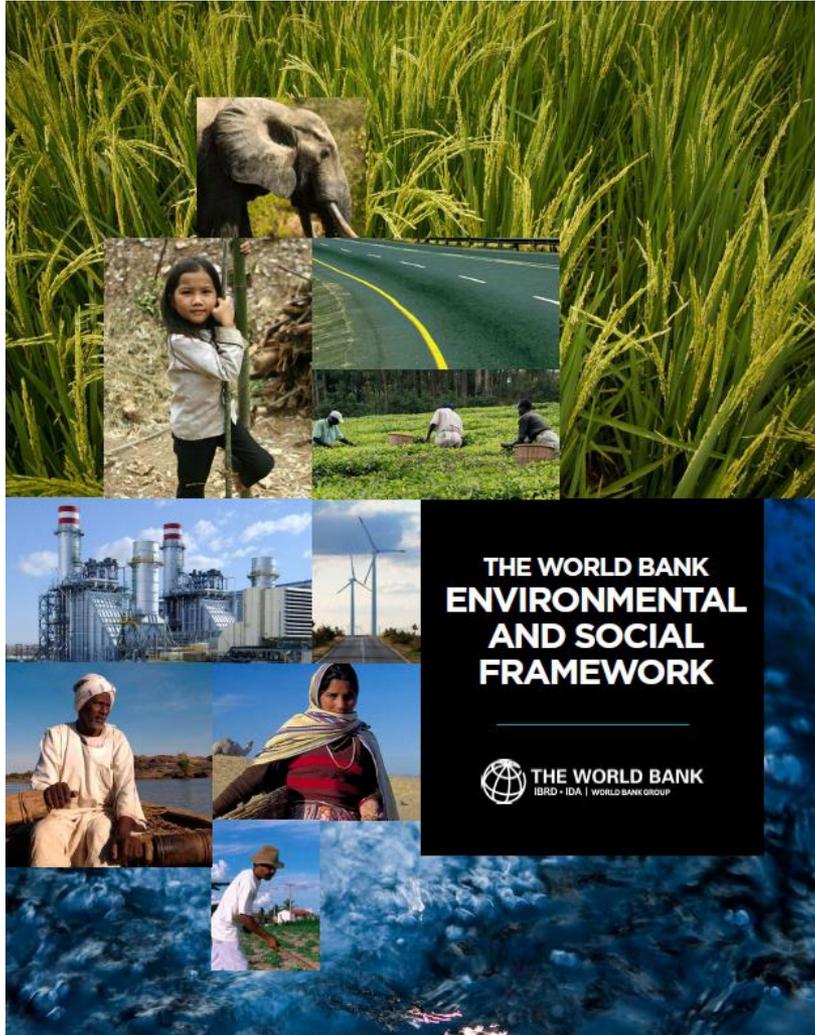
fewer than 5 5-10 10-15 15-20 20-25 25-30 30-35 35-40 more than 40

# Vulnerable Users Most at Risk



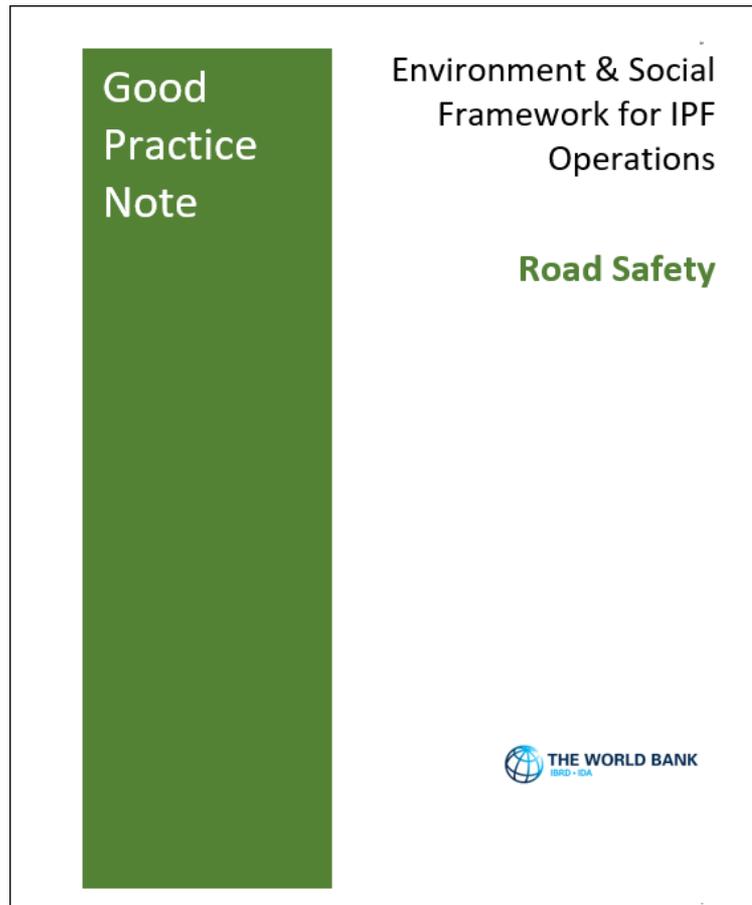
Source: 2018 WHO Global Status Report on Road Safety

# Road Safety in the ESF



- Part of World Bank Environmental and Social Framework (ESF)
- ESS4 Para 10-13
  - Identify risks
  - Do road safety assessments
  - Implement feasible mitigation measures
  - Monitor safety
  - Procure safe vehicles
  - Operate construction equipment safely on public roads

# Road Safety Good Practice Note (GPN)

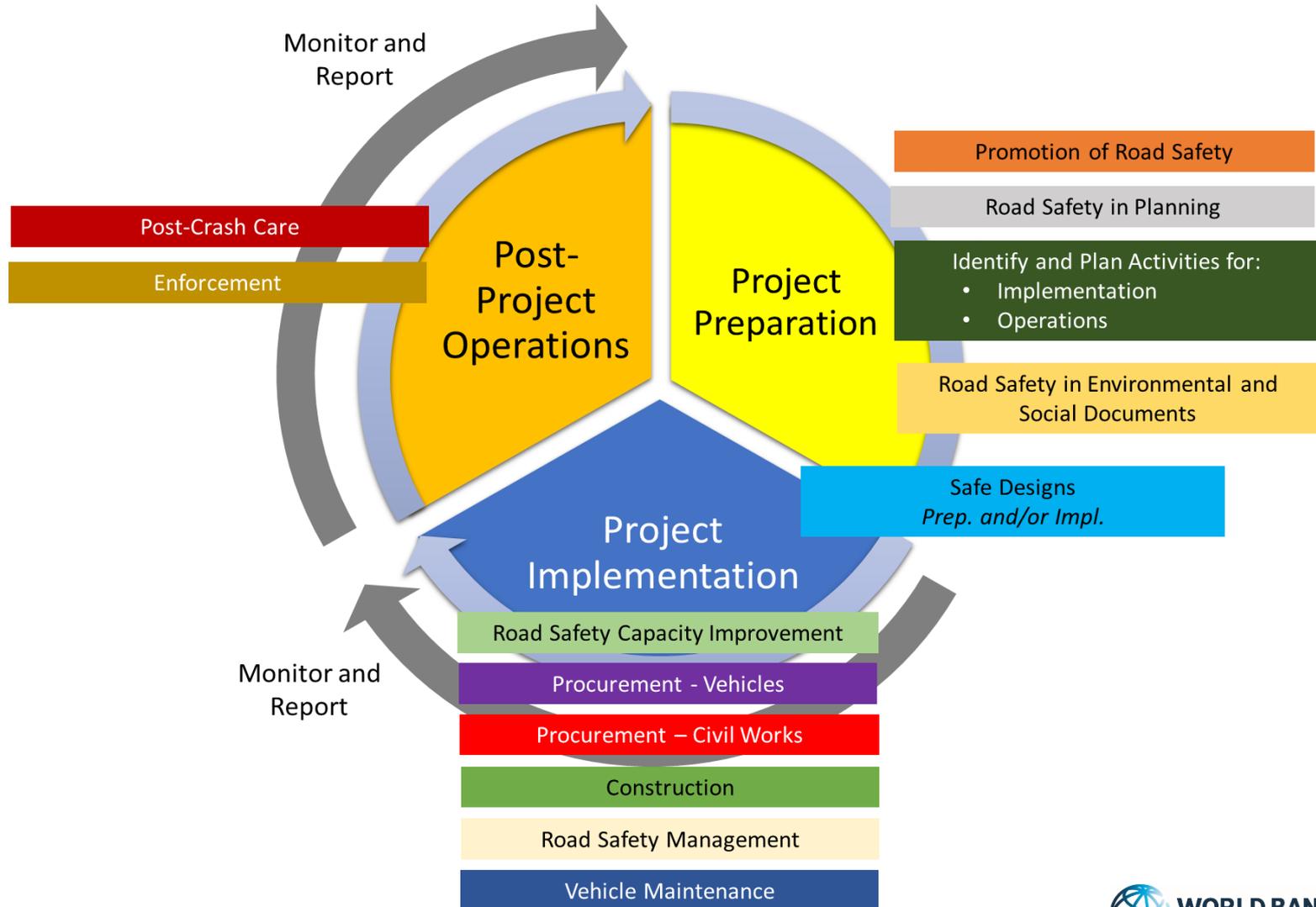


- **GPN developed to guide World Bank staff on how to assist clients in implementing the requirements**
- **Structured around:**
  - **Preparation**
  - **Implementation**
  - **Operations**
- **Recommendations for IPF projects (not CDD, P4R, etc.)**

**Resources available at:**

**<https://tinyurl.com/rs-gpn-resources>**

# Road Safety in the Project Cycle



# GPN Approach

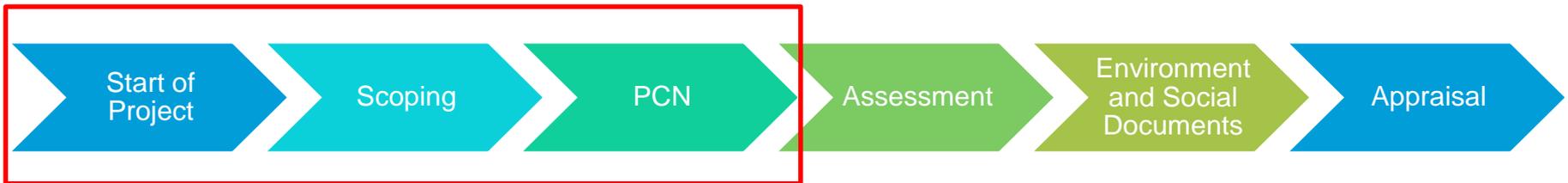
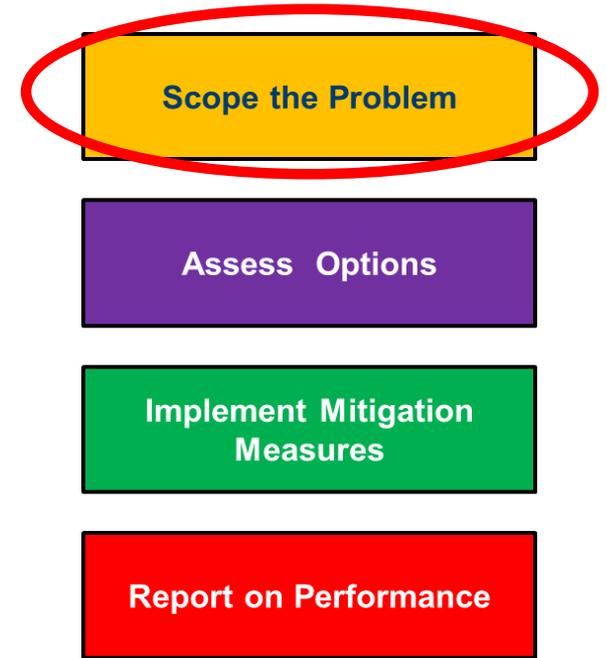
**Scope the Problem**

**Assess Options**

**Implement Mitigation Measures**

**Report on Performance**

# Scoping the Problem



# Types of Projects ESF Applies To



**Type A: Transport Projects**



**Type B: Non-Transport Projects Impacting on Traffic Volume or Patterns (e.g. new hospital)**

# Types of Projects ESF Applies To

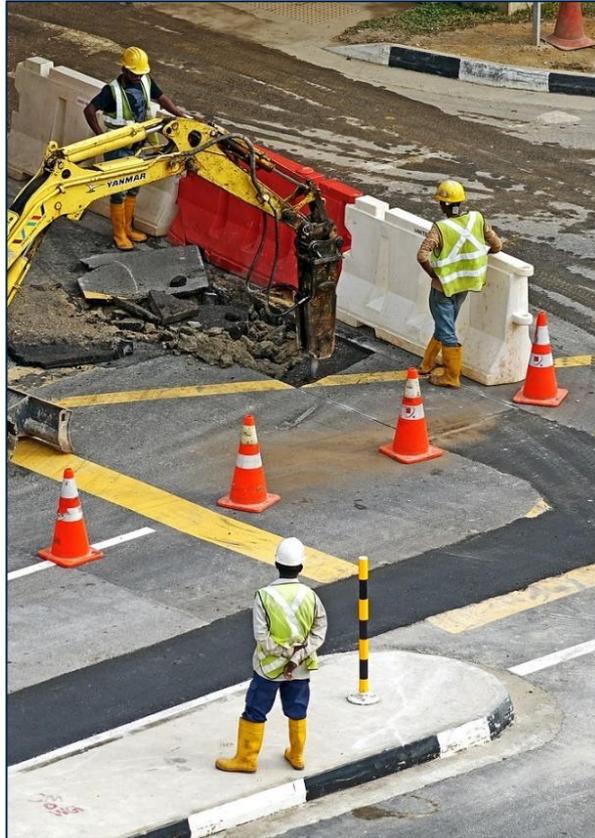


**Type C: Construction Only**



**Type D: Vehicle Procurements**

# Who are Exposed to Risks



**Project Workers**



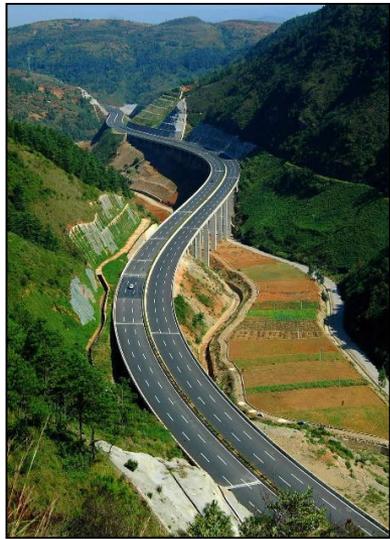
**Local Communities**



**Road Users**

# Traffic and Road Safety Risks

## Factors Influencing Overall Project Traffic and Road Safety Risk (OPTRSR)



Infrastructure



Operating Speeds



Road Users



Vehicle Standards



Post-Crash Care

# Vulnerable Users of Critical Importance

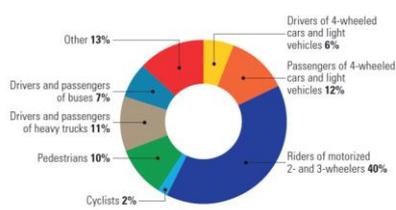
## Pedestrians



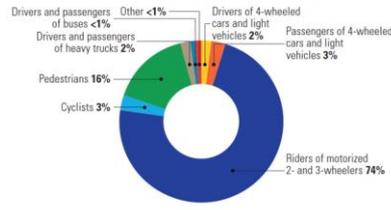
## Cyclists



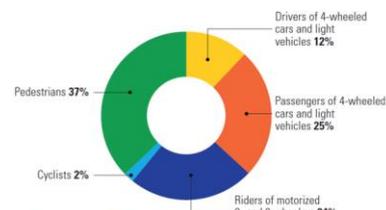
## Motorcyclists



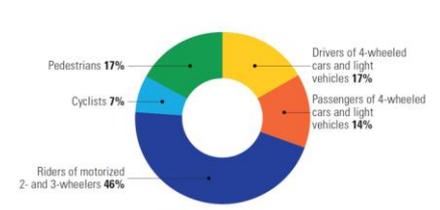
India: 52% Fatalities Vulnerable



Indonesia: 93% Fatalities Vulnerable

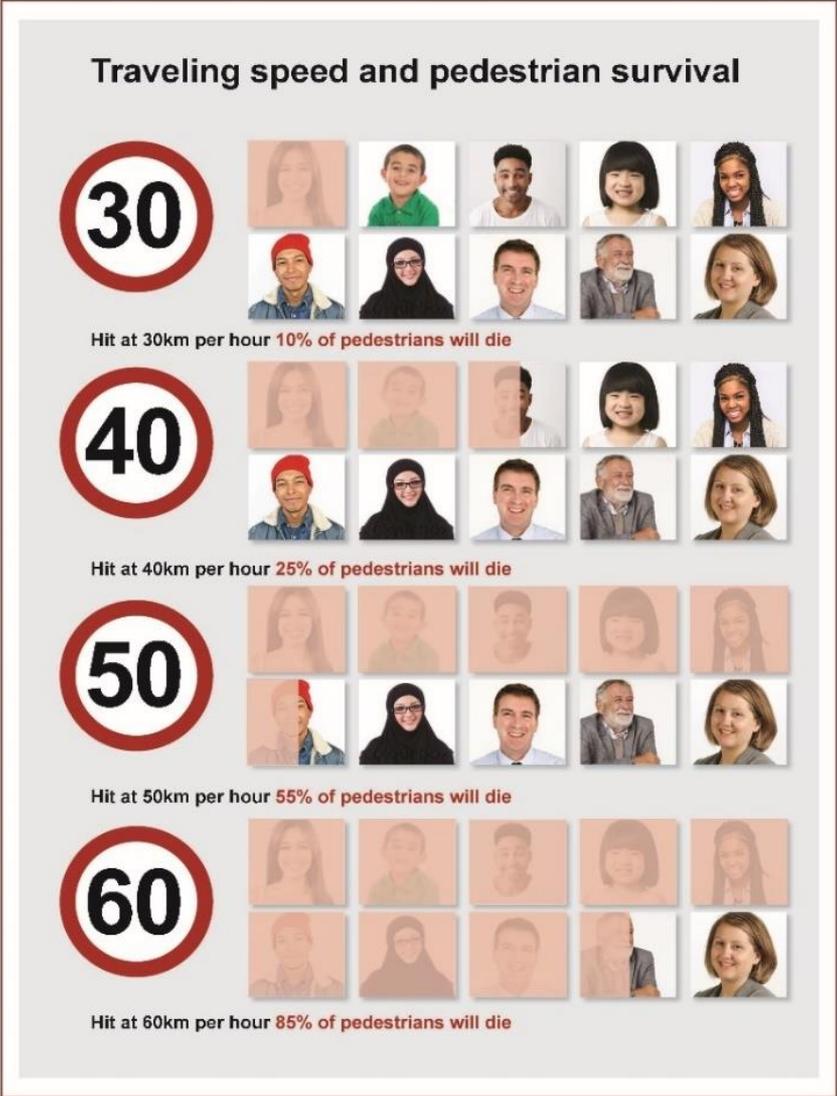


Kenya: 63% Fatalities Vulnerable



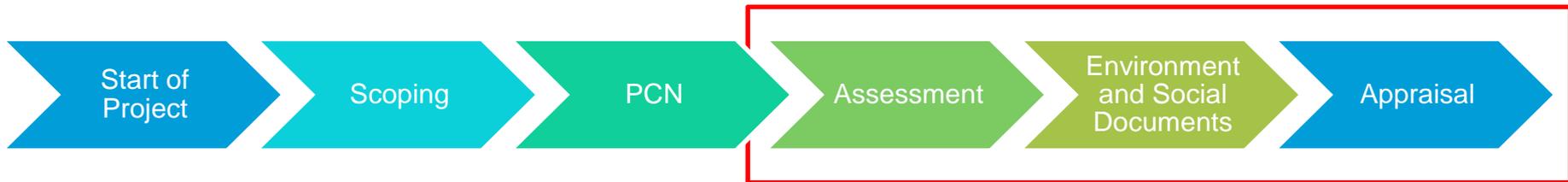
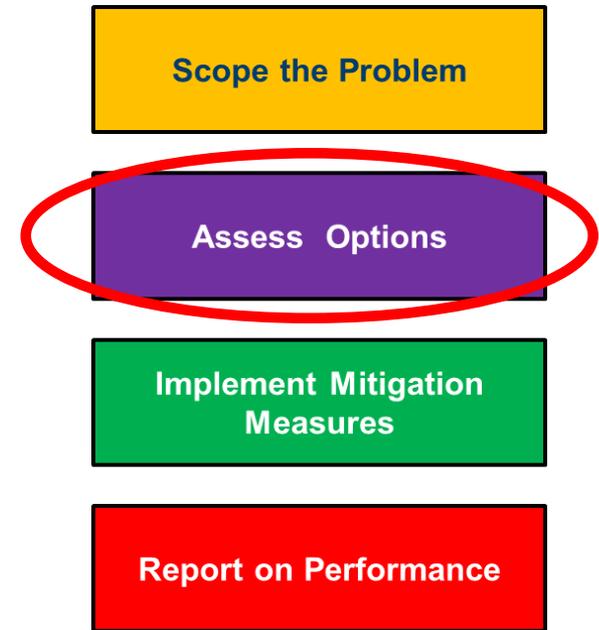
Uruguay: 70% Fatalities Vulnerable

# 30 km/h for Pedestrians and Cyclists



Source: Road Safety GPN

# Assessing Options



# Objective

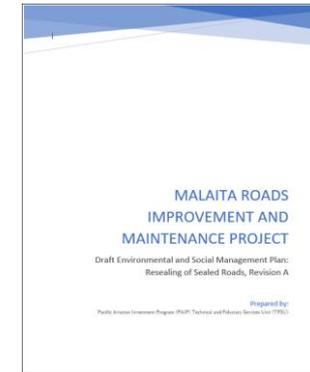
## Assessment



Measure	
<b>Loss of Control Crashes</b>	Advisory Speeds
	Increased skid resistance
	Shoulder widening/paving
	Hazard removal
	Clear Zones
	Guardrails and end treatments
<b>Intersection Crashes</b>	Safety edges
	Realignment/improve geometry
	Reduce approach speeds by signs and visual measures
	Enforcement
	Reduce and removal of movements
	Improved lighting
<b>Head-on Crashes</b>	Provision of turn lanes
	Grade separation
	Replacing controlled intersections with roundabouts
	Lower speed limits
	Centerline treatments
	Enforcement
<b>Overtaking Crashes</b>	Median barriers
	Median separation (e.g. concrete median)
	2+1 roads
	Marked median treatments
	Audio/tactile pavement markings
	Improved signs/markings

### Mitigation Measures

Measure	
<b>Vertical deflection devices</b>	Road humps
	Road cushions
	Flat top road humps
	Zebra crossing on a platform
	Raised intersections/pavements
<b>Horizontal deflection devices</b>	Lane narrowing
	Curb extension at intersections
	Slow points
	Centre blister islands
	Driveway links to residences
	Mid-block median treatments
<b>Diversion devices</b>	Roundabouts
	Full road closure
	Half road closure
	Diagonal road closure
<b>Signs, line marking and other treatments</b>	Modified 'T' intersection
	Left-in/ left-out islands
	Speed limit signs
	Reallocate road lanes to other modes
	Prohibited traffic movement
	One-way (street) signs
	Give Way signs



### Environmental and Social Documents

**Bidding Documents**  
PROCUREMENT OF PHYSICAL WORKS FOR  
**Construction and Rehabilitation of Airport Runways, Aprons and Related Infrastructure for Vanuatu Airports**

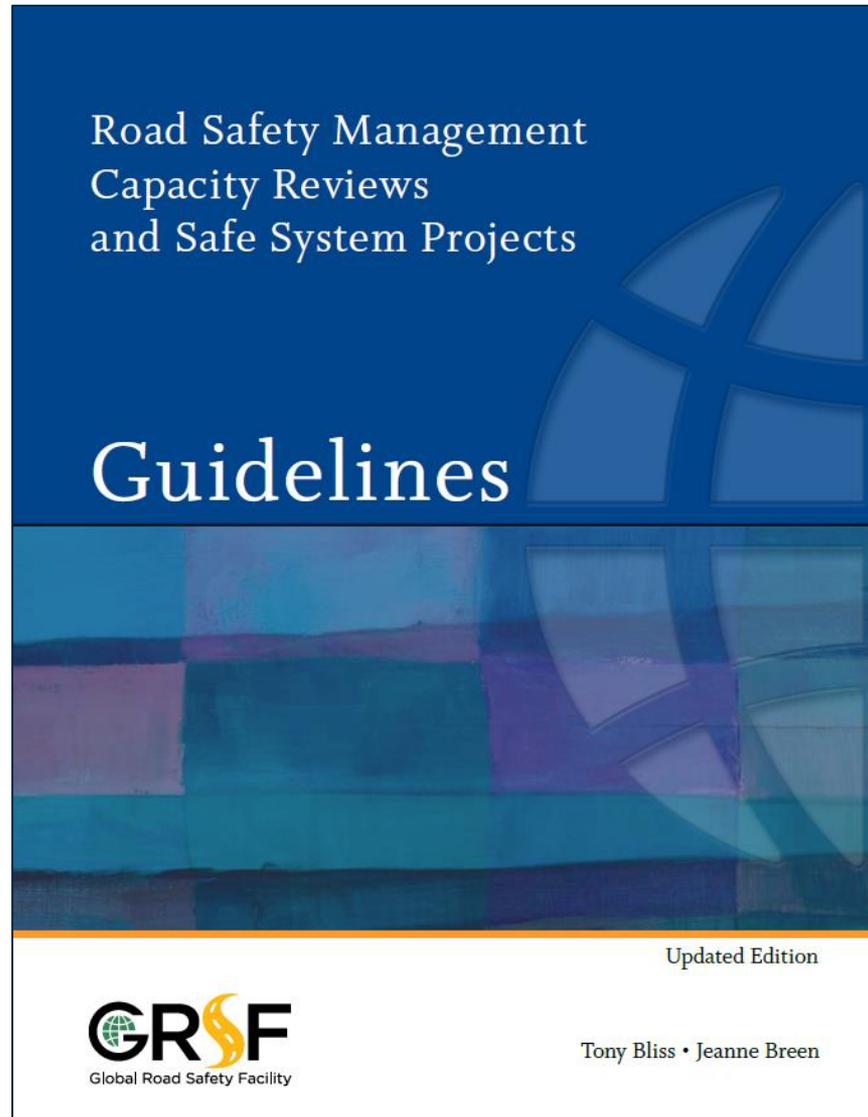
PROJECT: Vanuatu Aviation Investment Project (VAIP) P154149  
EMPLOYER: Ministry of Infrastructure and Public Utilities (MIPU)  
ICB NUMBER: MIPU/ICBW/N-A15.5  
DATE OF ISSUE: November 7, 2016

**Bidding Documents**  
PROCUREMENT OF PHYSICAL WORKS FOR  
**Physical Works for Airport Pavements, Drainage and Service Infrastructure, Faleolo International Airport, Samoa**

Samoa Aviation Investment Project (SAIP) P143408  
Samoa Airport Authority (SAA)  
SAA/ICBW/S-A15.4  
May 2017

### Procurement Documents

# Assessments - Institutions



# Assessments - Infrastructure

## iRAP Star Rating and Investment Plan Coding Manual

Drive on the right edition - August 2014



Setting the standards for the road coding process  
RAP-SR-2.2

**PRINT WARNING** – printed copies of this document or parts thereof should not be relied upon as a current reference document.

Always refer to the electronic copy for the latest version at:

[http://downloads.iRAP.org/docs/iRAP-SR-2.2\\_Star\\_Rating\\_coding\\_manual.pdf](http://downloads.iRAP.org/docs/iRAP-SR-2.2_Star_Rating_coding_manual.pdf)



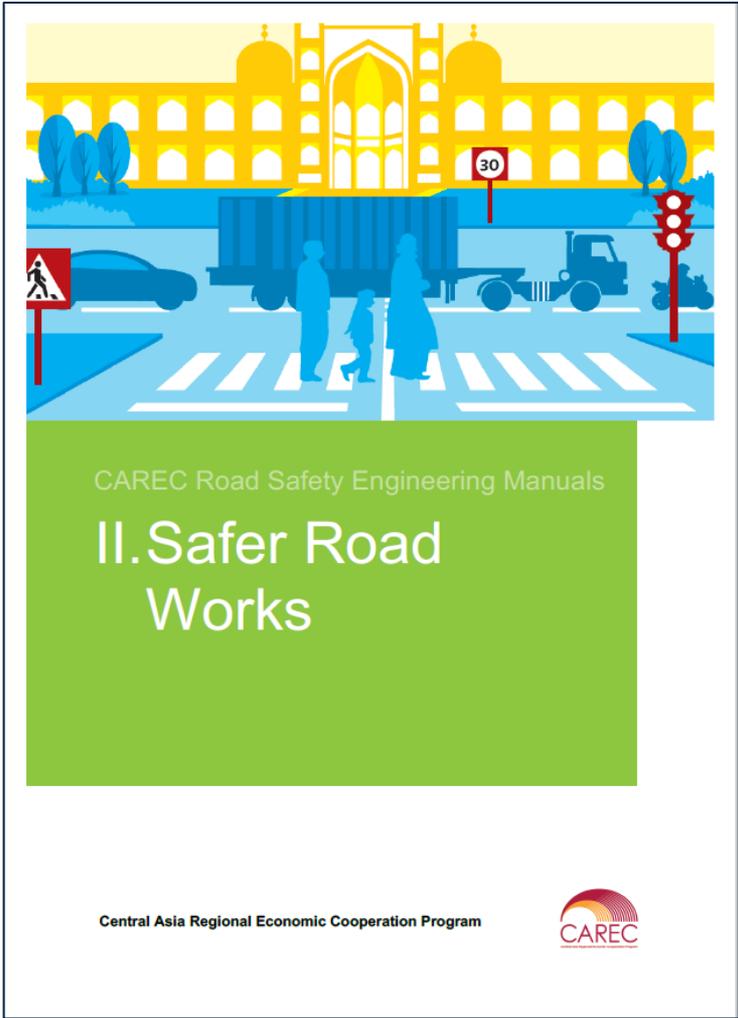
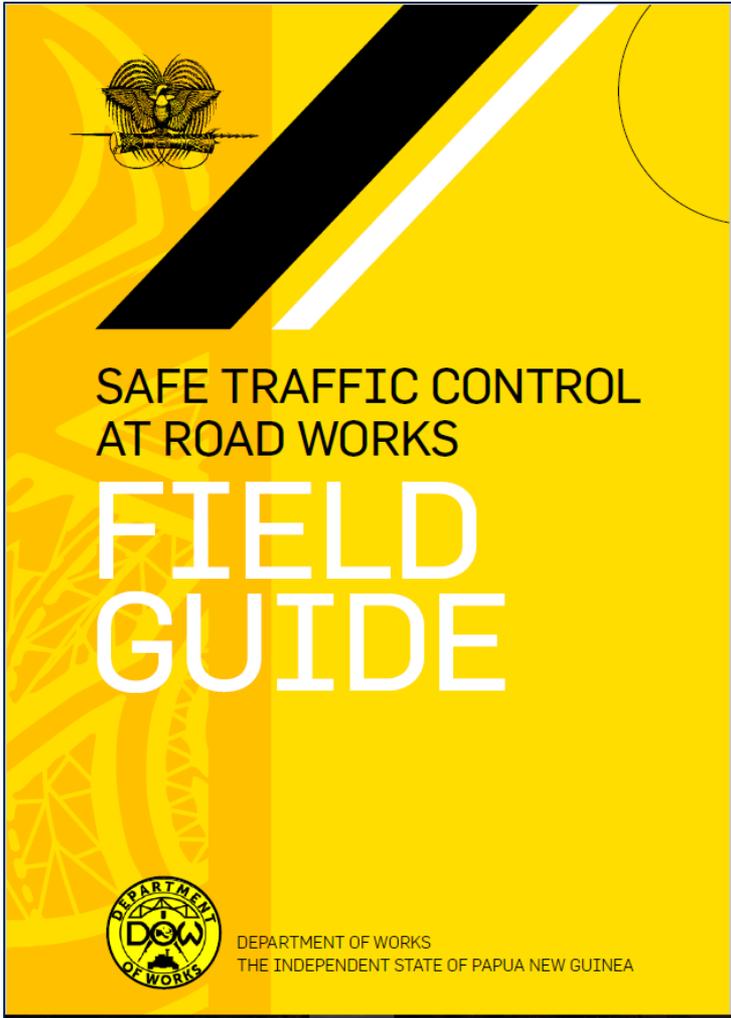
**Madhugiri to Pavagada (16.9km)**

Pedestrians: ☆

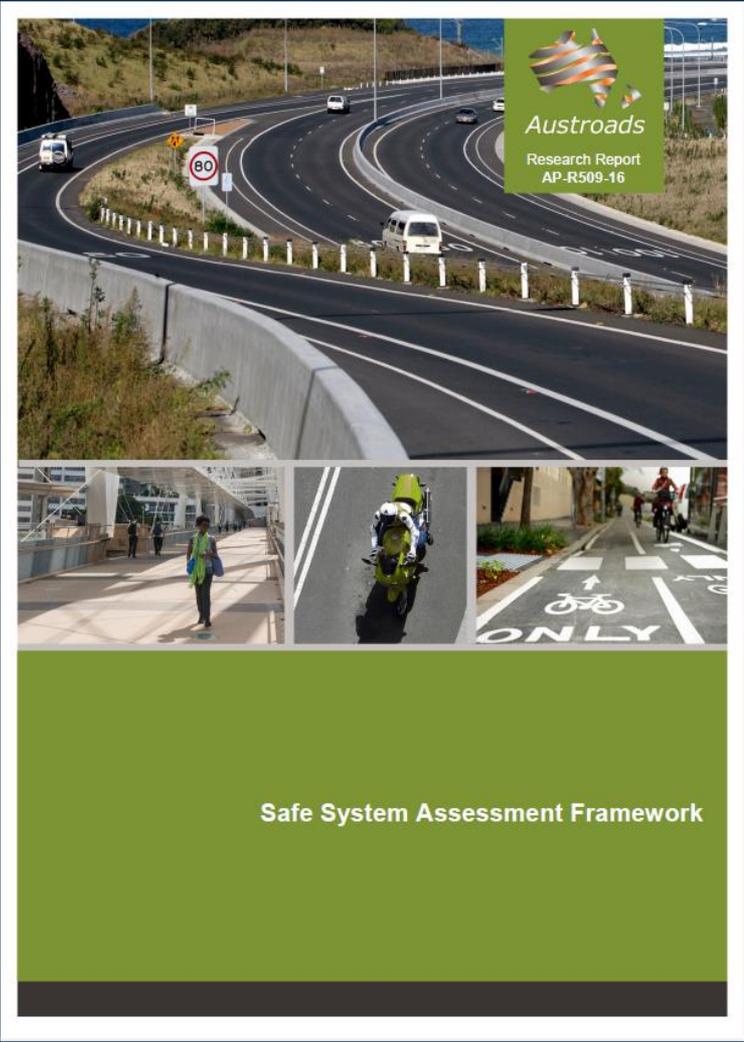
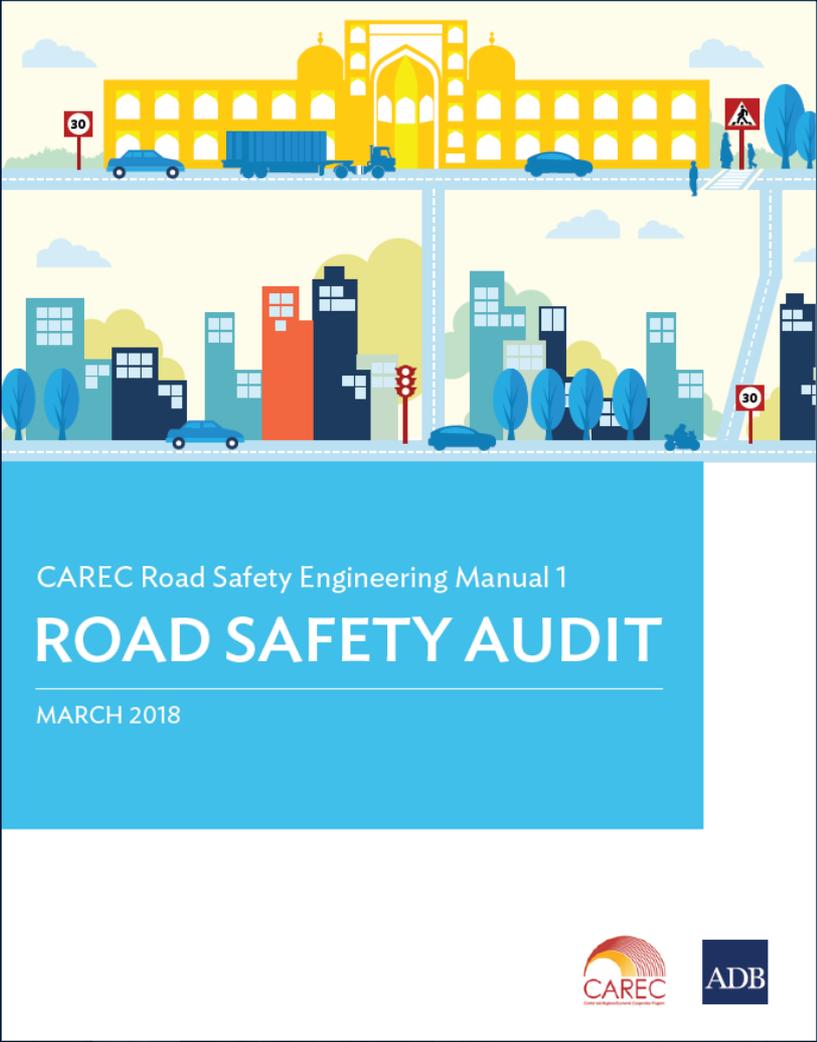
Vehicle Occupants: ★★

- 60 km/h
- Undivided
- No footpath
- No motorcycle or bicycle facilities
- Fixed objects (0-5m)
- Sharp curve
- 3-leg unsignalised intersection
- No paved shoulder
- Unpaved shoulder
- Poor delineation
- Narrow lane widths

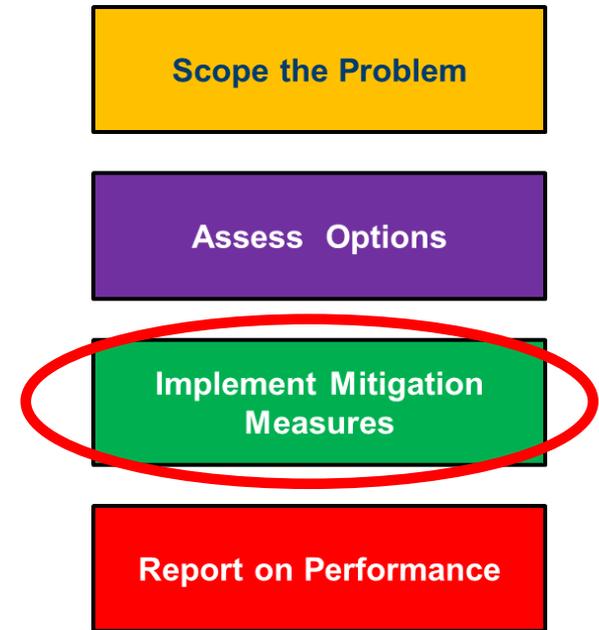
# Assessments - Construction Safety



# Assessments - Designs



# Implement Mitigation Measures



# Mitigation Measures

Road Safety Activity	Annex 2 Table with Mitigation Measures for the Activity	Project Phase <sup>a/</sup>			Targeted Group			Type of Project Applies To			
		Preparation	Implementation	Operations	Workers	Communities	Road Users	A: Transport	B: Other	C: Construction	D: Vehicles
Promoting the Road Safety Agenda	A2.1	✓	✓		✓	✓	✓	✓	✓	✓	
Road Safety in Planning	A2.1	✓				✓	✓	✓	✓		
Road Safety in the ESCP/ESMF/ESMP/RAP	A2.1	✓			✓	✓	✓	✓	✓	✓	✓
Road Safety Capacity Strengthening Opportunities	A2.2	~	✓		✓	✓	✓	✓	✓		
Safe Designs	A2.3	✓	✓			✓	✓	✓	✓		
Procurement – Civil Works	A2.4	~	✓		✓	✓	✓	✓	✓	✓	
Procurement – Vehicles	A2.4	~	✓			✓	✓	✓	✓		✓
Construction	A2.5	~	✓		✓	✓	✓	✓	✓	✓	
Road Safety Management	A2.6	~	✓			✓	✓	✓	✓		✓
Vehicle Maintenance	A2.6	~	✓			✓	✓	✓	✓		✓
Enforcement	A2.7	~	♦	✓		✓	✓	✓	✓		✓
Post-Crash Care	A2.7	~	♦	✓		✓	✓	✓	✓		

Notes: <sup>a/</sup> ~ Indicates that the design of the activity is done during Preparation. ♦ That there will be overlap with the Operations Phase.

# Solutions - Safe Vehicles

**40**

countries implement  
7 or 8 of the priority  
UN vehicle safety  
standards

**124**

countries apply 0 or 1 of  
the 8 priority UN vehicle  
safety standards



**NCAP 1 Star Car**



**NCAP 5 Star Car**

Source: 2018 WHO Global Status  
Report on Road Safety

Source: NZTA 2019 Safe System Workshop

# Safe Designs

Number	Project Type	Action to Address Traffic and Road Safety Risks	Good Practice Activities and Mitigation Measures	Potential Results Indicators	Who is Responsible for Action	Should this Action be Considered by Risk Level			
						Low	Moderate	Substantial	High
<b>Safe Designs</b>									
12	A, B	Use a <b>design RSA</b> <sup>36</sup> prior to designs being completed and procurement starting to confirm that road safety concerns are identified, positive practical safety features have been properly incorporated into the detailed designs, and that the road is safe for the changes in traffic volume and mix anticipated.	<ul style="list-style-type: none"> <li>Ensuring safety ratings and audits of designs are undertaken and recommendations for safety improvements are adopted.</li> <li>Conduct SSA to confirm all Safe System opportunities are realized.</li> <li>Identified issues should be addressed.</li> </ul>	<ul style="list-style-type: none"> <li>Safety rating.</li> <li>Safety audit compliance.</li> <li>Crash fatalities and serious injuries.</li> </ul>	<ul style="list-style-type: none"> <li>IA</li> <li>Task Team to review RSA and SSA findings and confirm IA responds reasonably to all audit report recommendations</li> </ul>	✓	✓	✓	✓
13	A, B	<p>Project designs need to capture opportunities for <b>speed management</b><sup>37</sup> through road design and traffic calming measures that limit speeds to safe operating levels. Operating speeds need to remain safe for any changes in traffic volume and mix anticipated.</p> <p>Review proposed <b>speed limits and designs</b> on project roads so that the operating speeds are consistent with a Safe</p>	<ul style="list-style-type: none"> <li>Adopt speed management interventions aimed at controlling the operating vehicle speed and not relying on the posted speed limit.</li> <li>Identify opportunities to control operating speeds not just by speed through traffic calming features to manage speeds (such as speed humps, speed cushions, chicanes, raised platform crossings, roundabouts, narrowed lane markings).</li> </ul>	<ul style="list-style-type: none"> <li>Number of speed managing devices installed.</li> <li>Percentage of pedestrian crossings at which speeds are managed down to 30km/h by effective speed managing infrastructure.</li> <li>Safe crash impact speed thresholds.</li> </ul>	IA through the design engineer	✓	✓	✓	✓

# Sample - Urban Road Interventions

Measure		Applies to Local and/or Arterial Roads	Reduce Speeds	Reduce crash risk	Increase pedestrian safety	Increase bicycle safety	Reduce traffic volume
<b>Vertical deflection devices</b>	Road humps	L	✓	✓	-	✓	-
	Road cushions	L	✓	✓	✓	✓	-
	Flat top road humps	L	✓	✓	✓	✓	-
	Zebra crossing on a platform	L / A	✓	✓	✓	✓	✓
	Raised intersections/pavements	L / A	✓	✓	✓	✓	-
<b>Horizontal deflection devices</b>	Lane narrowing	L / A	✓	-	-	-	✓
	Curb extension at intersections	L / A	✓	✓	✓	-	✓
	Slow points	L	✓	-	-	✓	-
	Centre blister islands	L / A	✓	-	-	✓	✓
	Driveway links to residences	L	✓	✓	✓	✓	✓
	Mid-block median treatments	L / A	✓	✓	✓	-	✓
	Roundabouts	L / A	✓	✓	-	✓	-
<b>Diversion devices</b>	Full road closure	L	-	✓	✓	✓	✓
	Half road closure	L	-	✓	✓	✓	✓

# Report on Performance

Scope the Problem

Assess Options

Implement Mitigation  
Measures

Report on Performance

# Incidents During Construction

Classification	Characteristics	Reporting
<b>Indicative</b>	<ul style="list-style-type: none"> <li>• Relatively minor and small-scale localized incident that negatively impacts a small geographical areas or small number of people</li> <li>• Does not result in significant or irreparable harm.</li> </ul>	IA / SE to report within the next monthly/bi-monthly Report
<b>Serious</b>	<ul style="list-style-type: none"> <li>• May cause significant harm to the environment, workers, communities, or natural or cultural resources;</li> <li>• Is complex or costly to reverse and may result in some level of lasting damage or injury; Consistent failure by the Contractor to comply with C-ESMP requirements or failure to remedy C-ESMP non-conformances; which could result in significant impacts.</li> <li>• Examples include:               <ul style="list-style-type: none"> <li>○ Injuries requiring off-site medical attention;</li> <li>○ significant adverse effects or damage to private property (e.g. vehicle accident)</li> </ul> </li> </ul>	IA / SE to report within 48 hours
<b>Severe</b>	<ul style="list-style-type: none"> <li>• May cause great harm to individuals.</li> <li>• Requires an urgent and immediate response.</li> <li>• Is complex and may be expensive or impossible to remedy and is likely irreversible.</li> <li>• Examples include:               <ul style="list-style-type: none"> <li>○ A fatality</li> <li>○ A serious injury requiring immediate hospitalization</li> </ul> </li> </ul>	IA / SE to report immediately and, in any event, within 24 hours.

# Incidents During Operations

← → ↻ 🏠 <https://www.itf-oecd.org/IRTAD> ☆

📱 Apps 📁 Business 📁 Computers 📁 Financial 📁 GPS 📁 Hobbies 📁 Movies 📁 News 📁 Professional 📁 Sport 📁 Travel 📁 World Bank ★ Bookmarks 🌱 Feedly

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## International Traffic Safety Data and Analysis Group (IRTAD)

### IRTAD

International Traffic Safety Data and Analysis Group (IRTAD)

[Group Activities](#)

[Members](#)

[IRTAD Road Safety Database](#)

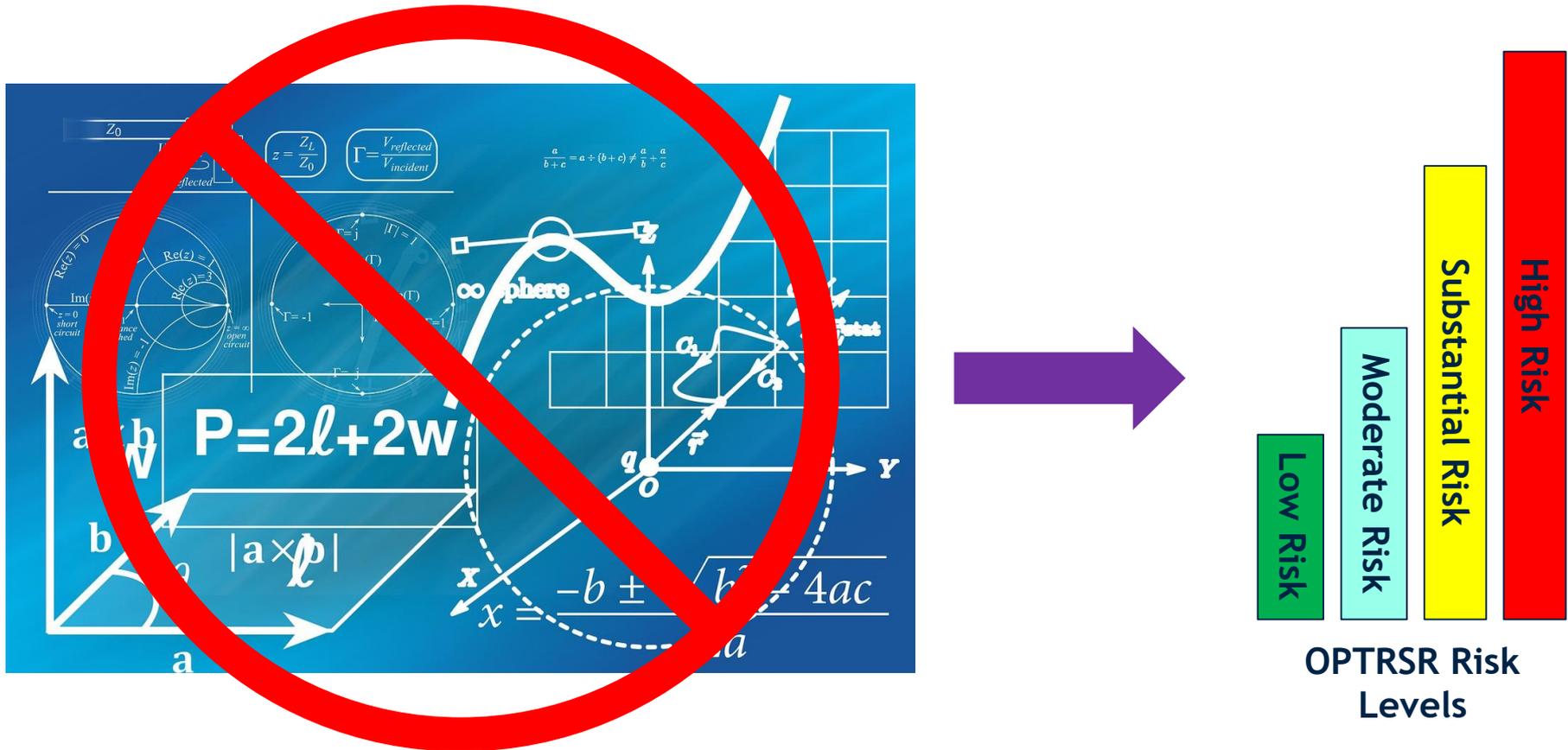
[Publications](#)

[Contact IRTAD](#)

Almost 1.25 million people are killed on the world's roads every year, and tens of millions are seriously injured. Through its permanent working group on road safety, known as IRTAD, ITF aims to advance international knowledge about road safety and contribute to reduce the number of traffic casualties. With 80 members and observers from more than 40 countries, IRTAD has become a central force in the promotion of international co-operation on road crash data and its analysis. It has been hailed as "model of a multi-country effort" and its crash data described as "simply the best in the world".



# Estimating the risk: Judgement Required!



Use a **precautionary approach**: When in doubt **assume a higher risk**

# Questions?

[http://pubdocs.worldbank.org/en/648681570135612401/  
Good-Practice-Note-Road-Safety.pdf](http://pubdocs.worldbank.org/en/648681570135612401/Good-Practice-Note-Road-Safety.pdf)





KEMENTERIAN PENGANGKUTAN MALAYSIA



# THE ROAD SAFETY SDGs POST-2020: TANGIBLE ACTIONS TO PROMOTE GREATER GOVERNMENT

PRESENTER'S:

MR WONG YAU DUENN  
DEPUTY DIRECTOR GENERAL  
ROAD SAFETY DEPARTMENT MALAYSIA



Asia-Pacific  
Economic Cooperation

# THE CURRENT SCENARIO

## DATA FOR 2018

### DEATHS

**6,284 deaths**

**17 deaths on the road  
in a day**

**1 death on the road  
in every 80 minutes**

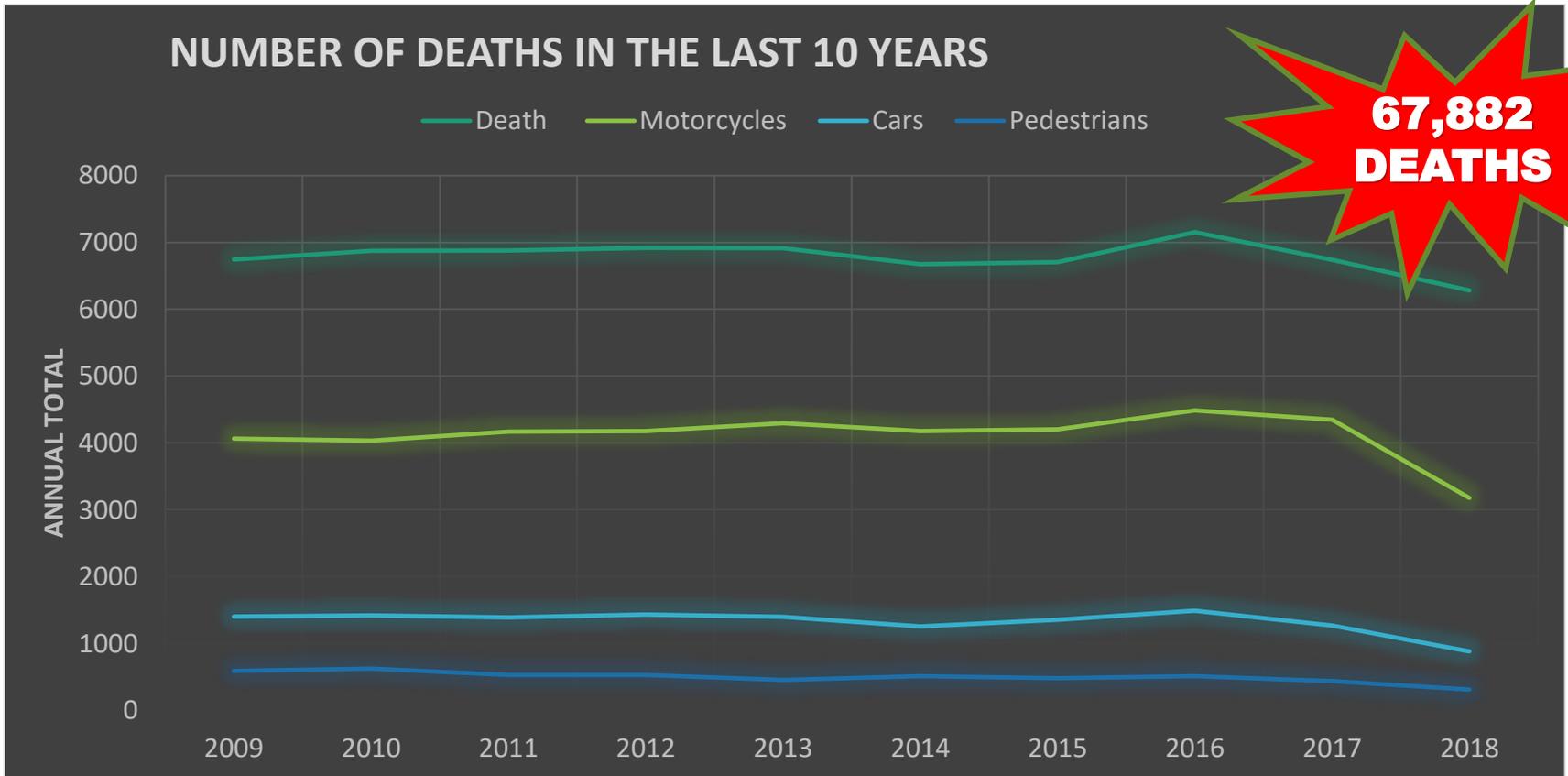
### ACCIDENTS

**547,348 reported crashes**

**1,500 reported cases  
in a day**

**1 reported case  
in almost every minute**

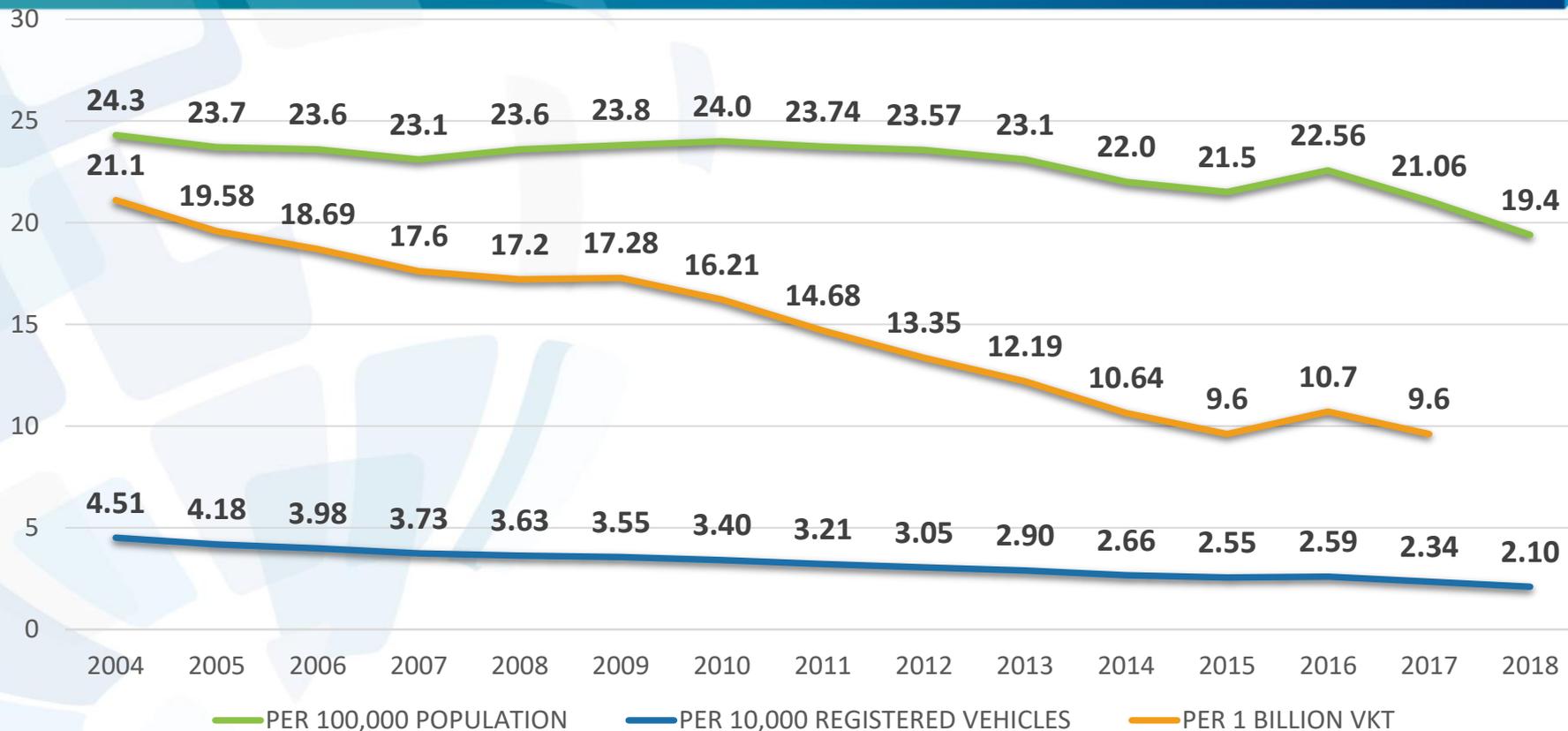
# THE CURRENT SCENARIO



# ROAD TRAFFIC FATALITY INDEX (2004-2018)



Asia-Pacific  
Economic Cooperation





## **ROAD SAFETY CHALLENGES**

- **Stringent budget for implementation on road safety initiatives**
- **Need innovative approach to change public behavior towards road safety**
- **Centralizing the road safety implementation, evaluation and intervention**



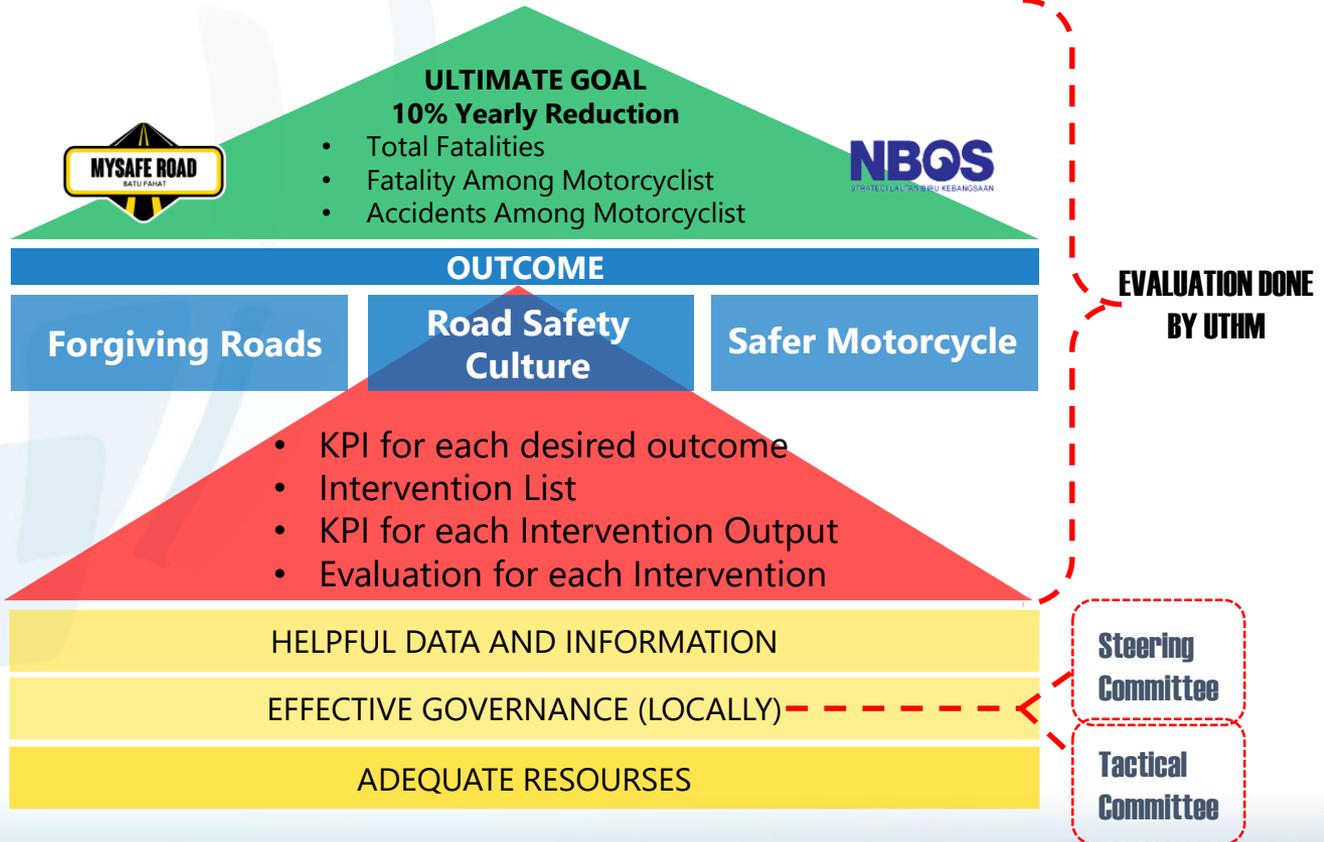
# **ROAD SAFETY INITIATIVES IN MALAYSIA**

# NATIONAL BLUE OCEAN STRATEGY IN ROAD SAFETY STRATEGY- LOCALITY & OUTCOME BASED APPROACH

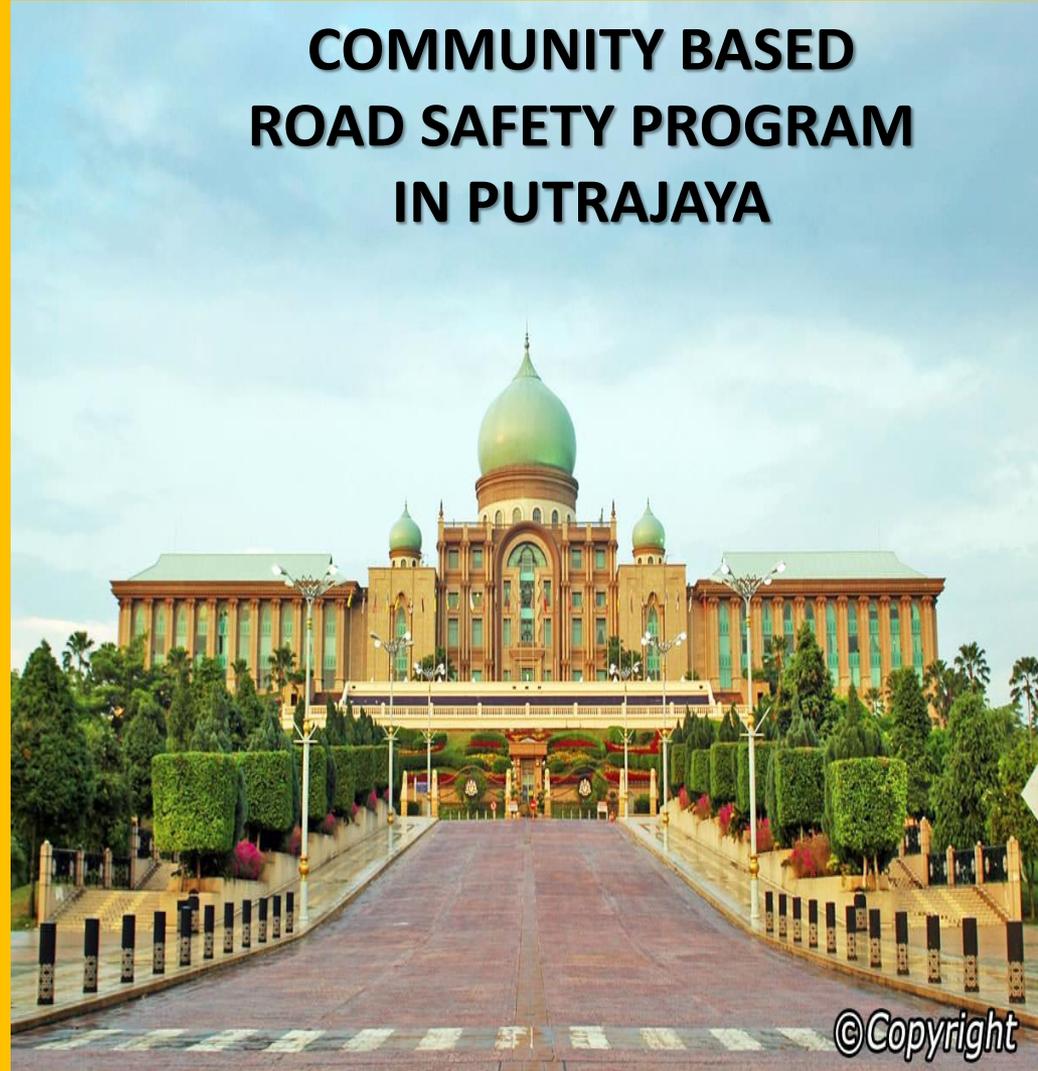


Asia-Pacific  
Economic Cooperation

FEB 2017 – NOV 2017 (Implementation will be monitored by UTHM)  
 DEC 2017 – FEB 2018 (Impact Assessment Study by UTHM)



- ✓ Will be start in February 2020
- ✓ Comprise elements:
  - Advocacy and public awareness
  - Enforcement
- ✓ Engagement with Putrajaya community involvement
- ✓ Aim to create high impact on road safety awareness among Putrajaya residents



# COMMUNITY BASED ROAD SAFETY PROGRAM IN PUTRAJAYA



© Copyright



## KIDZANIA GO (STOP,LOOK,WAVE)

57,774 kids

260 schools

37 community  
events



**STOP**

Stop at the Crosswalk  
and wait until there is no  
approaching vehicles.



**LOOK**

Stay away from the blind spots.  
Seek eye contact with the  
driver when he or she has stopped.



**WAVE**

Wave to the driver  
before you cross  
the road.





Thank you

# Strategic Communication for Road Safety in BIGRS: Experience and Opportunities

Tom Carroll  
Kuala Lumpur, October 30, 2019



# Mass Media Campaigns

- Mass media campaigns coordinated with enforcement can play ***an essential role*** in addressing risky road user behaviors, operating as an integrated component of a system approach.
- Road safety campaigns have an estimated overall significant ***crash-reduction effect*** of 9%. Campaigns ***incorporating enforcement*** strategies to deliver their message are associated with greater crash reductions.

[Phillips et al. 2011].



# Cities where Bloomberg Philanthropies Initiative for Global Road Safety (BIGRS) is Operating

Only 54% of vehicles but 90% of road deaths occur in lower and middle-income countries.



# Campaigns in BIGRS Cities

	Helmets	Drink driving	Seatbelts	Speeding
Addis Ababa				
Accra				
Bandung				
Bangkok				
Ho Chi Minh City		 		
Mumbai				
Shanghai				
Bogota				
Fortaleza				
Sao Paulo				

# VIDEO: Drink driving, HCMC



# VIDEO: Helmet wearing, Bandung



# Generating Earned Media

Media stories can play a key role by:

- Amplifying campaign messages
- Highlighting enforcement efforts
- Shaping the narrative of road safety as a public health issue
- Telling personal stories
- Raising salience of road safety issues on the public agenda

# The Power of Personal Stories



# Challenges and Opportunities

- Mass media campaigns need to be identified as a key element of a city's ***comprehensive road safety strategy***.
- A government agency that has a ***clear mandate for road safety mass communication campaigns*** should be identified.
- The agency needs to have ***adequate internal capacity***: communication professional(s) with mass media and PR expertise should be responsible for developing and managing campaigns.

# Challenges and Opportunities

- Campaigns **should be data-driven**, evidence based and guided by formative research with target audiences
- Campaigns should employ a mix of integrated **multi-channel communication** approaches
- Campaign planning and implementation should be closely linked with **enforcement**
- High-quality **vendors** should execute the campaign
- ***A pool of dedicated journalists*** should be formed, maintained and continually educated on road safety issues

# Sustained Funding is the Critical

- ***Sustained funding*** for campaign development, implementation and evaluation is critical to achieving maximum contribution of road safety campaigns
- Funding should be ***adequate*** for campaigns to be able to achieve ***high levels of reach, frequency*** of exposure degree of ***engagement*** with specific target audiences
- A sustainable ***funding mechanism*** from government and stakeholder organizations such as insurance companies should be established to allow for ***confident strategic planning*** of campaign phases and ongoing strategic communication.

**Thank you!**



**World Health  
Organization**

# **Engaging parliamentarians in improving road safety**

**Ms Rattanaporn (Tum) Tangthanaseth  
WHO Thailand**

**2019 Asia Pacific Road Safety Seminar**

**30 October 2019  
Kuala Lumpur, Malaysia**

# From challenges to a new initiative “Global Network for Road Safety Legislators”



# Some roles for parliamentarians

- Support the **UN Decade of Action for Road Safety and SDGs**
- Strongly support and encourage **road safety leadership**
- Encourage adoption of the **Safe Systems Approach**
- Review national policy and legislation and support the implementation of the recommended **priority interventions in the WHO SaveLIVES package**
- Support policies that promote **road safety at work**

**Global Network for Road Safety Legislators  
Leadership Council**  
(Dec 2016)

WHO HQ  
(secretariat)

**African  
Regional Network**  
(Jul 2018)

**Chairs  
&  
Vice-Chairs  
of the  
Regional  
Networks**

**ASEAN/WHO-SEA  
Regional Network**  
(Aug 2019)

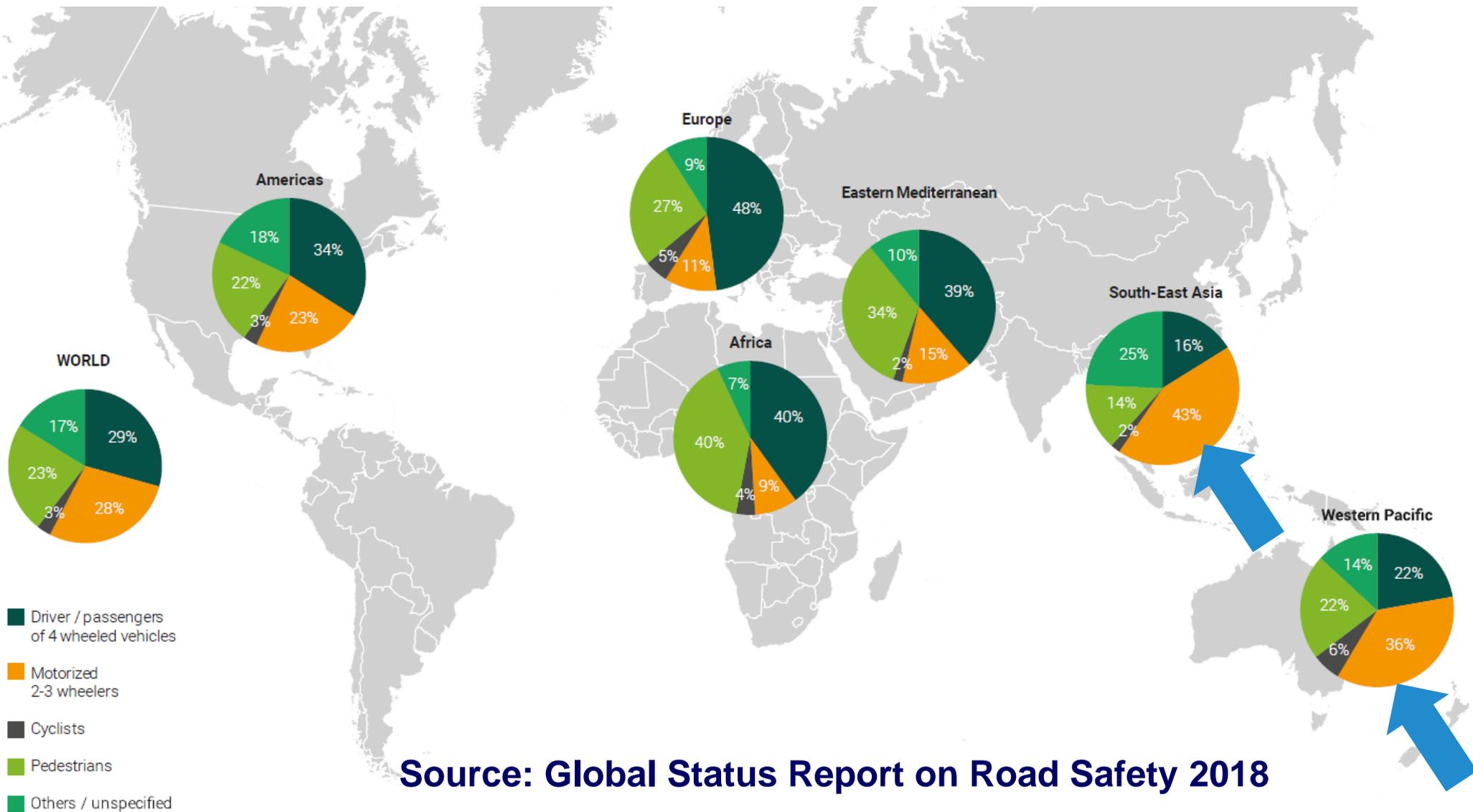
**Eastern  
Mediterranean  
Regional Network**  
(Sep 2018)

**Latin America  
Regional Network**  
(Sep 2019)

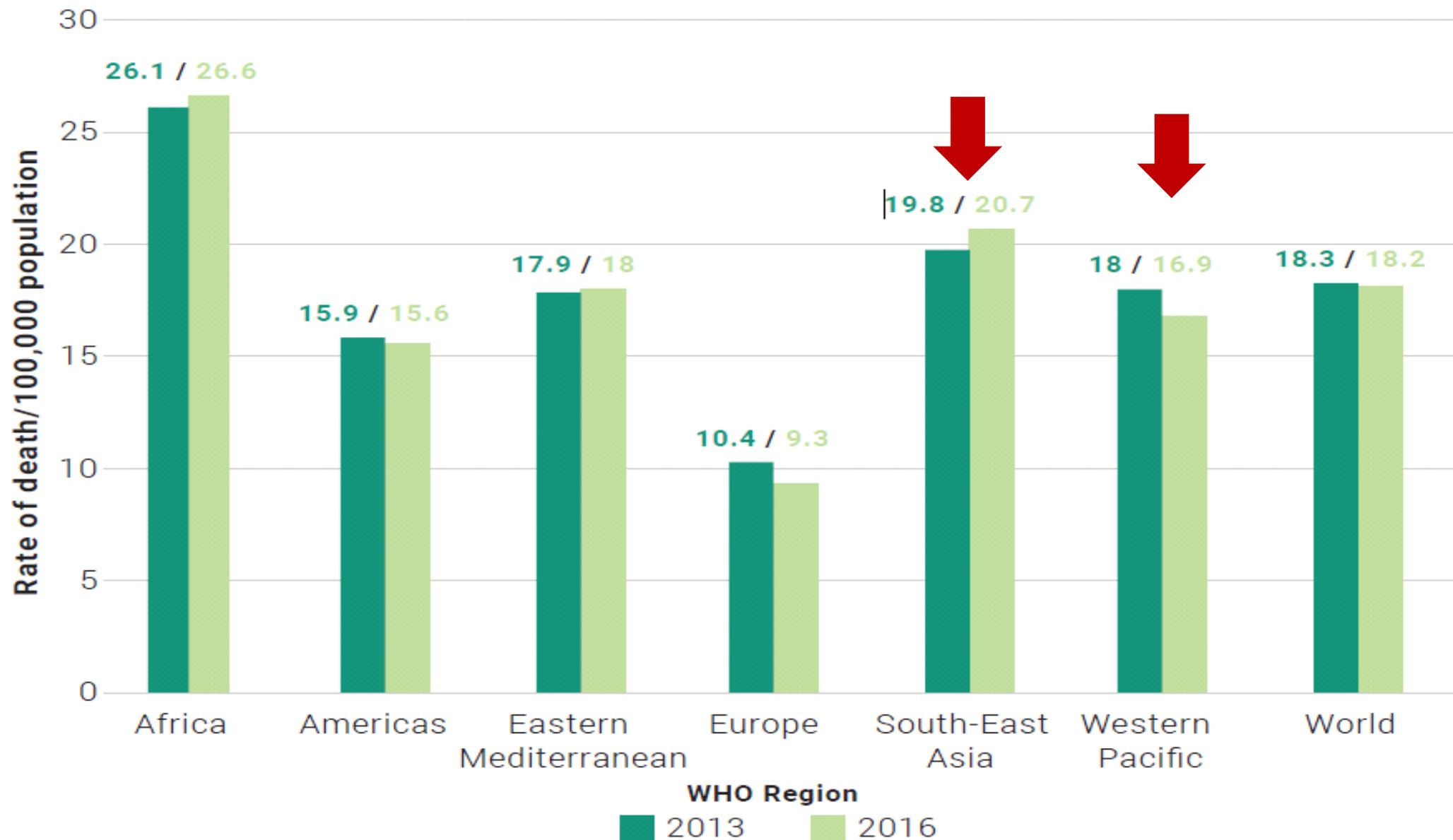
# Aims of Regional Networks

- Draw attention to road safety issues that are relevant to their regional context
- Share solutions across countries in the same region
- Serve as Regional Chapters of the Global Network for Road Safety Legislators
- Unite regional voices of MPs at the Leadership Council of the Global Network

# Deaths by road user types vary by region



# Road traffic death rates per 100,000 population by WHO regions in 2013 and 2016



# ASEAN-WHO South-East Asia Regional Network

- Launched in August 2019, the Network aims to put more attention to deaths among VRUs, especially motorcycle riders.
- Mechanisms to address road safety were set up in the Thai Senate and House of Representatives
- A forum for Thai parliamentarians to exchange knowledge and experiences with MPs from UK and Australia



# Leveraging further impact in 2020 and beyond

- **Global level**

- Unite voices of MPs at the annual meeting of the Leadership Council of the Global Network (Stockholm, Sweden) and at the next UN General Assembly debate in 2020
- Encourage the development of a regional chapter where one does not exist
- Co-operate with the Commonwealth Parliamentary Association and engage with the Inter-Parliamentary Union



# Leveraging further impact in 2020 and beyond

- **Regional level**
  - Build capacity and promote exchanges of best practice between MPs in the region
  - Advocate for and encourage discussions of road safety issues through other existing parliamentarian mechanisms (e.g. the Asia Pacific Parliamentarian Forum on Global Health, ASEAN Inter-Parliamentary Assembly)

# Leveraging further impact in 2020 and beyond

- **Country level**

- Identify potential champions in the parliament
- Engage potential MPs in road safety advocacy activities
- Create mechanisms through which stakeholders can inform/support/advocate for MPs on road safety issues
- Promote the Parliamentary Friends of Road Safety
- Link MPs with the regional network

# To join the network

[http://apps.who.int/datacol/survey.asp?survey\\_id=720](http://apps.who.int/datacol/survey.asp?survey_id=720)



The screenshot shows the WHO website interface. At the top left is the 'UNIVERSAL HEALTH COVERAGE: EVERYONE, EVERYWHERE.' logo. The WHO logo and name are in the center. Language options (عربي, 中文, English, Français, Русский, Español) are on the right. Social media icons (RSS, YouTube, Twitter, Facebook, Instagram, LinkedIn) are below the language options. A navigation bar includes 'Health topics', 'Data', 'Media centre', 'Publications', 'Countries', 'Programmes' (highlighted), 'Governance', and 'About WHO'. A search bar is on the right of the navigation bar. The main heading is 'Violence and Injury Prevention'. On the left is a sidebar menu with items: 'VIP home', 'Violence', 'Road traffic injuries' (highlighted), 'Drowning', 'Child injuries and violence', 'Other injury topics', 'Data collection', 'Care of the injured', and 'Disability and rehabilitation'. The main content area features the title 'The Global Network for Road Safety Legislators' above a group photo of legislators. Below the photo is an 'About' button. On the right is a 'Useful links' section with links to WHO's work on road traffic injuries, Global Status Report on Road Safety 2018, Global targets for road safety risk factors and service delivery mechanisms, UN Road Safety Collaboration, Global Forum for Road Traffic Safety (WP.1), World Forum for the harmonization of vehicle regulations (WP. 29), UN Road Safety Trust Fund, International Transport Forum, and SSATP Africa Transport Policy.