



APRSO Annual Meeting

9 November 2022 | 13:00 – 15:45 (GMT +8)



An aerial photograph of a city street, showing buildings, a river, and a boat. The street is paved and has a crosswalk. The buildings are multi-story and have various roof colors. The river is dark blue and has a white boat on it. The sky is clear and blue.

Measuring Institutional Road Safety Capacity Safe System Indicators

Anna Vadeby

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vti

BACKGROUND

Joint ITF / WB Working Group – Safe system implementation

Co-chairs: Henk Stipdonk (The Netherlands) and the head of the World Bank's Global Road Safety Facility, Said Dahdah (Soames Job to July 2021)

60 experts from 25 countries, international organisations and NGOs.

Objectives:

- Produce Guidelines for practical steps to implement safe system, based on existing cases in Low, Middle and High Income Countries
- **Develop Safe System Implementation Indicators (today's presentation)**
- Design and conduct pilot projects to serve as a basis to collect further practical experience



Foto Louis Lo, Unsplash

SAFE SYSTEM INDICATORS (SSI)

An inclusive framework of qualitative indicators that describe the stage of Safe System Implementation in a country or region.

The concept includes indicators that concern the implementation stage of road safety interventions of all kinds, varying from mutually coherent measures to organizational actions aiming at cooperation between partners.



Foto Louis Lo, Unsplash

SAFE SYSTEM INDICATOR FRAMEWORK

- General idea: build on basic safe-system-principles developed in the two earlier ITF-manuals. Combine "key elements" and "the system components (RS-pillars)".
- But also: cover road safety management and institutional framework (policy dimension)
- The framework covers three dimensions: the pillars, the key-elements and the policy dimension and can be seen as a structured approach to describe the stage of Safe System implementation.

THE SAFE SYSTEM FRAMEWORK REPRESENTED IN A MATRIX

	Pillar	Road safety management	Safe roads	Safe vehicles	Safe speeds	Save road user behaviour	Post - crash care
Key component							
Institutional framework Avoid system failures		1. emerging 2. advanced 3. mature					
Shared responsibility Avoid blaming the victim							
Strengthen all parts Avoid isolated measures							
Prevent large forces Crashes should not be fatal							
Support safe road user behaviour Tuning the task to human competences							



FRAMEWORK AT TWO LEVELS OF DETAILS

1. A high-level strategic framework which is a conceptual description of what each cell denotes.
2. A more detailed framework, to allow the framework to be applicable to real situations. This level provides descriptions of what road safety situation to expect in each cell and for each of three stages of implementation (emerging, advancing and mature).

POSSIBLE APPLICATIONS OF THE FRAMEWORK

- Give general guidance about the kind of interventions that should be considered by countries applying the safe system
- Use as a tool to analyse existing cases of a Safe System Implementation. This can encourage improvement through the evaluation of the lessons learned and give guidance about possible future steps.
- Use to assess pilot projects, about to be undertaken, to help improve the safe system content of the project etc.

THE HIGH-LEVEL STRATEGIC FRAMEWORK

- The **grey cells** can be considered as input, they cover the management and organizational conditions for a safe system (i.e standards, RS-programmes...)
- The **dark purple** cells denote the organizational output, regard cooperation and integration of the components of a safe system (i.e. cooperation between partners)
- The **light purple** cells denote the operational output: interventions to actually decrease the road safety risk of having a crash or getting seriously injured or killed in a crash (vehicle systems, median barriers ...).

	Road safety management	Safe roads	Safe vehicles	Safe speed	Safe road users	Post-crash care
Institutional framework – Avoid system failures	Road safety activity based on a funded, integrated, multi-sector strategy and action plan and appropriate regulation. Plans and strategies should contain clear goals, objectives, targets, and performance indicators and be based on analysis and understanding and interdepartmental cooperation. Responsibilities are tuned to the insight that actors can prevent system defects in order to reduce the consequence of errors by road users.	Application of standards and road safety assessment and maintenance programs on road networks acknowledging the safety requirements of all relevant road users.	Registration & conformity of production requirements (UN Regs), independent safety rating (NCAPs), insurance and periodical testing, of all vehicle types and vehicle characteristics, including active and passive safety.	A coordinated, consistent, and well-communicated approach and programs to the setting and enforcing of safe speed limits based on the functional class of roads in the network and the needs of all road users.	A coordinated system and programs for road user behaviour regulations, enforcement, education, training & communication. The system is well-tuned to road user competences and inclusive for all types of road users.	Coordinated mechanisms and programs for emergency interventions including fast medical response and transport; and appropriate equipment and training for first responders, trauma centers and rehabilitation programs.
Shared responsibility– Avoid blaming the road user	Broad interdepartmental, multisector road safety policy cooperation, development and delivery that involves key road safety partners and actors at different administrative levels.	Partners have clear institutionalised and aligned roles and responsibilities consistent with Safe System outcomes in the design, operation and use of roads.	Partners cooperate in the development and implementation of a full set of vehicle regulation, procedures (regulatory push) and safety rating programmes (demand pull) to ensure high safety standards of vehicles, and safety equipment.	Partners cooperate to ensure that speed limits are determined based on the functional class and context of the road (particularly vulnerable road user activity) and that these limits are supported by appropriate speed legislation, design, vehicle technology, enforcement, and driver education.	Road user behaviour is within safe limits, by means of coherent legislation, infrastructure, vehicle technology, enforcement, education, and road user actions.	Communications systems and appropriate training to allow for immediate and effective application of care, including from first responders, hospitals, and trauma centers.
Strengthen all parts – Avoid isolated measures	Detailed understanding of road safety issues (causes of fatal and serious injury; Safety Performance Indicators) linked to an integrated, inclusive response based on a multi-sector strategy.	Partners recognize how their respective areas can be used in cooperation with others to deliver Safe System outcomes, and this is reflected within their safety culture with manuals, practices, funding, and policies.				
Prevent large forces - Crashes shouldn't be fatal	Frame interventions with the aim to keep crash forces within the human body's tolerances to serious or fatal injury.	Human vulnerability for all transport modes dictates the design, operation and use of roads under all circumstances.	Vehicles are equipped with systems (active and passive) for the protection of road users, both inside and outside of the vehicle.	Speed limits are set based on human vulnerability and supported through road design, vehicle technologies, enforcement, and driver education.	Road users are prevented from experiencing large forces through knowledge supported by vehicle equipment (including the use of safety equipment such as helmets) and technology, enforcement, and infrastructure.	Not applicable
Support safe road user behaviour - Simplify road user tasks	Analysis is undertaken on human centered risks and effective and well-coordinated road safety intervention programs that support safe road user behaviour and reduce serious crashes, and funding is allocated to support these interventions, which are assessed.	Design, operation and use of roads are based on principles that support safe road user behaviour and reduce user errors which contribute to serious road crashes.	Active vehicle systems are included in motor vehicles providing high levels of road user protection. Safety standards for bicycles (brakes, helmets, lights) are in place	Safe and credible speed limits are set aiming at natural acceptance of these limits and supported through road design, vehicle technologies, enforcement, and driver education	Safe road user behaviour is supported by tuning the task to human competences through the combination of infrastructure, vehicle technology, enforcement and enhanced driver awareness, training, and education.	Not applicable

THE DETAILED FRAMEWORK

- This level of detail of the framework includes the key components, the pillars and the three stages of implementation (emerging, advancing and mature).

	Road safety management	Safe roads	Safe vehicles	Safe speed	Safe road users	Post-crash care
Institutional framework – Avoid system failures						
Shared responsibility– Avoid blaming the road user						
Strengthen all parts – Avoid isolated measures						
Prevent large forces - Crashes shouldn't be fatal						
Support safe road user behaviour – Simplify road user task						

INSTITUTIONAL – SAFE VEHICLES

	Road safety management	Safe roads	Safe vehicles	Safe speed	Safe road users	Post-crash care
Institutional framework – Avoid system failures						
Shared responsibility– Avoid blaming the road user						
Strengthen all parts – Avoid isolated measures						
Prevent large forces - Crashes shouldn't be fatal						
Support safe road user behaviour – Simplify road user task						

Emerging: Prevention of system defects in relation to safe vehicles is organised by starting to apply registration and inspection systems to all new and second hand imported vehicles using the UN vehicle agreements (1958/1997/1998), and their most important regulations and rules, combined with consumer information activities and requirements for vehicle insurance.

Advancing: Prevention of system defects in relation to safe vehicles is organised by *application of registration, conformity of production and inspection systems to all* new and second hand imported vehicles using the UN vehicle agreements (1958/1997/1998), and their most important regulations and rules, *combined with New Car Assessment Programs and requirements for vehicle insurance.*

Mature: Prevention of system defects in relation to safe vehicles is organised *by the full application of registration, conformity of production and inspection systems* to all new and second-hand imported vehicles using the UN vehicle agreements (1958/1997/1998), regulations and rules, combined with New Car Assessment Programs, *mandatory safety labelling* and requirements for vehicle insurance.

STRENGTHEN ALL PARTS – ALL PILLARS

	Road safety management	Safe roads	Safe vehicles	Safe speed	Safe road users	Post-crash care
Institutional framework – Avoid system failures						
Shared responsibility– Avoid blaming the road user						
Strengthen all parts – Avoid isolated measures						
Prevent large forces - Crashes shouldn't be fatal						
Support safe road user behaviour – Simplify road user task						

Emerging: Road safety professionals understand that road safety is a function of the interaction between all pillars (roads, vehicles, road users, appropriate speeds everywhere, emergency health care, and the management of all these).

Advancing: Understanding of the Safe System pillars and Safe System practices are incorporated by safety professionals as best practices and as part of the safety culture. Mechanisms for coordination are in place though full alignment and institutionalisation between all pillars has not occurred.

Mature: Partners are able to recognize how their respective areas can be used in cooperation with others. The Safe System approach is part of each partnerships safety culture with manuals, practices, funding and policies all calling for a Safe System.

PREVENT LARGE FORCES – SAFE SPEEDS

	Road safety management	Safe roads	Safe vehicles	Safe speed	Safe road users	Post-crash care
Institutional framework – Avoid system failures						
Shared responsibility– Avoid blaming the road user						
Strengthen all parts – Avoid isolated measures						
Prevent large forces - Crashes shouldn't be fatal						
Support safe road user behaviour – Simplify road user task						

Emerging: Speed limits are implemented on all roads and there is an ambition to lower speed limits, especially in urban areas with many VRUs. Speed limits are adapted to different vehicle categories, i.e., lower speed limits for trucks, buses, and vehicles with a trailer.

Advancing: Speed limits are set according to safe system principles taking human vulnerability into account and there is a national goal of achieving safe system speed limits. For urban roads with possible conflicts between VRUs and motorized vehicles a default speed limit of 30 km/h is mainly used. Speed limits above 80 km/h are only used on protected roads (roads with no possibility of side or frontal impact).

Mature: Speed limits are regularly reviewed by road authorities to adapt to changes in the road network. Dynamic speed limits based on real time crash risk (e.g. traffic flow, road and weather conditions) are implemented. Speed and its relation to public health is recognized and communicated.

THANK YOU FOR LISTENING

Next steps:

- Draft final report by end of December
- WB Review process and TRC approval procedure by mid February
- Publication: first half 2022

- **Questions:** anna.vadeby@vti.se

Road Safety Data Hub

Delivering nationally consistent, credible and consumable data and information to support the prevention of fatal and serious injuries on Australian roads




Australian Government
Office of Road Safety

bitre

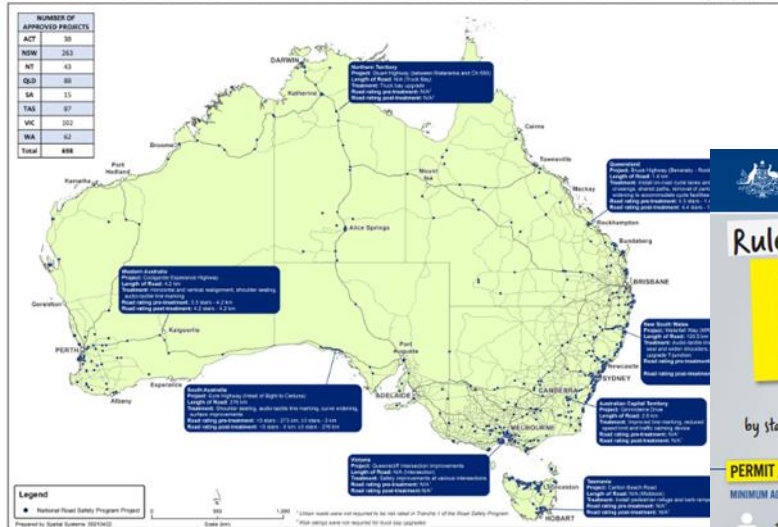
Data Hub objectives



- 1. Monitor and evaluate progress of the National Road Safety Strategy 2021-2030**
 - 2. Facilitate transparency, consistency and data sharing**
 - 3. Enable and encourage collaboration among government, industry, research and community stakeholders**
 - 4. Undertake and support research**
- 

Making data and information discoverable, accessible and usable

LOCATION OF PROJECTS FUNDED UNDER THE NATIONAL ROAD SAFETY PROGRAM - TRANCHE 1



Rules for Drivers by state and territory as at July 2021

PERMIT / LICENCE APPROVAL

MINIMUM AGE

- ACT: 15 1/4 YEARS
- NSW, VIC, QLD, SA, WA, TAS, NT: 16 YEARS

LICENCE/PERMIT VALIDITY

- ACT: 2 YEARS
- NSW, VIC, QLD, SA, WA, TAS, NT: 3 YEARS
- NT: 5 YEARS
- NSW, ACT: 10 YEARS

THE ROAD FROM L's to P's

ONLINE OR WRITTEN KNOWLEDGE TEST → **L** → HAZARD PERCEPTION TEST (WA | NSW | TAS | VIC | SA | ACT) → PROVISIONAL DRIVER ON ROAD DRIVING TEST → **P**

TIME AND TRAINING

NIGHT DRIVING REQUIRED

- ACT: 15 hours
- NSW: 10 hours
- QLD: 10 hours
- SA: 20 hours
- NSW | VIC: 5 hours
- WA: 5 hours

LOGBOOK REQUIRED

- NSW, QLD and ACT: 1 hour with a professional instructor as counted as 2 hours driving in log book (spread at 30 hours)
- SA: 50 hours
- NSW: 120 hours
- VIC: 75 hours
- SA: 75 hours
- NSW: 80 hours
- TAS: 100 hours
- QLD: 100 hours
- ACT: 100 hours

WHILE LEARNING

DEMERIT POINTS

State	Year 1	Year 2	Year 3
ACT	4 points	4 points	4 points
NSW	4 points	4 points	4 points
QLD	4 points	4 points	4 points
SA	4 points	4 points	4 points
TAS	4 points	4 points	4 points
VIC	4 points	4 points	4 points
WA	4 points	4 points	4 points
NT	4 points	4 points	4 points

USE OF DEVICES

MAX SPEED LIMIT

AS SIGN POSTED (80 km/h)

0% BAC (ALL STATES)

National Crash Dashboard

2019 Annual road deaths: **1,184**

Department of Infrastructure, Transport, Regional Development and Communications

Annual road deaths by road user, 2008 - 2019

Annual road deaths by remoteness, 2008 - 2019

Annual road deaths by time of day, 2019

- Night (10pm-6am): 17%
- Morning (6-9am): 11%
- Day (9am-4pm): 38%
- Afternoon (4-7pm): 17%
- Evening (7-10pm): 17%

Annual road deaths by age group, 2019

0-16, 17-25, 26-35, 36-45, 46-55, 56-65, 65-74, 75+

The driver involved data is until 2019. The data updates for 2020 will be available from 2021. The Statistics Board Deaths Dashboard contains preliminary data. n.p. = not published. Road death counts less than 5 are not shown in charts or titles but are included in totals where applicable.



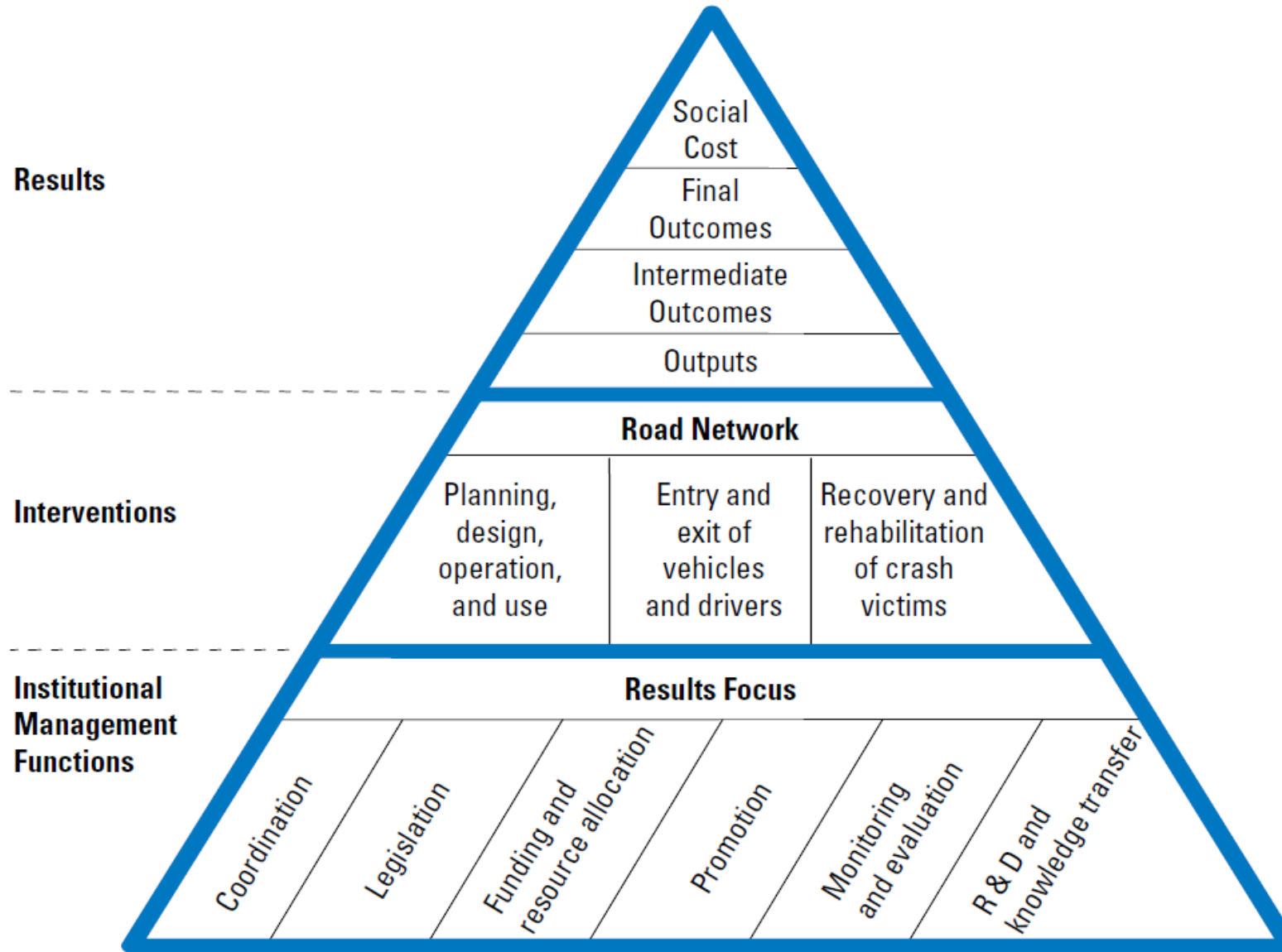
Populating APRSO Datasets

David Shelton



FIA Foundation
www.fiafoundation.org





World Bank 2009



Outcome Indicators

Crashes, injuries, deaths, costs

- Large variation across Asia-Pacific countries
- Dependent on resourcing at crash scene
- Daily data collection from a standing capacity
- Draws on linked datasets for road users, vehicles and trauma
- Best practice uses sophisticated systems and data collection tools



Safety Performance Indicators

Speed, drink-driving, helmet-wearing, road infrastructure, child restraints, vehicle safety, trauma, drug-driving, distracted driving

- Less commonly used across Asia-Pacific countries
- Dependent on observations and surveys
- Periodic data collection to a consistent methodology
- Sensitive to situational factors
- Best practice applies repeated use of set methods randomized across road use
- Vehicle safety best practice is to collaborate with manufacturers and importers



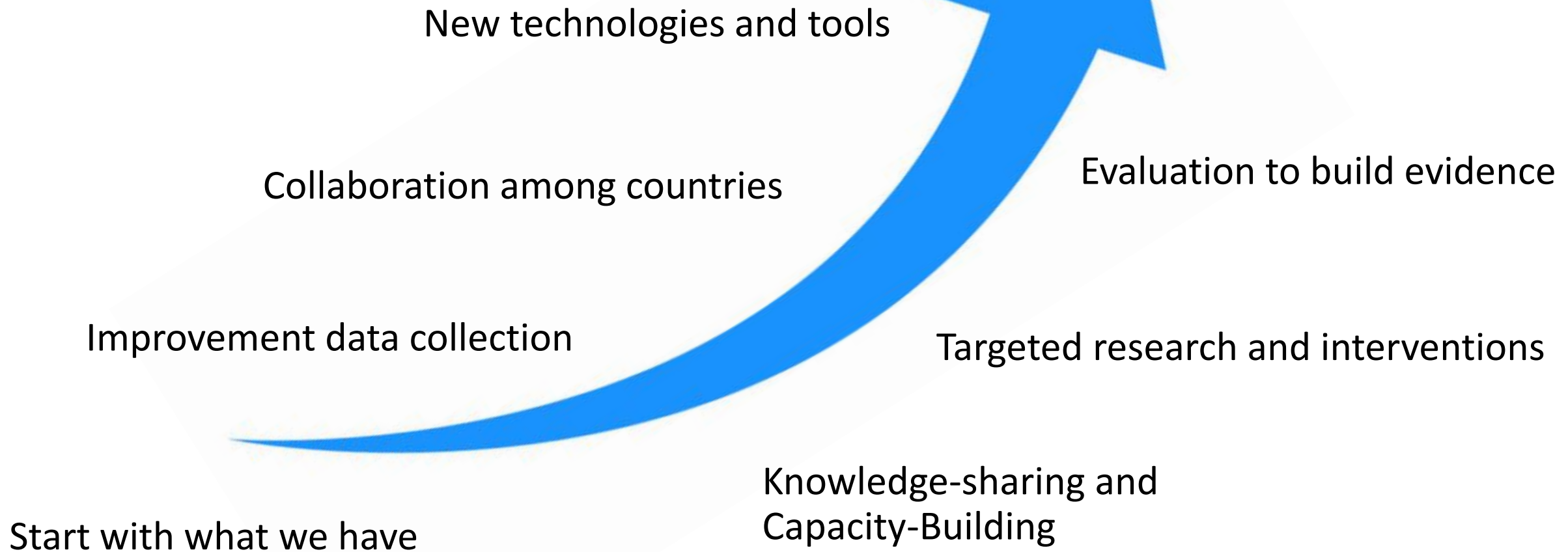
Process and Implementation Indicators

Policies, programs, budgets, decision making practices

- Rarely used across Asia-Pacific countries
- Internal business rules and practices of government agencies
- Are policies in place?
- Are policies effective?
- Point in time collection
- Best practice uses a capacity review process to identify improvement
- Independent, expert assessment gives best results



APRSO role





THANK YOU!

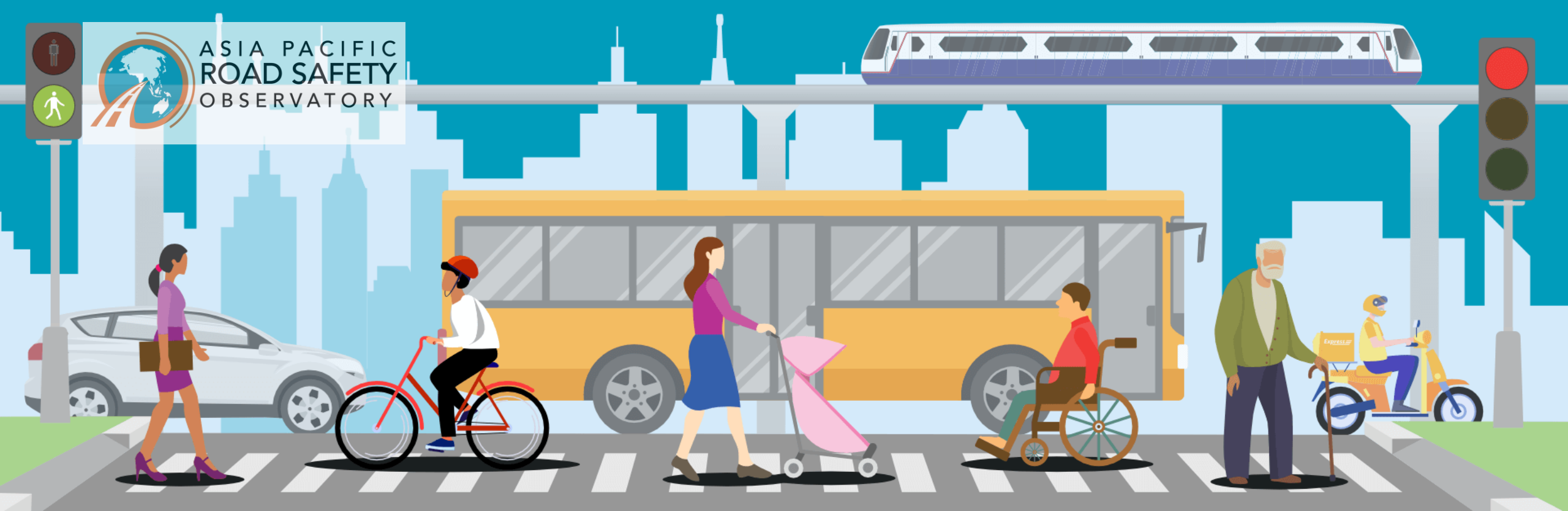


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Mirick Paala
APRSO Consultant





Use of Data in the APRSO

Mirick Paala



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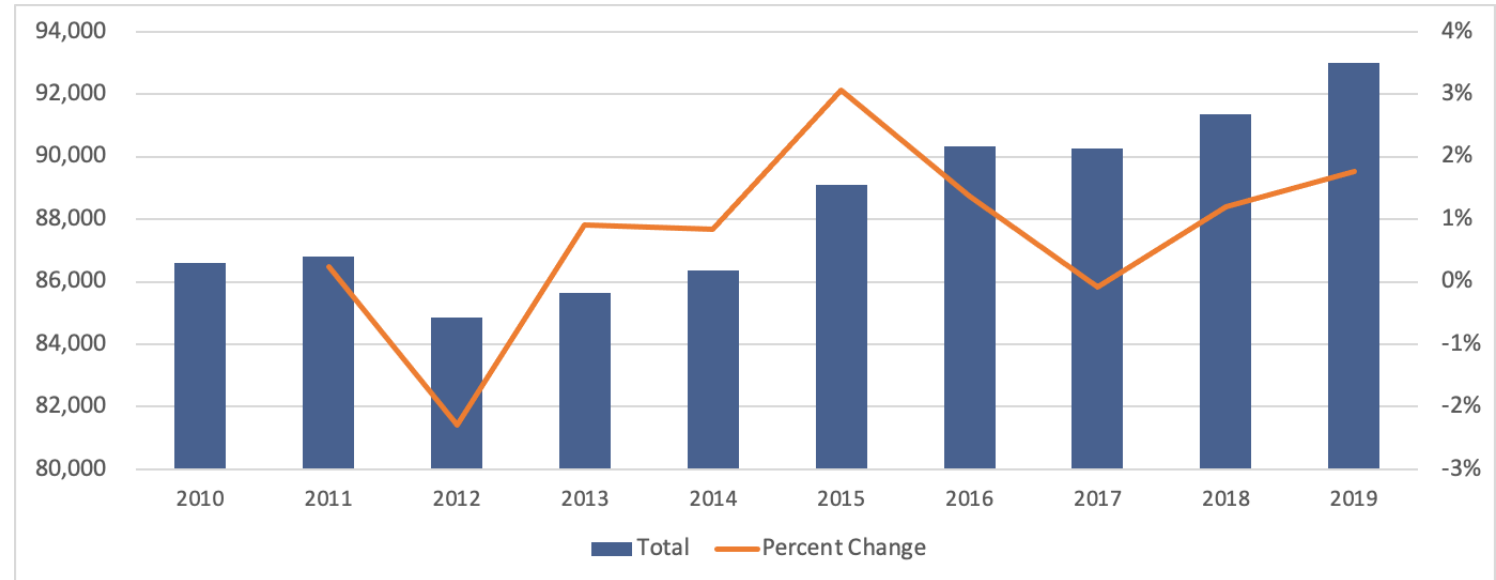
Asia Pacific Road Safety Observatory

- **Collect, manage and analyze** data in the region
- Provide **research and technical assistance** for Members
- Provide **capacity building on technical issues**
- **Monitor the progress** on road safety of each Member.
- **Promote good practice** on national and regional road safety policies and strategies.
- Informed by research and evidence help **assess how to reduce factors** that lead to serious road injuries



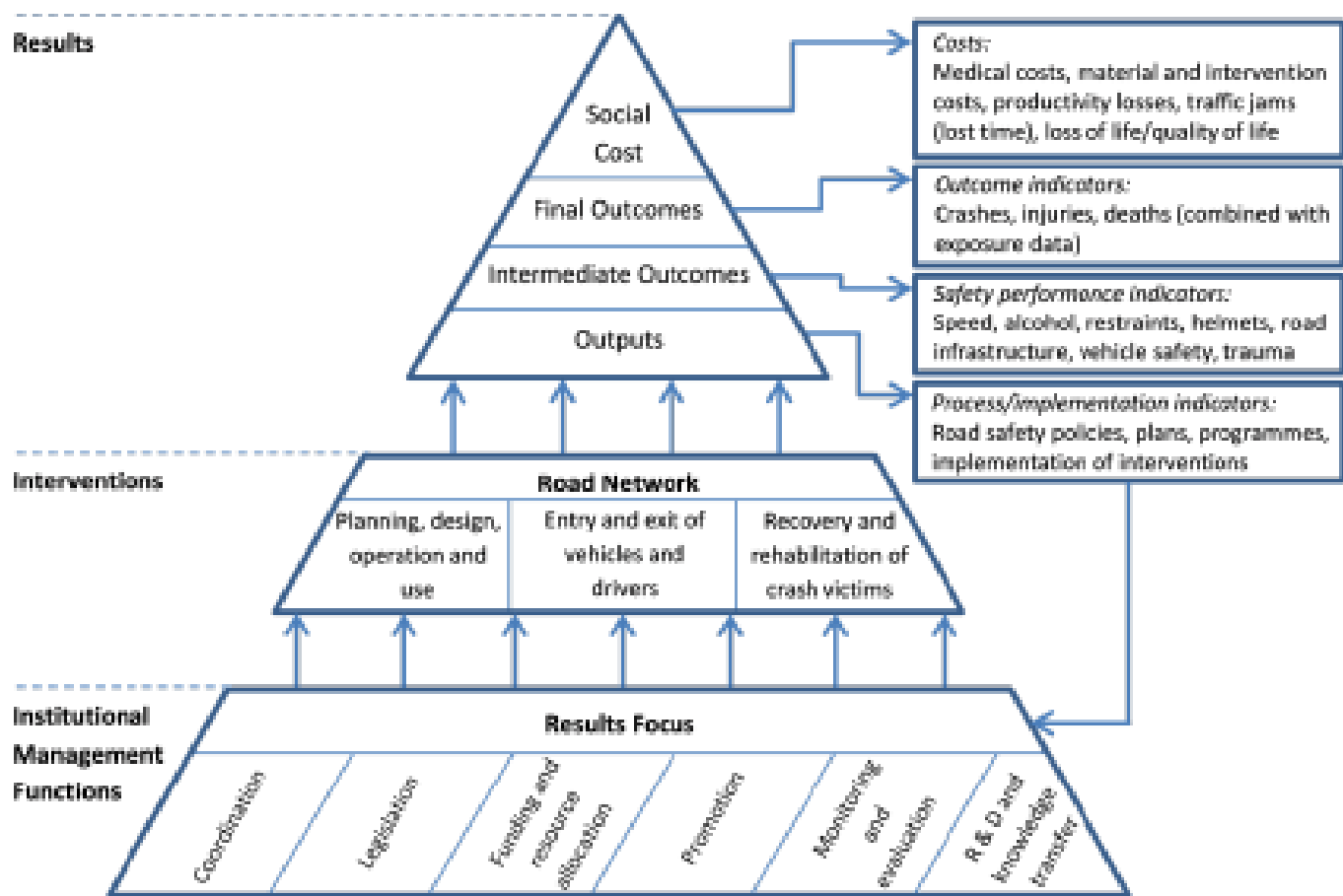
Importance of Regional Data

- Comparing performance for each countries
- Identification of common issues among countries and sharing of best practice
- Improve knowledge on risk factors
- Indication of need for international support, expertise, and resources
- Facilitate collaboration between countries
- Set regional targets and priorities and monitor progress



WHO Estimated Crash Fatalities in APRSO Member Countries from 2010-2019

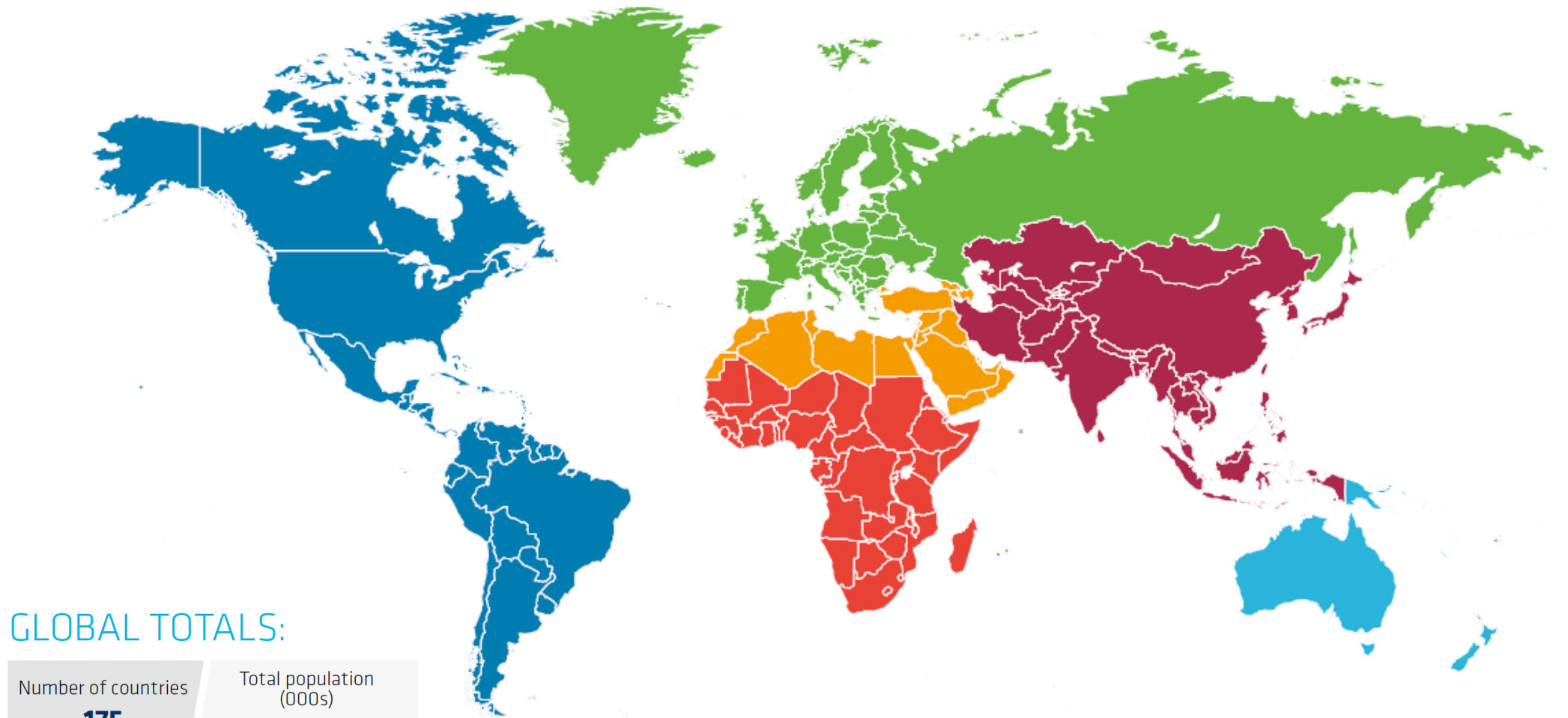




- Outcome Indicators: Crashes, injuries, deaths (combined with exposure data)
- Safety Performance Indicators: Speed, drink-driving, helmet-wearing, road infrastructure, child restraints, vehicle safety, trauma, drug-driving, distracted driving
- Process/Implementation Indicators: policies, programs, budget



Underreporting of Crash Fatalities



GLOBAL TOTALS:

Number of countries	Total population (000s)
175	7 296 943
Total reported deaths	Total WHO estimation
629 365	1 323 666



Over the years

Year	Police	WHO
1990	N/A	N/A
2000	N/A	N/A (1.2 M in 2007)
2010	0,62	1.24 M
2015	0.66 M	1.2 M
2016	0.63 M	1.35 M

By region

	# countries	Population	Police	WHO
Total	175	7.3 B	0.63 M	1.35 M
Africa	46	1.0 B	58 001	271 554
Americas	30	0.9 B	132 180	151 957
Asia	28	4.2 B	341 272	772 158
Europe	40	0.7 B	53 481	63 400
N.Africa & Western Asia	20	0.4 B	42 524	61 454
Oceania	11	0.04 B	1 908	3 143





Officially Recorded and WHO Estimated Fatality in APRSO Member Countries from 2010-2019

Red – WHO Estimate, Blue – Officially Recorded















Crash Data Elements








- Gradual Approach
- Data Improvement divided into Core, Expanded, and Integration with Other Database Systems
- Recommended fields with their definitions, format, and method of collection

Core	Expanded	Integration
<ul style="list-style-type: none"> •Crash identifier (unique reference) •Crash date •Crash time •Crash location •Weather conditions •Light conditions •Crash severity •Vehicle type •Sex •Date of birth •Age •Type of road user (e.g. Driver, Passenger, Pedestrian) •Injury severity 	<ul style="list-style-type: none"> •Movement Code* •Type of Roadway •Hit and Run •Road functional class (e.g. national road, local road, among others) •Speed limit •Road obstacles •Road surface conditions (e.g. dry, wet, among others) •Junction type •Vehicle Number •Person Number •Occupant's linked vehicle number •Pedestrian's linked vehicle number •Safety Equipment •Nationality •Alcohol use suspected •Alcohol test •Drug use •Seating position 	<ul style="list-style-type: none"> •Traffic control at junction (e.g. traffic police, traffic light, among others) •Road curve (e.g. tight curve, open curve, among others) •Road segment grade (e.g. steep gradient or not) •Vehicle identification number/license plate •Vehicle make •Vehicle model •Vehicle registration number •Vehicle country of registration •Vehicle steering wheel position •Engine size •Vehicle model year of manufacture •Vehicle special function •Driving license issue date •Licensed vehicle category



Safety Performance Indicators

<p>TARGET 1 2020</p>  <p>Target 1: By 2020, all countries establish a comprehensive multisectoral national road safety action plan with time-bound targets.</p>	<p>TARGET 2 2030</p>  <p>Target 2: By 2030, all countries accede to one or more of the core safety-related UN legal instruments.</p>	<p>TARGET 3 2030</p>  <p>Target 3: By 2030, all new roads achieve technical standards for all road users that take into account road safety, or meet a three star rating or better.</p>	<p>TARGET 4 2030</p>  <p>Target 4: By 2030, more than 75% of travel on existing roads is on roads that meet technical standards for all road users that take into account road safety.</p>
<p>TARGET 5 2030</p>  <p>Target 5: By 2030, 100% of new (defined as produced, sold or imported) and used vehicles meet high quality safety standards, such as the recommended priority UN Regulations, Global Technical Regulations, or equivalent recognized national performance requirements.</p>	<p>TARGET 6 2030</p>  <p>Target 6: By 2030, halve the proportion of vehicles travelling over the posted speed limit and achieve a reduction in speed-related injuries and fatalities.</p>	<p>TARGET 7 2030</p>  <p>Target 7: By 2030, increase the proportion of motorcycle riders correctly using standard helmets to close to 100%.</p>	<p>TARGET 8 2030</p>  <p>Target 8: By 2030, increase the proportion of motor vehicle occupants using safety belts or standard child restraint systems to close to 100%.</p>
<p>TARGET 9 2030</p>  <p>Target 9: By 2030, halve the number of road traffic injuries and fatalities related to drivers using alcohol, and/or achieve a reduction in those related to other psychoactive substances.</p>	<p>TARGET 10 2030</p>  <p>Target 10: By 2030, all countries have national laws to restrict or prohibit the use of mobile phones while driving.</p>	<p>TARGET 11 2030</p>  <p>Target 11: By 2030, all countries to enact regulation for driving time and rest periods for professional drivers, and/or accede to international/regional regulation in this area.</p>	<p>TARGET 12 2030</p>  <p>Target 12: By 2030, all countries establish and achieve national targets in order to minimize the time interval between road traffic crash and the provision of first professional emergency care.</p>

Target	Safety Performance Indicator	Collection Methods
 <p>Halve the proportion of vehicles exceeding the posted speed limit</p>	Free-flow average speeds and disaggregated by vehicle type, road type, and time-of-day	Observational studies or spot surveys
	85 th percentile speeds disaggregated by vehicle type, road type, and time-of-day	Observational studies or spot surveys
	Percentage of vehicles exceeding the speed limit	Spot surveys, enforcement data
 <p>Halve injuries and fatalities related to drink-driving</p>	Number and percentage of severe injuries and fatalities that are caused by at least one road user that has a BAC exceeding the legal limit	Crash data
 <p>Increase seat belt and child restraints usage to close to 100%</p>	Percentage of drivers and passengers wearing a seatbelt by vehicle and road type	Observational studies or spot surveys
 <p>Increase motorcycle riders correctly using helmets to close to 100%</p>	Percentage of motorcyclists appropriately wearing an appropriate helmet by road type	Observational studies or spot surveys
 <p>New roads should have at least 3-star iRAP rating</p>	iRAP star rating per road type and road user type; percentage of new roads that meet a three-star rating or better	iRAP data
 <p>More than 75% of travel on existing roads is on roads that meet a three-star safety rating or better</p>	iRAP star rating per road type and road user type; percentage of new roads that meet a three-star rating or better	iRAP data
 <p>100% of new and used roads meet high quality standards such as the UN vehicle safety standards</p>	Percentage of vehicles in the fleet with high quality safety standards	Vehicle registration and inspection data



Category	SPIs	Source of Data
Speeds	Free-flow average speeds and disaggregated by vehicle type, road type, and time-of-day.	Spot surveys
	85 th percentile speeds disaggregated by vehicle type, road type, and time-of-day	Spot surveys
	Percentage of vehicles exceeding the speed limit	Enforcement data and Spot Surveys
Alcohol	Number and percentage of severe injuries and fatalities that are caused by one road user that has a BAC exceeding the legal limit	Enforcement data
Drugs	Number and percentage of severe injuries and fatalities that are caused by one road user that is positive of drug use	Enforcement data
Helmet-wearing	Percentage of motorcyclists appropriately wearing an appropriate helmet by road type	Observational studies
Seatbelt-wearing	Percentage of drivers and passengers wearing a seatbelt by vehicle type and road type	Observational studies
Child Restraints	Percentage of vehicles with child restraints	Observational studies
Distracted Driving	Percentage of drivers using a mobile phone while driving	Observational studies/Enforcement data
Vehicles	% of vehicles in a fleet with high quality NCAP safety standards	Vehicle registration
	Median age of vehicles	Vehicle registration
Roads	iRAP Star Rating or equivalent rating per road type and road user type	Lead agency for roads
	Percentage of roads that meet a three-star International Road Assessment Program (iRAP) rating or better	Lead agency for roads
Post-crash Response	Number and composition of EMS staff per 10,000 citizens	Lead agency for health
	Availability of emergency response units per 10,000 citizens	Lead agency for health
	Availability of trauma beds per 10,000 citizens	Lead agency for health



Process and Implementation Indicators

	Audits or star rating required for new road infrastructure	Design standards for the safety of pedestrians/cyclists	Inspections/star rating of existing roads	Investments to upgrade high risk locations	Policies and investment in urban transport
Afghanistan	Partial	Partial	-	Yes	Yes
Armenia	Yes	Partial	Yes	Yes	Yes
Australia	Yes	Yes	Yes	Yes	No
Azerbaijan	Partial	Partial	Yes	No	Yes
Bangladesh	Partial	Yes	Yes	Yes	Yes
Cambodia	Yes	No	Yes	Yes	No
Cook Islands	Partial	Partial	Yes	Yes	No
Fiji	Yes	Partial	Yes	Yes	Yes
Kazakhstan	Yes	Yes	Yes	Yes	Yes
Kyrgyz Republic	Yes	Partial	No	Yes	Yes
Lao PDR	Partial	Partial	No	Yes	No
Maldives	No	Partial	Yes	No	Yes
Marshall Islands	Yes	-	-	-	-
Mongolia	Yes	Partial	No	No	Yes
Nepal	Partial	Partial	Yes	No	Yes
Pakistan	Yes	Partial	Yes	Yes	Yes
Philippines	Yes	Partial	Yes	Yes	Yes
Solomon Islands	Yes	Yes	Yes	No	Yes
Sri Lanka	Partial	Partial	No	Yes	No
Turkmenistan	Yes	Partial	No	Yes	Yes

- Institutional Framework
- Outputs, programs, interventions



APRSO DRIVER Instance

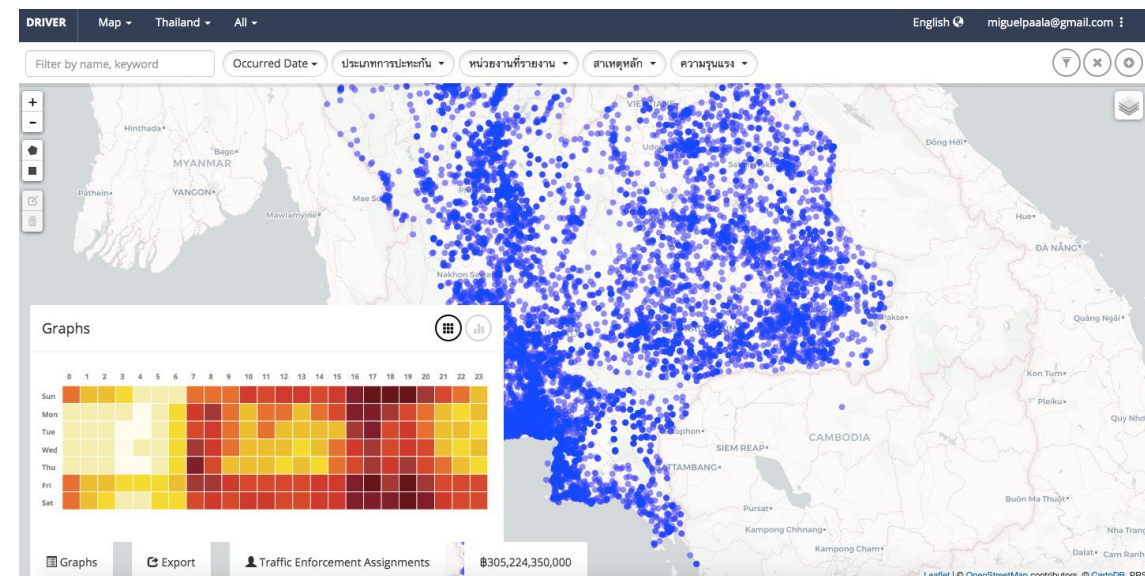
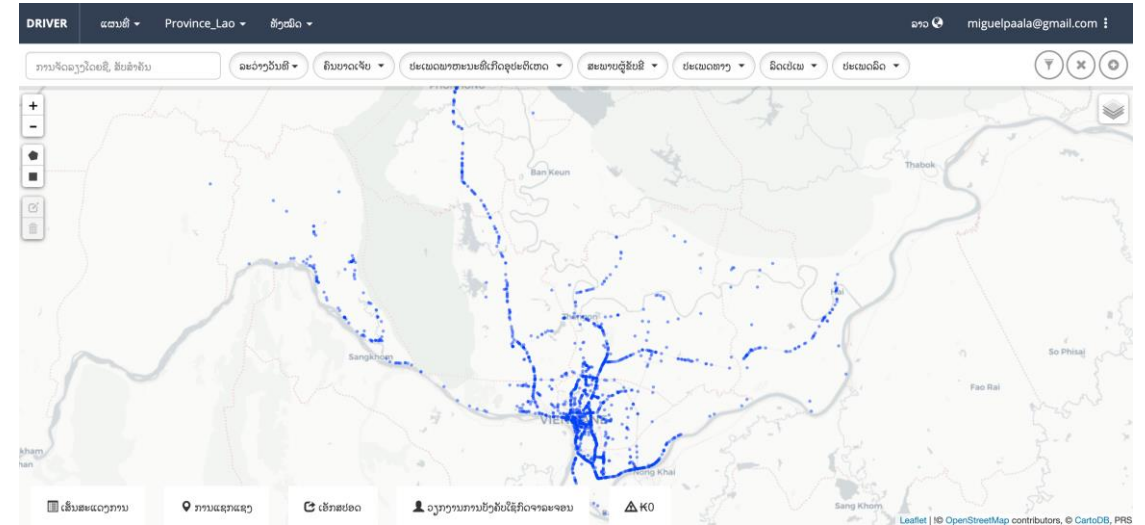
DRIVER – **D**ata for **R**oad **I**ncident
Visualization, **E**valuation, & **R**eporting

Web-based and open-source system for **geo-spatially** recording & visualizing road crashes

A way to support multiple agencies as well as a means to standardize terms & definitions for reporting crash data

A suite of visualization tools to support data-driven decisions & a platform for monitoring the impact of interventions

Platform to integrate road safety data among APRSO Member countries



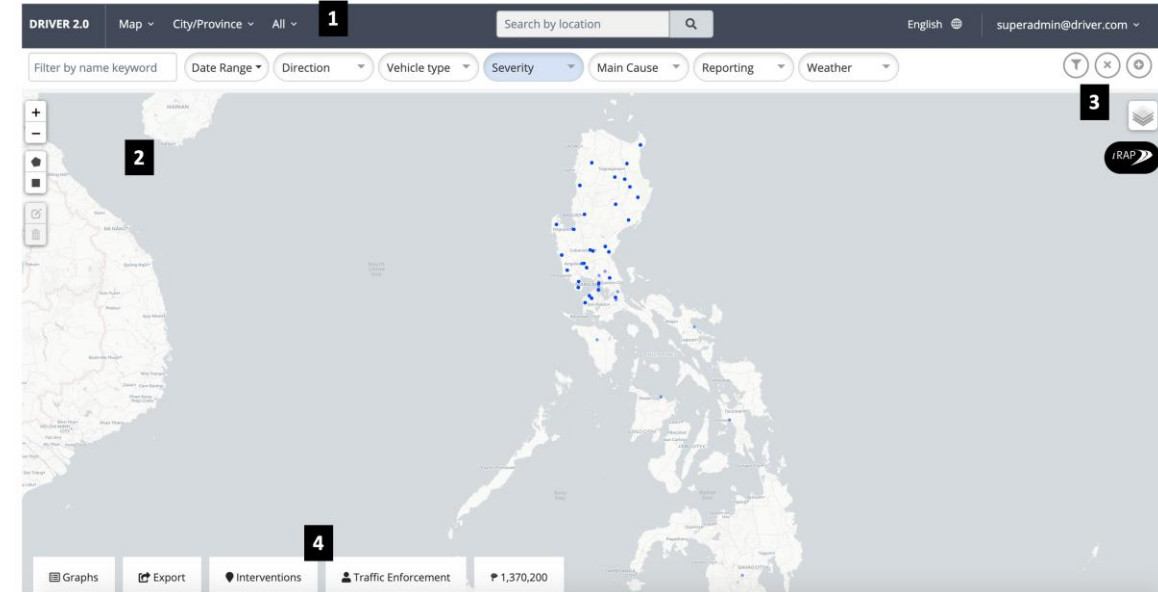
APRSO DRIVER Instance

Aggregate Data

- Number of Fatalities and Injuries per month
- Fatalities and injuries by road type, by vehicle type, by age and gender

Detailed Records

- Crash reference number, date, time, location, severity, weather, light, vehicle type...





Present

- Knowledge-sharing and Capacity-Building
- Improvements in data collection
- Data gathering for the Observatory

Future

- Targeted research and interventions
- Collaboration among countries
- Shared resources and expertise
- Save lives!





THANK YOU!



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