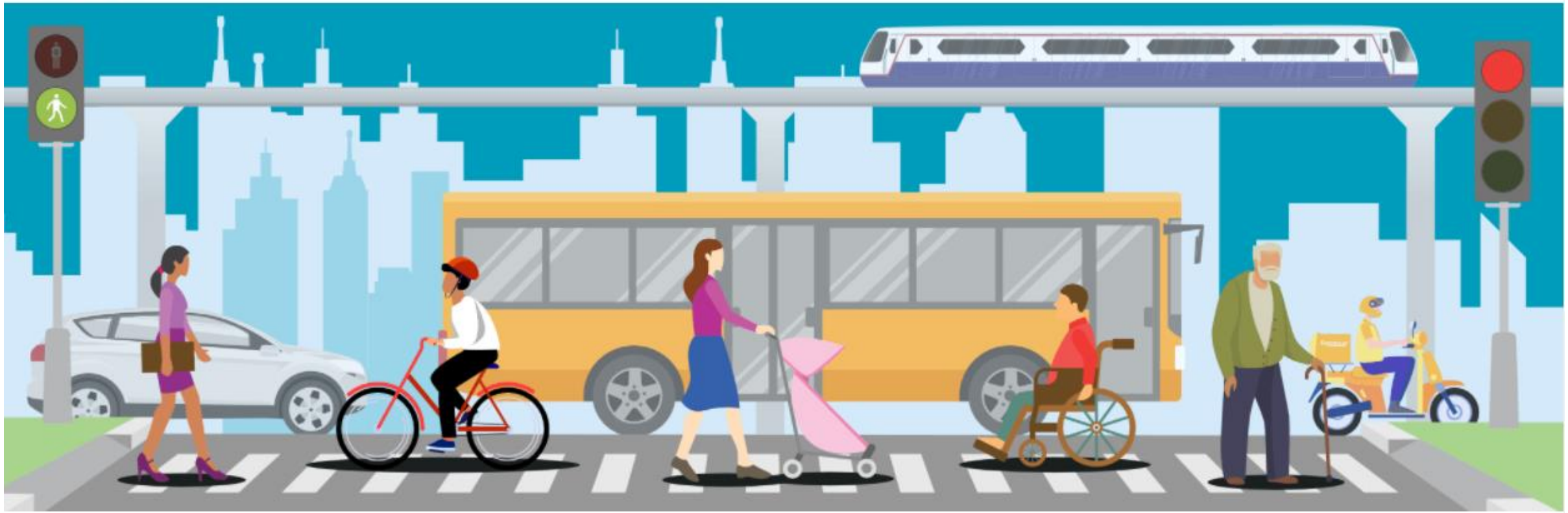
APRSO recommended national and regional road safety indicators

ASIA-PACIFIC ROAD SAFETY OBSERVATORY



ADB

UNITED NATIONS ESCAP
Economic and Social Commission for Asia and the Pacific

FIA

International Transport Forum

THE WORLD BANK
IBRD • IDA | WORLD BANK GROUP

CAREC
Central Asia Regional Economic Cooperation Program

GRSF
Global Road Safety Facility

World Health Organization

UKaid
from the British people

The Asia–Pacific Road Safety Observatory

The Asia–Pacific Road Safety Observatory (APRSO) is the regional forum on road safety data, policies, and practices to ensure the protection of human life on roads across Asia and the Pacific.

Its mission is to support countries to generate robust road safety data and analysis to positively impact on policies and actions for road safety in the region.

APRSO Members at Oct 2022


Afghanistan


Armenia


Australia


Azerbaijan


Bangladesh


Bhutan


Cambodia


Cook Islands


Fiji


Kazakhstan


Kyrgyz Republic


Lao PDR


Maldives


Marshall Islands


Mongolia


Tajikistan


Nepal


New Zealand


Pakistan


Philippines


Sri Lanka


Solomon Islands


Turkmenistan

APRSO's objectives

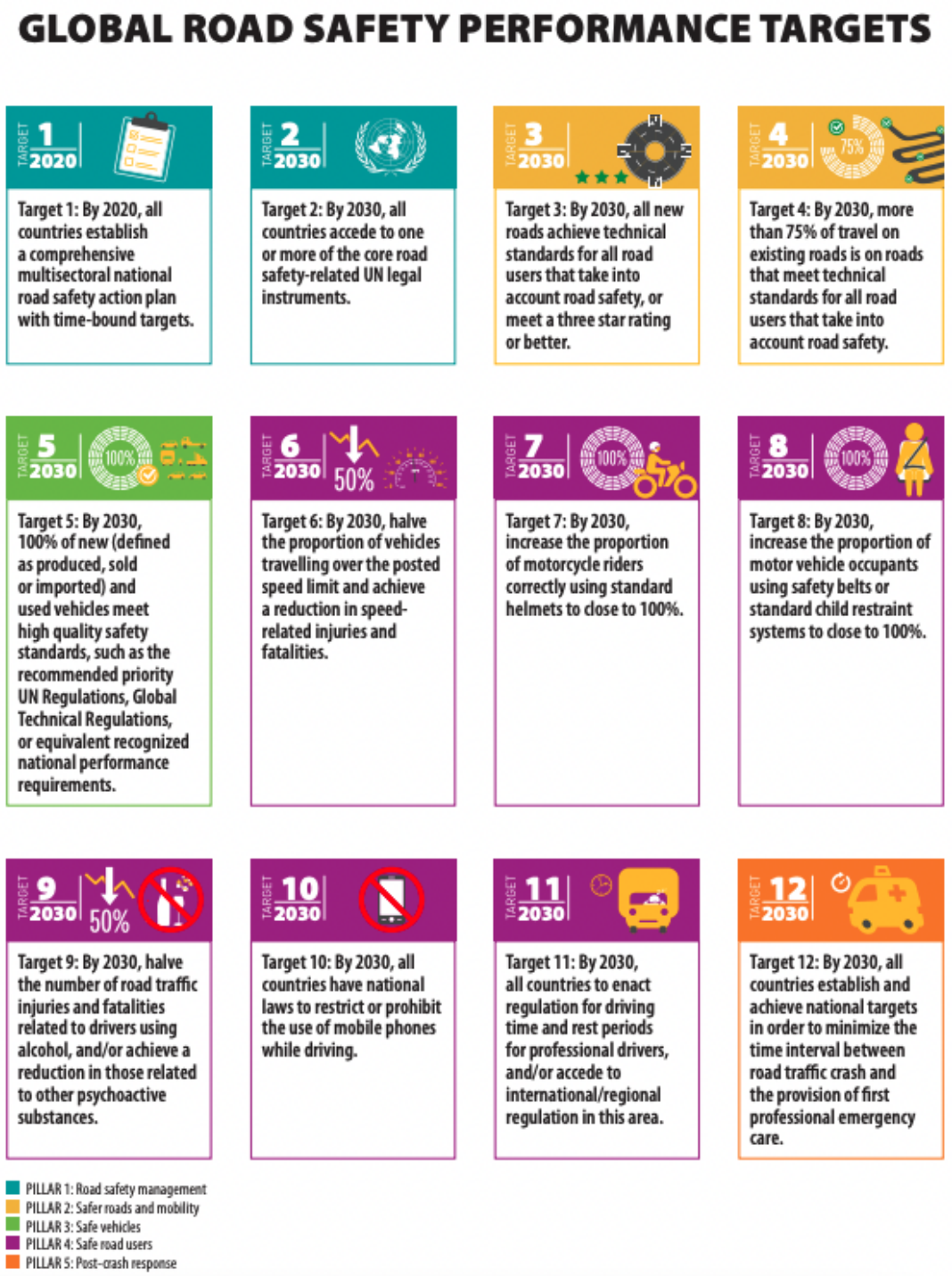
- To collect, manage and analyze an Asia and Pacific regional database on road safety in member countries
- To provide technical assistance on road crash data collection systems, standards and norms
- To foster dialogue on road safety within Asia and the Pacific
- To support the creation and strengthening of national lead agencies for road safety
- To provide capacity building on technical issues
- To monitor the progress on road safety of member states and help assess how to reduce factors that lead to serious road injuries in member states

THE ASIA-PACIFIC ROAD SAFETY OBSERVATORY'S INDICATORS FOR MEMBER COUNTRIES

JUNE 2022

Reference 1

The *Voluntary Global Targets for Road Safety* finalized by the World Health Organization (WHO) in November 2017



Reference 2

United Nations (UN) Resolution 74/299 adopted by the General Assembly on 31 August 2020 as reflected in the Global Action Plan for Road Safety 2021–2030

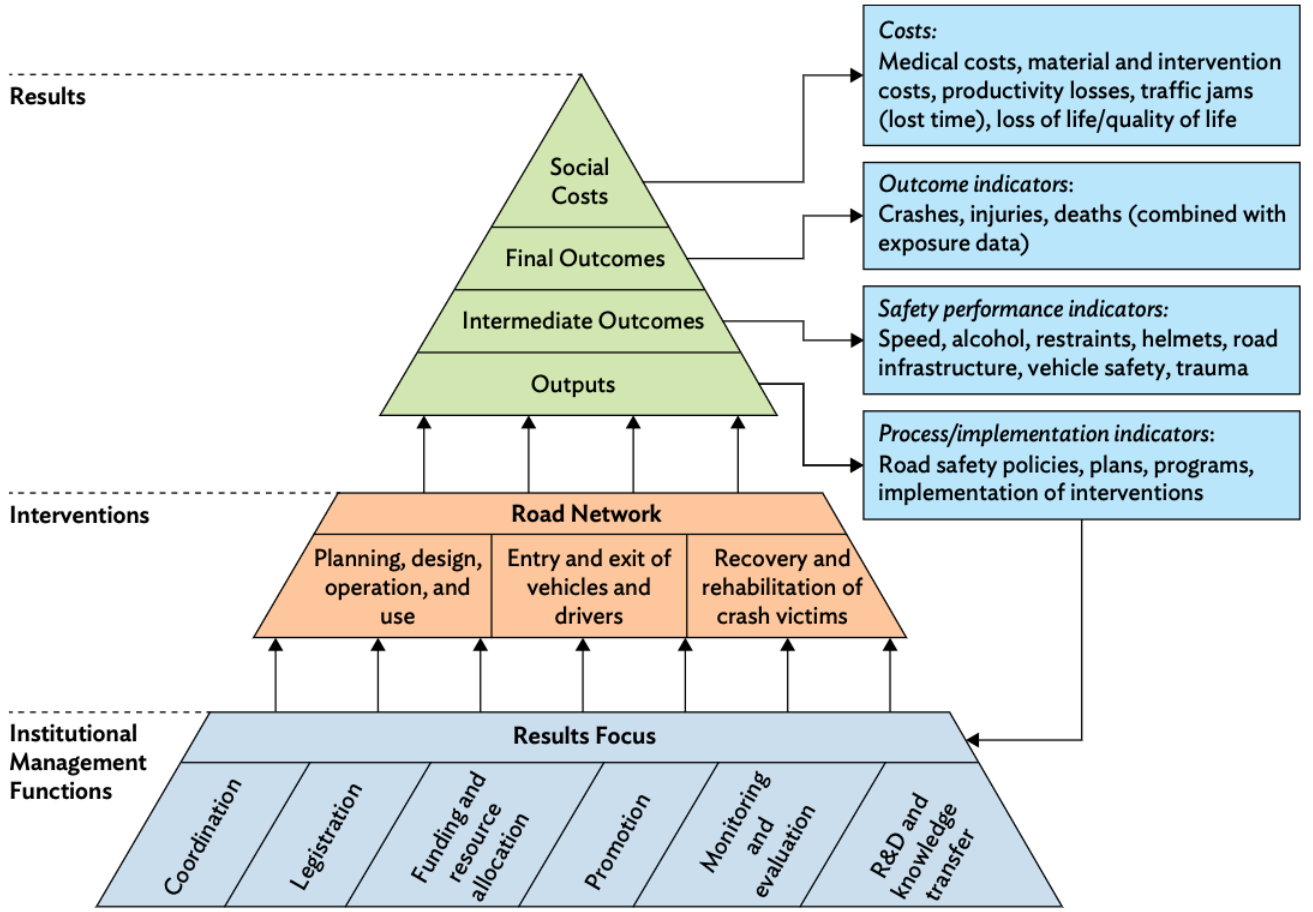
Decade of Action for Road Safety 2021-2030, with the target to reduce road traffic deaths & injuries

BY AT LEAST 50% during that period

Reference 3

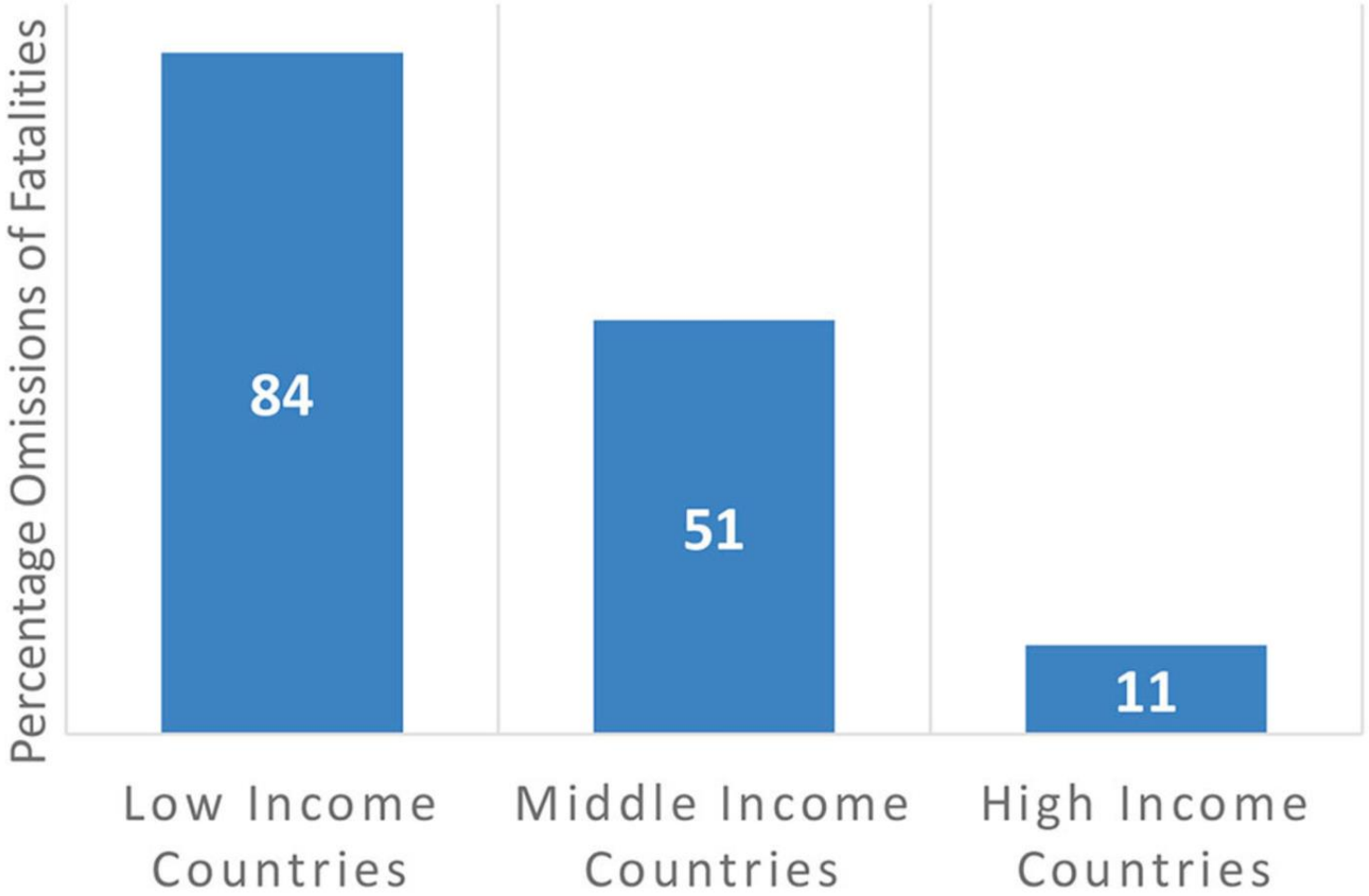
The Global Road Safety Facility guidelines in road safety management

Three elements are identified: institutional management functions, interventions, and results



R&D = research and development.
Source: World Bank, 2013.

Under-reporting of crashes



Source: Wambulwa and Job (2019)

Review of international best practice

- To meet the 50% reduction in fatalities and injuries, there is a strong need to improve the reporting of crash data
- Updating of crash data systems should also consider the use of digital forms and devices
- Minimum indicators are typically categorized by crash, road, and vehicle and person related variables. These categories are further subdivided into high importance and low importance
- Individual countries must customize and contextualize the indicators based on their capacities and needs. What works in one place cannot simply be copied or applied to another country
- All have identified the need for collaboration among government ministries and the integration of different datasets and database systems
- Data collection for road safety monitoring and evaluation should primarily include fatal and injury crashes, not just property damage crashes
- From all approaches reviewed, 16 data elements are commonly marked “high importance” or “first priority”

Recommended Crash Data Elements Collected at National Level

Core	Expanded	Integration
• 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	• Movement Code* • Hit and run • Road functional class (e.g. national road, local road, etc.) • Speed limit • Road obstacles • Road surface conditions (e.g. dry, wet, etc.) • Junction type • Vehicle number • Person number • Occupant's linked vehicle number • Pedestrian's linked vehicle number • Safety equipment • Nationality • Suspected alcohol use • Alcohol test • Drug use • Seating position	• Traffic control at junction (e.g. traffic police, traffic light, etc.) • Road curve (e.g. tight curve, open curve, etc.) • 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's year of manufacture • Vehicle special function • Person ID • Driving license issue date • Licensed vehicle category

Recommended Crash Data Elements to be Collected by APRSO

- Fatalities and injuries per month
- Fatalities, hospitalized, and injured by road type
- Fatalities, hospitalized, and injured by vehicle type and age of person involved
- Fatalities, hospitalized, and injured by vehicle type
- Females/males killed at each age in yearly interval
- Drivers/passengers/unknown, the seating position of passenger cars/goods/light goods/articulated, and non-articulated heavy goods killed

To operationalize this and enable effective cross-country comparison, member countries must agree to standardize the definition of fatality and injury severities

Recommended SPIs at National Level

Category	Safety Performance Indicators	Source of Data
Speeds	Number of speeding violations by type of road	Enforcement data
	Number of fatalities and injuries caused by speeding	Crash data
Alcohol and drugs	Number of drunk or drug driving violations	Enforcement data
	Number and percentage of severe injuries and fatalities that are caused by one road user that has a BAC exceeding the legal limit	Crash and hospital data
	Number and percentage of severe injuries and fatalities that are caused by one road user that is positive of drug use	Crash data
Safety equipment – cars	Number of sealtbelt-wearing violations	Enforcement data
	Number of child restraints violations	Enforcement data
	Number and percentage of fatalities and injuries that involve the non-use of seatbelts	Crash data
	Number and percentage of fatalities and injuries that involve the non-use of child restraints	Crash data
Safety equipment – motorcycles	Number of helmet-wearing violations	Enforcement data
	Number of fatalities and injuries that involve the non-use of helmets	Crash data
Distracted driving	Number of distracted driving violations	Enforcement data
	Number of fatalities and injuries that involve distracted driving	Crash data
Vehicles	Percentage of vehicles in a fleet with high-quality NCAP safety standards	Vehicle registration data
	Percentage of motorcycles in the vehicle fleet	Vehicle registration data
	Number of fatalities and injuries involving vehicle defects	Crash data
Road infrastructure	Percentage of roads that meet a three-star iRAP rating (or equivalent rating tool) or better for each road user type in iRAP	Lead agency for roads
Post-crash response	Number and composition of EMS staff per 10,000 citizens	Hospital data
	Availability of emergency response units (e.g. ambulances)	Hospital data
	Availability of trauma beds per 10,000 citizens	Hospital data

Recommended SPI for APRSO

Category	Safety Performance Indicators	Source of Data
Speeds	Free-flow average speeds disaggregated by vehicle type, road type, and time of day.	Spot surveys
	85th-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	Percentage 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 with a three-star 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

Recommended National and Regional Process & Implementation Indicators

Category	Process or Implementation Indicator	Source
Institutional framework	Established lead agency in road safety (Yes/No)	WHO, *Global Status Report on Road Safety 2018*
	Annual budget of lead agency	Country
	Road safety unit in transport/roads/public works ministry (Yes/No)	Country
	If Yes, number of staff in road safety unit in transport/roads/public works ministry	Country
	Road safety unit in health ministry (Yes/No)	Country
	If Yes, number of staff in road safety unit in health ministry	Country
	Presence of national action plan/strategy	WHO, *Global Status Report on Road Safety 2018*
	Funding to implement strategy (full/partial/no funding)	WHO, *Global Status Report on Road Safety 2018*
	Fatality reduction target	WHO, *Global Status Report on Road Safety 2018*
	Proportion of interventions/activities implemented on time based on action plan/ strategy	Country
	Number of years between updates of targets in action plan	Country
	Road safety international agreements and conventions which have been ratified or acceded to.	Country

Thank you.