

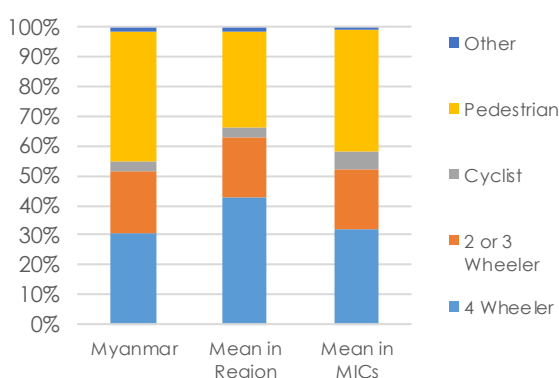


THE SCALE OF THE ROAD SAFETY CHALLENGE Ref: 1,2,3,4,5

ROAD CRASH FATALITIES AND INJURIES SNAPSHOT

Country Population, 2016 :	94,569,072
Country Reported Fatalities, 2016 :	8,417
WHO Estimated Fatalities, 2016 :	24,970
GBD Estimated Fatalities, 2016 :	21,599
WHO Est. Fatalities per 100,000 Pop., 2016 :	26.40
GBD Est. Fatalities per 100,000 Pop., 2016 :	22.65
Estimated Serious Injuries, 2016 :	374,550
Cost of Fatalities and Serious Injuries, 2016 :	\$ 18.02 billion
Cost as % of country GDP, 2016 :	8.8%

FATALITIES BY USER COMPARISON CHART



82% Percentage of Road Crash Fatalities and Injuries in the economically productive age groups (15 - 64 years.)

3:1 Ratio of Male to Female Fatalities with the 15 - 49 year age group being most vulnerable to fatalities

1,157 life yrs. affected due to disability from road crash injuries per 100,000 people

POSITIONING OF COUNTRY IN THE REGION (COMPARED TO COUNTRIES WITH THE LOWEST TRAFFIC FATALITIES IN THE REGION AND GLOBALLY)

	2016 WHO Estimated Road Fatalities	2016 GBD Estimated Road Fatalities	2016 WHO Estimated Fatality Rate/ 100,000 pop.	2016 GBD Estimated Fatality Rate/ 100,000 pop.	% Trend in Fatality Rate/100,000 (2013 - 2016)	Motorization Registered Vehicles/100,000 population
Vietnam	24,970	21,599	26.4	22.7	-4.2%	53,577

BEST PERFORMING COUNTRIES IN REGION

Micronesia	2	16	1.9	15.7	-0.3%	5,406
Kiribati	5	12	4.4	10.4	-5.2%	3,240

BEST PERFORMING COUNTRIES GLOBALLY

Switzerland	223	334	2.65	3.89	-5.4%	71,182
Norway	143	215	2.72	4.09	2.4%	75,544
Singapore	155	197	2.76	3.53	-4.9%	16,604
Sweden	278	390	2.83	3.88	-3.2%	62,037

ROAD SAFETY MANAGEMENT Ref: 1

To produce positive road safety outcomes, strong management in all aspects of road safety is key. Presence of a funded lead agency to guide the national road safety effort and implement a Safe Systems approach is recommended.

✓ Vietnam has a lead agency present, National Traffic Safety Committee (NTSC), which is funded in the national budget, and has a road safety strategy which is partially funded. The functions of the agency include coordination, legislation and monitoring and evaluation of road safety strategies. The country only has a fatal road safety target, to reduce fatalities by 5 - 10% annually with a timeline of 2012 - 2020.

SAFE ROADS AND ROADSIDES Ref: 1,4

Improved infrastructure provides solid and well understood crash and injury reduction outcomes and are critical for long term and sustainable trauma reduction in line with the Safe Systems Approach. The International Road Safety Assessment Programme (iRAP) provide a business case for safer roads and road star ratings which give a simple and objective measure on the level of safety which is 'built-in' to the road for the road users. 5 Star roads are the safest while 1 star roads are the least safe.

Road Infrastructure Star Rating Results - Vietnam

Surveyed Road Statistics: **94%** with no formal footpaths; **91%** with no pedestrian crossings; **23%** undivided with veh. speeds > 80 kph

Vehicle Occupant Travel: 5.1 billion km; Pedestrian Travel: 353,003,545 km; Motorcyclist Travel: 9.2 billion km; Cyclist Travel: 211,921,920 km



Business Case for Safer Roads

Infrastructure and Speed Management Investment required: **\$ 3.81 billion**

Annual Investment as a % of GDP (2019-2030): **0.14%**

Reduction in fatalities per year: **8,968**

Approximate reduction in fatalities and serious injuries (FSI) over 20 years: **1,970,000**

Economic Benefit: **\$ 74.09 billion**

B/C Ratio: **19**

SAFE SPEEDS Ref: 1,6,7,8

Speeding is a major risk factor for road crash injuries, contributing to both crash risk and crash consequences. A 5 % cut in average speed can result in a 20 % reduction in the number of fatal road crashes. Effective speed management measures such as establishing and enforcing speed limit laws, traffic calming through roadway design and other measures, and vehicle technology need to be widely implemented.

MAXIMUM SPEED LIMITS AND ENFORCEMENT

	60 km/h	90 km/h	120 km/h	Manual and Automated
NATIONAL SPEED LIMIT LAW	URBAN ROADS	RURAL ROADS	MOTORWAYS	SPEED ENFORCEMENT
Difference with Recommended Safe Systems Speeds	+ 30 km/h 6 times lower	+ 20 km/h 3 times lower	+ 30 km/h 3 times lower	Potential Decrease in Fatal Road Crashes from Enforcement of Safe System Speed Limits

MAJOR SPEED CALMING MEASURES BEING IMPLEMENTED IN VIETNAM:

NARROWING	VERTICAL DEFLECTIONS	HORIZONTAL DEFLECTION	BLOCK OR RESTRICT ACCESS
Include lane narrowings by extending sidewalks, curb extensions, pedestrian refuges etc.	Include speed bumps, humps, cushions, tables, raised pedestrian crossing, variation in ride surface etc.	Used to make vehicles swerve slightly, include chicanes, pedestrian refuges, chokers etc.	Include median diverters, closing streets to create pedestrian zones, cul-de-sacs etc.

SAFE VEHICLES Ref: 1,8

Universal deployment of improved vehicle safety technologies for both passive and active safety through a combination of harmonization of relevant global standards, consumer information schemes and incentives to accelerate the uptake of new technologies will reduce road crash fatalities significantly.

VEHICLE REGISTRATION, STANDARDS AND IMPORT REGULATIONS

50,666,855	93.0%	COUNTRY COMPLIANCE TO THE UN VEHICLE SAFETY REGULATIONS									
TOTAL REGISTERED VEHICLES AS OF 2016	MOTORIZED 2/3 WHEELERS AS OF 2016	FRONTAL AND SIDE IMPACT (Reg. 94, 95)		MOTORCYCLE ANTI-LOCK BRAKING SYSTEM (Reg. 78)		PEDESTRIAN PROTECTION (Reg. 127)		ELECTRONIC STABILITY CONTROL (Reg. 140)		SEAT BELTS AND ANCHORAGES (Reg. 16, 14)	
	No Restrictions		No		No		Yes		No		
REGULATION OF IMPORT OF USED VEHICLES	IMPORT AGE LIMIT	TAXATION BASED LIMITS	IMPORT INSPECTIONS	PERIODIC INSPECTION							

SAFE ROAD USERS Ref: 1,8

The key behavioral risk factors for road crash injuries are drunk driving, non-use of helmets, seat-belts or child restraint, and speeding. Establishing and enforcing laws to address these risk factors is effective in reducing road crash fatalities and their associated injuries.

NATIONAL SEATBELT, DRINK DRIVING AND HELMET LAWS (WHO, 2018)

							Not restricted		18 yrs.
NATIONAL SEATBELT LAW	DRIVER	FRONT	BACK	MOTORCYCLE HELMET LAW	HELMET STANDARDS	MOTORCYCLE OCCUPANT AGE RESTRICTION	LEGAL MINIMUM DRIVING AGE		
		≤ 0.05	≤ 0.05	≤ 0.05			Not Known		
NATIONAL DRINK DRIVING LAW	IS LAW BAC BASED?	GENERAL POPULATION	YOUNG DRIVERS	PROFESSIONAL DRIVERS	RANDOM DRINK DRIVING TESTS	% OF ROAD CRASH FATALITIES INVOLVING ALCOHOL			
		BLOOD ALCOHOL CONCENTRATION (BAC) LIMITS (g/dl)							

POST CRASH CARE Ref: 1,8,9

Good post-crash care reduces deaths and reduces disability and suffering for road crash survivors. The emergency medical care system elements and processes need to be effective to attain this objective.

Partial Coverage	National	COUNTRY HEALTH COVERAGE INDEX - SDG Target 3.8; Target - 100	73	EXPENDITURE ON HEALTHCARE AS % OF GDP	6%
NATIONAL EMERGENCY CARE ACCESS NUMBER	TRAUMA REGISTRY SYSTEM				

Vietnam has several emergency numbers. These are 113 (Police); 114 (Ambulance).

REFERENCES

1. Global Status Report on Road Safety 2018. World Health Organization; 2. Institute for Health Metrics and Evaluation (IHME). GBD Results Tool. Seattle, WA: IHME, University of Washington, 2015; 3. Serious injuries have been calculated assuming a ratio of 15:1 (15 serious injuries for every death). This estimation broadly falls in the range of 30:1 in high income countries to 10:1 in low- and middle-income countries as crashes tend to be more fatal in the later context. 4. Vaccines for Roads, International Road Assessment Programme (iRAP). Available from <https://www.vaccinesforroads.org/>; 5. World Bank Databank for Development Indicators; 6. M.H. Cameron, R. Elvik. 2010. Nilsson's Power Model connecting speed and road trauma; 7. Austroads. Balance between harm reduction and mobility in setting speed limits; 8. UNEP-ITC Background Paper on Used Vehicles Globally and Various Media Sources (Wikipedia and vehicle import websites); 9. 2018 World Health Statistics, WHO.