



Families of Road Victims and Survivors

Philippines

A SPECIAL REPORT FROM MANILA, PHILIPPINES

GLOBAL ROAD SAFETY PERFORMANCE MONITOR

I.R.V.P. MEMBER COUNTRY RANKINGS

Based on the February 2020 World Bank Report

GUIDE FOR

ROAD SAFETY OPPORTUNITIES AND CHALLENGES:

LOW- AND MIDDLE-INCOME

COUNTRY PROFILES



THE WORLD BANK



Global Road Safety Facility

I.R.V.P. Members Tool to Advance Road Safety Agenda





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GUIDE FOR

ROAD SAFETY OPPORTUNITIES AND CHALLENGES:

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COUNTRY PROFILES

#	GLOBAL	REGIONS (World Bank Group)	POPULATION	G.N.I. (US \$)	INCOME LEVEL	DEATHS (Country)	DEATHS (W.H.O.)	DEATHS (G.B.D.)
		AFRICAN REGION	1,009,762,928	8,340	Low	58,042	271,689	168,046
		EAST ASIA & PACIFIC	2,273,515,017	11,208	Middle	156,033	384,066	398,996
		EUROPE & CENTRAL ASIA	948,474,522	24,362	High	78,702	94,932	92,443
		LATIN AMERICA & THE CARIBBEAN	974,603,618	10,959	Middle	132,180	151,957	155,464
		MIDDLE EAST & NORTH AFRICA	325,142,350	15,642	Middle	40,137	56,439	71,442
		SOUTH ASIA REGION	1,765,989,233	2,444	Middle	164,312	364,718	302,389
		GRAND TOTALS	7,297,487,668	12,635	HIGH	629,406	1,323,801	1,188,780



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#	GLOBAL	REGIONS (World Bank Group)	SERIOUS INJURIES	DEATHS (W.H.O.) + SERIOUS INJURIES	DEATH INDEX	
					FATALITY RATE (W.H.O.)	FATALITY RATE (G.B.D.)
		AFRICAN REGION	4,069,285	4,340,974	27.28	19.87
		EAST ASIA & PACIFIC	5,942,295	6,326,361	13.91	15.38
		EUROPE & CENTRAL ASIA	1,947,600	2,042,532	8.75	8.14
		LATIN AMERICA & THE CARIBBEAN	2,952,855	3,104,812	16.93	15.54
		MIDDLE EAST & NORTH AFRICA	896,760	953,199	18.20	16.38
		SOUTH ASIA REGION	5,470,770	5,835,488	14.55	15.80
		GRAND TOTALS	21,279,565	22,603,366	16.60	15.18



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ECONOMIC IMPACT

#	GLOBAL	REGIONS (World Bank Group)	ECONOMIC COST (Deaths & Injuries)	ECONOMIC COST % G.D.P.
		AFRICAN REGION	\$128,119,545,861	9.2%
		EAST ASIA & PACIFIC	\$1,180,994,158,207	5.1%
		EUROPE & CENTRAL ASIA	\$935,902,805,306	4.7%
		LATIN AMERICA & THE CARIBBEAN	\$2,261,018,421,290	6.7%
		MIDDLE EAST & NORTH AFRICA	\$158,153,179,933	7.8%
		SOUTH ASIA REGION	\$202,708,020,000	4.8%
		GRAND TOTALS	\$4,866,896,130,597	6.4%

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GRAND TOTALS			\$4,866,896,130,597		6.4%



**I.R.V.P.
Member
Countries
(REGION)**

India
Nepal
Pakistan

POPULATION	G.N.I. (US \$)	INCOME LEVEL	DEATHS			SERIOUS INJURIES	DEATHS (W.H.O.) + SERIOUS INJURIES	DEATH INDEX	
			(Country)	(W.H.O.)	(G.B.D.)			FATALITY RATE (W.H.O.)	FATALITY RATE (G.B.D.)
1,009,762,928	8,340	Low	58,042	271,689	168,046	4,069,285	4,340,974	27.28	19.87
2,273,515,017	11,208	Middle	156,033	384,066	398,996	5,942,295	6,326,361	13.91	15.38
948,474,522	24,362	High	78,702	94,932	92,443	1,947,600	2,042,532	8.75	8.14
974,603,618	10,959	Middle	132,180	151,957	155,464	2,952,855	3,104,812	16.93	15.54
325,142,350	15,642	Middle	40,137	56,439	71,442	896,760	953,199	18.20	16.38
1,765,989,233	2,444	Middle	164,312	364,718	302,389	5,470,770	5,835,488 ☀️	14.55	15.80
7,297,487,668	12,635	HIGH	629,406	1,323,801	1,188,780	21,279,565	22,603,366	16.60	15.18



INTERNATIONAL ROAD VICTIMS PARTNERSHIP

124+ Non Government Organizations

SOUTH ASIA



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Peoples Trust Jaipur

Prerana Aurora - India



Road Safe Trust

J. Krishnamoorthy Tamil Nadu -
India Chennai



Post-Crash Care Foundation

Harpreet Singh - India



Roadkraft

Malcolm D Wolfe - India



Safe Roads Save Life Sansthan

Om Sharma - India



Sarkoar Ek Pahal

Rakesh Kumar - India

SHUBHAM SOTI
FOUNDATION



SHUBHAMSOTI.ORG

Shubham Soti Foundation

Ashutosh Soti - India



Trax

Rajni Gandhi - India



...for automobile & society

Nasa Foundation

Govinda Bhattarai - Nepal



RMR FOUNDATION
Estd.: 2017
"Together For Change"

RMR Foundation

Diamond Lamichhane -
Kathmandu Nepal



Safe And Sustainable Travel

Hemant Tiwari - Kathmandu, Nepal



INTERNATIONAL ROAD VICTIMS PARTNERSHIP

124+ Non Government Organizations

SOUTH ASIA



SRDO Youth For The Road Safety

Abdul Qadir Bullo - Pakistan



Youth Association For Development

Atta Ul Haq Khaderzai - Pakistan



Ability People

Dilip Patro - India



Arrive Safe Harman

Singh Sidhu - India



Observe Road Safety Responsibly

Avoid Accident

Harpreet Singh - India



Dinesh Memorial Road Safety Society Gift A Life

Kushal Pal Raghav - India



Forum For Prevention Of Road Accidents S.N.

Samantaray Odisha - India



Indian Federation Of Road Safety

Vinod Konumala - India



Indian Head Injury Foundation

Mr Ranbir Talwar - New Delhi India



Indian Road Safety Campaign

Sonali Kumari - India



Patiala Foundation

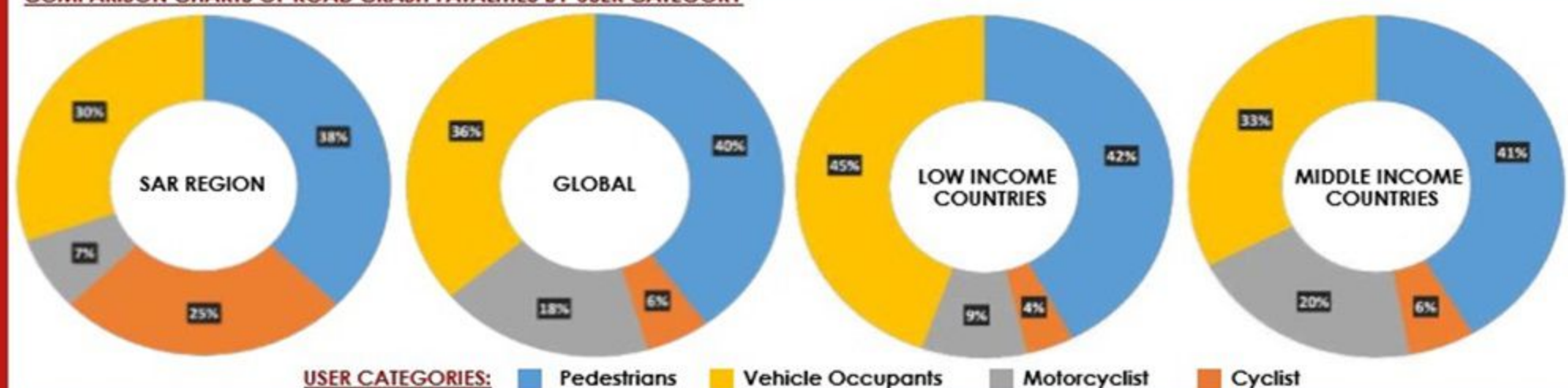
Ravee S Ahluwalia - Patiala, India

THE SCALE OF THE ROAD SAFETY CHALLENGE

SNAPSHOT OF THE SOUTH ASIA REGION (AS PER COUNTRY PROFILES):

Region Total Population, 2016 : 1.8 billion	Cost of Fatalities and Serious Injuries, 2016	74% Percentage of Road Crash Fatalities and Injuries in the economically productive age group (15 - 64 years)
Government Reported Fatalities, 2016 : 164,312	\$ 202 billion	
WHO Estimated Fatalities, 2016 : 364,718	Cost as % of region average GDP, 2016	863 life years affected due to disability from road crash injuries in a population of 100,000 people
GBD Estimated Fatalities, 2016 : 302,390	6.9 % of GDP	
WHO Est. Fatalities per 100,000 Pop., 2016 : 14.55	3 : 1 Ratio of Male to Female Road Crash Fatalities in the Region	
GBD Est. Fatalities per 100,000 Pop., 2016 : 15.80		
Estimated Serious Injuries, 2016 : 5,470,770		

COMPARISON CHARTS OF ROAD CRASH FATALITIES BY USER CATEGORY



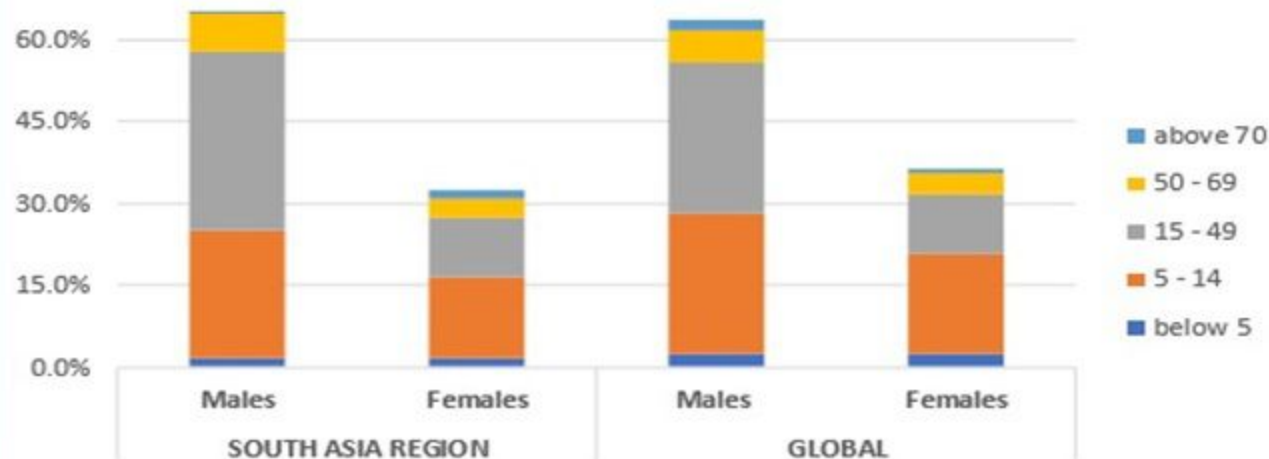
POSITIONING OF THE SOUTH ASIA REGION COMPARED TO OTHER WORLD BANK GROUP REGIONS:

Region	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	
SAR South Asia	364,718	302,390	14.55	15.80	-4.5%	12,800.3	
ECA	Europe and Central Asia	60,024	57,535	12.53	11.02	-2.4%	25,428.5
EAP	East Asia and Pacific	371,979	386,908	15.81	17.74	-2.4%	22,662.6
LAC	Latin America and the Caribbean	107,057	110,560	19.05	17.24	-1.4%	25,735.4
MENA	Middle East and North Africa	53,094	68,097	19.37	16.82	-5.8%	21,261.2
AFR	Africa	270,284	166,620	27.64	19.72	-4.9%	6,920.5

YEARS OF LIFE LOST PER 100,000 POPULATION IN THE SAR REGION



VULNERABLE ROAD USERS - FATALITIES BY AGE AND SEX (REGIONAL AND GLOBAL COMPARISON)



ROAD SAFETY MANAGEMENT

Regional road safety observatories are a key driver in successful implementation of road safety strategies in the region's countries. The World Bank in partnership with the Asian Development Bank (ADB), the International Transport Forum (ITF) and Fédération Internationale de l'Automobile (FIA) is in the process of developing a framework for the Asian Road Safety Observatory.

85% of countries report they have a lead agency, with 70% of them reporting to be fully funded.

85% of the agencies guide, implement and monitor road safety interventions

50% of the agencies have a road safety target.

SAFE ROAD USERS Ref: 1,4

The key behavioral risk factors for road crash injuries are drink 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)

60% countries with a national seatbelt law

85% countries with a national motor cycle helmet law

85% countries with a national drink driving law. 40% BAC Based.

30% countries with BAC Limit equal or lower than 0.05 g/dl.

85% countries with legal minimum driving age at or above 18 yrs.

POST CRASH CARE Ref: 1,7

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.

35% countries with a national emergency care access number

0% countries with a national trauma registry system

34 - 62 range of country health service coverage index - SDG Target 3.8 Mean - 50; Target - 100

5.4% mean current expenditure on healthcare (% GDP)

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. Various Media Sources; 7. 2018 World Health Statistics, WHO.

SAFE ROADS AND ROADSIDES: Infrastructure Assessment and Business Case for Safer Roads (iRAP) ^{Ref: 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. Road Star Ratings are based on road inspection data and provide a simple and objective measure of 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.

PILLAR 2

962.3 million	total vehicle occupant travel surveyed by iRAP	Vehicle Occupant Star Rating Results					Pedestrian Star Rating Results					
		1.0%	4/5 Star	8.0%	3 Star	92.0%	1/2 Star	0.0%	4/5 Star	4.5%	3 Star	95.5%
122.3 million	total pedestrian travel surveyed by iRAP	Motorcyclist Star Rating Results					Bicyclist Star Rating Results					
		0.0%	4/5 Star	3.0%	3 Star	97.0%	1/2 Star	0.0%	4/5 Star	3.0%	3 Star	97.0%
Business Case for Road Safety	Infrastructure and Speed Mgmt. Investment required		\$ 105 billion		Annual Investment as a % of GDP (2019-2030)		0.22%		Reduction in fatalities per year		108,436	
Reduction in fatalities and serious injuries (FSI) over 20 years: 23 million					Economic Benefit in Region: \$ 682 billion					Benefit Cost Ratio: 38		

SAFE SPEEDS ^{Ref: 1,6}

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

PILLAR 3

100%	countries with national speed limit laws	25%	countries with urban speed limits of 30 km/h or less; Range: 30 - 112 km/h; Mean - 68 km/h;	38%	countries with rural speed limits of 70 km/h or less; Range: 30 - 112 km/h; Mean - 80 km/h;	50%	countries with motorway speed limits of 90 km/h or less; Range: 50 - 130 km/h; Mean - 95 km/h;
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The enforcement distribution in the South Asia Region is - Manual Enforcement: 88%; Manual and Automated Enforcement: 0%; Fully Automated Enforcement: 0%; No Enforcement: 13%. 25% of local authorities can modify speeds in their jurisdiction.

SPEED CALMING MEASURES	0%	countries with narrowing measures	100%	countries with vertical deflections	0%	countries with horizontal deflections	0%	countries with blocking or restriction of access
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SAFE VEHICLES ^{Ref: 1,6}

Regional bodies should supplement country efforts in 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 to reduce road crash fatalities.

PILLAR 4

VEHICLE REGISTRATION, STANDARDS AND IMPORT REGULATIONS

12,800	mean vehicle population	57%	mean percentage of motorized 2/3 wheelers	10%	of countries have adopted the Global NCAP Standards	25%	Countries with strong import regulations	0%	countries with periodic inspection schemes
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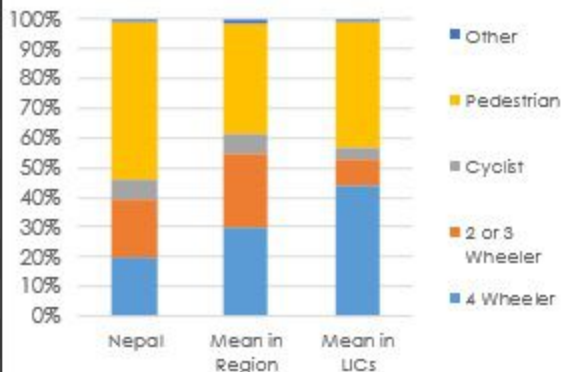
THE WORLD BANK



Global Road Safety Facility


THE SCALE OF THE ROAD SAFETY CHALLENGE Ref: 1,2,3,4,5
ROAD CRASH FATALITIES AND INJURIES SNAPSHOT

Country Population, 2016 :	28,982,772
Country Reported Fatalities, 2016 :	2,006
WHO Estimated Fatalities, 2016 :	4,622
GBD Estimated Fatalities, 2016 :	6,765
WHO Est. Fatalities per 100,000 Pop., 2016 :	15.90
GBD Est. Fatalities per 100,000 Pop., 2016 :	22.88
Estimated Serious Injuries, 2016 :	69,330
Cost of Fatalities and Serious Injuries, 2016 :	\$ 1.12 billion
Cost as % of country GDP, 2016 :	5.3%

FATALITIES BY USER COMPARISON CHART


72% 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

1,084 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
Nepal	4,622	6,765	15.9	22.9	-0.6%	8,071

BEST PERFORMING COUNTRIES IN REGION

Maldives	4	32	0.9	7.3	-4.0%	21,737
Pakistan	27,582	52,708	14.3	25.2	-3.1%	9,499

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

PILLAR 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.

- ✓ Nepal has a lead agency present, Ministry of Physical Infrastructure and Transport, 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 has no known road safety target.

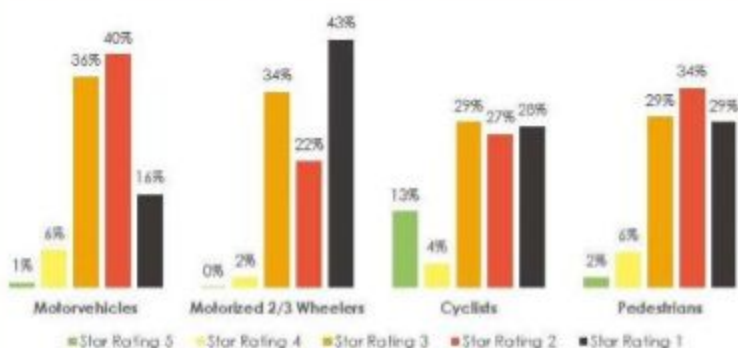
SAFE ROADS AND ROADSIDES Ref: 1.4

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 - Nepal

Surveyed Road Statistics: **93%** with no formal footpaths; **97%** with no pedestrian crossings; - undivided with veh. speeds > 80 kph

Vehicle Occupant Travel: 962,347,801 km; Pedestrian Travel: 110,315,410 km; Motorcyclist Travel: 397,281,817 km; Cyclist Travel: 64,175,030 km



Business Case for Safer Roads

Infrastructure and Speed Management
Investment required: **\$ 140.97 million**

Annual Investment as a % of GDP
(2019-2030): **0.05%**

Reduction in fatalities per year: **2,081**

Approximate reduction in fatalities and
serious injuries (FSI) over 20 years: **460,000**

Economic Benefit: **\$ 6.12 billion**

B/C Ratio: **43**

PILLAR 2

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

		40 km/h	80 km/h	80 km/h	Manual
NATIONAL SPEED LIMIT LAW		URBAN ROADS	RURAL ROADS	MOTORWAYS	SPEED ENFORCEMENT
Difference with Recommended Safe Systems Speeds		+ 10 km/h 2 times lower	+ 10 km/h 2 times lower	Appropriate Low Risk	Potential Decrease in Fatal Road Crashes from Enforcement of Safe System Speed Limits

MAJOR SPEED CALMING MEASURES BEING IMPLEMENTED IN NEPAL:

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

2,339,169	66.1%	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)

PILLAR 5	✓	✓	✓	✗	✓	✗	✗	Not restricted	✓	18 yrs.	
	NATIONAL SEATBELT LAW	DRIVER FRONT BACK	MOTORCYCLE HELMET LAW	HELMET STANDARDS	MOTORCYCLE OCCUPANT AGE RESTRICTION			LEGAL MINIMUM DRIVING AGE			
	✓	✗	✗	✗	✗	✗	✓	✗	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.

PILLAR 6	Partial Coverage		Some Facilities		COUNTRY HEALTH COVERAGE INDEX - SDG Target 3.8; Target - 100	46	EXPENDITURE ON HEALTHCARE AS % OF GDP	6%
	NATIONAL EMERGENCY CARE ACCESS NUMBER		TRAUMA REGISTRY SYSTEM					

Nepal has several emergency numbers. These are 100 (General); 103 (Police); 102 (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.