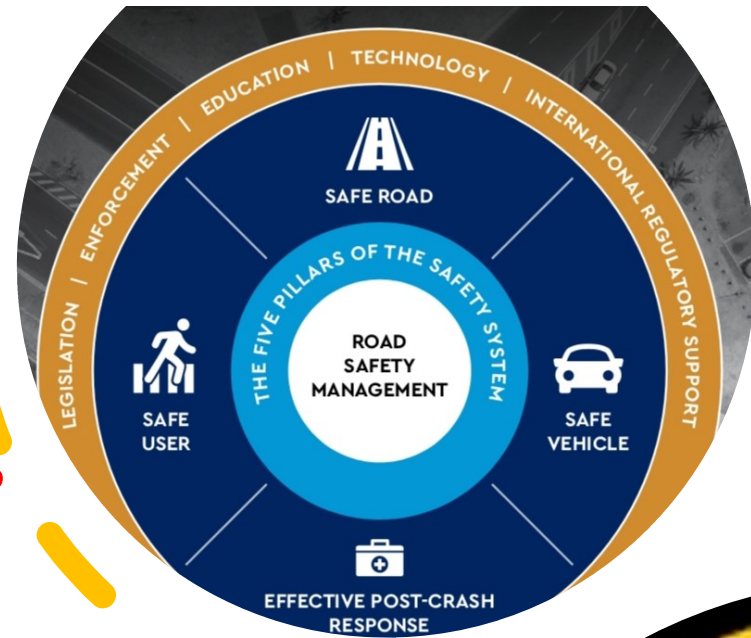


Safe System Approach and Global Performance Targets



Kailash Tiwari

International Road Safety
Management and
Engineering Specialist

KTIWAR1@HOTMAIL.COM

KT SSA





SAFE SYSTEM APPROACH (SSA) and GLOBAL PERFORMANCE TARGETS

KAILASH CHANDRA TIWARI

SSA is one of the highly appreciated concepts, accepted globally for handling safety, where human body's tolerance level is in focus and based on that the vehicle and all road infrastructures are designed and managed. This ensures a forgiving system of road network, which saves road users by the design of vehicle and roadside, etc.

Based on this concept only, Dutch and Sweden announced the "Vision Zero" concept, which has been later adopted by many other countries. Due to the fact that the first Decade of Action for Road Safety could not meet its target of 50% reduction in deaths, a set of 12 voluntary road safety performance targets were formulated by member nations for road safety aligning them with time line of SDGs as 2030 as part of the second decade of action for road safety.

This topic will cover all ingredients of safe system approach and how they save lives, injuries as well as the road safety performance targets, where "50 By 30" vision is for road deaths and serious injuries.

Contents

Road Safety Situation
Global Efforts
Safe System Approach
Examples



Global Road Safety Performance Targets
Recommendations of the IRF
What works: List of Highly Effective
Interventions

Road Crash related Fatalities

Globally:

In 2018, number of annual road crash related fatalities reached about 13,50,000 (1.35 millions).

Road Traffic Injuries were the leading killer of people aged 5-19 years, as per the WHO. (18.2 per 1,00,000 population).

India:

Reported road crash related fatalities were 1,54,732 in 2019-NCHADS.

Global Efforts and Declarations (2009-30)

- **Moscow Declaration of 2009**
- **UN General Assembly and World Health Assembly resolutions: UN Decade of Actions I, 2011-20**
- **Brasilia Declaration of 2015**
- **Stockholm Declaration (SD) of 2020**
- **UN General Assembly and World Health Assembly resolutions: UN Decade of Actions II, 2021-30**

5 Pillars of the ON Decade of Action (DOA I: 2011-2020)

(Safe Speed Management will be the Sixth Pillar in DOA II)



Global Efforts and Declarations (2009-30)

Stockholm Declaration (SD) of 2020 made assessments of progress made during the Decade of Action (DoA) for Road Safety 2011-2020.

SD is ambitious and forward – looking.

It connects road safety to the implementation of the 2030 Agenda for Sustainable Development, #VISION 2030 BY 50.

<https://www.roadsafetysweden.com/contentassets/b37f0951c837443eb9661668d5be439e/stockholm-declaration-english.pdf>

SD and the UN Decade of Action (DOA II : 2021-2030)



A Safe System Approach (Towards / Vision Zero)

The Safe System Approach builds upon the **Swedish “Vision Zero”** and the similar approach of “Sustainable Safety” from the Netherlands.

<https://youtu.be/HtjfjlxHbqQ>



UN Decades of Action I and II and Safe System Approach (SSA)

Approach to road safety management has to comply with the recommendations in the “Decades of Action I and II” programs for road safety efforts and Safe System.

The SSA is a proven and structured approach to road safety, built upon the shared responsibility between road users and system designers / providers and emphasizing coordinated, comprehensive actions and evidence-based prioritization.

Safe System Approach (SSA)

The underlying principles of the **Safe System Approach** are:

Road safety is a shared responsibility

The human body can only withstand limited forces in a crash before this results in a fatality or serious injury

Continuous improvements in vehicles, roads and behaviour will reduce fatalities and serious injuries.

We advocate to use the Safe System Approach to provide proven and innovative road safety initiatives to help reduce the chance that a small mistake will result in a crash, or worse, someone being killed or seriously injured.

Stockholm Declaration and Safe System Approach

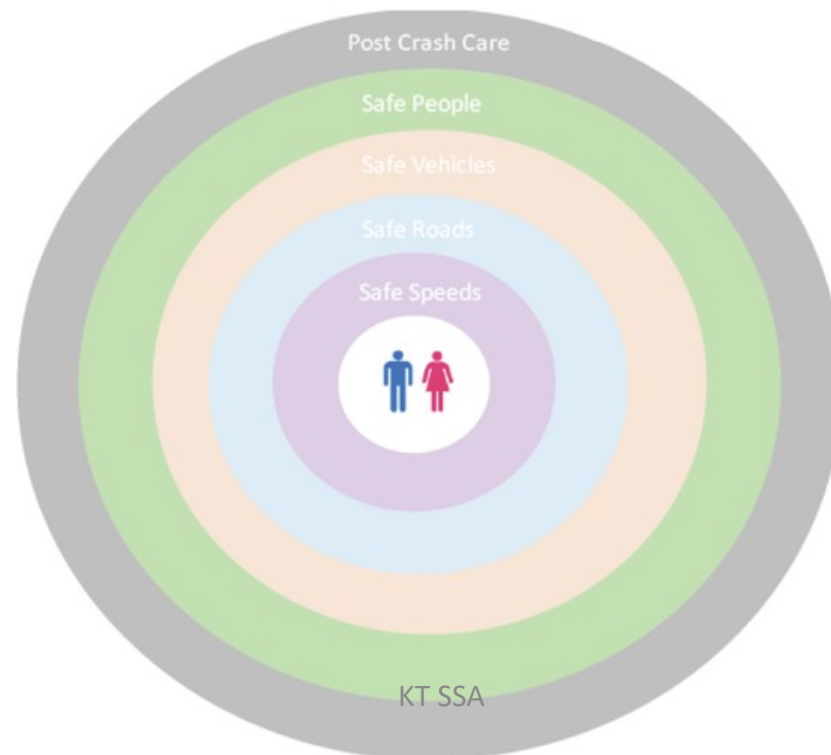
The UN-DoA I and II, and the SD emphasize that the overall objective should be to strive for a result-oriented “Safe System” – A System in which road user risks for fatality or serious injury are minimal.



Safe System Approach (SSA)

At the centre of the Safe System is road users, who are fragile and will sometimes make mistakes that can lead to crashes.

With that understanding, the road system needs to put layers of protection in the form of safe roads, vehicles, speeds, people around the fallible and vulnerable human in order to prevent deaths and serious injuries.



#SAFERCARSFORINDIA

RESULTS 2014 - 2020

	Mahindra XUV300	✓2	★★★★★	★★★★★
	Tata Altroz	✓2	★★★★★	★★★★★
	Tata Nexon*	✓2	★★★★★	★★★★★
	Tata Nexon	✓2	★★★★★	★★★★★
	Tata Tigor/Tiago	✓2	★★★★★	★★★★★
	Volkswagen Polo	✓2	★★★★★	★★★★★
	Mahindra Marazzo**	✓2	★★★★★	★★★★★
	Toyota Etios	✓2	★★★★★	★★★★★
	Suzuki Maruti Vitara Brezza	✓2	★★★★★	★★★★★
	Tata Zest	✓2	★★★★★	★★★★★
	Suzuki Marut Ertiga	✓2	★★★★★	★★★★★
	Ford Aspire	✓2	★★★★★	★★★★★
	Honda Mobilio	✓2	★★★★★	★★★★★
	Renault Duster	✓1	★★★★★	★★★★★
	Suzuki Maruti Swift	✓2	★★★★★	★★★★★
	Suzuki WagonR	✓1	★★★★★	★★★★★
	Hyundai Santro	✓1	★★★★★	★★★★★
	Datsun Redigo	✓1	★★★★★	★★★★★
	Renault Kwid (IV)	✓1	★★★★★	★★★★★
	Volkswagen Polo	X	★★★★★	★★★★★
	Renault Kwid (I)	X	★★★★★	★★★★★
	Renault Kwid (II)	X	★★★★★	★★★★★
	Renault Kwid (III)	X	★★★★★	★★★★★
	Ford Figo	X	★★★★★	★★★★★
	Suzuki Maruti Eeco	X	★★★★★	★★★★★
	Hyundai Eon	X	★★★★★	★★★★★
	Suzuki Maruti Alto	X	★★★★★	★★★★★
	Renault Duster	X	★★★★★	★★★★★
	Mahindra Scorpio	X	★★★★★	★★★★★
	Renault Lodgy	X	★★★★★	★★★★★
	Datsun Go	X	★★★★★	★★★★★
	Chevrolet Enjoy	X	★★★★★	★★★★★
	Tata Zest	X	★★★★★	★★★★★
	Suzuki Maruti Celerio	X	★★★★★	★★★★★
	Honda Mobilio	X	★★★★★	★★★★★
	Suzuki Maruti Swift	X	★★★★★	★★★★★
	Hyundai i10	X	★★★★★	★★★★★
	Tata Nano	X	★★★★★	★★★★★

Global Road Safety Performance Indicators & Targets

The **performance indicators** are the way that the voluntary targets will be measured. They will monitor the extent of progress at a **global** level and include information on how many countries have a national **road safety** action plan and where to find the data.

Voluntary global road safety targets

	<i>Short name</i>	<i>Full name of the target</i>
1	National action plan	By 2020, all countries establish a comprehensive multisectoral national road safety action plan with time-bound targets.
2	Global alignment	By 2030, all countries accede to one or more of the core road safety-related UN legal instruments.
3	New roads	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.
4	Existing roads	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.
5	Vehicle standards	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.
6	Speeding	By 2030, halve the proportion of vehicles travelling over the posted speed limit and achieve a reduction in speed-related injuries and fatalities.
7	Motorcycle helmets	By 2030, increase the proportion of motorcycle riders correctly using standard helmets to close to 100%.
8	Vehicle occupant protection	By 2030, increase the proportion of motor vehicle occupants using safety belts or standard child restraint systems to close to 100%.
9	Driving under the influence	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.
10	Distraction by mobile phone	By 2030, all countries have national laws to restrict or prohibit the use of mobile phones while driving.
11	Professional drivers	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.
12	Timely emergency care	By 2030, all countries establish and achieve national targets in order to minimize the time interval between a road traffic crash and the provision of first professional emergency care.

Target 1
2020



Target 1: By 2020, all countries establish a comprehensive multisectoral national road safety action plan with time-bound targets.

Target 2
2030



Target 2: By 2030, all countries accede to one or more of the core road safety-related UN legal instruments.

Target 3
2030



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.

Target 4
2030



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.

Target 5
2030



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.

Target 6
2030




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.

Target 7
2030



Target 7: By 2030, increase the proportion of motorcycle riders correctly using standard helmets to close to 100%.

Target 8
2030



Target 8: By 2030, increase the proportion of motor vehicle occupants using safety belts or standard child restraint systems to close to 100%.

Target 9
2030



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.

Target 10
2030



Target 10: By 2030, all countries have national laws to restrict or prohibit the use of mobile phones while driving.

Target 11
2030



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.

Target 12
2030



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.

- PILLAR 1: Road safety management
- PILLAR 2: Safer roads and reliability
- PILLAR 3: Safe vehicles
- PILLAR 4: Safe road users
- PILLAR 5: Post-crash response

Following the request of the United Nations General Assembly, on November 22, 2017 Member States reached consensus on 12 global road safety performance targets. For more information: http://www.who.int/violence_injury_prevention/road_traffic/road-safety-targets/en/

Pillar 2: Safe roads and mobility

Target	Indicator	Source within countries	Global source
Eliminate high risk roads 100 % of new roads are 3 star or better for all road users or >75% of travel on existing roads are 3 star or better for all road users	% of new roads that are 3 star or better for all road users % of network of existing roads that are 3 star or better for all road users	Ministries of Highways or Transportation and/or Infrastructure	Collected and published annually for 70+ countries by iRAP or another equivalent system of rating, e.g. EU 2008/96/EG



Voluntary Global Performanc...
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IRF Recommends

- Institutionalization of road safety in LMICs
 - identify a lead agency which can take up several tasks
 - **multi-pronged** approach to tackle the problem
 - Up to **49% of KSIs** can be saved by designing roads with **Safe System Approach**

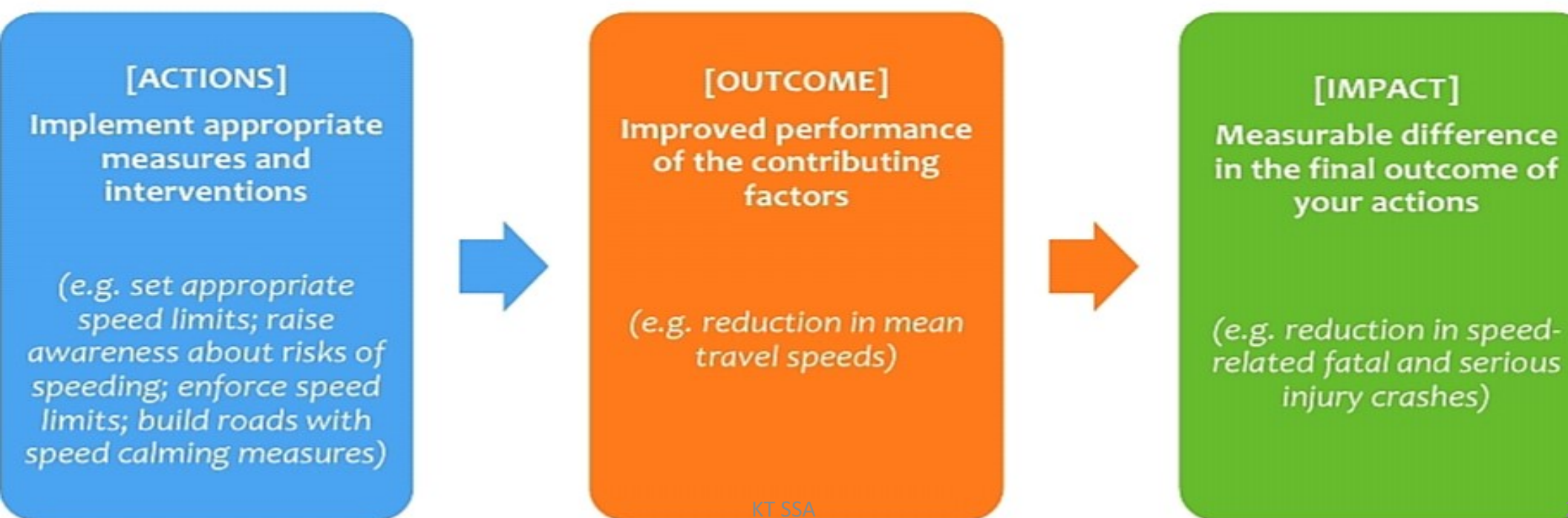


From actions to impact

Achieving improvements in road safety requires a planned approach. If you want to achieve a certain impact, you need to improve the underlying factors. And that in turn, requires appropriate plans and actions.

For example, if a country aims to reduce the number of injury crashes that result from unsafe roads, then the country will need to set objectives for safer roads and subsequently implement the principles of safe road design when building new roads and when upgrading existing roads. The results of this process will be safer roads on which fewer crashes occur. This is what global targets number 3 (new roads) and 4 (existing roads) refer to.

This 3-stage logic, which is applicable to any area of road safety, is displayed in Figure 1 – with speeding used as the example in the figure (speeding is the topic of the 6th global target).





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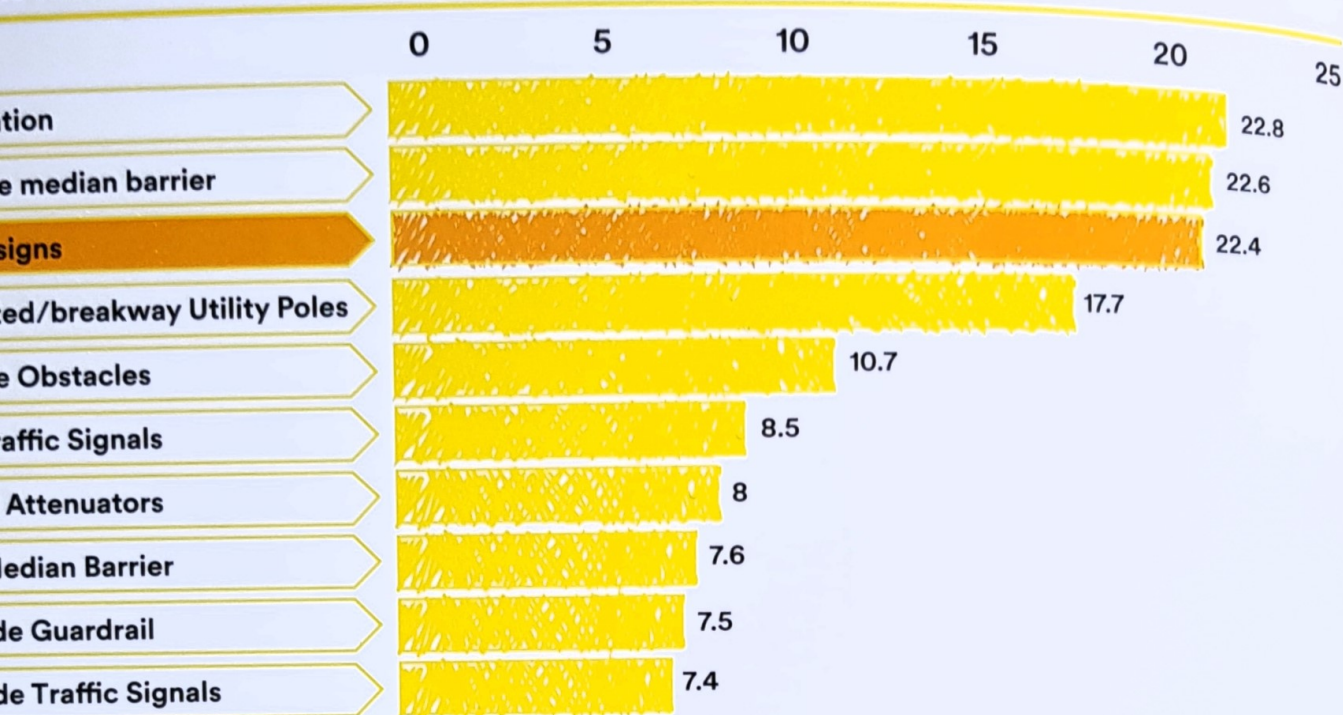
What Works: List of Highly Effective Interventions

Highly effective interventions (defined as those producing crash reduction benefits of 30 percent or more) are highlighted in the table below, noting that it is difficult to directly compare different intervention types:³²

ROADS AND ROADSIDES	SPEEDS	ROAD USERS	VEHICLES	POST-CRASH CARE
Integrated public transport	Traffic calming	Increased helmet wearing rates	Seat belts	—
Barrier systems	Roundabouts	Increased seat belt wearing rates	Electronic Stability control	2
Medians	Raised intersections		Advanced vehicle technologies	
Infrastructure solutions to support appropriate speeds	Raised crossings			
Roundabouts	Gateway treatments			
Grade separation	Lower speed limits			
Reducing risk exposure at intersections	30 km/h (20 mph) zones for pedestrians			
Pedestrian footpaths	Speed cameras			
Pedestrian crossings				

are one of the most cost-effective treatments to reduce
accidents in your community.

Benefit Ratio of Traffic Control Devices



Highway Safety Improvements With The Highest Benefit-Cost Ratios 1974-1995, United States FHWA

Source: <https://www.fhwa.dot.gov/initiatives/informing-road-users/road-safety-facts/>

Reference

Van den Berghe, W., Fleiter, J.J. & Cliff, D. (2020) *Towards the 12 voluntary global targets for road safety. Guidance for countries on activities and measures to achieve the voluntary global road safety performance targets*. Brussels: Vias institute and Genève: Global Road Safety Partnership

Australia

Road crash related fatalities had increased to 1185 in 2019, 47 more than in 2018

Recommendations:

Appoint a Cabinet Minister with specific multi-agency responsibility

Review RS Strategies and establish a National Road Safety Authority

Commit to a minimum \$3 billion a year road safety fund

Set an extended Vision Zero target,

Establish and commit to SMART Key Performance Indicators (KPIs)

Implement rapidly the proven vehicle safety technologies and innovations

Accelerate the adoption of speed management initiatives that support harm reduction and elimination.

Invest in road safety focused infrastructure, safe system and mobility partnerships, Audits, On-the-Job Trainings etc. to eliminate high-risk roads and black spots; Resource key road safety enablers and road safety innovation initiatives to reduce road trauma.

Tamil Nadu Approach

Tamil Nadu in 2020, there had been **54% reduction in road accident deaths as compared to 2016, through:**

Institutional strengthening

Capacity building

Data Management System-Collection and Analysis to identify blackspots

Awareness, Speed Management and Better Enforcement

Improvements in Emergency treatment

Still a Robust GIS Based Road Crash Database Management and Information System is needed

Interface with other databases and CCTNS/SCRB is required



THANK YOU!



Be Seen Be Safe!

The loss and suffering associated with road traffic deaths and injuries are preventable!!

