

# A WORLD FREE OF HIGH-RISK ROADS

Upcoming Activities in CAREC Region

JULIO URZUA, GLOBAL PROJECTS DIRECTOR  
LUKE ROGERS, GLOBAL OPERATIONS MANAGER

Bishkek, Kyrgystan, March 1<sup>st</sup> 2024



[www.irap.org](http://www.irap.org)



# About RAP:

- UK registered road safety charity
- Vision: a world free of high-risk roads
- Active in nearly 130 countries
- Global standard for proactive road infrastructure safety assessments
- Provide the tools, training and support to road authorities, mobility clubs, development banks, industry and road safety stakeholders to make roads safer.

iRAP

AusRAP BrazilRAP ChinaRAP IndiaRAP

KiwiRAP KSARAP MyRAP SARAP

TanRAP ThaiRAP UNITED KINGDOM RAP usRAP

# PARTNERSHIPS FOR 2030 IMPACT

A WORLD FREE OF HIGH-RISK ROADS – PROGRESS BY DECEMBER 2023



**126**  
COUNTRIES ASSESSED  
**178**  
COUNTRIES INFLUENCED

USD\$  
**101**  
BILLION OF INFRASTRUCTURE INVESTMENT MADE SAFER

**69**  
THOUSAND PEOPLE TRAINED

**1.8** MILLION  
KM ROADS AND DESIGNS STAR RATED

**1.8** MILLION  
KM RISK MAPPED

**1,356**  
SCHOOLS STAR RATED USING SR4S IN 70 COUNTRIES

**7.3** MILLION  
KM OF ROAD IN VIDA



DECADE OF ACTION FOR  
ROAD SAFETY

2021 - 2030

iRAP

**30** THOUSAND PARTNERS

**235** ACCREDITED PRACTITIONERS

**117** INNOVATION PARTNERS

**76** 3-STAR OR BETTER POLICIES

iRAP partners with governments, mobility clubs, funding agencies, development banks, industry, research institutes and NGOs around the world to make roads safer

**EIA** FOUNDATION

[irap.org](http://irap.org) [irapsavinglives](https://www.instagram.com/irapsavinglives) [iRAPfb](https://www.facebook.com/iRAPfb)

DECADE OF ACTION FOR  
ROAD SAFETY

2021 - 2030

## GLOBAL PLAN

DECADE OF ACTION FOR ROAD SAFETY  
2021-2030

Calls for action on:



Multimodal transport & land-use planning



Safe road infrastructure



Safe vehicles



Safe road use



Post-crash response



# UN Global Road Safety Performance Targets

**TARGET 1**  
2020

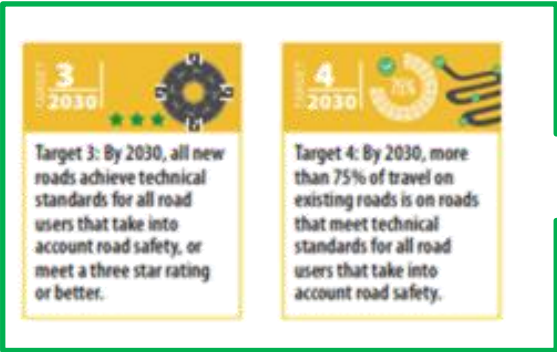


Target 1: By 2020, all countries establish a comprehensive multisectoral national road safety action plan with time-bound targets.

**TARGET 2**  
2030



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




*i*RAP

**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 correctly 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.

**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.

**NEW ROADS & STREETS**

**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.

**EXISTING ROADS & STREETS**

# Main iRAP tools to achieve Road Safety goals



## Star Rating

- An objective measure of the level of integrated road safety for vehicle occupants, motorcyclists, cyclists and pedestrians.

A graphic for Target 4, 2030. It features a yellow background with a circular gauge showing 75% completion. The text reads: 'TARGET 4 2030 75%' and '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 4 2030 75%

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.

## Star Rating for Designs (SR4D)

- A package of tools, knowledge products, support and other initiatives to get roads built safely from the start.

A graphic for Target 3, 2030. It features a yellow background with a circular gauge showing three stars. The text reads: 'TARGET 3 2030' and '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.'

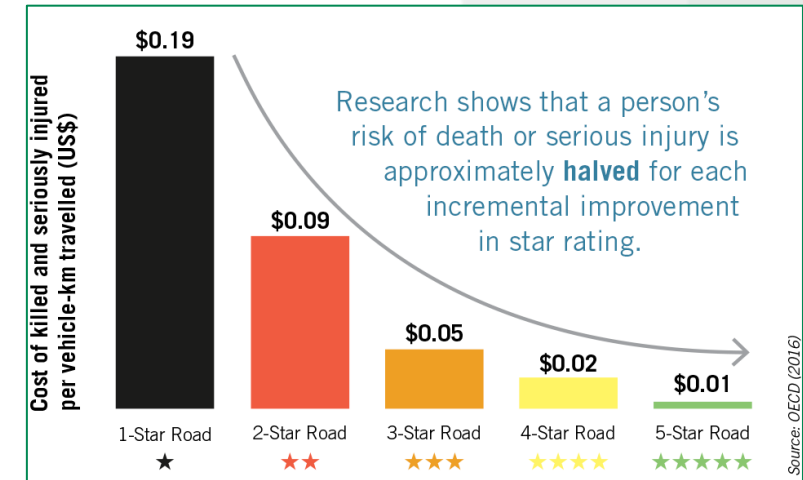
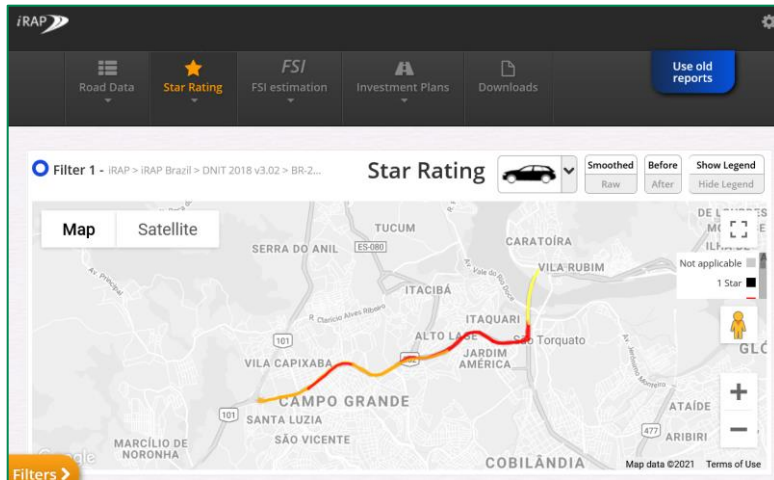
TARGET 3 2030

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.

## Star Rating for Schools (SR4S)

- An evidence-based tool for measuring, managing and communicating pedestrian risk for pedestrian children.

# TOOLS, TRAINING AND ACCREDITATION FOR SYSTEMIC SAFETY MANAGEMENT



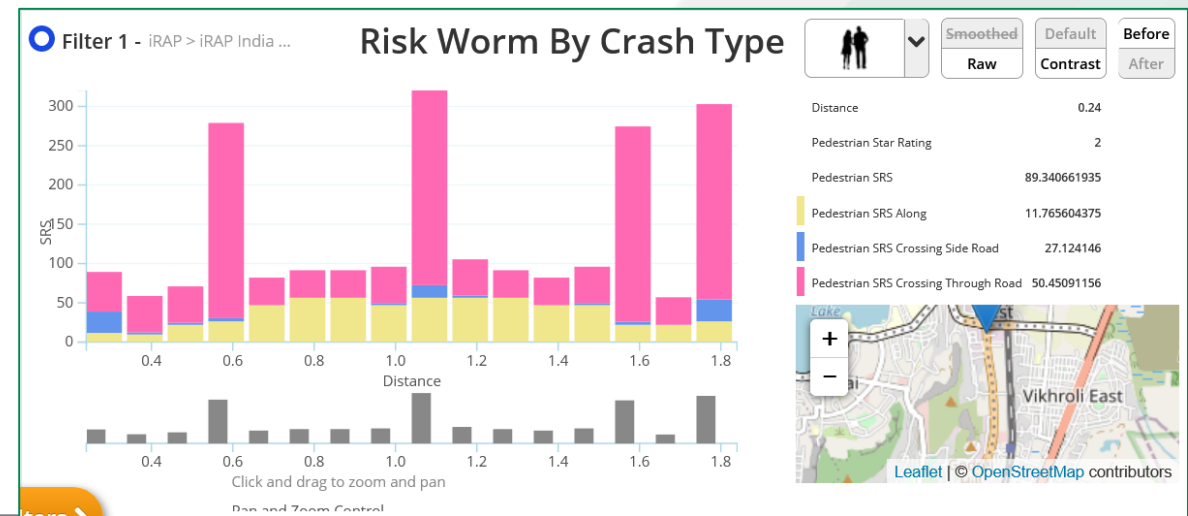
Filter 1 - iRAP > iRAP India > BIGRS Mumbai > LBS Marg

### Safer Roads Investment Plan

Currency: ₹ INR - Analysis Period: 20 years

Total FSIs Saved	Total PV of Safety Benefits	Estimated Cost	Cost per FSI saved	Program BCR
1,662	2,609,784,255	547,945,585	329,630	5

Countermeasure	Length / Sites	FSIs saved	PV of safety benefit
Delineation and signing (intersection)	51 sites	95	148,604,856
Protected turn provision at existing signalised site (4-leg)	13 sites	55	86,175,772
Signalised crossing	90 sites	160	250,864,214
Footpath provision passenger side (adjacent to road)	14.70 km	461	723,501,216
Traffic calming	17.20 km	250	392,637,613





# ATTRIBUTES RECORDED (OR CODED) FOR EACH 100M OF ROAD OR DESIGN

Paved shoulder  
Sidewalk provision  
Roadside object  
Roadside distance

Area type  
Speed  
Vehicle flow

Motorcycle facility  
Bicycle facility  
Bicycles flow  
Pedestrian flow

Curvature  
Quality of curve

Paved shoulder  
Side walk provision  
Roadside object  
Roadside distance



Intersection type  
Intersection quality  
Intersecting volume  
Channelisation  
Property access point

Crossing facility  
Crossing quality  
Speed management  
Roadworks

Median  
Centreline rumble strips  
Sight distance  
Delineation  
Grade

Lane width  
Number of lanes  
Road condition  
Skid resistance

Street lighting  
Shoulder rumble strips  
Vehicle parking  
Service road  
Pedestrian fencing

Coder  
Coding date  
Survey date

Image reference  
Road name  
Section

Distance  
Length  
Latitude

Longitude  
Landmark  
Comments

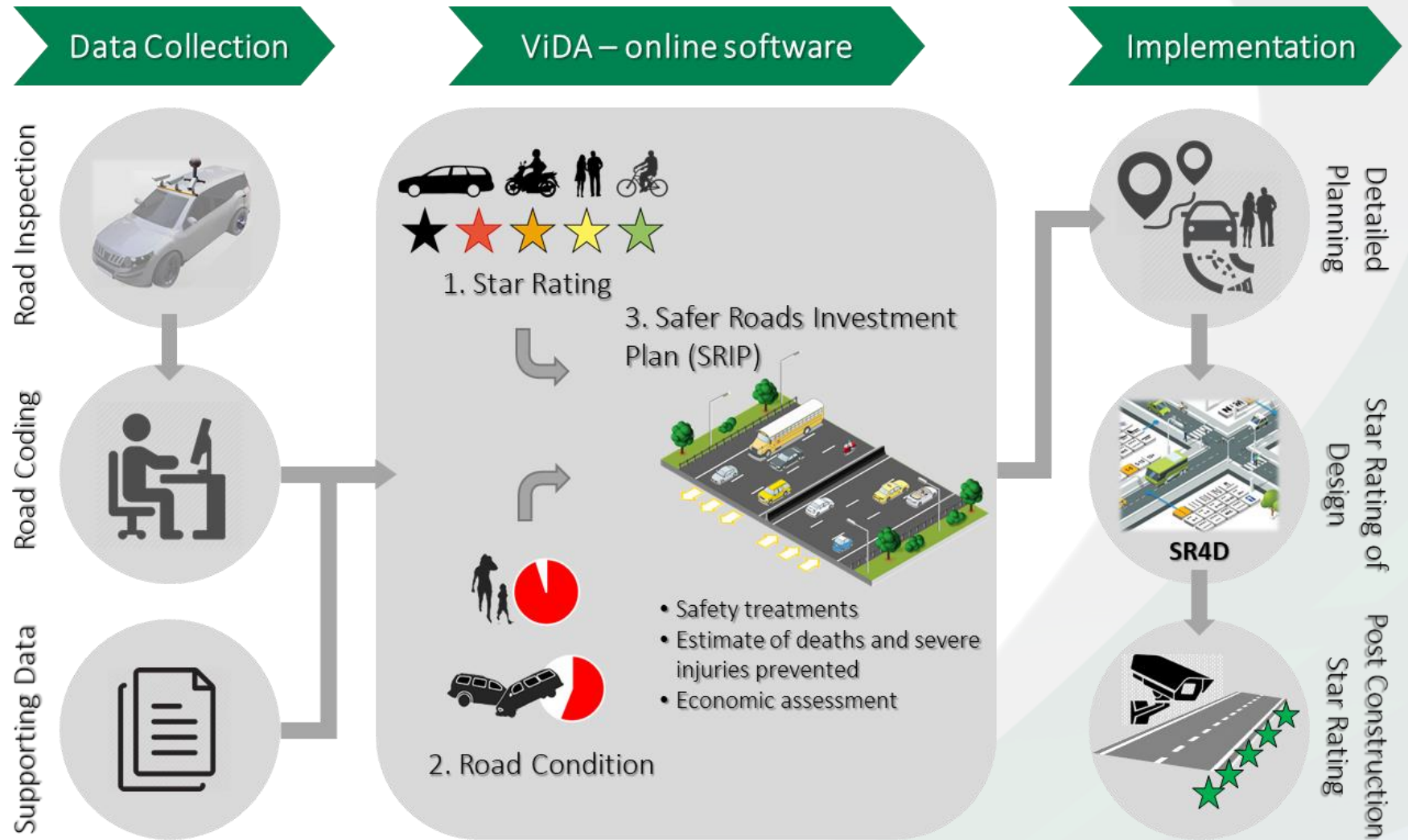
Carriageway label

# Process diagram

Collection of video or images and GPS coordinates.

Recording of more than 50 attributes for each 100-meter road segment.

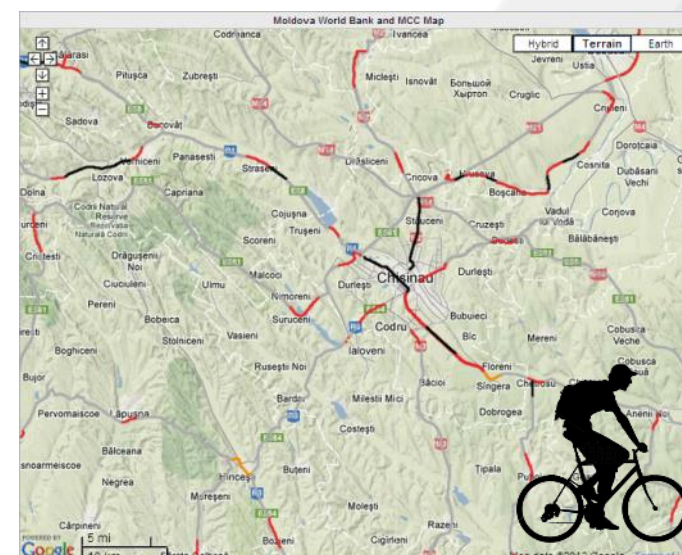
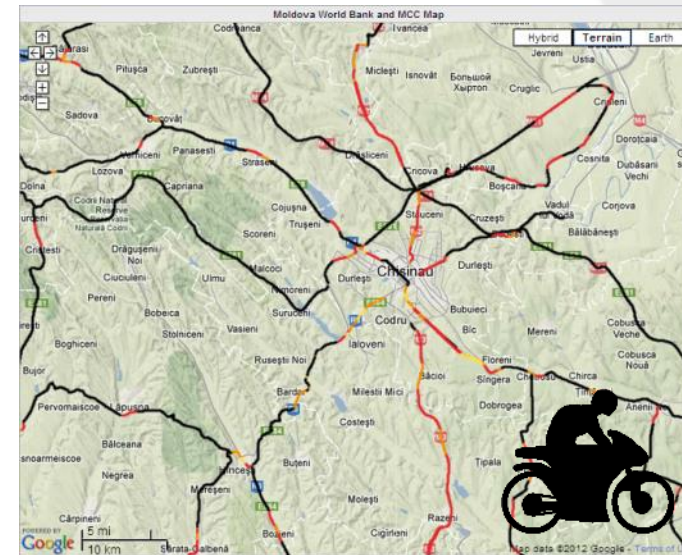
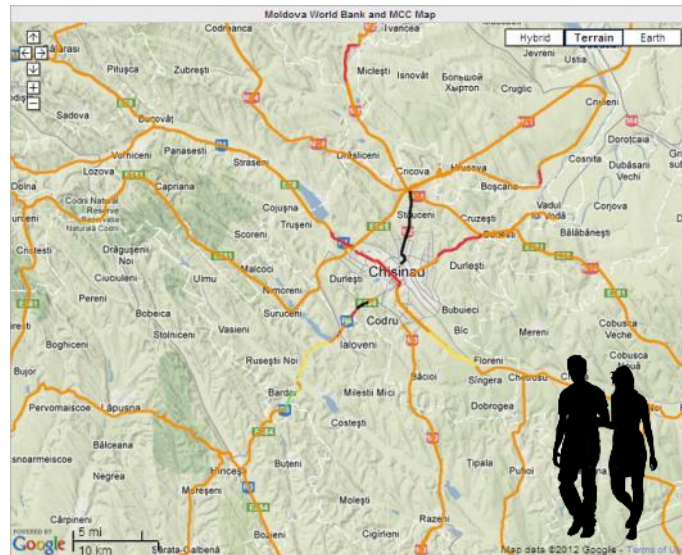
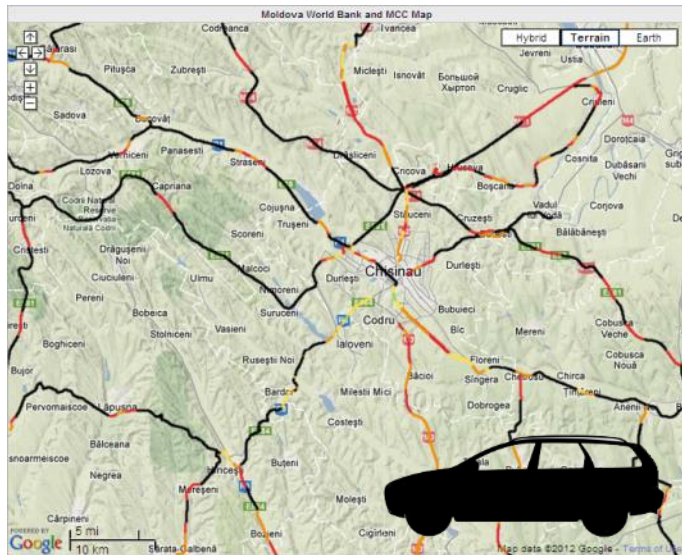
Supporting data like traffic flow and vehicle operating speed (85<sup>th</sup> percentile speed).

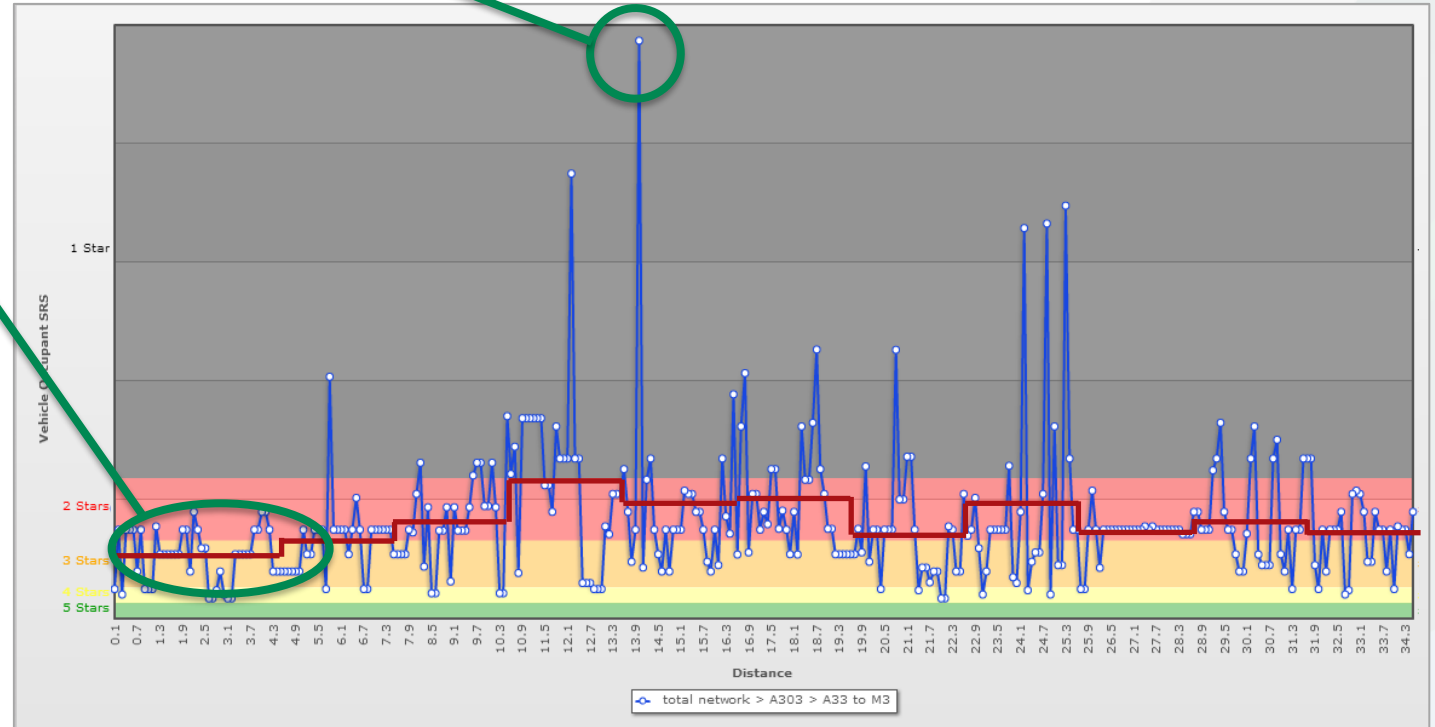
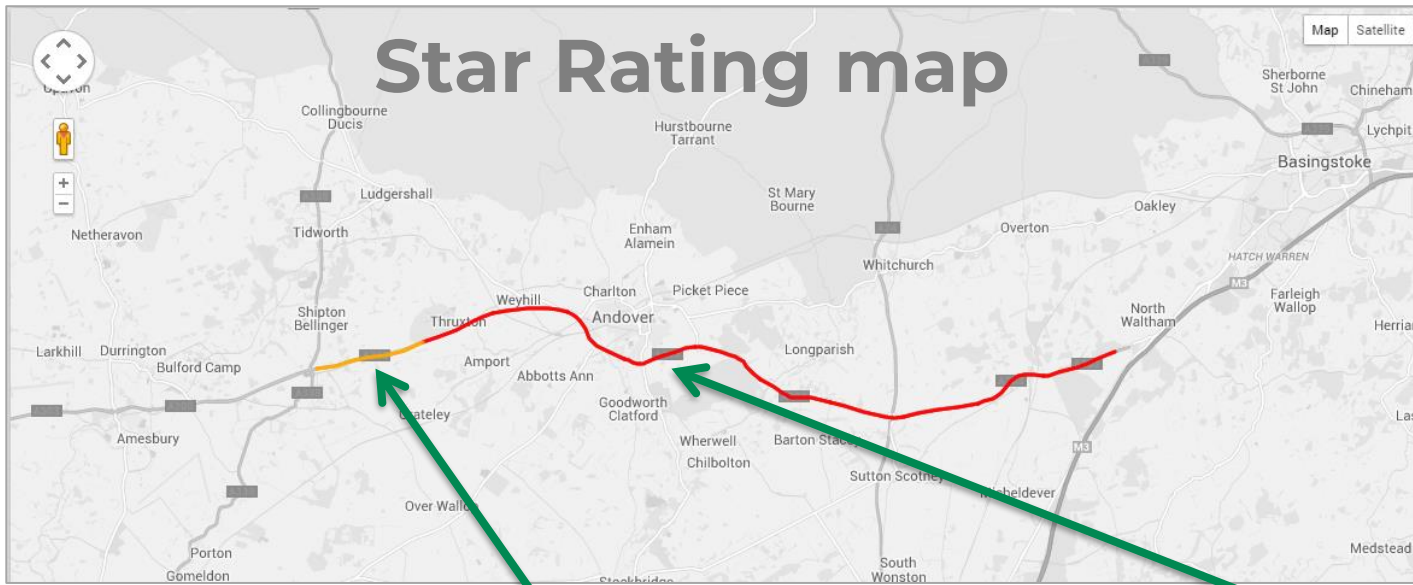


\* [www.vida.irap.org](http://www.vida.irap.org)



# Star Rating specific maps for each road user





Risk worm showing raw and smoothed results



# Safer Roads Investment Plans

- How can we improve safety in an affordable way?
  - What is feasible in terms of engineering and what would it cost?
  - How many deaths and serious injuries would we prevent?
- 
- Provides a list of economically viable road safety countermeasures (considers over 90 different treatments)
  - 300+ engineering trigger sets designed to reduce numbers of deaths and serious injuries
  - Calculate potential lives saved based on Crash Modification Factors (CMFs) from latest research



# RAP Safer Roads Investment Plans


**Total FSIs Saved**

1,570

**Countermeasure**

- Additional lane (2 + 1)
- Roadside barriers - passenger side
- Central median barrier
- Shoulder sealing pass
- Shoulder rumble strip
- Roadside barriers - d
- Footpath provision d (road)
- Footpath provision p (to road)
- Duplication with med
- Footpath provision d (road)
- Footpath provision passenger side (>3m from road)
- Street lighting (mid-block)

Roadside barriers - passenger side [More info](#)



A303  
Andover, England  
[View on Google Maps](#)

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	7.0 km	30	7,034,358	712,770	23,686	10
	17.3 km	29	6,900,194	2,146,770	72,726	3



# Safe and Inclusive Road Design in Central Asia

2-year project, finishing in May 2025. Objective:

Contribute to reducing road traffic crashes, injuries, and fatalities in the Central Asia region through improved road design standards that align with the Global Plan, Global Road Safety Performance Targets, and international good practice

This project will take a collaborative approach, focusing on countries that make use of the GOST-SNiP design standards, thereby providing an opportunity to efficiently solve common challenges and promote consistency in the provision of safe road corridors across borders



# Project Partners

ESCAP: Provide the overall coordination and guidance

iRAP: Responsible for managing and implementing the project activities as the lead implementing partner with advice and assistance from EASTT and IRF.

EASST: Management of the project plan, providing local expertise, coordinating with local stakeholders, organizing the Steering Committee and Working Group, and providing technical and capacity building inputs.

IRF: Provide technical and capacity building inputs into the project, and actively participate in the Steering Committee and Working Group to promote the project.





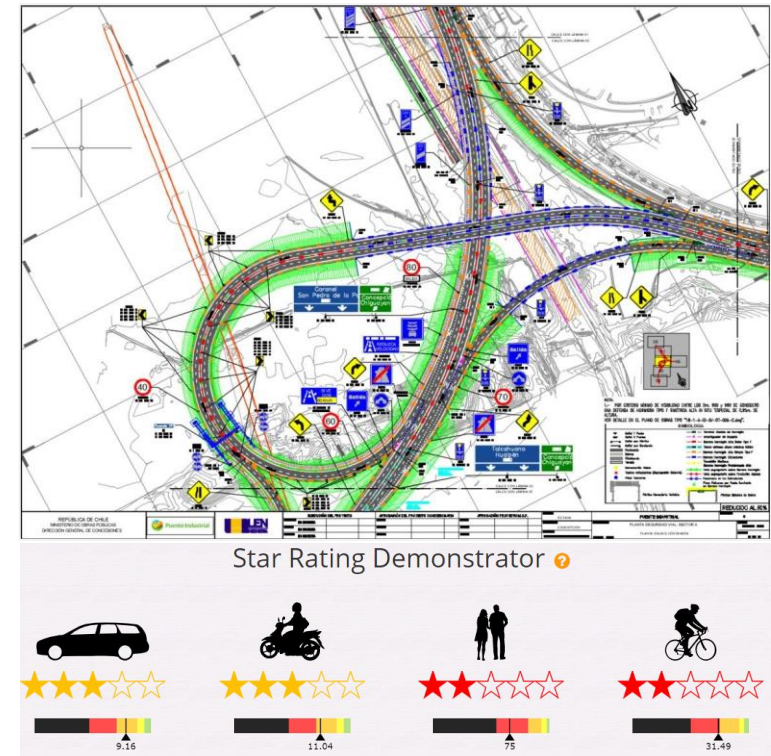
# Project Progress

Most of the key project partners and stakeholders identified. Formal contact with government partners of the 3 participating countries (Kyrgyzstan, Tajikistan and Uzbekistan) was made.

Terms of Reference for the Steering Committee created. The Steering Committee will provide expert advice and recommendations to ensure effective delivery of the project outputs and the achievement of project outcomes.

## Individual meetings

- Bishkek, Kyrgyzstan, on 27 February to 2 March, 2024.
- Tashkent, Uzbekistan, on 11 March to 12 March, 2024.
- Dushanbe, Tajikistan, on 13 March to 15 March, 2024



## Next Steps

Designing training modules for road infrastructure design, including best practice in safe road design; updates and improvements to the road design standards; and the use of Star Ratings for Designs and the Star Ratings for Road Safety Audit Manual.

*3rd and 4th quarters of 2024.*

Development of online trainings on best practice in safe road design, improvements to the road design standards and use of the Star Ratings for Designs and the Star Ratings for Road Safety Audit Manual.

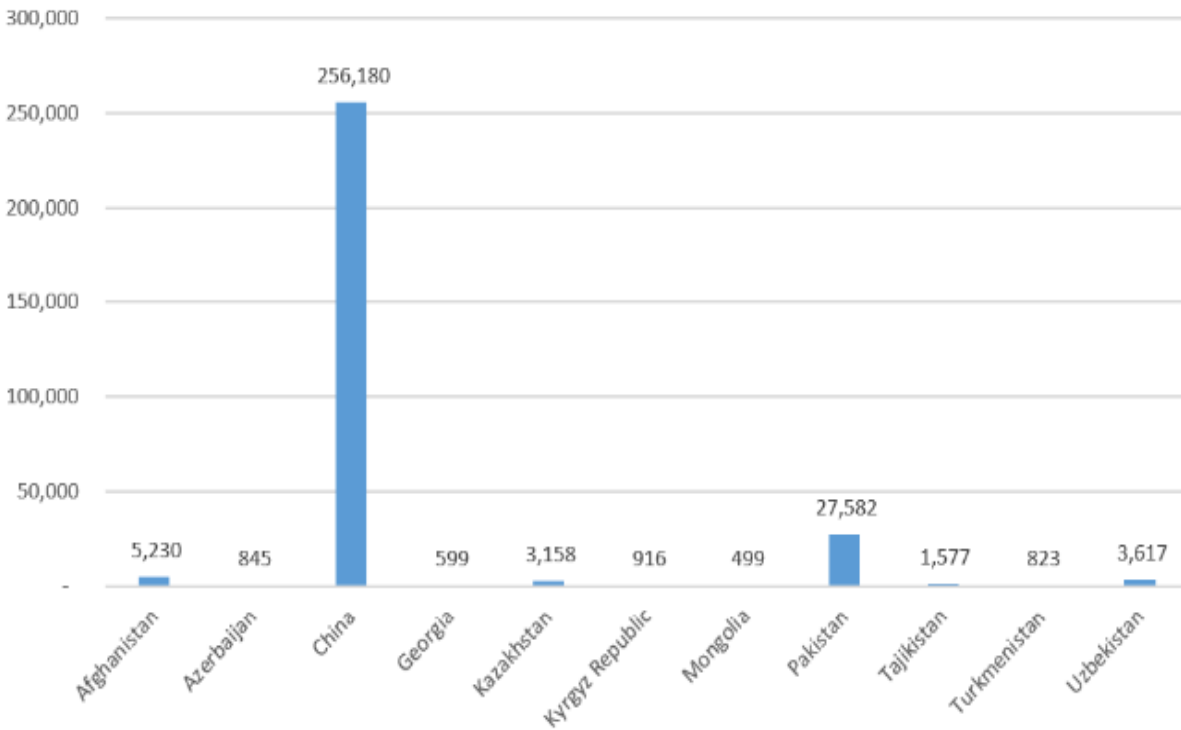
*1st and 2nd quarters of 2025.*

Final safer road infrastructure workshop, in which stakeholders benefit from new information acquired in this the final Safer Road Infrastructure workshop.

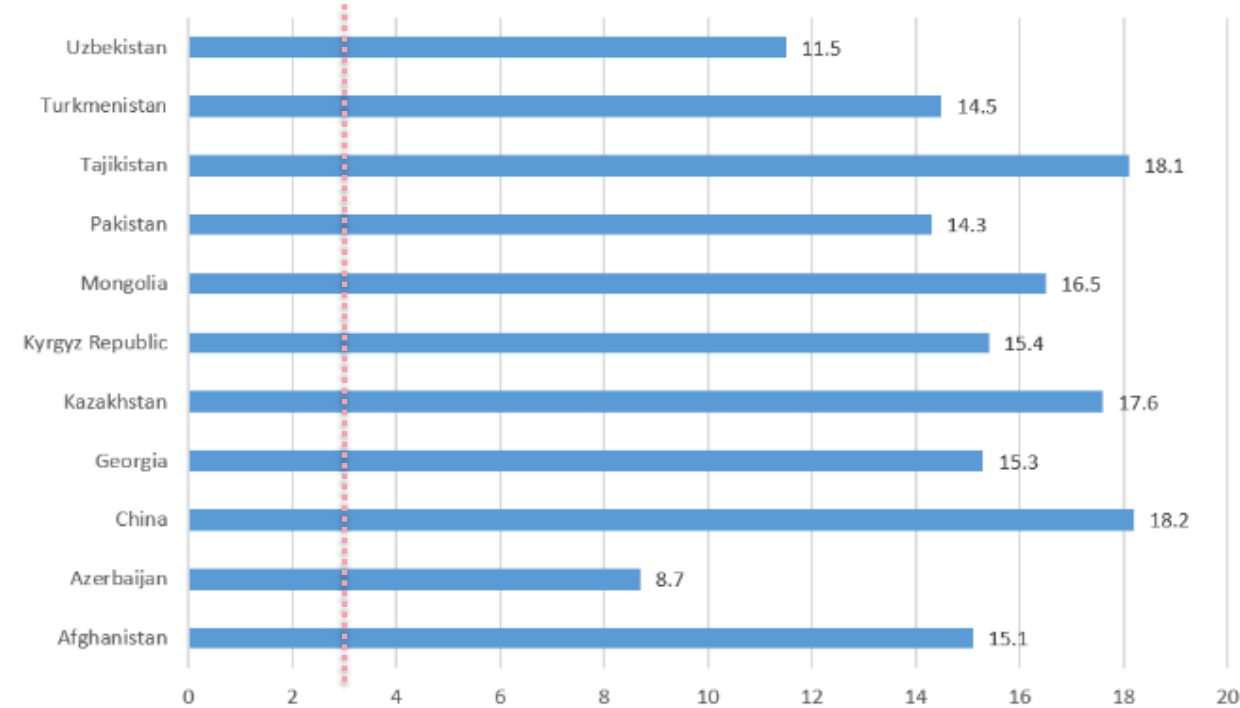
*2nd quarter of 2025.*

# Road safety in the CAREC region

WHO estimated road traffic fatalities (2016)



WHO estimated road death rates per 100,000 population (2016)



Source: WHO Global Status Report on Road Safety 2018

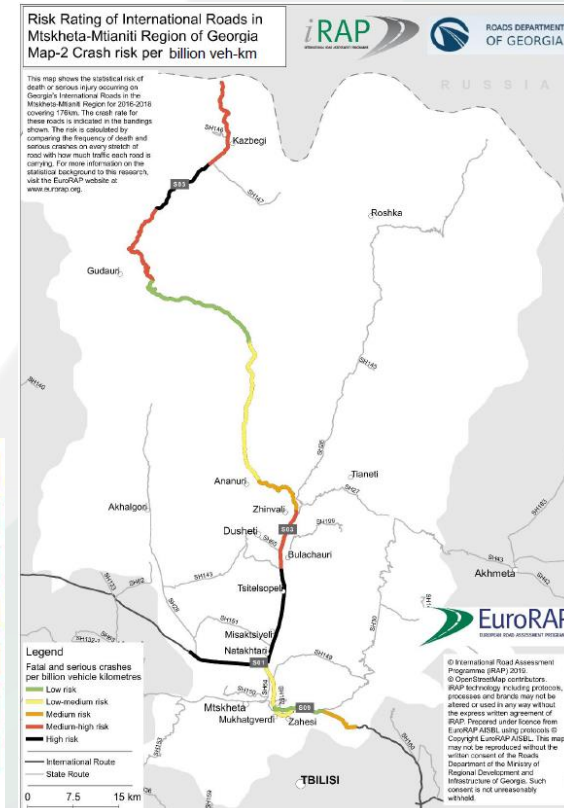
Note – updated WHO data available soon





# iRAP in the CAREC region 1

- China: Highway Safety to Cherish Life. ChinaRAP. USD4.8 billion improving 366,000km
- Georgia: Roads Department of Georgia. 1,200km Star Rating and Crash Risk Mapping. National Strategy includes iRAP
- Kazakhstan: 10,000km assessed. SR4D Center-South corridor. Partnership with Kazakh Scientific Research Institute for Road Safety.



2022-25

**NATIONAL ROAD SAFETY STRATEGY**

ANOTHER SUCCESS IN GEORGIA!

Systematic compilation of the Risk Mapping and Safety Rating of roads are effective mechanisms for assessing safety and investments

Implementing the Global Plan to eliminate high-risk roads

iRAP FIA FOUNDATION

S03 Mtskheta-Larsi (km4.8)

Operational Speed 70 km/h

Straight road section

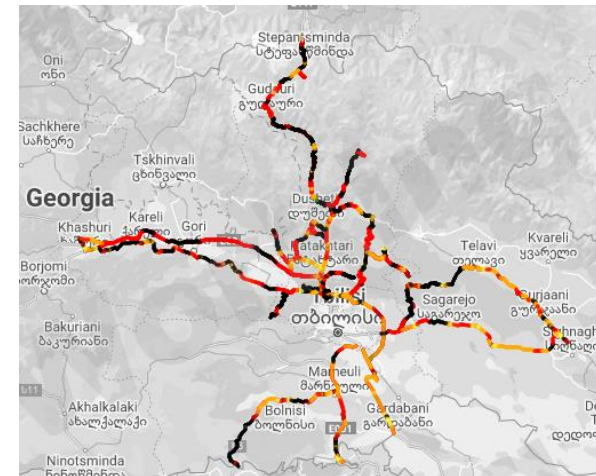
No intersection

Narrow (width) Paved shoulder

Centreline Median

Road side hazardous objects >5m away on both sides

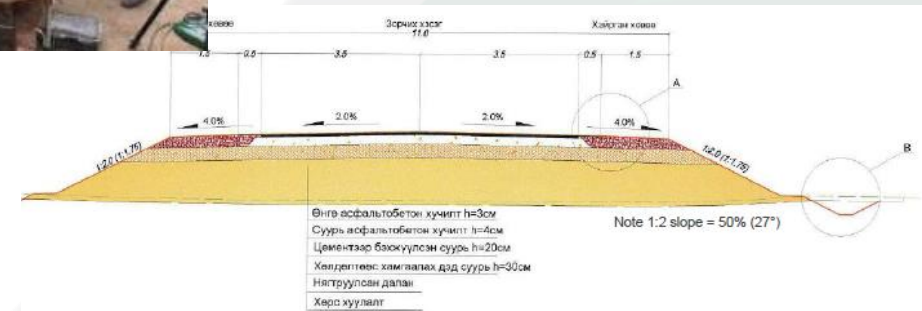
Delineation/Road condition - Good





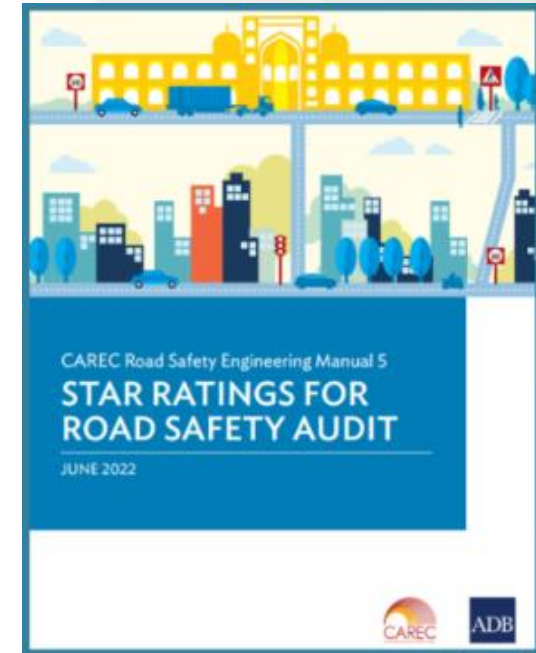
# iRAP in the CAREC region 2

- Mongolia: Design assessment of Corridor 4C Baruun-Urt to Bichigt (274km) under ADB Regional Road Development & Maintenance Project
- Pakistan: ADB Scaling Up Innovative Road Safety Operations Project. Working with NHA and ChinaRAP team. 10,700km assessed. Investment plan with potential to prevent 480,000 FSIs over 20 years
- Uzbekistan: SR4D A380 with LafargeHolcim and Oris plus training and capacity building



# Star Rating for Road Safety Audits (SR4RSA) manual

- Prepared under a technical assistance grant for Enhancing Road Safety for Central Asia Regional Economic Cooperation (CAREC) Member Countries (phase 2) from the Asian Development Bank (ADB)
- Part of a series of road safety engineering manuals of the CAREC Program from the endorsement of the CAREC Road Safety Strategy 2017-2030 by member countries
- To help ensure road designers can achieve Global Performance Targets
- Presents 3 approaches on how RSA and the iRAP methodology can be applied together:
  - Level 1: The most simple approach, uses the iRAP Demonstrator to star rate each safety concern or basic road layout
  - Level 2: Adds the production of Star Ratings for the entire length of the proposed road design length
  - Level 3: utilises the full iRAP star rating methodology to create fatality estimations and investment plans along with the audit results

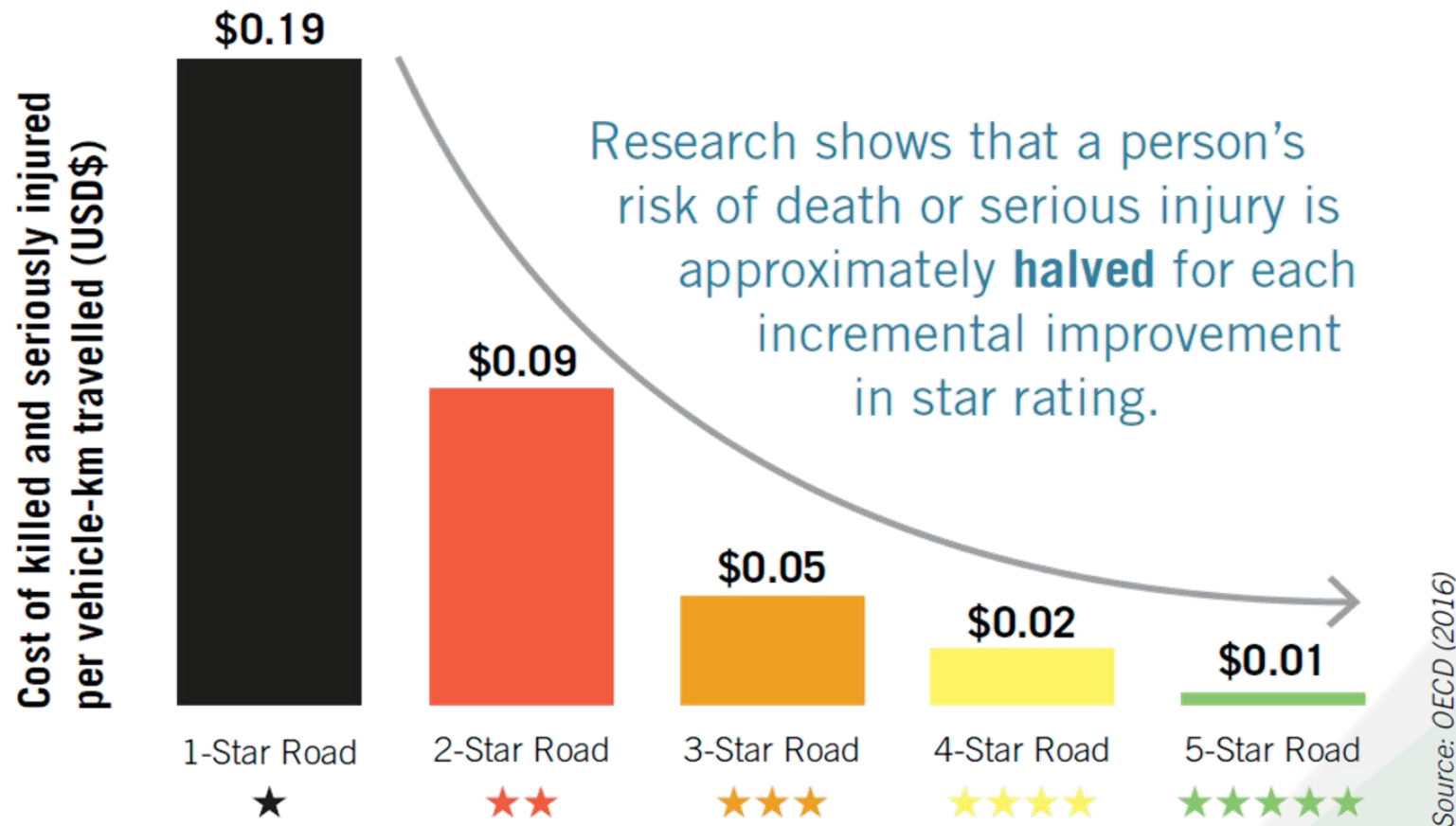


The new SR4RSA manual is available for download at: <https://www.adb.org/publications/carec-road-safety-engineering-manual-star-ratings>



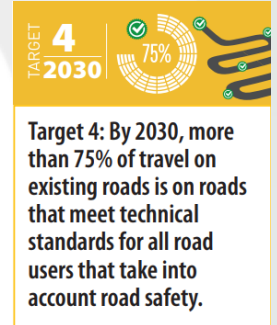
# CLOSING REMARKS

Improving the safety of road infrastructure can unlock huge potential in social and economic benefits for many countries



# CLOSING REMARKS (2)

- ✓ Systematic, proactive safety assessment of roads identifies safety risks to all road users and saves money.
- ✓ Transitioning to network-level assessments and treatments from black spot and localized improvement strategies is cost-effective and efficient for saving lives
- ✓ A safety (Star) Rating for every design would save lives and avoid suffering to the people in the region, making a better use of scarce resources.



# For more information

**Julio Urzua - Global Projects Director**

**Luke Rogers - Global Operations Manager**

-  [Luke.rogers@irap.org](mailto:Luke.rogers@irap.org) / [Julio.Urzua@irap.org](mailto:Julio.Urzua@irap.org)
-  +61406675416 / +55 119 68987894
-  @irapsavinglives
-  <https://www.linkedin.com/company/irap/>