

GLOBAL ROAD SAFETY FACILITY

LEVERAGING GLOBAL ROAD SAFETY SUCCESSES

VOL 02

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WHAT IS GRSF?

The **Global Road Safety Facility (GRSF)** is a global multi-donor fund hosted by the World Bank. Its mission is to help governments develop road safety management capacity and scale up road safety delivery in low- and middle-income countries (LMICs).

GRSF GOALS

GRSF provides funding, knowledge, and technical assistance designed to scale-up the efforts of LMICs to build their scientific, technological, managerial and delivery capacities for road safety.

GRSF operates as a hybrid grant-making global program, allowing it to distribute funding externally for global, regional and country activities, and internally through World Bank-executed grants, which enhance the work of the World Bank's transport Global Practice and leverage road safety investments in transport operations in client countries. GRSF also directly delivers road safety projects, research, peer-reviewed papers, reports, in-country guidance, and manuals to enhance road safety knowledge, capacity, and delivery.

Since its inception in 2006,



GRSF has received total donor pledges of \$74 million, in addition to unquantified support from the World Bank in its hosting capacity. GRSF work has expanded to 78 countries, improving road safety outcomes through technical assistance, training and capacity building, and grant-funded activities.



GRSF IN ACTION



15,325
KILOMETERS

of roads surveyed under the
GRSF – Bloomberg Program
(2015-2019)



133 APPLICATIONS
RECEIVED

for the Multi-Donor Trust
Fund (MDTF) FY19 Call for
Proposals



\$40 ADDITIONAL
FUNDING

for road safety leveraged
and informed by each
\$1 spent by GRSF



251 TRAINING
EVENTS

**GRSF presentations,
training/module, and
workshop events**

GRSF plays a key role in global road safety research, leadership and advocacy by participating in numerous influential initiatives. Some highlights of the GRSF impact are:



10,669
PROFESSIONALS

trained under
**GRSF – Bloomberg
Program** (2015-2019)



\$7.54 MILLION
APPROVED

resulting in 53 grants on
road safety research, advisory
and capacity building



41 RESEARCH
PAPERS

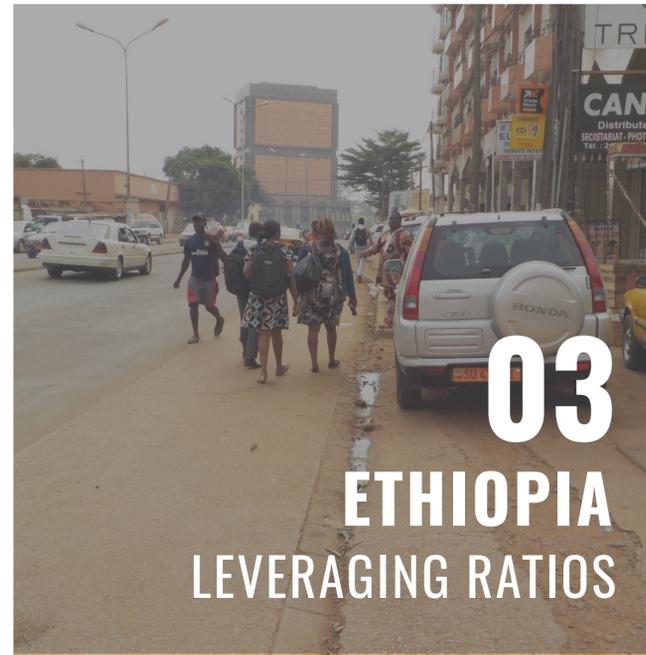
and reports published
by GRSF

These numbers correspond to the period of 2017-2019. For this report, GRSF collected the data starting from the previously studied years in the first volume of this publication; noting the exception of the timeline of the Bloomberg Program, that corresponds to the period of 2015-2019.

GRSF

SUCCESS STORIES

This booklet highlights a few examples of GRSF's effective delivery of global road safety solutions for the period of 2017-2019. Since the first volume of this publication, GRSF work has come to fruition in these years and has pushed the road safety agenda forward significantly.



HO CHI MINH CITY GREEN TRANSPORT DEVELOPMENT PROJECT

 HO CHI MINH CITY, VIETNAM

REDUCING ROAD CRASH DEATHS AND SERIOUS INJURIES IN HO CHI MINH CITY

The GRSF is part of the Bloomberg Philanthropies Initiative for Global Road Safety (BIGRS). **The Program objectives are to reduce road crash deaths and serious injuries** in 10 cities: Accra, Addis Ababa, Bandung, Bangkok, Bogotá, Fortaleza, Ho Chi Minh City, Mumbai, São Paulo and Shanghai and 5 countries (China, India, Philippines, Tanzania, Thailand).

As part of the partnership, GRSF leverages road safety in Bank-financed projects, by capturing synergies from BIGRS-funded technical assistance and training activities.

Support from GRSF includes:

- **evaluation of road infrastructure at the network level for safety**
- **guidance on investment options for safer designs**
- **enhanced road safety management capacity to relevant institutions**

In Ho Chi Minh City, the BIGRS has supported:

308 km roads surveyed and assessed

77 km roads where designs, scenarios or implementation have been star rated

2,198+ potential deaths and serious injuries to be prevented over 20 years

The network level of iRAP assessments predict a **42% reduction in fatalities and serious injuries compared to the existing situation if all recommendations were to be implemented.**

Using municipality budget, and based on iRAP and BIGRS partners recommendations, the local administration has built and upgraded across the city:

- 157 refuge islands
- 11 raised pedestrian crossings
- 8 footbridges
- 11 bus stops

IMPROVING ROAD SAFETY THROUGH SPEED MANAGEMENT IN BOGOTÁ

In Bogotá, a network of approximately 200 km of roads has been assessed for road safety risks in the BIGRS program. The results show that over 40% of this network has an iRAP star rating of 1 or 2 for bicyclists, and over 60% is 1 or 2 stars for pedestrians.

Scenarios tested using iRAP, along with input from the BIGRS partnership, showed significant safety benefits from reducing the speed limit from 60 to 50 km/h in key arterial roads. **The city of Bogotá gradually reduced speed limits in 10 arterial roads**, along with manual enforcement and planned installation for the first time in the city of automated enforcement cameras.

This has resulted in a 22% reduction in traffic fatalities on those roads.

In order to complement the road safety recommendations provided through BIGRS and to increase the number of cyclists on the roads, the city requested World Bank and GRSF advisory services to improve data analytics on bicycle travel patterns; assist in the development of a personal security strategy; and advise on policy issues related to pedicabs.

Under this program GRSF and the BIGRS partnership has supported:

200 km roads surveyed and assessed

200 km roads where designs, scenarios or implementation have been star rated

77 km of construction completed or speed limits modified based on iRAP survey recommendations

1,565 professionals trained on road safety

6,410+ potential deaths and serious injuries to be prevented over 20 years



LEVERAGING RATIOS FOR THE GLOBAL ROAD SAFETY FACILITY

 **ADDIS ABABA, ETHIOPIA**

INCREASING ROAD SAFETY INVESTMENTS IN ADDIS ABABA

In 2018, the GRSF funded an iRAP analysis of the Tulu Dimtu – Kality Interchange Road. The assessment resulted in a series of recommendations and a **subsequent road rehabilitation project led to \$17.5 million in interventions**, including:

- **pedestrian fencing**
- **raised pedestrian crossings**
- **rumble strips; improved delineation**
- **footpath provision on driver side**

The GRSF Leveraging Ratio is defined as the dollars GRSF provides to a project relative to the dollars other sources provide for road safety on the same project.

The term has been used to measure the amount of investment that is sparked by an initial investment.

For the **Tulu Dimtu – Kality Interchange Road Rehabilitation Project**, an initial investment of:

\$216,800 by GRSF

> led to

\$17,500,000 of country road safety investment

[a leveraging ratio of 1:80]



Each \$1 of GRSF investment

> resulted in

\$80 additional for road safety in Addis Ababa

The **GRSF Leveraging Ratios method** is a useful technique that can provide quantitative evidence of the **high impact of GRSF investments on subsequent projects.**

INSTALLATION OF SAFETY GUARD RAILS UNDER THE RSDP PROJECT

 NEPAL

ROAD SAFETY BARRIERS FOR OPEN ROADS IN NEPAL

At high embankments and hilly terrain, critical road safety infrastructure treatments are needed to guide the out-of-control vehicles back to the traveled way.

One of the ways to mitigate the risk, is the effective use of **road crash barrier systems** which are appropriate for such road environment. Road crash barriers do not only reduce the likelihood of crashes happening, but also lower the severity of the outcome in such cases..

In Nepal, thanks to the **World Bank Road Sector Development Project (RSDP)**, in support of GRSF, the outcomes of the project included that:

73,000 meters of crash barriers

were installed on selected sections of the roads targeted under the project, based on the recommendations of a Road Safety Audit.

These represented:

76% of the high-risk locations under the project

An evaluation after the installation of the barriers indicated that at least **7 hits were recorded** and vehicles carrying

 **270 passengers were saved**

from departing from the roadway and potentially falling into the valley.

Given the terrain, many of the 270 passengers would have died if these vehicles had left the road and fallen down the cliff. If similar rates continued in future years, that could equate to 

3,456 lives saved
over a 20 year period

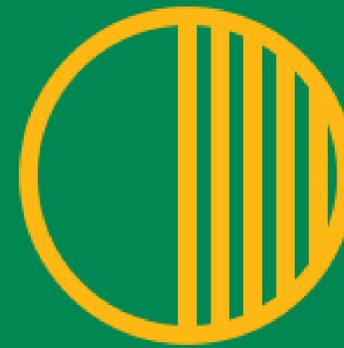


A NATIONAL ROAD SAFETY STRATEGY SAVES LIVES IN MOROCCO

Morocco has a high road traffic mortality rate (10 deaths per 100,000 people) compared to its peer countries. In this context, and to further improve road safety management capacity and institutional reforms, **the Ministry of Equipment, Transport and Logistics of Morocco sought technical assistance from the GRSF.**

The assistance included a detailed diagnostic on the National Road Safety Strategy for 2004-2013 and preparation of a new strategy for the period 2016-2025.

The detailed evaluation of the old National Road Safety Strategy highlighted some remarkable achievements in terms of country-level road safety performance. While the length of the paved road network and the vehicle km travelled has increased substantially during the strategy implementation period (2004-2013), **there had been an overall reduction in road deaths with estimated 9,210 deaths averted compared to trends observed during the pre-strategy period.**



The new strategy calls for cutting 50% the number of road deaths by 2025

The Bank team partnered closely with the government counterparts on the various recommendations emerging from the strategy assessment, including detailed comments on the draft law needed for the creation of a Lead Agency.

A significant outcome of the engagement has been the **creation of the National Road Safety Agency**, as well as the focus on these high risk road-user groups:



pedestrians



motorized two and three wheelers



children under 14 years

COMPREHENSIVE ROAD SAFETY PROGRAM

TARIJA | SANTA CRUZ | LA PAZ | EL ALTO

 **BOLIVIA**

DEVELOPING URBAN MOBILITY AND ROAD SAFETY CAPACITY BUILDING IN BOLIVIA

The Bolivia Comprehensive Road Safety Program is a program funded by the GRSF, managed by the World Bank and executed by CAF. The main objectives are to:

 **Promote Safe Urban Mobility:** To deliver a road safety plan for four Bolivian cities that will be developed as an integrated part of the Urban Mobility Plans.

 **Road Safety Capacity Building:** To diagnose the road safety situation in Bolivia and suggest actions to be taken by the Lead Agency and key partners in road safety in line with the country's goals.

With this project, GRSF has supported the development of **Road Safety Action Plans in Bolivia** through comprehensive technical support and consultations.



Additionally, GRSF has worked with Bolivian authorities to advance:



A methodology for streets and highways speed limit determination in Bolivia and application on newly developed highways.



An alternative **Traffic Fines Scheme** and a core training course for professionals.



Recommendations to improve the **Bolivian Traffic Code** (speed, institutional) nationally.



GRSF has actively contributed to the update of the National Traffic Law in its transformation to a road safety and traffic law.

DEVELOPMENT OF GLOBAL ROAD SAFETY OBSERVATORIES

📍 LATIN AMERICA, AFRICA AND ASIA

IMPROVING CRASH DATA AND MONITORING IN THREE CONTINENTS

Reliable safety and traffic data are essential to assess the full nature of the road safety problem, measure the real economic costs associated with road crashes, and design the most cost-effective road safety interventions.

Responding to this need, **GRSF has expanded its scope of activities through the establishment of Road Safety Observatories** – a formal network of government representatives to share and exchange road safety data and experience in order to reduce traffic injuries across countries in the region.

Building on the successful regional observatory model in Latin America with the **Latin American Road Safety Observatory (OISEVI)** in 2011, and following GRSF continuous cooperation with international partners and financial support provided by UK Aid, the **African Road Safety Observatory (ARSO)** was formally launched at the first Annual Assembly meeting in South Africa in June 2019, while a kick-off event and a second workshop for the **Asia-Pacific Road Safety Observatory (APRSO)** took place in Singapore (March 2019) and Bangkok (December 2019), with support from UK Aid, FIA Foundation and the QII Partnership between the World Bank and the Government of Japan.

With the support of GRSF, these initiatives have advanced in:



Accelerating country-level improvements in data collection



Fostering a positive collaboration between countries to improve their crash data systems, raise road safety on the policy agenda and share data and information

OISEVI *has led to:*

- A **strong regional cooperation** between +20 countries.
- **Institutional reforms in the region.** Creation of lead agencies and national observatories in several countries.

ARSO *has implemented:*

- A governance structure of **+40 countries** and an initial work-plan for the period 2019-2021.

APRSO *has facilitated:*

- Initial meetings and consultations between the Asian and the Pacific countries in partnership with ADB, OECD/ITF, FIA, UNESCAP, among others.

TOGO ASSESSMENT OF VEHICLE INSPECTION SYSTEMS (AVIS)

 TOGO

MAKING VEHICLE INSPECTIONS COUNT IN TOGO

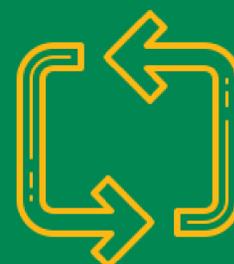
In Togo, a joint project between the World Bank's GRSF and CITA (Comité International de l'Inspection Technique Automobile) is assisting the government in assessing its vehicle inspection regimes (current and imported vehicles) to suggest better ways to manage and improve inspection stations and the administrative oversight of this sector. This has been done through the **Assessment of Vehicle Inspection Systems (AVIS) — a new analysis tool developed by GRSF and CITA.**

Project highlights include:

- in-country and in-depth AVIS by professional experts of the status of vehicle inspection control in Togo
- context specific recommendations to improve the way these inspection programs contribute to the country's overall ability to manage the motorization process, improve road safety outcomes and achieve other public policy objectives
- an overall program of capacity building toward implementing the recommendations.



With AVIS, GRSF helped Togo to establish the essential technical requirement for the import of vehicles, which was not in place.



The project models are replicable to different country contexts and produced valuable lessons on the importance of empowering authorities.



The Togolese Government and the World Bank are working on the implementation of recommendations emerging from this assessment to formulate a way forward to address vehicle inspections effectively.

In parallel, the Government of Togo is working on reforms in its legislation, building its capacity to be able to either take over the vehicle inspection from the concessionaires, or to effectively monitor a selected operator through a competitive process.



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GRSF AND IRAP: A ROAD SAFETY PARTNERSHIP FOR SAVING LIVES

 **CHINA & THAILAND**

SUPPORTING ROAD SAFETY INTERVENTIONS AND BUILDING SUSTAINABILITY

The International Road Assessment Programme (iRAP) is the umbrella program for Road Assessment Programmes (RAPs) that is working to save lives with its risk mapping, star rating, safer roads investment plans and performance tracking tools.

Over five years (2015 – 2019), iRAP has worked with the World Bank's GRSF and local partners to assess more than 15,200 carriageway-kilometer roads in ten cities and five countries as part of the BIGRS Program. **This work has driven evidence-based interventions and road upgrades saving 7,000 lives** from countermeasures already implemented or scoped in designs.

Using the iRAP methodology, it is estimated that if all the safety countermeasures suggested in these assessments of existing roads are implemented, approximately

7,000 fatalities in the cities and 23,300 fatalities in the countries could be prevented between 2020 and 2030.

> **ChinaRAP**

ChinaRAP has played a central role in the State Council supported national Highway Safety to Cherish Life program, which **implemented engineering safety improvements on 300,000km of roads** worth approximately CNY 36 billion (USD 5.1 billion) in 2016-18.

Through the BIGRS Initiative, the GRSF, iRAP and the ChinaRAP team have been supporting Shanghai's Yangpu District Transport Commission in **improving non-motorized traffic facilities on its streets.**

> **ThaiRAP**

In Thailand, under the BIGRS Initiative with support from the GRSF, a partnership was established between iRAP and Chulalongkorn University, through a series of projects which led to the assessments of more than 1100km of high-risk roads during 2015-19.

This partnership is training and accrediting **local experts and ensure that the application of road assessments across Thailand are completed** to the high standard expected as part of the global program.

OTHER EXAMPLES OF GRSF SUCCESS STORIES

A photograph of a man with dark hair and a mustache, wearing a white button-down shirt, sitting in the driver's seat of a vehicle. The image is overlaid with a semi-transparent yellow filter. The man is looking directly at the camera with a neutral expression. The background is slightly blurred, suggesting an outdoor setting.

BETTER DATA FOR SAFER ROADS IN THE PHILIPPINES

In the Philippines, the government and the World Bank designed and deployed **'Data for Road Incident Visualization Evaluation and Reporting', or DRIVER**, a web-based, open-source platform for geo-spatially recording, analyzing, and reporting road crashes.

The GRSF team is currently piloting DRIVER in Mumbai, São Paulo, Fortaleza, and Bangkok through the BIGRS and Dhaka through a Bank lending operation. The GRSF team supports the cities by facilitating inter-agency discussions and providing training as well as adaptation and evaluation of the system.

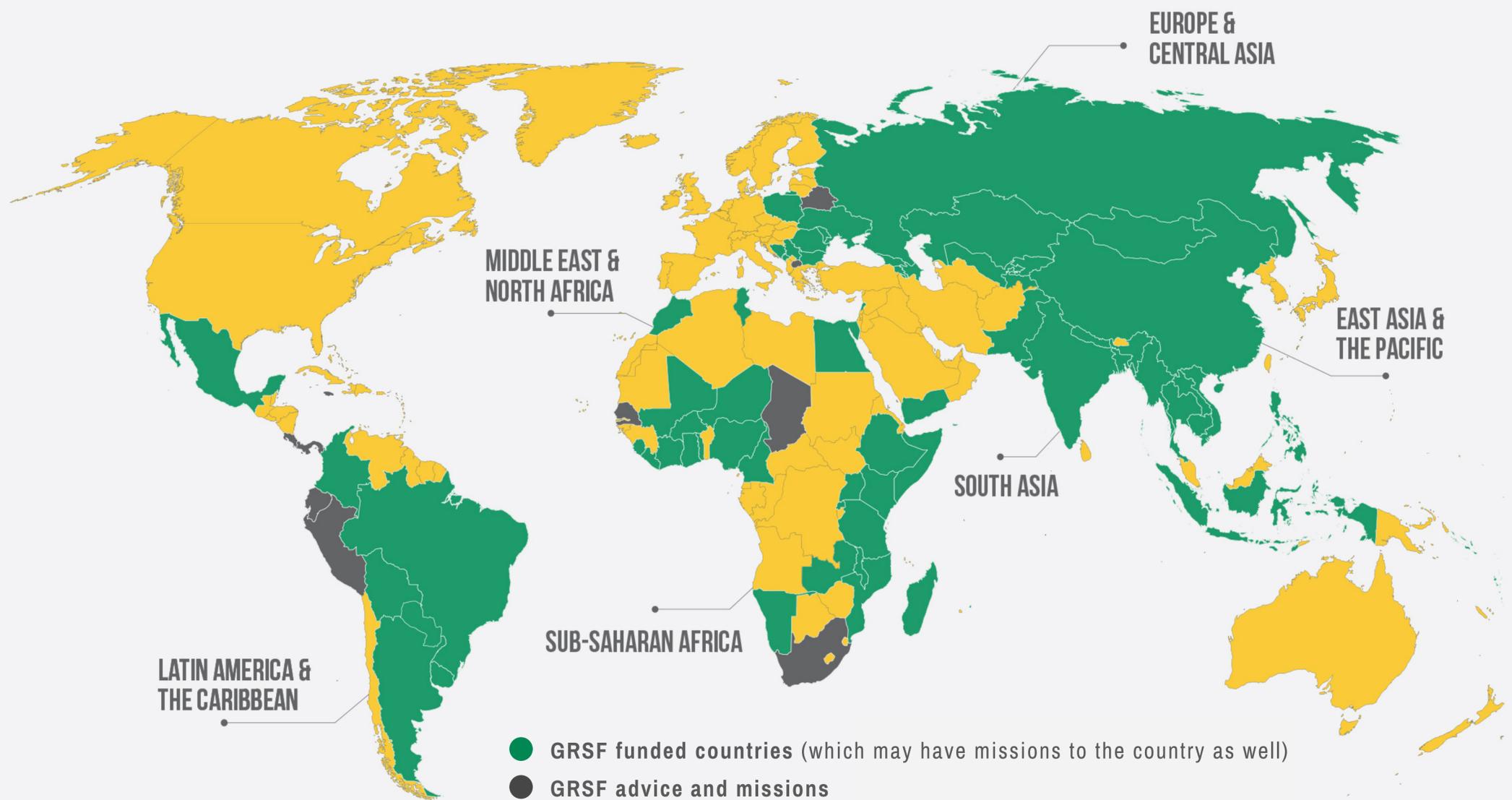
IMPACT EVALUATION OF INTEGRATED URBAN CORRIDOR DEVELOPMENT IN ADDIS ABABA

As part of the cooperation between GRSF and ieConnect for Impact, which is a dedicated grant-funded initiative implemented as part of Development Impact Evaluation (DIME) program by the World Bank Development Research Group, several grants are supporting research activities focusing on improving impact evaluation of transport project's safety results.

This GRSF grant-funded project is assessing road safety outcomes from the upgrading of 250+ junctions and 5 corridors in Addis Ababa, under a complete street design concept, and focusing on intermediate road safety outcomes to measure likelihood of future collisions, injuries and fatalities.

GRSF IN THE WORLD

From its inception, GRSF has provided funding, knowledge, and technical assistance to the following **78 countries** to strengthen road safety interventions and save lives.



EAST ASIA & PACIFIC

Cambodia
China
Kiribati
Indonesia
Lao PDR
Mongolia
Myanmar
Philippines
Samoa
Solomon Islands
Thailand
Tonga
Vanuatu
Vietnam

EUROPE & CENTRAL ASIA

Armenia
Azerbaijan
Belarus
Bosnia and Herzegovina
Bulgaria
Georgia

Kazakhstan
Kyrgyz
Macedonia
Moldova
Montenegro
Poland
Romania
Russian Federation
Serbia
Tajikistan
Ukraine
Uzbekistan

LATIN AMERICA & CARIBBEAN

Argentina
Bolivia
Brazil
Colombia
Costa Rica
Ecuador
Jamaica
Mexico
Panama

Peru
Paraguay
Uruguay

MIDDLE EAST & NORTH AFRICA

Egypt
Lebanon
Morocco
Pakistan
Tunisia
Yemen

SOUTH ASIA

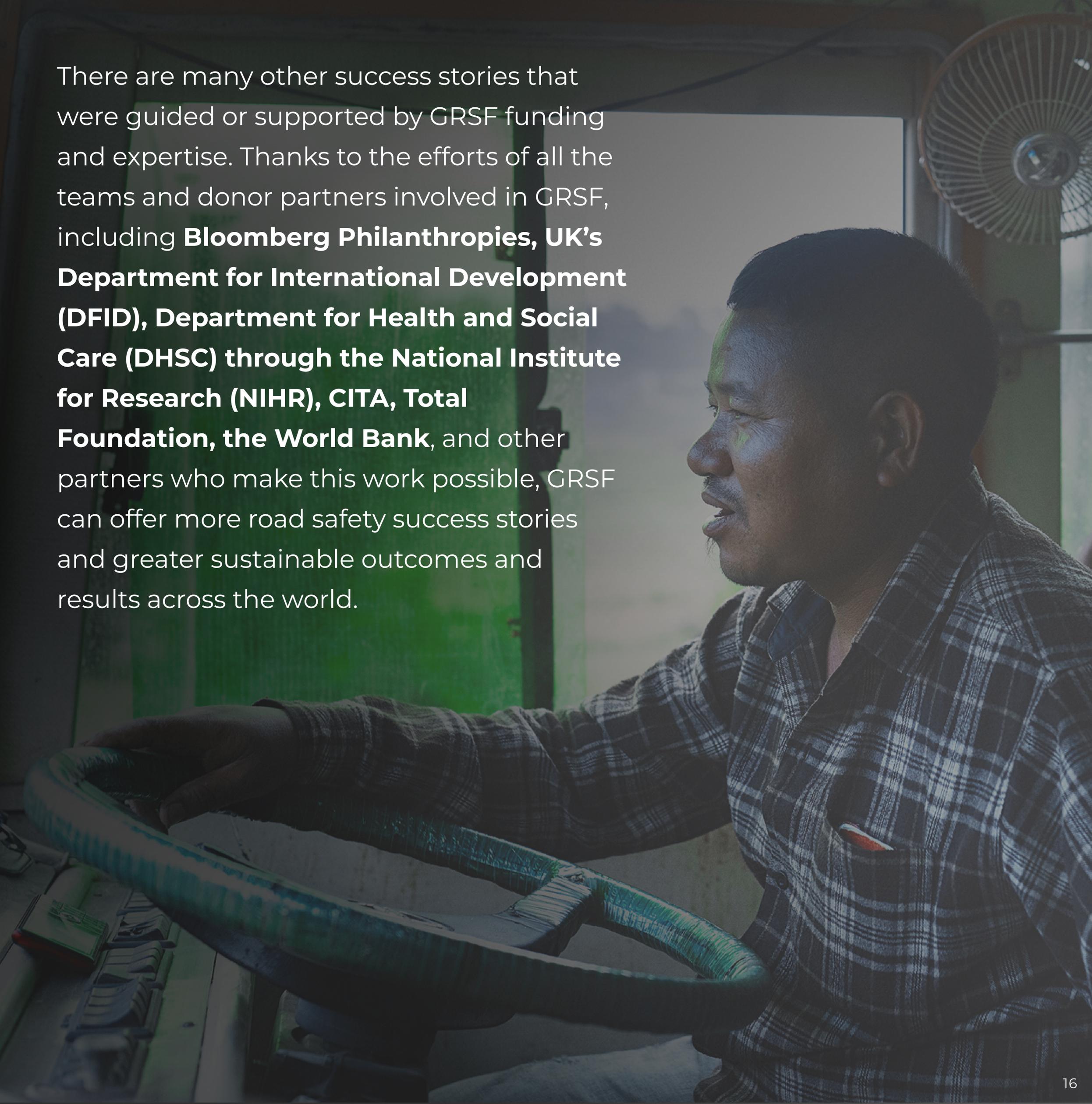
Bangladesh
India
Nepal

SUB-SAHARAN AFRICA

Burkina Faso
Cameroon
Chad

Cote d'Ivoire
Ethiopia
Ghana
Kenya
Liberia
Madagascar
Malawi
Mali
Mauritius
Mozambique
Namibia
Nigeria
Rwanda
Sao Tome and Principe
Senegal
Sierra Leone
Somalia
South Africa
Tanzania
Togo
Uganda
Zambia

There are many other success stories that were guided or supported by GRSF funding and expertise. Thanks to the efforts of all the teams and donor partners involved in GRSF, including **Bloomberg Philanthropies, UK's Department for International Development (DFID), Department for Health and Social Care (DHSC) through the National Institute for Research (NIHR), CITA, Total Foundation, the World Bank**, and other partners who make this work possible, GRSF can offer more road safety success stories and greater sustainable outcomes and results across the world.



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