



# SAFELY CONNECTED

A Regional Road Safety Strategy  
for CAREC Countries, 2017–2030



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## A Regional Road Safety Strategy for CAREC Countries, 2017–2030

Endorsed at the 15th CAREC Ministerial Conference  
Islamabad, Pakistan, 26 October 2016





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# Foreword

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Road safety is a major global issue. Every year about 1.25 million people die, and up to 50 million more are injured in road crashes worldwide. Road crashes rank as the 8th leading cause of death globally, and 6th in Central Asia. The rate of road traffic deaths in Central and West Asian countries is 10–25 per 100,000 population, which is several factors higher compared to best-performing countries such as the United Kingdom and Sweden.

*Safely Connected: A Regional Road Safety Strategy for CAREC Countries, 2017–2030* was developed to provide a framework for member countries of the Central Asia Regional Economic Cooperation (CAREC) to effectively implement CAREC’s commitment to road safety. The strategy builds upon existing strengths within the region, addresses identified gaps, utilizes existing good practice, and mitigates risks.

The strategy’s vision is to “make CAREC international road corridors safe, efficient, and attractive for all road users.” This vision provides the overall objective for establishing a suitable target for long-term road safety and substantiates the setting for identifying the strategic framework to achieve it.

Overall, this strategy aims to reduce the number of fatalities on CAREC road corridors by 50% by 2030, compared to 2010. Annually, the strategy will save 23,000 lives and prevent 250,000 serious injuries. The estimated economic savings total approximately \$16 billion per year.

The strategy supports global goals for road safety, as enshrined in the Sustainable Development Goals, and seeks to halve the number of global deaths and injuries from road traffic accidents by 2020. The United Nations champions these goals through its declaration of the Decade of Action for Road Safety, 2011–2020.

The strategy supports ADB’s Sustainable Transport Initiative Operational Plan, which identifies road safety as a priority area for mainstreaming in transport operations. It is also consistent with the Road Safety Action Plan that identifies the role regional cooperation platforms such as CAREC play in intensifying road safety actions in ADB’s developing member countries.

In its capacity as the CAREC Secretariat and a major financier of CAREC roads, ADB strongly commits to supporting the strategy. We look forward to a new direction in road investments where safety engineering receives paramount consideration. We will continue to actively engage with CAREC countries and development partners, whose dedication to sustainable and safe roads is echoed in the strategy’s title, “safely connected.”



**Takehiko Nakao**

President

Asian Development Bank

# Preface

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**R**ecognizing that traffic fatalities in the member countries of the Central Asia Regional Economic Cooperation (CAREC) cost an estimated 1%–5% of the region’s gross domestic product, the CAREC Transport and Trade Facilitation Strategy (TTFS 2020) emphasized the need for collective action to minimize and prevent road crashes along CAREC corridors.

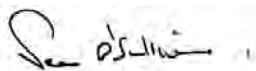
The strong commitment of the CAREC countries to make CAREC corridors safer was affirmed during the 14th CAREC Ministerial Conference in Ulaanbaatar, Mongolia (September 2015). There, member countries pledged to work together to create a regional strategy for CAREC.

Cooperation among the CAREC member countries drove preparation of *Safely Connected: A Regional Road Safety Strategy for CAREC Countries, 2017–2030*. Key stakeholders involved in road safety, which included government, private firms, civil society, and development partner organizations, participated in extensive workshops and consultations. The vision, target, strategic actions, and monitoring framework of the strategy were developed through such interactions and knowledge sharing. The strategy contains the best of ideas and initiatives from all stakeholders.


The Asian Development Bank’s (ADB) secretariat team that facilitated the strategy development was led by Xiaohong Yang, Director, Transport and Communications Division of the Central and West Asia Department, and Robert Guild, Director, Transport and Communications Division of the East Asia Department. Team members included Ko Sakamoto, David Fay, Shanny Campbell, Ma. Cecilia Villanueva, and Ghia Villareal of ADB, together with Charles Melhuish, Ian Hughes, Philip Jordan, Matthew Chamberlain, James Reeves, Pilarcita Sahilan, and Debbie Gundaya (consultants). The team was supported by staff and consultants from many other divisions and resident missions.

We gratefully acknowledge the peer review, comments, and support of partners from the CAREC Institution, including European Bank for Reconstruction and Development, Islamic Development Bank, the United Nations Development Programme, and the World Bank. Other development partners included the Eastern Alliance for Safe and Sustainable Transport, European Investment Bank, Malaysian Institute of Road Safety Research, Observatorio Iberoamericano de Seguridad Vial, and the World Health Organization.

Guided by the strategy, CAREC countries and development partners now have the opportunity to translate our commitment into action by mobilizing our collective resources to make road safety a CAREC priority. We look forward to supporting CAREC countries in their endeavor to realize the vision of the strategy for CAREC international road corridors to become “safe, efficient, and attractive for all road users.”



**Sean O’Sullivan**  
Director General  
Central and West Asia Department  
Asian Development Bank



**Ayumi Konishi**  
Director General  
East Asia Department  
Asian Development Bank

# Abbreviations

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ADB	- Asian Development Bank
CAREC	- Central Asia Regional Economic Cooperation
EBRD	- European Bank for Reconstruction and Development
GDP	- gross domestic product
IHME	- Institute for Health Metrics and Evaluation
MVIS	- motor vehicle inspection system
NGO	- nongovernment organization
RSA	- road safety audit
SDGs	- Sustainable Development Goals (of the United Nations)
TTFS 2020	- Transport and Trade Facilitation Strategy 2020
TSCC	- Transport Sector Coordinating Committee (of CAREC)
UNDP	- United Nations Development Programme
WHO	- World Health Organization



# Executive Summary

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**A**t its 14th Ministerial Conference (Ulaanbaatar, Mongolia, 25 September 2015), the ministers of the Central Asia Regional Economic Cooperation (CAREC) Program endorsed a joint commitment to road safety and proposed collective action through a “safe systems” approach. This approach shifts responsibility for safety away from road users and toward road system designers, whose role is to ensure that the road system is as safe as possible. CAREC needs to incorporate good practice into road infrastructure and vehicles, create effective and well-enforced traffic laws, inform users about safe driving, and ensure availability of adequate emergency care.

The CAREC Road Safety Strategy was formulated using a participatory approach. Formulation of the strategy was preceded by an assessment of available information drawn from both global and regional sources, including data and information from CAREC countries. This data and information was then supplemented by a review of documents and information from development partners. Country visits included consultations with senior officials from key ministries involved with road safety, as well as other stakeholders such as road user associations, private firms, and civil society organizations.

Finally, two planning workshops included key representatives from major government bodies involved with road safety in each country, as well as other stakeholders. These workshops focused on developing (i) a strategic framework for the regional road safety strategy to 2030, (ii) an action plan covering an initial 4-year period, and (iii) a vision statement. Workshop participants agreed on an ambitious but attainable road safety target, and acknowledged the need for adequate monitoring and evaluation of progress.

Overall, the CAREC Road Safety Strategy aims to reduce fatalities on CAREC road corridors by 50% by 2030, as compared to 2010. The strategy will save 23,000 lives and avoid 250,000 serious injuries each year. The estimated savings total \$16 billion per year.

# Introduction

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## Road Safety—A Global and CAREC Issue

1. Road safety is a major global issue and road crashes account for approximately 1.25 million deaths and up to 50 million injuries each year.<sup>1</sup> Road crashes are the eighth most important cause of death globally and the sixth in Central Asia. However, improvements in road safety can dramatically reduce deaths and injuries and also deliver significant social and economic benefits. For example, in Western Europe, where serious efforts have improved road safety, road crashes are the 24th most important cause of death.<sup>2</sup> Thus, road crashes are preventable through adoption of internationally accepted road safety practices based on sound research.

2. The United Nations officially recognized the need for urgent action by declaring its Decade of Action for Road Safety 2011–2020 and including road safety in its Sustainable Development Goals (SDGs).

3. The Global Plan for the Decade of Action for Road Safety 2011–2020 includes a framework based on the “safe system” approach to road safety. This framework identifies five pillars for organizing activities for improving road safety. The CAREC Road Safety Strategy uses this framework.

4. In September 2015, the United Nations General Assembly adopted the SDGs. The SDGs

include a target of halving the number of global deaths and injuries from road crashes by 2020. An ambitious target for all countries, it can only be achieved in the CAREC countries through effective and sustained efforts both nationally and regionally.

## CAREC Program

5. The Central Asia Regional Economic Cooperation (CAREC) Program was established as a partnership of 11 countries<sup>3</sup> and 6 multilateral development partners.<sup>4</sup> CAREC aims to promote cooperative development to accelerate economic growth and poverty reduction. Regional cooperation under the CAREC Program focuses on several priority areas, including transport, trade facilitation, trade policy, and energy.

6. The CAREC Transport and Trade Facilitation Strategy 2020 (TTFS 2020) was endorsed at the 12th Ministerial Conference in October 2013. This document builds on projects and initiatives undertaken since 1997 to enhance transport and trade, aiming to (i) establish competitive transport corridors; (ii) facilitate the movement of goods and people through CAREC corridors and across borders; and (iii) provide sustainable, safe, and user-friendly transport and trade networks. The strategy highlights the need for regionwide improvements in road safety, and acknowledges that investment in road safety results in both economic and social benefits.

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<sup>1</sup> World Health Organization. 2015. *Global Status Report on Road Safety 2015*. Geneva.

<sup>2</sup> Global Road Safety Facility, The World Bank; Institute for Health Metrics and Evaluation, 2014. *Transport for Health: The Global Burden of Disease from Motorized Road Transport*, Seattle (IHME) and Washington (World Bank).

<sup>3</sup> The CAREC countries are Afghanistan, Azerbaijan, the People’s Republic of China (PRC) (represented geographically by Xinjiang Uygur Autonomous Region and Inner Mongolia Autonomous Region), Georgia, Kazakhstan, the Kyrgyz Republic, Mongolia, Pakistan, Tajikistan, Turkmenistan and Uzbekistan.

<sup>4</sup> The six multilateral development partners supporting the CAREC Program are the Asian Development Bank (ADB), the European Bank for Reconstruction and Development (EBRD), the International Monetary Fund, the Islamic Development Bank, the United Nations Development Programme (UNDP), and the World Bank.

# CAREC Road Corridors

7. Studies of major passenger and freight flows in the CAREC region identified six corridors (Map) important for achieving the goals of the CAREC Program. Totalling approximately 29,350 kilometers (km) (Table 1), these corridors link the region's key economic hubs and connect the primarily landlocked CAREC countries to other Eurasian and global markets. CAREC TTFS 2020 sets out priority investments in road and transport infrastructure along each corridor, even as CAREC countries anticipate other complementary road-related investments. These investments will begin transforming transport corridors into logistics corridors, and ultimately into economic corridors. It is also important that these corridors are safe for all road users.

8. Such development must meet the needs of its users. This implies that improved physical infrastructure is only one part of transport corridors, albeit necessary to ensure that other aspects of the corridor also work well. This includes minimizing border crossing times and costs, completing seamless and safe transshipment operations, and reducing and mitigating the impacts of road crashes. Together with harmonization of transport and trade procedures and processes, improvements in road safety facilitate movement of goods, services, and people between the region's economic centers.

9. Investment in the CAREC transport corridors has increased rapidly since 2001, rising from 6 projects to 112 projects in 2015. Of the 112 projects initiated in 2015, 97 (valued at \$18 billion) are for improving road infrastructure. Thus, road infrastructure accounts for the most investment in CAREC transport corridors. However, this means that little attention has been paid to addressing road safety. Similarly, road safety records remain poor, and crash rates are more than four times those

in countries that have adopted good road safety practices.<sup>5</sup>

10. Thus, the CAREC Road Safety Strategy focuses particularly on improving road safety in the CAREC road transport corridors.

# Road Crashes in CAREC Countries

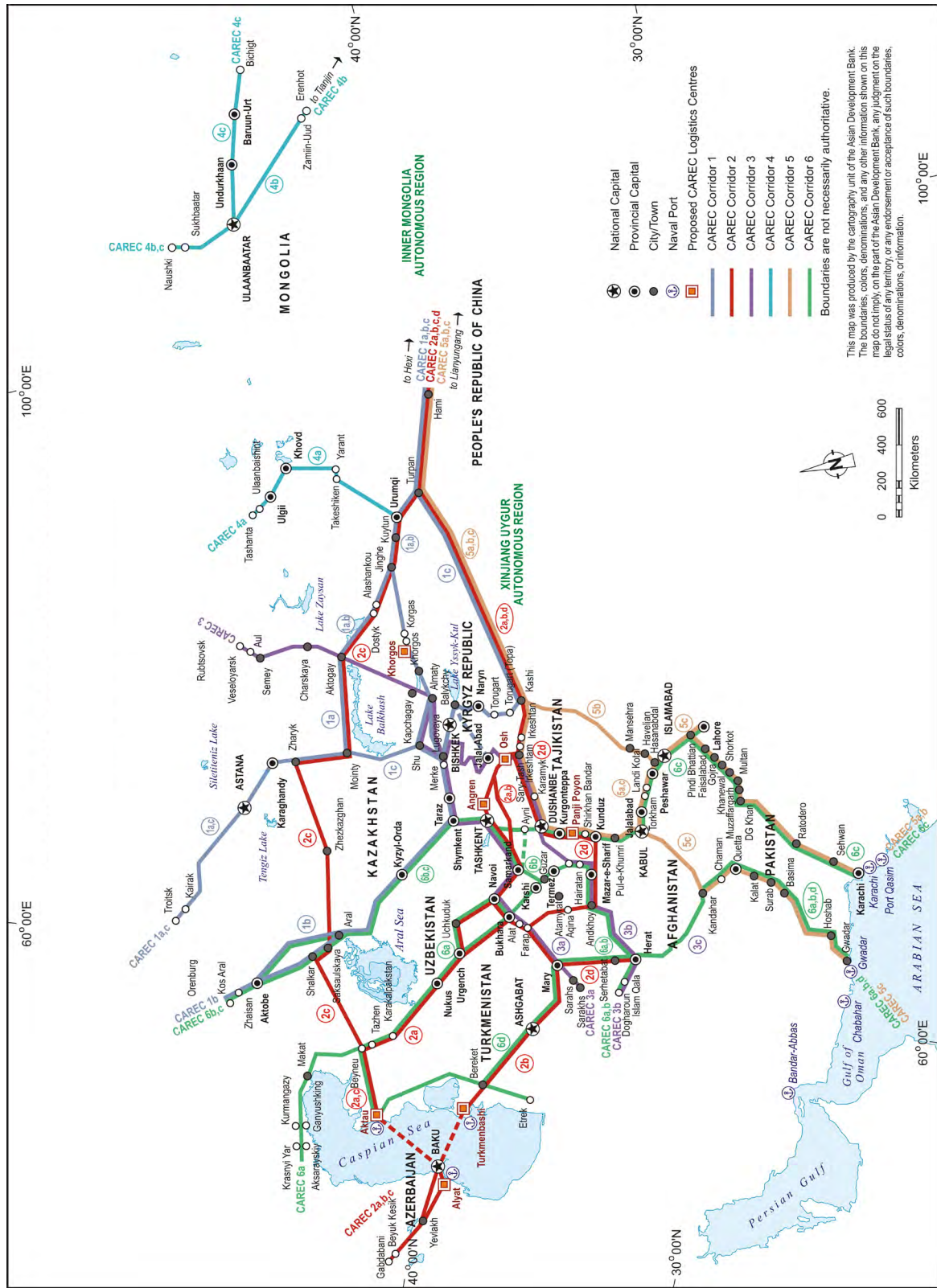
11. Road crashes are a serious issue in CAREC countries where traffic death rates range from 10.1 to 24.2 per 100,000 population (World Health Organization data for 2013) (see footnote 1). In comparison, most other countries report only 17 deaths per 100,000 population (Figure 1). Importantly, during 2010–2013, road-related death rates declined in six of the CAREC countries, although the World Health Organization data indicate that in four CAREC countries, road-related death rates increased during the same period. Since the lowest death rate from road crashes is only 2.8 per 100,000 population globally (Sweden, 2013), there is considerable scope for CAREC countries to improve their road safety performance.

12. Drivers and passengers account for most of those killed or injured in road crashes in CAREC countries. However, other road users, including pedestrians, account for a significant share of those killed or injured (Figure 2). Globally, about 22% of road fatalities are pedestrians; current data indicate that pedestrian fatalities in CAREC countries range from 22%–33% (see footnote 1).

13. Detailed data on road crashes on segments of CAREC road corridors with future road projects was collected from CAREC countries. Analysis of data from five countries (Azerbaijan, Kazakhstan, the Kyrgyz Republic, Tajikistan,

<sup>5</sup> World Health Organization. 2013. *Global Road Safety Report 2013*. Geneva.

Map: Six Central Asia Regional Economic Cooperation Corridors



Source: CAREC Secretariat.

Table 1: CAREC Road Corridors and Road Projects Planned or Completed, End-2015

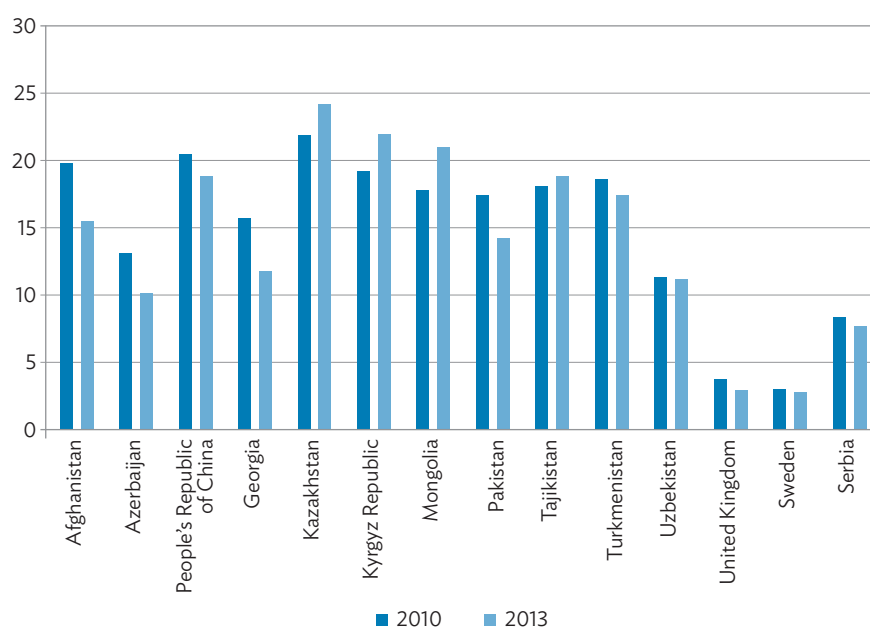
Corridor	Location	Countries Covered	Length* (km)	Total Projects	Completed	Ongoing
1	Europe to East Asia	PRC, KAZ, KGZ	13,600	20	10	10
2	Mediterranean to East Asia	AZE, PRC, KAZ, KGZ, TAJ, TKM, UZB	9,900	30	10	20
3	Russian Federation to Middle East and South Asia	AFG, KAZ, KGZ, TAJ, TKM, UZB	6,900	26	14	12
4	Russian Federation to East Asia	PRC, MON	2,400	7	3	4
5	East Asia to Middle East and South Asia	AFG, PRC, KGZ, PAK, TAJ	3,700	19	8	11
6	Europe to Middle East and South Asia	AFG, KAZ, PAK, TAJ, TKM, UZB	10,600	17	6	11
		<b>Total</b>	<b>29,350</b>	<b>119</b>	<b>51</b>	<b>68</b>

AFG = Afghanistan, AZE = Azerbaijan, PRC = People's Republic of China, GEO = Georgia, KAZ = Kazakhstan, KGZ = Kyrgyz Republic, MON = Mongolia, PAK = Pakistan, TAJ = Tajikistan, TKM = Turkmenistan, UZB = Uzbekistan.

\* Some portions of the corridors overlap.

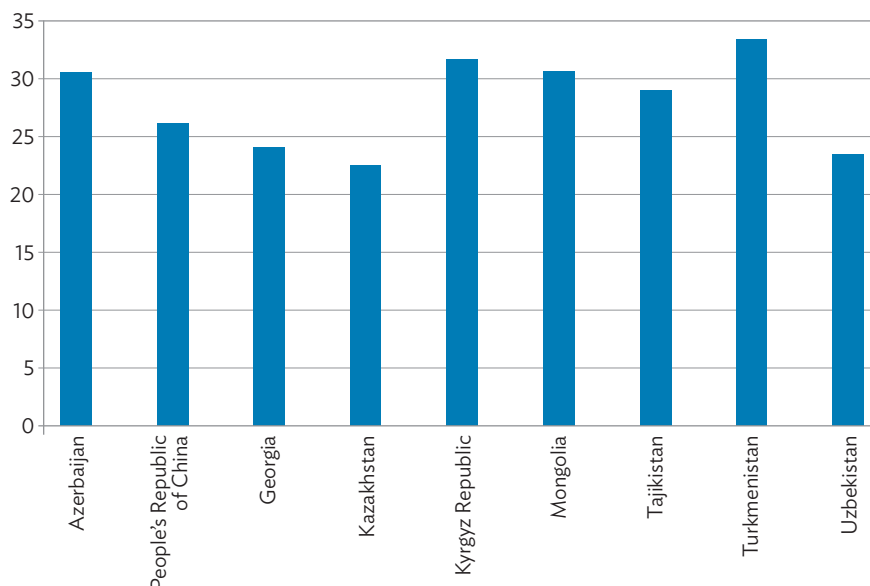
Source: Central Asia Regional Economic Cooperation. [www.carecprogram.org](http://www.carecprogram.org) (accessed 5 September 2016).

Figure 1: Estimated Road Traffic Death Rates in CAREC Countries, Serbia, Sweden, and the United Kingdom, 2010 and 2013 (per 100,000 population)



Sources: *Global Status Report on Road Safety 2013: Supporting a Decade of Action*, Geneva. World Health Organization, 2013, and *Global Status Report on Road Safety 2015*. Geneva. World Health Organization, 2015.

**Figure 2: Pedestrian Traffic Deaths in CAREC Countries**  
(%)



Note: Data was not available for Afghanistan and Pakistan.

Source: *Global Status Report on Road Safety 2015*, Geneva. World Health Organization, 2015.

and Uzbekistan) with complete crash data for 2011–2015 indicates that

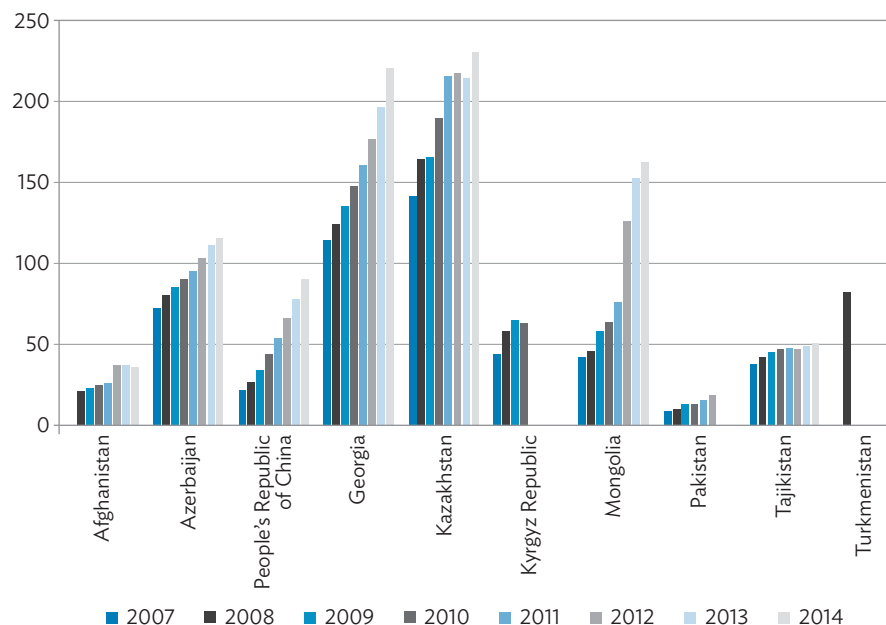
- (i) road projects planned represent 4,235 km of CAREC corridor roads (14%);
- (ii) 3,336 reported crashes (2,070 deaths and 4,121 serious injuries);
- (iii) the two most common causes of crashes were vehicular head-on crashes (42%) and single vehicle crashes (26%);
- (iv) crashes involving a pedestrian (25%);
- (v) crashes in which speed was a contributing factor (39%);
- (vi) crashes in which a driver made an overtaking error (37%);
- (vii) road deaths involving drivers or passengers of four-wheeled cars or light vehicles (66%);
- (viii) 6% of deaths were drivers or passengers of heavy trucks and 3% were drivers or passengers of buses; and
- (ix) 18% of deaths were pedestrians.

14. While the characteristics and causes of road crashes on CAREC road corridors differ from country to country, the following characteristics and causes are common in many CAREC countries:

- (i) Speeding is a common cause of crashes on CAREC corridors. This includes driving at excessive speeds, or driving too fast for the prevailing road or weather conditions.
- (ii) In many of the CAREC countries, the rate at which passengers wear seat belts is low, particularly for passengers sitting in the rear seat of passenger vehicles. As wearing a seat belt reduces the risk of a fatal injury by up to 50% for front seat occupants and up to 75% for rear seat occupants, this is a significant factor in the incidence of road-crash-related deaths and serious injuries in the CAREC region (see footnote 1). The rate of use of child restraints in passenger cars in the CAREC countries is similarly low. This is unfortunate, as child restraints have been shown to significantly reduce

- the chance of a child being killed or seriously injured in a road crash.
- (iii) Driver fatigue is a serious issue on the CAREC road network, particularly since in many parts of the network, the distances travelled are long. Crashes linked to fatigue often include single-vehicle crashes in which a vehicle runs off the road, or collides with a vehicle traveling in the opposite direction. In some cases, there are no limits on the number of hours commercial drivers may drive. Even where such limits exist, they are not effectively monitored or enforced. Further, there are limited designated road rest areas. Similarly, few other areas exist where drivers can safely rest on road corridors.
  - (iv) Errors in overtaking are a key cause of crashes, an outcome often associated with problems with road design or traffic control.
  - (v) Extreme weather and climate present risks for drivers in some parts of the CAREC region, particularly when visibility is limited, or when roads are covered with snow or ice in winter.
  - (vi) The topography in many parts of the region presents serious challenges and risks for drivers. Challenges in this regard include steep mountainous roads with tight corners, and long straight stretches across the *steppes* where driver fatigue is common.
  - (vii) In some CAREC countries, driving under the influence of alcohol or drugs is a significant cause of road crashes. Pedestrians walking along roadways under the influence of alcohol is also a major problem in some CAREC jurisdictions.
  - (viii) Poor driver knowledge of road rules and crash risks is also a cause of crashes on the CAREC road network.
  - (ix) Poor-quality road design, construction, and maintenance also contributes to road crashes on the CAREC road network. Problems in this regard include poor road surface quality, deficient road signs and markings, limited or no lighting outside of urban areas, and poor traffic control and safety when maintenance or upgrading of roads is being performed. Designing and constructing roads with pavements that can withstand the weather extremes of both summer and winter is also a challenge in the CAREC region, as well as ensuring that these roads remain safe.
  - (x) Overloaded trucks are common on some CAREC corridor roads. This indirectly increases crash risks as it prematurely destroys road pavement infrastructure.
  - (xi) Crashes often involve vehicles that are manufactured to low standards, are poorly maintained, or have the steering wheel on the wrong side because of limited regulation of vehicle imports.
  - (xii) Limited or delayed emergency rescue and medical response due to remoteness and long distances between cities and towns is a significant issue for victims of road crashes, as well as the extent of recovery of those injured.
15. In addition, CAREC countries are experiencing rapid motorization (Figure 3), a trend that usually correlates with an increase in road deaths and injuries if serious action is not taken to improve road safety. In some CAREC countries, the growth rate of vehicle ownership is significant, particularly in the case of passenger cars in Azerbaijan, the People’s Republic of China (PRC), Kazakhstan, and Mongolia, while in other countries such as Afghanistan and Pakistan, the growth rate of passenger vehicle ownership has remained relatively low. However, there is little doubt that as economic development continues in CAREC countries, so too will motorization rates. Lacking appropriate measures, the number of road crashes will certainly increase.
16. While there are increasing challenges to be addressed in improving road safety in CAREC countries, significant efforts have been made. With the support of multilateral development partners, there have been major improvements made to CAREC road corridors through new road construction and rehabilitation projects, and this work continues (Figure 4). However, essential road safety engineering features must be included in all road development projects, and international good practice relating to road safety adopted in the

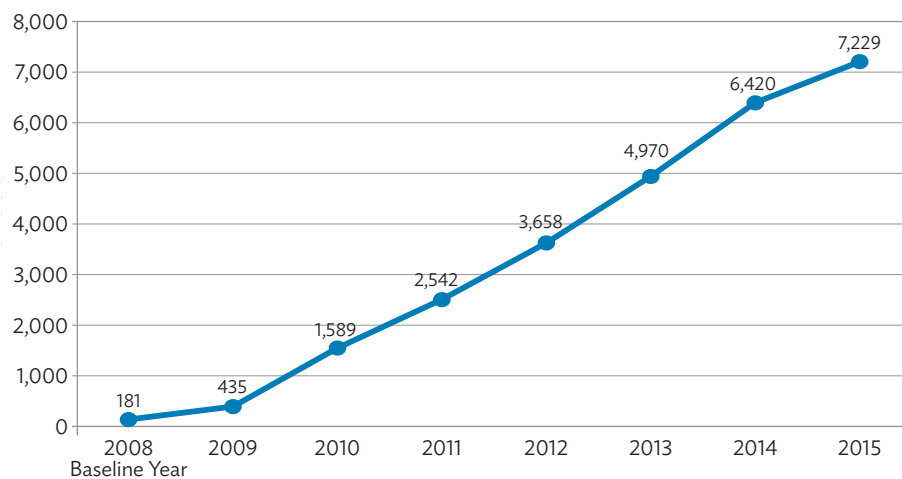
**Figure 3: Increase in Passenger Cars in CAREC Countries, 2007–2014  
(per 1,000 population)**



Note: Data for Uzbekistan is not available.

Sources: United Nations Economic and Social Commission for Asia and the Pacific, United Nations Economic Commission for Europe, national data from CAREC member countries.

**Figure 4: Cumulative Length of CAREC Expressways and National Highways Built or Improved, 2008–2015  
(kilometers)**



Source: ADB. 2016. *Transport Sector Progress Report and Work Plan, 2016–2018*. Manila.



CAREC countries if road crash rates are to be held in check or lowered.

17. Some CAREC countries have implemented a national road safety strategy and associated action plan, while in other CAREC countries, such plans are awaiting approval or are under development. In many cases, these plans have been developed with the support of multilateral development partners. However, funding for implementation of the initiatives contained in these national plans remains an issue for many CAREC countries.

## Cost of Road Crashes in CAREC Countries

18. Road crashes have significant social costs, including

- loss of income, which often leads to poverty for those injured and their families;
- foregone social contribution from those killed, seriously injured, or permanently disabled;
- recovery and rehabilitation challenges for those injured in road crashes;
- emotional trauma for those involved in a road crash, including those involved in emergency response such as ambulance drivers, doctors, nurses, and police patrol persons; and
- grief and personal loss suffered by family members and friends of those killed in road crashes.

19. The economic cost of road crashes in the CAREC region is significant, as it accounts for an estimated 1%–5% of GDP in many CAREC countries (Table 2).

**Table 2: Estimated Cost of Road Crashes in the CAREC Region**

Country	2014 GDP <sup>a</sup> (\$ million)	Road Crash Fatalities <sup>b</sup> (2013)	Road Crash Costs <sup>c</sup> (\$ million)	Road Crash Costs (% GDP)
Afghanistan	20,050	4,734	761	3.80
Azerbaijan	75,198	1,214	2,261	3.01
People's Republic of China	440,450	3,025	5,358	1.22
Georgia	16,509	514	554	3.36
Kazakhstan	227,437	3,233	9,055	3.98
Kyrgyz Republic	7,468	1,022	307	4.11
Mongolia	12,227	641	658	5.38
Pakistan	243,383	25,781	8,724	3.58
Tajikistan	9,236	1,543	400	4.33
Turkmenistan	43,486	914	1,759	4.05
Uzbekistan	63,133	3,240	1,625	2.57
<b>Total</b>	<b>1,158,577</b>	<b>45,861</b>	<b>31,462</b>	<b>2.72</b>

CAREC = Central Asia Regional Economic Cooperation, GDP = gross domestic product.

<sup>a</sup> Data for the PRC refer to Inner Mongolia Autonomous Region (IMAR) and Xinjiang Uygur Autonomous Region (XUAR) only (National Bureau of Statistics of China. *China Statistical Yearbook 2015*. <http://www.stats.gov.cn/tjsj/ndsj/2015/indexeh.htm>) converted to US\$ using exchange rate from: ADB. 2015. *Key Indicators for Asia and the Pacific 2015*. Manila. For other CAREC countries: The World Bank. 2015. World Development Indicators. <http://data.worldbank.org/data-catalog/worlddevelopment-indicators> (accessed 14 December 2016).

<sup>b</sup> Based on: WHO and Research Institute of Highways. *Global Status Report on Road Safety 2015*. Geneva. Data on the PRC refer to IMAR and XUAR only.

<sup>c</sup> Based on: International Road Assessment Program. 2008. *True Cost of Road Crashes: Valuing Life and the Cost of Serious Injury*. United Kingdom. Data on the PRC refer to IMAR and XUAR only.

Source: Consultant and CAREC Secretariat calculations.

# Development of the CAREC Road Safety Strategy

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## High-Level Political Commitment

20. Recognizing the significant opportunity for CAREC countries to work together to address road safety challenges, the 14th Ministerial Conference on CAREC (Ulaanbaatar, Mongolia, 25 September 2015) endorsed a joint commitment to road safety (Appendix 1).

21. The focus of this commitment is that of taking collective action to improve road safety by adopting the “safe systems” approach. This approach involves reducing road crash deaths and injuries by adopting international good practice in road safety, and building on efforts for safer road infrastructure, safer vehicles, and safer road users. It seeks to maximize safety by improving road design and construction, ensuring that vehicles are safe, making sure that traffic laws are effective and well enforced, that road users understand how to use the road network safely, and that there are adequate emergency medical care facilities in the event of injury due to a crash.

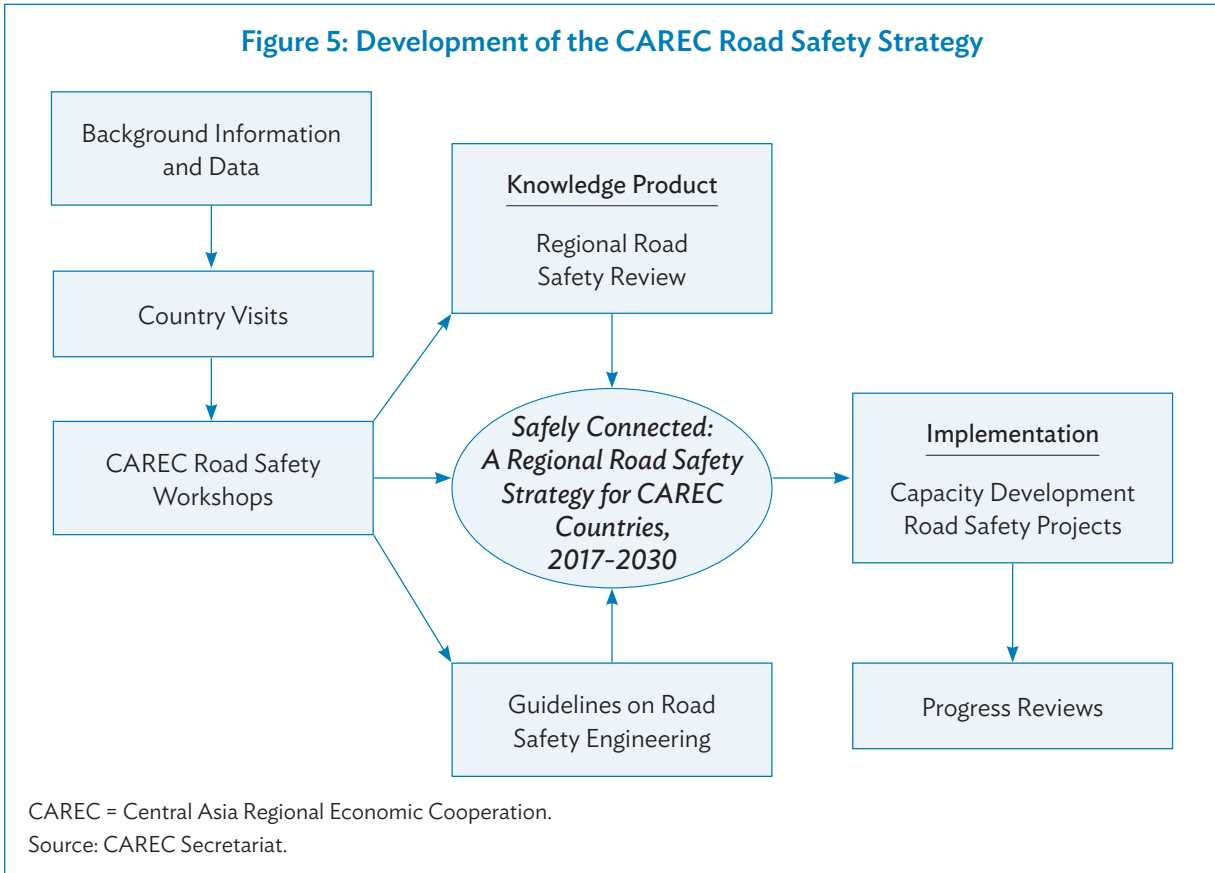
22. Cooperation and consistency in the “safe systems” approach to road safety under CAREC will increase the ability of every country to identify, plan, and implement road safety interventions. The local and national efforts being taken in each country can be enhanced by adopting regionwide approaches supported by joint capacity building and knowledge sharing activities. The CAREC partnership, which includes support from multilateral development partners, is an effective platform for improving road safety in the region.

23. The CAREC Road Safety Strategy provides a framework for CAREC countries to work collectively to fulfill this ministerial commitment. The CAREC Road Safety Strategy builds on existing strengths in the region, addresses identified gaps, utilizes current good practice, and mitigates risks.

## Analysis of Current Situation

24. To support development of the CAREC Road Safety Strategy, a detailed review of the road safety situation in the region was undertaken. This review summarizes the status of road safety in each country in the CAREC region and supports the framework underpinning the CAREC Road Safety Strategy. A series of technical investigations were then undertaken to (i) provide additional background information on road safety in the region, (ii) assess the status of road safety in each of the CAREC countries, and (iii) provide a framework for participatory workshops at which stakeholders drawn from the entire region could discuss road safety issues. Figure 5 summarizes the process of developing the strategy, which involved

- analysis of road crash and transport data
  - drawn from a range of global and regional sources, and
  - provided by the governments of the CAREC countries;
- consultation with organizations that support road safety in the region, including the European Union Transport Corridor Europe–Caucasus–Asia Road Safety Project II; and



- review of documents and information provided by CAREC member countries and multilateral development partners that support the CAREC Program.

25. At visits to each CAREC country, meetings were held with senior officials from ministries involved in road safety and with other stakeholders such as road user associations, private firms, and civil society organizations.

## Regional Workshops

26. Two strategy planning workshops were held during 2016. Key representatives from the ministries directly involved in road safety in each country attended these workshops, as well as other stakeholders. The first workshop primarily focused on development of a framework for the regional road safety strategy, as well as on sharing information on

the status of road safety in each country. An analysis of strengths, weaknesses, opportunities, and threats affecting road safety across the region was then completed by each CAREC country. The results of this analysis are summarized immediately below.

## Strengths

- Many CAREC countries are developing or have approved road safety strategies and action plans. These strategies and action plans enable identification of how road safety resources will be invested in each country.
- CAREC is an efficient mechanism for its member countries and multilateral development partners to work together to improve road safety in the region.
- CAREC countries are home to well-qualified and experienced engineering professionals who are able to help improve

road safety through road planning, design, construction, improvement, management, and maintenance.

- The agencies responsible for road safety in the CAREC countries are committed to improving road safety in the region.
- Initiatives for improving vehicle safety standards and regulations such as safety inspections are already under way in numerous CAREC countries.
- Many of the CAREC countries have already launched initiatives for improving postcrash care response, including provision of timely emergency medical services.
- Many of the CAREC countries are home to nongovernment organizations (NGOs) and private sector entities that are able to support government in improving road safety.

## Weaknesses

- Road design standards and practices in many countries do not reflect international good practice.
- Road safety engineering—including the road design, construction, and operation of road safety engineering—is not a high priority in the CAREC countries. Road safety engineering in the region thus requires substantial strengthening.
- The safety needs of vulnerable road users (e.g., pedestrians, cyclists, motorcyclists) are not being addressed effectively in most CAREC countries.
- CAREC countries generally suffer from lack of sustainable funding for road safety initiatives.
- Many CAREC countries lack effective coordination of road safety initiatives at the national level.
- Both requisite skills and knowledge of good practice relating to road safety are limited throughout the region. This includes critical areas such as performing road safety audits, black-spot investigations, effective road policing, road safety education and awareness campaigns, and first aid services provided by first responders.

- Collection and reporting of data on road crashes and casualties is limited in many member countries, thereby restricting the ability to formulate informed road safety action plans. There is also limited sharing of crash data among road-safety agencies at the national level in most countries.
- Emergency medical response for crash victims is limited in many countries where CAREC corridor roads pass through remote areas, are built over challenging terrain, or are exposed to extreme weather conditions. Trauma treatment services are also limited in many countries.
- Resources available to traffic police are limited. As a result, enforcement of road rules on CAREC corridors is limited, especially in areas such as detection of excessive vehicular speed.
- Legislation pertaining to road rules and sanctions for offenders in many countries does not reflect accepted international good practice and requires strengthening.
- Overloading of freight and public transport vehicles using CAREC corridors is a significant issue in some member countries.
- The vehicle fleet in some countries is old, and primarily consists of imported second-hand vehicles.
- Driver training and licensing are limited and are of poor quality in many countries in the region.

## Opportunities

- International financial resources for capital works and technical assistance support in the CAREC countries is available.
- Many CAREC countries have sufficient internal resources to address national road safety issues.
- There is a global focus on road safety and reduction of road casualties. For example, road safety is included in the United Nations' SDGs.
- There is growing evidence across CAREC countries of road safety interventions and investments that have produced positive results.

## Threats

- Economic difficulties faced by many of the CAREC countries may restrict domestic funding for road safety over the short term.
- A lack of clarity regarding national roles and responsibilities in road safety may reduce the effectiveness of support and investment in many CAREC countries.
- The continued focus on construction of international highways may reduce emphasis on road safety, particularly where this may be perceived as slowing project implementation.
- Motorization rates in most CAREC countries are increasing, which increases the potential for road crashes.

27. The second workshop focused on development of a regional action plan. Participants at this workshop discussed complementary actions required nationally to link regional actions with national-level road safety strategies and action plans. Participants also discussed road safety targets, the need for adequate monitoring and evaluation, and the implementation arrangements for the strategy.

## Guideline Manuals

28. Three guideline manuals on road safety engineering were developed at the workshop. These manuals focus on (i) road safety audits, (ii) eliminating roadside hazards, and (iii) improving road safety at worksites. These manuals will be disseminated throughout the region and used in training and capacity development workshops that address road safety constraints.

# Vision Statement

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29. The road safety vision statement of the Central Asia Regional Economic Cooperation (CAREC) succinctly articulates the desired road safety situation in the CAREC region. As with most vision statements, the CAREC statement articulates a long-term goal without establishing a completion date. Nevertheless, the vision statement implicitly assumes that the desired future road safety situation will be attained through implementation of a series of integrated road safety actions over the long term. Thus, the CAREC vision statement provides overall direction to the road safety initiatives to be undertaken, and suggests desired road safety improvements. Further, it directs required road safety actions that are to form the basis of road safety action plans and programs. After considering

numerous road safety vision statements, workshop participants agreed to

***“make CAREC international road corridors safe, efficient, and attractive for all road users”***

30. As the foundation of the CAREC Road Safety Strategy, this vision statement establishes the overall objective to be used in formulating both a suitable long-term road safety target for the region and identifying the strategic framework to be used to achieve this target. Thus, the CAREC road safety vision statement supports and permeates the action plan. The latter, in turn, identifies the individual initiatives required for achieving the program’s long-term goal.

# Targets

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## Background

31. Setting is an important component of any strategy. An evaluation of various road safety programs<sup>6</sup> has concluded that countries that set numerical targets achieve better road safety outcomes than countries that do not. Targets thus provide the framework for national road safety strategies and facilitate decisions on coordination, legislative requirements, funding and resource allocation, promotion and awareness raising, and monitoring and evaluation, and assist in defining research and development needs. Assessment of road safety targets could result in (i) increased political will and stakeholder accountability for road safety; (ii) closer management of strategies and programs, better safety programs, and better safety performance; (iii) better use of public resources; and (iv) increased motivation of stakeholders.

32. Most road safety strategies focus on a single country. Nevertheless, it is likely that the findings of such strategies apply equally to regional strategies. Given this, adoption of targets for the Central Asia Regional Economic Cooperation (CAREC) Road Safety Strategy is likely to have a regional impact in that all targets apply to all countries in the region. Each CAREC country is at a different stage of development for road safety. Thus, the only feature common to all CAREC countries is that they have poor road safety records with high crash risks. Thus, shared targets are likely to help each country

understand that its road safety improvements will help address a CAREC-wide problem.

## Agreed Target

33. In many CAREC countries, actions for addressing road safety are at an early stage of development, mainly because few countries currently have approved national road safety action plans and strategies. Thus, most countries lack integrated plans for reducing road crash risks. Similarly, their crash databases do not provide reliable information on crashes occurring on their national road networks. Given that each member country is at a different stage in addressing road safety, the most practical choice is selecting an aspirational but ambitious and achievable target that focuses on regional road safety. Evidence drawn from other regions shows that adoption of such a target

- increases political will and stakeholder accountability for road safety;
- provides better management of the regional road safety action plan and management of national strategies;
- improves safety performance in each participating country;
- improves the efficiency with which public resources are used; and
- motivates stakeholders to achieve road safety goals.

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<sup>6</sup> "Towards Zero: Ambitious Road Safety Targets and the Safe Systems Approach", Organisation for Economic Co-operation and Development, Paris, 2008.

34. The CAREC countries are all aware that the Sustainable Development Goals (SDGs) include a road safety goal of halving the number of road-related deaths and injuries by 2020.<sup>7</sup> Given that most SDG targets refer to 2030, and that actions for addressing road safety in the CAREC region are still at an early stage, a prudent choice was to adopt the SDG target for attainment by 2030.

35. Thus, the CAREC country stakeholders agreed that **the overall target of the CAREC road safety strategy would be to reduce the number of fatalities on CAREC road corridors by 50% in 2030 as compared with the 2010 base level.** Achieving this target would save approximately 23,000 lives a year by 2030, and reduce severe road-related injuries by about 250,000 annually.

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<sup>7</sup> The United Nations Sustainable Development Summit on 25 September 2015 adopted the 2030 Agenda for Sustainable Development. Goal 3.6 states that “By 2020, halve the number of global deaths and injuries from road traffic accidents.”



# Achieving the Vision: Key Principles

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36. To reduce the risks associated with attaining its vision, the Central Asia Regional Economic Cooperation (CAREC) Road Safety Strategy incorporates a number of factors. These include (i) adopting the framework suggested by the United Nations' Global Plan for the Decade of Action for Road Safety 2011–2020 (the Global Plan), (ii) using a consultative approach to developing priorities for the strategy, (iii) maximizing synergies by linking the strategy to individual country road safety strategies, and (iv) facilitating support for the strategy's implementation through the CAREC Program.

## Decade of Action

37. An initiative of the United Nations, the Global Plan<sup>8</sup> underpins the CAREC Road Safety Strategy. The objective of the Global Plan is to stabilize the number of global deaths and injuries from road crashes, thus reducing their number by increasing actions and activities undertaken nationally, regionally, and globally during 2011–2020. The principles underlying the Global Plan are those that underpin the “safe systems” approach to road safety that have successfully reduced the number of road-related deaths and injuries in many countries. The approach to achieving this goal is to ensure that crashes do not result in human injury. The approach thus recognizes that while humans make mistakes while driving, the road crashes that result from such mistakes should minimize adverse impacts to

road users. This approach thus implicitly shifts the responsibility for road safety off of road users and on to road designers, who are expected to provide a road environment that reduces crash risks.

38. Success in reducing both the number and severity of road crashes requires acknowledging that ownership of the responsibility for road safety permeates numerous levels of government and society. Given this, the success of regional initiatives is closely related to, and dependent on, national and local successes because each road safety action should be implemented at the most appropriate level. In light of the above, success in achieving the targets laid out under the CAREC Road Safety Strategy also depends on involvement of the transport, policing, health, and justice sectors of government, as well as nongovernment organizations (NGOs), civil society as a whole, and private companies.

39. The five pillars of organizing road safety management activities (better road safety management, safer road infrastructure, safer road users, safer road vehicles, and emergency postcrash care) provide the framework for implementing all activities under the CAREC Road Safety Strategy. This is a framework with which all CAREC policy makers and stakeholders are familiar. Indeed, several CAREC countries have already adopted a similar approach to addressing national and local road safety issues.

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<sup>8</sup> See [http://www.who.int/roadsafety/decade\\_of\\_action/plan/en/](http://www.who.int/roadsafety/decade_of_action/plan/en/)

## Priorities Developed through Consultation

40. Planning for road safety is best undertaken through a consultative process that involves all stakeholders. Formulation of the CAREC Road Safety Strategy employed a two-phase variant of the consultative process. During phase 1, baseline data and information for each member country was obtained during country visits, and national-level road-safety-related problems and issues were discussed with road safety leaders, policy makers, road users, and civil society organizations. Phase 2 consisted of regional workshops that provided a venue for further discussion of national problems, issues, and successes related to road safety. These workshops highlighted problems common to all member countries, and identified issues that were best addressed by countries working together.

41. Finally, a draft version of the final strategy was discussed at two regional workshops, with the deliberations of these workshops subsequently being presented at the 15th Transport Sector Coordinating Committee Meeting in April 2016, and at the mid-year Senior Officials Meeting convened in July 2016.

## Links with National Road Safety Strategies

42. A regional strategy can only be successful if it is supported by each member country, since its core components are actions identified by national-level plans. Thus, the contribution of each member country to the CAREC Road Safety Strategy must include promoting, prioritizing, and implementing its own national road safety action plan in a manner consistent with its own national road safety strategy. As of this writing, not all CAREC countries have formally adopted a national road safety strategy. However, many member countries have prepared such a strategy, and some are strengthening their

respective road safety operations. There thus exists a sufficient basis for formulating and implementing an operational CAREC road safety strategy that applies to all member countries by assimilating the components of each member country's national road safety strategy into the regional plan.

43. In light of the above, it is unsurprising that the CAREC Road Safety Strategy was developed in close coordination with individual member countries. At the national level, road safety priorities were discussed with authorities and took into account the views of road users, NGOs, and private companies. Most member countries had either approved or recently prepared a national road safety strategy that facilitated identification of the priorities of the member country concerned. Since all countries had adopted the format of the Global Plan for assessing their road safety requirements and priorities, identifying national-level components suitable for formulating a regional road safety plan was a relatively straightforward task.

44. The road safety issues faced by many CAREC countries are similar. Typically, while the national road networks that serve major urban areas are reasonably well developed, a relatively large share of the road infrastructure of member countries is reaching the end of its useful life. This road infrastructure thus now requires improvement if the future mobility and accessibility demands of sustained economic development are to be met. Further, rapid economic growth in many member countries—which increases the volume of trade and thence the size of the vehicle fleet—is placing ever-increasing demands on road networks. This is true both domestically and internationally, as international trade increasingly becomes an established component of economic growth in the CAREC region.

45. Such demands on national road networks are relatively common across all CAREC countries. Unfortunately, this is reflected in an escalating number of road crashes and rates of road-related deaths and injuries.

## The CAREC Program as a Vehicle for Implementation

46. As noted earlier, CAREC has support at the highest level for addressing road safety through the CAREC Ministerial commitment to road safety. The CAREC Program is unique in that it enjoys support at two levels: national governments, which are committed to addressing road safety issues at the national level, and the regional level, where national commitments are augmented by external support from multilateral and bilateral donors. The commitment of donors to implementing CAREC road safety action plans nationally ensures the availability of adequate financial support for timely implementation of these plans.

47. Support for the CAREC Road Safety Strategy is thus crucial to delivering safer roads throughout the region and ensuring that road safety engineering is mainstreamed in all road projects and programs. Similarly, knowledge of international good practice in road safety engineering is a core requirement across the CAREC region to attenuate current rates of road-related deaths and injuries. This is apparent

from experience in other geographic regions, where adoption of international good practice in road safety engineering has delivered substantial road safety benefits.

48. The CAREC road safety program will enable member countries to augment the resources required for necessary road safety infrastructure and equipment. The program will likewise improve the sustainability of road safety by supporting a program of capacity development and training. However, member countries will need to demonstrate a commitment to delivering road safety to ensure access to resources. Similarly, supported projects and programs will need to achieve the safety benefits expected from such investments and training programs. In addition to safer roads, member countries will also need to give priority to improved coordination and management of road safety programs at the national level. Without emphasis on this pillar, it is unlikely that a national plan can successfully achieve its goals. Global experience demonstrates that effective road safety plans require collaborative oversight, as delivering road safety requires incorporating actions undertaken by numerous agencies, each of which has an important contribution to make toward achieving this common goal.

# Strategic Directions

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49. The Central Asia Regional Economic Cooperation (CAREC) Road Safety Strategy addresses the major issues affecting road safety in each member country. Following the framework provided by the United Nations Global Plan for the Decade of Action for Road Safety 2011–2020, the CAREC Road Safety Strategy rests on the five pillars that underpin road safety planning: (i) road safety management, (ii) safer roads, (iii) safer vehicles, (iv) safer road users, and (v) postcrash care. The sections of this chapter immediately below (a) identify the areas of focus subsumed by each pillar, (b) discuss the key issues to be addressed under each area, and (c) explain how the strategy addresses these issues. Appendix 2 presents the framework underpinning the CAREC Road Safety Strategy in greater detail.

## Pillar 1: Road Safety Management

### Establish an Effective Management and Coordination Mechanism

50. A key road safety management issue in the CAREC region is that road safety management itself is at an initial stage of development in many member countries. While road safety is often thought of as the responsibility of a single agency, in practice, effective road safety management requires integrated action by an entire array of agencies. In short, in the absence of a multidisciplinary approach to road safety management, road safety programs cannot produce optimal results.

51. Ultimately, successful road safety management at the regional level is largely an agglomeration of successful programs at the national level. As a result, it requires well-formulated and

carefully implemented national-level programs. For this reason, a high level of political commitment to road safety at the national level is necessary if reductions in the number and severity of road crashes in the region is to be achieved.

52. Successful implementation of the CAREC Road Safety Strategy thus depends on all member countries ensuring effective national leadership of country-level road management initiatives. This requires creation of an interagency committee that leads and oversees each member country's integrated national road safety action plan. Further, the specific plans and programs under the regional strategy ultimately comprise a series of road safety actions and programs agreed to be implemented by individual member countries. Thus at the regional level, a CAREC working group is responsible for monitoring progress in implementing the regional action plan and is likewise necessary for the regional strategy to produce optimal results.

### Provide Access to Good Road Crash Data

53. Ultimately, the purpose of road safety plans and programs is to reduce both the number and severity of road crashes. However, the effectiveness of these plans and programs greatly depends on access to quality road crash data and information. While all CAREC member countries have developed road crash data and information systems, in many cases, the data are incomplete. In such cases, constructing baseline data and information that provides informed understanding of the causes of crashes is simply not possible. Perhaps more importantly, these inadequate data provide insufficient information to allow informed policy decisions. Improving data systems to allow them to provide accurate crash data on CAREC corridors is thus an immediate priority if implementation of the CAREC Road Safety Strategy is to be successful.

54. Further, in many CAREC countries road crash data is not accessible by all national agencies responsible for addressing road safety problems. This makes it impossible to cater to the data requirements of each individual agency responsible for road safety. For example, highway agencies are most interested in examining hazardous locations, while education authorities are most interested in addressing school road safety issues, and police authorities are most interested in enforcement. By enabling each agency to access and analyze the crash database, they can develop programs that cater to their own requirements.

55. In many cases, member country governments need to amend regulations to permit national agencies responsible for road safety to have access to road crash data. Thus, reviewing regulations that permit access to crash data should be given priority so that such amendments can be made with all possible speed.

## Funding for Road Safety

56. In many CAREC countries, funding for road safety initiatives is both limited and insufficient. While road safety is inevitably enunciated as a priority issue, in practice, the safety aspects of road programs are often “forgotten” when roads are being designed, or when budget submissions are being compiled. Thus, the cost of lives, injuries, and damage are not factored into the cost of infrastructure provision and operation, despite the significant economic returns that accrue from safety investments or the priority that individuals give to safety. In fact, road safety being accorded the highest priority requires that safety considerations are taken into account when designing road infrastructure, when planning for operation and maintenance, and when allocating funding, since the latter must be adequate to mitigate safety risks.

## National Road Safety Action Plans

57. To address road safety at the regional level, each member country must have a plan for addressing safety issues at the national level, since success at the regional level can only be the aggregation of

national-level achievements. As absence of such plans inhibits the ability to achieve better road safety across the regional road network, it is important for all countries to adopt and implement national road safety action plans. That said, a review of road safety across the CAREC region has revealed that not all countries have effective national road safety action plans.

58. Such a national action plan supports the national road safety strategy by identifying the individual actions required for achieving the goals of the strategy. This includes the various agencies and organizations responsible for implementing each of the actions, the time frame for implementation, and the indicative cost of each action.

59. Experience worldwide indicates that long-term strategies for improving road safety need to be accompanied by realistic targets ideally based on analysis of national crash data. Long-term targets generally relate to a time frame of 10–15 years. Further, while they need to be realistic and achievable, they also need to be demanding enough to ensure that road safety efforts are continuous and effective.

60. A well-crafted national road safety strategy needs to be regularly monitored and evaluated. This ensures that it meets its intended outputs and outcomes, and allows it to be amended as necessary in light of interim results. In addition to monitoring road crash deaths, injuries, and causes of crashes, such monitoring systems should measure the effectiveness of interventions and include information on the economic impact of crashes.

## Vehicle Insurance

61. Vehicle insurance systems vary widely across CAREC countries. In some, insurance is compulsory, whereas in others, vehicle insurance is not yet a regulated industry. Insurance ensures that resources are available to cover the medical care and perhaps life-care costs of crash victims. In some member countries, vehicle insurance systems are virtually ineffective because they do not provide adequate compensation to cover costs. In such cases, crash victims often must enter into informal

negotiations with vehicle owners, drivers, and law enforcement officials if they expect to receive compensation in significant amounts. In such cases, a smaller proportion of the total payout from insurance is generally paid to crash victims than in cases in which compensation is adequate. A review of legislation across the region is warranted to ensure that the legal system encourages fair settlements and that families affected by road crashes receive adequate compensation.

## Pillar 2: Safer Roads

### Improve Engineering Design Standards

62. A common observation across the CAREC region is that national road engineering design standards are outdated in terms of road safety engineering principles, and that they do not follow international good practice. The design standards in CAREC member countries should thus be reviewed on an urgent basis to ensure that they are consistent with safety practices commonly used in other regions.

### Road Planning and Design Meeting the Safety Needs of All Road Users

63. At present, road planning and design tends to focus only on issues that concern motorized traffic. This is a major engineering deficiency in that road users comprise a wide array of vulnerable road users including pedestrians, bicyclists, motorcyclists, and users of agricultural equipment. Many parts of the CAREC road system pass through unfenced pastures. Significant segments of the network are thus exposed to farmers moving livestock along roads primarily meant for vehicular traffic, or untended animals drifting onto the roadway. In sum, the safety needs of all road users should be recognized by road safety engineers, and safety for all classes of road users should be improved.

### Road Safety Audits

64. Meetings with CAREC national highway agency representatives revealed that few road safety audits are undertaken on CAREC projects. As countries in which road safety audits are established practice tend to experience reductions in road crashes, such audits would improve the design and construction of CAREC highways. While conducting a road safety audit is a straightforward process, it requires specialists able to assess road safety concerns during the design stage of road projects. Training and support for increasing the number of specialist auditors in CAREC countries would thus benefit the design of CAREC corridors.

### Eliminate Hazardous Road Locations

65. CAREC corridors have many hazardous road locations that are largely attributable to poor road design. While member countries regularly address hazardous road locations, the resources allocated to this activity fall short of that necessary to achieve the level of road safety implicit in the CAREC Road Safety Strategy. Initiatives for identifying and eliminating “blackspot” hazardous locations on the six CAREC corridors traversing the region is thus an urgent requirement.

### Consistency in the Provision of Safe Road Corridors

66. While the region’s roads generally conform to a common set of design standards, there are significant inconsistencies in design standards across CAREC corridors. Many of these inconsistencies are due to inadequate resources being available for improvement initiatives. Examples of safety hazards due to inconsistencies in design standards include (i) construction widths that are too narrow to allow for construction works to be performed safely, which exposes construction workers and vehicles alike to increased risks; (ii) unsheltered U-turns (i.e., U-turn facilities not preceded by an entrance lane to accommodate decelerating or stopping prior to making a U-turn); and (iii) improving road surfaces without adjusting vertical or horizontal alignments,

which allows vehicle speeds to increase without modifications to the roadway such as properly banking turns or removing hilltops that prevent drivers from being able to see sufficient distances for safe vehicle operation. In light of the above, there is an urgent requirement to undertake an extensive inspection of the road network to identify a program of works that would reduce safety inconsistencies in the network.

## Enhance Safety at Road Worksites

67. A common observation on CAREC corridors is the number of crashes occurring at road worksites. Poor management and operation of road worksites subject workers and users to significant risks. Good international practice regarding worksite safety should be adopted on CAREC highways to reduce such risks.

## Build Road Safety Engineering Capacity

68. There is a significant lack of understanding of road safety engineering principles in the planning, design, construction, and maintenance of CAREC corridors. To address this issue, there is a need to enhance the awareness and application of all aspects of road safety engineering on CAREC highways. Similarly, the road safety engineering capacity of government agencies and practitioners alike needs to be built or substantially upgraded in the region.

# Pillar 3: Safer Vehicles

## Overloading of Heavy Vehicles

69. Overloading of heavy vehicles is common across the region. This both prematurely destroys road pavement infrastructure and increases crash risks. Addressing this issue requires strict enforcement across the network, which in turn implies strengthening enforcement in each member country. In some countries, providing portable and fixed equipment for weighing vehicles and augmenting capacity building programs for authorities that enforce load limits is required. That

said, vehicle weights and dimensions differ across member countries. Information on national-level load limits should thus be shared with all member countries, and in particular, truck operators who operate internationally within the region.

## Vehicle Inspection and Maintenance

70. There are considerable differences in vehicle inspection and maintenance requirements and processes across CAREC countries. Some have effective systems, while others operate ineffective systems, and still others have no regular inspection requirements at all. Therefore, there is a need to review these systems across the various member countries to ascertain the current regulations and requirements, and to identify issues and problems with existing systems. Vehicle inspection and maintenance is particularly important, since many countries import large numbers of used vehicles from different regions. This means that vehicle standards vary across member countries. A vehicle built in Europe can be very different, especially from a safety perspective, from the same vehicle type built in another region. In addition, imports often include insurance write-offs from other regions that in some cases are repaired to an unknown safety standard. Further, many imports are vehicles more than 10 years old that are constructed to outdated safety standards. For these reasons and others, effective vehicle inspection and maintenance standards should be implemented to ensure that vehicles are roadworthy and in safe operating condition.

71. Approaches to vehicle inspection vary widely across jurisdictions in that they can be centralized or decentralized, or publicly or privately operated. Regulations relating to the age of vehicles also varies widely. However, regardless of the type of system in place, it needs to be effectively applied to ensure that it meets high standards of governance and operates in a fit-for-purpose environment.

## Slow Moving Vehicles

72. Traffic characteristics vary widely across CAREC countries and their road corridors. A common characteristic in some countries is slow

moving vehicles, particularly farm vehicles in rural areas. Slow moving vehicles create a significant safety hazard on routes in which there are large disparities in vehicular speeds, particularly when knowledge of road use regulations is limited. The effectiveness of legislation and enforcement regulations for operation of such vehicles on public highways should be reviewed to identify measures for minimizing safety hazards faced by all road users.

## Pillar 4: Safer Road Users

### Legislation

73. Legislation governing use of the road network, and ownership and operation of motor vehicles varies across CAREC countries. Road legislation across the region should be reviewed to determine the degree to which it deters unsafe behavior by providing for penalties and sanctions that discourage such behavior. In all cases, legislation needs to be effectively supported by enforcement.

### Increase Awareness of Risks

74. The degree of awareness of road crash risks by users of CAREC corridors varies widely, and in certain cases, is seriously inadequate for promoting road safety. This is a complex issue, since awareness of road crash risks depends on a wide variety of factors including education, public communication programs, driver education programs, road use experience, and societal attitudes toward road use and the risks associated with it. Addressing awareness of road crash risk is therefore a complex task that requires effective education and communication programs that include a broad range of initiatives at multiple levels. Road crash risk factors vary widely across societies. As a result, awareness programs should target risk factors that are assigned high priority by the cultural setting concerned. That said, across the CAREC region, use rates of seat belts and child restraints tend to be low. Thus, awareness campaigns and consistent enforcement of regulations requiring the use of seat belts and child restraints are likely to be the most effective means of increasing awareness of road

crash risks. In addition, such prevention measures and campaigns need to be designed to influence attitudes and opinions in a way that maximizes their impact. Sharing of experiences among CAREC member countries will be important in identifying the most effective measures, as well as those that are likely to have the greatest impact.

### Enforcement

75. Road safety enforcement that effectively reduces the number and severity of road crashes tends to focus on the key road crash risk factors: speed, alcohol and drug impairment, lack of use of seat belts in four-wheeled vehicles and use of helmets on two-wheeled vehicles, driver fatigue, and driver distractions such as mobile phone use. Some of these risk factors can be easily targeted for enforcement, which typically yields significant benefits for reducing traffic deaths and injuries. For example, while wearing seat belts and helmets and use of child restraints require no specialized equipment, consistent enforcement of these measures can significantly reduce deaths. In some CAREC countries, road-use legislation must be adjusted to both reduce risks and make enforcement programs more effective, while in others, strengthening enforcement of legislation would be sufficient to significantly decrease road crash risks. Enforcement is most effective where local communities are involved and informed. Examples of successful enforcement strategies could be shared to improve the impact of enforcement campaigns.

### Driver Licensing and Training

76. Driver licensing and training regimes vary widely across the CAREC region. In some jurisdictions, inadequacies in both negatively impact road safety. In some member countries, driver training is rudimentary, which means that learner drivers have limited knowledge and training. Testing standards are also deficient. These deficiencies result in large numbers of unskilled drivers with limited knowledge of driving standards being permitted to operate motorized vehicles on public highways. This increases the risks of using roads, even by pedestrians and operators of nonmotorized vehicles who are often innocent victims of reckless



road behavior. Improving road safety at the regional level requires drivers to have adequate knowledge of road rules and regulations, as well as the ability to handle vehicles safely. That said, in many CAREC countries, if road safety overall is to be improved the skills of drivers will need to be significantly upgraded.

## Vulnerable Road Users

77. In CAREC member countries, vulnerable road users and pedestrians account for a large share of those killed or injured in road crashes. While many pedestrian deaths occur on roads that are not part of CAREC corridors, road crash data indicate that pedestrian safety is an important issue on roads that pass through small towns and villages on CAREC corridors. Given this, improving the safety of vulnerable road users on CAREC corridors should be given priority. Ensuring adequate communication and consultation with communities located on CAREC corridors before, during, and after road improvement is important in this regard, as is involving these communities in road risk prevention.

## Commercial Fleet Safety

78. Commercial vehicles carrying freight and passengers both nationally and internationally are major users of CAREC corridors. As a result, the manner in which commercial vehicle fleets operate on CAREC corridors heavily impacts road safety in the region. Some of the most important factors in this regard include (i) regulation of driving hours and rest breaks for drivers and operators, (ii) maintenance of vehicles, and (iii) driver training procedures. Across the CAREC region, regulations pertaining to these aspects of commercial vehicle use vary as widely as the various legislative frameworks that govern them. A review of the various national-level practices governing commercial vehicle use is required to identify weaknesses in systems that need to be addressed to improve commercial vehicle fleet operating standards. In addition to assessing fleet safety management, regulations, and standards, the review should also examine physical facilities along CAREC corridors to ensure that rest stops, service centers, and refueling facilities are adequate. It should also document road conditions and route

characteristics, since this information can be used to aid route planning by long distance and international drivers and to increase familiarity with emergency facilities. The review should also involve transport operators and operator associations that ply national and international freight and passenger routes. Finally, fleet road safety management and training for major fleet operators should be promoted and required wherever possible.

## Pillar 5: Postcrash Care

### First Responder Services

79. Crash victims in many CAREC corridors are at higher risk of not surviving road crashes than elsewhere due to the poor or nonavailability of rescue services. Many portions of the corridors traverse remote regions with long distances between towns and communities. They also pass through rugged terrain, both in the *steppes* and mountain areas. Under such conditions, providing first responder services is relatively expensive due to remoteness and communication difficulties. These conditions are made more complex by financial constraints that impede the quality and extent of the services that can be made available. Nevertheless, a review of the problems associated with providing a minimum standard of first responder services needs to be undertaken to determine the scale of the problem, identify the gaps that need to be filled urgently, and the associated costs of providing and maintaining a minimum standard of postcrash care. A joint approach to emergency response—involving sharing of information, training, agreed protocols and strategic planning—can improve results at low cost, and should be encouraged.

### Health and Emergency Care Services

80. Because of their significant length, most CAREC corridors pass mainly through rural areas where health and emergency care centers and services are of lower quality than in urban centers and larger towns. This is to be expected, given the

numbers of people served in urban centers where the quality of infrastructure and services is of a higher level than in rural areas. However, emergency treatment centers are needed in remote locations not only to cater to road crash victims, but also to provide emergency services to local populations. It would be prudent to identify the needs of an emergency network of treatment centers that would serve both local rural populations and crash victims. In some locations, trauma treatment centers have been provided. However, the health-care network covering CAREC corridors is not extensive and requires augmentation in many areas. In addition, many existing facilities require additional medical and rescue equipment. Staff training and capacity development programs are also needed to increase the range of emergency services offered and to upgrade those that already exist.

## First Aid Treatment

81. Generally, road users throughout the CAREC region are not well equipped to treat road crash casualties, as they lack training and knowledge in the provision of even simple first aid. This is unfortunate, not only because immediate treatment typically reduces loss of blood, but because it likewise places an additional burden on first responders. Training of nonmedical first responders (such as police and fire personnel) and professional drivers (such as public transport and truck operators) in first aid treatment and emergency care can have a

significant positive impact in remote regions, since they are often the first persons to reach a crash site. In addition to potentially saving lives, the cost of implementation and outreach assistance is relatively low. Many countries have access to ongoing training programs implemented by health organizations such as the Red Cross and Red Crescent Societies. These sources can be tapped to provide expanded training outreach to both professional and private drivers, as well as to community workers and other groups in rural areas.

## Communication

82. Communication technology has improved significantly over the past decade, as use of mobile telephones and similar devices has become widespread. However, the remoteness of many parts of the CAREC corridors results in poor communication in many areas. Mapping will increase awareness of communication shortcomings in these areas. In some locations, advanced technology might allow for low-cost solutions to extend service coverage. In other areas, new technical solutions were not available previously. If possible, it would be preferable if the total route length of each CAREC corridor could be covered by mobile phone coverage, as this would provide basic communication facilities. Similarly, coverage by a single national emergency telephone number that is adopted by all CAREC countries would support wider coverage of emergency services.

# Action Plans to Support Road Safety

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## Prioritization

83. To fully implement the Central Asia Regional Economic Cooperation (CAREC) Road Safety Strategy, it is necessary to identify the range of actions required for attaining the intended results. The “safe systems” approach utilizes the five pillars to underpin the strategy. While it is necessary to have a strategy that covers all five pillars so that the various actions are integrated and interlinked from a regional perspective, not all pillars need carry equal weight. This is particularly the case in the CAREC region, because many of the individual investments are naturally biased toward certain pillars, given both the priorities accorded by CAREC countries toward safety activities, as well as the type and nature of the support from the donor community. In this respect, the prime focus of the CAREC Program is to facilitate transport and trade across the region, and within the road sector, this narrows the range of activities toward improving the road corridors serving the primary trade and transit links.

84. The bulk of the CAREC Program focuses on investment in road infrastructure improvement, which is largely under the purview of Pillar 2 (safer roads). As a result, activities under Pillar 2 should take priority, since the investment in roads has a direct linkage to attaining the goal of safer road infrastructure. Complementary to this is the need to have well focused coordination and management of all road safety activities, and this can only be attained if there is adequate road safety management which is the purview of Pillar 1. Global experience has shown that activities under Pillar 1 are essential to achieving good road safety outcomes, and as a result, actions leading to better road safety management are also

accorded high priority. In addition, good consultation with local communities and vulnerable road users before, during, and after major road projects is needed to ensure that the safety of all road users is adequately prioritized. This will be a priority in every road investment project.

85. This does not imply that actions under Pillar 3, Pillar 4, and Pillar 5 should be dismissed. They are also important facets of any road safety strategy. As noted earlier, obtaining broad-based gains in road safety and maximizing benefits requires integration of all activities and actions. Within the CAREC strategy, support to these actions is considered vital but given a lower priority, since the primary focus of the individual investment projects does not directly support these areas of road safety. However, it is recognized that the indirect impacts will affect road safety relating to Pillar 3, Pillar 4, and Pillar 5. This prioritization also recognizes that each project can assist only some areas, and that there is likely to be some constraint on resource availability that will limit the scope of potential assistance to some pillars.

86. In conclusion, all five pillars should be supported when sufficient resources are available. However, when resources are insufficient, it will be necessary to identify which road safety components to support. It is suggested that during its initial phase of the CAREC Road Safety Strategy that all road improvement projects should support Pillar 2 actions, and the majority of projects should also support Pillar 1 actions. If additional resources are available, then support should also be provided for actions under Pillar 3, Pillar 4, and Pillar 5. Once the strategy matures, a different prioritization ranking might be considered.

## Action Plan

87. The initial CAREC regional road safety action plan is described in Table 3. It is designed to cover an initial period of 4 years (2017–2020), with an overall strategy period of 14 years. It is envisaged that the action plan will be periodically reviewed to provide 5-year plans thereafter. The plan covers each of the five pillars, and includes 24 focus areas and 72 individual actions. As a regional plan, it serves all 11 CAREC countries. Although the different focal areas and associated individual actions are common to each country, the amount of emphasis on each will vary across countries, depending upon the development of road safety activity in each individual country.

88. Each of the required actions has been ranked across the region as a whole against some different criteria. The first measure concerns the action and the length of time that it is likely to take. It is evident from crash data and other statistical information that crash information across the region is limited, and therefore has not been entirely based on evidence-based information from the countries. However, global experience and that of other economies that have moved to a market-based system suggests that priorities can be identified based upon broad-based information, but this can be later refined as more and better quality evidence emerges from more road safety activity. Many actions can be completed in the short term (less than 2 years), and since they often have “instant” results, they should commence as soon as possible. These projects are designated as high (H) priority. Other actions are labeled as medium (M) and low (L) priority, depending upon when they could commence (some actions require other actions to proceed before they can commence) or may not result in substantial benefit for some

time (such as long-term capacity development and institutional strengthening).

89. The second measure concerns responsibility. It is important to identify the organization(s) that would be responsible for the action, as they need to take the lead in implementation. The action plan identifies the type of agency, which might vary between countries due to different institutional setups that should take the lead for each action and be accountable for its implementation. The third measure, and often a major constraint, is the cost. At this stage in the planning cycle, it is not possible to forecast the cost because plans have not been examined in substantial detail. Cost has been estimated regarding its expected magnitude, and actions have been classified at less than \$100,000; \$100,000–\$500,000; and more than \$500,000 on a per country basis.

90. The fourth measure to categorize each action is the time frame required for implementation. Many of the individual actions can be implemented quickly, in less than one year, if adequate resources are allocated for the task. Each action can be completed within a 4-year period and for each task, an appropriate time is proposed during 2017–2020. The last measure to categorize the action refers to the key result indicators that need to be available to demonstrate that the action has been completed. This last criterion is vital if the action plan is to be evaluated to determine whether it has been successful. Many actions are difficult to quantify in terms of numbers or impacts and require actions by others, reports, and data evidence to determine the outcome of the action. It is, therefore, important to carefully choose indicators that represent outcomes of each action and to identify outcomes that can be measured or determined to have been made.

Table 3: Action Plan, 2017–2020

Actions	Level of Activity		Priority			Responsibility	Cost*	Timeline	Indicators
	Regional	National	High	Medium	Low				
<b>Pillar 1: Road Safety Management</b>									
<b>Focus: A. Effectiveness of management and coordination</b>									
<b>Strategy 1.1: Improve management and coordination of road safety and security across CAREC countries</b>									
1.1.1	X	X	AFG PRC KGZ PAK	GEO KAZ MON TAJ TKM UZB	AZE	ADB and other donors.	\$\$	2017	At least one regional workshop conducted.
1.1.2	X	X	AFG KGZ PAK	GEO MON TAJ TKM UZB	AZE PRC KAZ UZB	Ministries with responsibility for road safety in each country.	\$\$	2017–2018	All CAREC countries have a lead agency for road safety.
1.1.3	X		AFG AZE KGZ PAK TAJ UZB	PRC GEO MON TKM	KAZ	CAREC Transport Sector Coordinating Committee.	\$\$	2017	Working group established and meets biannually.
<b>Focus: B. Access to good road crash data</b>									
<b>Strategy 1.2: Improve the effectiveness and accuracy of the systems for the collection and analysis of crash data across CAREC corridors.</b>									
1.2.1	X	X	AFG AZE GEO KAZ KGZ MON PAK TAJ TKM	UZB	PRC	Agencies with responsibility for crash data systems in each country.	\$\$\$	2017–2020	Each country able to access accurate crash data for CAREC corridors.

\* Cost: \$ = Up to \$100,000; \$\$ = \$100,000–\$500,000; \$\$\$ = \$500,000–\$1,000,000.

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Table 3 continued

Actions	Level of Activity		Priority			Responsibility	Cost*	Timeline	Indicators
	Regional	National	High	Medium	Low				
1.2.2 Provide training for those responsible for the management of data systems.	X		AFG GEO KAZ KGZ PAK TAJ TKM	MON UZB	PRC	ADB and other donors.	\$	2018–2020	At least three sub-regional workshops on crash data systems.
<b>Focus: B. Access to reliable road crash data</b>									
<b>Strategy 1.3: Ensure regulations in each CAREC country allow authorized agencies responsible for road safety to have access to crash data</b>									
1.3.1 Provide all national agencies that have responsibilities for road safety with access to the national crash data base for planning, research and monitoring purposes.	X		AFG GEO KAZ KGZ MON PAK TKM	PRC TAJ	AZE UZB	Agencies with responsibility for crash data systems in each country	\$\$\$	2017–2020	Key agencies in each country provided with access to national crash data base.
1.3.2 Provide training for agencies on effective analysis of crash data for planning, research and monitoring purposes.	X		AFG GEO KAZ KGZ MON TKM	AZE PRC PAK TAJ	UZB	Agencies with responsibility for crash data systems in each country with support from ADB and other donors.	\$\$	2018–2020	At least one national workshop on crash data analysis run in each country.
<b>Focus: C. Funding for road safety</b>									
<b>Strategy 1.4: Provide mechanisms for allocating sufficient resources to improve road safety on CAREC corridors.</b>									
1.4.1 Provide a proportion of funding for CAREC road corridor development projects for road safety activities.	X	X	GEO KGZ MON PAK	AFG AZE PRC KAZ TKM UZB	TAJ	Agencies with responsibility for road safety, finance, economic planning in each country.	\$\$\$	2017–2020	Project preparation and design and budget documents in each country.

\* Cost: \$ = Up to \$100,000; \$\$ = \$100,000–\$500,000; \$\$\$ = \$500,000–\$1,000,000. continued on next page

Table 3 continued

Actions	Level of Activity		Priority			Responsibility	Cost*	Timeline	Indicators
	Regional	National	High	Medium	Low				
1.4.2 Develop sustainable funding sources for road safety within CAREC countries, such as through compulsory insurance schemes, from revenue from traffic fines or from vehicle registration.	X		GEO MON PAK	AFG AZE PRC KAZ TAJ TKM	UZB	Transport policy or relevant agencies in each country.	\$\$	2018-2020	Transport policy assessment documents.
1.4.3 Seek funding from external sources to augment road safety national budgets.	X		GEO KGZ PAK TAJ UZB	AFG PRC MON	KAZ TKM	National road safety agencies, finance and economic planning agencies and external donors.	\$	2017-2020	Documented requests to external donors.
<b>Focus: D National Road Safety Action Plans</b>									
<b>Strategy 1.5: Support the development and implementation of national road safety action plans in all CAREC countries.</b>									
1.5.1 Provide training on developing and implementing effective road safety action plans.	X	X	GEO KGZ PAK	AFG AZE MON TAJ TKM	PRC KAZ UZB	Agencies with responsibility for coordinating and managing national road safety plans.	\$\$\$	2017-2020	At least one regional training workshop completed. At least one national training event completed in each country.
1.5.2 Undertake regular monitoring of national road safety action plans and evaluate outcomes to provide feedback to improve road safety intervention development and delivery.	X	X	TAJ TKM	AFG AZE GEO KGZ MON PAK UZB	PRC KAZ	Agencies with responsibility for coordinating and managing national road safety plans.	\$	2019-2020	Annual monitoring reports on road safety in each country.
1.5.3 Establish a biennial CAREC Road Safety Conference that helps to build communications, co-operation and confidence amongst member countries towards tackling road safety issues with a regional focus.	X		AFG AZE KGZ PAK TAJ TKM UZB	PRC GEO KAZ MON		CAREC Institute.	\$\$	2018-2020	At least one CAREC Road Safety conference completed.

\* Cost: \$ = Up to \$100,000; \$\$ = \$100,000-\$500,000; \$\$\$ = \$500,000-\$1,000,000.

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Table 3 continued

Actions	Level of Activity		Priority			Responsibility	Cost*	Timeline	Indicators
	Regional	National	High	Medium	Low				
<b>Focus: E. Insurance</b>									
<b>Strategy 1.6: Improve regulations for vehicle insurance requirements across CAREC countries so that quality health care is available to all crash victims.</b>									
1.6.1	X	X	AZE MON TAJ	AFG PRC GEO KGZ PAK TKM	KAZ UZB	Agencies responsible for vehicle insurance.	\$	2019–2020	Report on the effectiveness of the legislation framework.
1.6.2		X	AZE MON TAJ	AFG PRC GEO KGZ PAK TKM	KAZ UZB	Agencies responsible for vehicle insurance.	\$\$	2019–2020	Report on strengthening the legislative framework.
<b>Pillar 2: Safer Roads</b>									
<b>Focus: A. Improving road engineering design standards</b>									
<b>Strategy 2.1: Improve the existing road engineering standards to bring them up to date with international safety practices</b>									
2.1.1	X	X	AFG KAZ KGZ PAK	AZE PRC GEO MON TAJ TKM UZB	Agencies with responsibility for highway design and independent experts in each country with support from donors.	\$\$\$	2017–2020	Reports documenting design review and proposed revision of standards.	
2.1.2	X	X	AFG AZE KAZ KGZ PAK	GEO MON TAJ TKM UZB	Agencies with responsibility for highway design in each country with support from donors.	\$\$\$	2018–2020	Reports indicating approval of revised design standards.	

\* Cost: \$ = Up to \$100,000; \$\$ = \$100,000–\$500,000; \$\$\$ = \$500,000–\$1,000,000.

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Table 3 continued

Actions	Level of Activity		Priority			Responsibility	Cost*	Timeline	Indicators
	Regional	National	High	Medium	Low				
2.1.3 Provide training to highway engineers to support implementation of revised design standards for CAREC highways at the national level in each member country.		X	AFG AZE PRC GEO KAZ KGZ PAK TKM	MON TAJ UZB		National highway agencies.	\$\$	2018-2020	At least one national workshop on road safety design completed in each country.
<b>Focus: B. Road planning, design, construction and maintenance meeting the safety needs of all road users</b>									
<b>Strategy 2.2: Ensure the safety needs for all road users are included in road planning, design, construction, improvement, management and maintenance of CAREC corridors</b>									
2.2.1 Review existing approaches and procedures for ensuring safety of vulnerable road users (pedestrians, bicyclists, motorcyclists), operators of agricultural machinery and farmers moving livestock using the CAREC corridor.		X	AFG AZE GEO KGZ MON PAK TKM	KAZ TAJ UZB	PRC	Agencies with responsibility for safe highways in each country.	\$\$	2018-2020	Reports on reviews of approaches to safety for all road users.
2.2.2 Develop guidelines based around international good practice to ensure that the needs of all road users are taken into account during the planning, design, construction, improvement and maintenance of CAREC highways.	X		AFG AZE KGZ MON PAK TKM	PRC GEO KAZ TAJ UZB		Agencies with responsibility for safe highways in each country.	\$	2017-2020	Guideline documents produced.
2.2.3 Provide training to support implementation of the guidelines at the national level in CAREC member countries.		X	AFG KGZ PAK TAJ TKM	AZE PRC GEO KAZ MON UZB		Agencies responsible for safe highways in each country with support from donors.	\$\$	2017-2020	Annual training workshops on safe highway engineering conducted in each country.

\* Cost: \$ = Up to \$100,000; \$\$ = \$100,000-\$500,000; \$\$\$ = \$500,000-\$1,000,000.

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Table 3 continued

Actions	Level of Activity		Priority			Responsibility	Cost*	Timeline	Indicators
	Regional	National	High	Medium	Low				
<b>Focus: C. Road safety audit</b>									
<b>Strategy 2.3: Introducing and/or enhancing the widespread use of the road safety audit process</b>									
2.3.1	X	X	KAZ KGZ MON PAK TAJ TKM	AFG AZE GEO UZB	PRC	Agencies with responsibility for road safety audit in each country.	\$\$	2017-2020	CAREC Road Safety Audit Guidelines published and RSA** reports of individual CAREC highway projects.
2.3.2	X	X	AFG AZE GEO KGZ MON PAK TKM	KAZ TAJ UZB	PRC	Agencies with responsibility for safe highways in each country.	\$	2018-2020	A CAREC road safety audit policy.
2.3.3		X	AFG KGZ PAK TAJ TKM	AZE PRC GEO KAZ MON UZB		Agencies responsible for safe highways in each country with support from donors.	\$\$	2017-2020	Regular training workshops on road safety audit conducted in each country.
<b>Focus: D. Eliminating hazardous road locations</b>									
<b>Strategy 2.4: Eliminate hazardous road locations (“blackspots”) on existing CAREC corridors</b>									
2.4.1		X	AFG KAZ KGZ MON PAK TAJ TKM	GEO UZB	AZE PRC	Agencies with responsibility for safe highways in each country.	\$	2017-2020	Document specifying blackspot identification methodology.

\* Cost: \$ = Up to \$100,000; \$\$ = \$100,000–\$500,000; \$\$\$ = \$500,000–\$1,000,000.

\*\* RSA = Road Safety Audit.

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Table 3 continued

Actions	Level of Activity		Priority			Responsibility	Cost*	Timeline	Indicators
	Regional	National	High	Medium	Low				
2.4.2 Provide training for traffic police and engineers in crash investigation and hotspot identification.		X	AFG KGZ GEO MON PAK	PRC KAZ TAJ TKM	AZE UZB	Highway agency and traffic police in each country.	\$\$	2017–2020	Conduct at least two workshops in each country.
2.4.3 Establish a remedial program to eliminate blackspots on the CAREC road network subject to value for money assessments.		X	AFG PRC GEO KGZ PAK TAJ TKM	KAZ MON UZB	AZE	Highway agency and traffic police in each country.	\$\$\$	2017–2020	Annual report providing progress on the implementation of the remedial program.
<b>Focus: E. Consistency in the provision of safe roads</b>									
<b>Strategy 2.5: Improve consistency in the provision of a safe road across CAREC corridors</b>									
2.5.1 Provide training for engineers to carry out design stage road safety audits of road projects along the CAREC road network.	X	X	AFG GEO KAZ KGZ PAK TKM	AZE PRC MON		Highway agencies in each country.	\$\$	2017–2020	At least two training workshops conducted in each country.
2.5.2 Undertake road safety inspections of the CAREC road network, and establish a program of works for improvement.	X	X	AFG AZE KAZ PAK TKM	GEO KGZ MON TAJ UZB	PRC	Highway agencies in each country.	\$\$\$	2017–2020	Annual report of road inspection and remedial works completed.
<b>Focus: F. Enhancing safety at road workites</b>									
<b>Strategy 2.6: Improve safety at road workites along CAREC corridors to provide protection for road workers and road users</b>									
2.6.1 Develop and disseminate a uniform safe approach to providing road safety at workites along CAREC highways that is equal to world best safety practice.	X	X	AFG KAZ MON PAK TKM	GEO KGZ TAJ UZB	AZE PRC	Highway agencies in each country and donors.	\$\$\$	2017–2019	Adopt CAREC Guidelines for road workites.

\* Cost: \$ = Up to \$100,000; \$\$ = \$100,000–\$500,000; \$\$\$ = \$500,000–\$1,000,000.

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Table 3 continued

Actions	Level of Activity		Priority			Responsibility	Cost*	Timeline	Indicators
	Regional	National	High	Medium	Low				
2.6.2 Incorporate good road worksite practices in contract documents for road works on CAREC corridors.	X	X	AFG KAZ PAK TAJ TKM	AZE PRC GEO KGZ MON UZB		Highway agencies in each country and donors.	\$\$\$	2017-2019	Incorporate CAREC Guidelines for road worksites in contract documents.
2.6.3 Ensure good practice is used on all contracts for road works on CAREC corridors by 2019.	X	X	AFG GEO KAZ TAJ TKM UZB	AZE PRC KGZ MON PAK		Highway agencies in each country and donors.	\$\$\$	2017-2019	Monitor all new contracts for use of CAREC Guidelines for road work sites.
<b>Pillar 3: Safer Vehicles</b>									
<b>Focus: A. Vehicle overloading</b>									
<b>Strategy 3.1: Improve the level of compliance of heavy vehicle configuration of axles, axle loadings and dimensions across all CAREC countries</b>									
3.1.1 Provide training for the agencies in CAREC countries responsible for effective enforcement of vehicle dimension and weight limits.	X	X	AFG GEO KGZ MON PAK TAJ UZB	PRC KAZ TKM	AZE	ADB and other donors.	\$	2018-2020	At least two regional workshops conducted that include this topic.
3.1.2 Provide equipment for weighing and checking safety of heavy vehicles using CAREC corridors.	X	X	AFG GEO MON TAJ UZB	KAZ KGZ PAK TKM	AZE PRC	Agencies responsible for enforcing and overloading and donors.	\$\$\$	2018-2020	Projects to improve CAREC corridors to include weighing equipment.
3.1.3 Ensure that information on national load limit regulations is shared among CAREC countries.	X	X	AFG PRC GEO MON TAJ TKM UZB	KGZ PAK	AZE KAZ	Agencies responsible for enforcing and overloading and CAREC.	\$\$	2017-2020	Document on loading regulations produced and disseminated.

\* Cost: \$ = Up to \$100,000; \$\$ = \$100,000-\$500,000; \$\$\$ = \$500,000-\$1,000,000.

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Table 3 continued

Actions	Level of Activity		Priority			Responsibility	Cost*	Timeline	Indicators
	Regional	National	High	Medium	Low				
<b>Focus: B. Vehicle inspection and maintenance</b>									
<b>Strategy 3.2: Ensure that vehicles operating on the CAREC corridors are mechanically sound and comply with vehicle safety requirements</b>									
3.2.1	Provide opportunities for CAREC countries to share expertise and knowledge to ensure consistency of vehicle inspection and maintenance systems across CAREC countries.	X	X	GEO AFG AZE PRC KAZ KGZ MON PAK TAJ TKM	AFG AZE PRC KAZ KGZ MON PAK TAJ TKM	UJZB	Agencies with responsibility for vehicle testing and donors and private operators.	2017-2020	Conduct at least one regional knowledge-sharing event.
3.2.2	Review legislative framework for vehicle inspection and maintenance systems in CAREC countries.	X	X	GEO TKM	AFG PRC KAZ KGZ MON PAK TAJ UZB	AZE	Agencies with responsibility for vehicle testing and donors.	2018-2020	Report on legislative framework in each country.
3.2.3	Conduct a legislative review of vehicle standards across CAREC countries to ensure that these are at a level that promotes safety.	X	X	AFG GEO KGZ TAJ	PRC MON PAK TKM UZB	AZE KAZ	Agencies with responsibility for vehicle standards and donors.	2018-2020	Report on vehicle standards in each country.
3.2.4	Upgrade vehicle testing equipment and processes in CAREC countries as required.	X	X	GEO	AFG AZE KGZ MON PAK TAJ TKM UZB	PRC KAZ	Agencies responsible for vehicle testing and private sector and donors.	2018-2020	Annual country reports on MVIS.

\* Cost: \$ = Up to \$100,000; \$\$ = \$100,000-\$500,000; \$\$\$ = \$500,000-\$1,000,000.

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Table 3 continued

Actions	Level of Activity		Priority			Responsibility	Cost*	Timeline	Indicators
	Regional	National	High	Medium	Low				
3.2.5 Ensure that the skills of those maintaining and testing vehicles are at a level that maximizes the safety of vehicles on roads in CAREC countries.	X	X	GEO	AFG KGZ MON PAK TAJ TKM	AZE PRC KAZ UZB	Agencies responsible for vehicle testing and technical institutes.	\$	2018–2020	Annual country reports on MVIS.
3.2.6 Review vehicle registration systems to ensure that compulsory vehicle testing and insurance is a component.	X	X	GEO TAJ	AFG KGZ MON PAK TKM	AZE PRC KAZ UZB	Agencies responsible for vehicle registration and testing.	\$	2017–2018	Report on vehicle registration and testing in CAREC.
<b>Focus: C. Slow moving vehicles</b>									
<b>Strategy 3.3: Ensure that slow moving vehicles do not create safety hazards for other road users</b>									
3.3.1 Review the effectiveness of legislation and enforcement for safety relating to slow moving vehicles that may use CAREC corridors.		X	KGZ PAK	AFG AZE PRC GEO MON TAJ TKM UZB	KAZ	Agencies responsible for use of the road network.	\$	2018–2020	Report on legislation affecting use of the road network.
3.3.2 Implement recommendations for enhancing road safety conditions for the users of slow moving vehicles.		X	GEO KGZ PAK	AFG AZE PRC MON TAJ TKM UZB	KAZ	Agencies responsible for use of the road network.	\$\$	2019–2020	Report on implementing recommendations for improving safety conditions for slow moving vehicles.
3.3.3 Build public awareness of the risks of mixing slow vehicles with high speed international traffic on CAREC highways.		X	GEO KGZ TAJ TKM	AFG AZE PRC MON PAK UZB	KAZ	Agencies responsible for use of the road network and civil society.	\$\$\$	2017–2020	Results of awareness campaigns.

\* Cost: \$ = Up to \$100,000; \$\$ = \$100,000–\$500,000; \$\$\$ = \$500,000–\$1,000,000.

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Table 3 continued

Actions	Level of Activity		Priority			Responsibility	Cost*	Timeline	Indicators
	Regional	National	High	Medium	Low				
<b>Pillar 4: Safer Road Users</b>									
<b>Focus: A. Legislation</b>									
<b>Strategy 4.1: Ensure that legislation promotes and prioritizes road safety on CAREC corridors</b>									
4.1.1	X	X	GEO KGZ PAK	AZE PRC MON TAJ TKM UZB	AFG KAZ	Road safety authorities and donors.	\$\$	2018–2020	Report on capacity building activities undertaken.
4.1.2	X	X	GEO KGZ PAK	MON TAJ TKM UZB	AFG AZE PRC KAZ	Road safety authorities.	\$\$	2017–2019	Report on the legislation review.
4.1.3		X	GEO PAK	PRC KAZ KGZ UZB MON TAJ TKM	AFG AZE UZB	Road safety authorities.	\$	2019–2020	New regulations enacted.
<b>Focus: B. Increasing awareness of risks</b>									
<b>Strategy 4.2: Improve the level of awareness of road crash risks for all road users through effective education and communication</b>									
4.2.1		X	AZE KAZ KGZ PAK TAJ	PRC GEO MON TKM UZB	AFG	Agencies with responsibility for road safety in each country, civil society and donors.	\$\$\$	2017–2020	Reports on training at the regional and country level.
4.2.2	X	X	GEO KAZ KGZ MON PAK TAJ	AZE PRC TKM UZB	AFG	Road safety agencies and civil society and donors.	\$\$	2018–2020	Reports on the impacts of campaigns.

\* Cost: \$ = Up to \$100,000; \$\$ = \$100,000–\$500,000; \$\$\$ = \$500,000–\$1,000,000.

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Table 3 continued

Actions	Level of Activity		Priority			Responsibility	Cost*	Timeline	Indicators
	Regional	National	High	Medium	Low				
<b>Focus: C. Enforcement</b>									
<b>Strategy 4.3: Enhance enforcement efforts by authorized agencies on CAREC corridors</b>									
4.3.1	X	X	AFG KGZ MON PAK	GEO KAZ TAJ TKM UZB	AZE PRC	Agencies with responsibility for enforcement and donors.	\$\$\$	2017-2020	Reports on the outcomes of training at the regional level and in each country.
4.3.2		X	AFG KGZ MON	PRC GEO KAZ PAK TAJ TKM	AZE UZB	Agencies with responsibility for enforcement.	\$\$\$	2017-2020	Reports on equipment procured for enhancing enforcement efforts. Reports on impact of the ensuing enforcement programs.
4.3.3		X	AFG GEO KGZ MON PAK TAJ	AZE PRC GEO KAZ TKM UZB		Agencies responsible for enforcement and civil society.	\$\$\$	2018-2020	Reports on enforcement activities and effectiveness of linked awareness campaigns.
4.3.4		X	AFG PAK	PRC GEO KGZ MON TAJ TKM UZB	AZE KAZ	Agencies responsible for enforcement activities.	\$	2017-2020	Report on the national reviews of sanctions for traffic offenses.
4.3.5		X				Agencies responsible for enforcement and civil society.	\$\$	2017-2020	Reports on activities undertaken to establish reporting systems.

\* Cost: \$ = Up to \$100,000; \$\$ = \$100,000-\$500,000; \$\$\$ = \$500,000-\$1,000,000.

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Table 3 continued

Actions	Level of Activity		Priority			Responsibility	Cost*	Timeline	Indicators
	Regional	National	High	Medium	Low				
<b>Focus: D. Driver licensing and training</b>									
<b>Strategy 4.4: Improve the quality of driver licensing and training for drivers to enhance safety</b>									
4.4.1 Review driver licensing requirements and practices in CAREC countries to ensure these prioritize safety and to bring about harmonization of such requirements.	X	X	AFG KGZ	GEO KAZ MON PAK TAJ UZB	AZE PRC TKM	Driver licensing authorities.	\$	2017-2020	Report on driver licensing.
4.4.2 Improve the quality of driver licensing requirements and practices in CAREC countries.		X	AFG GEO KGZ MON PAK	AZE PRC KAZ TAJ TKM UZB		Driver licensing authorities, road safety authorities and civil society.	\$\$	2017-2020	Reports on improvements.
4.4.3 Ensure that CAREC countries adopt a system for recording traffic offense information on drivers that allows for cumulative sanctions, including suspension or cancellation of licenses.	X		AFG GEO MON PAK	PRC KAZ TAJ TKM	AZE KGZ UZB	Driver licensing authorities and road safety authorities.	\$\$	2018-2020	Reports on national systems adopted that ensure cumulative sanctions.
4.4.4 Investigate the establishment of a system for sharing license and traffic offense information between countries for drivers traveling across borders.	X	X				Driver licensing authorities and road safety authorities and donors.	\$\$	2018-2020	Report on potential sharing system.
<b>Focus: E. Vulnerable Road Users</b>									
<b>Strategy 4.5: Improve the safety of vulnerable road users** on CAREC corridors</b>									
4.5.1 Identify locations along CAREC corridors where vulnerable road users are at risk.	X	X	AFG PRC KAZ PAK TKM	AZE GEO KGZ MON TAJ UZB		Road agencies, traffic police and local governments.	\$	2017-2019	Report on high risk locations for vulnerable road users.

\* Cost: \$ = Up to \$100,000; \$\$ = \$100,000-\$500,000; \$\$\$ = \$500,000-\$1,000,000.  
 \*\* Vulnerable road users are pedestrians, bicyclists, motorcycle drivers and passengers.

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Table 3 continued

Actions	Level of Activity		Priority			Responsibility	Cost*	Timeline	Indicators
	Regional	National	High	Medium	Low				
4.5.2 Prepare risk reduction plans for each location and for different types of vulnerable road users and estimate their implementation costs.	X		AFG PRC KAZ PAK TKM	AZE GEO KGZ MON UZB	TAJ	Road agencies and traffic police.	\$\$	2017-2020	Risk mitigation plans and costs prepared.
4.5.3 Implement plans to minimise road safety risks for vulnerable road users.	X		AFG PRC KAZ PAK TKM	GEO KGZ MON UZB	TAJ	Road agencies and traffic police.	\$\$\$	2018-2020	Plans prepared and implemented.
<b>Focus: F. Commercial fleet safety</b>									
<b>Strategy 4.6: Ensure that commercial vehicles using CAREC corridors are operated in a safe manner.</b>									
4.6.1 Provide training on effective fleet safety management to private and public sector operators.	X	X	AFG AZE KGZ PAK	PRC GEO KAZ MON TAJ TKM	UZB	Road safety authorities, donors, operator associations and private sector.	\$\$	2018-2020	Report on the outcomes of training activities undertaken.
4.6.2 Review national fleet safety regulations, standards and practices, including technology based solutions.		X	AFG MON	AZE GEO KAZ KGZ PAK TKM	PRC TAJ UZB	Road safety authorities and operator associations and private sector.	\$	2018-2020	Report on fleet safety regulations and standards.
4.6.3 Increase the knowledge of drivers and fleet operators on safe driving practices.		X	AFG AZE GEO KGZ PAK	PRC KAZ MON TAJ TKM UZB		Road safety authorities, operator associations and private sector.	\$\$	2019-2020	Report on the outcomes of activities undertaken.

\* Cost: \$ = Up to \$100,000; \$\$ = \$100,000-\$500,000; \$\$\$ = \$500,000-\$1,000,000.

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Table 3 continued

Actions	Level of Activity		Priority			Responsibility	Cost*	Timeline	Indicators
	Regional	National	High	Medium	Low				
4.6.4. Raise awareness among commercial drivers of route facilities (e.g., rest stops and service centers), road conditions and route characteristics on CAREC corridors.	X	X	AFG PRC GEO KGZ PAK UZB	MON TAJ TKM	AZE	Road safety authorities, operator associations and private sector.	\$\$	2017–2018	Reports on awareness raising activities: pamphlets and materials produced and disseminated.
<b>Pillar 5: Postcrash Management</b>									
<b>Focus: A. First responder services</b>									
<b>Strategy 5.1: Ensure access to high quality first responder services across all CAREC corridors</b>									
5.1.1 Carry out a comprehensive review and audit of postcrash emergency response.	X	X				Agencies with responsibility for emergency responders in each country.	\$\$	2017–2019	Review and audit report completed.
5.1.2 Provide for and establish a network of emergency responders in rural and urban areas (medical, fire, police, search and rescue).	X	X	AFG KGZ MON PAK	PRC GEO KAZ TKM UZB	AZE TAJ	Agencies with responsibility for emergency responders in each country.	\$\$\$	2018–2020	Network of emergency responders in place and performing as planned.
5.1.3 Build and strengthen the capacity of first responder services.	X	X	AFG GEO KAZ KGZ TKM	PRC MON PAK TAJ UZB	AZE	Agencies with responsibility for first responder services and donors.	\$\$	2018–2020	At least three sub-regional workshops on first responder services completed.
<b>Focus: B. Health and emergency care services</b>									
<b>Strategy 5.2: Improve health and emergency care services throughout all CAREC corridors ensuring that treatment can be provided within a minimum possible time period</b>									
5.2.1 Provide timely emergency medical response along CAREC corridors ensuring that no part of a CAREC corridor is more than one hour away from medical assistance.	X	X	AFG KAZ KGZ PAK TKM	PRC MON TAJ UZB	AZE GEO	Agencies with responsibility for emergency medical response in each country and donors.	\$\$\$	2017–2020	Medical response facilities are accessible within one hour on each CAREC corridor.

\* Cost: \$ = Up to \$100,000; \$\$ = \$100,000–\$500,000; \$\$\$ = \$500,000–\$1,000,000.

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Table 3 continued

Actions	Level of Activity		Priority			Responsibility	Cost*	Timeline	Indicators
	Regional	National	High	Medium	Low				
5.2.2 Ensure that the trauma treatment centers are adequately staffed by trained personnel and have equipment to conduct required treatments.	X		AFG KAZ KGZ PAK TKM	PRC GEO MON UZB	AZE TAJ	Agencies with responsibility for trauma centers in each country.	\$\$\$	2018-2020	Adequate trained staff in place.
<b>Focus: C. First Aid</b>									
<b>Strategy 5.3: Ensure professional drivers have the knowledge and skills to be able to provide first aid to road crash victims when required</b>									
5.3.1 Include a requirement for goods and public transport vehicles to carry an appropriate level of first aid equipment and for drivers to receive training in first response.	X		KAZ MON PAK TKM UZB	AFG PRC GEO KGZ TAJ	AZE	Agencies responsible for vehicle regulation.	\$	2018-2020	Regulations enacted, training programs implemented and enforcement in place.
5.3.2 Implement programs for strengthening first aid knowledge of drivers.	X		PRC GEO PAK TKM UZB	AFG AZE KGZ MON TAJ	KAZ	Agencies responsible for vehicle regulation, medical authorities and civil society.	\$\$	2019-2020	Programs of first aid training completed.
<b>Focus: D. Communication</b>									
<b>Strategy 5.4: Ensure that all sections of CAREC road corridors are covered by modern and reliable communications</b>									
5.4.1 Ensure modern and reliable communication coverage for all sections of CAREC corridors and a single emergency call number.	X	X	AFG KGZ MON TKM	TAJ UZB	AZE PRC GEO KAZ PAK	Road safety agencies and communication authorities and private sector.	\$\$\$	2017-2020	Additional telephone coverage in place.
5.4.2 Ensure emergency phone numbers with multi-lingual capability are widely known to both national and international road users.	X	X	AFG KGZ MON TAJ TKM	PAK UZB	AZE PRC GEO KAZ	Road safety agencies and civil society.	\$\$	2017-2019	Campaigns to inform public completed.

AFG = Afghanistan, AZE = Azerbaijan, CAREC = Central Asia Regional Economic Cooperation, PRC = People's Republic of China, GEO = Georgia, KAZ = Kazakhstan, KGZ = Kyrgyz Republic, MON = Mongolia, MVIS = Motor Vehicle Inspection System, PAK = Pakistan, TAJ = Tajikistan, TKM = Turkmenistan, UZB = Uzbekistan.

\* Cost: \$ = Up to \$100,000; \$\$ = \$100,000-\$500,000; \$\$\$ = \$500,000-\$1,000,000.

Source: CAREC Secretariat.

# Monitoring and Evaluation

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## Results Framework

91. An important aspect of any strategy is the monitoring component, which determines whether the intended results of the program are being attained and, if not, what adjustments must be made to bring the program into compliance. Results-based monitoring focuses upon the outcomes and impact of a program rather than individual activities and inputs. Thus, the primary concern is whether the intended outcome of the strategy is being achieved. The monitoring program needs to ascertain whether lives are being saved and, in particular, to determine if the strategy will meet its target by halving the number of road crash deaths on Central Asia Regional Economic Cooperation (CAREC) road corridors by 2030. If this trend is likely to occur, then the strategy is most likely to achieve its intended overall impact.

92. To attain its outcomes, the strategy will need to meet some milestone indicators, which are directly related to each of the five pillars underpinning the regional road safety strategy. These are summarized in Appendix 3, which provides the results framework for the strategy as a whole. Key

outputs include (i) improved management of road safety in each country, (ii) assessment of whether better road safety engineering practices are being applied, (iii) that safer vehicles are using the CAREC corridors, (iv) that people are safely using the roads, and (v) that improved access to emergency medical treatment is being achieved. For each of these outputs, some milestone indicators have been identified, which will determine whether the output is or has been achieved.

## Monitoring

93. The strategy will require regular monitoring. This was recognized by the 15th Transport Sector Coordinating Committee,<sup>9</sup> which agreed that annual monitoring will be undertaken through the process already established under the CAREC Program and through the Transport Sector Progress Reports. The reporting structure will be modified to provide for road safety statistics and criteria. Individual countries will then provide the information which will be consolidated into the annual Transport Sector Progress Reports.

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<sup>9</sup> The 15th CAREC Transport Sector Coordinating Committee meeting was held in Bangkok, Thailand, on 20–21 April 2016.

# Delivery: Shared Responsibility

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94. The Central Asia Regional Economic Cooperation (CAREC) is a program and as such, it does not have a formal organization or institution to support achievement of its aims and objectives. It is, therefore, dependent upon the goodwill of its member countries with support from its multilateral partners to implement agreed proposals to achieve its objectives. Since benefits from transport investments require all parties to satisfactorily complete their agreed components to obtain the synergies of compatibility, connectivity, and sustainability, it is anticipated that individual countries will complete their agreed components in each corridor so that all countries linked to the corridor will benefit from each other's actions.

95. The regional vision can only be achieved if individual national plans are linked to it. It will, therefore, be important for individual countries to link their national road safety action plans with those of the CAREC region, as it will be necessary for countries to work collectively to achieve a regional objective. In short, this can be described as:

***“Think regionally but act nationally.”***

96. A high proportion of investment in CAREC corridors will be supported by donors. Achieving safer road corridors and ensuring that CAREC countries are safely connected will also require

integrated action and coordination by the donor community. This can be accomplished by donors through their support to invest in road safety and to provide support to monitoring road safety outcomes to ensure that targets and objectives are being attained and, if not, support additional measures to rectify deficiencies. This external support should not only cover investment in infrastructure and goods, but also in policy development of road safety as well as capacity development and training. Such support can best be attained and monitored through the regional road safety strategy with periodic reviews to assess accomplishments and identify any required modifications.

97. To provide regular monitoring of the regional road safety strategy, it was approved to be undertaken annually as part of the regular meetings of the Transport Sector Coordinating Committee. To provide technical support as well as monitor and evaluate the action plan, it is proposed that in the longer term, a technical secretariat would be established at the CAREC Institute, which would be responsible for the day-to-day oversight of regional road safety efforts and monitoring of the individual road safety projects and components supported under various national programs. This work activity will, therefore, be closely linked to the monitoring and evaluation program mentioned earlier.

## APPENDIX 1

# CAREC Commitment to Road Safety

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## Ten Actions to Make CAREC Corridors Safer

*[Endorsed by the CAREC Ministerial Conference]*

*The 14th Ministerial Conference on Central Asia Regional Economic Cooperation (CAREC), represented by the Governments of Afghanistan, Azerbaijan, the People's Republic of China (PRC), Kazakhstan, the Kyrgyz Republic, Mongolia, Pakistan, Tajikistan, Turkmenistan, and Uzbekistan,*

*in full support of the United Nations Decade of Action's target to reduce the number of fatalities on roads by 2020, and ahead of the Second Global High-Level Conference on Road Safety in Brasilia, marking the midyear of the Decade,*

*cognizant that strong political commitment at national and regional levels is a prerequisite for improvements in road safety,*

*calling on the international community, including donors and international agencies to continue and enhance their support toward delivering road safety solutions in the region,*

*endorsed the following joint commitment in Ulaanbaatar, Mongolia on 25th September 2015:*

1. **Recognizing the road safety challenge in the region.** The numbers of persons killed or injured in road collisions remains unacceptably high, with over 60,000 deaths and 600,000 injuries occurring annually in the CAREC region alone, many of whom are vulnerable road users such as pedestrians, cyclists, and motorcyclists. This causes adverse social consequences and generates large economic losses. The causes of road deaths and injuries are both predictable and preventable, and actions taken to improve road safety are affordable and have high rates of return.
2. **Tackling the challenge together as a region.** Adopting a consistent approach towards road safety can benefit all CAREC countries. CAREC countries will advocate for the 'safe systems' approach combining improvements in road design, safer vehicle design, enforcement of traffic laws, and provision of adequate postcollision care facilities. Cooperation under CAREC will allow efficiency gains from joint capacity building and knowledge sharing activities, which will increase CAREC countries' ability to identify, plan, and implement road safety interventions. The local and national efforts being taken in each country can be enhanced by adopting regionwide approaches. The CAREC partnership of 10 participating countries and six multilateral development partners provides a suitable platform from which to launch a regional road safety initiative in the region.

3. **Commitment to joint action.** Cognizant of the above, CAREC countries commit to pursue the following actions:
- (a) **Data collection.** CAREC countries will improve the quality and ensure comparability of road collision data collected and actively monitor joint progress at country and regional level;
  - (b) **Research.** CAREC countries will support research to further improve understanding of the unique causes, circumstances and effects of road collisions in the region, in order to develop appropriately targeted interventions;
  - (c) **Capacity development.** CAREC countries will undertake joint capacity development activities in road safety policy, engineering, enforcement, education, emergency response, data, and evaluation;
  - (d) **Road standards.** All future road projects on CAREC corridors will be designed with the highest road safety standards to reduce both the likelihood and severity of collisions, raise safety standards on all CAREC roads, and ensure proper provision of facilities on these roads. CAREC countries will adopt and comply with relevant international conventions relating to road safety, conduct road safety audits on all CAREC road projects, and promote good practices in road safety engineering aimed in particular at reducing the risk to vulnerable road users;
  - (e) **Vehicle safety.** CAREC countries will improve vehicle safety through research and adaptation of vehicle safety measures and technology, for example seat belts and seat belt indicators, anti-lock braking systems and airbags. CAREC countries will ensure that all vehicles on roads are roadworthy, paying particular attention to those carrying dangerous goods, pursue periodic inspections for all vehicles, and ensure that all vehicles (including new, imported vehicles, and vehicles transiting), comply with minimum safety standards. Efforts will be made to increase coverage of vehicle insurance and towards mutual recognition of vehicle insurance policies across CAREC countries;
  - (f) **Enforcement.** Better awareness and enforcement of road safety related traffic rules and regulations shall be promoted. This includes for example overloading, speeding, wearing of helmets and seat belts, driver work and rest times, and driving under the influence of alcohol or drugs;
  - (g) **Awareness and education.** Awareness of road safety will be promoted through targeted safety advocacy activities focusing on vulnerable road users, and ensure all drivers and other road users on roads in CAREC countries are appropriately trained;
  - (h) **Postcollision care.** CAREC countries will improve postcollision care, affording victims better chances of survival and improving long-term health outcomes;
  - (i) **Partnerships.** CAREC countries will foster the development of partnerships between governments, local authorities, the private sector, and civil society to raise awareness and jointly seek to improve safety on roads; and
  - (j) **Regionally shared approach.** CAREC countries will work together to promote a common shared approach on road safety through the development of a road safety strategy for the CAREC region and implement measures contained therein.



## APPENDIX 2

# Framework for the CAREC Road Safety Strategy

This framework for the Central Asia Regional Economic Cooperation (CAREC) Road Safety Strategy identifies the focus areas, issues, and strategies to be included in the Strategy. It is based on a review of the road safety situation in the region together with feedback from member countries at the CAREC Road Safety Workshop held in Bangkok, Thailand, on 18–19 April 2016. The framework is based on the five pillars of the Global Plan for the United Nations Decade of Action for Road Safety 2011–2020. Many of the existing national road safety strategies in CAREC countries are also based on these five pillars.

### Pillar 1: Road Safety Management

Focus	Issues	Strategies
<b>A. Effectiveness of management and coordination</b>	Within the CAREC region the effectiveness of management and coordination of road safety is an issue in many countries. Road safety must not be the responsibility of just one agency. It requires a multisector and multistakeholder approach. This is best achieved by building effective partnerships for coordinated and integrated action by a number of agencies and organizations.	1.1 Improve management and coordination of road safety and security across CAREC countries.
<b>B. Access to reliable road crash data</b>	Effective road safety plans and programs need to be identified and guided by good quality information and data. All countries have developed road crash data information systems, but in many cases the data are incomplete or inadequate to provide a clear baseline and detailed understanding of the causes of crashes. Adequate data and information are essential for informed policy decisions to be taken.	1.2 Improve the effectiveness and accuracy of the systems for the collection and analysis of crash data across CAREC countries.
	Road crash data are not accessible by all national agencies responsible for road safety. This access to data is important for identification of programs that cater to the priorities and needs of the various agencies responsible for road safety.	1.3 Ensure regulations in each CAREC country allow authorized agencies responsible for road safety to have access to crash data.
<b>C. Funding for road safety</b>	Funding for road safety activities is both limited and insufficient across CAREC countries. Safety is always indicated as a priority issue, but in practice the safety aspects of road programs are often omitted when designs are being made or when budget submissions are being compiled.	1.4 Provide mechanisms for allocating sufficient resources to improve road safety on CAREC corridors.

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Focus	Issues	Strategies
<b>D. National road safety action plans</b>	A review of road safety across the CAREC region has shown that not all countries have an effective national road safety action plan. Absence of such plans inhibits the ability to achieve better road safety across the regional road network. It is important for all countries to adopt national road safety action plans.	1.5 Support the development and implementation of national road safety action plans in all CAREC countries.
<b>E. Insurance</b>	The system of insurance schemes across CAREC countries varies considerably. It ranges from countries where insurance is compulsory to those where the insurance industry is not yet regulated. Insurance systems are important in that they can ensure that resources are available to cover the medical care and perhaps life care costs of crash victims.	1.6 Improve regulations for insurance requirements across CAREC countries so that quality health care is available to all crash victims.

## Pillar 2: Safer Roads

Focus	Issues	Strategies
<b>A. Improving road engineering design standards</b>	A common observation across the CAREC region is that national road design standards are often outdated in terms of road safety engineering principles and that they do not follow international good practice. There is an urgent requirement to review design standards to ensure that they are consistent with the safety practices commonly used in other regions.	2.1 Improve the existing road engineering design standards to bring them up to date with international safety practices.
<b>B. Road planning, design, construction, and maintenance meeting the safety needs of all road users</b>	Current road planning, design, construction, improvement and maintenance tend to focus only on issues relating to motorized traffic, such as vehicles carrying passengers and goods. However, vulnerable road users (pedestrians, bicyclists, motorcyclists, operators of agricultural machinery and farmers moving livestock) also use the CAREC corridors. The safety needs of all of these road users should be recognized and incorporated into road planning, design, construction, improvement and maintenance projects and works.	2.2 Ensure that the safety needs of all road users are included in road planning, design, construction, improvement, management and maintenance of CAREC corridors.
<b>C. Road safety audit</b>	A road safety audit is a formal examination of a road project by an independent qualified audit team that identifies and addresses road safety concerns in a road project's design. Road safety audits thus identify safety concerns in new road projects so that these can be addressed before construction begins. Road safety audits make good economic sense as they help engineers to produce safer roads at lower cost. Such audit skills can also be used to identify high risk locations on existing	2.3 Introduce and/or enhance the use of road safety audits.

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Focus	Issues	Strategies
<b>C. Road safety audit</b>	roads in countries where crash data is lacking, so that cost-effective countermeasures can be applied to reduce crash frequency and/or severity.	
<b>D. Eliminating hazardous road locations</b>	There are many hazardous road locations on existing CAREC highways that warrant urgent remedial action. While many countries address hazardous locations regularly, the resources allocated to this remain well below the needs. There is an urgent requirement to implement widespread programs to both identify and eliminate hazardous locations in the six CAREC corridors traversing the region.	2.4 Eliminate hazardous road locations (“blackspots”) on existing CAREC corridors.
<b>E. Consistency in the provision of safe roads</b>	There is inconsistency in the provision of road safety on CAREC corridors. While roads have generally been designed to a common set of design standards, there is significant inconsistency across each of the CAREC corridors. Many of the inconsistencies are attributable to limited resources being available for implementing full improvement options. There is a requirement to undertake an extensive inspection of the road network to identify a program of works for reducing safety inconsistencies in the network.	2.5 Improve consistency in the provision of safe roads across CAREC corridors.
<b>F. Enhancing safety at road worksites</b>	A common observation on CAREC corridors is the number of crashes occurring at road worksites. This is often due to poor management and operation of road worksites. Good practices based on international experience that reduce crash risks need to be adopted for works on CAREC highways.	2.6 Improve safety at road worksites along CAREC corridors to provide protection for road workers and road users.

### Pillar 3: Safer Vehicles

Focus	Issues	Strategies
<b>A. Heavy vehicle overloading</b>	Overloading of heavy vehicles is common across the region. This has prematurely destroys road pavement infrastructure and increases crash risks. Addressing overloading requires strict enforcement across the network that in turn requires strengthened enforcement by each country.	3.1 Improve the level of compliance with legislation that regulates heavy vehicle configurations (e.g., axles, axle loadings and dimensions) across all CAREC countries.
<b>B. Vehicle inspection and maintenance</b>	There are considerable differences in vehicle inspection and maintenance requirements and processes across CAREC countries. Some countries have effective systems while others have no regular inspection requirements or operate ineffective systems. There is a need to review systems across the various CAREC jurisdictions to document the various regulations and requirements currently in place, and to identify issues and problems with existing systems	3.2 Ensure that vehicles operating on CAREC corridors are mechanically sound and comply with vehicle safety requirements.

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Focus	Issues	Strategies
<b>C. Slow moving vehicles</b>	A common characteristic in some countries is slow moving vehicles operating on CAREC corridors, particularly farm vehicles in rural areas. This is a significant safety issue on some routes due to the large speed differential between different types of road users, as well as limited knowledge of road laws by drivers of slow moving vehicles.	3.3 Ensure that slow moving vehicles do not create safety hazards for other road users.

#### Pillar 4: Safer Road Users

Focus	Issues	Strategies
<b>A. Legislation</b>	The effectiveness of legislation relating to road rules in CAREC countries is not consistent. There is a need for evidence-based legislation that improves road safety. Road users should be encouraged to follow all road rules and regulations to ensure that roads are used safely. Penalties and sanctions for not obeying rules and regulations must be severe enough to effectively deter unsafe road user behavior.	4.1 Ensure that legislation promotes and prioritizes road safety on CAREC corridors.
<b>B. Increasing awareness of risks</b>	The level of awareness of road crash risks among all road users using CAREC corridors varies, and in some cases is a serious issue. Addressing awareness of risk is a complex task and requires effective education and communication programs covering a broad range of activities at multiple levels. Programs need to be targeted towards those risk factors and road users that are high priority.	4.2 Improve the level of awareness of road crash risks for all road users through effective education and communication.
<b>C. Enforcement</b>	Traffic police enforcement efforts for key risk factors (speed, alcohol/drug impairment, seat belts, helmets, fatigue and distractions, such as mobile phone use) are an important part of reducing crash deaths and injuries. In some CAREC countries, adjustments to legislation are required to both reduce risks and make enforcement programs more effective. For many countries, an emphasis needs to be placed on strengthening the enforcement of traffic rules and regulations.	4.3 Enhance enforcement efforts by authorized agencies on CAREC corridors.
<b>D. Driver licensing and training</b>	Driver licensing systems across CAREC countries vary widely. The significant inadequacies of some of these systems have important safety implications.	4.4 Improve the quality of driver licensing and training programs.
<b>E. Vulnerable road users</b>	A significant proportion of those killed or injured in road crashes in CAREC countries are vulnerable road users. Pedestrians account for the majority of these casualties. Improving the safety of vulnerable road users on CAREC corridors should be prioritized.	4.5 Improve the safety of vulnerable road users on CAREC corridors.

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Focus	Issues	Strategies
<b>F. Commercial fleet safety</b>	Commercial vehicles that operate both domestically and internationally are major users of the CAREC corridors. A number of issues relating to the safe operation of commercial vehicle fleets on CAREC corridors can adversely impact road safety. Some of these include regulation of driving hours and rest breaks for drivers and operators, maintenance of vehicles, and driver training procedures. Regulations, standards and practices vary widely across CAREC countries.	4.6 Ensure that commercial vehicles using CAREC corridors are operated in a safe manner.

### Pillar 5: Postcrash Care

Focus	Issues	Strategies
<b>A. First responder services</b>	Crash victims on many CAREC corridors are at higher risk of not surviving road crashes because of limited availability to emergency rescue and medical services. Many portions of the corridors traverse remote regions with rugged terrain and are exposed to extreme weather conditions. Distances between towns and communities are also significant. Under such conditions, providing first responder services is a challenge due to geographic remoteness and communication difficulties.	5.1 Ensure access to high quality first responder services across all CAREC corridors.
<b>B. Health and emergency care services</b>	Most CAREC corridors pass through rural areas where health and emergency treatment centers and services are more limited than in urban areas and larger towns. While this is to be expected, emergency treatment centers are needed in remote locations in many CAREC countries not only to cater to road crash victims, but also to provide emergency services to local populations.	5.2 Improve health and emergency care services throughout all CAREC corridors, ensuring that treatment can be provided within a minimum time period.
<b>C. First aid</b>	Throughout the CAREC region road users are generally not well equipped to treat casualties resulting from road crashes. In most cases, they lack training and knowledge on how to provide basic first aid. Provision of quality first aid services can have a significant positive impact on the survival and health outcomes of victims of road crashes. Training professional drivers, such as public transport and truck operators in first aid procedures can have a significant positive impact, particularly in remote regions since they are often the first persons to reach a crash site.	5.3 Ensure professional drivers have the knowledge and skills to be able to provide first aid to road crash victims when required.
<b>D. Communication</b>	With the remoteness of many parts of the CAREC corridors, mobile telephone networks are often limited. This restricts the ability to call for assistance in the event of a road crash.	5.4 Ensure that all sections of CAREC road corridors are covered by modern and reliable communications.

Source: CAREC Secretariat.

## APPENDIX 3

# Results Framework

**Impact**  
 Improvements in road safety performance on CAREC international road corridors in CAREC member countries making them safe, efficient, and attractive for all road users.

Outcome	Outcome Milestones Indicators	Data sources
1. Reduction in the number of road crash fatalities on CAREC international road corridors	By 2030, the number of fatalities on CAREC international road corridors reduced by 50% in CAREC member countries (compared to 2010).	CAREC transport sector progress reports.  World Health Organization global status report on road safety.  Reports on road safety from individual CAREC countries.

Outputs	Outcome Milestones Indicators	Data sources
1. Strengthened capacity within CAREC member countries to manage road safety issues on CAREC road corridors	By 2030, all CAREC member countries have an approved national road safety strategy and action plan.  By 2030, all CAREC member countries have a system for coordinating, managing and funding road safety at the national level.  By 2030, all CAREC member countries have access to a road crash data base for monitoring and planning road safety.	CAREC transport sector progress reports.
2. Road engineering practices used on all CAREC road corridors prioritize road safety	By 2030, road engineering standards used for CAREC road corridors conform to internationally accepted standards.  By 2030, road safety audits carried out for all road projects on CAREC international road corridors.	CAREC transport sector progress reports.
3. Safer vehicles use CAREC road corridors	By 2030, regulations for new vehicles incorporate internationally accepted safety standards.  By 2030, heavy vehicle load limits are enforced and monitored on CAREC road corridors.  By 2030, each CAREC country has an effective vehicle inspection, maintenance and insurance system in place.	CAREC transport sector progress reports.

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Outputs	Outcome Milestones Indicators	Data sources
4. People safely use CAREC road corridors	<p>By 2030, all member countries have carried out a review of the legislation for road safety and made improvements where required, including penalties for traffic offences.</p> <p>By 2030, each CAREC country will regularly conduct effective enforcement programs designed to mitigate high risk road safety behavior, including speeding, alcohol/drug impaired driving, driving vehicles without wearing seat belts, riding motorcycles without wearing helmets, and driving while distracted.</p> <p>By 2030, effective public awareness and education campaigns are held regularly in CAREC member countries to improve road safety.</p> <p>By 2030, each member country has a driver licensing and training system that ensures drivers are qualified and safe to use CAREC road corridors.</p> <p>By 2030, commercial and public transport fleet safety regulations, management and standards in CAREC member countries reflect international good practice.</p>	CAREC transport sector progress reports.
5. Improved access to emergency medical treatment for road crash victims	<p>By 2030, appropriately equipped and skilled emergency response is provided to all crash victims across CAREC road corridors within one hour.</p> <p>By 2030, no part of any CAREC road corridor is more than one hour away from an adequately staffed and equipped trauma treatment center.</p> <p>By 2030, drivers of goods and public transport vehicles in CAREC member countries are trained in first aid and have access to appropriate equipment.</p> <p>By 2030 there is modern and reliable communication coverage, and a single emergency call number, on all CAREC road corridors.</p>	CAREC transport sector progress reports.

Inputs	Input Milestones Indicators	Assumptions
Inputs	<p>Investments for priority investment projects totaling \$6.9 billion (2017 to 2020).*</p> <p>Technical support for policy initiatives.</p> <p>Technical support for institutional strengthening and capacity development.</p> <p>Inputs to the action plan are realized.</p>	<p>Political commitment for road safety is strong.</p> <p>Support from nongovernment organizations is strengthened.</p>

\* Estimated on the basis of planned road projects listed in the CAREC Transport and Trade Facilitation Strategy 2020. Subject to additional requirements post-2020.

Source: CAREC Secretariat.

## **SAFELY CONNECTED**

*A Regional Road Safety Strategy for CAREC Countries, 2017–2030*

Road accidents are the sixth leading cause of death in Central Asia., with a road traffic death rate of 10 to 25 per 100,000. A framework is needed for Central Asia Regional Economic Cooperation (CAREC) member countries to effectively implement CAREC’s commitment to road safety. CAREC’s strategy envisions making its road corridors safe, efficient, and attractive to motorists. The target is to halve the number of CAREC road corridor fatalities by 2030—translating to 23,000 lives saved and 250,000 serious injuries prevented annually. The strategy builds upon existing strengths within the region, addresses gaps, utilizes good practice, and mitigates risks. This publication embodies the CAREC countries’ commitment to make road safety a priority.

### **About the Central Asia Regional Economic Cooperation Program**

The CAREC Program is a practical, project-based, and results-oriented partnership that promotes and facilitates regional cooperation in transport, trade, energy, and other key sectors of mutual interest. CAREC has 11 member countries: Afghanistan, Azerbaijan, the People’s Republic of China, Georgia, Kazakhstan, the Kyrgyz Republic, Mongolia, Pakistan, Tajikistan, Turkmenistan, and Uzbekistan. Six multilateral institutions support CAREC’s work: the Asian Development Bank (ADB), the European Bank for Reconstruction and Development, the International Monetary Fund, the Islamic Development Bank, the United Nations Development Programme, and the World Bank. ADB serves as the CAREC Secretariat.

### **About the Asian Development Bank**

ADB’s vision is an Asia and Pacific region free of poverty. Its mission is to help its developing member countries reduce poverty and improve the quality of life of their people. Despite the region’s many successes, it remains home to a large share of the world’s poor. ADB is committed to reducing poverty through inclusive economic growth, environmentally sustainable growth, and regional integration.

Based in Manila, ADB is owned by 67 members, including 48 from the region. Its main instruments for helping its developing member countries are policy dialogue, loans, equity investments, guarantees, grants, and technical assistance.



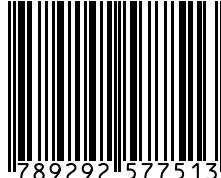
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