CAREC TRANSPORT STRATEGY 2030: MIDTERM REVIEW

Draft Report

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ABBREVIATIONS

ADB	–	Asian Development Bank
BCP	–	border crossing point
CAREC	–	Central Asia Regional Economic Cooperation
CITA	–	CAREC Integrated Trade Agenda
COVID-19	–	coronavirus disease
CPMM	–	Corridor Performance Measurement and Monitoring
CTS	–	CAREC Transport Strategy
MTR	–	midterm review
PPP	–	public-private partnership

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I. Introduction

1. The Central Asia Regional Economic Cooperation (CAREC) Transport Strategy 2030 (CTS 2030) was endorsed by CAREC Ministers in November 2019. It was prepared considering the overarching CAREC 2030 Strategy, which provided the framework for fostering regional cooperation and integration across the 11 countries in the region.[1] A Midterm Review (MTR) of the overarching CAREC 2030 Strategy[2] was endorsed by CAREC Ministers in November 2024, and one of its key recommendations was to launch midterm reviews of all sectoral strategies to ensure that they retain their alignment with the overall regional strategy by reviewing their effectiveness and recalibrating their focus where deemed necessary. In line with this recommendation, this report summarizes the findings of the midterm review of CTS 2030.

2. The MTR of CTS 2030 was conducted in partnership with CAREC countries through an extensive program of country visits that included the conduct of workshops with a broad range of stakeholders from both public and the private sectors, and individual meetings with key agencies representing ministries of finance, economic planning, and the technical line ministries representing the transport, trade and digital sectors among others.[3] The outputs from the country consultations provided the core information for refining the strategy. This was combined with changing priorities attributable to global events and technological developments which identified various measures that were needed to sharpen the effectiveness of the strategy and define appropriate adjustments that would deliver improved outcomes and impacts in the transport sector over the remainder of the period to 2030 and beyond.

3. Transport has been a major part of CAREC investment, and during the CTS 2030 period 2021–2024, $8.61 billion worth of investments have been made, making up 16.5% of the total CAREC investments. Of the total $3.91 billion invested in transport by development partners, $2.13 billion (54.5%) was financed by Asian Development Bank (ADB), $1.22 billion (31.2%) by other development partners, and $0.56 billion (14.4%) by CAREC countries. These investments greatly contributed to enhancing connectivity among the CAREC countries. An updated list of the priority transport projects covering the 2026 to 2030 period is in Appendix 1.

4. CTS 2030 also incorporated individual sub-strategies for two of the modal themes, notably the railway sector and road safety.[4] The MTR incorporated a review of both these sub-strategies to ensure that their focus continued to be in line with the overall CAREC objectives in the transport sector and their ability to deliver the intended outcomes in each of their subsectors.

5. In essence, transport is an essential good that is highly correlated to other sectors in the economy since it provides the important linkages between production and consumption locations and facilitates economic growth and development. For this reason, transport and trade are closely interconnected as transport provides the means for facilitating trade and without efficient

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[1] The Central Asia Regional Economic Cooperation (CAREC) comprises Afghanistan, Azerbaijan, Georgia, Kazakhstan, Kyrgyz Republic, Mongolia, Pakistan, People's Republic of China, Tajikistan, Turkmenistan, and Uzbekistan. ADB suspended its operations in Afghanistan in August 2021 and this midterm review did not incorporate the views of the country.

[2] ADB. 2024. *CAREC 2030 Strategy Midterm Review*.

[3] The CTS MTR country consultation program includes: 11–14 February 2025 Mongolia, 5–7 March 2025 CAREC National Focal Points (in Manila), 11–13 March 2025 Kazakhstan, 17–20 March 2025 PRC, 4–8 April 2025 Azerbaijan, 10–11 April 2025 Kyrgyz Republic, 21–25 April 2025 Uzbekistan, 28–29 April 2025 Tajikistan, 6–7 May 2025 Georgia (virtual), 16 May 2025 Turkmenistan (virtual), and 2–3 June 2025 Pakistan. Draft recommendations were also presented at the side event of 2025 Summit of the International Transport Forum on 21 May 2025.

[4] ADB. 2017. *Unlocking the Potential of Railways: A Railway Strategy for CAREC, 2017–2030*; and ADB. 2017. *Safely Connected: A Regional Road Safety Strategy for CAREC Countries, 2017–2030*.

transport, trade is unlikely to flourish. Digital transformation is rapidly changing a whole range of activities across the development spectrum and particularly impacts the way in which both the transport and trade sectors affect the delivery of infrastructure and services. Digitalization is revolutionizing transport infrastructure and services leading to more efficient, safer, and sustainable mobility solutions. An important interaction between transport and trade is the extension of paperless processes and procedures to transport freight across borders more efficiently reducing time and delays. The extension of digitization in CAREC region is expected to have a profound impact on increasing the efficiency of intraregional and external trade and raise the importance of the arterial multimodal transport corridors serving the region.

6. To reflect the important synergies between transport, trade, and digitalization the MTR was undertaken in conjunction with the midterms reviews for both the CAREC Integrated Trade Agenda 2030 and the CAREC Digital Strategy 2030.[5] This action is expected to broaden the scope of potential support to the transport sector by incorporating elements of trade and digital structures in the scope of future projects and programs thereby leveraging benefits across all sectors.

7. The MTR also acknowledged the findings and conclusions of the recent review of the development effectiveness of the CAREC program.[6]

[5] ADB. 2019. *CAREC Integrated Trade Agenda 2030 and Rolling Strategic Action Plan 2018–2020*; and ADB. 2022. *CAREC Digital Strategy 2030: Accelerating Digital Transformation for Regional Competitiveness and Inclusive Growth*.

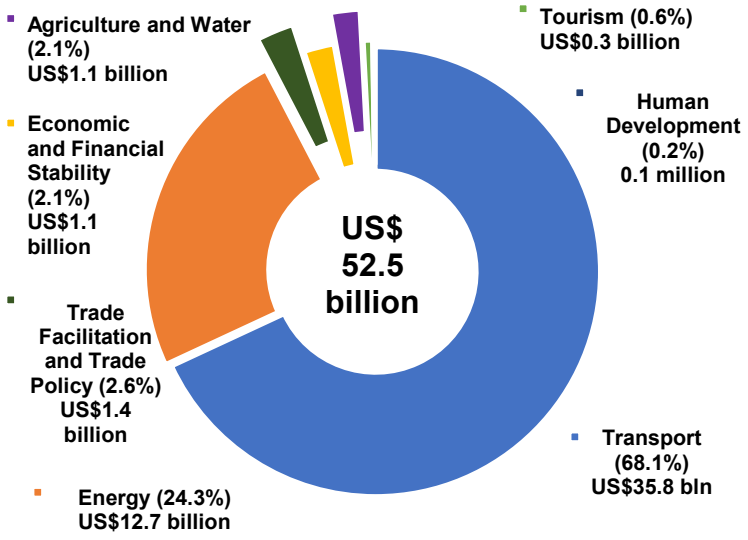
[6] ADB. 2025 (forthcoming). *CAREC 2030 Development Effectiveness: 2021–2023*.

II. Transport and Trade Facilitation

(i) Synergies between Transport and Trade

8. Multiple studies have identified the synergies between transport and trade.[7] Efficient trade is a key parameter for achieving economic development. Perhaps the most important driver of trade is the availability of transport services as it relies heavily on efficient, reliable, resilient, and safe transport to move goods and services between origins and destinations. Transport infrastructure and accompanying logistic services provide the framework for international trade to connect businesses with international markets and foster economic development. Efficient low-cost transport services are essential in the CAREC region, which is largely landlocked with vast distances linking it to many of its internal and external trading partners. A consequence of the geographical location is that the long distance to major markets add significant transport time and costs to traded goods, and this factor alone provides a considerable barrier to trade and foreign investment compared to countries and locations in other regions. It is therefore critical that transport services in the region are low-cost, efficient, and reliable. Since the availability of quality transport infrastructure is a major requirement to nurture economic growth and development in the region, the support provided under the CAREC program has prioritized the development of transport infrastructure and services, which comprised 68% of the overall investment (Figure 1).

Figure 1: CAREC Investment by Sectors
(as of December 2024)



Note: The CAREC portfolio (investment projects) database is undergoing review and verification in consultation with development partners and CAREC sector focal in ADB.

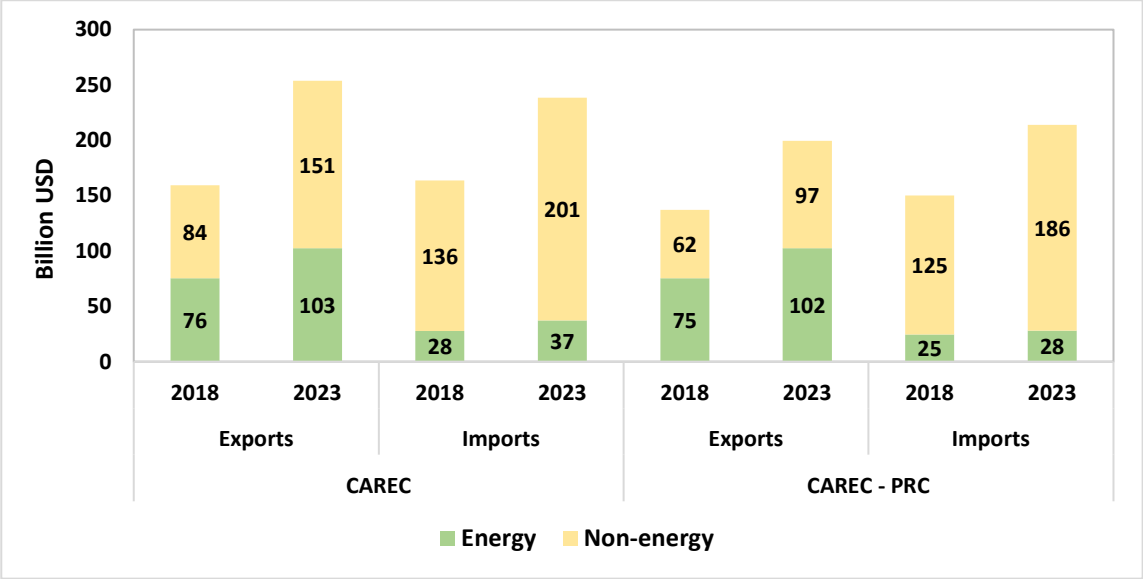
(ii) Recent Trends in Trade in the CAREC Region

9. Since the adoption of the CAREC Transport Strategy in 2019 merchandise trade in the region has increased rapidly (Figure 2), despite the global economic downturn caused by the coronavirus disease (COVID-19) pandemic. Over the 5-year period from 2018 to 2023, total trade turnover in the CAREC region as a whole increased by 52%, which compares very favorably with

[7] See for example UNCTAD. 2003. *Efficient Transport and Trade Facilitation to Improve Participation by Developing Countries in International Trade*. United Nations Conference on Trade and Development, Geneva. 8–12 December.

global trade volume increase of 22%. However, if the trade in energy is excluded from the analysis, the increase in goods and services for the region as a whole reached 60%. This achievement is attributed to both robust growth in the CAREC economies as well as the ability of individual CAREC country economies to fill gaps in the Russian market with exports and re-exports after Russia's invasion of Ukraine. The notable features of the trade with respect to their impact on transport services is that a high proportion of exports comprise extractive products such as hydrocarbons, minerals and agricultural products while the bulk of imports consist of manufactured products. Hydrocarbon exports are primarily transported by pipelines while merchandise products primarily use road and railway services. Overall, there is a large trade imbalance between non-energy imports and exports in many CAREC economies. This latter phenomenon is also replicated in the region's transit trade, where exports from the People's Republic of China (PRC) are significantly greater than the imports from trading partners.

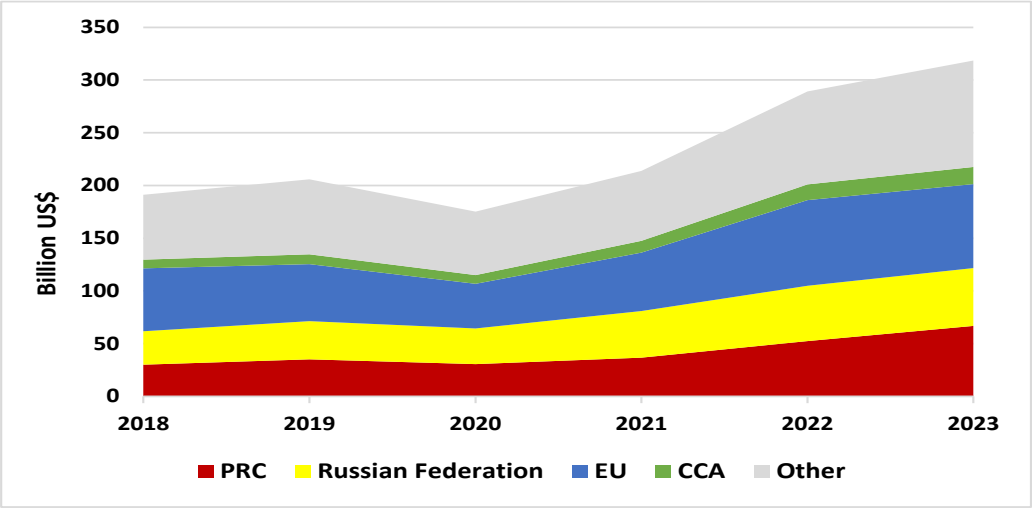
Figure 2: Changes in the Structure of Merchandize Trade in CAREC Economies 2018–2030



PRC = the People's Republic of China, USD = United States dollar.
Note: PRC data are for Xinjiang Uyghur Autonomous Region and Inner Mongolia Autonomous Region only.
Source: UN Comtrade, national statistics and customs agencies.

10. There was limited progress in terms of trade diversification during 2018–2023. CAREC is a relatively minor trading partner for the PRC although its role increased over the period reaching 2.2% of total trade turnover in 2023 compared to 1.5% in 2018. Trade patterns in the region are dominated by PRC, which is the primary trading partner with each of the other CAREC economies. Mongolia and Pakistan have limited trade with the economies of the Caucasus and Central Asia and with each other. Central Asian economies have three main trade partners: PRC, the Russian Federation, and the European Union. Trade between the key external markets as well as intra-CAREC trade increased by about 10% a year over the 5-year period as illustrated in Figure 3.

Figure 3: Merchandize Trade Turnover with Key Trade Partners 2018–2023

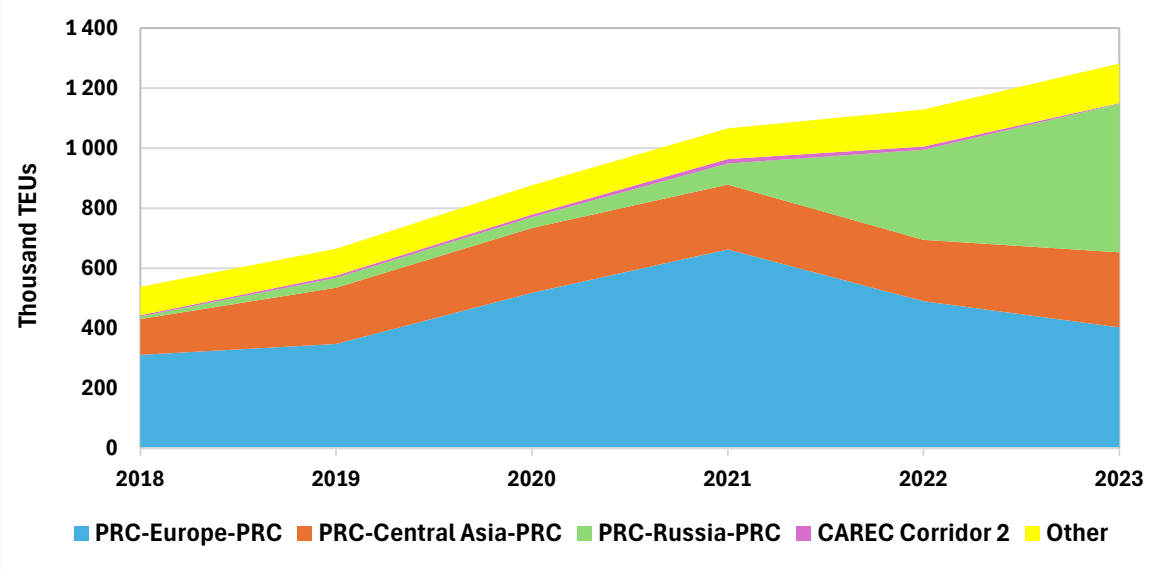


CCA = Caucasus and Central Asia, EU = European Union, PRC = the People's Republic of China.
Sources: UN Comtrade, national statistical and customs agencies.

11. The countries of the CAREC region are geographically located between the major markets of East Asia to the east, the European Union to the west, and the Russian Federation to the north. The region is well known for its trade corridors and historically the "Silk Road" linked east with west and served as a major trading corridor for many centuries. The major trade corridors traverse each of the Central Asian and Caucasus countries and provide the vital links to external markets for the landlocked countries of the region. Today, the region is still known for its trade facilitation role and provides important transit routes linking major international markets. Due to its geographical location and size, Kazakhstan is the main transit country catering to trade flows in both the east-west and north-south directions. Transit trade via Kazakhstan can be characterized by the volumes of containerized traffic carried by the country's railway system, which is summarized in Figure 4. Traffic demand has more than doubled over 2018–2023 reflecting significant growth during the COVID-19 pandemic and especially since the Russian invasion of Ukraine as trade between PRC and the Russian Federation has increased sharply. The volumes of containers reflect the main trading routes linking East Asia with the Russian Federation and the European Union and although considerably smaller in volume the trade between Central Asia and East Asia is growing, albeit slowly. Azerbaijan also serves as a transit trade hub in the region albeit significantly smaller in volume. The port of Alat (Baku) handled over 52,000 containers in 2023, of which about 20% arrive from the adjacent port of Aktau in Kazakhstan on the Caspian Sea. The freight volumes traversing the Caspian Sea has shown a considerable increase over the period 2018–2023 although the total flow remains very small in comparison to other routes.[8] The limitations associated with the waterborne transport services and port-rail interconnections for trans-Caspian trade are significant barriers to greater use of CAREC Corridor 2.

[8] With respect to the modal capacity of the alternative trade routes serving the PRC to Europe trade the capacity of Corridor 2 (also known as the Middle Corridor) is estimated at 75,000 TEU which compares to 1,575,000 TEU for the northern corridor and more than 35 million TEU for sea routes (presentation to 19th Transport Sector Coordinating Committee, Almaty, Kazakhstan, October 2022).

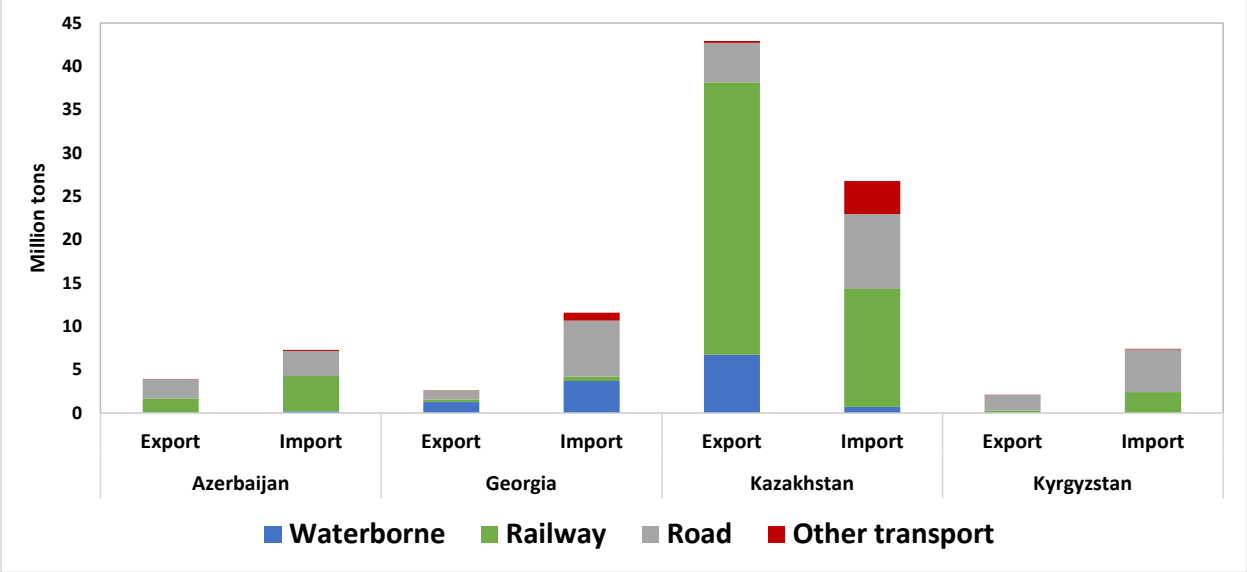
Figure 4: International Container Transit via Kazakhstan, 2018–2023



PRC = the People's Republic of China.
Note: "Other" includes flows between Russian Federation (both European part and Far East) and Central Asia, PRC and Belarus, etc.
Source: National railway company *Kazakhstan Temir Zholy.*

12. Some CAREC countries report trade data by transport mode. While energy flows of oil and gas primarily use pipelines, non-energy trade mainly uses railway and road transport and waterborne transport for trans-Caspian Sea and onward transport from Black Sea ports. Figure 5 illustrates the modal data reported from four CAREC countries which have considerably different economies and rely to a different extent on railway or road transport. In Kazakhstan, with its vast distances, railways have a dominant role in the transport of exports and imports while in the mountainous Kyrgyz Republic's road transport is more dominant. Waterborne transport, a relatively minor mode, is used in Kazakhstan for trans-Caspian movements while in Georgia, which has access to the sea, it is used for less than half of its trade. A common feature of trade in many countries is the dominance in volumes of imports compared to the volume of exports for merchandise trade which is highly imbalanced. This imbalance is also a key characteristic of the East Asia–EU trade, where exports from East Asia dominate.

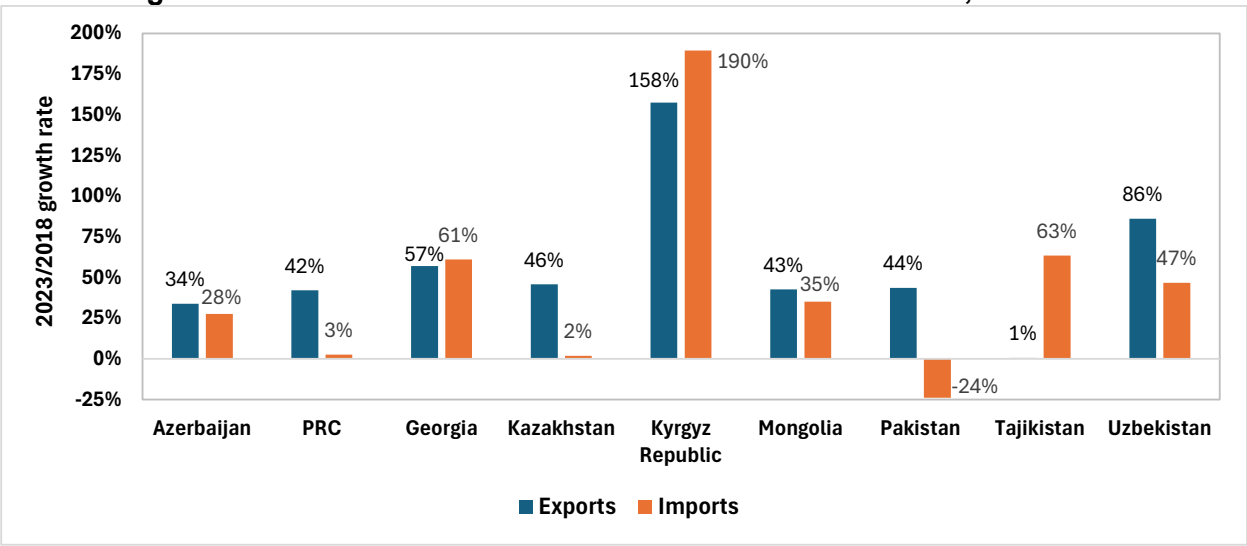
Figure 5: Non-Energy Trade by Transport Mode for Select CAREC Economies, 2022



Source: UN Comtrade.

13. The trade in services (measured by US$) increased faster than the trade in physical goods in many CAREC economies (Figure 6). This growth was due to the increase in tourism and other international movements of people and, in some countries, the increase in financial flows and ICT services. Transport and travel services are the two main components of trade-in-services with a high proportion of the latter attributable to tourism. In CAREC economies the trade in transport services typically constitutes between 30% and 40% of total trade in services while the proportion of travel services amounts to between 20% and 30% of the total. An important difference is that travel services have a high dependency on the aviation sector while the trade in goods is primarily dependent on road and rail transport. With respect to trade in financial and ICT services the availability of digital hard and soft infrastructure is of most importance. Of increasing importance is the role of digital technologies to fostering increased efficiencies and lower costs of transport and logistic services.

Figure 6: Growth of Trade in Services for CAREC Economies, 2018–2023



PRC = the People's Republic of China.
Sources: Central Banks of the CAREC Economies.

III. Global Developments and Changing Technologies

(i) Introduction

14. Since the development and approval of CTS in 2019 the world has been subject to a number of global developments that have had a significant impact on the way in which the transport sector is viewed from a developmental perspective as well as technological changes that are resulting in rapid changes to the way transport services are operated and delivered. In this respect, the implementation of the CTS needs to be aware of not only the changing global environment but also the new technologies and processes that are changing the demand for, and use of, transport infrastructure and services. Experience has also demonstrated that global conflicts can have a major effect on the demand for, and delivery of, transport services, and the CAREC region has been at the forefront of such events. The CTS needs to provide appropriate support to ensure projects and programs address climate risks, decarbonization targets, and utilization of digital technologies. In addition, increased resilience needs to be built into transport infrastructure and services to accommodate the unforeseen risks.

(ii) Climate Resilience, Disaster Prevention, and Decarbonization

15. The CAREC region is highly susceptible to climate impacts that includes rising temperatures, extreme weather events, and natural hazards, all of which are described by increasing trends that are expected to increase in the future.[9] The transport sector is an important sector integrating the economy by providing links between centers of economic production and markets both within the region as well as external. As such it is important that potential disruptions to transport services are minimized by reducing the risks and increasing the resilience of the infrastructure. Storms and floods expose transport infrastructure and services to increased risks. Rising temperatures will affect factors important for the operation of transport such as road pavements and buckling of railroad tracks. Even where physical damage is not apparent it will likely decrease productivity of transport operations and affect users' safety and comfort. It is therefore important to implement measures to reduce the climate risks by increasing the resilience of the transport infrastructure networks and services to deal with, adapt and recover from possible disruptions.

16. Decarbonizing transport is a major global policy thrust designed to attain a low-carbon economy and has been recognized in several of the individual CAREC country's National Determined Contributions. The transport sector is a major contributor to the changing climate being responsible for about a quarter of global CO_2 emissions. As a result, transport has a key role in the transition to a low-carbon economy, and the sector is exposed to a number of transition risks. New developments are likely to affect the transport sector through various different channels such as increased carbon pricing and regulatory changes, changing technologies such as the shift from internal combustion to electric power, and require substantial investments to meet new technology outcomes such as charging stations and renewable energy sources. Decarbonization represents a major shift in transport technologies that requires synchronized plans from both the transport and energy sectors as well as users and consumers if it is to be achieved in a timely manner.

17. Future support for transport in the CAREC region needs to place greater emphasis to both counter the risks associated with the changing climate trends by increasing the resilience of transport infrastructure and services, as well as supporting the shift to a low-carbon transport

[9] ADB. 2024. *Central Asia Regional Economic Cooperation Program Climate Change Action Plan 2025–2027*.

scenario by encouraging appropriate policies and plans as well as investments in low-carbon technologies and modes.

(iii) Economic Corridor and Smart Mobility

18. The CAREC corridors are well known as trade corridors linking with major trade partners in East Asia, Europe, and others. The increasing utilization of digital technologies is transforming trade and transport services from what was largely the movement of goods from origin to destination to also incorporating logistics services covering the coordination and maintenance of the supply chain functions including storage, containerization, documentation, insurance, customs and all other functions required to ensure the seamless movement of goods and services between points of origin to final destinations. These integrated logistics systems are increasingly important in the supply chain as the value and movement of goods increases and the role of transport services becomes an increasingly important component of the final product cost and quality.

19. The changes in the value chain are resulting in a more important role for the region's transport corridors as potential competitive routes emerge by land compared to the traditional low-cost maritime transport routes between East Asia and Europe. The last decade has witnessed a rapid increase in the role of rail transport for higher value manufactured products. The use of improved integrated logistics systems will increasingly become important in adding productivity to the rail-based routes. Support for transport needs to extend beyond the improvement of infrastructure is needed, and an economic corridor approach is needed to include services and related components that will add value to services such as the provision of logistics centers, cold chain facilities, intermodal hubs, interchanges, and feeder access. In addition, the support services that cover the vital trade facilitation components are needed to ensure economic corridors operate efficiently and effectively across borders and continents.

20. The transport sector is rapidly experiencing change as greater use is made of technological developments and innovations including new business models and policies that contribute towards improved safety, efficiency, flexibility, integration and environmental sustainability. These so called smart mobility solutions such as intelligent transport systems, digitalization, low emission vehicles, public transport and shared mobility, cycling and walking, transport demand management, and integrated urban planning can benefit transport along CAREC coridors particularly at the city nodes where increasing congestion adversely impacts long distance freight movements. In addition, the transition towards the creation of green freight corridors and the role of urban nodes needs to be assessed and measures adopted to transform the sustainability of CAREC corridors.

(iv) Digitalization and Emerging Technologies

21. Digitalization is reshaping the transport sector, transforming transport and transport services over a wide spectrum covering engineering designs of infrastructure to the real-time scheduling and delivery of transport services. Emerging technologies—such as artificial intelligence (AI), big data analytics, and intelligent transport systems—are set to become powerful enablers of efficiency and integration across all modes of transport in the CAREC region. These innovations hold significant potential to reduce trade and logistics costs, optimize asset utilization, and enhance the resilience of transport networks. To fully realize these benefits, it is crucial for the sector to embrace a forward-looking mindset – open to advocating new digital solutions and operational models. This technological shift is particularly important for the region, where geographic distances and limited connectivity contribute considerably to the higher transport cost.

By harnessing digital and AI-driven approaches, the region can overcome these structural challenges, improve the competitiveness of trade corridors, and accelerate inclusive economic growth.

(v) Regional Conflicts

22. Regional conflicts can have significant impact on international transport, and in recent years the CAREC region has been affected by such impacts. Such disruptions result in higher costs associated with trade, which usually need to take lengthy diversions to reach destinations. More recently the Russia's war in Ukraine and the conflict in the Red Sea have had a significant impact on trade by affecting both routing and patterns of trade. The fast-growing rail services serving the East Asia–Europe trade were impacted by sanctions on the Russian Federation and some of this trade was diverted to the Corridor 2 route, which is constrained by limitations at the Caspian Sea and many international borders and transshipment requirements. It has highlighted the need for greater route resilience by having alternative options for rerouting traffic. The sanctions on Russian trade have led to significant increases in trade using both Corridors 2 and 4 as traffic demand both shifts in route as well as supports increases in demand from new supplier origins.

23. Conflicts outside the region have also adversely impacted Central Asia directly and indirectly. Conflict in the Red Sea has affected trade and has increased the demand for land routes across Asia, increasing the demand for the use of CAREC corridors. The disruption to maritime routes goes beyond the direct impact on routes using the Red Sea as disruptions have a ripple effect impacting global operations with shipping schedules on other routes also disrupted.

24. Dealing with unforeseen events requires additional resilience to be built into transport systems and operations to minimize the impacts of potential disruptions. This requires an assessment of the risks to be undertaken and identification of the costs of dealing with each risk factor. The results of such an assessment are likely to show that while some risks can be accommodated relatively easily others will be too costly to mitigate. These latter risks will require mitigation plans to cover any anticipated disruption to transport services.

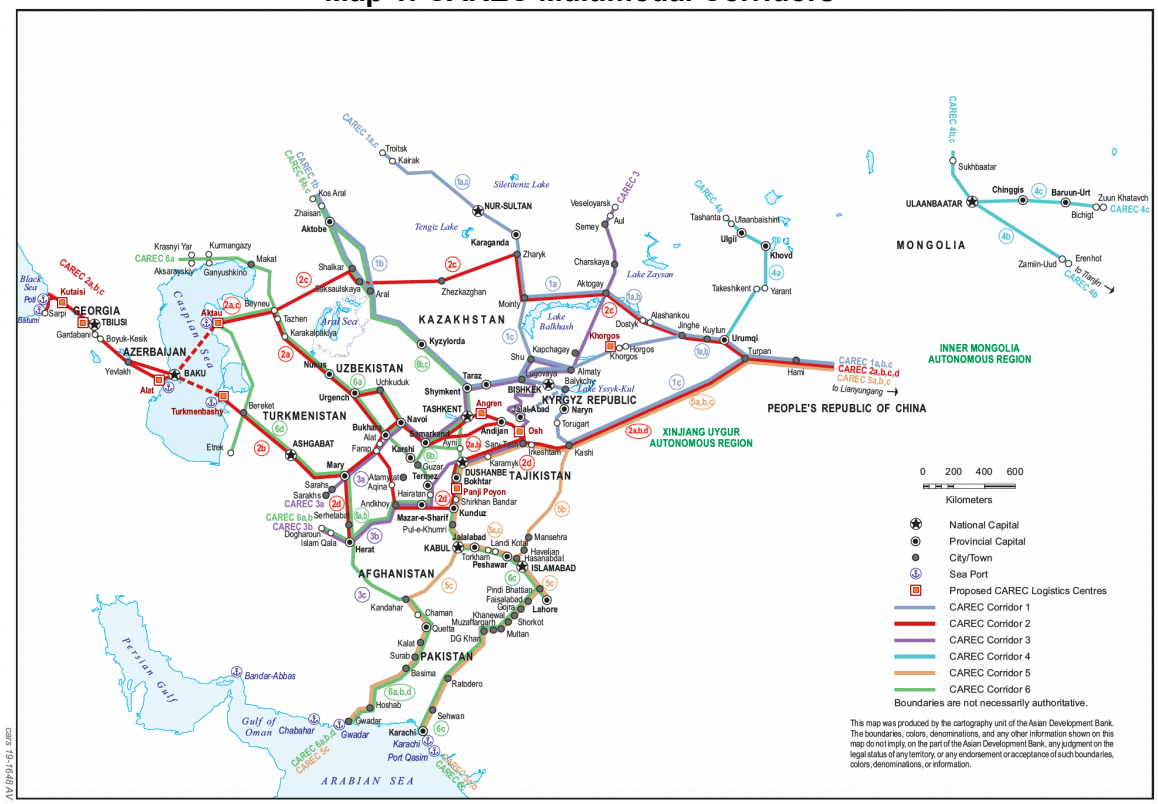
IV. Review of the CAREC Transport Strategy 2030

(i) Overview

25. The CAREC Transport Strategy 2030 (CTS 2030) was prepared and endorsed by the CAREC Ministers in 2019. Unlike its predecessor, the transport strategy was developed separately from the trade agenda, which was expected to provide a stronger alignment of all CAREC operational strategies towards achieving CAREC 2030. In this respect, the CTS was fully aligned with the objectives of reducing trade barriers and associated costs, increasing trade connectivity, and reducing trade turnover times. Within the CTS there are two individual modal transport strategies, one covering the railway sector and the other road safety (footnote 4). The MTR has broadly reviewed both these strategies to ensure that they remain relevant and continue to support the overall objectives of the transport sector.

26. The CAREC transport network consists of six multimodal corridors crossing the region broadly from east to west and north to south and represents the important trading routes serving the region for links to external markets as well as intra-CAREC routes serving the individual countries. These routes were originally defined under the earlier Trade and Transport Strategy 2020 and were considered suitable and representative to continue supporting the economic and social development of the region. This review has not adjusted the corridor network given the technical and political challenges of route changes, and Map 1 illustrates the CAREC multimodal corridor network. However, the MTR suggests that a review of strategic needs including the corridor alignments will be required when considering the region's strategic transport requirements beyond 2030.

Map 1: CAREC Multimodal Corridors



Source: CTS 2030

(ii) Review of the Strategic Framework

27. The overall strategic framework was based on five key pillars covering (i) cross border transport and logistics facilitation, (ii) roads and road asset management, (iii) road safety, (iv) railways, and (v) aviation. These pillars cover the bulk of most transport movements in the region given that waterborne transport is relatively minor being limited to trans-Caspian trade and seaports in Georgia and Pakistan. The framework was also centered on achieving two primary objectives, namely, connectivity and sustainability.

28. Consultations with agencies relevant to the transport and trade sector provided feedback on the overall strategic nature of the CTS 2030.[10] These discussions revealed that the strategic nature of the program provided important guidance and direction to each of the individual countries. In all countries, the CTS strategic framework provided a common focus to achieving improved connectivity. This was considered a crucial element for each of the countries given their landlocked geographical position and exceptional long distances to external markets. The focus on connectivity has underpinned the importance of the regional corridor network concept as a major development objective in national development plans. Prioritizing the improvement of national segments of the corridors has resulted in an improved and better-connected network overall. The resulting improved connectivity has had a substantive positive impact on each of the country's abilities to access both domestic markets as well as those beyond their national boundaries.[11] This outcome is well aligned with the CAREC mission to establish *"a regional cooperation platform to connect people, policies and projects for shared and sustainable development"*. The resulting improved connectivity enables the corridors to facilitate increased people movement and trade throughout the region. The one area which has not yet received mainstream support, although its importance is well recognized, concerns the delays attributable to border crossing controls and procedures. This is discussed in paras 33 to 39 below.

29. However, one aspect of the strategic framework that is not considered or reviewed is an assessment of how well the corridors perform. At the national level corridors are reviewed largely as important national roads, and few assessments are made of regional trade or impacts that occur beyond the national borders. In this respect, the constraints posed by inefficient and bureaucratic border crossing processes and procedures are rarely examined as part of the transport requirements, and this has led to widespread problems at border crossing points. Generally, portions of the corridor are selected for improvement or upgrading due to their deteriorated quality and or limited capacity to handle increasing volumes of traffic, and feasibility studies are undertaken on a standalone basis to determine social needs and economic viability. An important element missing from the assessment is an overview of each corridor from a regional perspective, and it would be appropriate to undertake such reviews on a periodic basis to obtain an understanding on how individual corridors are performing and identify constraints that might impede future performance. This aspect is discussed further in the proposed recommendations chapter.

30. Transport infrastructure is perhaps a country's largest investment asset given its overall cost and widespread benefit to the national economy. This is mirrored in the overall support provided by the CAREC program to the transport sector, where $35.5 billion representing 68% of the total support has been allocated to the sector from its inception until 2024 (Figure 1). It is,

[10] A core part of the MTR process involved conducting consultations with each CAREC country to obtain their feedback, ideas, issues, and recommendations on the appropriateness and relevance of the CAREC Transport Strategy 2030 (footnote 3).

[11] ADB. 2023. *Evaluation of ADB Support for the Central Asia Regional Economic Cooperation Program, 2011-2022*.

therefore, crucial that the values of the investments are retained through appropriate and adequately funded maintenance programs. To support this objective, the strategic framework placed priority on achieving sustainability and ensured that the infrastructure continues to generate economic and social benefits over the long term. The MTR has identified that sustainability was supported through two approaches. The first was to incorporate improved maintenance as a primary thrust in all projects through a combination of different approaches. In some projects direct support was provided to build the capacity of maintenance operations through the provision of maintenance equipment, capacity enhancement of maintenance staff, and resources to undertake increased maintenance activities. In some instances, enhancements of maintenance policies were implemented to increase the volume of maintenance activities through adoption of systems designed to increase resources and efficiencies specifically for maintenance purposes. A focus was also provided at the regional level to build the capacity and knowledge of managing infrastructure assets.

31. In addition to funding support, the CTS assigned priority to providing capacity building and knowledge management activities. Sustainability is not just the provision of adequate funds, and it also requires knowledge on the design, maintenance and management of the infrastructure to achieve success. To support this element of the program, resources were provided to support and deliver various capacity building programs as well as development and publication of knowledge products. The review of activities accomplished under CTS has revealed that a substantial number of workshops, training programs and knowledge products were a major output during 2020–2024.

32. The focus on achieving connectivity and sustainability in the transport sector are both important parameters and these objectives need to be continued in the remainder of the period to 2030. Since the development of CTS, greater awareness is being paid to dealing with unforeseen events caused by natural disasters, changing climatic conditions, and geopolitical impacts. Disruptions to transport can cause significant costs to an economy, and it is increasingly recognized that the ability of infrastructure to withstand such adverse shocks is an important attribute and needs to be given priority. As mentioned in para. 15 the findings of the MTR suggest that resilience should be an added objective of the regional strategy.

(iii) Cross Border Transport and Logistics Facilitation

33. Cross border transport has remained a priority since the inception of the CAREC program since the movement of people and goods between countries in the region as well as to external destinations has been a core objective of the program. However, delays at border crossing points (BCPs) were a key issue and often were at a level that nullified the benefits attributable to vehicle time savings associated with connectivity improvements. The CAREC program initiated the Corridor Performance Measurement and Monitoring (CPMM) in 2010 to specifically measure the delays and costs associated with traversing the important corridor BCPs in the region and identify critical bottlenecks and constraints associated with border crossings particularly for freight traffic.[12]

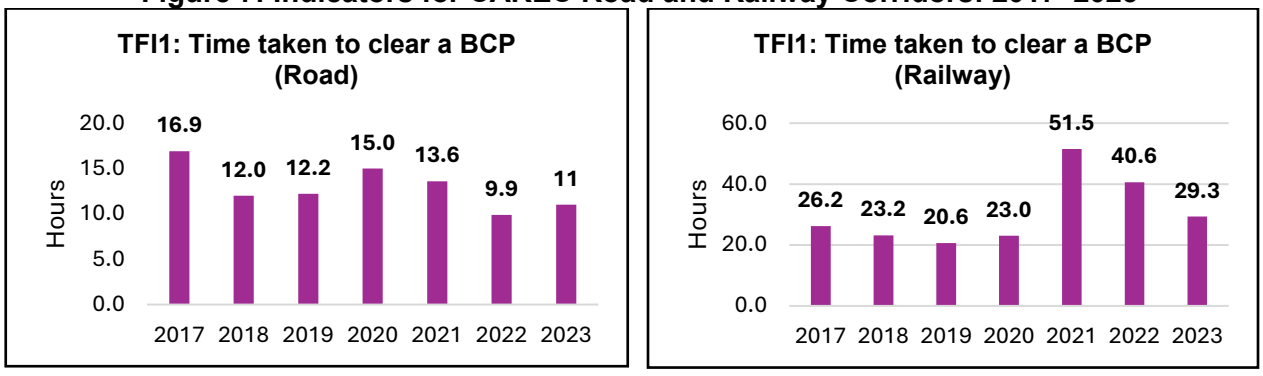
34. Several investment projects were included in the CAREC program to address the constraints. These projects, often referred to as Regional Integrated Border Services Projects,

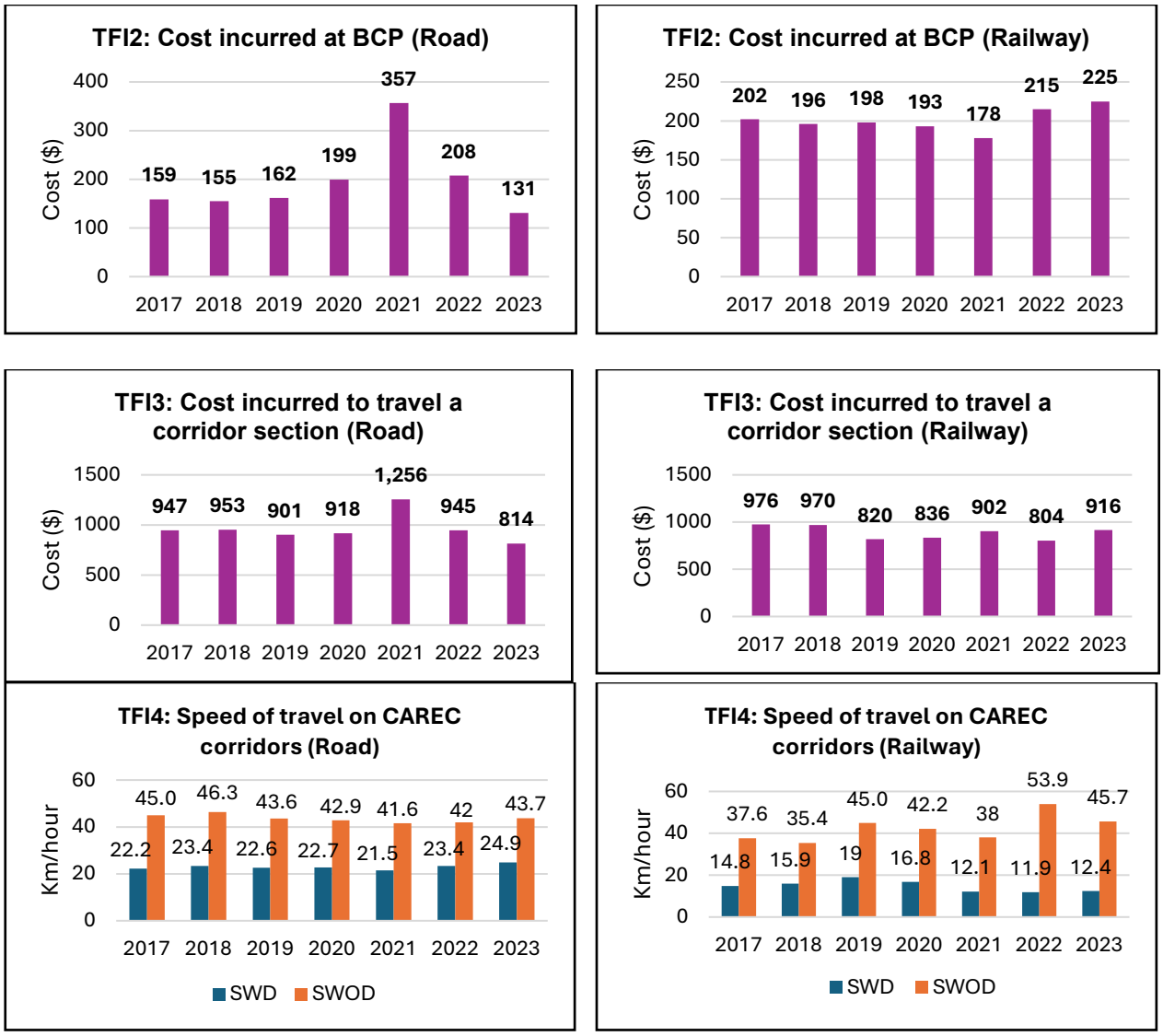
[12] The CPMM tool was initiated in 2010 as part of the CAREC program's monitoring framework to measure the outcomes of CAREC investments in the transport network that focused on improving connectivity. The data is collected by private sector trucking companies and the reports prior to 2023 were published by the ADB. Since then, the responsibility for analysis and reporting has rested with the CAREC Institute which is expected to continue with and further develop the methodology.

have included components for both hard and soft infrastructure since the physical capacity constraints associated with border facilities is only a part of the problem. Improvements to the soft side are equally critical as oftentimes the processes and procedures utilize legacy paper-based systems that were originally designed to control rather than facilitate trade. Under CAREC's parallel trade strategy, the CAREC Integrated Trade Agenda (CITA) 2030, measures have been established to enhance customs and other border control systems such as sanitary and phytosanitary regulations, and a variety of non-tariff barriers. An emphasis has been placed on transitioning from paper-based to electronic systems and ensuring that border systems adopt national single window systems that integrate and harmonize data from multiple government agencies to improve efficiency. As countries adopt digital electronic systems, it is also necessary for different country systems to communicate with each other to expedite processes across multiple borders, which is particularly important for exports beyond neighboring countries. For such systems to be effective and compatible, it is necessary for transport and trade agencies to collaborate closely to achieve improved trade and cross-border outcomes.

35. Evidence from CPMM indicates that reductions in border crossing delays and costs over 2017–2023 are mixed with positive outcomes for the road sector but not for rail-based transport. For road transport, the average time taken at a BCP has reduced from 16.9 hours in 2017 to 11 hours in 2023 while the cost has fallen from $159 to $131 (Figure 7). Exceptions for both parameters were experienced during the COVID-19 period, when time and cost delays increased. The CPMM data indicates that time and cost across all BCPs have reduced by more than 20%. However, the data also shows that at some important locations, time and delay are excessive and impact the overall regional results. Addressing these specific locations could significantly improve overall regional performance. With respect to railway border crossings, the results are less favorable, with time delays and costs marginally increasing between 2017 and 2023. While these regional parameters reflect the overall corridor network performance, there are large variations across the corridors, with many BCPs performing well and others experiencing excessive delays and costs. Therefore, it is advisable to prioritize addressing the BCPs with poor performance. Away from border crossings, road and railway corridor segments are performing well, reflecting substantial efforts by countries to improve road and rail connectivity. The trend in both road and rail costs indicates a downward movement, with reducing costs, while network speeds are broadly stable for roads but increasing for railway movements. Given the type of roads comprising the individual corridors, average speeds are unlikely to increase significantly in the future, especially since heavy trucks, some with trailers, are not expected to attain significantly higher speeds. Conversely, network speeds by rail continue to increase, and with further investment and improvements in railway infrastructure and technologies, future speeds are expected to continue an upward trend. This suggests that greater efforts should be given to railway improvements.

Figure 7: Indicators for CAREC Road and Railway Corridors: 2017–2023





BCP = border crossing point, SWD = speed with delay, SWOD = speed without delay, TFI = trade facilitation indicator.
Source: CAREC Corridor Performance Measurement and Monitoring.

36. Investments have been implemented at several BCPs using both internal resources as well as external loans and grants. Despite the focus given to BCPs under the CTS progress has been slow, especially given the large number of BCPs in the region that require investment and upgrading. The MTR concurs with the recommendations made by the independent evaluation of ADB support for the CAREC program (footnote 9) that *"consideration should be given to scaling up the past experience of the Regional Improvement of Border Services projects so that the widespread delays and costs associated with border crossings can be reduced if not eliminated"*. Actions to expedite such a program are discussed in para 58. Countries emphasized the need to reduce delays and costs at BCPs. Many have implemented national single window systems to speed up processing. Although improvements are still needed, there is a strong demand to enhance both physical and digital infrastructure at borders. The MTR notes that many border authorities are willing to invest in facilities to reduce the time and cost of international business, and this should be prioritized in the CTS from 2026 to 2030.

37. The CAREC region has a long history in transit trade linking East Asia in the east with Europe in the west. In the past decade this trade has grown substantially and has focused on developing railway routes as a potential alternative to the main maritime routes particularly for higher value products where the shorter rail transit times offer keen competition. In comparison maritime transport generally takes 28–40 days to link PRC ports with Europe with container rates largely in the $1,500 to $2,000 band for a standard forty-foot (FEU) container while block container trains using the northern route from PRC through Kazakhstan, the Russian Federation, Republic of Belarus to Europe reduce travel to between 15 to 16 days with costs in the $2,800 to $3,200 range per FEU; Corridor 2 in comparison takes between 35 to 45 days with costs in the $4,500 to $5,000 range.[13] Prior to 2022 the northern corridor volume of trade reached almost 1.5 million TEU a year and was an attractive alternative to maritime transport for various cargoes.[14] However, following the Russia's war in Ukraine, the route through the Russian Federation was subject to constraints and many shippers opted to try alternative routes, the most popular of which was CAREC Corridor 2.[15] This corridor crosses Kazakhstan, the Caspian Sea, Azerbaijan, Georgia, and onward to Europe mostly either by train or a combination of ferry and train. There are also several route deviations or options including those using portions of corridors in Turkmenistan and Uzbekistan. A further possible future sub-route linking to the corridor is the recently approved PRC–Kyrgyz Republic–Uzbekistan railway.

38. The CAREC Corridor 2 is constrained by a combination of multiple border crossings, limitations on trans-Caspian shipping capacity, inefficient intermodal links between sea, rail, and road modes, the shrinking of the Caspian Sea, and capacity limitations at Black Sea ports. Numerous assessments have been made of the Corridor 2 potential.[16] These assessments have generally resulted in favorable recommendations subject to incorporating the aforementioned corridor constraints. The countries on the corridor all have expressed interest in the route's potential. Throughputs in trade on Corridor 2 increased considerably to 56,500 TEU in 2024 suggesting that there is demand for the route despite the significant constraints posed by physical infrastructure and services and limited soft infrastructure border processes and procedures.[17] The consultations with countries conducted as part of the MTR highlighted the issues and potential demand for improved infrastructure and accompanying services as well as the country interests in developing the route. The MTR considers that there is potential scope for developing Corridor 2 route infrastructure and services to provide a competitive alternative option to the northern corridor, providing more transport options beyond the transit function to the individual countries of Central Asia. To enhance connectivity and boost competitiveness in the region, it is recommended to further support the development of Corridor 2 under the CTS during 2026–2030.

39. Investment support has prioritized transport infrastructure while the use of infrastructure, such as logistics, public transport, and tourism, has not been given much support in the CAREC program. This is unfortunate since the primary benefits from investment in infrastructure are

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[13] The comparative data is taken from the "CAREC Corridor 2 (Middle Corridor) Development Strategy" prepared by Consultants for the ADB, 2025 and refer to the World Bank study, 2023.

[14] The volume of 1.5 million TEU also includes traffic between PRC and Russia and the estimated volume between PRC and Europe is estimated at 618,000 TEU.

[15] Corridor 2 is also referred to by several different titles in the literature including the Middle Corridor, Transcaspian International Transport Route (TITR), and Trans-Caspian Transport Corridor (TCTC).

[16] ADB. 2022. *CAREC Middle Corridor Assessment: Transport Connectivity on the Eurasian Transit Routes*; EBRD. 2023. *Sustainable Transport Connections between Europe and Central Asia*; World Bank. 2023. *Middle Trade and Transport Corridor: Policies and Investments to Triple Freight Volumes and Halve Travel Time by 2030*; ADB. 2025 (forthcoming). *Background Study for Midterm Review of Central Asia Regional Economic Cooperation Transport Strategy 2030: CAREC Corridor (Middle Corridor) Development Strategy*; and OECD. 2025 (forthcoming). *Enhancing the Competitiveness of the Trans-Caspian Transport Corridor (TCTC)*.

[17] This compares to 380,000 TEU throughput on the Northern Corridor for common origin-destinations.

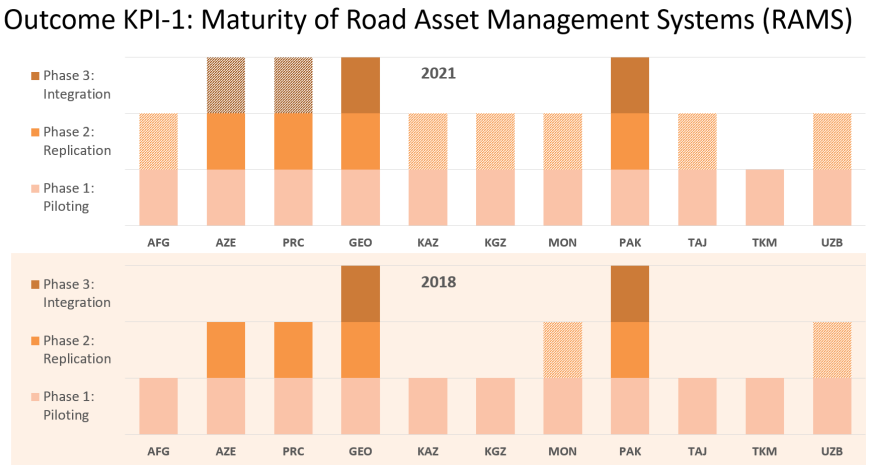
gained from the use of the infrastructure through increased movement of people and goods and improved competitiveness. A review of investment documentation particularly for road improvements reveals that the studies that underpin the transport analysis largely omit important details about the use of the road infrastructure in terms of its contribution to regional trade and transport. There is limited information on the split between regional and domestic traffic, and the volumes and types of freight using the road corridors. Availability of information on the use of the road corridors together with cross border flows, could significantly contribute to the regional context of the investment and result in better quality regional assessments and impacts at project design, completion and evaluation stages of the project cycle. The MTR suggests that such regional planning and assessment function be enhanced with improved data and regional transport model for assessing the regional coordination and integration aspects of the CAREC transport program and regional trade.

(iv) Roads and Road Asset Management

40. The road sector continues to be the sector receiving the greatest support given the large backlog of roads that were in poor condition at the commencement of the CAREC program and the extensive impact of an improved road network in delivering economic and social development benefits. As noted earlier, the focus on delivering improved connectivity was also an important component of individual national transport plans and this common thread across CAREC countries provided the impetus to achieve a better-connected regional road network. The strategy recognized that a major issue in most countries was the risks associated with maintaining the road network in good condition due to a combination of inefficient maintenance practices and insufficient funding allocations devoted to conducting maintenance activities. As a result, the strategy placed priority on strengthening road asset management practices and supporting policies to bolster the financing of road maintenance activities.

41. In most countries road maintenance practices were based on legacy systems that assigned resources to resolve problems once they had become apparent. The change to more modern road asset management techniques shifts the focus to preventing roads from reaching a deteriorated state by predicting early road deterioration and allocating resources to maintain good quality pavements before deterioration sets in. Adopting and implementing such systems takes time and resources. Although good progress has been made in several countries more time is required before road asset management systems are fully integrated into road operating agencies. Figure 8 illustrates the positive changes that have occurred in road asset management in many CAREC countries to date and indicates that it will take additional time before such practices are fully effective.

Figure 8: RAMS Maturity Assessment



42. In parallel with road asset management, a significant related issue is the shortage of funds for road maintenance. Assessment of road financing policies revealed that in many countries the funds allocated for road maintenance are well below the required needs.[18] This is a serious problem given the volume of support invested in improving the CAREC corridors.

43. Given the high economic returns that are generated from effective road management coupled with the priority programs discussed during country consultation, the MTR recommends that the strategy to achieve greater sustainability of the road networks through improved road asset management and financing should be continued as high priority.

(v) Road Safety

44. Road safety was identified as an important policy issue prior to adoption of the CTS and a separate CAREC road safety strategy was endorsed by the Ministerial Conference in 2016.[19] The basis of the strategy uses the "safe system approach" promulgated by the World Health Organization (WHO) and commonly used to achieve improvements in road safety outcomes. The strategy also has a focal target to reduce the number of deaths attributable to road crashes by 50% by 2030 compared to the base line level in 2010. This target is also in line with the WHO global target, which was also adopted by the United Nations Sustainable Development Goals. The MTR review of the strategy indicates that the document remains valid and is consistent with global practices to reduce road crash deaths and injuries.

45. During consultations, the importance of addressing road safety was regularly mentioned by national agencies. However, despite the importance of reducing road crashes, most countries are experiencing difficulties in attaining the target reductions in road deaths. On the positive side all countries have made good progress in reducing the number of fatalities compared to the 2010 baseline as indicated in Table 1. Several countries have reduced fatalities by over 30% although several countries have achieved less than 5% since the target was adopted. The overall picture suggests that a significantly greater effort is required between different agencies, particularly the police, highway agencies and health authorities, if the 2030 target is to be realized. The statistics also indicate that the official police records significantly underestimate the likely number of

[18] ADB. 2022. *Road Funds and Road User Charges in the CAREC Region*.
[19] ADB. 2016. *Safely Connected: A Regional Road Safety Strategy for CAREC Countries, 2017–2023*.

fatalities as estimated by the WHO. Underestimation decreases the importance of the road safety problem and undervalues the economic losses attributable to road crashes.

Table 1: CAREC Road Safety Progress 2010–2021
(Number of Fatalities)

Country	Based on Official Police Records			WHO Estimates		% Fatalities Reduction[a]
	2010	2016	2021	2016	2021	
Azerbaijan	925	759	706	2,096	1,769	23.7
Georgia	685	581	449	621	476	34.5
Kazakhstan	3,379	2,625	2,270	2,910	2,340	32.8
Kyrgyz Republic	875	812	869	1,069	869	0.7
Mongolia	491	484	383	494	414	22.0
Pakistan	5,192	4,448	5,816	27,543	27,568	12.0
PRC	65,225	58,022	62,218	256,180	248,099	4.6
Tajikistan	411	427	395	1,622	1,352	3.9
Turkmenistan	Na	Na	Na			
Uzbekistan	2,731	2,496	2,197	3,040	3,155	19.6

[a] Based on Official Police Records 2010 to 2021.
Source: WHO Global Road Safety Status Reports (various years).

46. A review of the national road safety performance indicators presented in the latest WHO status report clearly indicates that CAREC countries need to strengthen various actions to achieve better road safety outcomes.[20] For instance, several countries either do not have a national road safety strategy to guide actions necessary to reduce fatalities and injuries, and only two countries have indicated that their action plans are fully funded. The absence of specific funding for road safety is a global issue and in many CAREC countries progress in reducing road crashes is impeded by limited resource availability. Good progress has been achieved in promoting safer roads in investment projects, and all countries are now incorporating road safety audit techniques and star ratings that result in safer road infrastructure outcomes. This progress needs to be accelerated by adopting a programmatic approach rather than a project approach to safer roads simply because the latter approach restricts improvements to the 100km or 200km of roads under a project rather than impacting the thousands of kilometers of roads comprising the network. This change in approach could scale-up the impact of safer roads.

47. During 2020–2024 CTS has allocated considerable attention to promoting road safety through an extensive program of training workshops and publication of knowledge products. The knowledge products are considered valuable for promoting new and different techniques and the reports are widely known in the region. The focus on road safety audit, use and application of star ratings, attention to infrastructure for pedestrians, and managing road worksites have all contributed to improved knowledge about safer road infrastructure, and such measures are now being widely adopted by highway agencies. In some cases, such as amending design changes to improve safety, adoption takes time as institutional adjustments require acceptance in several different agencies. Overall, the MTR considers that the capacity building and knowledge activities of the CTS have been successful in raising awareness in road safety especially in highway agencies. Future activities should extend the capacity building to other agencies, particularly the enforcement agencies, and build bridges between the police and other agencies to achieve greater coordination and cooperation between different agencies which commonly operate in separate silos.

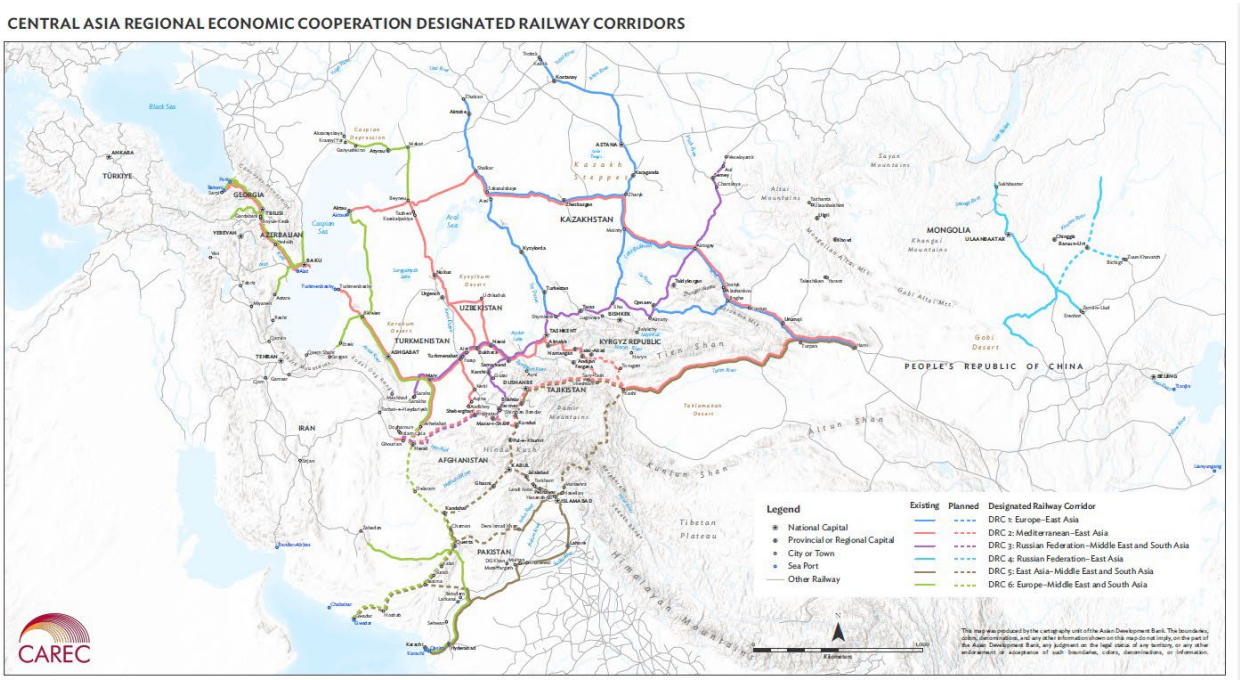
[20] WHO. 2023. *Global Status Report on Road Safety 2023*.

48. The general conclusion from the MTR assessment of road safety is that the CAREC region has achieved significant progress in road safety outcomes, but greater efforts need to be sustained if desired targets are to be achieved. In particular, countries need to allocate greater attention to preparing multisectoral road safety plans and ensure that such plans are adequately funded and implemented. Policies supporting greater safety outcomes need to be strengthened and enforced. The greater use of digital technologies can improve the effectiveness of safety projects and programs as well as strengthen enforcement. During the 2026–2030 period, greater consideration needs to be provided to shift the focus from knowledge sharing to action by implementing road safety projects and programs designed to widen the scale of road safety outcomes and achieve greater development impact.

(vi) Railways

49. Initiatives in the railway sector have been guided by the CAREC railway strategy approved in 2017 (footnote 4). This strategy has provided an appropriate framework to develop the region's railway systems, which had deteriorated significantly since independence from the former Soviet system. The strategy proposed actions be focused on a combination of three key outputs, namely, (i) improved railway infrastructure, (ii) increased robust commercial capabilities, and (iii) improved legal and regulatory frameworks. Baseline indicators for each of these outputs were quantified under the strategy's results-based framework.[21] To help define the physical infrastructure needs across the region, the strategy identified six Designated Railway Corridors (Map 2) and prepared a methodology for prioritizing individual investment projects.

Map 2: CAREC Designated Railway Corridors



[21] See Appendix 1 of the CAREC Railway Strategy, 2017–2030.

50. A review of the strategy suggests that the broad thrust remain valid with a continuing need to support the three priorities, which remain to be attained in national railway systems. It would be appropriate to measure the relative progress of each of the output indicators specified in the results-based framework to ascertain their interim status. Amendments and corrective actions can then be taken to achieve or adjust the milestones as appropriate.

51. The work under the railway theme is conducted under the auspices of the leadership of the Railway Working Group. Established in 2014 it has met regularly, and the minutes of the meetings indicate that it helps to identify and facilitate the annual sector work program as provided under the CAREC Railway Sector Development technical assistance (TA) program.[22] This TA facilitates studies and other support activities to assist member country railways in implementing elements of the CAREC Railway Strategy 2030. A significant contribution to the regional railway strategy was the study that conducted a regional assessment of railways in the CAREC region.[23] This provides an overall assessment of the region's rail corridors, reviews its institutions and policies, estimates traffic and operational performance, and examines possible options for introducing greater commercial practices. This seminal study provides a framework for potential future assistance.

52. In the remaining strategy period of 2026–2030, the CAREC railway subsector activities will largely focus on the potential for increasing the competitiveness of Corridor 2 as discussed earlier in paras 37 and 38. The potential of this corridor will be underpinned by the East Asia–Europe trade, the bulk of which will utilize containerized rail transport. Other work themes are expected to include the digitalization of railway operations and sector management, increased port-rail connectivity, technologies to enhance decarbonization and promote sustainability of railway operations, and assessment of risks posed by changes to the climate and potential disaster events. The railway subsector will also need to improve facilities, processes, and procedures associated with BCPs as discussed in paras 34 and 35.

(vii) Aviation

53. Aviation is important to the CAREC region given the vast distances between national capitals and remote locations and especially to countries outside the landlocked region. Although air transport is important, it has not received priority in terms of its development, and travel between the region's capital cities is often difficult with few direct links and this is repeated for travel to destinations outside the region. In many countries initiating reforms has been slow and this has retarded the growth of the airline industry and impeded business development and trade. Important constraints concern the limited competition and restricted market access, and this is encouraged by the regulatory framework.

54. The CTS has included the aviation sector after an initial scoping study which recommended a strategic framework for the sector. This study highlighted the crucial role of aviation in facilitating connectivity in an environment where aviation played an increasingly important role in facilitating business activities and developing key sectors such as tourism. The early years of CTS were affected by the COVID-19 pandemic which had a devastating impact on the aviation sector through the restricted movement of people around the world. However, following the lifting of pandemic restrictions, the civil aviation sector has witnessed a boom in demand, and the region has experienced a significant upward shift in aircraft and people

[22] The ninth meeting of the Railway Working Group is scheduled to be held in Bishkek in June 2025.
[23] ADB. 2022. *The Situation of Railways in CAREC Countries and Opportunities for Investment, Commercialization and Reform*.

movements both within the region as well as to and from the region. In 2024 passenger capacity offered on many routes was 50% above those recorded in 2019. The increase in demand covers a wide range of routes from those with the Russian Federation, Türkiye, PRC, Europe as well as within the CAREC region.

55. The dynamic changes in the region's demand for aviation services have led to significant growth in aviation infrastructure, particularly investment in airport terminals. A considerable portion of the investments has been undertaken by the private sector through public–private partnership (PPP) agreements. Engaging the private sector has had positive impacts in terms of increasing efficiency and improving service levels. In the remaining CTS period activities in the aviation sector are likely to center upon supporting public sector priorities such as guiding regulatory policy and supporting aviation strategies and also exploring the potential for supporting aviation expansion through private sector initiatives. The continued emphasis on training and capacity building and the delivery of webinars and seminars based on demand, together with the implementation of studies and assessments on priority topics is expected to comprise the core activities of the aviation sector. The country consultations conducted as part of this MTR exercise have confirmed that the aviation strategy of the CTS is appropriate and should be continued during the period to 2030.

V. Recommendations of the Midterm Review

(i) Introduction

56. The recommendations of the MTR are largely based on consultations with stakeholders at the country level and particularly the feedback received from the conduct of workshops with national authorities (footnote 3). As noted earlier, the MTR was carried out jointly with the midterm review of the CAREC Integrated Trade Agenda 2030 (CITA) and the CAREC Digital Strategy 2030, and this enhanced the integration of these relevant strategies both of which are vital to transport development in the region.

(ii) Effectiveness of the Existing CTS 2030

57. The CTS 2030 has successfully delivered improvements in connectivity and sustainability in the transport sector and largely continues to be relevant. However, it needs to reflect the rapidly changing regional landscape and incorporate emerging and innovative technologies that are having a significant impact on the delivery of transport infrastructure and services. Transport corridors can unlock greater potential by transforming the infrastructure into economic corridors by enhancing mobility and feeder access, integrating trade facilitation and digitalization measures, and supporting logistics, tourism, and other economic activities along the corridors area of influence. In this respect, the MTR concludes that the overall effectiveness of the corridors can be enhanced by a combination of actions that will strengthen cross border transport and increase corridor efficiency, promote modal diversification together with integration of logistics systems and greater use of smart mobility systems, scale up digitalization and expand resilient, safe, and clean transport, and deepen institutional collaboration and planning systems. Actions in each of these areas are described below.

(iii) Strengthening Cross Border Transport and Corridor Efficiency

58. The strengthening of cross border transport and improved corridor efficiency can enhance regional trade and connectivity across the CAREC region by:

(a) Establishing a dedicated financing facility for the improvement and digitalization of BCPs covering infrastructure as well as processes and procedures through harmonized and digitalized permissions and inspections, preferably on both sides of the border where possible simultaneously;
(b) Expanding corridor-based coordinated border management, harmonized digital customs systems, mutual recognition of inspection and certification procedures to more BCPs;
(c) Explicitly linking the BCP improvements to faster customs clearance, reduced trade costs, and standardized data exchange (e.g., Single Window systems, paperless trade initiatives);
(d) Promoting an economic corridor approach to comprehensively address transport connectivity, accessibility, and mobility; remove bottlenecks; and enhance economic activities along corridors (e.g., multimodal logistic centers, dry ports, economic free zones, tourism);
(e) Enhancing capacity and connectivity along CAREC corridors, especially Corridor 2, through a combination of infrastructure upgrades, operation of multimodal

logistics hubs and dry ports, better harmonized regulations, introduction of competition-enhancing reforms, and improved digital processes;[24]

(f) Addressing critical capacity bottlenecks in Caspian Sea transport by expanding port capacity, modernizing fleets to increase shipping capacity and operating efficiency, and addressing risks of port operational performance and safe navigation due to reduced water levels; and

(g) Addressing future demand pressures and redundancy options for Black Sea ports by expanding port capacity and delivering efficient multimodal access.

(iv) Promote Increased Modal Diversification, Integrated Logistics Systems, and Smart Mobility

59. There is a general requirement to diversify modal connectivity and enhance resilient and sustainable transport systems which can be promoted by providing greater opportunities for using alternative modes of transport, integrating logistics systems and utilizing smart mobility options. This can be achieved by:

(a) Supporting all modes of transport (road, railway, aviation, and waterborne) while acknowledging that road transport remains both dominant and essential, and requires periodic upgrades;

(b) Strengthening intermodal connectivity, especially among ports, railways, and roads to boost efficiency and lower logistics costs;

(c) Encouraging policy frameworks that support modal shift to low-carbon transport options such as railway and waterborne transport and promoting greater collaboration with energy and other sector activities;

(d) Supporting investments and capacity enhancement in waterborne transport including Caspian Sea shipping and inland waterway systems;

(e) Assisting with harmonization of logistics processes and proposing regional standards for multimodal documentation (e.g., digital waybills, multimodal freight manifests) that also link to international documentation standards and systems;

(f) Highlight the importance of unified corridor performance monitoring, tying logistics efficiency directly to trade competitiveness; and

(g) Promoting intelligent transport systems, transport digitalization, e-mobility, comprehensive public transport development, and sustainable urban planning to achieve more efficient ways of moving people and goods, and to remove bottlenecks along the corridors through the newly created Smart Mobility Working Group.

(v) Scale up Green, Resilient, Inclusive, and Digitalized Transport

60. Global developments have highlighted the magnitude of the transport sector's contributions to adversely affecting sustainability and impacts on the climate, and it is important that activities in the transport sector closely align with programs and targets established by CAREC countries. In order to better align with these targets, the transport sector needs to scale-up its activities to promote green, resilient and digitized transport across the region by:

(a) Including resilience (infrastructure, institutions, and operations) as one of the strategic objectives of the CTS 2030 alongside connectivity and sustainability;

[24] CAREC Corridor 2 is largely synonymous with the Middle Corridor alignment.

(b) Enhancing further use of greener modes of transport such as railways and waterborne transport while supporting greening and electrification of other modes of transport (e.g., promotion of Green Roads Toolkit and Green Ports Toolkit) and creating low emission zones in urban areas supporting carbon emission targets to support nationally determined contributions;
(c) Supporting harmonization of technical standards to ensure consistent road bearing capacity, safety compliance, climate resilience, and use of sustainable low-carbon materials across CAREC countries;
(d) Broadening road safety efforts by adopting the safe system approach and enhancing digital solutions—including safer vehicles, safer behavior, better post-crash care, and improved institutional road safety management;
(e) Utilizing the CAREC Climate and Sustainability Project Preparatory Fund and other resources for the preparation of digitally enabled, green, and resilient transport projects;
(f) Incorporating green trade corridors as part of the CAREC corridor network—e.g., promote sustainable logistics practices especially for international freight operators;
(g) Developing CAREC Corridor Digital Trade and Transit Platforms to integrate BCPs, logistics, and customs processes; and
(h) Integrating trade-related digital platforms (such as cargo tracking and e-customs) as part of transport projects.

(vi) Deepen Institutional Collaboration and Future Planning

61. To ensure long-term and coordinated transport development from a regional perspective it is necessary to develop a region-focused transport model to evaluate and measure impacts of investments in, and policies applied to CAREC corridors covering all modes. Measures proposed to support the deepening of institutional collaboration and future planning are:

(a) Enhancing CAREC Institute's planning and advisory functions by creating a dedicated transport and logistics center with functions on transport and economic corridor planning, policy advice, and capacity building by initially scaling up the current functions of the CAREC CPMM;
(b) Expanding monitoring mechanisms such as CPMM and encourage the use of time release surveys and key performance indicators at BCPs to assess delays and drive improvements;
(c) Revising institutional structures of the Transport Sector Coordinating Committee (TSCC) and its working groups to reflect emerging priorities and enable a more adaptive and inclusive approach to regional planning;
(d) Establishing a Smart Mobility Working Group and Road Working Group and continue regular activities of the Railway Working Group under the TSCC to monitor the CTS MTR and other CAREC transport outputs and outcomes;
(e) Strengthening the link between transport and trade facilitation bodies and enhancing the coordination with the relevant committees and working groups on both the CITA and CAREC Digital Strategies by jointly organizing transport and trade working groups for synchronized policy and project planning;
(f) Involving the private sector (e.g., freight forwarders, logistics companies) to help drive both transport and trade facilitation activities and results;
(g) Preparing annual regional-focused transport sector profile and flagship thematic assessment reports focusing on aspects of CAREC countries' transport needs

utilizing Asian Transport Observatory and CPMM in collaboration with the CAREC Institute and other partners;

(h) Supporting the adoption of CAREC-wide Trade and Transport Facilitation Committees at national and regional levels;

(i) Continuing efforts for supporting and strengthening capacity development and knowledge partnerships with the CAREC Institute and other institutions; and

(j) Reflecting on the strategic needs beyond 2030, including evolving trade patterns, climate risks, and potential technological disruption.

(vii) Continued Support for Capacity Building and Knowledge Products

62. A core component of CTS 2030 has been the focus on capacity building, training programs, and knowledge products. This element of the strategy has been particularly strong in the road asset management and road safety spheres with the delivery of many training programs and knowledge publications but has also involved several training events and knowledge publications in railways, cross border transport, and aviation (Appendix 2). It is recommended that CTS 2030 continue its support to build capacity in needed technical areas which require expanding to cover advances in technical and digital technologies. These technologies are expanding rapidly and are likely to have significant development outcomes and impacts on developments in the transport sector.

(viii) Enhanced Role of the CAREC Institute

63. The MTR recommends that the CAREC Institute take on an increasing role in the development of the region's transport sector through undertaking important technical studies, research and assessments that would contribute towards achieving the strategy. This has partially commenced through its more active role in the CPMM to strengthen its policy analytics and advocacy and needs to be expanded to cover additional priority activities. There are several other potential areas that could be supported by CAREC Institute, but this would depend on the recruitment of transport researchers, the technical skills of the transport team, and the approved work program.[25]

(ix) Strategic Needs Beyond 2030

64. Prior to expiry of CTS 2030 efforts will be required to assess the transport needs of the region beyond 2030. This work will be based on the transport planning and modelling activities that are recommended to be undertaken as part of the CTS 2030 program to provide oversight of the operations of the individual transport corridors as well as support the monitoring program. It should assess the validity of the current corridor network and determine if additions and adjustments are required based on the increasing demand for movement in the region for the future time period of the new strategy. The assessment should also focus on improving the intermodal movements of goods and people.

[25] The following list provides an interim list of potential technical activities that could be undertaken by the CAREC Institute to augment knowledge of the transport sector in the CAREC region: (i) further strengthening of the CPMM annual report publications; (ii) study of logistics operations in CAREC countries utilizing the containerization study conducted in 2023–2024; (iii) inputs to the transport model to be developed for monitoring of freight flows and development of CAREC corridors; (iv) support to the transport leadership program for the CAREC countries; and (vi) development of data and information platform for the CAREC region utilizing the Asian Transport Observatory.

CAREC Priority Investment Projects by Country (need to update project list)

Workshops, Training Programs and Knowledge Products 2020 to 2024

Title of Publication/Event	Date
January 2020–June 2021	
A. Overall Transport	
19th CAREC Senior Officials Meeting – Transport Session	October 2020
2019 CAREC Transport Sector Annual Report	October 2020
B. Cross-Border Transport and Logistics	
CAREC Webinar series – Ports and Logistics (2 sessions)	February 2021
Ports and Logistics Scoping Study in CAREC Countries Volume 1	March 2021
Ports and Logistics Scoping Study in CAREC Countries Volume II	March 2021
C. Roads and Road Asset Management	
Tajikistan - Training program on Road Asset Management Systems (RAMS) and Performance-based Contracting (PBC)	February 2020
Online Course on Basic Road Construction for Non-Engineers (13 Modules)	August 2020
RAM and RAM System Virtual Workshop [a]	August 2020
Afghanistan – Road Asset Management Systems and Performance-Based Contracting Training (3 sessions)	February-March 2021
RAM Workshop on CAREC Maturity Assessment and Training of Trainers [a]	March 2021
Kyrgyz Republic – Road Asset Management Systems and Performance-Based Contracting Training Workshop	June 2021
D. Road Safety	
Mongolia - National training workshops on Road Safety Engineering [a]	May 2020
CAREC Road Safety Engineering Manual 4: Pedestrian Safety	February 2021
E. Railways	
Track Capacity and Timetabling Software	May 2020
CAREC Railway Working Group Newsletter	December 2020
Railway Sector Assessment for Afghanistan	March 2021
Railway Sector Assessment for Azerbaijan	March 2021
Railway Sector Assessment for PRC	March 2021
Railway Sector Assessment for Georgia	March 2021
Railway Sector Assessment for Kazakhstan	March 2021
Railway Sector Assessment for Kyrgyz Republic	March 2021
Railway Sector Assessment for Mongolia	March 2021
Railway Sector Assessment for Pakistan	March 2021
Railway Sector Assessment for Tajikistan	March 2021
Railway Sector Assessment for Turkmenistan	March 2021
Railway Sector Assessment for Uzbekistan	March 2021
F. Aviation	
Impact of COVID-19 on CAREC Aviation and Tourism	November 2020
Blog: Five ways to Revitalize Aviation and Tourism in Central Asia	November 2020
CAREC Webinar Series: Aviation and Tourism (3 sessions)	January-March 2021
July 2021–June 2022	
A. Overall Transport	
2020 CAREC Transport Annual Report (abridged online version)	October 2021
CAREC Transport Sector Progress Report and Work Plan (July 2020 to August 2021)	October 2021
B. Roads and Road Asset Management	
Knowledge Sharing Workshop on Road Asset Management Systems (Georgia, Pakistan and Tajikistan)	October 2021
Workshop: Road Asset Management System and Performance-Based Road Maintenance Contracts (Afghanistan)	March 2021

Workshop: Road Asset Management System and performance-Based Road Maintenance Contracts (Kyrgyz Republic)	June 2021
Road Asset Management System and Performance-Based Road Maintenance Contracts in the CAREC Region (English and Russian versions)	November 2021
C. Road Safety	
Road Safety Engineering: Star Ratings for Road Safety Audits Online Workshop	November 2021
Uzbekistan – Crash Investigation Training	December 2021
Kyrgyz Republic – Crash Investigation Training	January 2022
Turkmenistan – Road Safety Engineering Workshop*	April 2022
Kyrgyz Republic – Online Training on the Road Safety Problem	April 2022
Pedestrian Safety Training in CAREC Countries	June 2022
CAREC Road Safety Engineering Manuals 5 – Star Ratings for Road Safety Audit	June 2022
D. Railways	
The Situation of Railways in CAREC Countries and Opportunities for Investment, Commercialization and Reform (English and Russian versions)	April 2022
July 2022–June 2023	
A. Overall Transport	
19th CAREC Transport Sector Coordinating Committee Meeting	October 2022
CAREC Transport webpage update	October 2022
2022 CAREC Transport Sector Progress Report and Work Plan	October 2022
20th Transport Sector Coordinating Committee Meeting	May 2023
2023 CAREC Transport Sector Progress Report and Work Plan	June 2023
B. Cross-Border Transport and Logistics	
Developers Guide to Planning and Design of Logistic Centers in CAREC Countries	April 2023
C. Roads and Road Asset Management	
Road Funds and Road User Charges in the CAREC Region	December 2022
D. Road Safety	
Road Safety Report Card for the CAREC Region	July 2022
Mongolia – Crash Investigation Training	March 2023
Tajikistan – Crash Investigation Training	March 2023
E. Railways	
6th Railway Working Group Meeting	October 2022
7th Railway Working Group Meeting	May 2023
July 2023–June 2024	
A. Overall Transport	
21st Transport Sector Coordinating Committee Meeting	April 2024
2024 CAREC Transport Sector Progress Report and Work Plan	June 2024
Country consultation on Midterm Review of CAREC Transport Strategy 2030—Workshop in Mongolia	
B. Cross Border Transport and Logistics	
Middle Corridor Initial Assessment Report	May 2023
C. Roads and Road Asset Management	
CAREC Highways Workshop	May 2023
Performance-Based Road Maintenance Contracts in the CAREC Region	December 2023
D. Road Safety	
CAREC Road Safety Engineering Manuka 6: Black Spot Investigation	April 2024
Road Crash Data Review and Reporting - Training on Improvement to Crash Data Management	June 2024

E. Railways	
8th Railway Working Group Meeting	May 2024
F. Aviation	
Low-Cost Carrier Opportunities, Air Transport Liberalization, and Post-Pandemic Recovery in CAREC	September 2023
Air Cargo Report	February 2024
July 2024–June 2025	
A. Overall Transport	
Country consultation on midterm review (MTR) of CAREC Transport Strategy (CTS) 2030 and workshop in Mongolia	February 2025
CAREC National Focal Point Retreat and CTS 2030 MTR discussion	March 2025
Country consultation on CTS 2030 MTR and workshop in the People's Republic of China (combined with a workshop on the next country partnership strategy workshop)	March 2025
Country consultation on CTS 2030 MTR and workshop in Azerbaijan	April 2025
Country consultation on CTS 2030 MTR and workshop in the Kyrgyz Republic	April 2025
Country consultation on CTS 2030 MTR and workshop in Uzbekistan	April 2025
Country consultation on CTS 2030 MTR and workshop in Tajikistan	April 2025
Country consultation on CTS 2030 MTR and workshop with Georgia (virtual)	May 2025
Country consultation on CTS 2030 MTR and workshop with Turkmenistan (virtual)	May 2025
Side event on CTS 2030 MTR at the 2025 Summit of International Transport Forum	May 2025
Country consultation on CTS 2030 MTR and workshop in Paksitan	May 2025
22nd Transport Sector Coordinating Committee Meeting	June 2025
2024 CAREC Transport Sector Progress Report and Work Plan	June 2025
B. Road Safety	
CAREC Road Safety Manual 7: Why and How to Manage Speed	August 2024
APRSO Annual Meeting and Study Tour (Kyrgyz Republic, Mongolia, Uzbekistan)	October 2024
C. Railways	
9th Railway Working Group Meeting	June 2025

[a] In collaboration with CAREC Institute.