



# CAREC CORRIDOR PERFORMANCE MEASUREMENT AND MONITORING ANNUAL REPORT 2018



**CAREC CORRIDOR  
PERFORMANCE  
MEASUREMENT  
AND MONITORING**  
ANNUAL REPORT 2018





Creative Commons Attribution 3.0 IGO license (CC BY 3.0 IGO)

© 2019 Asian Development Bank  
6 ADB Avenue, Mandaluyong City, 1550 Metro Manila, Philippines  
Tel +63 2 8632 4444; Fax +63 2 8636 2444  
www.adb.org

Some rights reserved. Published in 2019.

ISBN 978-92-9261-860-5 (print), 978-92-9261-861-2 (electronic)  
Publication Stock No.TCS190516-2  
DOI: <http://dx.doi.org/10.22617/TCS190516-2>

The views expressed in this publication are those of the authors and do not necessarily reflect the views and policies of the Asian Development Bank (ADB) or its Board of Governors or the governments they represent.

ADB does not guarantee the accuracy of the data included in this publication and accepts no responsibility for any consequence of their use. The mention of specific companies or products of manufacturers does not imply that they are endorsed or recommended by ADB in preference to others of a similar nature that are not mentioned.

By making any designation of or reference to a particular territory or geographic area, or by using the term “country” in this document, ADB does not intend to make any judgments as to the legal or other status of any territory or area.

This work is available under the Creative Commons Attribution 3.0 IGO license (CC BY 3.0 IGO) <https://creativecommons.org/licenses/by/3.0/igo/>. By using the content of this publication, you agree to be bound by the terms of this license. For attribution, translations, adaptations, and permissions, please read the provisions and terms of use at <https://www.adb.org/terms-use#openaccess>.

This CC license does not apply to non-ADB copyright materials in this publication. If the material is attributed to another source, please contact the copyright owner or publisher of that source for permission to reproduce it. ADB cannot be held liable for any claims that arise as a result of your use of the material.

Please contact [pubsmarketing@adb.org](mailto:pubsmarketing@adb.org) if you have questions or comments with respect to content, or if you wish to obtain copyright permission for your intended uses that do not fall within these terms, or for permission to use the ADB logo.

Corrigenda to ADB publications may be found at <http://www.adb.org/publications/corrigenda>.

Notes:

In this publication, “\$” refers to United States dollars.  
ADB recognizes “China” as the People’s Republic of China.

Cover design by Principe Nicdao.

# Contents

<b>Tables and Figures</b>	<b>v</b>
<b>Abbreviations</b>	<b>vii</b>
<b>Executive Summary</b>	<b>viii</b>
<b>1 Introduction</b>	<b>1</b>
Background	1
<b>2 2018 Key Results</b>	<b>4</b>
Trade Facilitation Indicator Results for 2018: Road Transport	4
Trade Facilitation Indicator Results for 2018: Rail Transport	6
Trade Facilitation Indicator Trends 2010–2018	8
<b>3 2018 Corridor Performance Measurement and Monitoring Data</b>	<b>13</b>
Data Profile	13
Cargo Movement	14
<b>4 Road Transport in 2018</b>	<b>17</b>
Trade Facilitation Indicator 1: Average Border–Crossing Time	17
Trade Facilitation Indicator 2: Average Border–Crossing Cost	17
Trade Facilitation Indicator 3: Total Transport Cost	19
Trade Facilitation Indicator 4: Speed to Travel on CAREC Corridors	20
Corridor Performance	20
<b>5 Rail Transport in 2018</b>	<b>27</b>
Trade Facilitation Indicator 1: Average Border–Crossing Time	27
Trade Facilitation Indicator 2: Average Border–Crossing Cost	28
Trade Facilitation Indicator 3: Total Transport Cost	29
Trade Facilitation Indicator 4: Speed to Travel on CAREC Corridors	29
Corridor Performance	30
<b>6 Country Updates</b>	<b>32</b>
Afghanistan	32
Azerbaijan	34
People’s Republic of China	36
Georgia	40
Kazakhstan	41
Kyrgyz Republic	44
Mongolia	46
Pakistan	48
Tajikistan	50
Turkmenistan	52
Uzbekistan	53

<b>7 Case Studies</b>	<b>56</b>
Methodology	56
Case Study 1: Export of Raisins from Kabul to Almaty	56
Case Study 2: Export of Tomato Paste from Urumqi to Almaty	59
Case Study 3: Export of Apparels from Urumqi to Almaty	61
Lessons Learned from the 2018 Case Studies	62
<b>8 Conclusion</b>	<b>65</b>
<b>Appendixes</b>	
1 Corridor Performance Measurement and Monitoring Methodology	66
2 2018 Partner Associations	69
3 Trade Facilitation Indicators	70
4 Border-Crossing Activities	75
5 Central Asia Regional Economic Cooperation Border-Crossing Points	78
6 Trade Facilitation Indicators: Summary Statistics	80
7 Structure of Trade Facilitation Indicator 3	82
8 Activities at Road Border-Crossing Points	83
9 Activities at Rail Border-Crossing Points	89

# Tables and Figures

## Tables

3	CAREC Corridor Alignment and Key Border-Crossing Points	15
4.1	Average Time Taken to Clear a Border-Crossing Point	17
4.2	Average Cost Incurred at Border-Crossing Clearance	17
4.3	Average Cost at Road Border-Crossing Points by Activity	18
4.4	Estimated Unofficial Fees Paid per Activity for Road Transport in 2018	19
4.5	Average Cost Incurred to Travel a Corridor Section	19
4.6	Average Speed to Travel on CAREC Corridors	20
4.7	Corridor 2 Routes	21
4.8	Performance of Caucasus to Central Asia Road Shipments	21
4.9	Performance of Mediterranean to Central Asia Road Shipments	22
4.10	Comparisons of Subcorridors 3a and 3b—Average Border-Crossing Times	23
4.11	Comparisons of Road and Road–Rail Shipments along Subcorridor 4b	24
4.12	Comparison of Border-Crossing Times at Tazhen and Dautota	26
5.1	Average Time Taken to Clear a Border-Crossing Point	27
5.2	Average Cost Incurred at Border-Crossing Clearance	28
5.3	Average Cost Incurred to Travel a Corridor Section	29
5.4	Average Speed to Travel on CAREC Corridors	29
6.1	Trade Facilitation Indicators for Afghanistan	32
6.2	Border-Crossing Performance in Afghanistan	33
6.3	Trade Facilitation Indicators for Azerbaijan	34
6.4	Border-Crossing Performance in Azerbaijan	35
6.5	Comparisons of Road Freight Cost from the People’s Republic of China to Central Asian Republics	36
6.6	Trade Facilitation Indicators for the People’s Republic of China	37
6.7	Border-Crossing Performance in the People’s Republic of China	37
6.8	Cross-Border Freight Traffic at Border-Crossing Points between the People’s Republic of China and Other CAREC Countries	38
6.9	Trade Facilitation Indicators for Georgia	40
6.10	Border-Crossing Performance in Georgia	40
6.11	Trade Facilitation Indicators for Kazakhstan	42
6.12	Border-Crossing Performance in Kazakhstan	42
6.13	Trade Facilitation Indicators for the Kyrgyz Republic	45
6.14	Border-Crossing Performance in the Kyrgyz Republic	45
6.15	Trade Facilitation Indicators for Mongolia	47
6.16	Border-Crossing Performance in Mongolia	47
6.17	Trade Facilitation Indicators for Pakistan	48
6.18	Border-Crossing Performance in Pakistan	49
6.19	Trade Facilitation Indicators for Tajikistan	50
6.20	Border-Crossing Performance in Tajikistan	50
6.21	Trade Facilitation Indicators for Turkmenistan	52
6.22	Border-Crossing Performance in Turkmenistan	53
6.23	Trade Facilitation Indicators for Uzbekistan	54
6.24	Border-Crossing Performance in Uzbekistan	55
7.1	Shipping Documents to Export Raisins from Kabul to Almaty	57
7.2	Shipping Documents for Exporting Tomato Sauce from Urumqi to Almaty	59
7.3	Shipping Documents to Export Apparel from Urumqi to Almaty	62

7.4	Time Procedure Chart to Export Tomato Sauce from Urumqi to Almaty	63
8	Road and Rail Transport Trade Facilitation Indicators, 2018	65
A2	2018 Corridor Performance Measurement and Monitoring Partner Associations	69
A5	CAREC Corridor Border-Crossing Points	78
A6	Trade Facilitation Indicator Summary Statistics	80
A7	Structure of Trade Facilitation Indicator 3	82
A8.1	Time and Cost Spent at Road Border-Crossing Points, Outbound	83
A8.2	Time and Cost Spent at Road Border-Crossing Points, Inbound	86
A9	Time and Cost Spent at Rail Border-Crossing Points, Outbound and Inbound	89

### Figures

A	Road Transport Trade Facilitation Indicators	viii
B	Rail Transport Trade Facilitation Indicators	ix
1.1	Six CAREC Transport Corridors	2
1.2	Corridor Performance Measurement and Monitoring Methodology	3
2.1	Time Taken to Clear a Border-Crossing Point, Road Transport	4
2.2	Cost Incurred at Border-Crossing Clearance, Road Transport	5
2.3	Cost Incurred to Travel a Corridor Section, Road Transport	5
2.4	Speed to Travel on CAREC Corridors, Road Transport	6
2.5	Time Taken to Clear a Border-Crossing Point, Rail Transport	6
2.6	Cost Incurred at Border-Crossing Clearance, Rail Transport	7
2.7	Cost Incurred to Travel a Corridor Section, Rail Transport	7
2.8	Speed to Travel on CAREC Corridors, Rail Transport	8
2.9	Trend of Trade Facilitation Indicators for Combined Road and Rail Transport, 2010–2018	8
2.10	Average Speed along CAREC Road Transport Corridors, 2018	10
2.11	Average Speed along CAREC Road Transport Corridors, 2014	11
3.1	Data Profile of Corridor Performance Measurement and Monitoring Samples in 2018	13
3.2	Number of Shipment, by Type of Commodity	14
7.1	Procedures to Export Raisins from Kabul to Almaty	57
7.2	Procedure to Export Tomato Sauce from Urumqi to Almaty	60
7.3	Procedure to Export Apparel from Urumqi to Almaty	62
7.4	Time Procedure Chart to Export Tomato Sauce from Urumqi to Almaty	63
A1	Corridor Performance Measurement and Monitoring Flowchart	67

# Abbreviations

ADB	- Asian Development Bank
AFG	- Afghanistan
APTTA	- Afghanistan–Pakistan Transit Trade Agreement
AZE	- Azerbaijan
BCP	- border-crossing point
BPA	- business process analysis
BRI	- Belt and Road Initiative (of the PRC)
CAREC	- Central Asia Regional Economic Cooperation
CIS	- Commonwealth of Independent States
CPMM	- Corridor Performance Measurement and Monitoring
EAC	- Eurasian Conformity (certificate)
EAEU	- Eurasian Economic Union
FTZ	- free trade zone
GEO	- Georgia
KAZ	- Kazakhstan
KGZ	- Kyrgyz Republic
km	- kilometer
km/h	- kilometer per hour
KTZ	- Kazakhstan Temir Zholy
LTL	- less than truck load
m	- meter
MON	- Mongolia
PAK	- Pakistan
PRC	- People’s Republic of China
SPS	- sanitary and phytosanitary
SWD	- speed with delay
SWOD	- speed without delay
TAJ	- Tajikistan
TCD	- time/cost–distance
TFI	- trade facilitation indicator
TIR	- Transports Internationaux Routiers (International Road Transports)
TKM	- Turkmenistan
UNESCAP	- United Nations Economic and Social Commission for Asia and the Pacific
US	- United States
UZB	- Uzbekistan
VOC	- vehicle operating cost

# Executive Summary

The Corridor Performance Measurement and Monitoring (CPMM) mechanism is an empirical tool designed by the Central Asia Regional Economic Cooperation (CAREC) Program to assess and track the time and cost of moving goods across borders and along the six CAREC corridors, spanning the 11 participating countries—Afghanistan, Azerbaijan, the People’s Republic of China (PRC), Georgia, Kazakhstan, the Kyrgyz Republic, Mongolia, Pakistan, Tajikistan, Turkmenistan, and Uzbekistan.

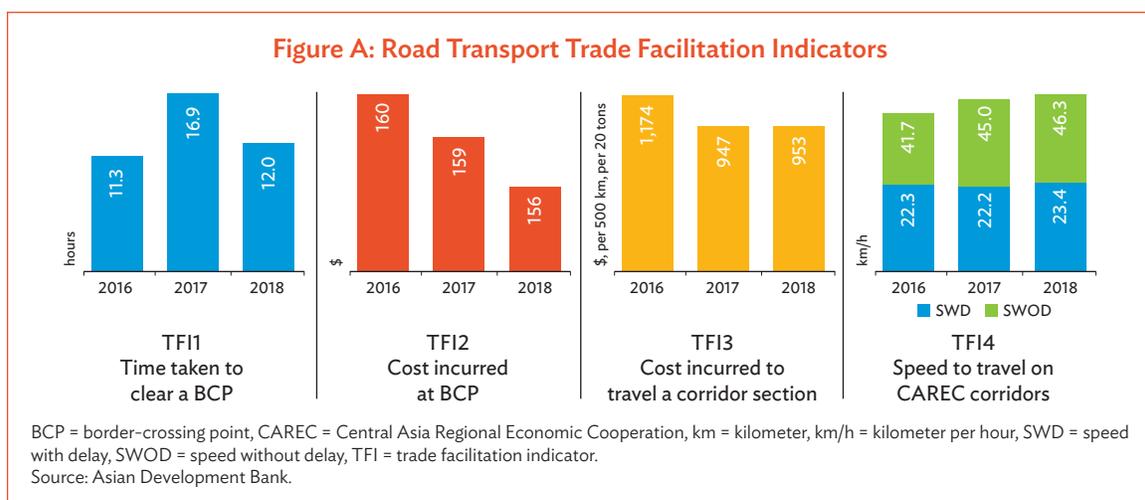
The CPMM evaluates a set of trade facilitation indicators (TFIs) to illustrate the overall annual performance and efficiency of the CAREC corridors. Measured over time and across corridors, the indicators provide a comparative picture that allows the assessment and validation of impacts of transport and trade initiatives in the region. The TFIs include (i) time taken to clear a border-crossing point (BCP), (ii) cost incurred at a BCP, (iii) cost incurred to travel a corridor sector, and (iv) speed to travel along CAREC corridors.

Data analysis, based on the TFIs, contributes to reform and modernization initiatives that foster seamless transport and trade facilitation within the CAREC region. Central to the CPMM’s success and sustainability are (i) private sector participation, (ii) fact-based and data-driven conclusions, and (iii) adaptability to landlocked countries.

CPMM data analysis reported steady average improvement in speed without delay (which increased by 3% for road transport and 9% for rail), largely attributed to the success of physical and connectivity infrastructure investment along the CAREC corridors. Delays at the border declined for road transport by an average of 22%, and rail by an average of 20%, resulting in improved speed with delay by up to 5.5% for road and 7.8% for rail. However, these delays remain a major impediment to efficient trade. Furthermore, the average cost to clear a border crossing and the cost incurred to travel a corridor section remain low.

## Road Transport

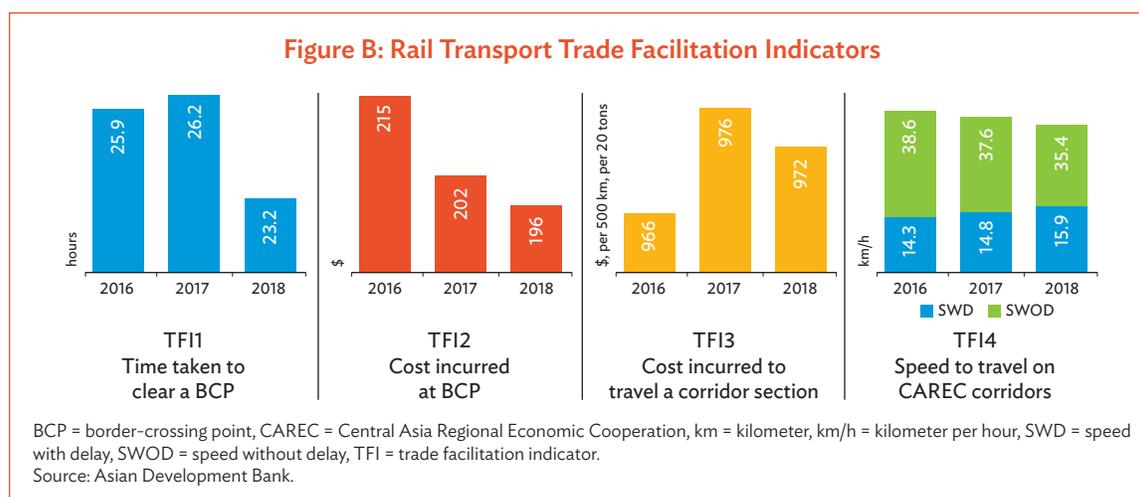
Three of the four TFIs improved in 2018 (Figure A). Compared to 2017, average border-crossing times decreased from 16.9 hours to 12.0 hours (a 28% improvement), while cost dropped slightly from \$159 to \$156. Unofficial payments were concentrated at high-traffic BCPs, and mostly involved road and bridge tolls, escort and convoy activities, and customs controls.



Total average road transport costs increased slightly from \$947 to \$953 (up by 0.6%). Meanwhile, speed without delay (SWOD) increased from 45.0 km/h to 46.3 km/h (up by 3%) and speed with delay (SWD) rose from 22.2 km/h to 23.4 km/h (up by 5.4%).

## Rail Transport

Rail transport indicators for 2018 (Figure B) showed that average border-crossing times improved from 26.2 hours to 23.2 hours (improved by 13.4%), while costs decreased from \$202 to \$196 (by 6.2%). Total freight rate decreased slightly to \$972. SWOD dropped from 37.6 km/h to 35.4 km/h, but SWD rose from 14.8 km/h to 15.9 km/h.



## Country Updates

The 2018 CPMM report introduces analysis of the four CPMM TFIs at a national level for all 11 CAREC countries, segregated by road and rail transport, and further decomposed into outbound and inbound direction for border-crossing time and costs. These data are supplemented by average border-crossing time and cost estimates for BCPs along relevant CAREC corridors. Country-level developments and challenges are also identified to assist national policy makers in determining the necessary focus of national strategies to address both national and regional transport, trade, and trade facilitation problems.

**Afghanistan.** With its main transit trade gateways through BCPs with Pakistan still facing serious delays, Afghanistan is diversifying its trade routes. Border crossing at the Torkham and Spin Buldak BCPs, despite showing improvement compared to 2017, remains time-consuming and costly.

**Azerbaijan.** Trans-Caspian shipments to and from Central Asia encounter long waiting times at Baku port, which results in significant variability in transport lead times. Coupled with the limited frequency of ferry crossings and adverse weather, the time required to cross the Caspian Sea was highly unpredictable in 2018.

**People's Republic of China.** For road transport, long delays at PRC borders with neighboring countries remain: cargoes from the PRC are often stored in temporary customs bonded warehouses on the PRC side of the border, before trucks from Kazakhstan, the Kyrgyz Republic, and Mongolia collect them to continue moving the shipments from Horgos (Kazakhstan), Kashi (the Kyrgyz Republic), and Erenhot (Mongolia). For rail transport, average border-crossing times improved, but remained severe, due to capacity constraints and gauge change operations at Alashankou and Horgos.

**Georgia.** Implementation of an integrated design and process simplification resulted in efficient inbound border crossing at the Sarpi BCP on the border with Turkey, and Tsiteli Khidi on the border with Azerbaijan. Using an established risk-based system, most goods are cleared rapidly through the green channel, minimizing the need for additional documentary checks or physical inspection.

**Kazakhstan.** Average road border-crossing times improved despite a marked increase in delays at major Kazakhstan BCPs such as Khorgos, Konysbaeva, and Tazhen, due to time spent waiting in line, and loading and unloading operations. Meanwhile, a shortage of wagons remains a challenge for railway border crossing.

**Kyrgyz Republic.** When the Kyrgyz Republic acceded to the Eurasian Economic Union in 2015, customs controls and many related inspections at its borders were removed. Only border security and phytosanitary inspection agencies operate at BCPs, and significant improvement in average border-crossing times were observed at a majority of these BCPs.

**Mongolia.** CPMM data for 2018 demonstrated consistent results for Mongolia. Despite a slight increase in the average border-crossing time, transit speed within the country showed noteworthy improvements. However, as a landlocked country, Mongolia faces high transport costs that erode competitive advantage for its transport sector.

**Pakistan.** Average border-crossing times at BCPs with Afghanistan (Chaman and Peshawar) remained lengthy, but reverted to pre-2017 trends and showed improvement. CPMM data for 2018 identified major inefficiencies, including a long dwell time at Karachi seaport, long delays at BCPs due to customs clearance, and relatively high transport costs.

**Tajikistan.** Road freight rates in Tajikistan are generally high due to the mountainous terrain and weather hazards, yet showed improvement in 2018. Border crossings were smooth at the borders with the Kyrgyz Republic and Uzbekistan, but tended to take longer at the borders with Afghanistan or the PRC.

**Turkmenistan.** CPMM data for 2018 showed that Turkmenistan serves as an important transit country for Iran–Uzbekistan cargo movements, with BCPs at Sarahs and Farap revealing high-volume traffic. However, road border crossing continues to deteriorate, largely due to time spent waiting, customs controls, and various inspection activities.

**Uzbekistan.** Sizable delays continued to affect road border crossing, despite improving road and transport conditions within the country. Meanwhile, railway indicators continued to improve.

## Case Studies

In 2018, the CPMM mechanism piloted a new approach to study trade procedures related to regulatory and documentary compliance. Case studies were conducted in Afghanistan and the PRC and demonstrated clearly that behind-the-border trade procedures, such as obtaining sanitary and phytosanitary certification, could be more time-consuming than actual delivery of the cargo from the point of origin to final destination. Findings of the initial pilot studies show a wide disparity in trade-related business processes and compliance requirements across the CAREC region.

# 1 Introduction

## Background

The Corridor Performance Measurement and Monitoring (CPMM) mechanism is an empirical tool designed by the Central Asia Regional Economic Cooperation (CAREC) Program to assess the efficiency of its six priority transport corridors (Figure 1.1).<sup>1</sup> The CAREC corridors link the region's key economic hubs to each other, and connect landlocked CAREC countries to Eurasian and global markets.

The CPMM aims to (i) identify the causes of delay and unnecessary cost to cargo moving along the links and nodes of each CAREC corridor, including at border-crossing points (BCPs) and intermediate stops; (ii) help national CAREC authorities determine how to address identified bottlenecks; and (iii) assess the impact of regional cooperation initiatives implemented along the CAREC corridors by member countries.<sup>2</sup>

Launched in 2009, the CPMM methodology and data collection process captures a range of ground-level information by measuring and recording actual cargo shipments along CAREC corridors and at 36 pairs of BCPs, identified and prioritized by CAREC member countries. The methodology comprises a four-phased approach summarized in Figure 1.2 and elaborated in Appendix 1.<sup>3</sup> An established pool of national freight forwarder and transport carrier partners collects the data along the corridors and at the BCPs.<sup>4</sup>

The CPMM evaluates a set of trade facilitation indicators (TFIs) to illustrate the overall annual performance and efficiency of the CAREC corridors.<sup>5</sup> Measured over time and across corridors, the indicators provide a comparative picture that allows the assessment and validation of impacts of transport and trade initiatives in the region. The four aggregate TFIs are:

- (i) **TFI1: Time taken to clear a BCP.** This TFI refers to the average length of time (in hours) taken to move cargo across a border from the exit point of one country to the entry point of another. The entry and exit points are typically primary control centers where customs, immigration, and quarantine are handled. Along with the standard clearance formalities, this measurement includes waiting time, unloading or loading time, time taken to change rail gauges, and other indicators. The intent is to capture both the complexity and the inefficiencies inherent in the border-crossing process.
- (ii) **TFI2: Cost incurred at a BCP.** This is the average total cost, in United States (US) dollars, of moving cargo across a border from the exit point of one country to the entry point of another. Both official and unofficial payments are included. This indicator normalizes cost per 20 tons of cargo so that the average costs across various samples are comparable.
- (iii) **TFI3: Cost incurred to travel a corridor section.** This comprises average total costs, in US dollars, incurred for one unit of cargo traveling along a corridor section within a country or across borders. One unit of cargo refers to a cargo truck or train carrying 20 tons of goods. A corridor section is defined as a stretch of road 500 kilometers (km) long. Both official and unofficial payments are included.

<sup>1</sup> The CAREC Program is a partnership of 11 countries—Afghanistan (AFG), Azerbaijan (AZE), the People's Republic of China (PRC), Georgia (GEO), Kazakhstan (KAZ), the Kyrgyz Republic (KYG), Mongolia (MON), Pakistan (PAK), Tajikistan (TAJ), Turkmenistan (TKM), and Uzbekistan (UZB)—working together to promote development through cooperation, leading to accelerated economic growth and poverty reduction: [www.carecprogram.org](http://www.carecprogram.org).

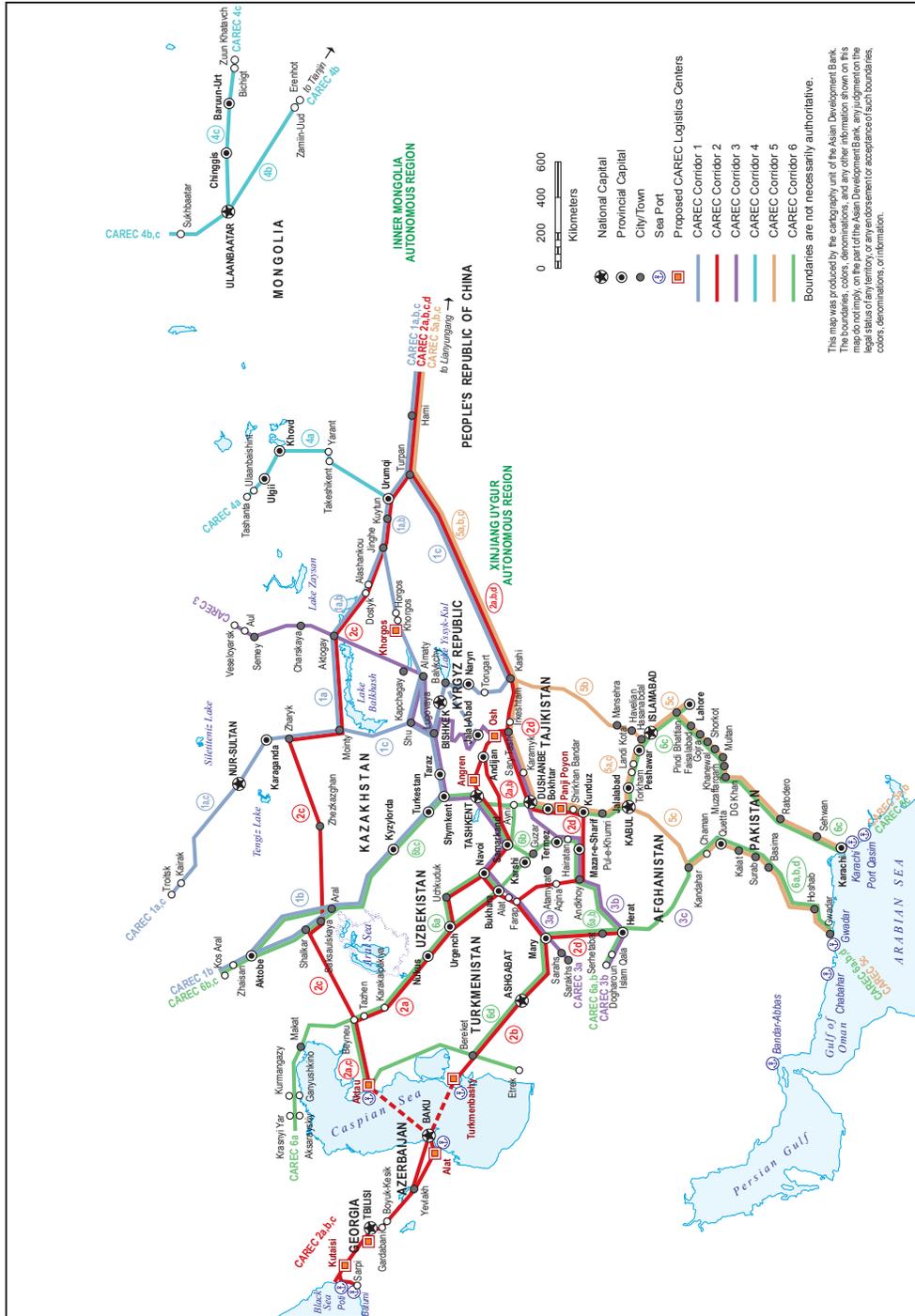
<sup>2</sup> A detailed description of each CAREC corridor is found at [www.carecprogram.org/?page\\_id=20](http://www.carecprogram.org/?page_id=20).

<sup>3</sup> Parts of the Introduction contain standard and recurring descriptions of the CAREC CPMM background, methodology, names of border-crossing points, and appendixes and should remain consistent with previous annual reports.

<sup>4</sup> The national forwarder and carrier partners for 2018 are listed in Appendix 2.

<sup>5</sup> The TFIs are explained in detail in Appendix 3, including statistical derivation.

Figure 1.1: Six CAREC Transport Corridors



CAREC = Central Asia Regional Economic Cooperation.  
Source: Asian Development Bank.

**Figure 1.2: Corridor Performance Measurement and Monitoring Methodology**



Source: Asian Development Bank.

- (iv) **TFI4: Speed to travel along CAREC corridors.** This is the average speed, in kilometer per hour (km/h), at which a unit of cargo travels along a corridor section within a country or across borders. A unit of cargo refers to a cargo truck or train carrying 20 tons of goods, and a corridor section refers to a stretch of road 500 km long. Speed is calculated by dividing the total distance traveled by the duration of travel. Distance and time measurements include border crossings.

Time and cost indicators are also measured by activity at CAREC BCPs and other intermediate stops, such as toll booths, security inspections, and others,<sup>6</sup> to help identify not only the location, but also the nature of delay at stops along a given corridor.

Central to the CPMM's success and sustainability are:

- (i) **Private Sector Participation**  
National transport associations are formally engaged to train selected national transport operators or freight forwarders to use the CPMM tool, and to gather and record data. Each data sample reflects a bona fide cargo movement through the CAREC transport corridors of Central Asia.
- (ii) **Fact-Based and Data-Driven Conclusions**  
CPMM data are derived from actual transport movements and are submitted monthly by national transport associations in each CAREC country. The findings are aggregated and analyzed quarterly and annually. Over an extended period, the CPMM tool shows whether time and cost performances are improving or deteriorating.
- (iii) **Customized for Landlocked Countries**  
As most CAREC member countries are landlocked, their time and cost transport performance cannot be compared on an equal footing against countries that have seaports. The CPMM methodology focuses on road and rail transport, the two dominant transport modes in Central Asia. Particular emphasis is given to border-crossing time and cost, which are frequently identified as the main cause of delay in cross-border cargo movement. In short, the CPMM is customized to meet the physical context of CAREC member countries, aligned with the CAREC corridors.

<sup>6</sup> Activities encompass all anticipated checks and procedures, both at BCPs and at intermediate stops along the transit corridor, and are in Appendix 4. A list of CAREC BCPs covered by the CPMM is in Appendix 5.

## 2 2018 Key Results

Analysis of CPMM data collected throughout 2018 has updated the TFIs for both road and rail transport along the CAREC corridors,<sup>7</sup> as well as at selected BCPs,<sup>8</sup> enabling assessment of efficiency of trade movement and identification of impediments. Key results of the TFIs are presented in this section with CPMM data for 2018 showing broad improvements in border-crossing time and costs for both road and rail transport.

### Trade Facilitation Indicator Results for 2018: Road Transport

Analysis of CPMM data for 2018 showed that three out of the four TFIs for road transport improved compared to results for 2017. Average border-crossing time and cost decreased and the average speed to travel CAREC corridors was higher; only the total cost to travel a corridor section increased slightly. Detailed results are presented in Section 4.

**TFI1: Time taken to clear a border-crossing point** (Figure 2.1). Border-crossing time averaged 12 hours, showing a 28% reduction from 16.9 hours in 2017. The 2017 spike observed in TFI1 for road transport was due to abrupt border closures between the Afghanistan and Pakistan borders, which did not recur in 2018. The 12 hours average border-crossing time was a reversion to the mean border-crossing time, based on TFI1 estimates before 2017.

**TFI2: Cost incurred at border-crossing clearance** (Figure 2.2). The average border-crossing cost was estimated at \$156 in 2018, a slight decrease from \$159 in 2017. As in 2017, corridors 1 and 5 remained the costliest to complete border crossings. The BCPs identified as most costly in 2018 were Horgos–Khorgos (PRC–KAZ),<sup>9</sup> Peshawar–Torkham (PAK–AFG), Shirkhan Bandar–Panji Poyon (AFG–TAJ), Torghondi–Serkhet

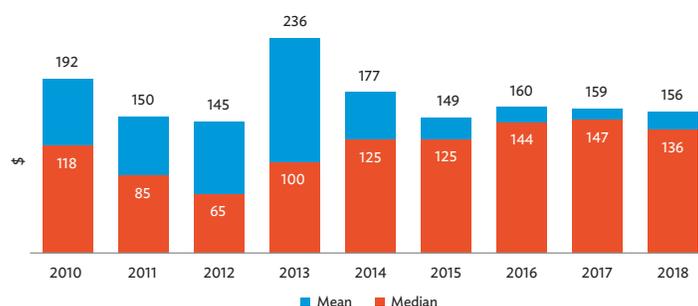


<sup>7</sup> Summary statistics and year-on-year comparison of 2017 and 2018 trade facilitation indicators by mode of transport and by corridor are in Appendix 6. Transport cost estimates are further decomposed between transit fees and border payments by mode of transport and by corridor in Appendix 7.

<sup>8</sup> Time and cost indicators spent at border crossing by activity and by direction of shipment at key BCPs along CAREC corridors are summarized in Appendix 8 for road transport BCPs and in Appendix 9 for rail.

<sup>9</sup> Forwarders, customs brokers, shippers, and receivers frequently identify Horgos–Khorgos (PRC–KAZ) as the BCP with the highest unofficial costs. Not only do shippers and receivers frequently need to make informal payments to expedite border clearance, but carriers must also pay “protection fees” to criminal gangs at the border. Further, the declaration fee charged by Horgos customs brokers is the highest in the CAREC region.

Figure 2.2: Cost Incurred at Border-Crossing Clearance, Road Transport

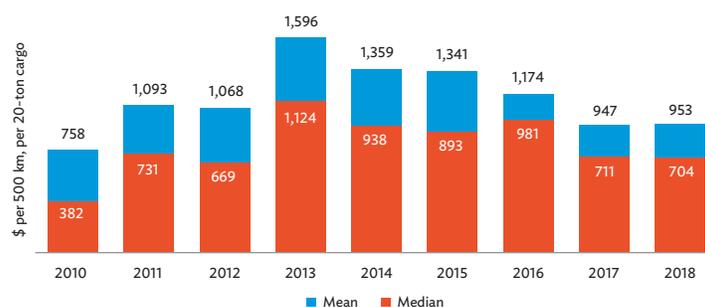


Source: Asian Development Bank.

Abad (AFG-TKM), and Takeshikent-Yarant (PRC-MON).<sup>10</sup> Customs controls and loading or unloading fees were the key reasons for the high costs.

**TFI3: Cost incurred to travel a corridor section** (Figure 2.3). Total average transport cost to travel a corridor section in 2018 was \$953, a slight increase from \$947 in 2017. Corridors 1 and 4 were identified as the costliest. Corridor 1 estimates were affected by subcorridor 1b, where the road freight cost to move from Khorgos to Almaty was costly. Corridor 4 was costly due to the road freight from Erenhot to Ulaanbaatar, caused by the shipment of bulky equipment and machinery along subcorridor 4b.

Figure 2.3: Cost Incurred to Travel a Corridor Section, Road Transport

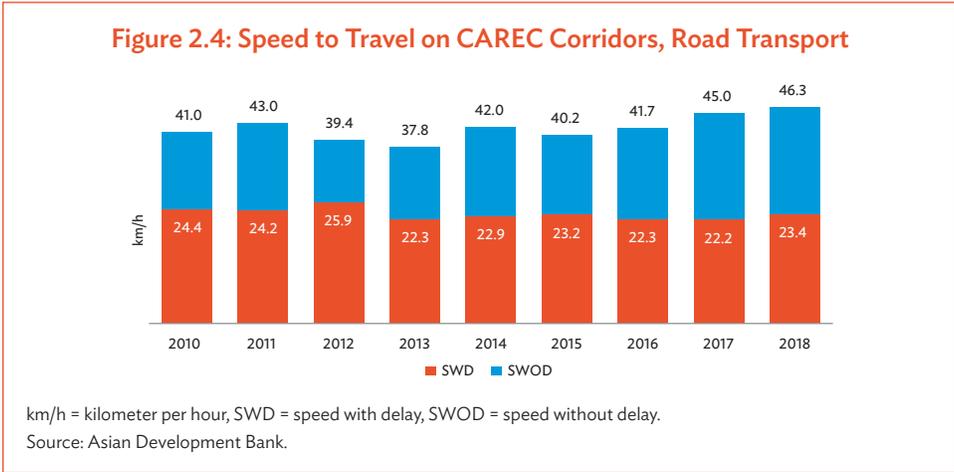


km = kilometer.

Source: Asian Development Bank.

**TFI4: Speed to travel on CAREC corridors** (Figure 2.4). Both speed without delay (SWOD) and speed with delay (SWD) exhibited a year-on-year increase: SWOD was 46.3 km/h, up from 45 km/h in 2017; and SWD was 23.4 km/h, up from 22.2 km/h in 2017. With the exception of corridor 5, the other five corridors showed SWOD above 40 km/h. Corridor 1 reported the fastest average speeds at approximately 54 km/h. Corridor 5 only attained a SWOD of 38.4 km/h because trucks navigate in physically demanding terrain in

<sup>10</sup> CPMM naming conventions identify national BCPs using the country abbreviation in parentheses directly after the BCP names: e.g., Horgos-Altynkol (PRC-KAZ) and Horgos (PRC).

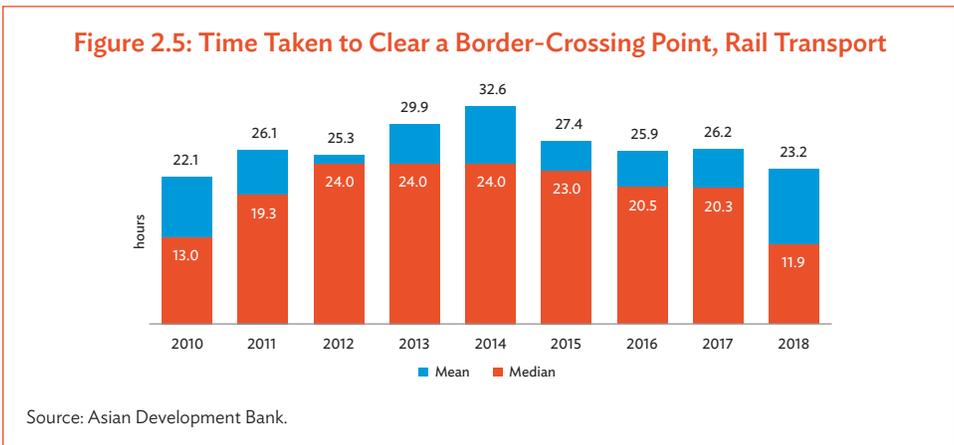


Afghanistan, the Kyrgyz Republic, and Tajikistan where high-altitude mountain regions present challenges such as narrow roads that are sometimes impassable in winter due to snow.

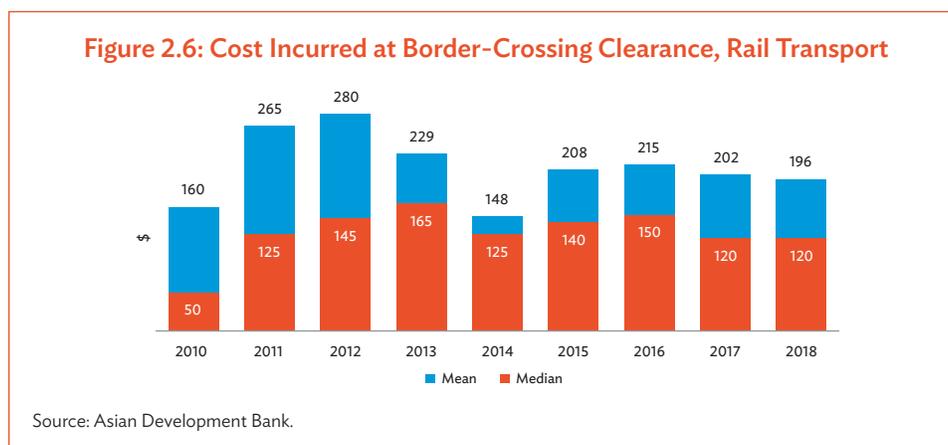
### Trade Facilitation Indicator Results for 2018: Rail Transport

In 2018, positive movement was seen in three out of four TFIs for rail transport: the average time taken and costs required to clear a BCP decreased, as did the average cost to travel a corridor section. SWD likewise picked up as a result of faster average BCP clearance times, although SWOD deteriorated in 2018 compared to 2017. Detailed results are in Section 5.

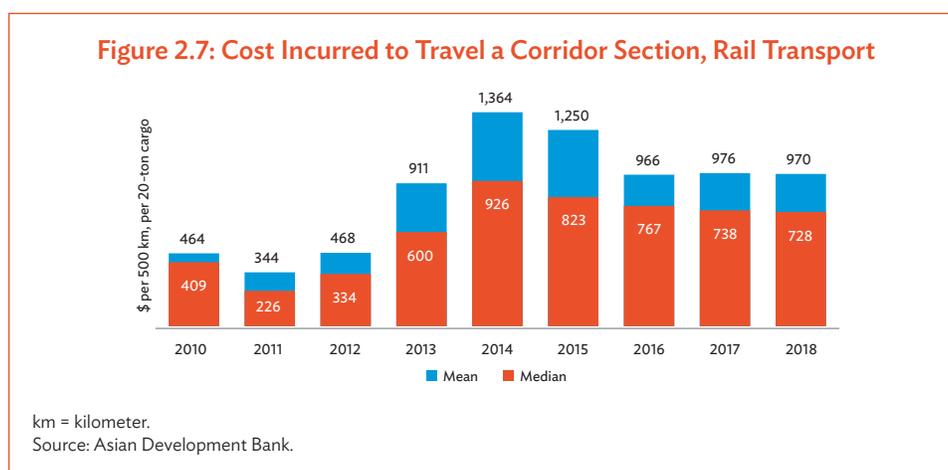
**TFI1: Time taken to clear a border-crossing point** (Figure 2.5). CPMM data for 2018 estimated the average border-crossing time as 23.2 hours in 2018, a 13.4% reduction compared to 2017. This improvement is likely attributed to no incidences of faulty machine breaking down at BCPs, which was the cause for increase in this indicator in 2017. The median time taken to clear a border dropped from 20.3 hours in 2017 to 11.9 hours in 2018, indicating a significant reduction in crossing time that impacts most rail traffic, except for a few time-consuming crossings that pull up the mean. Horgos (mean 10.9 hours, median 0.8 hours) and Zamiin-Uud (mean 22.9 hours, median 11.7 hours) stood out as the best examples.



**TFI2: Cost incurred at border-crossing clearance** (Figure 2.6). In 2018, average border-crossing cost for rail transport was estimated at \$196, a decrease of 6.2% compared to 2017. Corridor 1 showed the highest cost structure. Dostyk and Altynkol had the highest estimated border-crossing fees due to necessary gauge change operations, the costs associated with the pickup and delivery of wagons to stations that required them, as well as customs inspection and various unofficial costs.

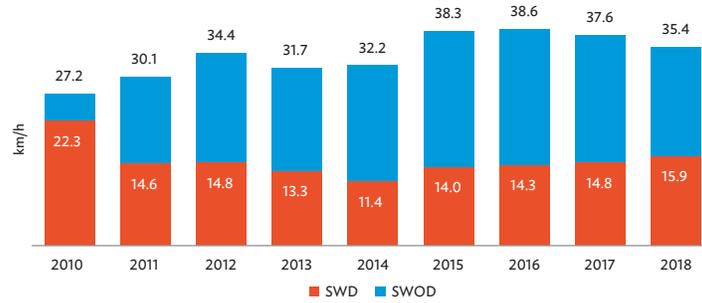


**TFI3: Cost incurred to travel a corridor section** (Figure 2.7). Total average transport cost dropped slightly to \$970 in 2018, compared to \$976 in 2017. Only subcorridors 4b and 6d showed estimated average cost of more than \$1,000: 4b refers to train shipments between Ulaanbaatar and Tianjin, while 6d refers to train shipments from the Afghan–Turkmen border to Ashgabat.



**TFI4: Speed to travel on CAREC corridors** (Figure 2.8). In 2018, SWOD and SWD showed divergent performance: SWOD dropped to 35.4 km/h, from 37.6 km/h in 2017, while SWD improved to 15.9 km/h, up from 14.8 km/h in 2017. This improvement can be attributed to the shorter average border-crossing times observed in TFI1.

Figure 2.8: Speed to Travel on CAREC Corridors, Rail Transport

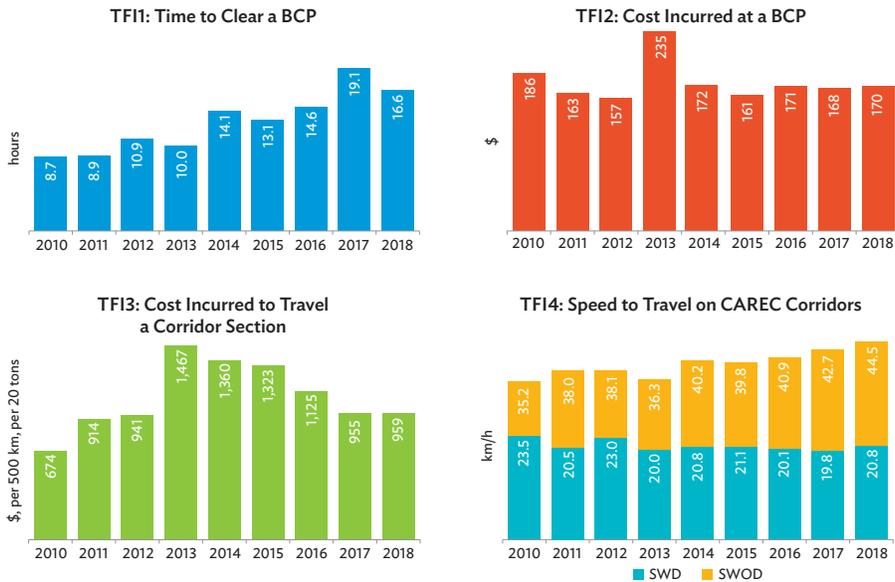


km/h = kilometer per hour, SWD = speed with delay, SWOD = speed without delay.  
Source: Asian Development Bank.

### Trade Facilitation Indicator Trends 2010–2018

After 9 years of gathering thousands of fresh data samples, the CPMM maintains a significant database of corridor information which, in aggregated form, allows the identification of trends (Figure 2.9) that clearly show the longer-term improvement or deterioration of the four integrated TFIs in both road and railway.

Figure 2.9: Trend of Trade Facilitation Indicators for Combined Road and Rail Transport, 2010–2018



BCP = border-crossing point, CAREC = Central Asia Regional Economic Cooperation, km = kilometer, km/h = kilometer per hour, SWD = speed with delay, SWOD = speed without delay, TFI = trade facilitation indicator.  
Source: Asian Development Bank.

Overall, TF11 showed a gradual upward trend during 2010–2018, indicating that average border-crossing time is increasing. This is due to (i) lengthening time spent at road BCPs, where traffic congestion leads to long times waiting in line; (ii) the slow throughput of border agencies; and (iii) the continued need to transfer goods between trucks. Unexpected border closures from time to time also affected this indicator, creating abrupt spikes.

During the same period, TF12 demonstrated more stable behavior, as border-crossing fees do not tend to change regularly.

TF13 reflects the changing strength or decline in export competitiveness of the CAREC region, where road transport remains an important mode of transport for cargo even though it is the most expensive. The TF13 trend for 2010–2018 showed a peak in 2013, which gradually reduced over subsequent years and was likely explained by the relative depreciation of local currency and the collapse of oil prices. Notwithstanding this, the estimation of freight rates is a complex task requiring consideration of several factors, such as market structure, the availability of subsidies, and seasonal demand for freight. The trend does show that since 2015, this indicator has remained relatively stable.

The 2010–2018 trend for the average travelling SWOD offers positive evidence of progress, with an increase from 35.2 km/h to 44.5 km/h—a leap of 26%. This is intricately tied to the improving quality of transport infrastructure throughout the CAREC region, some of which the Asian Development Bank (ADB) and other development partners financed. Detailed analysis of road and railway transport proves this observation. However, SWD stagnated during 2010–2018, including at border-crossing points, which could be correlated to TF11. To improve SWD, the average border-crossing time must be reduced, which is only possible when regulations and reforms are put in place to simplify and automate border-crossing procedures and are supported by well-designed BCPs with adequate equipment (e.g., X-ray scanners) and infrastructure.

Figure 2.10 illustrates the mapping of recorded speed along the CAREC corridors in 2014 and Figure 2.11 illustrates this for 2018. Different sections of CAREC corridors are color-coded to show varying tiers of SWOD, which effectively measures the driving speed of delivery vehicles. Dark green indicates sections where SWODs were estimated to be greater than 50 km/h. On the other hand, red indicates the slowest speed of below 30 km/h.

**Corridor 1:** The most notable change was the upgrade of speed along subcorridor 1a between Nur-Sultan (formerly Astana) and Almaty, where the SWOD rose from 40–50 km/h in 2014 to beyond 50 km/h in 2018. This is a trunk route in Kazakhstan, which is rapidly modernizing the country’s transport infrastructure. At subcorridor 1c, sections of roads in the Kyrgyz Republic also increased from 30–40 km/h to beyond 50 km/h—no small feat for this mountainous section of subcorridor 1c in the Kyrgyz Republic. Average SWODs in the PRC were maintained at over 50 km/h.

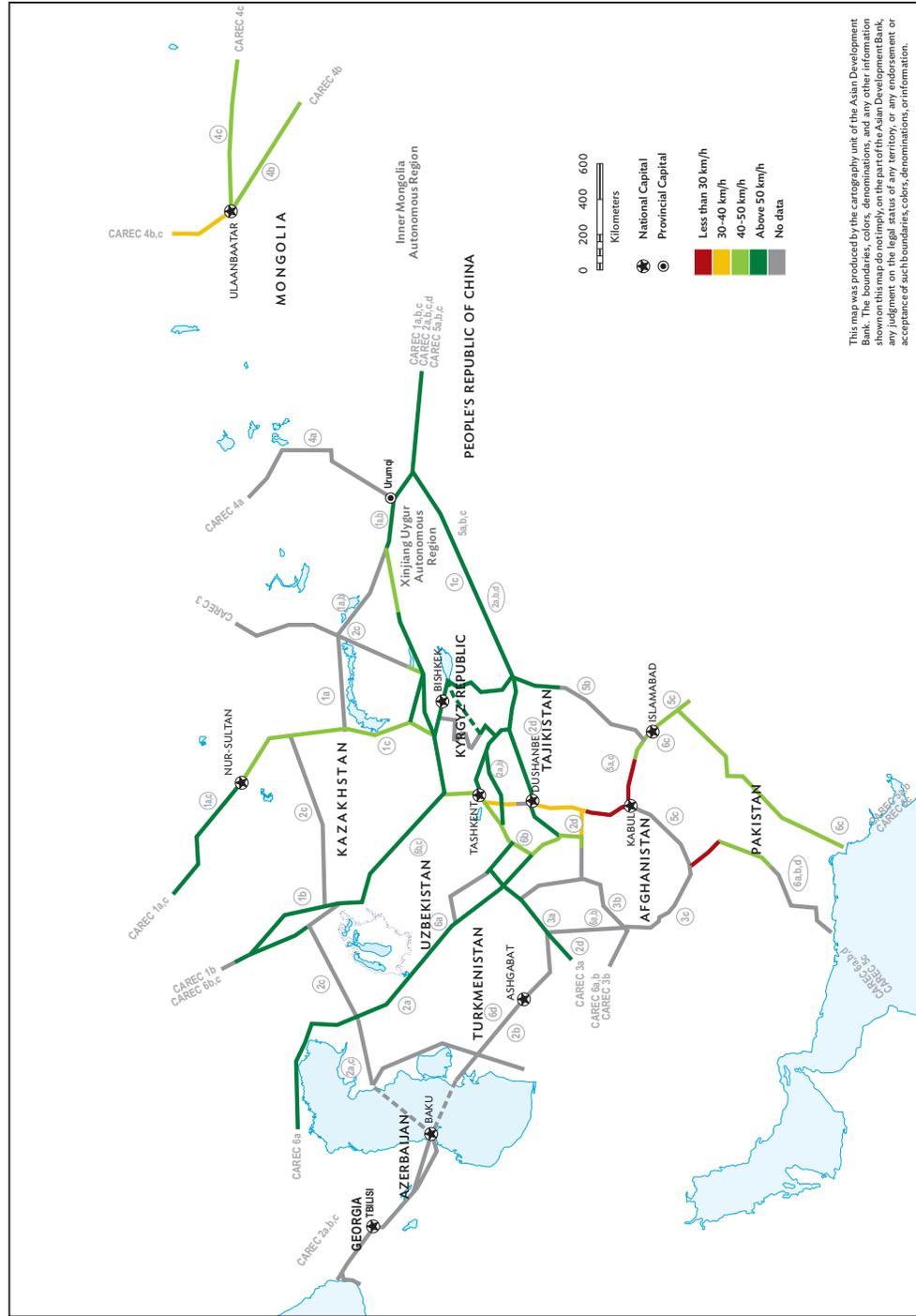
**Corridor 2:** Georgia began gathering CPMM data in 2018, which provided new information on the western end of subcorridor 2a. The average SWOD in the Georgia–Azerbaijan section moved at higher than 50 km/h.

**Corridor 3:** No significant change was observed from 2004 to 2018. In general, SWODs in Uzbekistan reached beyond 50 km/h, although the section of subcorridor 3a extending from Tashkent decreased from 40–50 km/h to 30–40 km/h.

**Corridor 4:** Encouraging progress was seen in speeds along corridor 4. In 2014, the estimated average SWOD was 30–40 km/h between Altanbulag and Ulaanbaatar, while the estimated SWOD was 40–50 km/h between Ulaanbaatar and Zamiin-Uud. In 2018, both sections in subcorridor 4b reported SWODs in excess of 50 km/h. Along subcorridor 4c where trucks crossed Bichigt, the SWOD increased from 40–50 km/h to beyond 50 km/h in 2014 and 2018.



Figure 2.11: Average Speed along CAREC Road Transport Corridors, 2014



CAREC = Central Asia Regional Economic Cooperation, km/h = kilometer per hour.  
Source: Asian Development Bank.

cars 19-2922b AV

**Corridor 5:** Subcorridor 5c showed improvements along two sections: the first from the Afghanistan–Tajikistan border to Dushanbe, and the second from the Afghanistan–Pakistan border to Islamabad. Both sections increased the speed from 30–40 km/h in 2014 to 40–50 km/h in 2018. However, the section from Kabul to Kunduz to Shirkhan Bandar (Afghanistan–Tajikistan border) remained at below 30 km/h.

**Corridor 6:** Subcorridor 6a showed an increase in the section between Quetta and Kandahar. New data collected showed the movement from Kandahar to Herat to the Afghanistan–Turkmenistan border to be more than 50 km/h.

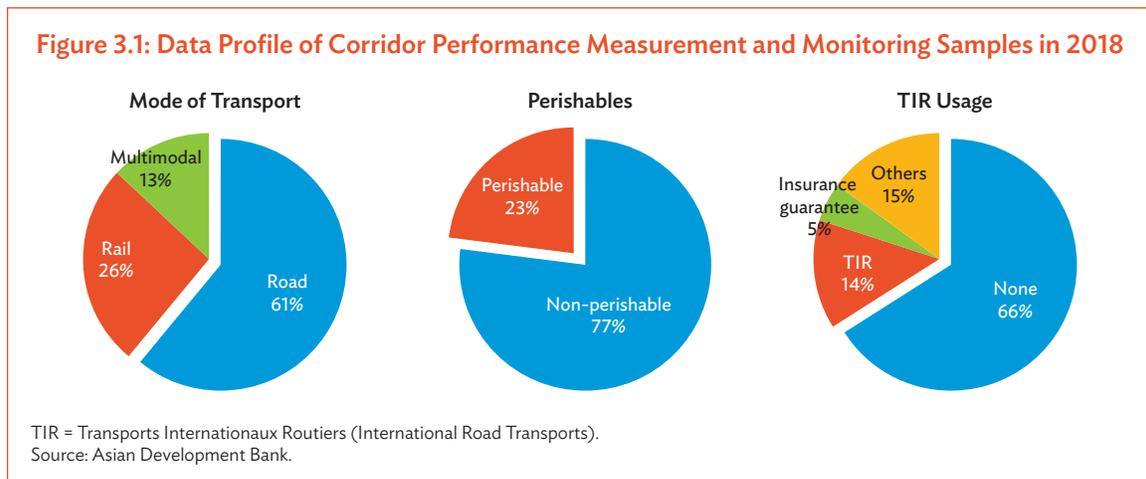
# 3 2018 Corridor Performance Measurement and Monitoring Data

CPMM data are derived from commercial shipments that move through Central Asia.<sup>11</sup> Although most of these shipments originate within CAREC member countries, some start from outside the region, for example, in Iran, the Russian Federation, or Turkey. Similarly, the final destination of most monitored shipments is within Central Asia, although some continue to more distant destinations, notably Europe and the Russian Federation.

CPMM road and rail transport, and time and cost data are collected by transport operators during shipment and analyzed monthly. Data relating to time is measured in hours and collected for the (i) travel time on road, railways, or water; and (ii) border-crossing time. Likewise, data relating to cost are decomposed into (i) vehicle operating costs for trucks, or railways tariffs for trains; and (ii) border-crossing fees. The CPMM also reports on activities and locations that involve unofficial payments, such as paying additional “tea money” to border agencies at BCPs in exchange for preferential treatment.

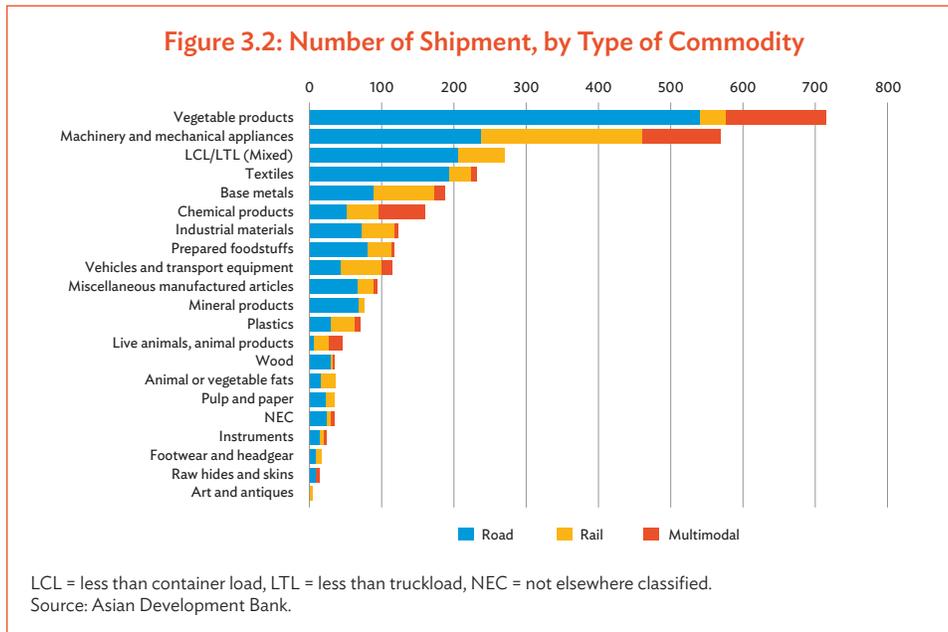
## Data Profile

In 2018, 13 associations (Appendix 2) in 9 countries collected 2,934 samples of cross-border shipments. The goods were carried on road (61%), railways (26%), and multimodal transport (13%); perishable shipments accounted for 23% of the total and were predominantly carried on trucks (Figure 3.1). Of all samples, 14% used the Transports Internationaux Routiers (International Road Transports or TIR) Carnet as a transit mechanism.



The top five categories of goods carried included vegetable products (24.3%), machinery and mechanical appliances (19.4%), mixed shipments (9.1%), textiles (7.9%), and base metals (6.3%) (Figure 3.2).

<sup>11</sup> Parts of Section 3 contain standard and recurring descriptions of CAREC corridors, trade routes, and names of border-crossing points, and should remain consistent with previous annual reports.



## Cargo Movement

The CPMM mechanism focuses on road, railway, and multimodal transport along the six CAREC corridors and the BCPs along them. Each data sample gathered includes points of origin and destination which are mainly within the CAREC region, although some samples originate or terminate outside the region.

Table 3.1 lists commonly crossed key BCPs along the CAREC corridors. One BCP can appear in more than one CAREC corridor because of overlapping corridor sections.

Using CPMM data for 2018, cargo movement in each CAREC member country is summarized in the following section.

**Afghanistan.** In 2018, the CPMM captured the following types of **ROAD** cargo movements across Afghanistan: (i) containerized shipments from Karachi seaport, Pakistan, to Jalalabad; (ii) containerized shipments from Karachi seaport to Kandahar; (iii) transit shipments from Peshawar to Dushanbe, Tajikistan; (iv) transit shipments from Peshawar to Tashkent, Uzbekistan. **RAIL** shipments included transit shipments from Quetta, Pakistan to Ashgabat, Turkmenistan, or Tashkent, Uzbekistan. **COMMODITIES** commonly transported by road and railway were fresh fruits and vegetables.

**Azerbaijan.** In 2018, the CPMM captured the following types of **ROAD** cargo movements across Azerbaijan: (i) containerized shipments from Poti or Batumi to Baku–Aktau and terminate in Kazakhstan; (ii) containerized shipments from Kazakhstan to Georgia; (iii) transit shipments from Turkey to Kazakhstan. No **RAIL** shipment data was recorded by CPMM in 2018. **COMMODITIES** commonly transported by road were electrical equipment and machinery, and pharmaceuticals.

**People’s Republic of China.** Both road and railways shipments were collected in 2018. **ROAD** shipments included (i) exports of consumer and industrial goods to Kazakhstan and the Kyrgyz Republic; (ii) exports of construction equipment and building materials to Afghanistan and Tajikistan; (iii) exports of mineral fuels, consumer items, construction material, and food commodities to Mongolia; (iv) exports of plastic pipes to Pakistan along corridor 5b; (v) imports of coal and minerals from Mongolia along corridors 4a and 4c; (vi) imports of the Russian Federation’s lumber along corridor 4b; and (vii) transit shipments of

Table 3: CAREC Corridor Alignment and Key Border-Crossing Points

Country	CAREC Corridors	Key BCPs in CPMM
Afghanistan	2, 3, 5, and 6	Hairatan, Shirkhan Bandar, Spin Buldak, Torghondi, and Torkham
Azerbaijan	2	Baku (seaport), Boyuk Kesik, and Red Bridge
China, People's Republic of	1, 2, 4, and 5	Alashankou, Erenhot, Irkeshtan, Horgos, Khunjerab, Kara Suu, and Torugart
Georgia	2	Gardabani, Sarpi, and Tsiteli Khidi
Kazakhstan	1, 2, 3, and 6	Altynkol, Dostyk, Khorgos, Konybaeva, and Tazhen
Kyrgyz Republic	1, 2, 3, and 5	Chaldovar, Gulistan, Irkeshtam, Karamyk, and Torugart
Mongolia	4	Altanbulag, Bichigt, Sukhbaatar, Yarant, and Zamiin-Uud
Pakistan	5 and 6	Chaman and Peshawar
Tajikistan	2, 3, 5, and 6	Dusti, Gulistan, Karamyk, Kulma, and Panji Poyon
Turkmenistan	2, 3, and 6	Farap, Sarahs, and Serkhet Abad
Uzbekistan	2, 3, and 6	Alat, Dautota, Dostyk, Saryasia, Termez, and Yallama

BCP = border-crossing point, CAREC = Central Asia Regional Economic Cooperation, CPMM = Corridor Performance Measurement and Monitoring. Source: Asian Development Bank.

Mongolian exports to Tianjin seaport along corridor 4b. Sampled **RAIL** movements included (i) exports to Almaty and Nur-Sultan in Kazakhstan along corridor 1; (ii) exports of machineries and equipment to Turkmenistan, crossing Kazakhstan and Uzbekistan; (iii) exports from Chongqing to Duisburg, Germany, using container express trains; and (iv) exports of glass bottles, and automobile spare parts from Chongqing to Ulaanbaatar, Mongolia. **COMMODITIES** commonly transported by road were a mixed assortment of consumer products, apparel, iron or steel articles, and electrical equipment and machinery. Commodities shipped by railway included chemicals, electrical equipment and machinery, and plastic articles.

**Georgia.** All shipments through Georgia are by **ROAD** along corridor 2 and were mostly not containerized. They included (i) exports of machineries and equipment from Turkey to Central Asia; (ii) exports of industrial and consumer goods from Ukraine and other countries on vessels that berth at Poti or Batumi and are then carried on trucks to Central Asia; and (iii) exports of dried fruits and nuts from Uzbekistan to Georgia (Tbilisi). These movements cross the Caspian Sea at Baku-Aktau (AZE-KAZ). There was no **RAIL** shipment. **COMMODITIES** commonly transported by road were vegetables, electrical equipment and machinery, and pharmaceuticals.

**Kazakhstan.** **ROAD** shipments included (i) imports of consumer and industrial materials from Urumqi, the PRC, to Almaty on trucks along corridor 1b; (ii) imports from the Kyrgyz Republic and Uzbekistan of fresh fruits and vegetables; and (iii) transit shipments of agricultural products from the Kyrgyz Republic and Uzbekistan through Kazakhstan to the Russian Federation. CPMM data captured records of **RAIL** shipments including (i) imports of vehicles and industrial goods from major PRC cities such Chongqing and Shenzhen on trains to Almaty; (ii) imports of vehicles and consumer goods from foreign origins using ocean containers to cities in Kazakhstan; (iii) imports of chemicals, equipment, and machineries from Urumqi to Almaty and Nur-Sultan in Kazakhstan on trains along corridors 1a or 1b; and (iv) transit shipments of machineries and equipment from Urumqi to Uzbekistan and Turkmenistan. **COMMODITIES** commonly transported by road were a mixed assortment of consumer products, apparel, and electrical equipment and machinery. Those shipped by railway included consumer electronic appliances, electrical equipment and machinery, textiles, and building and construction materials.

**Kyrgyz Republic.** Only **ROAD** shipments provided CPMM data samples in 2018. They included (i) import of apparel from the PRC, (ii) import of paper from Kazakhstan, (iii) exports of fresh and dried fruits and textiles to Kazakhstan and the Russian Federation, and (iv) transit shipments of equipment and machineries from the PRC to Tajikistan. There was no **RAIL** shipment. **COMMODITIES** commonly transported by road were fruits and nuts, vehicles, textile and apparel, and electrical equipment and machinery.

**Mongolia.** CPMM data captured both road and rail transport data in Mongolia in 2018. **ROAD** traffic samples included (i) imports of chemicals and diesel fuel from the PRC into Mongolia, and crude oil exports to the PRC from Mongolia, crossing Bichigt along subcorridor 4c; (ii) imports of mixed consumer goods and foodstuff from the PRC to Ulaanbaatar, crossing Zamiin-Uud along corridor 4b; (iii) imports of consumer goods and beverages from the Russian Federation to Ulaanbaatar, crossing Altanbulag along corridor 4b; and (iv) exports of coal from Mongolia to the PRC, crossing Yarant along corridor 4c. All samples were transported on noncontainerized trucks. **RAIL** shipments included (i) imports of containerized cargoes from Japan, the Republic of Korea, and parts of the PRC, such as Tianjin to Ulaanbaatar; (ii) exports of meat and minerals in containers from Ulaanbaatar to Tianjin for re-export; and (iii) transit shipments of the Russian Federation's lumber to the PRC. **COMMODITIES** commonly transported by road were a mixed assortment of consumer products, foodstuff, and diesel fuel. Those shipped by railways included chemicals, electrical equipment and machinery, and plastic articles.

**Pakistan.** **ROAD** shipments included (i) exports of fruits and vegetables to Tajikistan and Uzbekistan via Afghanistan; (ii) exports of fruits and vegetables from Quetta to Ashgabat, Turkmenistan, via Afghanistan; and (iii) transit shipments of containerized cargoes to Jalalabad, or Kandahar from Karachi. There was no **RAIL** shipment. **COMMODITIES** commonly transported by road were predominantly fresh fruits and vegetables, some electrical equipment and machinery, and ceramic products.

**Tajikistan.** **ROAD** shipments included (i) imports of construction and building equipment in containers from the PRC to Dushanbe; (ii) imports of consumer and industrial products in containers from the Russian Federation to Dushanbe (crossing Kazakhstan and Uzbekistan); (iii) bilateral trade with the Kyrgyz Republic via Karamyk; and (iv) imports of fruits and vegetables from Pakistan via Afghanistan. There was no **RAIL** shipment in 2018; the Tajik rail system connects internationally via the Uzbek and Turkmen rail systems, and in 2018, was negatively affected by embargoes imposed by the Turkmenistan Railway in February and October. The reasons for these embargoes remain unclear and suggest the need for increased dialogue between the governments of Tajikistan and Turkmenistan.

**Turkmenistan.** In 2018, **ROAD** shipments included transit shipments of containerized cargoes on trucks in both directions between Bandar Abbas seaport, Iran, and Uzbekistan. **RAIL** shipments included (i) imports of equipment and machineries on trains from the PRC; and (ii) imports of fruits and vegetables from Pakistan. No Turkmenistan association participated in the CPMM data gathering process in 2018; these data are collected from CPMM partners in Afghanistan, the PRC, and Uzbekistan. **COMMODITIES** commonly transported by road were carpets and copper articles. Those shipped by railway included vegetables, and electrical equipment and machinery.

**Uzbekistan.** **ROAD** shipments included (i) exports of agricultural products to the Russian Federation via Kazakhstan and imports of manufactured goods and banana in the other direction; (ii) exports of fruits and vegetables to Kazakhstan; (iii) exports and imports of containerized goods between Uzbekistan cities and Bandar Abbas seaport via Turkmenistan; (iv) imports of fruits and vegetables from Pakistan via Afghanistan; (v) transit shipments of manufactured goods and equipment from the Russian Federation to Tajikistan; and (vi) a limited number of containerized transit shipments of consumer goods from Bandar Abbas seaport to Kazakhstan and the Kyrgyz Republic. **RAIL** shipment included transit shipment of machinery and equipment from the PRC to Turkmenistan. **COMMODITIES** commonly transported by road were fruits and vegetables, textiles, cooper articles, and vehicles. Those shipped by railways included electrical equipment and machinery.

# 4 Road Transport in 2018

The 2018 CPMM TFIs for road transport are detailed in Tables 4.1, 4.2, 4.5, and 4.6. On a year-to-year comparison, CPMM data for 2018 showed:

- (i) average border-crossing time decreased from 16.9 hours in 2017 to 12.0 hours in 2018;
- (ii) border-crossing cost decreased slightly from \$159 in 2017 to \$156 in 2018;
- (iii) total transport cost to travel a corridor section increased slightly from \$947 in 2017 to \$953 in 2018; and
- (iv) SWD improved from 22.2 km/h in 2017 to 23.4 km/h in 2018; SWOD registered 46.3 km/h, higher than 45 km/h in 2017.

## Trade Facilitation Indicator 1: Average Border-Crossing Time

**Table 4.1: Average Time Taken to Clear a Border-Crossing Point**

		2017	2018	% change
TFI1	Time taken to clear a border-crossing point (hours)	16.9	12.0	-28.7

TFI = trade facilitation indicator.  
Source: Asian Development Bank.

In 2018, CPMM road data for TFI1 identified comparatively inefficient BCPs at Chaman (65.2 hours), Peshawar (33.5 hours), Torghondi (31.5 hours), Torkham (27.2 hours), Spin Buldak (25.7 hours), Horgos (20.4 hours), Tseli Khidi (17.9 hours), and Konysbaeva (12.0 hours). The causes of delay were identified as manual and serial customs procedures, time spent waiting in line due to BCP constraints, and loading and unloading due to the need to change trucks.

Corridors 5 and 6 demonstrated the longest border-crossing times: 28.2 hours for corridor 5 and 15.0 hours for corridor 6. These values were much lower than in 2017, reaching levels similar to 2016, spurred by the absence of sudden ad-hoc border closure at the Afghanistan–Pakistan border in 2018.

## Trade Facilitation Indicator 2: Average Border-Crossing Cost

**Table 4.2: Average Cost Incurred at Border-Crossing Clearance**

		2017	2018	% change
TFI2	Cost incurred at border-crossing clearance (\$)	159	156	-2.0

TFI = trade facilitation indicator.  
Source: Asian Development Bank.

Table 4.3 illustrates the dispersion of costs incurred at BCPs along CAREC corridors in 2018.<sup>12</sup> Customs controls, loading and unloading, road and bridge tolls, and escort and convoy costs were the major sources of fees and payments.<sup>13</sup> Costs for commercial inspection at Horgos (PRC) in corridor 1 were high. Veterinary inspection and visa and immigration were comparatively costly in corridor 2. CPMM data pinpointed customs controls along corridor 5 (\$271) as the single most costly activity, and largely due to payment required for customs clearance and documents at Afghanistan–Pakistan BCPs. This is followed by loading and unloading at Horgos in corridor 1 (\$262), where PRC trucks terminate and offload goods at temporary bonded warehouses. Kazakh trucks then enter the PRC BCP, collect the goods, and return to the Kazakhstan side—evidence showed this activity to be relatively costly.

The CPMM also analyzed unofficial payments in Central Asia (Table 4.4).<sup>14</sup> Rent-seeking behaviors were observed in the following activities, ranked by likelihood of occurrence: (i) vehicle registration (50%), (ii) phytosanitary activities (31%), (iii) health and quarantine (31%), (iv) transport inspection (27%), and (v) customs controls (24%).

In terms of the magnitude of unofficial payment per truck, the largest sums were taken during (i) transit conformity (\$160), (ii) customs controls (\$93), (iii) loading and unloading (\$49), and (iv) to reduce waiting time in line (\$25).

**Table 4.3: Average Cost at Road Border-Crossing Points by Activity**

Road Transport	Average Cost (\$)						
	Overall	Corridors					
		1	2	3	4	5	6
i Border security and/or control	15	9	12	10	21	29	13
ii Customs controls	109	186	42	24	77	271	67
iii Commercial inspection	29	118	16	20	24	-	25
iv Health and/or quarantine	9	-	13	7	3	10	11
v Phytosanitary	15	6	12	7	-	35	10
vi Veterinary inspection	7	12	56	6	-	-	6
vii Visa and/or immigration	25	16	79	8	-	42	12
viii Transit conformity	40	-	40	-	-	-	-
ix GAI and/or traffic inspection	8	4	24	4	-	9	7
x Police checkpoint and/or stop	9	-	14	-	-	9	9
xi Transport inspection	13	17	16	8	-	20	13
xii Weight and/or standard inspection	21	10	15	16	37	10	13
xiii Vehicle registration	11	-	18	7	-	-	12
xiv Emergency repair	72	-	9	22	-	76	21
xv Escort and/or convoy	210	-	210	-	-	-	-
xvi Loading and/or unloading	106	262	25	8	134	95	104
xvii Road and/or bridge toll	27	-	86	160	15	9	8
xviii Waiting and/or queue	13	4	17	-	9	17	-

Legend:  More than \$100

GAI = Gosudarstvennaya Avtomobilnaya Inspektsiya.

Source: Asian Development Bank.

<sup>12</sup> Cost estimates are derived by summing fees and payments for each border-crossing activity at the BCP, to estimate the total sum paid. Moreover, “tea money” or “facilitation fees” outside of the official amount to be paid were included.

<sup>13</sup> Unlike the early years of CPMM implementation, escort and convoy charges are rare; in 2018, only five instances were recorded.

<sup>14</sup> An unofficial payment is defined as a sum paid on top of that officially recognized by law, with the aim of gaining a favor in return. No official receipt is given, so tracking an unofficial payment is inherently difficult due to the opaque nature of the transaction. Drivers participating in the CPMM are trained to recognize unofficial payments and record them separately. Unofficial payments differed across corridors and tend to be more significant along high-traffic corridors where congestion leads to longer time waiting in line and where drivers paid “tea money” to shorten the waiting time. Unofficial payments were recorded at BCP and non-BCP locations, such as inland customs offices or when interacting with traffic police on the road.

**Table 4.4: Estimated Unofficial Fees Paid per Activity for Road Transport in 2018**

Road Transport	Likelihood (%)	Average (\$)						
		Overall	Corridors					
			1	2	3	4	5	6
i Border security and/or control	7	4	–	4	5	0	–	–
ii Customs controls	24	93	67	48	–	0	106	30
iii Commercial inspection	1	8	6	–	–	–	5	13
iv Health and/or quarantine	31	4	–	3	4	–	–	4
v Phytosanitary	31	5	–	3	6	–	–	5
vi Veterinary inspection	7	2	–	3	2	–	–	8
vii Visa and/or immigration	10	3	–	4	3	–	–	–
viii Transit conformity	6	160	–	160	–	–	–	–
ix GAI and/or traffic inspection	0	–	–	–	–	–	–	–
x Police checkpoint and/or stop	0	2	–	2	–	–	–	–
xi Transport inspection	27	5	–	4	6	–	–	6
xii Weight and/or standard inspection	21	5	–	4	6	–	–	6
xiii Vehicle registration	50	4	–	4	4	–	–	5
xiv Emergency repair	3	5	–	4	7	–	–	6
xv Escort and/or convoy	0	–	–	–	–	–	–	–
xvi Loading and/or unloading	0	49	74	–	–	127	–	17
xvii Road and/or bridge toll	0	3	–	3	3	–	–	–
xviii Waiting and/or queue	0	25	–	25	–	–	–	–

Legend:  More than \$100

GAI = Gosudarstvennaya Avtomobilnaya Inspektsyya.  
Source: Asian Development Bank.

## Trade Facilitation Indicator 3: Total Transport Cost

**Table 4.5: Average Cost Incurred to Travel a Corridor Section**

		2017	2018	% change
TFI3	Cost incurred to travel a corridor section (\$ per 500 km, per 20 tons)	\$947	\$953	+0.6

km = kilometer, TFI = trade facilitation indicator.  
Source: Asian Development Bank.

The average total cost estimate in 2018 was \$953,<sup>15</sup> an increase of less than 1% from 2017. Wide differences exist for the total cost estimate among the six corridors: corridor 4, for example, was ranked the costliest (\$1,805), followed by corridor 1 (\$1,129), with the remaining corridors estimated at lower than \$1,000. Specific routes that were found to be costliest were subcorridors 1b (\$1,090), 4b (\$2,297), 5b (\$1,860), and 6d (\$1,835).

<sup>15</sup> To standardize TFI3, the CPMM adopts 500 km as a unit of distance and 20 tons as a unit of weight. This standardized unit enables comparisons to be made between road shipments across different corridors with varying distance and weight.

## Trade Facilitation Indicator 4: Speed to Travel on CAREC Corridors

Corridor 1 showed the fastest SWOD (54 km/h) in 2018, while corridor 5 was the slowest (38 km/h). Corridors 1 and 4 tied with the fastest SWD where delays were included, while corridor 5 remained the slowest at 11 km/h.

Table 4.6 displays two groups of data: the group of higher values is SWOD, while the group of the lower values is SWD.

**Table 4.6: Average Speed to Travel on CAREC Corridors**

		2017	2018	% change
TFI4	Speed to travel on CAREC corridors (km/h)	22.2	23.4	+5.5
SWOD	Speed without delay (km/h)	45.0	46.3	+2.9

km/h = kilometer per hour, SWOD = speed without delay, TFI = trade facilitation indicator.  
Source: Asian Development Bank.

In 2018, both SWOD and SWD showed year-on-year improvement over 2017 data. The slightly higher SWOD and the shorter average border-crossing time (reflected in TFI1) helped to boost SWD this year. On the other hand, 9 out of 18 subcorridors still reported a decrease of 50% or more when SWOD and SWD were compared. This represents the drop in speed when border crossing was considered as a factor in the total time taken. This indicates that attention is still required to address border-crossing delays. As in 2017, subcorridors 5a, 5c, and 6d were particularly affected and reported the most substantial drops in speed.

## Corridor Performance

### Corridor 1

This corridor links East Asia to Europe and has three subcorridors: (i) subcorridor 1a predominantly facilitates railway traffic; (ii) subcorridor 1b is active for both road and rail transport, as seen on the route between Urumqi and Almaty, which is heavily used by cargo trucks; and (iii) subcorridor 1c connects the Kyrgyz Republic to international highways in Kazakhstan that link to the Russian Federation.

All three subcorridors showed SWOD in excess of 50 km/h in 2018, and SWDs ranged from 26 km/h to 34 km/h. Corridor 1 has relatively better paved roads and transport infrastructure that reflect the modernization programs of both the PRC and its Belt and Road Initiative (BRI), and Kazakhstan and its Nurlu Zhol (Way to the Future) program.<sup>16</sup>

Horgos (PRC) in subcorridor 1b is the international gateway for road freight. In 2018, this BCP attained a 25% increase in freight tonnage from 710,000 tons in 2017 to 887,000 tons.<sup>17</sup> These numbers make Horgos (PRC) the top road BCP in the Xinjiang Uygur Autonomous Region, accounting for 45.6% of total trade value and 60.2% of total tonnage handled in 2018. The PRC exported high-tech equipment, textile, electric appliances and consumer goods, and minerals.

<sup>16</sup> Nurlu Zhol is a state program to develop infrastructure in Kazakhstan. It is also known as “The Way to the Future.” <https://www.baiterek.gov.kz/en/nurlu-zhol-program>.

<sup>17</sup> China Customs Press. *China Ports Yearbook, 2014–2017*. Available at [https://www.360kuai.com/pc/9d16d26c88b74ee7f?cota=4&tj\\_url=so\\_rec&sign=360\\_57c3bbd1&refer\\_scene=so\\_1](https://www.360kuai.com/pc/9d16d26c88b74ee7f?cota=4&tj_url=so_rec&sign=360_57c3bbd1&refer_scene=so_1).

For exports from the PRC, average border-crossing times were 10.2 hours at Horgos (PRC) and 6.8 hours at Khorgos (KAZ). In the reverse direction, average border-crossing times were 20.4 hours at Horgos and 4.5 hours at Khorgos, with the main delaying factor being the transfer of goods between PRC and Kazakh trucks since trucks cannot freely enter each other's territory, so all goods have to be transferred at the BCP.

Along subcorridor 1c, no major problems are reported at Torugart and Irkeshtam. In May 2018, the PRC integrated the General Administration of Quality Supervision, Inspection, and Quarantine (AQSIQ, the regulatory agency responsible for food safety and standards) commercial inspection into customs procedures, which shortened the total time for commercial and customs inspection by 2 hours (Section 6).

## Corridor 2

Corridor 2 is an important passageway for regional east-west trade linking the economies of East Asia to Central Asia, the Caucasus, and the Mediterranean, with the PRC in the east and Georgia in the west, passing through nine CAREC member countries. There are four subcorridors, all of which start in the PRC and ultimately link to Georgia (2a, 2b, and 2c) and Iran (2d) (Table 4.7). CPMM samples for 2018 did not record any exports in the west-east direction.

**Table 4.7: Corridor 2 Routes**

Subcorridor	Countries	Modalities	Seaports
2a	PRC, KGZ, UZB, KAZ, AZE, GEO	Road, Water	Aktau-Baku
2b	PRC, KGZ, UZB, TKM, AZE, GEO	Road, Water	Turkmenbashi-Baku
2c	PRC, KAZ, AZE, GEO	Road, Rail, Water	Aktau-Baku
2d	PRC, KGZ, TAJ, AFG, TKM	Road, Rail	–

AFG = Afghanistan, AZE = Azerbaijan, GEO = Georgia, KAZ = Kazakhstan, KGZ = Kyrgyz Republic, PRC = People's Republic of China, TAJ = Tajikistan, TKM = Turkmenistan, UZB = Uzbekistan.  
Source: Asian Development Bank.

## Caucasus to Central Asia

In 2018, CPMM samples included shipments from seaports in the Black Sea to cities in Central Asia, comprising containerized and noncontainerized traffic that began from Poti in Georgia and moved to end markets in Central Asia, terminating at the major cities. Table 4.8 shows indicative time and costs for two routes: Poti-Bishkek and Poti-Nur-Sultan. Shipments were carried by Georgian trucks and drivers and crossed the Caspian Sea from Baku to Port Aktau along subcorridor 2a.

**Table 4.8: Performance of Caucasus to Central Asia Road Shipments**

Attributes	Poti-Bishkek	Poti-Nur-Sultan
<b>Distance</b>	<b>5,170 km</b>	<b>4,708 km</b>
Transit Time	103 hours	99 hours
Activities Time	113 hours	175 hours
<b>Total Time</b>	<b>216 hours (approx. 9 days)</b>	<b>274 hours (approx. 11 days)</b>
Transport Rate	\$2,020	\$2,110
Activities Cost	\$460	\$452
<b>Total Cost</b>	<b>\$2,480</b>	<b>\$2,562</b>

km = kilometer.  
Source: Asian Development Bank.

It took 9–11 days for the shipment from Poti to Bishkek and Nur-Sultan, and times for different activities varied significantly. This can be attributed to crossing the Caspian Sea: the time to cross via Baku–Aktau (AZE–KAZ) averaged 3–5 days, for example, and in some instances, could be longer depending on the ship’s schedule, waterborne carriage capacity, and port congestion. The two governments are aware of this significant delay and have invested in improvements to increase the capacity and efficiency of the Caspian seaports: for instance, Kazakhstan has constructed a new terminal at Kuryk, south of Aktau to serve transit traffic.

### Mediterranean to Central Asia

2018 CPMM samples also included Turkish shipments to Central Asia. Corridor 2 plays a role in serving this traffic with goods starting at the Sarpi (GEO) BCP, at the Turkey–Georgia land border. Sarpi is a large BCP, where Georgia has a terminal with 17 gates to handle transit traffic. CPMM data showed the goods moving across the Caucasus–Caspian Sea and terminating at major cities in Central Asia (Table 4.9).

**Table 4.9: Performance of Mediterranean to Central Asia Road Shipments**

Attributes	Sarpi–Bishkek	Sarpi–Nur-Sultan
Distance	5,243 km	4,775 km
Transit Time	126 hours	99 hours
Activities Time	205 hours	175 hours
<b>Total Time</b>	<b>331 hours (approx. 13 days)</b>	<b>274 hours (approx. 11 days)</b>
Transport Rate	\$2,050	\$1,990
Activities Cost	\$673	\$452
<b>Total Cost</b>	<b>\$2,723</b>	<b>\$2,442</b>

km = kilometer.

Source: Asian Development Bank.

Comparing the Caucasus–Central Asia and Mediterranean–Central Asia routes, both displayed similar time and cost performance. The greatest unpredictability stems from crossing the Caspian: in an extreme case, a shipment from Sarpi to Bishkek took 21 days when the shipment had to wait for 5 days at Aktau. Land border crossings did not reflect major problems along corridor 2, particularly at Georgia’s BCPs, where the average customs controls took only 5 minutes.

Of note is the absence of CPMM samples crossing Turkmenistan. Georgia’s carriers described difficulties in transiting Turkmenistan as the application process for visas and permits is complex. The preference is to travel instead through Aktau. Tajikistan’s carriers reported periodic embargos imposed on both road and rail traffic.<sup>18</sup> As Turkmenistan currently does not participate in the CPMM process, further details could not be confirmed, but this is clearly one area for policy-level discussion to examine the causes.

### Corridor 3

Corridor 3 is a north–south corridor linking the eastern part of the Russian Federation to the Middle East through Central Asia. The northern section resides in Kazakhstan and includes both road and railway. The corridor splits into two at Merke, Kazakhstan: section 3a moves into Uzbekistan and Turkmenistan, ending in Iran; and section 3b heads south to the Kyrgyz Republic, Tajikistan, and Afghanistan, also ending in Iran. In 2018, only road samples were collected.

<sup>18</sup> As of August 2019, Turkmenistan has been closed to Tajikistan’s road and rail carriers after Turkmenistan imposed an embargo in October 2018.

The performance in 2018 continued trends of the last several years: subcorridor 3a showed a longer average border-crossing time and cost compared to subcorridor 3b. In 2018, average border-crossing times were subcorridor 3a at 10.2 hours versus subcorridor 3b at 3.9 hours. Average border-crossing costs were \$127 for subcorridor 3a versus \$69 for subcorridor 3b, while total transport costs were \$696 for subcorridor 3a versus \$505 for subcorridor 3b. However, subcorridor 3a performed better in speed: trucks moving along subcorridor 3a attained SWOD of 54 km/h versus SWOD of 42 km/h along subcorridor 3b. However, due to the longer border-crossing time, SWD along subcorridor 3a was lower.

Table 4.10 shows that average border-crossing times along subcorridor 3a were higher than subcorridor 3b mainly due to time spent waiting in line. This suggests that the capacity of BCPs along subcorridor 3a should be reviewed and expanded. Border-crossing costs along subcorridor 3a were pushed up by Alat–Farap (UZB–TKM), where payments for visa and immigration fees averaging \$75 and road tolls of \$155 were collected for each truck entering Farap.

**Table 4.10: Comparisons of Subcorridors 3a and 3b—Average Border-Crossing Times**

Exit BCP	Time	Entry BCP	Time
<b>BCPs in Corridor 3a</b>			
Yallama (UZB)	10.2 hours	Konysbaeva (KAZ)	12.0 hours
Alat (UZB)	9.1 hours	Farap (TKM)	9.0 hours
Sarahs* (TKM)	7.4 hours	Sarahs (TKM)	9.0 hours
<b>BCPs in Corridor 3b</b>			
Karamyk (KGZ)	2.2 hours	Karamyk (TAJ)	1.0 hours
Dusti (TAJ)	11.0 hours	Saryasia (UZB)	10.0 hours
Fotehobod (TAJ)	1.4 hours	Oibek (UZB)	2.8 hours

\* Sarahs is a land BCP in TKM located at the Iranian border. The BCP in Iran is called Sarakhs. The data in Iran is not collected as Iran is not a CAREC member.

BCP = border-crossing point, CAREC = Central Asia Regional Economic Cooperation, KAZ = Kazakhstan, KGZ = Kyrgyz Republic, TAJ = Tajikistan, TKM = Turkmenistan, UZB = Uzbekistan.

Source: Asian Development Bank.

Overall, average transport costs were higher in subcorridor 3a, but better transport infrastructure facilitated a higher driving speed. Unfortunately, this was negated by longer border-crossing times. Of note, however, are Uzbekistan's efforts to rapidly modernize its infrastructure, simplify transit regimes, and conclude new transit agreements with neighboring countries: for example, a decree has been issued to establish a Ministry of Transport to oversee all transport policies.<sup>19</sup>

## Corridor 4

Connecting the PRC, Mongolia, and the Russian Federation, CAREC corridor 4 comprises three subcorridors: 4a in the western region of Mongolia that serves road transit trade between the Russian Federation and the PRC and bilateral trade between the PRC and Mongolia; 4b which is both a highway and railway connection between the PRC and the Russian Federation through Ulaanbaatar; and 4c which connects the eastern region of Mongolia with the PRC by road. Only subcorridor 4b enables rail transport to and from Tianjin, the gateway port for Mongolia's international trade. The border point Erenhot–Zamiin-Uud (PRC–MON) is the biggest and busiest BCP in corridor 4, with goods on road and railway moving in both directions. CAREC corridor 4 matches one of the six corridors officially described under the BRI.

2018 CPMM samples studied bilateral trade between the PRC and Mongolia along subcorridor 4a. For PRC exports, trucks carried consumer goods and building materials (tiles) from Urumqi to Bayan, spanning

<sup>19</sup> The Committee for Roads under the Ministry of Transport of the Republic of Uzbekistan. <http://www.uzavtoyul.uz/en/post/avtomobil-transporti-infratuzilmasini-rivojlantirish-boyicha-topshiriqlar-berildi.html>.

1,055 km. In return, Mongolia exported coal from nearby mines to Urumqi. The key BCP is Takeshikent–Yarant (PRC–MON). Shipments underwent standard procedure (border security, visa and immigration checks, commercial inspection, and customs controls) with no major delays, but the need to transfer materials between trucks took time, adding 1–3 hours to move the goods or container to temporary storage. In terms of cost, parking fees inside the Takeshikent BCP cost on average CNY60 per truck (close to \$9) and storage costs were CNY40 per ton per night, amounting to approximately \$156 for 27 tons of goods.

CPMM samples along subcorridor 4b focused on shipments from the PRC to Mongolia (Table 4.11), where two types of shipments were studied: the first was less than truckload (LTL) shipments from Erenhot to Ulaanbaatar carrying noncontainerized goods on trucks with a range of payloads of 10–15 tons. The second was road–rail multimodal shipments from Erenhot to Ulaanbaatar carrying containerized goods from Erenhot to Ulaanbaatar. Trucks carried goods from Erenhot (PRC) across the border to Zamiin-Uud (MON), and then transloaded onto trains that completed the 751 km to Ulaanbaatar.

**Table 4.11: Comparisons of Road and Road–Rail Shipments along Subcorridor 4b**

Attributes	Erenhot–Ulaanbaatar (Road)	Erenhot–Ulaanbaatar (Road–Rail)
<b>Distance</b>	<b>669 km</b>	<b>764 km</b>
Transit Time	12.5 hours	48.8 hours
Activities Time	5.0 hours	17.7 hours
<b>Total Time</b>	<b>17.52 hours (less than 1 day)</b>	<b>66.48 hours (approx. 3 days)</b>
Transport Rate	\$960	\$1,621
Activities Cost	\$50	\$566
<b>Total Cost</b>	<b>\$1,010</b>	<b>\$2,187</b>

km = kilometer.

Source: Asian Development Bank.

At first sight, trucking appeared to be faster and less costly: it was three times as fast and half the transport cost compared to road–rail. However, given that many of these road–rail shipments carried communications equipment, the better security offered by railway explains why additional costs were borne for the journey by railway.

For subcorridor 4c, the 2018 CPMM included samples of electrical equipment and mineral fuels being exported from the PRC via Zuun Khatavch–Bichigt (PRC–MON), ending at Sukhbaatar, a Mongolian city in the north. No major problems were reported here.

## Corridor 5

Corridor 5 connects the PRC to the ports of Pakistan, traversing Afghanistan, the Kyrgyz Republic, and Tajikistan. A corridor of strategic potential for connecting East Asia, Central Asia, and South Asia, progress is difficult due to geopolitical tensions, high altitude, and underdeveloped infrastructure. All three subcorridors move in north–south orientation and link to blue water seaports in Pakistan (Karachi and Gwadar). Corridor 5 has three subcorridors: subcorridors 5a and 5c move through the Central Asian republics and link to the Karachi and Gwadar seaports; and 5b connects Kashi in PRC to the Punjab region and is an official corridor under the BRI.

For subcorridor 5a, the 2018 CPMM covered containerized shipments from Karachi to Jalalabad and Kandahar in Afghanistan, carried by Pakistani operators. Both countries imposed strict termination points for foreign trucks. As such, Pakistan-registered trucks must terminate at the Jalalabad inland customs office instead of delivering the goods to the final destination of Kabul. Afghan operators collected

shipments from Jalalabad and sent them on to Kabul. In the south, Pakistani operators were able to deliver to the final destination of Kandahar. For the Karachi–Jalalabad route, the average border-crossing times were for Peshawar at 33.5 hours and Torkham at 27.2 hours. For the Karachi–Kandahar route, the average border-crossing times were for Chaman at 62.2 hours and Spin Buldak at 25.7 hours. Delays at these two pairs of BCPs made them the most time-consuming of all CPMM samples in 2018. The main reasons for delay were customs controls, time spent waiting in line, and loading and unloading at the BCPs.

In terms of border-crossing fees to customs, a 40-foot container crossing either Peshawar or Chaman in 2018 incurred fees of \$350 per truck on average, and crossing either Torkham or Spin Buldak would incur fees of \$300 per truck. In terms of total cost, it required \$4,000 on average to ship a 40-foot container from Karachi to Jalalabad (1,509 km) and \$3,500 from Karachi to Kandahar (953 km). Two-thirds of the total comprised road freight charges and the remaining one-third related to border-crossing fees.

For subcorridor 5b, the CPMM studied export shipments from Kashi to Sost (513 km), for which the border crossing is Khunjerab–Sost (PRC–PAK). No major border-crossing delays were observed here. Trucks waited 1 hour on average and were able to complete border security and visa checks within 30 minutes at both border points. After leaving the Pakistan border, trucks headed to the Sost customs office (90 km from the border), where they completed customs formalities. A 30-ton noncontainerized shipment costs approximately \$2,200. Fees amounted to \$600, mainly due to customs, commercial inspection, and loading and unloading costs. The single most costly activity was the \$340 per truck customs fee at Sost.

Along subcorridors 5a and 5c, CPMM data for 2018 also recorded transit vegetable shipments from Pakistan to Tajikistan, across Afghanistan. The shipments originated at Peshawar and terminated at Dushanbe (final destination). The trucks carried 40-foot containers and went through Peshawar–Torkham (PAK–AFG) and Shirkhan Bandar–Panji Poyon (AFG–TAJ), a journey of 1,024 km. Afghan operators carried the goods from Peshawar to Shirkhan Bandar, and the remaining journey was fulfilled by Tajik operators. Average border-crossing times were for Shirkhan Bandar at 11.9 hours and Panji Poyon at 5.6 hours. This trip costs \$2,400, of which 55% was border-crossing and other fees, and the remaining 45% was road freight. Customs, loading and unloading, and visa and immigration fees were the major cost items.

In summary, corridor 5 proved a time-consuming and costly passageway for cross-border transit. One main problem was that Afghanistan and Pakistan restricted access of each other's trucks, partly due to the stalled Afghanistan–Pakistan Transit Trade Agreement 2010, which lapsed after 2015. In addition, Afghan and Pakistani trucks could not easily enter Central Asian republics due to security concerns and the lack of harmonized vehicle and transit trade practices—factors which ultimately necessitated a change of trucks at the borders. The long dwell time of containers at Karachi seaport is also pertinent to these delays: shipments from Karachi to Jalalabad averaged 10–14 days, with half of this time spent in Karachi seaports due to complicated customs clearance and port congestion.

## Corridor 6

Corridor 6 has the potential to connect the Russian Federation, the Middle East, South Asia, and the Caucasus, using Central Asia as a transit region. However, the four subcorridors that form corridor 6 have not realized their full potential, largely due to trade and transit barriers:

- (i) Trucks from Afghanistan and Pakistan cannot easily enter Central Asian republics, and goods and containers have to be transferred.
- (ii) Transit through Turkmenistan is complicated, and even Central Asian drivers require a visa to enter (Turkmenistan does not participate in the CPMM process).
- (iii) Limited vessels call at Gwadar Port compared to Karachi and Qasim, which reduces the volume of goods along corridor 6.

- (iv) Corridor 6 overlaps with many other CAREC corridors: in the north, it runs parallel with subcorridor 1b in Kazakhstan; in the east, corridors 2 and 6 run in the same direction across the Caspian Sea and the Caucasus; and in the south, corridor 6 is similar to subcorridor 5c, which travels across Afghanistan and Pakistan.

In 2018, CPMM samples along subcorridor 6a studied imports and exports between the Russian Federation and Kazakhstan, which are both members of the Eurasian Economic Union (EAEU) and there is no customs border. Border management activity times are observed. However, for Uzbekistan, which is not a member of the EAEU, normal border management procedures are implemented at the KAZ–UZB border, where the main cause of delay at the Tazhen–Dautota (KAZ–UZB) BCP was time spent waiting in line, followed by customs controls, and border security (Table 4.12).

**Table 4.12: Comparison of Border-Crossing Times at Tazhen and Dautota**

BCP Names	Inbound Traffic	Outbound Traffic
Tazhen (KAZ)	11.4 hours	12.6 hours
Dautota (UZB)	7.9 hours	12.7 hours

BCP = border-crossing point, KAZ = Kazakhstan, UZB = Uzbekistan.  
Source: Asian Development Bank.

Another focus of CPMM reporting in 2018 was the export of vegetables from Pakistan to Uzbekistan. Truck shipments (20-foot and 40-foot) were transported from Peshawar in Pakistan to Tashkent in Uzbekistan, using road–water–railway transportation. Trucks carried the goods from Peshawar to Hairatan in Afghanistan at the Uzbekistan border. The container was ferried across the Amu Darya River to Termez, where the containers were transferred onto trains bound for Tashkent. Major delays occurred at Peshawar–Torkham (PAK–AFG), Hairatan (AFG), and Termez (UZB). The water crossing and the transload to trains required 2–3 days to complete, including waiting time, which was the principal delay. Along subcorridor 6d, CPMM samples focused on trucks carrying fruits and vegetables from Quetta in Pakistan to Turkmenistan. Trucks crossed two pairs of BCPs, at Chaman–Spin Buldak (PAK–AFG) and Torghondi–Serket Abad (AFG–TKM), spending 2–3 days at the first pair, mainly due to customs formalities and waiting in line. At Torghondi, trucks typically spent 1 day in line before completing the necessary paperwork and the inspection, after which goods were transferred onto trains and proceeded to the next BCP at Serkhetabat. The preceding observations led to long border-crossing time which affected the speed of travel and trade. SWOD was at 43 km/h and SWD was even lower at 21 km/h. Both speed measures were only slightly faster than corridor 5, but slower than other CAREC corridors.

# 5 Rail Transport in 2018

The 2018 CPMM TFIs for rail transport are detailed in Tables 5.1 to 5.4. On a year-to-year comparison, CPMM data for 2018 showed:

- (i) TFI1 average border-crossing time decreased to 23.2 hours in 2018 from 26.2 hours in 2017;
- (ii) average border-crossing cost fell slightly to \$196 in 2018 from \$202 in 2017;
- (iii) total costs decreased to on average \$970 in 2018 from \$976 in 2017; and
- (iv) SWOD was slower at 35.4 km/h (from 37.6 km/h in 2017), but speed with delay SWD was faster at 15.9 km/h (from 14.8 km/h in 2017).

The CPMM mechanism gathered a much larger number of samples for road transport than railway since it was developed. While road transport samples are immediately available as truck drivers accompany their shipments from origin to destination and must be fully aware of what happens inside a BCP, in the case of railway transport, shippers or freight forwarders do not accompany the goods, making gathering CPMM samples more complex. However, 2018 saw an important development with the CAREC Transport Sector Coordinating Committee Meeting agreeing to (i) use CPMM data as a monitoring and evaluation tool to appraise the progress of railway connectivity and reforms in the CAREC region, and (ii) provide access to data as required.

With the increased use of global positioning system (GPS) tracking in the CAREC region, the cost of tracking devices dropped significantly and is encouraging use of these systems in many rail shipments, especially in block train shipments from the PRC to Europe, and from the PRC to the Russian Federation.<sup>20</sup> Increased use of GPS will potentially make more rail movement data available for CPMM monitoring.

## Trade Facilitation Indicator 1: Average Border-Crossing Time

Table 5.1: Average Time Taken to Clear a Border-Crossing Point

		2017	2018	% change
TFI1	Time taken to clear a border-crossing point (hours)	26.2	23.2	-11.4

TFI = trade facilitation indicator.  
Source: Asian Development Bank.

Average delays along rail corridors in 2018 were seen along corridor 1 (30.6 hours), corridor 4 (21.4 hours), and corridor 6 (4.5 hours). Two instances of faulty machine breakdown that contributed to significant delays in 2017 were not repeated in 2018, which helped lower the average border-crossing time. Alashankou–Dostyk (PRC–KAZ]) and Horgos–Altynkol (PRC–KAZ) in corridor 1, and Erenhot–Zamiin-Uud (PRC–MON) in corridor 4 were identified as the most time-consuming BCPs. Causes of delay varied:

- (i) For eastbound traffic, Alashankou (PRC) was the most time-consuming BCP (21.9 hours), followed by Khodzhadvalet (UZB) and Erenhot (PRC). A fundamental reason for the delays was “Restriction on Entry”: trains in one station are not permitted to exit and enter the next station, usually caused by congestion or low throughput in the receiving station. Interestingly, the PRC

<sup>20</sup> Only a few strategically placed GPS tracking units are needed for the whole train, as all the containers travel as a block.

stations suffered the most due to this problem. Alashankou (20.7 hours), Erenhot (19.1 hours), and Horgos (33.4 hours) had the highest duration times due to this problem.

- (ii) For eastbound traffic, average delays were demonstrably higher than those serving outbound traffic. Dostyk was most affected (61 hours), followed by Erenhot and Altynkol.
- (iii) In corridor 1, Kazakhstan's stations at Dostyk and Altynkol were most affected by a shortage of wagons, leading to average delays of 32.5 hours at Dostyk and 27.8 hours at Altynkol.<sup>21</sup>
- (iv) One noteworthy trade facilitation improvement was the incorporation of the PRC Inspection and Quarantine into the PRC General Administration of Customs on 1 May 2018. Previously, customs inspection and quarantine commercial inspection were conducted separately; under the new structure, streamlined customs and commercial inspection procedures are done simultaneously, saving an estimated 2 hours per shipment.
- (v) Corridor 4 experienced issues attributed to gauge change operation, which took on average 55.7 hours at Erenhot for goods from Mongolia to PRC.
- (vi) No major delays were highlighted at the Termez (UZB) and Serkhet Abad (TKM) BCPs, along corridor 6.

## Trade Facilitation Indicator 2: Average Border-Crossing Cost

**Table 5.2: Average Cost Incurred at Border-Crossing Clearance**

		2017	2018	% change
TFI2	Cost incurred at border-crossing clearance (\$)	202	196	-2.8

TFI = trade facilitation indicator.  
Source: Asian Development Bank.

Border-crossing costs for railway shipments in 2018 were estimated at \$236 (corridor 1), \$101 (corridor 4), and \$143 (corridor 6). The higher average along corridor 1 was driven by higher costs at the Alashankou–Dostyk (PRC–KAZ) and Horgos–Altynkol (PRC–KAZ) BCPs.

- (i) Dostyk (KAZ) had the highest border-crossing cost at \$549, driven by three activities: gauge change operation, pickup and delivery of wagons (e.g., from one station to another), and customs inspection. Gauge change operation was the costliest, but there were significant differences between PRC and Kazakhstan CPMM samples: PRC freight forwarders had to pay \$300 per 40-foot container or \$350–\$400 per wagon at Dostyk or Altynkol, while Kazakhstan freight forwarders paid \$100 only per 40-foot container for gauge change operation.
- (ii) Erenhot (PRC) in corridor 4 had relatively high costs, mainly due to gauge change operation at \$227. Another time delay not directly related to border crossing was the container dwell time in Tianjin seaport, averaging 5–6 days before a container could leave the seaport for Ulaanbaatar.
- (iii) Border-crossing costs along corridor 6 were attributed to loading and unloading of materials in a multimodal shipment. At Termez (UZB), shipments arrived in barges and had to reload onto trains, costing \$100 on average per shipment. At Torghondi (AFG), goods were transferred from truck to trains before entering Turkmenistan, costing \$110 per shipment on average.

<sup>21</sup> See Section 6 for the problem of wagon shortage in Kazakhstan.

## Trade Facilitation Indicator 3: Total Transport Cost

**Table 5.3: Average Cost Incurred to Travel a Corridor Section**

		2017	2018	% change
TFI3	Cost incurred to travel a corridor section (\$ per 500 km, per 20 tons)	976	970	-0.6

km = kilometer, TFI = trade facilitation indicator.  
Source: Asian Development Bank.

In 2018, estimated average total transport costs amounted to \$729 (corridor 1), \$1,416 (corridor 4), and \$1,286 (corridor 6). While corridor 1 had the highest average border-crossing cost (TFI2), the total transport cost was the lowest. Conversely, corridor 4 with the lowest border-crossing cost had the highest estimated total transport cost.

- (i) In corridor 1, a stark contrast was seen between subcorridors 1a and 1b. The total railway transport cost was three times more expensive in subcorridor 1a. This was explained by the higher border-crossing cost at Alashankou (\$706) compared to Altynkol (\$245).
- (ii) Electronic data interchange saw an estimated cost saving of \$65 per shipment, and time savings of 2 hours at the PRC BCPs. Previously, shippers completed the customs declaration in Urumqi, before proceeding to either Alashankou or Horgos, where customs officers conducted documentary checks, examined the customs seal, and issued final permission for cross-border movement. This disjointed process was partly because of incomplete integration of customs information. As of September 2018, customs data was at the Urumqi Central Administration and all BCPs, shortening the time needed for customs inspection and eliminating the associated fee (however, the customs fee for seal inspection still applies).
- (iii) Bidirectional movement of railway traffic was studied in corridor 4 during 2018 and found to comprise containerized traffic between Tianjin and Ulaanbaatar. The railway freight cost from Ulaanbaatar to Tianjin was about half of the cost of the opposite direction—largely because many containers returned empty with Mongolia importing much more from the PRC. For a 40-foot container from Tianjin to Ulaanbaatar, the estimated rail freight cost was \$2,500–\$3,000, while it costs only \$1,500–\$1,800 in the opposite direction.
- (iv) Corridor 6 also highlighted interesting differences between subcorridors 6b and 6d. Both samples were transit shipments using 40-foot containers from Pakistan, across Afghanistan to Uzbekistan (subcorridor 6b) and Turkmenistan (subcorridor 6d), and railway freight costs were collected from the Afghanistan border to Tashkent (subcorridor 6b) and Ashgabat (subcorridor 6d). From Termez to Tashkent (subcorridor 6b), the cost was \$995 over 900 km, equivalent to \$0.90 per km per 40-foot container. From Serkhet Abad to Ashgabat (subcorridor 6d), the cost was \$1,350 over 700 km, equivalent to \$1.92 per km per 40-foot container. Thus, the freight cost (excluding border-crossing costs) in subcorridor 6d was double that of 6b.

## Trade Facilitation Indicator 4: Speed to Travel on CAREC Corridors

**Table 5.4: Average Speed to Travel on CAREC Corridors**

		2017	2018	% change
TFI4	Speed to travel on CAREC corridors (km/h)	14.8	15.9	+7.8
SWOD	Speed without delay (km/h)	37.6	35.4	-5.8

km/h = kilometer per hour, SWOD = speed without delay, TFI = trade facilitation indicator.  
Source: Asian Development Bank.

In 2018, corridor 1 showed the fastest average railway SWOD at 44.8 km/h; trains moved along corridor 4 at an average of 19.1 km/h, while trains along corridor 6 moved on average at 23.4 km/h. If delay time was included, the average SWD estimates were 17.3 km/h along corridor 1, 9.3 km/h along corridor 4, and 13.1 km/h along corridor 6.

- (i) Average SWODs in corridor 1 performed better than in corridors 4 and 6, attaining 47.8 km/h in subcorridor 1a, and 39.6 km/h in subcorridor 1b. Average SWDs dropped to 18.8 km/h (subcorridor 1a) and 14.8 km/h (subcorridor 1b). Given the results in 2018 for TFI1 (average border-crossing time of 30 hours), this drop in speed was expected. Addressing border-crossing delays at Alashankou–Dostyk (PRC–KAZ) and Horgos–Altyntkol (PRC–KAZ) could lift the SWD.
- (ii) Speeds of trains along subcorridor 4b were estimated based on imports and exports between Tianjin and Ulaanbaatar, as well as transit train shipments from the Russian Federation to the PRC, through Mongolia. Speeds were slowest at BCPs, particularly at Erenhot. Trains moving through Naushki–Sukhbaatar (Russian Federation [RUS]–MON) experienced fewer delays.
- (iii) Average SWODs along subcorridor 6b were 12.1 km/h, and 27.7 km/h along subcorridor 6d, crossing the territories of Uzbekistan and Turkmenistan, respectively. SWDs were 10.9 km/h along subcorridor 6b, and 13.9 km/h along 6d. The drops in speeds occurred primarily at BCPs.

## Corridor Performance

### Corridor 1

#### Conventional Trains

Traditionally, railway transport moved only along subcorridor 1a, but in late 2012, trains also began moving along subcorridor 1b. Since then, the CPMM has compared railway performance on these two routes.

- (i) CPMM data for 2018 estimated that the average time to cross the border was 32.1 hours (subcorridor 1a) versus 27.5 hours (subcorridor 1b).
- (ii) “Restriction Upon Entry” was the most important reason for delays to trains at the Alashankou and Horgos BCPs, where they were held up on the PRC side as adjacent stations were running at full capacity and could not accommodate additional incoming trains.
- (iii) Key reasons for delay at Dostyk and Altyntkol were multiple and varied, including materials transfer, wagons shortage, and marshaling.
- (iv) Average border-crossing costs were estimated at \$242 (subcorridor 1a) and \$219 (subcorridor 1b), remaining stable during 2016–2018.
- (v) Gauge change operation and customs inspection accounted for the main fees incurred.
- (vi) Trains moved at faster speeds on subcorridor 1a than subcorridor 1b: for subcorridor 1a, SWOD was 47 km/h and SWD was 18 km/h; and for subcorridor 1b, SWOD was 39 km/h and SWD was 14 km/h.

#### Container Express Trains

- (i) Container express trains that traverse the Eurasian continent continue to make significant progress in frequency and performance: in 2018, 6,363 trains moved from the PRC to Europe, an increase of 72% over figures for 2017; and a total of 2,690 trains moved from Europe to the PRC, an increase of 111% over 2017. One key success factor was increased return backhaul from Europe to the PRC, carrying items such as automobile parts and organic food. This helped reduce transport costs, which is a critical factor for sustainability of this railway service.

- (ii) Many origin–destination pairs operate container express trains, connecting 56 cities in the PRC to 50 cities in 16 countries. The 2018 CPMM focused on the 10,562 km Chongqing–Duisburg route. Estimated average time was 14 days and total transport cost was \$8,609.
- (iii) Chongqing–Duisburg container express trains cross the PRC–KAZ border at both Alashankou–Dostyk and Horgos–Altynkol: the Alashankou–Dostyk option is 202 km longer, adding 20–40 hours in total transport time, although average costs remain very similar. The railway dispatch center decides which BCP the container express train will be routed through.
- (iv) One constraint of the Chongqing–Duisburg service is the break of gauge occurring in Kazakhstan at the Alashankou–Dostyk (PRC–KAZ) or Horgos–Altynkol (PRC–KAZ) BCPs; and in Poland, at the Brest–Malaszewicze BCP. If the capacity for handling gauge break is not expanded, a bottleneck is very likely to occur.
- (v) As of 1 January 2018, the distance traveled by the Chongqing–Duisburg service was reduced by 611 km due to completion of the ADB-financed Lan Yu Railway (832 km) between Chongqing and Lanzhou, enabling a more direct route to Urumqi.

### Corridor 4

Corridor 4b is the only railway corridor that connects Tianjin to Ulaanbaatar and the 2018 CPMM collected cargo movement samples in both directions. This corridor shows the highest total transport cost (TFI3) for 2018.

- (i) Time to cross the border averaged 21.4 hours, which was lower than both subcorridors 1a and 1b. Border-crossing delays were caused by the relatively long time required for gauge change operations at Erenhot and materials transfer at Zamiin-Uud. Inbound traffic tends to take longer due to the need to complete gauge change operations, which is done at the importing side.
- (ii) The average cost to clear the border was \$101 in 2018, mainly due to gauge change fees.
- (iii) Average total transport costs were estimated at \$1,416 to send a 20-foot equivalent unit (TEU) over 500 km—the highest among all CPMM-monitored railway corridors—and could be attributed to the railway freight rate (Section 6 G).
- (iv) SWOD was 19 km/h and SWD was 9 km/h. Container dwell time at Tianjin seaport accounted for 5–6 days and contributed to the reduction of speed.

### Corridor 6

In 2018, railway samples were collected along subcorridors 6b and 6d, tracking movements of fruits and vegetables on railway from the Afghan border to Tashkent (subcorridor 6b) or to Ashgabat (subcorridor 6d).

- (i) Time to cross the border averaged 7.9 hours along subcorridor 6b and 3.8 hours for subcorridor 6d, mainly caused by the need to transfer containers from road transport to railway transport, as well as the time spent waiting in line.
- (ii) The average cost to cross a border averaged \$116 (subcorridor 6b) and \$149 (subcorridor 6d), attributable to materials transfer fees at the BCPs.
- (iii) Average total transport cost was estimated at \$750 (subcorridor 6b) and \$1,516 (subcorridor 6d) to send a TEU over 500 km: the total transport cost along subcorridor 6d was high relative to other corridors.
- (iv) Sizeable variation was observed between SWOD and SWD along subcorridors 6b and 6d: along 6b, the estimated SWOD was 12 km/h and SWD 11 km/h, while for 6d, estimated SWOD was 28 km/h and SWD 14 km/h.

# 6 Country Updates

CPMM analysis relies on consistent and comparable data across CAREC countries, despite their inherent differences. However, the CPMM approach of monitoring and comparing the development of CAREC corridors at an aggregate level can overlook the various levels of development of a corridor that crosses more than one country. Furthermore, solutions to address the issues of a corridor in one country may not be applicable to another country the same corridor passes through. Section 6 highlights country-level developments and challenges that help national policy makers determine the focus of national strategies in addressing national and, eventually, regional transport, trade, and trade facilitation problems.

The 2018 CPMM report introduces the four TFIs at the country level, segregated by road and rail transport, and further decomposed into outbound and inbound direction for border-crossing time and costs (Tables 6.1 to 6.4, 6.6 to 6.7, and 6.9 to 6.24). These data are supplemented by average border-crossing time and cost for BCPs along relevant CAREC corridors. Key CPMM findings, updated trends and developments, and country-specific recommendations are also provided in this section.

## Afghanistan

### Key Findings

- CPMM analysis provides some justification and explains why Afghanistan is keen to diversify trade routes. Afghanistan has traditionally relied on Pakistan for imports and exports, using Karachi as the main gateway. However, there are two problems with this approach: containers are not cleared quickly and typically take 5–7 days to complete customs controls, and border crossing at Peshawar–Torkham (PAK–AFG) and Chaman–Spin Buldak (PAK–AFG) is time-consuming and costly. Thus, Afghanistan has been actively diversifying trade routes such as via Chabahar, Iran to move goods to India.
- In 2018, Afghanistan’s BCPs showed long average border-crossing times: Torkham (27.6 hours), Spin Buldak (25.7 hours), and Shirkhan Bandar (12.0 hours).
- It takes 10–14 days for a 40-foot container to reach Jalalabad from Karachi, and costs approximately \$4,000.

**Table 6.1: Trade Facilitation Indicators for Afghanistan**

		Road Transport			Rail Transport		
		2016	2017	2018	2016	2017	2018
TFI1	Time taken to clear a border-crossing point (hour)	<b>25.8</b>	<b>36.0</b>	<b>21.5</b> ●	<b>29.7</b>	–	<b>4.1</b> –
	<i>Outbound</i>	19.1	28.4	13.6	29.7	–	4.1
	<i>Inbound</i>	28.4	40.8	25.8	–	–	1.0
TFI2	Cost incurred at border-crossing clearance (\$)	<b>212.0</b>	<b>196.0</b>	<b>233.0</b> ●	<b>299.0</b>	–	<b>222.0</b> –
	<i>Outbound</i>	124.0	181.0	231.0	299.0	–	220.0
	<i>Inbound</i>	246.0	206.0	233.0	–	–	370.0
TFI3	Cost incurred to travel a corridor section (\$, per 500 km, per 20-ton cargo)	<b>1,341.0</b>	<b>1,374.0</b>	<b>1,107.0</b> ●	<b>4,613.0</b>	–	– –
TFI4	Speed to travel on CAREC corridors (km/h)	<b>13.6</b>	<b>13.9</b>	<b>12.4</b> ●	<b>2.5</b>	–	– –
SWOD	Speed without delay (km/h)	<b>34.7</b>	<b>34.3</b>	<b>33.1</b> ●	<b>10.5</b>	–	– –

Legend: ● Improved by at least 3% ● Deteriorated by at least 3% ● Insignificant change [–3% to 3%]

– = no data, CAREC = Central Asia Regional Economic Cooperation, km = kilometer, km/h = kilometer per hour, SWOD = speed without delay, TFI = trade facilitation indicator.

Source: Asian Development Bank.

Table 6.2: Border-Crossing Performance in Afghanistan

BCP	Corridor	Direction of Trade	Duration (hours)			Cost (\$)		
			2016	2017	2018	2016	2017	2018
<b>Road Transport</b>								
Hairatan	3, 6	Outbound	2.2	2.8	4.6	114	124	136
Torkham	5, 6	Inbound	31.1	38.2	27.6	219	219	243
Shirkhan Bandar	2, 5, 6	Outbound	39.7	52.6	11.9	141	154	295
		Inbound	9.4	–	12.0	443	–	418
Spin Buldak	5, 6	Inbound	42.7	48.4	25.7	99	77	99
Torghondi	2, 6	Outbound	–	30.4	31.5	–	301	304
<b>Rail Transport</b>								
Hairatan	3, 6	Inbound	–	–	1.0	–	–	370
Torghondi	2, 6	Outbound	29.7	–	4.1	299	–	220

– = no data, BCP = border-crossing point.  
Source: Asian Development Bank.

## Trends and Developments

Afghanistan is developing new transit corridors quickly. Traditionally, Pakistan has been the largest trading partner and transit country, where imports are moved from Karachi into Afghanistan, and exports in the opposite direction. In recent years, however, Afghanistan has diversified its traded goods into alternative routes as a consequence of the stalled Afghanistan–Pakistan Transit Trade Agreement (APTTA) 2010, which lapsed in 2015 after 5 years’ validity. APTTA states that either party has the right to renegotiate terms every 5 years, yet the administrations could not find agreement on such terms after 2015. This affected the transit routes in both countries, compelling Afghanistan to divert trade using other corridors. At present, one important route is the road–sea corridor through Chabahar, a trilateral cooperation between Afghanistan, India, and Iran. In addition, Afghanistan is cultivating transit routes to Central Asia and beyond, such as the Lapis Lazuli corridor. Finally, a national air corridor program offers shippers a subsidized rate to transport high-value horticultural products to New Delhi, Mumbai, Dubai, Istanbul, Jeddah, and Shanghai.

## Recommendations

1. **Establish secure parking space at BCPs** to organize border crossings in a more orderly manner, and shorten time spent waiting in line. The line at Torkham is usually long and the lack of parking space means trucks waiting in line always move in a slow disorganized manner, with drivers afraid to leave the cabin for fear of other vehicles cutting in. Average waiting time was 20.6 hours at Torkham and 13.0 hours at Spin Buldak in 2018.
2. **Expand capacity of the Salang tunnel.** This underground tunnel connects Kabul to the northern cities and in winter, the tunnel can be closed or congested, disrupting the flow of traffic.
3. **Resume discussion on APTTA with the Pakistan authorities.** The original APTTA accepted Ghulam Khan as the third official border-crossing point, which could positively impact existing border-crossing performance as indicated by CPMM data.<sup>22</sup> Ghulam Khan is south of Torkham and shortens the distance to Karachi by 475 km. If access roads and facilities at this BCP can be successfully developed, cargo traffic can be diverted to Ghulam Khan and reduce congestion at Torkham. However, as noted above, APTTA 2010 was stalled in 2015.
4. **Improve water crossing of Amu Darya river at the Hairatan BCP.** CPMM data for 2018 showed an average border-crossing time of 4.8 hours. However, it is also necessary to cross the Amu Darya river, and if this water-crossing time is considered, it would add 1–2 days to the total crossing time

<sup>22</sup> A. Hashim. 2015. Key Pakistani-Afghan trade deals stall on India, souring ties. *Reuters*. 17 September. <https://www.reuters.com/article/pakistan-afghanistan-trade-idUSL4N11L2TF20150916>.

and another \$110 per crossing. This could be addressed in the short term by improving the barge frequency. A long-term solution would be to reach bilateral agreement between Afghanistan and Uzbekistan to permit Afghanistan's exports to be loaded onto empty train wagons returning to Termez. The current lack of this type of agreement prohibits the reloading of Afghan goods.

5. **Provide capacity building to new Ministry of Transport of Afghanistan.** At the end of 2018, President Ashraf Ghani decreed the merger of two ministries and other agencies into the new Ministry of Transport.<sup>23</sup> The existing Ministry of Transportation, Ministry of Public Works, Railway Authority, Civil Aviation Authority, and the Traffic Directorate under the Ministry of Interior should be merged under the new ministry by June 2019. Capacity building should be provided to staff to increase productivity and technical understanding on transport and logistics to formulate more effective policies.

## Azerbaijan

### Key Findings

- CPMM data for 2018 showed that Azerbaijan supported transit shipments from Black Sea ports to Kazakhstan, and truck shipments crossed through Tsiteli Khidi-Krasnyi Most (GEO-AZE). Krasnyi Most (Red Bridge) had an average border-crossing time for outbound traffic of 10 hours in 2018, mainly due to long time spent waiting in line. Inbound traffic had 3.2 hours of average border-crossing time.
- Baku seaport is the gateway for shipments to and from Central Asia, yet average outbound time was 68.7 hours and inbound time was 12.4 hours at Baku port in 2018, primarily due to waiting time at the seaport.

### Trends and Developments

Azerbaijan's strategic location in the Caucasus region connects Central Asia to Europe and has the potential to facilitate transit traffic. The country is heavily reliant on energy exports, which accounted for 91% of all exports in 2018,<sup>24</sup> yet it has very little trade with CAREC countries with only Georgia ranked among

**Table 6.3: Trade Facilitation Indicators for Azerbaijan**

		Road Transport			Rail Transport		
		2016	2017	2018	2016	2017	2018
TFI1	Time taken to clear a border-crossing point (hour)	-	-	<b>3.6</b>	-	-	<b>1.7</b>
	Outbound	-	-	4.4	-	-	-
	Inbound	-	-	3.3	-	-	1.7
TFI2	Cost incurred at border-crossing clearance (\$)	-	-	<b>91.0</b>	-	-	-
	Outbound	-	-	79.0	-	-	-
	Inbound	-	-	94.0	-	-	-
TFI3	Cost incurred to travel a corridor section (\$, per 500 km, per 20-ton cargo)	-	-	<b>369.0</b>	-	-	-
TFI4	Speed to travel on CAREC corridors (km/h)	-	-	<b>30.2</b>	-	-	-
SWOD	Speed without delay (km/h)	-	-	<b>53.1</b>	-	-	-

- = no data, CAREC = Central Asia Regional Economic Cooperation, km = kilometer, km/h = kilometer per hour, SWOD = speed without delay, TFI = trade facilitation indicator.

Source: Asian Development Bank.

<sup>23</sup> Government of Afghanistan, Ministry of Transport. 2018. *Meeting Held at MOT to Actualize the Order of Afghanistan's President to Merge Organizations under One Leadership by the Name of Ministry of Transport*. 31 December. <https://mot.gov.af/en/meeting-held-mot-actualize-order-afghanistans-president-merge-organizations-under-one-leadership>.

<sup>24</sup> International Trade Center's Trade Map. <https://www.trademap.org>.

Table 6.4: Border-Crossing Performance in Azerbaijan

BCP	Corridor	Direction of Trade	Duration (hours)			Cost (\$)		
			2016	2017	2018	2016	2017	2018
<b>Road Transport</b>								
Baku	2	Outbound	-	-	1.6	-	-	111
		Inbound	-	-	1.2	-	-	61
Krasnyi Most	2	Inbound	-	-	10.0	-	-	19
		Outbound	-	-	3.2	-	-	92

- = no data, BCP = border-crossing point.  
Source: Asian Development Bank.

the top 10 trading partners in 2018. Azerbaijan trade occurred mostly with other European countries and the Russian Federation. However, Azerbaijan's strategic location could facilitate more inter-regional trade with and among CAREC countries, and serve as a major transit route connecting the PRC with Turkey, Iran, and Southern Europe.

## Recommendations

1. **Improve Tseli Khidi-Krasnyi Most (GEO-AZE) as a priority.** Shipments from Turkey and the Black Sea carrying goods to Central Asia, and all the trucks have to cross Krasnyi Most. Both Azerbaijan and Georgia Customs have expressed interest to develop joint customs controls at this BCP. However, this BCP may need to be relocated as it serves only road traffic and is currently restricted in expansion because of its mountainous surroundings. Relocation to a flatter terrain at the border, with multimodal infrastructure to serve both road and railways linking to Baku seaport, would be a good long-term solution.
2. **Expand Baku Port as a priority.** Outbound shipments averaged 68.7 hours at Baku in 2018 and the delay time was highly variable, making predictability of cargo movement difficult. This relates to the schedule of ferry services and the capacity of the seaport. One problem identified was the surge in ferry traffic from Aktau or Turkmenbashi when large manufacturers or shippers sent goods across the Caspian Sea, resulting in a spike of volume and long waiting times at Baku Port. Azerbaijan also gives high priority to the transportation of equipment and parts for oil exploration, drilling, and production, and ordinary freight must wait until these priority cargoes have been processed and moved.
3. **Develop Free Trade Zones.** Baku International Sea Trade Port is already designated as a free trade zone (FTZ),<sup>25</sup> and the Government of Azerbaijan should consider conducting feasibility studies at other locations as candidate FTZs. Creation of FTZs would require legislative review and reforms. This initiative is instrumental to developing a strong production and industrial base to diversify Azerbaijan's over-reliance on energy exports.
4. **Focus on commodities with value-added potential to complement an FTZ strategy.** CPMM samples showed movement of food products from Uzbekistan to Georgia: Baku's FTZ could include a food processing zone to perform packaging and labeling, for instance. In the reverse direction, pharmaceuticals, fertilizers, and plastic products were observed traveling from Batumi and Poti to Central Asia. Besides simply capturing transit trade, Baku's FTZ could perform value-added processing to those commodities. For instance, Central Asia's main export of agricultural produce requires fertilizers: Baku's FTZ could set up bulk handling facilities to coordinate value-added processing and transshipment of fertilizers to Central Asia.

<sup>25</sup> Center for Analysis of Economic Reforms and Communications. 2017. *Azerbaijan Economic Forum Review*. October.

5. **Attract traffic to the Caspian Sea.** The seaport just completed Phase 1 modernization and increased its capacity to handle 15 million tons of cargoes and up to 100,000 containers, and it will be essential to attract more traffic to ensure full utilization of these facilities.<sup>26</sup> The development of FTZs would also help increase port utilization.

## People's Republic of China

### Key Findings

- Truckers from the PRC face considerable impediments in entering neighboring countries: for example, trucks typically bring goods only to Horgos (PRC), where the cargo is stored in temporary customs bonded warehouses to be collected by Kazakh trucks. Likewise, cargo from the PRC is deposited by trucks at Kashi (PRC) for Kyrgyz or Tajik trucks to collect, or Erenhot for Mongolian trucks to collect. On the other hand, Kazakh trucks can deliver or pick up cargo significantly past the border in Urumqi, the PRC, and Kyrgyz and Tajik trucks can do the same in Kashi. This apparent inequality is accepted by PRC authorities on the grounds of promoting trade and providing employment opportunities to the citizens of neighboring countries.
- Trucks moving in the territory of the PRC reached speeds of 50 km/h or higher in 2018, but ran slower after moving outside the PRC due to road infrastructure that cannot support similar speeds. Inbound border-crossing at Horgos averaged 20 hours, mainly due to customs controls, border security, and loading and unloading. Outbound traffic averaged 10 hours, due to time spent waiting in line. Other BCPs, such as Torugart and Yiewrkeshitan border Karasuu (Tajikistan border), Erenhot, and Takeshikent (Mongolia border) did not exhibit major delays.
- Analysis of road freight costs between the PRC and Central Asia yielded two important discoveries in 2018 (Table 6.5). First, three Central Asian republics bordering directly with the PRC—Kazakhstan, the Kyrgyz Republic, and Tajikistan—make deliveries of consumer goods with payloads of 25–35 tons using noncontainerized trucks. Analysis of the road freight rate and the distance from Urumqi or from Kashi to the major cities in Central Asia showed a higher cost per km for shipments to the Kyrgyz Republic and Dushanbe, Tajikistan. This could be attributed to the more difficult and mountainous terrain. Second, separate analysis of the road freight rate and the distance within each country showed a perfect correlation for the Kyrgyz Republic and Tajikistan: this means the proportion of road freight costs in the PRC is affected by the distance in the PRC. However, the situation in Kazakhstan is totally different. Although the distance in Kazakhstan accounted for 36% of the total distance between Urumqi to Almaty, the road freight rate in the Kazakhstan section of the corridor accounted for 52%.

**Table 6.5: Comparisons of Road Freight Cost from the People's Republic of China to Central Asian Republics**

Route	Road Freight Rate (\$)			Distance (km)		Cost/km	
	Country	Rate	% of Total	Country	% of Total		
Urumqi, PRC to Almaty, KAZ	PRC	\$1,200	47%	665	64%	1,046	\$2.44
	KAZ	\$1,350	53%	381	36%		
Kashi, PRC to Bishkek, KGZ	PRC	\$640	25%	170	25%	686	\$3.79
	KGZ	\$1,960	75%	516	75%		
Kashi, PRC to Dushanbe, TAJ	PRC	\$988	20%	260	20%	1,307	\$3.80
	TAJ	\$3,976	80%	1,047	80%		

KAZ = Kazakhstan, KGZ = Kyrgyz Republic, km = kilometer, PRC = People's Republic of China, TAJ = Tajikistan.  
Source: Asian Development Bank.

<sup>26</sup> Port of Baku. <http://portofbaku.com/>.

Table 6.6: Trade Facilitation Indicators for the People's Republic of China

		Road Transport			Rail Transport		
		2016	2017	2018	2016	2017	2018
TFI1	Time taken to clear a border-crossing point (hour)	7.3	2.9	3.1 ●	26.1	29.9	22.9 ●
	Outbound	9.1	3.4	3.5	16.3	22.0	14.8
	Inbound	1.0	1.7	2.0	44.4	41.8	45.8
TFI2	Cost incurred at border-crossing clearance (\$)	159.0	141.0	211.0 ●	140.0	122.0	129.0 ●
	Outbound	171.0	150.0	241.0	80.0	78.0	68.0
	Inbound	117.0	121.0	141.0	240.0	199.0	202.0
TFI3	Cost incurred to travel a corridor section (\$, per 500 km, per 20-ton cargo)	1,718.0	833.0	1,357.0 ●	1,031.0	808.0	976.0 ●
TFI4	Speed to travel on CAREC corridors (km/h)	15.3	23.0	22.0 ●	13.7	13.6	15.9 ●
SWOD	Speed without delay (km/h)	47.0	54.7	53.7 ●	55.2	56.2	50.2 ●

Legend: ● Improved by at least 3% ● Deteriorated by at least 3% ● Insignificant change [-3% to 3%]

– = no data, CAREC = Central Asia Regional Economic Cooperation, km = kilometer, km/h = kilometer per hour, SWOD = speed without delay, TFI = trade facilitation indicator.  
Source: Asian Development Bank.

Table 6.7: Border-Crossing Performance in the People's Republic of China

BCP	Corridor	Direction of Trade	Duration (hours)			Cost (\$)		
			2016	2017	2018	2016	2017	2018
<b>Road Transport</b>								
Takeshikent	4	Outbound	8.7	7.1	6.6	222	228	256
		Inbound	–	6.3	4.5	–	331	298
Erenhot	4	Outbound	3.3	3.2	3.0	139	150	164
Horgos	1	Outbound	7.0	8.8	10.2	599	595	588
		Inbound	–	–	20.4	–	–	113
Torugart	1	Outbound	1.7	1.9	1.8	4	4	–
		Inbound	0.1	2.2	0.1	–	8	–
Irkeshtan	2, 5	Outbound	18.8	1.7	0.3	198	–	–
Karasu	0	Outbound	–	–	4.2	–	–	380
Zuun Khataavch	4	Outbound	1.8	1.9	1.3	15	15	16
Khunjerab	5	Outbound	0.2	0.3	1.9	–	–	–
<b>Rail Transport</b>								
Alashankou	1, 2	Outbound	20.2	21.3	21.9	69	71	49
Erenhot	4	Outbound	9.6	15.5	11.9	113	113	113
		Inbound	45.3	40.8	55.7	267	209	227
Horgos	1	Outbound	22.7	34.0	10.9	98	82	61

– = no data, BCP = border-crossing point.  
Source: Asian Development Bank.

This means comparatively, trucking goods from Horgos to Almaty was costlier, possibly due to the inability of trucks from the PRC to pass beyond Horgos into Kazakhstan.

## Trends and Developments

CPMM data for 2018 detected improvements in TFIs for the PRC and linked them to government reforms. First, the incorporation of the General Administration of Quality Supervision, Inspection and Quarantine of the PRC (AQSIQ) into the PRC Customs as of 1 May 2018, which led to simultaneous and streamlined customs and commercial inspections, saves an estimated 2 hours per shipment at Horgos and other

BCPs. Previously, customs conducted its inspection while AQSIQ performed its commercial inspection separately. Second, implementation of electronic data interchange resulted in an estimated cost saving of \$65 per shipment and time savings of 2 hours at PRC border points. Previously, shippers had to complete the customs declaration at Urumqi, and when the shipment reached Alashankou or Horgos, customs officers would conduct documentary checks, examine the customs seal, and issue final permission for cross-border movement. However, as of September 2018, customs data from the Central Administration in Urumqi and all border points were integrated, reducing time needed for customs inspection and the removal of the associated fee, however, the customs fee for seal inspection still applies.

**Table 6.8: Cross-Border Freight Traffic at Border-Crossing Points between the People's Republic of China and Other CAREC Countries**  
(‘000 tons)

Border-Crossing Point	2013	2014	2015	2016	2017	2018	CAGR (%)
Alashankou <b>Rail</b>	14,615	10,872	5,215	6,512	8,524	11,270	-5.1
Alashankou <b>Road</b>	228	236	148	201	230	249	1.8
Khorgos <b>Rail</b>	1,613	1,694	917	567	1,629	2,707	10.9
Khorgos <b>Road</b>	693	447	489	460	710	887	5.1
Irkeshstam	509	416	381	427	311	308	-9.6
Torugart	452	424	386	423	410	485	1.4
Kala Suu	312	414	82	224	193	230	-5.9
Khunjerab	52	51	56	58	72	100	14.0
Takashikent	169	148	43	383	606	1,100	45.4
Erenhot <b>Rail</b>	8,521	8,261	12,595	12,316	13,273	14,647	11.4
Erenhot <b>Road</b>	2,555	3,017	3,239	2,041	1,758	1,914	-5.6
Manzhouli	18,962	15,785	13,208	14,579	31,093	31,924	11.0

BCP = border-crossing point, CAGR = compound annual average growth rate, CAREC = Central Asia Regional Economic Cooperation.  
Source: China Customs Press. *China Ports Yearbook, 2014–2017*. [https://www.360kuai.com/pc/9d16d26c88b74ee7f?cota=4&tj\\_url=so\\_rec&sign=360\\_57c3bbd1&refer\\_scene=so\\_1](https://www.360kuai.com/pc/9d16d26c88b74ee7f?cota=4&tj_url=so_rec&sign=360_57c3bbd1&refer_scene=so_1).

Table 6.8 shows the tonnage trend during 2013–2018 across major BCPs serving the Xinjiang Uygur Autonomous Region and the Inner Mongolia Autonomous Region, with the Manzhouli BCP on the PRC–Russian Federation border added as reference.

Rail traffic through Alashankou recovered after the transport mode for crude oil imports was shifted from railway tank wagons to pipeline. From a 2015 low of 5.22 million tons, rail traffic increased to 11.27 million tons in 2018 as trains moved more regularly from the PRC to Europe and to Central Asian countries. Road tonnage through Takashikent BCP also jumped from 0.04 million tons in 2015 to 1.10 million tons in 2018 upon completion of CAREC corridor 4a. Carriers are actively exploring this corridor for transportation between the PRC and the Russian Federation, with good access to the Russian Federation’s central Siberian cities.

Data in Table 6.8 also show that both rail and road tonnage through Horgos surged significantly: rail tonnage grew from 0.92 million tons in 2015 to 2.71 million tons in 2018. Erenhot rail tonnage also increased from 12.60 million tons in 2015 to 14.65 million tons in 2018. Taken together, the data show PRC trade and transport facilitation are producing good results.

Even though rail is a more efficient mode to cover the vast distance of transport across Central Asia, the Caucasus, and Europe, the change of gauge and synchronizing of various railway operations involved in the haul is challenging. Along corridor 1, the BCP on the other side of the PRC border exhibited larger border-crossing delays that reduced efficiency of railway transport. This was evident in 2018 by

comparing Alashankou (21.9 hours) and Dostyk (61 hours), and Horgos (10.9 hours) and Altynkol (39.6 hours). Corridor 4 displayed a different problem with Erenhot showing delays of 55.7 hours due to change of gauge operations for incoming traffic.

Following the success of the Chongqing–Duisburg container express trains service, the PRC intends to replicate this model to other cities, which will benefit the Xinjiang Uygur Autonomous Region as well. Currently, a train comprises 46 containers: 41 of which originate from other production centers and 5 are consolidated from local produce in the Xinjiang Uygur Autonomous Region. Exports from the Xinjiang Uygur Autonomous Region are limited in range and shipping them independently to Europe is expensive; using this model, Xinjiang’s exports can “piggyback” on other exports and lower the cost of transportation to help access markets.

Some issues have emerged due to the rapid growth of the PRC–Europe express container trains in 2018:

- The spare handling capacity for gauge change and train classification at border rail stations is being used up. Some, like Dostyk, have limited room to grow, but bottlenecks will emerge to cap further development of these PRC–Europe express container trains.
- Large subsidies were given to support these trains: for example, significant subsidies enabled Xian to increase its European train traffic sevenfold from 2017 to 2018.
- The growth of nonstop, direct to Europe block trains from cities east of Urumqi, such as Chengdu, Chongqing, Wuhan, Xian, Yiwu, and Zhengzhou, means much less traffic is consolidated in Urumqi. In turn, the frequency of Urumqi–Europe block trains has dropped substantially. Urumqi has petitioned for unfilled PRC–Europe express container trains to stop at its Urumqi–West Multimodal Terminal, but has not succeeded so far.

An important development in 2018 is the export of Xinjiang grown tomatoes, processed into paste for export to Mediterranean countries (notably Italy) through the Middle Corridor (PRC–KAZ–AZE–GEO–Turkey [TUR]). Such cargo used to move by sea through PRC ports in the east, but the new land route can cut transit time in half.

The year 2018 also brought the TIR Carnet system to the PRC and over 20 TIR movements have occurred via the Horgos border. A recent interview of the regional manager of the Dutch motor carrier Alblas in Urumqi emphasized the value of TIR.<sup>27</sup> Alblas moved an expensive, time-definite, and fragile load of large light-emitting diode or LED displays from Guangdong to a European exposition using two-driver teams. The PRC TIR truck collected the shipment at the factory, then swapped the trailer at the Kazakhstan side of Khorgos with the same company’s Germany-based TIR truck

## Recommendations

1. **Examine road freight costs on the Urumqi–Almaty route.** This route is a high-density subcorridor with Almaty acting as a distribution center where goods are transhipped to other parts of Kazakhstan or the Russian Federation. However, the 2018 CPMM analysis showed that the road freight cost was much higher for a comparatively shorter distance from Horgos to Almaty. Policy makers should investigate the causes and explore ways to improve the cost-competitiveness of this route in subcorridor 1b.
2. **Eliminate subsidies for PRC–European trains within 1–2 years.** Use Urumqi as a consolidation hub for PRC cities to the east that lack sufficient volume to make up regularly scheduled block trains with enough frequency.
3. **Promote the development of private wagon leasing companies.** These companies will procure wagons for lease to users.

<sup>27</sup> Alblas moved the first TIR load with support from CEVA Logistics.

4. **Develop common standards.** The PRC will take the lead in developing common standards, harmonized rules and regulations, uniform documents, mutual recognition of certified weight, and electronic data sharing among CAREC member countries.

## Georgia

### Key Findings

- CPMM data for 2018 focused on two land BCPs: in eastern Georgia, where Turkish goods pass through the Sarpi BCP (TUR–GEO); and in western Georgia, where truck shipments cross Tsiteli Khidi–Krasnyi Most (GEO–AZE). Cargo trucks were able to pass through Georgia’s BCPs in 5 minutes. One key reason for such rapid clearance is Georgia Customs’ (part of the Georgian Revenue Service or GRS) integrated design and process simplification to ease border crossing. Customs officers are empowered to scan the passport of drivers, who remain in the truck and go to separate stations. Using an established risk-based system, most goods are cleared through the green channel, minimizing the need for additional documentary checks or physical inspection.

**Table 6.9: Trade Facilitation Indicators for Georgia**

		Road Transport			Rail Transport		
		2016	2017	2018	2016	2017	2018
TFI1	Time taken to clear a border-crossing point (hour)	-	-	<b>14.3</b>	-	-	-
	<i>Outbound</i>	-	-	17.9	-	-	-
	<i>Inbound</i>	-	-	9.0	-	-	-
TFI2	Cost incurred at border-crossing clearance (\$)	-	-	<b>66.0</b>	-	-	-
	<i>Outbound</i>	-	-	67.0	-	-	-
	<i>Inbound</i>	-	-	64.0	-	-	-
TFI3	Cost incurred to travel a corridor section (\$, per 500 km, per 20-ton cargo)	-	-	<b>244.0</b>	-	-	-
TFI4	Speed to travel on CAREC corridors (km/h)	-	-	<b>18.8.0</b>	-	-	-
SWOD	Speed without delay (km/h)	-	-	<b>49.3.0</b>	-	-	-

- = no data, CAREC = Central Asia Regional Economic Cooperation, km = kilometer, km/h = kilometer per hour, SWOD = speed without delay, TFI = trade facilitation indicator.  
Source: Asian Development Bank.

**Table 6.10: Border-Crossing Performance in Georgia**

BCP	Corridor	Direction of Trade	Duration (hours)			Cost (\$)		
			2016	2017	2018	2016	2017	2018
<b>Road Transport</b>								
Takeshikent	2	<i>Outbound</i>	-	-	17.9	-	-	67
		<i>Inbound</i>	-	-	1.2	-	-	-

- = no data, BCP = border-crossing point.  
Source: Asian Development Bank.

### Trends and Developments

Georgia joined the CAREC partnership in 2017 and participated in the CPMM data-gathering process for the first time in 2018, extending CPMM coverage to the Caucasus and providing valuable insights into two areas: (i) performance of seaports of the Black Sea and Caspian Sea, and (ii) application of best practices in trade facilitation. Georgia successfully instituted many trade facilitation reforms that

significantly enhanced trade-related results. The use of customs clearance zones, well-designed border terminals, and the intelligent application of information technology all contribute to a smooth flow of goods and passengers. Georgia's open and democratic government attracted huge investment commitment to develop a new port at Anaklia on the Black Sea coast, north of Poti. The Anaklia consortium already attracted SSA Marine and the CONTI Group, two strong investors that will contribute capital and know-how, as well as ADB private sector financing.

## Recommendations

1. **Improve Tseli Khidi-Krasnyi Most (GEO-AZE) as a priority.** This is a bottleneck for all shipments from the Caucasus to Central Asia, where trucks sometimes wait for 3 days. The standard border-crossing procedure was simple at Georgia's side, but trucks are still delayed in crossing as the Azerbaijan BCP could not process incoming trucks fast enough. Both customs administrations are considering joint customs controls to expedite the land border crossing. CAREC could consider the proposal and provide technical and financial assistance.
2. **Improve Sarpi (GEO-TUR) as a priority.** This is a current bottleneck for shipments from Turkey to Central Asia, with mountains on one side and sea on the other side. According to the Georgia International Road Carriers Association, the border crossing can take 3 weeks in extreme cases. Georgia has established 17 lanes to expedite border crossing, reaching the physical limits of the available space. The next improvement is likely to come from data exchange with Turkey customs and increased trade facilitation at the BCP.
3. **Reduce costs associated with "oversized" cargoes.** Equipment and machineries shipped from Georgia to Central Asia in 2018 were classified as "oversized" and required additional payment of \$250–\$300 per shipment at Aktau seaport.<sup>28</sup> Reducing this fee would increase the attractiveness of transit and shipping businesses.
4. **Address long transport time and empty return cargo.** Georgia's CPMM data samples showed traffic from west to east (Turkey and the Black Sea ports to Central Asia), but rarely in the other direction. Furthermore, west to east shipments took 8–22 days, one way. CPMM data estimated that the border-crossing times accounted for 54%–86% of the total duration. If the time for the return trip is included, the overall duration for a two-way trip can reach more than 30 days. The combination of long transport times and empty return cargo is an issue policy makers should analyze.
5. **Promote the Trans-Caspian International Transport Route.** A railway cooperation between Azerbaijan, Georgia, and Kazakhstan, and promotion of this route could improve the attractiveness of CAREC corridor 2. Initiatives such as setting a through-rate (a single tariff) for rail shipments could increase the competitiveness of the route. CPMM currently does not cover railways shipments across Georgia.

## Kazakhstan

### Key Findings

- CPMM data for 2018 reported comparatively longer border-crossing times for road transport at BCPs in Kazakhstan (and their cross-border pair). The Khorgos-Horgos (KAZ-PRC) BCP is the largest in cross-border traffic, and inbound time averaged 6.8 hours while outbound time averaged 4.5 hours. Tazhen-Karakalpaka (KAZ-UZB) and Konysbaeva-Yallama (KAZ-UZB) BCPs clocked 11–12 hours for border crossing on the Kazakhstan side. In this case, customs control was completed in 2–3 hours and the delays were caused by time spent waiting in line, and loading and unloading.

<sup>28</sup> Generally, any cargo with payload weight above 22 tons is considered "oversized."

- Railway transport in Kazakhstan faced subpar performance in 2018. The average border-crossing time was comparatively long—61 hours at Dostyk and 40 hours at Altynkol. Although change of gauge was expected to cause these delays, this activity only took 2–3 hours. Instead, waiting was identified as the main cause of delay, together with a shortage of wagons, leading to average border-crossing times of 32.5 hours at Dostyk and 12.5 hours at Altynkol.

Table 6.11: Trade Facilitation Indicators for Kazakhstan

		Road Transport			Rail Transport		
		2016	2017	2018	2016	2017	2018
TFI1	Time taken to clear a border-crossing point (hour)	4.4	8.6	7.2	42.5	44.0	40.6
	Outbound	3.4	5.9	7.3	16.1	15.6	8.0
	Inbound	5.1	10.2	7.1	46.9	48.4	49.2
TFI2	Cost incurred at border-crossing clearance (\$)	113.0	124.0	96.0	369.0	381.0	332.0
	Outbound	61.0	86.0	74.0	115.0	117.0	122.0
	Inbound	151.0	146.0	108.0	411.0	421.0	358.0
TFI3	Cost incurred to travel a corridor section (\$, per 500 km, per 20-ton cargo)	825.0	654.0	791.0	929.0	808.0	768.0
TFI4	Speed to travel on CAREC corridors (km/h)	31.5	28.8	30.5	17.2	17.5	19.9
SWOD	Speed without delay (km/h)	52.0	53.9	56.3	53.6	57.2	56.4

Legend: ● Improved by at least 3% ● Deteriorated by at least 3% ● Insignificant change [-3% to 3%]

– = no data, CAREC = Central Asia Regional Economic Cooperation, km = kilometer, km/h = kilometer per hour, SWOD = speed without delay, TFI = trade facilitation indicator.

Source: Asian Development Bank.

Table 6.12: Border-Crossing Performance in Kazakhstan

BCP	Corridor	Direction of Trade	Duration (hours)			Cost (\$)		
			2016	2017	2018	2016	2017	2018
<b>Road Transport</b>								
Aul	3	Outbound	0.1	25.2	0.2	–	21	–
		Inbound	0.1	–	0.2	–	–	–
Kairak	1	Outbound	0.1	–	0.2	–	–	2
		Inbound	0.1	0.5	0.3	–	7	16
Zhaisan	1, 6	Outbound	–	–	0.3	–	–	11
		Inbound	–	–	0.2	–	–	8
Tazhen	2, 6	Outbound	7.3	7.5	12.6	123	130	104
		Inbound	7.9	8.0	11.4	135	133	116
Kurmangazy	6	Outbound	3.6	3.7	2.2	42	41	11
		Inbound	2.5	2.7	2.2	32	30	10
Konysbayeva	3, 6	Inbound	7.6	8.0	12.0	164	163	130
Aisha Bibi	1, 3	Inbound	–	–	0.7	–	–	12
Taskala	1, 6	Outbound	3.6	3.4	1.9	42	35	11
Jana Jol	1, 6	Inbound	0.1	0.6	–	–	7	–
		Outbound	–	–	0.1	–	–	–
Pogodaevo	0	Inbound	–	–	1.8	–	–	10
		Outbound	–	–	1.6	–	–	108
Aktau	2	Inbound	–	–	3.0	–	–	132

continued on next page

Table 6.12 *continued*

BCP	Corridor	Direction of Trade	Duration (hours)			Cost (\$)		
			2016	2017	2018	2016	2017	2018
Khorgos	1	Outbound	-	-	4.5	-	-	220
		Inbound	3.3	4.1	6.8	328	329	341
Merke	1, 3	Outbound	4.9	3.5	1.5	76	23	10
		Inbound	-	-	0.3	-	-	16
Kordai	1	Inbound	0.3	-	0.2	10	-	11
Karasu	1	Outbound	0.3	0.3	0.2	30	17	7
		Inbound	0.4	0.5	0.3	21	10	16
<b>Rail Transport</b>								
Saryagash	3, 6	Outbound	-	-	9.1	-	-	122
Dostyk	1, 2	Inbound	44.4	50.6	61.0	486	522	549
Merke	1, 3	Outbound	-	2.1	1.6	-	-	-
Altynkol	1	Inbound	54.0	56.0	39.6	638	613	251

- = no data, BCP = border-crossing point.  
Source: Asian Development Bank.

## Trends and Developments

The infrastructure and transportation landscape in Kazakhstan will transform rapidly over the coming years. As a beneficiary of the BRI as well as the national Nurlı Zhol program, the country is rapidly modernizing public transport infrastructure with new roads, railway, Trans-Caspian inland waterways, and even air corridors under development.<sup>29</sup>

Kazakhstan is also reforming its railway laws. From the founding of Kazakhstan to 2004, JSC NC Kazakhstan Termir Zholy (KTZ) was the national railway authority, the sole owner and operator of all railway assets. Only two parties were involved in railway shipments, the consignor and KTZ, and based on a contract, KTZ deployed empty wagons to a pickup station and moved goods to the destination station. Since 2004, a series of railway reforms began, ushering in privatization of rolling stock. KTZ transferred ownership of all state-owned wagons to JSC Kaztermirtrans, and in 2013, the management of wagons was transferred to KTZ Express. By 2018, railway shipments had become complicated due to the presence of multiple parties, including railway authorities, consignors, private wagon owners, driveway owners, freight forwarders, and consignees. Consignors have to look for available wagons from the private wagon owners and return empty wagons, which increases the cost and complexity of transportation. In short, although the 2004 reforms ushered in private investment, the interaction with various stakeholders has yet to be defined clearly and completely. Of note is that the current Kazakhstan model closely resembles the rail model successfully used for decades in the US—determining the reasons why the model does not work efficiently in Kazakhstan would be highly beneficial and the first step to devising a corrective action plan.

## Recommendations

1. **Review and address payment of unofficial fees at Horgos.** Horgos (PRC) is one of the largest BCPs in terms of trucks and goods handled. CPMM data for 2018 captured reports that shippers from the PRC were required to pay unofficial facilitation fees of \$50 per truck to Kazakhstan

<sup>29</sup> Kazakhstan is creating a new low-cost carrier FlyArystan to connect major domestic cities. (*The Astana Times*. 2019. FlyArystan low-cost airline launches flights between Almaty, Uralsk, Taraz, Nur-Sultan. 3 April. <https://astanatimes.com/2019/04/flyarystan-low-cost-airline-launches-flights-between-almaty-uralsk-taraz/>)

groups. If the fee is not paid, it will increase to \$100 on the Kazakhstan side (Khorgos), and the drivers will face severe impediments. This practice should be reviewed and eradicated.

2. **Expand capacity and simplify procedures at Tazhen and Konysbaeva BCPs.** Uzbekistan is liberalizing trade regimes and seeking greater regional cooperation, which anticipates rising levels of cross-border trade with neighboring countries. This elevates the significance of the Konysbaeva and Tazhen BCPs at the Uzbekistan border. In 2018, border-crossing times at both locations are some of the longest in the region and policy makers will need to expand capacity and simplify procedures to prepare for growth in future cross-border movement of trucks.
3. **Revise the Law on Railway Transport and other regulations.** In 2004, the terms “freight forwarder” and “wagon operator” were first introduced, but there is now a need to define the legal obligations of each party under a market economy. The Law on Railway Transport was created during traditional and simpler times when the consignor only dealt with the national railway authority. To address this and reduce empty wagon movements, definition is required for the movement of empty wagons to the pickup station, or movement to the next pickup station and return to origin.
4. **Develop appropriate wagon facilities for unused wagons.** Railway wagons, like any physical assets, such as factories and hotels, can experience oversupply or undersupply depending on the general economy. This means that wagon parks should be developed so unused wagons have proper storage and maintenance space. Privatization increased the number of wagons and when demand for these rolling stock decreases due to lower trade, excess wagons pose a problem if they remain on tracks or are not organized properly.
5. **Consider development of Kuryk Seaport Terminal at Aktau.** Aktau seaport is a critical transport node at the Caspian Sea, yet estimates show average dwell time at Aktau is 72 hours, mainly due to waiting time. In one extreme example in the CPMM data for 2018, a shipment was stuck for 14 days at Aktau, although standard operations such as customs and various inspections could be completed within 1 hour. This indicates possible capacity constraints at this seaport. A possible solution would be to develop the new Kuryk Seaport Terminal at Aktau, which would not only expand capacity, but also offer multimodal transport with Kuryk’s expected trucking terminal and railway sidings that will extend into the ferry terminal.

## Kyrgyz Republic

### Key Findings

- CPMM data showed that at Karasu–Ak Tilek (KAZ–KGZ) and Chaldovar–Sypatay Batyr (KAZ–KGZ), only border security was conducted; no customs controls or immigration procedures were applied. Trucks stayed only 10–15 minutes at each node and no customs controls nor significant time waiting in line were observed. At other border crossings with the PRC, Tajikistan, and Uzbekistan, trucks spent 1–2 hours on customs controls, border security, and phytosanitary procedures.

### Trends and Developments

Accession to the Eurasian Economic Union (EAEU) in August 2015 brought a major benefit: a significant improvement in border-crossing procedures and time at the Kazakhstan–Kyrgyz Republic borders. CPMM data and samples for 2018 showed that the Kyrgyz Republic exported agricultural products and textiles, and imported machineries (especially agricultural equipment).

Table 6.13: Trade Facilitation Indicators for the Kyrgyz Republic

		Road Transport			Rail Transport				
		2016	2017	2018	2016	2017	2018		
TFI1	Time taken to clear a border-crossing point (hour)	3.4	3.5	1.6	●	-	-	1.2	-
	<i>Outbound</i>	3.4	2.9	1.1	-	-	-	-	-
	<i>Inbound</i>	3.5	4.0	2.0	-	-	-	1.2	-
TFI2	Cost incurred at border-crossing clearance (\$)	142.0	121.0	24.0	●	-	-	-	-
	<i>Outbound</i>	72.0	36.0	23.0	-	-	-	-	-
	<i>Inbound</i>	191.0	175.0	25.0	-	-	-	-	-
TFI3	Cost incurred to travel a corridor section (\$, per 500 km, per 20-ton cargo)	1,530.0	781.0	1,219.0	●	-	456.0	434.0	●
TFI4	Speed to travel on CAREC corridors (km/h)	26.2	28.1	29.8	●	-	35.9	21.6	●
SWOD	Speed without delay (km/h)	39.0	49.1	50.9	●	-	50.7	28.7	●

Legend: ● Improved by at least 3% ● Deteriorated by at least 3%

- = no data, CAREC = Central Asia Regional Economic Cooperation, km = kilometer, km/h = kilometer per hour, SWOD = speed without delay, FI = trade facilitation indicator.

Source: Asian Development Bank.

Table 6.14: Border-Crossing Performance in the Kyrgyz Republic

BCP	Corridor	Direction of Trade	Duration (hours)			Cost (\$)		
			2016	2017	2018	2016	2017	2018
<b>Road Transport</b>								
Dostuk	2	<i>Outbound</i>	-	-	0.9	-	-	21
		<i>Inbound</i>	-	1.2	0.6	-	30	17
Chaldovar	1, 3	<i>Outbound</i>	-	-	0.2	-	-	7
		<i>Inbound</i>	5.2	3.8	1.2	75	23	8
Karamyk	2, 3, 5	<i>Outbound</i>	3.7	2.3	2.1	75	48	42
		<i>Inbound</i>	0.6	1.8	0.8	31	25	21
Ak Zhol	1	<i>Outbound</i>	-	-	0.3	-	-	8
Kyzyl-Bel	0	<i>Outbound</i>	2.1	1.5	1.1	48	47	19
		<i>Inbound</i>	-	-	3.3	-	-	36
Torugart	1	<i>Outbound</i>	0.2	0.7	1.9	18	22	33
		<i>Inbound</i>	1.9	2.1	2.3	37	37	32
Irkeshtam	2, 5	<i>Inbound</i>	5.7	2.4	0.9	343	980	24
Chon Kapka	1, 3	<i>Outbound</i>	-	-	0.3	-	-	10
Ak-Tilek	1	<i>Outbound</i>	0.2	7.5	0.2	14	6	9
		<i>Inbound</i>	0.2	0.2	0.2	12	12	7
<b>Rail Transport</b>								
Chaldovar	1, 3	<i>Inbound</i>	-	-	1.2	-	-	-

- = no data, BCP = border-crossing point.

Source: Asian Development Bank.

## Recommendations

1. **Develop customs cooperation mechanisms with Kazakhstan to address border delays at Karasuu.** Ak Tilek-Karasuu (KGZ-KAZ) is a gateway for land border crossing between the Kyrgyz Republic and Kazakhstan. As both are EAEU members, border-crossing procedures are straightforward and rapid. However, CPMM data identified long delays at the end of 2018, where time waiting in line could spike to 5 days due to inspection posts set up on the Kazakhstan side to examine vehicles under the premise of detecting smuggling of goods from the PRC. Drivers

reported the need to pay facilitation fees for faster clearance. This issue has been raised between the two countries, but is still not resolved.

2. **Re-open the Karamyk border route to third-country transit traffic.** The Dushanbe–Karamyk–Irkeshtam border was opened to traffic between Tajikistan and the PRC for a brief period. Despite the signing of a cross-border transit agreement between the Kyrgyz Republic and Tajikistan, this route was closed to third-country traffic, and transit traffic between Tajikistan and the PRC must use the Isfara–Batken route, which is much longer and more costly. In the interests of regional cooperation, the Kyrgyz Republic government should consider reopening the Karamyk route to third-country transit traffic.
3. **Improve analysis and use of global positioning system (GPS) tracking systems.** Most Kyrgyz trucks are now equipped with GPS tracking systems that produce accurate data, including on delays at various BCPs along the border between the Kyrgyz Republic and Kazakhstan. Senior officials could better use such data to minimize severe delays at the border with Kazakhstan.
4. **Improve customer service for cargo movement on railway.** Unlike the efficient GPS system used for road transport in the Kyrgyz Republic, the Kyrgyz Railway has poor cargo tracking ability. Consequently, Kyrgyz Republic forwarders are unable to supply rail transit data for the CPMM mechanism. As part of the effort to commercialize and reform this railroad, the government should improve customer service, such as through cargo tracking systems.
5. **Ensure safety and security of road transport.** CPMM data for 2018 indicated that local villagers made periodic attempts to extort payment or steal from foreign trucks, and this appears to have been a regular occurrence near the Irkeshtam BCP. Steps taken to ensure the safety and security along CAREC corridors will facilitate trade and transport.

## Mongolia

### Key Findings

- CPMM data for 2018 demonstrated consistent and impressive results for Mongolia. For road transport, CPMM estimates showed that SWOD attained 50 km/h in 2018, while SWD was respectable at 34 km/h. Shippers have the option to import by trains or rail–road combination from Erenhot to Ulaanbaatar. Goods from Tianjin stopped at Erenhot and continued on trucks to complete the 700-km route to Ulaanbaatar, taking 2 days compared to the 5–6 days required for train transport.
- Regardless, railway remains an indispensable mode for Mongolia, particularly for cross-border trade. Lumber is carried in transit shipment from the Russian Federation to the PRC. International trade relies on subcorridor 4b to import much needed merchandise, while minerals and limited export goods are transported via Tianjin to Japan and the Republic of Korea. At the Zamiin-Uud BCP, the 2018 average inbound border-crossing time was estimated at 22.9 hours and outbound border-crossing time at 11.8 hours. As a landlocked country, Mongolia faces high transport costs that erode competitive advantage. CPMM estimates showed that the total cost to send a 40-foot container in 2018 was \$3,300 from Xingang in Tianjin to Ulaanbaatar, and costs \$1,600 in the reverse direction. This estimate was the highest among all corridors and explains why TFI3 (total transport cost) along corridor 4 continued to be high in 2018, amounting to \$1,416.

### Trends and Developments

Examining the TFIs for Mongolia, an unfavorable trend of increasing time and cost for shipments is clear. Nonetheless, automobile speeds demonstrated a consistently increasing trend in 2018. The TFIs for road transport in Mongolia showed that border-crossing time and cost remained range-bound in the 3-year period of 2016–2018. A commendable trend of increasing SWOD and SWD was observed, indicating that automobiles were able to move at higher speeds along corridor 4. On the other hand, TFIs for railways transport in Mongolia displayed increasingly longer border-crossing times and higher total transport cost.

Table 6.15: Trade Facilitation Indicators for Mongolia

		Road Transport			Rail Transport		
		2016	2017	2018	2016	2017	2018
TFI1	Time taken to clear a border-crossing point (hour)	2.3	3.2	3.5	13.6	13.3	18.1
	<i>Outbound</i>	1.3	2.9	2.9	6.7	7.6	11.7
	<i>Inbound</i>	2.5	3.2	3.5	17.7	16.6	20.4
TFI2	Cost incurred at border-crossing clearance (\$)	89.0	93.0	93.0	49.0	48.0	49.0
	<i>Outbound</i>	63.0	12.0	13.0	75.0	–	27.0
	<i>Inbound</i>	94.0	104.0	104.0	45.0	48.0	49.0
TFI3	Cost incurred to travel a corridor section (\$, per 500 km, per 20-ton cargo)	1,150.0	1,034.0	1,512.0	835.0	827.0	1,030.0
TFI4	Speed to travel on CAREC corridors (km/h)	29.4	28.5	33.5	16.8	13.6	14.1
SWOD	Speed without delay (km/h)	42.8	46.5	50.2	32.2	22.7	20.9

Legend: ● Improved by at least 3% ● Deteriorated by at least 3% ● Insignificant change [–3% to 3%]

– = no data, CAREC = Central Asia Regional Economic Cooperation, km = kilometer, km/h = kilometer per hour, SWOD = speed without delay, FI = trade facilitation indicator.

Source: Asian Development Bank.

Table 6.16: Border-Crossing Performance in Mongolia

BCP	Corridor	Direction of Trade	Duration (hours)			Cost (\$)		
			2016	2017	2018	2016	2017	2018
<b>Road Transport</b>								
Yarant	4	<i>Outbound</i>	–	3.0	3.1	–	57	55
		<i>Inbound</i>	3.4	3.4	3.9	224	201	201
Zamiin-Uud	4	<i>Outbound</i>	1.3	–	–	124	–	–
		<i>Inbound</i>	2.8	3.5	4.0	118	123	121
Altanbulag	4	<i>Inbound</i>	1.6	2.5	2.2	8	5	10
Bichigt	4	<i>Inbound</i>	1.0	1.7	1.4	7	11	6
<b>Rail Transport</b>								
Sukhbaatar	4	<i>Inbound</i>	11.1	11.1	7.4	19	11	8
Zamiin-Uud	4	<i>Outbound</i>	6.7	7.6	11.8	75	–	27
		<i>Inbound</i>	20.6	18.9	22.9	56	63	34

– = no data, BCP = border-crossing point.

Source: Asian Development Bank.

Among the BCPs in Mongolia, train crossings at Zamiin-Uud averaged 11.8 hours (outbound traffic) and 22.9 hours (inbound traffic). These were the longest durations compared to other BCPs.

## Recommendations

1. **Encourage transit traffic to improve cost competitiveness.** Railway transport carried 9.2 million tons of exports and only 2.8 million tons of imports.<sup>30</sup> This imbalanced traffic can lead to shortage of wagons and containers, and escalate transport costs. The significant tonnage difference can also be explained by the fact that Mongolia exports bulk commodities such as minerals, stones, and cement, but imports higher-value manufactured products with less dimensional weight. To position Mongolia as a transshipment center, transit traffic from the PRC to the Russian Federation should be encouraged as there are currently more goods moving from the Russian Federation to the PRC.

<sup>30</sup> National Statistics Office of Mongolia. <http://www.1212.mn>.

2. **Reduce railway costs as a priority.** The 40-foot container shipment cost of \$3,300 was decomposed into freight (\$3,000) and border-crossing fees (\$300). The freight cost is further estimated to consist of \$2,500 (83%) in the PRC's section and \$500 (17%) in Mongolia's section. Thus, policy and reforms in Mongolia alone would not greatly improve the cost structure, even if railways subsidies are given. Dialogue with China Railway Corporation is required to initiate reduction in railway costs for Mongolia.
3. **Address railway wagon shortage.** In 2018, CPMM data identified delays amounting to 27.8 hours at Zamiin-Uud caused by a shortage of wagons. CRC should impose high detention and demurrage charges to discourage cargo owners from using rail wagons as mobile warehouses: lumber shippers were identified as frequent violators of excessive wagon detention and demurrage rules.
4. **Improve capacity at Zamiin-Uud.** Another identified cause of delay in 2018 was marshaling in railway terminals (10.9 hours) and materials transfer (5.8 hours). These relate to capacity constraints in Zamiin-Uud, where there is need to increase material handling equipment and the average equipment uptime.
5. **Implement the Erenhot-Zamiin-Uud (PRC-MON) Economic Cooperation Zone.** On 4 June 2019, the governments of the PRC and Mongolia signed an agreement to construct the Erenhot-Zamiin-Uud Economic Cooperation Zone.<sup>31</sup> The Horgos International Border Cooperation Zone could serve as a useful reference for Mongolia in the planning, design, and implementation of this new cooperation zone.

## Pakistan

### Key Findings

- CPMM data for 2018 identified some major inefficiencies: first, dwell time in Karachi seaports averaged 5–7 days for containerized goods bound for Afghanistan, with shippers citing customs procedures, excessive inspections, and port congestion as the causes of delay. Second, BCPs indicated long border-crossing times, as observed in Peshawar (33.5 hours) and Chaman (65.2 hours). Finally, transport costs were relatively high: CPMM estimated that shipment of a 40-foot container from Karachi to Jalalabad costs close to \$4,000, which translated to \$1,320 per 20 tons over 500 km.

**Table 6.17: Trade Facilitation Indicators for Pakistan**

		Road Transport			Rail Transport			
		2016	2017	2018	2016	2017	2018	
TFI1	Time taken to clear a border-crossing point (hour)	<b>37.2</b>	<b>56.9</b>	<b>36.3</b>	●	-	-	-
	<i>Outbound</i>	36.9	59.2	37.8	-	-	-	
	<i>Inbound</i>	122.1	1.2	2.1	-	-	-	
TFI2	Cost incurred at border-crossing clearance (\$)	<b>287.0</b>	<b>280.0</b>	<b>282.0</b>	●	-	-	-
	<i>Outbound</i>	286.0	280.0	286.0	-	-	-	
	<i>Inbound</i>	400.0	-	16.0	-	-	-	
TFI3	Cost incurred to travel a corridor section (\$, per 500 km, per 20-ton cargo)	<b>1,618.0</b>	<b>1,875.0</b>	<b>727.0</b>	●	-	-	-
TFI4	Speed to travel on CAREC corridors (km/h)	<b>18.9</b>	<b>9.8</b>	<b>13.7</b>	●	-	-	-
SWOD	Speed without delay (km/h)	<b>58.6</b>	<b>50.4</b>	<b>39.5</b>	●	-	-	-

Legend: ● Improved by at least 3% ● Deteriorated by at least 3% ● Insignificant change [-3% to 3%]

- = no data, CAREC = Central Asia Regional Economic Cooperation, km = kilometer, km/h = kilometer per hour, SWOD = speed without delay, TFI = trade facilitation indicator.

Source: Asian Development Bank.

<sup>31</sup> Government of the People's Republic of China, Ministry of Commerce. <http://english.mofcom.gov.cn/article/newsrelease/significantnews/201906/20190602870682.shtml>.

Table 6.18: Border-Crossing Performance in Pakistan

BCP	Corridor	Direction of Trade	Duration (hours)			Cost (\$)		
			2016	2017	2018	2016	2017	2018
<b>Road Transport</b>								
Chaman	5, 6	Outbound	59.5	82.2	65.2	125	100	117
Peshawar	5, 6	Outbound	34.7	57.6	33.5	303	318	320
Khunjerab	5	Inbound	0.2	1.2	2.1	-	-	5

- = no data, BCP = border-crossing point.  
Source: Asian Development Bank.

## Trends and Developments

The findings detailed in Tables 6.17 and 6.18 highlight impediments that were detrimental to Pakistan's competitiveness, where the road sector accounts for 96% of all freight movements.<sup>32</sup> Many factors contributed to high road freight costs, including road infrastructure, less efficient domestic trucks, and lack of a strong local transport equipment manufacturing sector to produce high-quality vehicles. The Government of Pakistan is keenly aware of these constraints and has commissioned the development of a National Transport Policy for Pakistan coordinated by the Ministry of Communications.

## Recommendations

1. **Include private sector stakeholders in development of the National Transport Policy for Pakistan.** Domestic carriers, fleet operators, stevedores, integrated logistics service providers, and freight forwarders should be included as active stakeholders in this process to capture a comprehensive private sector perspective.
2. **Initiate a truck renewal program.** The road sector is dominant in Pakistan and road freight costs are high, leading to perennial problems of lack of access to capital and the trucking industry's low profitability. Despite the Ministry of Commerce recognizing in 2005 that freight and logistics is an industry, little benefit accrued to industry players, including access to low-interest financing enjoyed by other recognized industries. Domestic truckers also compete on price and resort to overloading because of very thin profit margins. As a result, truckers are unwilling or unable to renew and modernize their fleets: policy-level examination of financing options and competition issues could address this problem.
3. **Reduce container dwell time in seaports.** Seaports are Pakistan's main gateway to integrate into global trade, with the ports of Gwadar, Karachi, and Qasim playing very important roles. Seaports also have a systematic impact on the time and cost of shipments, and addressing seaport-related issues could yield significant and immediate benefits. The long container dwell time estimated by the 2018 CPMM should be shortened to avoid losing competitiveness to nearby seaports such as Chabahar. CPMM samples for 2018 showed that customs procedures in the Karachi seaport took 4–5 days, affecting throughput and resulting in long dwell time, as well as creating other problems such as demurrage.
4. **Examine the potential to increase Central Asian countries' international transit through seaports.** The CPMM observed that transit trade occurred mainly through the Iran–Turkmenistan–Uzbekistan route, where goods then moved to Kazakhstan, the Kyrgyz Republic, and Tajikistan. However, there were no 2018 CPMM samples of similar movements across Karachi seaport. Policy makers should consider formalizing regional and international agreements, such as the Afghanistan–Pakistan Transit Trade Agreement (APTTA), the Quadrilateral Agreement on

<sup>32</sup> Asian Development Bank. 2005. \$773 Million from ADB to Improve Pakistan's National Highway Network. Manila. 15 December. <https://www.adb.org/news/773-million-adb-improve-pakistans-national-highway-network>; and Government of Pakistan, Ministry of Finance. <http://www.finance.gov.pk/survey/chapters/14-Transport%20final08.pdf>.

Transit Trade,<sup>33</sup> and completing accession to international conventions such as the Contract for the International Carriage of Goods by Road.<sup>34</sup>

## Tajikistan

### Key Findings

- Tajikistan transports goods via road, railway, and air, but the CPMM focuses only on road transport.<sup>35</sup> CPMM samples for 2018 largely moved along corridors 5 and 6, where road freight cost tends to be high due to the terrain and weather factors, which also affect vehicle speed. Border crossings are straightforward at the borders with the Kyrgyz Republic and Uzbekistan, but more complicated at borders with Afghanistan and the PRC.

**Table 6.19: Trade Facilitation Indicators for Tajikistan**

		Road Transport			Rail Transport				
		2016	2017	2018	2016	2017	2018		
TFI1	Time taken to clear a border-crossing point (hour)	4.3	3.8	3.8	●	-	-	2.3	-
	<i>Outbound</i>	3.5	2.1	4.0		-	-	-	
	<i>Inbound</i>	4.6	4.4	3.7		-	-	2.3	
TFI2	Cost incurred at border-crossing clearance (\$)	142.0	103.0	118.0	●	-	-	65.0	-
	<i>Outbound</i>	129.0	20.0	162.0		-	-	-	
	<i>Inbound</i>	148.0	131.0	98.0		-	-	65.0	
TFI3	Cost incurred to travel a corridor section (\$, per 500 km, per 20-ton cargo)	1,453.0	854.0	589.0	●	-	-	-	-
TFI4	Speed to travel on CAREC corridors (km/h)	21.3	23.1	23.3	●	-	-	-	-
SWOD	Speed without delay (km/h)	32.1	39.6	39.5	●	-	-	-	-

Legend: ● Improved by at least 3% ● Deteriorated by at least 3% ● Insignificant change [-3% to 3%]

- = no data, CAREC = Central Asia Regional Economic Cooperation, km = kilometer, km/h = kilometer per hour, SWOD = speed without delay, TFI = trade facilitation indicator.  
Source: Asian Development Bank.

**Table 6.20: Border-Crossing Performance in Tajikistan**

BCP	Corridor	Direction of Trade	Duration (hours)			Cost (\$)		
			2016	2017	2018	2016	2017	2018
<b>Road Transport</b>								
Dusti	3	<i>Outbound</i>	-	-	11.0	-	-	109
		<i>Inbound</i>	4.0	3.9	3.8	112	123	105
Fotehobod	2, 3, 6	<i>Outbound</i>	-	-	1.4	-	-	27
		<i>Inbound</i>	7.0	7.5	7.0	80	87	300
Panji Poyon	2, 5, 6	<i>Outbound</i>	3.6	2.1	3.3	131	20	175
		<i>Inbound</i>	5.5	6.5	5.6	92	102	125
Karamyk	2, 3, 5	<i>Outbound</i>	0.7	3.4	1.2	75	33	28
		<i>Inbound</i>	2.8	0.3	1.0	110	42	27

*continued on next page*

<sup>33</sup> The Quadrilateral Agreement on Transit Trade is a regional agreement among the PRC, Kazakhstan, the Kyrgyz Republic, and Pakistan. It is signed in principle, but not implemented.

<sup>34</sup> Pakistan applied to the United Nations to accede to the CMR Convention in early 2019. However, there is a requirement to strengthen capacity building to prepare for the implementation.

<sup>35</sup> The three railway lines in Tajikistan do not connect to each other, a legacy of the former Soviet Union construction. This limits the usefulness of the railway system for multimodal international trade.

Table 6.20 *continued*

BCP	Corridor	Direction of Trade	Duration (hours)			Cost (\$)		
			2016	2017	2018	2016	2017	2018
Guliston	n. a.	<i>Outbound</i>	–	–	1.4	–	–	34
		<i>Inbound</i>	–	–	1.2	–	–	27
Kulma	n. a.	<i>Inbound</i>	5.2	2.4	2.8	156	210	84
Jalغان	2, 3, 5	<i>Inbound</i>	–	–	0.3	–	–	42
<b>Rail Transport</b>								
Nau	2	<i>Outbound</i>	–	–	–	–	–	–
		<i>Inbound</i>	–	–	2.6	–	–	–

– = no data, BCP = border-crossing point, n.a. = not applicable.  
Source: Asian Development Bank.

## Trends and Developments

Current shipment of agricultural products from Pakistan to Tajikistan is cumbersome, requiring different trucks in Afghanistan, Pakistan, and Tajikistan due to a lack of transit agreements between the countries. It is also important to develop PRC–Tajikistan–Afghanistan trade routes, which will facilitate transit from East Asia to South Asia.

## Recommendations

- Review and improve border infrastructure and procedures.** Border-crossing times at Dusti–Saryasia (TAJ–UZB) BCPs stood out in 2018, where trucks spent 11–12 hours largely waiting in line at both locations. The access road, parking space, and the operating schedules should be reviewed to find solutions for these delays.
- Prioritize commitment to transit agreements to help ease border-crossing procedures.** Tajikistan could consider joining the bilateral APTTA, or the Quadrilateral Agreement on Transit Trade, which have different physical routes
- Develop harmonized sanitary and phytosanitary (SPS) standards to improve corridor competitiveness.** The PRC–Tajikistan–Afghanistan corridor runs from Kashgar to Shirkhan Bandar, and crosses two BCP pairs: Karasuu–Kulma (PRC–TAJ) and Panji Poyon–Shirkhan Bandar (TAJ–AFG). The one-way road freight rate was \$7,000, which translates to \$2,500 per 500 km and is one of the highest of all CPMM samples. This route is mainly used to export goods from the PRC to Afghanistan and the trucks typically return empty as there are limited exports from Afghanistan. In one instance in 2018, Afghanistan exported mulberries to the PRC, but this shipment was rejected due to SPS nonconformity. A trilateral agreement and harmonized SPS standards would help increase the competitiveness of this corridor.
- Encourage more TIR shipments from the PRC and Afghanistan.** A comparison of border crossings made under TIR cover and without TIR in 2018 clearly demonstrated that shipments under TIR cover required less time. The BCPs at the borders with the Kyrgyz Republic and Uzbekistan showed that customs controls could be completed in less than an hour, and time waiting in line was negligible. At Kulma Pass (PRC–TAJ), shipments from the PRC not under TIR had to undergo customs controls at the Tajik BCP, Kulma, and then again at the inland customs office at Tokhtamish Terminal, taking 3–4 hours. Shipments from Afghanistan faced increased difficulties, as the goods had to be reloaded at Shirkhan Bandar.
- Review the ban on trucks using roads during summer daylight hours.** This restriction was launched on the premise that high temperatures soften bitumen, exposing the road to damage by heavy truck traffic. Currently, drivers must wait in their trucks at the Dusti BCP road terminal at the starting point of the modern highway to Tursunzoda and Dushanbe. Waiting not only consumes diesel to keep the goods cool, but also lengthens transit time. This delay adds to long delays at the border to complete the last 65 km of the journey to Dushanbe.

6. **Improve competitiveness of corridor 3 to maintain trade flows through Tajikistan.** In terms of interregional trade between Central Asia and South Asia, Tajikistan should prepare for greater competition from Uzbekistan, where transit is becoming easier and faster as a result of reform and liberalization. Over time, Uzbekistan could increasingly attract trade and transit, such as shipments from Afghanistan and Pakistan to Kazakhstan, which may, in turn, lead to trade diversion from subcorridors 3b to 3a. Policies and strategies to improve the competitiveness of subcorridor 3b should be considered.

## Turkmenistan

### Key Findings

- CPMM data for 2018 showed that Turkmenistan served as an important transit country for Bandar Abbas–Tashkent (Iran–UZB) cargo movements. The Sarahs (at the border with Iran) and Farap (at the border with Uzbekistan) BCPs were high-volume traffic locations. Outbound traffic averaged 7.4 hours each and inbound traffic 9–10 hours each. Waiting time contributed to half of the total delay time, 1–2 hours for customs controls, and the remaining time was used for various inspection activities.
- Monitoring of railways focused on two routes: first, shipments by train from the PRC to Ashgabat, where trains entered the Farap BCP and averaged 2–3 hours to complete customs inspection; and second, road–rail shipments from Pakistan which were trucked across Afghanistan, then transloaded onto trains at the Torghondi BCP in Afghanistan, bordering Turkmenistan. The trains then entered Serkhet Abad and proceeded to Ashgabat.

**Table 6.21: Trade Facilitation Indicators for Turkmenistan**

		Road Transport			Rail Transport		
		2016	2017	2018	2016	2017	2018
TFI1	Time taken to clear a border-crossing point (hour)	6.4	6.6	8.5	4.2	5.4	3.3
	<i>Outbound</i>	5.8	5.8	7.4	3.4	3.4	3.6
	<i>Inbound</i>	6.8	7.1	9.1	4.8	6.0	3.2
TFI2	Cost incurred at border-crossing clearance (\$)	190.0	198.0	204.0	100.0	73.0	94.0
	<i>Outbound</i>	58.0	60.0	62.0	–	–	108.0
	<i>Inbound</i>	281.0	300.0	284.0	100.0	73.0	90.0
TFI3	Cost incurred to travel a corridor section (\$, per 500 km, per 20-ton cargo)	763.0	748.0	1,017.0	1,568.0	1,548.0	1,499.0
TFI4	Speed to travel on CAREC corridors (km/h)	20.0	19.7	19.5	9.9	13.7	14.1
SWOD	Speed without delay (km/h)	51.5	51.7	53.9	18.7	29.9	27.8

Legend: ● Improved by at least 3% ● Deteriorated by at least 3% ● Insignificant change [–3% to 3%]

– = no data, CAREC = Central Asia Regional Economic Cooperation, km = kilometer, km/h = kilometer per hour, SWOD = speed without delay, TFI = trade facilitation indicator.

Source: Asian Development Bank.

### Trends and Developments

In 2018, an important step was taken to develop Turkmenistan’s transport sector with the establishment of the Joint Stock Company “Transport and Logistics Center of Turkmenistan.”<sup>36</sup> Shareholders included the Ministry of Railways Transport (35%), Ministry of Road Transport (10%), Ministry of Communications

<sup>36</sup> State News Agency. *Turkmenistan Today*. <http://tdh.gov.tm/news/articles.aspx&article13910&cat26>.

Table 6.22: Border-Crossing Performance in Turkmenistan

BCP	Corridor	Direction of Trade	Duration (hours)			Cost (\$)		
			2016	2017	2018	2016	2017	2018
<b>Road Transport</b>								
Sarahs	3	Outbound	7.8	–	7.4	76	–	64
		Inbound	6.2	6.2	9.0	300	300	311
Farap	2, 3	Outbound	5.8	5.8	7.4	55	58	62
		Inbound	7.5	7.9	9.8	261	300	296
Serkhet Abad	2, 6	Inbound	–	–	2.3	–	–	50
<b>Rail Transport</b>								
Farap	2, 3	Inbound	3.5	2.9	2.6	127	127	119
Serkhet Abad	2, 6	Inbound	7.3	7.4	3.5	50	50	77

– = no data, BCP = border-crossing point.  
Source: Asian Development Bank.

(5%), the Aviation Service (5%), the State Service of Sea and River Transport (5%), and the State Insurance Organization (5%).

## Recommendations

- 1. Improve access roads and parking at the Serkhet Abad BCP.** Afghan trucks must currently terminate at the Torghondi BCP in Afghanistan, where Turkmen trucks collect the goods and return to the Serkhet Abad BCP. However, accessibility is constrained by (i) a narrow single-lane access road, (ii) small public parking spaces, and (iii) a private parking space that is not well-connected to the road network so that trucks have to make roundabout turns to join the lines entering the Serkhet Abad BCP. Infrastructure improvement would increase efficiency of the BCP.
- 2. Review the railway freight rate.** Average total costs of travel along subcorridor 6b were half those of subcorridor 6d in 2018, based on railway samples analyzed along Termez to Tashkent (subcorridor 6b) versus Serkhet Abad to Ashgabat (subcorridor 6d). A 40-foot container from Termez to Tashkent (900 km) costs \$995 (\$1.10/km), while the same container from Serkhet Abad to Ashgabat (700 km) costs \$1,350 (\$1.92/km).
- 3. Attract more traffic to the Turkmenbashi seaport.** Significant investment was made to modernize the seaport, including installing new cranes and purchasing new cargo ships from Europe. However, collecting CPMM samples of Trans-Caspian shipments through Turkmenbashi proved difficult: Georgia's freight forwarders were rerouted to Aktau (KAZ) due to complex visa and transit problems, and Afghan shippers also reported not being able to use the port as much as they hoped. Given the investment of hard infrastructure, policy makers should review existing regulations and simplify access to attract increased transit volume.
- 4. Increase the capacity of the Caspian Sea fleet.** In conjunction with the Turkmenbashi seaport's modernization, the government should consider increasing the capacity of its Caspian Sea fleet, especially modern vessels designed to carry containers.

## Uzbekistan

### Key Findings

- Uzbek truck operators were active in corridors 2, 3, 5, and 6 in 2018. The following BCPs were identified as showing sizable delays: Dautota, Yallama, Alat, Saryasia, and Oibek. For outbound traffic, Dautota showed the longest delay at 12.7 hours, primarily due to long waiting time.

Uzbek truckers crossed this BCP into Kazakhstan and then traveled to their final destinations in the Russian Federation. The remote location of this BCP and the aged infrastructure and equipment explained consistently long border-crossing times over the years. For inbound traffic, Saryasia and Alat were the two most time-consuming BCPs: Saryasia served Tajikistan exports to the Russian Federation, while Alat facilitated imports from Bandar Abbas. Waiting time was the main cause of delays. Overall, the road freight rate and speeds inside Uzbekistan showed comparatively good performance.

- Railway data were collected along two routes in Uzbekistan. The first was for shipment of industrial goods in 40-foot containers from the PRC to Kazakhstan, Uzbekistan, and then Turkmenistan. Major delays occurred at the Khavast terminal due to marshaling and waiting for priority trains to pass, which could take 2–3 days. At the Khodzhadavlet BCP located at the Turkmenistan border, trains were delayed due to “Restriction Upon Entry,” which suggested that there could be capacity bottlenecks either at the Khodzhadavlet or Farap (TKM) BCP. The second route was for road–rail shipment of Pakistan’s agricultural exports to Uzbekistan, across Afghanistan. The goods were trucked to Termez and transloaded onto trains to Tashkent. Border crossing was cumbersome due to the need to cross the Amu Darya river, and the cost and time of shipments were found to be relatively high.

**Table 6.23: Trade Facilitation Indicators for Uzbekistan**

		Road Transport			Rail Transport		
		2016	2017	2018	2016	2017	2018
TFI1	Time taken to clear a border-crossing point (hour)	5.9	5.8	8.5	9.4	7.5	5.6
	<i>Outbound</i>	5.9	5.6	8.5	15.8	15.5	11.1
	<i>Inbound</i>	6.0	6.1	8.5	3.5	2.7	3.6
TFI2	Cost incurred at border-crossing clearance (\$)	99.0	88.0	73.0	103.0	112.0	112.0
	<i>Outbound</i>	91.0	80.0	66.0	103.0	98.0	99.0
	<i>Inbound</i>	108.0	96.0	80.0	104.0	120.0	118.0
TFI3	Cost incurred to travel a corridor section (\$, per 500 km, per 20-ton cargo)	426.0	423.0	477.0	1,409.0	1,138.0	971.0
TFI4	Speed to travel on CAREC corridors (km/h)	28.5	28.0	28.5	10.8	10.0	14.0
SWOD	Speed without delay (km/h)	47.6	46.8	50.8	36.5	25.3	27.9

Legend: ● Improved by at least 3% ● Deteriorated by at least 3% ● Insignificant change [-3% to 3%]

– = no data, CAREC = Central Asia Regional Economic Cooperation, km = kilometer, km/h = kilometer per hour, SWOD = speed without delay, TFI = trade facilitation indicator.

Source: Asian Development Bank.

## Trends and Developments

Uzbekistan has made notable progress in government-led reform and liberalization and this is reflected in its upward movement of 13 places in the World Bank’s Doing Business Report for 2018.<sup>37</sup> CPMM data monitored road and railway transport performance in Uzbekistan in 2018.

## Recommendations

1. **Continue reform and opening up to attract more investment and trade.** CPMM fieldwork for 2018 in Urumqi indicated significant interest of business and traders in the PRC to invest in and own businesses in Uzbekistan, ranging from container leasing companies, logistics and trading companies, as well as other areas such as spinning, garment manufacturing, fruit and vegetable agribusiness, and food processing. In practice, such businesses lease containers one-way from

<sup>37</sup> World Bank. 2017. *Doing Business 2018: Reforming to Create Jobs* (English). Doing Business 2018. Washington, DC: World Bank Group.

Table 6.24: Border-Crossing Performance in Uzbekistan

BCP	Corridor	Direction of Trade	Duration (hours)			Cost (\$)		
			2016	2017	2018	2016	2017	2018
<b>Road Transport</b>								
Alat	2, 3	<i>Outbound</i>	6.2	6.1	9.1	-	-	-
		<i>Inbound</i>	5.4	5.3	9.8	-	-	-
Dustlik	2	<i>Outbound</i>	-	-	1.0	-	-	22
		<i>Inbound</i>	-	-	1.1	-	-	27
Dautota	2, 6	<i>Outbound</i>	6.9	6.9	12.7	-	-	26
		<i>Inbound</i>	6.1	6.2	7.9	108	96	88
Saryasia	3	<i>Outbound</i>	4.5	4.1	5.1	94	81	76
		<i>Inbound</i>	-	-	10.0	-	-	-
Yallama	3, 6	<i>Outbound</i>	6.4	6.5	10.2	-	-	-
Oibek	2, 3, 6	<i>Outbound</i>	4.7	6.8	5.0	81	-	15
		<i>Inbound</i>	-	-	2.8	-	-	32
Saryasia	3	<i>Outbound</i>	4.5	4.1	5.1	94	81	76
		<i>Inbound</i>	-	-	10.0	-	-	-
Yallama	3, 6	<i>Outbound</i>	6.4	6.5	10.2	-	-	-
<b>Rail Transport</b>								
Termez	3, 6	<i>Outbound</i>	-	-	0.6	-	-	-
		<i>Inbound</i>	-	-	8.3	-	-	117
Keles	3, 6	<i>Inbound</i>	3.5	2.7	2.4	104	120	119
Bekabad	2	<i>Outbound</i>	-	-	4.3	-	-	-
Khodzhadavlet	2, 3	<i>Outbound</i>	-	-	15.1	-	-	100

- = no data, BCP = border-crossing point.

Source: Asian Development Bank.

Urumqi to Uzbekistan, and then reload the empty containers with cargo from the Uzbekistan-owned enterprises for the return trip to Urumqi. This cycle clearly demonstrates that capital will respond when a business-friendly environment is created.

2. **Install additional scanning equipment at Alat.** This high-traffic BCP averaged 9–10 hours each for inbound or outbound traffic: installation of fixed scanning equipment will expedite the inspection of bulky commodities and vehicles, and shorten the waiting time which was the main cause of delays.
3. **Establish “green corridors” to expedite movement of fruits and vegetables.** Agricultural products make up a major export category of Uzbekistan and the “green corridor” concept began to gain traction in 2018. The Russian Federation and Uzbekistan established a green corridor for fruits and vegetables with simplified customs procedures—and this could be extended to more CAREC member countries. The 2018 CPMM showed that average customs-related activities at Dautota—a key Uzbekistan–Kazakhstan gateway for exports of fruits and vegetables to the Russian Federation—took 2 hours. However, despite the shorter customs clearance time, trucks still required 12.7 hours on average to complete border crossing, suggesting that improvements made in customs simplification were still negatively affected by other bottlenecks at the BCP.
4. **Review the capacity of railway terminals at Khavast and Khodzhadavlet.** CPMM data for 2018 indicated that Khavast suffered capacity constraints that affected marshaling time. Khodzhadavlet’s average border-crossing time was 15 hours in 2018, attributed to customs inspection (2.6 hours) and restriction upon entry (12.9 hours).
5. **Improve the river crossing at Hairatan–Termez.** Shipments from Afghanistan to Uzbekistan need to cross the Amu Darya river to reach Termez, and the waiting time was close to 20 hours at Hairatan due to limited barge service availability. Hairatan also lacks adequate cold-chain facilities, which puts at risk transit shipments of fruits and vegetables, particularly in summer.

# 7 Case Studies

Since its inception in 2011, CPMM data and analysis have provided significant insights into cross-border freight shipments, focusing mainly on at-the-border activities to understand the duration and fees associated with each activity. While it is critical to be fully aware of the reasons for time and cost factors at BCPs, these are not the only factor that lengthen delivery times or increase shipment costs. For example, preparing and completing required documents or clearance at the final destination can also be cumbersome and costly. In 2018, the CPMM expanded its data collection and analysis through the conduct of three case studies to examine behind-the-border issues and develop a more comprehensive understanding of trade logistics.

## Methodology

The United Nations Economic and Social Commission for Asia and the Pacific (UNESCAP) Business Process Analysis (BPA) methodology was adopted for the case studies. The BPA is an analytical tool that studies a trade procedure, maps the process, identifies bottlenecks in a visual and descriptive manner, and finally develops recommendations to improve efficiency.<sup>38</sup> The BPA also offers useful tools, including Use Case Diagrams, Activity Diagrams, Process Description, and Time-Procedure Charts. The buy-ship-pay framework, developed to provide an analytical solution for policy makers to evaluate the key steps in any international trade, regardless of the product or supply chain, was likewise adopted to evaluate all steps in a cross-border transaction.<sup>39</sup> CPMM national association partners in Afghanistan and the PRC were selected to conduct the case studies.<sup>40</sup>

## Case Study 1: Export of Raisins from Kabul to Almaty

### Rationale

Agriculture exports accounted for two-thirds of overall exports in 2017, and edible fruits and nuts constituted 43% of all Afghan exports.<sup>41</sup> Within CAREC member countries, Kazakhstan is a potentially attractive destination market for agricultural products, importing \$437 million of edible fruits and nuts in 2017. Moreover, Kazakhstan was the ninth largest trading partner of Afghanistan in 2017, and bilateral trade increased sharply from \$4.7 million in 2013 to \$26.4 million in 2017. In particular, Kazakhstan imported \$1.673 million of raisins from Afghanistan in 2017—6.3% of market share. Based on these trade statistics, there is strong potential to increase this bilateral trade.<sup>42</sup>

### Export Procedures

Using the buy-ship-pay framework, an Afghan exporter completed nine steps detailed in Figure 7.1. The transportation of 18 tons of raisins from Kabul to Almaty costs \$4,200 and took about 10 days.

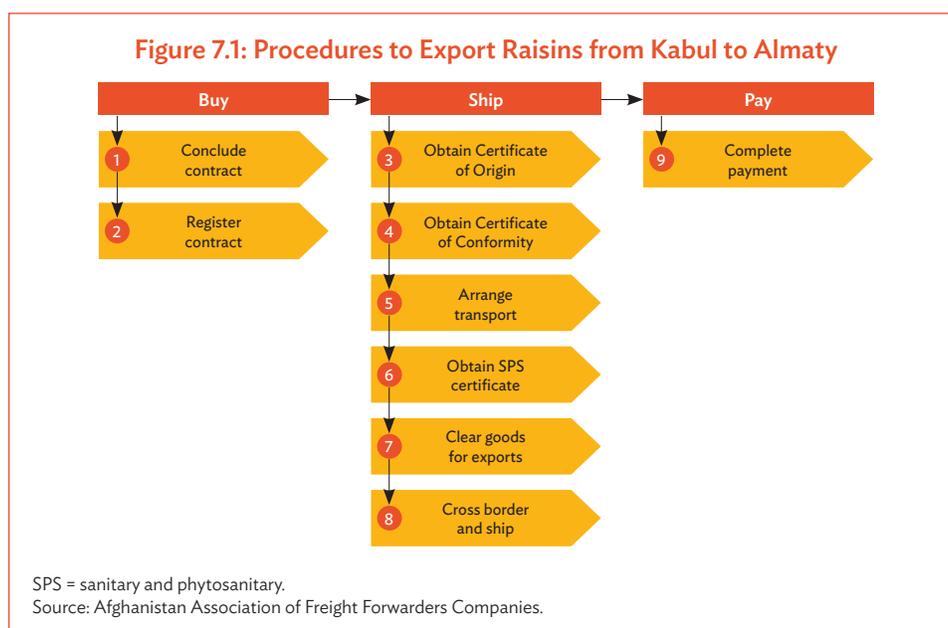
<sup>38</sup> For more information, see <https://www.unescap.org/our-work/trade-investment-innovation/trade-facilitation/bpa-course>.

<sup>39</sup> For more information, see <http://tfig.unece.org/contents/buy-ship-pay-model.htm>.

<sup>40</sup> ADB, in collaboration with UNESCAP BPA experts, conducted the Workshop on CAREC Corridors Performance Measurement and Monitoring, Time Release Study, and Behind-the-Border Indicators, in Baku, Azerbaijan to agree on the methodology: <https://www.carecprogram.org/?event=workshop-cpmm-trs-jul-2018>. Participating national associations completed the UNESCAP BPA e-learning module before starting data collection: <https://www.unescap.org/our-work/trade-investment-innovation/trade-facilitation/bpa-course>.

<sup>41</sup> Trade Map, International Trade Center. <https://www.trademap.org/>

<sup>42</sup> The Afghanistan Association of Freight Forwarders Companies conducted this case study.



**Table 7.1: Shipping Documents to Export Raisins from Kabul to Almaty**

No.	Shipping Documentation	Issuing Organization
1	Commercial Invoice	Shipper
2	Packing List	Shipper
3	Business Certification	Afghanistan Chamber of Commerce and Industries
4	Road Waybill	Transport Operator
5	SPS Certificate	Ministry of Agriculture, Irrigation and Livestock
6	Fumigation Certificate	Ministry of Agriculture, Irrigation and Livestock
7	Single Administrative Document	Afghanistan Customs Department

SPS = sanitary and phytosanitary.

Source: Afghanistan Association of Freight Forwarders Companies.

Documentary requirements are summarized in Table 7.1. The route taken was Kabul–Hairatan–Ayratan (Uzbekistan)–Tashkent–Yallama–Konysbaeva (Kazakhstan)–Almaty.

## Key Issues

The case study revealed interesting export trade logistics issues, largely categorized under institutional barriers (policies, regulations, and procedures) or industry barriers (private sector practices and capacity).

### *Institutional Barriers*

- (i) **Multiple signatures required for documentary approvals.** There is no single window in Afghanistan. A one-stop-shop service for export is only available at the Hamid Karzai International Airport and is not for land transport. Afghan exporters had to visit different authorities to obtain physical signatures before goods can be exported—the case study estimated this process could take 8 days, with documentary fees costing \$85. To expedite documentary approval, unofficial facilitation fees could be given.

**Recommendations:** To simplify procedures to obtain approvals, develop a single electronic window offering an online portal for exporters to submit the application, which is then sent electronically to all government agencies. Regulations could stipulate a mandatory response from each government agency within a specified time, by which the applicant should receive all the necessary approvals.<sup>43</sup>

- (ii) **Non-issuance of road pass and visa.** Due to security and smuggling concerns, neighboring countries did not issue road passes for Afghanistan-registered trucks, nor visas to Afghan drivers. As a result, Afghan operators had to contract a foreign operator (from Uzbekistan or Tajikistan) to ship their goods, which significantly raised costs.

**Recommendations:** National-level negotiations through the Ministry of Foreign Affairs could ease this constraint. Recognition of TIR Carnet Holders in Afghanistan as authorized economic operators, entitling them to a privileged channel to apply for visas and road passes, could also help.

- (iii) **Customs valuation.** At Almaty, Kazakhstan Customs tended to disregard the declared price on commercial invoices and increased the prices of Afghanistan's agricultural exports, rendering them uncompetitive. After this upward revision and application of 12% value-added tax and 10% import tariff, Afghanistan's products could become too costly for the Kazakhstan market.

**Recommendations:** Official protocols through the Ministry of Foreign Affairs and Ministry of Agriculture of Afghanistan should communicate to the State Revenue Committee in Kazakhstan the treatment of values on commercial invoices. At the same time, the Afghanistan Chamber of Commerce and Industries can also work through private sector channels with their counterparts in Kazakhstan on market price sharing and investigate whether such prices on commercial invoices are valid.

### Industry Barriers

- (i) **Expensive insurance premiums.** CPMM transport rates do not consider freight insurance. In Afghanistan, there is limited access to insurance and the premium tends to be costly: Afghanistan's shippers estimated the insurance premium obtained from Afghanistan's insurers at 3% of cargo value, which is perceived as high compared to Turkey's insurers who charge 0.5%. The perceived costly premium discouraged exporters from obtaining insurance and exposed shipments to naked losses in the case of accidents, damage in transit, or unexpected delays at border crossings.

**Recommendations:** Afghanistan should consider opening the market for more financial institutions to offer services and let market competition lower premiums. Establishing an export-import bank that offers concessionary rates and other trade finance services is another potential solution.

- (ii) **Packaging and cold chain.** Afghan exporters are still relatively new to Kazakhstan markets and are learning the commercial and logistics requirements. In general, Afghanistan packaging is of poor quality and can be rejected by buyers at the final destination. Afghan exporters shared that some exports of fresh grapes were rejected due to the driver not correctly operating the temperature setting of a refrigerated truck en route. Although this case study focuses on dried fruits that do not require refrigeration, improved cold-chain infrastructure and best practices could boost regional trade within the CAREC region.

**Recommendations:** Regional workshops and seminars for CAREC member countries could be facilitated on this topic in collaboration with ongoing efforts of other development partners. For example, the United States Agency for International Development (USAID), through the

<sup>43</sup> A good reference model is Azerbaijan, which launched the AZE Export portal: <https://www.azexport.az/>.

Competitiveness, Jobs and Trade program, partners with Global Cold Chain Alliance to conduct cold-chain programs for Central Asian exporters and logistics companies.

## Case Study 2: Export of Tomato Paste from Urumqi to Almaty

### Rationale

Tomato sauce is a popular condiment and there are four production areas in the world: the United States (34.8% market share in tons produced), the PRC (17.5%), Italy (13.9%), and Turkey (6.5%). In the PRC, production resides mainly in the Xinjiang Uygur Autonomous Region (XUAR) and Inner Mongolia Autonomous Region. This case study focuses on the shipment of tomato sauce from Urumqi to Almaty to better understand the phytosanitary requirements of processed food.<sup>44</sup>

### Export Procedures

Using the buy–ship–pay framework, the PRC exporter completed the eight steps detailed in Figure 7.2. The total procedure took 30 days with the most time-consuming steps identified as obtaining the SPS certificate (15 days) and getting a Eurasian Conformity (EAC) Certificate (16 days), which is a requirement for all food imported into the EAEU. The total duration would have been longer if the exporter had not completed these two steps concurrent

**Table 7.2: Shipping Documents for Exporting Tomato Sauce from Urumqi to Almaty**

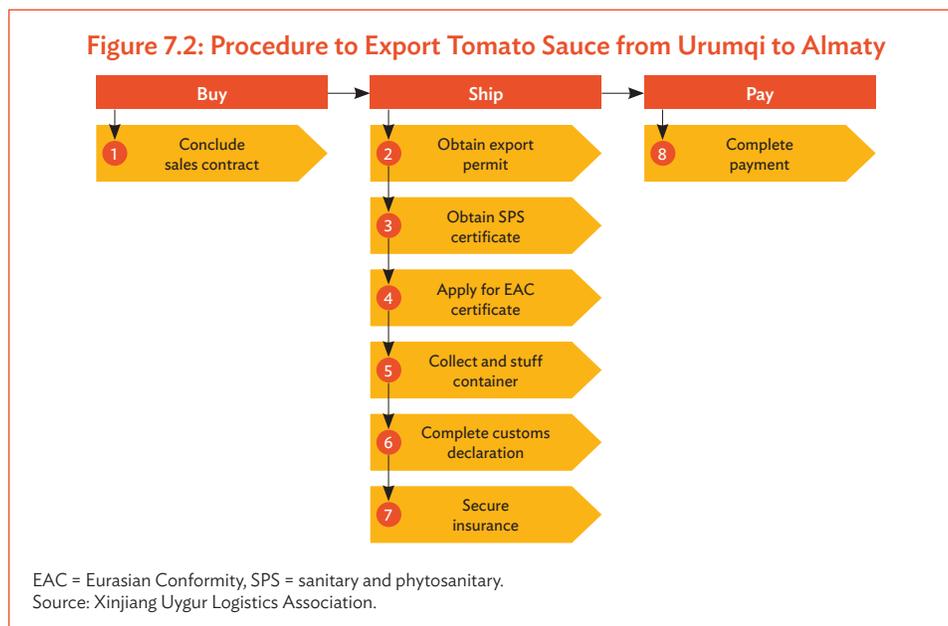
No.	Shipping Documentation	Issuing Organization
1	Commercial Invoice	Shipper
2	Packing List	Shipper
3	Export Permit	Xinjiang Commerce Department
4	SPS Certificate	General Administration of Customs China
5	EAC Certificate	EAC Certification Center
6	Bill of Lading	Transport Operator/Freight Forwarder
7	Export Declaration (eCustoms)	General Administration of Customs China
8	Cover Note	Insurance Company

EAC = Eurasian Conformity, SPS = sanitary and phytosanitary.  
Source: Xinjiang Uygur Logistics Association.

The export of tomato paste requires an export permit: the exporter had to visit the Xinjiang Commerce Department and furnish evidence of a sales contract. Upon approval, the Commerce Department issued an Export Permit to authorize the export. Next, the exporter started the process to obtain the SPS Certificate, filling in the Application Form for SPS and Food Safety Inspection, and submitting it to the Urumqi Customs. Customs generally does not sample the goods or directly issue the SPS Certificate. However, Customs decided to sample the shipment in this case and, on average, needed 15 days to complete laboratory testing. The SPS Certificate is issued only if the sample passes the test.

Another time-consuming step is the need to obtain an EAC Certificate. The exporter must visit the EAC Certification Center and apply for the certificate. The center dispatches officials to collect samples at the manufacturer's factory and conduct testing and the certificate is issued if no problems are uncovered. This procedure requires 15 days on average.

<sup>44</sup> Xinjiang Uygur Logistics Association conducted this case study. XUAR also conducted test shipments of tomato paste to Naples, Italy through the Middle Corridor in 2018. The route used was Khorgos–Aktau–Baku–Poti, then the Mediterranean Sea to Naples.



## Key Issues

### Institutional Barriers

- (i) **Duplicate sample testing by Customs and EAC Center.** The need to test samples is highly time-consuming; the need to test the same samples twice is duplicative. However, the food safety standard in the PRC is different from that of the EAEU (in which Kazakhstan is a member country).<sup>45</sup> The two standards are not compatible.

**Recommendations:** Urumqi customs should review EAC standards to identify whether the PRC and EAC standards could be harmonized, even for some food items. The focus of harmonization could be on key export items to allow at least a simplified procedure for sample testing.

- (ii) **No green channels or express lanes for perishables.** There is no policy or regulation that supports the expedited release of goods at Kazakhstan-PRC BCPs. Trucks carrying perishables had to wait in line with other trucks.

**Recommendations:** Horgos is a high-volume BCP and should be considered for implementation of a green channel or express lanes for clearance.

- (iii) **Restricted entries of agricultural products into the PRC at limited BCPs.** The PRC market welcomes fresh fruits and vegetables from Central Asia, which are viewed favorably due to domestic food safety concerns, and the general perception that the Central Asian produce are natural. However, only four nodes are designated for clearance of agricultural produce: Alashankou, Torugart, Kashi International Airport, and Urumqi International Airport. The Horgos BCP is not designated for clearance of agricultural produce. Many Kazakh trucks could have carried agricultural produce to the PRC, but instead had to arrive empty at Horgos.

**Recommendations:** In conjunction with the recommendation on green channels and express lanes for perishables, PRC and Kazakhstan authorities should conduct further studies to

<sup>45</sup> EAEU food safety standards are based on GOST, a set of technical standards maintained by the Eurasian Council for Standardization, Metrology and Certification, a regional standards organization operating under the auspices of the Commonwealth of Independent States. <https://www.gostrussia.com/en/eac-certifications/>.

understand why cross-border shipments of agricultural products are not permitted through Horgos, and design new laws or procedures to facilitate this process.

### Industry Barriers

- (i) **Different pallet sizes.** The PRC commonly uses the standard pallet size of 1.2 meters (m) long and 1.0 m wide, but Kazakh importers prefer the Euro pallet, which is 1.0 m long and 0.8 m wide. The different pallet standards can result in sub-optimal utilization of truck and warehouse space, as well as the need to transfer items from one type of pallet to another, as necessary.

**Recommendations:** This is a private sector business decision and should be discussed between the relevant trade bodies from the two countries.

- (ii) **Truck-to-truck transfer.** This is a common problem reported in CPMM reports: PRC trucks cannot deliver to Almaty due to cabotage restrictions. PRC trucks deliver the tomato paste to Horgos (on the PRC side) and store at a temporary warehouse, where Kazakh trucks will collect the goods and deliver to the final destination. This resulted in an additional \$300 for temporary storage and a delay of 10 hours or more, which is detrimental to time-sensitive perishables. Shippers can use trucks with the “A” pass (PRC bonded carriers), but the freight rates will be much higher.

**Recommendations:** This problem has long been reported in the CPMM and led to high transport costs along subcorridor 1b. However, it is a sensitive issue due to differing national cabotage rules.

## Case Study 3: Export of Apparel from Urumqi to Almaty

### Rationale

Consumer items manufactured in the PRC are popular in Kazakhstan and apparel, shoes, electronic appliances, and bags are commonly found in Kazakh markets and homes. This case study is also a shipment from Urumqi to Almaty, but focuses on nonperishable items (i.e., apparel) to understand the differences encountered with non-time-sensitive cargoes.<sup>46</sup>

### Export Procedures

Using the buy-ship-pay framework, the PRC exporter completed the seven steps detailed in Figure 7.3. The total procedure took 6 days only to deliver a shipment of 35 tons of apparel. One immediate and major difference in the case study on perishable items was the sequence of buy-pay-ship instead of buy-ship-pay: the shipper required the full payment of the invoiced value before the shipment crossed from the PRC to Kazakhstan at Horgos.

Both buyer and seller negotiate the terms and then prepare a Purchase Order. The buyer sends a deposit. The seller then ships the goods using a domestic trucking company to a designated warehouse in Urumqi (the factory can be located in other cities). The buyer goes to the warehouse or instructs a local representative to inspect the goods. Once the goods are inspected and approved, the buyer remits the outstanding sum to the seller. The seller also arranges for a packaging company to compress the apparel and pack it.

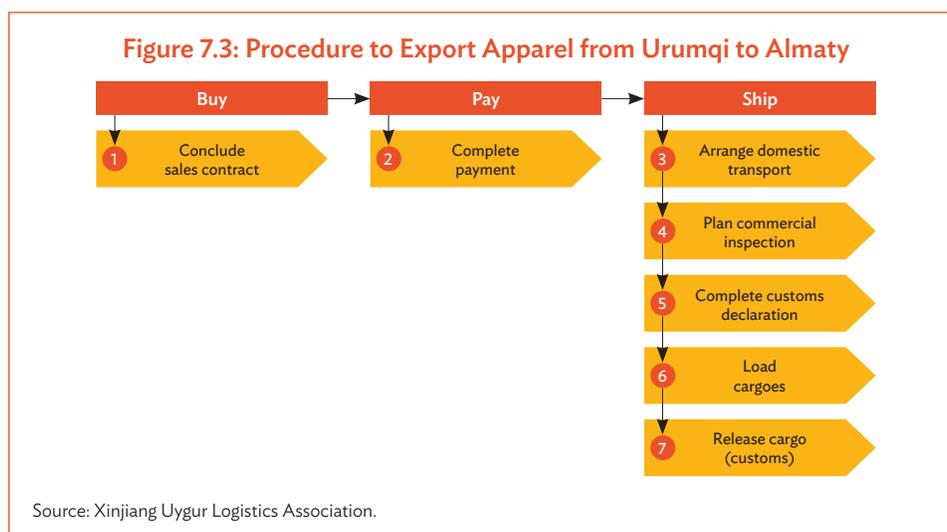
The shipment then moves to Horgos, where customs inspects the goods to ensure there are no counterfeit or shoddy products in accordance with the Import and Export Commodity Inspection Law of PRC. Finally, the Kazakhstan carrier will collect the goods and deliver them to Almaty.

<sup>46</sup> The Xinjiang Uygur Logistics Association conducted this case study.

Table 7.3: Shipping Documents to Export Apparel from Urumqi to Almaty

No.	Shipping Documentation	Issuing Organization
1	Commercial Invoice	Shipper
2	Packing List	Shipper
3	Warehouse Receipt	Warehouse Operator
4	Bill of Lading	Transport Operator/Freight Forwarder
5	Export Declaration (eCustoms)	General Administration of Customs China

Source: Xinjiang Uygur Logistics Association.



## Key Issues

The procedure to export apparel is simpler than the procedure to export tomato sauce, and reflected in the shorter time to complete the entire export (6 days versus 30 days). The full truck load (FTL) shipment is noteworthy in this case study. For items where there are many less than truck load (LTL) shipments with an assortment of merchandise, customs controls at Horgos will be stricter. Clearance for FTL shipments (usually one or two items in large quantity) is simple because the items are homogenous and standard. Under LTL, there is likely to be an assortment of different goods such as shoes, apparel, electronics, and others, for which customs must check multiple line items in the commercial invoice, involving more time to complete the documentary check.

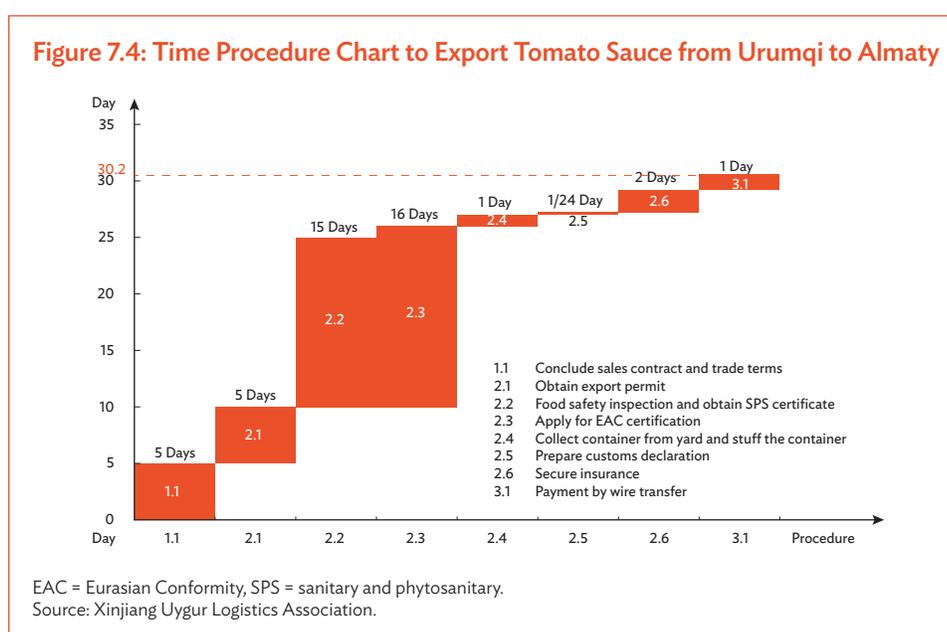
**Recommendations:** Infrastructure projects are underway at Horgos and Khorgos to enhance the BCPs and develop a major dry port to reduce border-crossing time.

## Lessons Learned from the 2018 Case Studies

These case studies were the first attempt under the CPMM mechanism to understand behind-the-border trade procedures, and the data and analysis complements the focus on BCPs along CAREC corridors under the traditional CPMM process. An integrated effort using CPMM with UNESCAP BPA described the entire fulfillment process in a more comprehensive manner. Some learning points on this trial exercise included:

- (i) **Effects of “behind the border” procedures are significant.** The CPMM has traditionally measured performance from the start of the delivery at origin to arrival at the destination. These case studies describe the detailed procedural steps before the goods are loaded onto a truck, and enable the estimation of the time taken. These steps—mainly for documentary and regulatory compliance—were shown to be significant.

Case study 2 illustrated this point. The distance from Urumqi to Almaty is 1,048 km and a truck should take only 2 days (including border-crossing time) to complete delivery, as estimated in the CPMM. However, the steps before the delivery could happen takes 30 days (Figure 7.4). Even for case study 3, the export of apparel would take 6 days on average before shipment could begin. This strongly suggests that process simplification and automation could shorten the entire fulfillment time (defined as the time when the order is confirmed to the actual collection by buyer at destination).



- (ii) **Process simplification and automation can be effective.** Case study 1 showed that an Afghan exporter needs to complete manual procedures and obtain hand signatures for documentary approvals. This is contrasted by the PRC case studies which provide positive examples of how simplification and automation can be effective. First, the 2019 integration of the General Administration of Quality Supervision, Inspection and Quarantine (AQSIQ), the regulatory agency in PRC responsible for food safety and standards, and the General Administration of Customs of China (GACC). This integrated structure simplifies procedures such as sample testing, which now only requires one test instead of two separate tests. Second, GACC facilitated trade by launching a single window e-Customs that enables an exporter to submit data electronically to Urumqi Customs to complete export declaration. The e-Customs system also links Urumqi Customs with customs offices at the PRC BCPs, allowing expedited release of cargo.
- (iii) **Trade finance deserves further study.** One major difference between the case studies in Afghanistan and the PRC was the maturity of available trade finance services. In case study 1, an Afghan exporter required 15 days to receive payment, compared to the PRC exporter who received payment in 1 day via telegraphic transfer. This is due to the lack of access to comprehensive financial services in Afghanistan. First, money remittance to an Afghanistan bank account is cumbersome: many Afghanistan banks do not have a correspondent bank in the US

for the transfer of US dollars, excluding them from the international financial system. Second, and as a result, many Afghans resort to the *hawala* system, which is an informal way of moving money through agents. This is similar to how Western Union moves money from origin to destination without physical money being transferred, through special arrangements with an agent in the origin and another agent in the destination, and commissions made on the transaction. Third, cargo and liability insurance are not easily accessible in Afghanistan, and the insurance premium is much higher compared to developed economies. These lessons illustrate the need to examine trade finance as a potential enabler, yet which currently restricts the efficient flow of goods and capital in some economies.

- (iv) **Difficulty obtaining information at destinations.** A common issue for Afghanistan and the PRC identified in the case studies was that information gathering at destinations proved difficult: the shipper at origin would typically not be aware of the shipment movement once the truck left the border. For Afghanistan, an Uzbek operator collected the goods at Hairatan, while a Kazakh operator collected the goods at Horgos, further complicating the flow of information. CPMM partners could only collect details on the trade procedures at origin, but not at the destination.
- (v) **End-to-end supply chain visibility is still an elusive goal.** As in the case of information gathering, shippers in Central Asia tend to have difficulty in tracking and tracing cargo movements. The need to transfer goods between trucks, the breakage of railway gauge requiring the transfer of wagons at border, and the limited use of tracking technologies, among others, result in poor supply chain visibility. More harmonized transit regimes among the Central Asian republics are legacies of the former Soviet Union, but the transit of goods between PRC or South Asia and Central Asia generally encounters more restrictions and barriers. Addressing this problem will help elevate CAREC countries' performance under the Logistics Performance Index where "track and trace" is one of the six indicators.<sup>47</sup>

The three case studies conducted in 2018 demonstrated how the CPMM could be extended to consider behind-the-border trade procedures and complement the current at-the-border focus. Results showed clearly that trade impediments and regulation and documentary compliance may be more significant than shipping and BCP procedures.

<sup>47</sup> Track and trace of cargo is one of the six performance indicators measured for each country. World Bank, Logistics Performance Indicators. <https://lpi.worldbank.org/>.

# 8 Conclusion

Corridor Performance Measurement and Monitoring (CPMM) data and analysis for 2018 showed positive progress in the trade facilitation indicators (TFIs) for road and railway transport: in road transport, the average border-crossing time and cost decreased, and the average speed to travel Central Asia Regional Economic Cooperation (CAREC) corridors was higher—only the total cost to travel a corridor section increased slightly. In railway transport, average border-crossing time and cost also decreased, together with total cost to travel a corridor section. Speed with delay (SWD) was faster in 2018 for railway, but speed without delay (SWOD) was slightly slower.

Despite the progress in railway transport, however, there remains much room for further improvement and to increase competitiveness and linkage to foreign markets. One significant conclusion of 2018 CPMM analysis is that railway transport appeared to be a less attractive option for trade: border-crossing time is lengthy, trains traveled at slower speeds, and there is no clear cost advantage for railway over road transport.

**Table 8: Road and Rail Transport Trade Facilitation Indicators, 2018**

TFI	Indicators	Road	Rail
TFI1	Time to clear a BCP (hours)	12.0	23.2
TFI2	Cost incurred at a BCP (\$)	156.0	196.0
TFI3	Cost incurred to travel a corridor section (\$)	953.0	970.0
TFI4	Speed with delay (km/h)	23.4	15.9
	Speed without delay (km/h)	46.3	35.4

BCP = border-crossing point, km/h = kilometer per hour, TFI = trade facilitation indicators.  
Source: Asian Development Bank.

Three behind-the-border case studies provided useful insights into the entire fulfillment process between a selected subset of CAREC countries. They showed that trade procedures required to satisfy regulatory and documentary requirements can take much more time than the actual transportation process. The use of single window, process simplification and automation, and development of trade finance services could enable traders to export more efficiently.

Given the results of the 2018 CPMM process, CAREC member countries should focus more on (i) streamlining trade and transport processes; (ii) setting common standards (e.g., for documents, transport equipment, regulations, rules, liability, and insurance); (iii) reciprocal acceptance of transport documents (e.g., truck weight tickets issued by certified official scales); and (iv) sharing data of the movements of shipments along the CAREC corridors.

# Corridor Performance Measurement and Monitoring Methodology

The Corridor Performance Measurement and Monitoring (CPMM) methodology is based on a time–cost–distance (TCD) framework and involves four major stakeholders: (i) drivers, (ii) CPMM partners and coordinators, (iii) field consultants, and (iv) the Central Asia Regional Economic Cooperation (CAREC) Program trade facilitation unit.

The TCD methodology, developed by the United Nations Economic and Social Commission for Asia and the Pacific (UNESCAP), focuses on the time and costs involved in transportation and analyzes transport inefficiency and bottlenecks. It lays out the cost and time components of door-to-door movements of a vehicle along a transport corridor, and tracks delays at borders and other inspection points along the corridor.

Under the CAREC CPMM, coordinators of each CPMM partner every month randomly select drivers transporting cargoes passing through the six CAREC priority corridors to fill up the drivers' CPMM forms. The coordinators enter data from the drivers' forms into TCD spreadsheets. Each partner association completes about 10–30 TCD forms a month, which are submitted to the field consultants and screened for consistency, accuracy, and completeness.

The TCD data submitted by partner associations is normalized so each TCD sheet can be summed up and analyzed at the subcorridor, corridor, and aggregate level of reporting.

Normalization is done in terms of a 20-ton truck in the case of road transport, or a 20-foot equivalent unit (TEU) in the case of rail traveling 500 kilometers (km). The number of border-crossing points (BCPs) for subcorridors is also normalized for each 500-km segment.

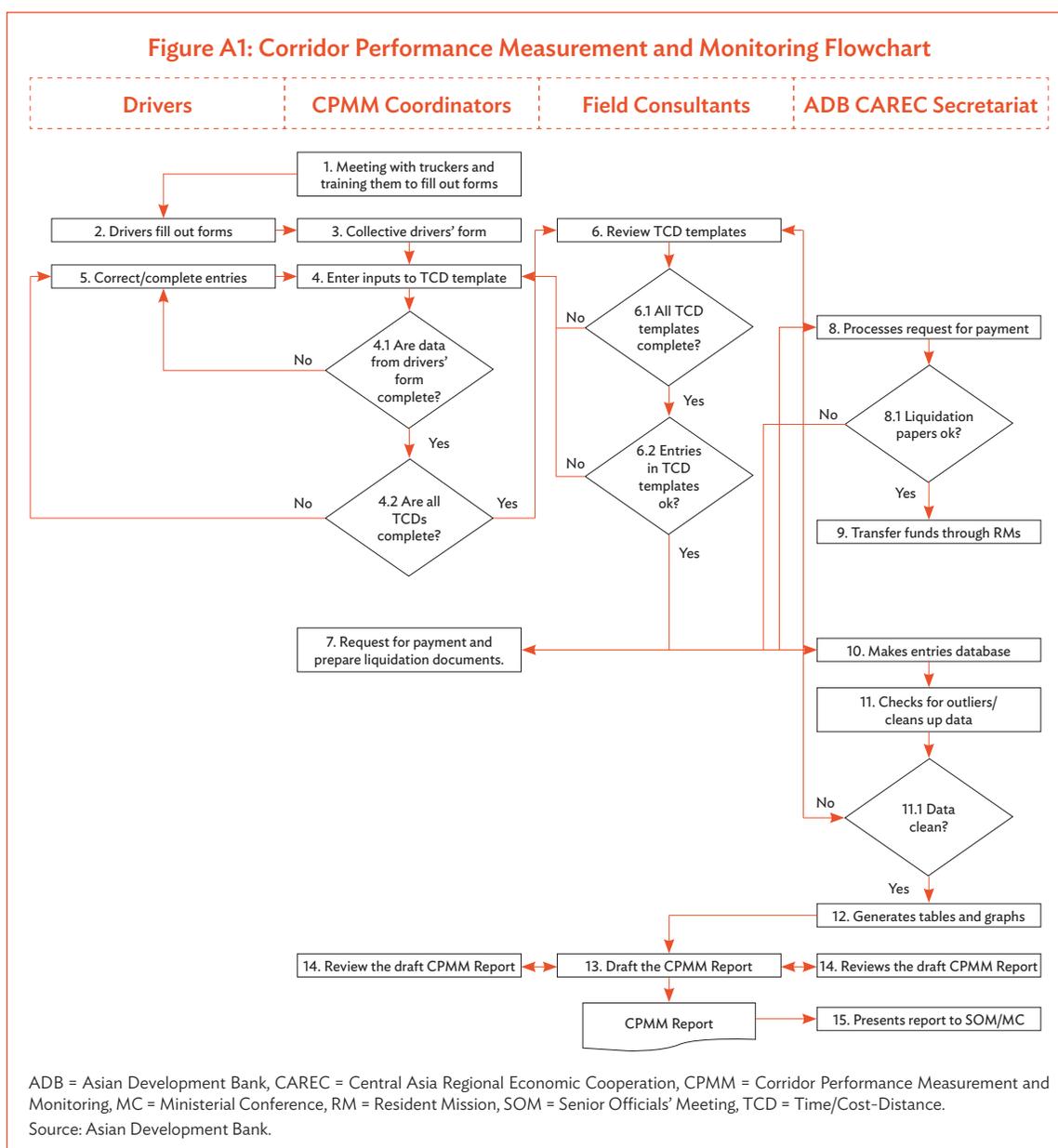
Normalization of each TCD sheet comprises the following steps:

- (i) Each TCD is split between the non-BCP portion and BCP portion in case the shipment crossed borders.
- (ii) The time and cost figures for the non-BCP portion are normalized to 500 km by multiplying the ratio of 500 km by the actual distance traveled.
- (iii) The time and cost figures for the BCP portion are normalized based on the ratio of a predetermined number of BCPs for each 500-km segment over the actual number of BCPs crossed.
- (iv) The TCD is reconstituted by combining the normalized non-BCP portion and the normalized BCP portion.

To measure the average speed and cost of transport for trade, the cargo tonnage or number of TEU containers is used as weights (normalized at 20 tons) in calculating the weighted averages of speed and cost for subcorridors, corridors, and for the data overall, based on normalized TCD samples.

The detailed CPMM flowchart is in Figure A1.

CPMM partners are national transport carriers and forwarders selected to work with the CAREC trade facilitation unit in implementing the CPMM. A specific person is assigned by each partner to receive training on the CPMM mechanism, train the drivers, customize the drivers' form, and enter the data into a customized spreadsheet.



## National Association Drivers

To ensure accuracy of CPMM data analysis, raw data should be collected as close to the source as possible. Drivers are asked to record how long (time) or how much (cost) it takes them to move from origin to destination. The drivers use a country-specific driver's form to record and submit data to the CPMM partners.

## Field Consultants

Two international field consultants work with the CAREC trade facilitation team to develop the CPMM methodology, and travel to the CAREC countries to standardize implementation. They also analyze the aggregated data and draft CPMM quarterly and annual reports.

## CAREC Trade Facilitation Unit

Based in the headquarters of the Asian Development Bank, Manila, the CAREC trade facilitation unit is responsible for collecting and aggregating all completed CPMM spreadsheets. Using specialized statistical software, the team constructs the charts and tables for analysis by the field consultants, and assists in CPMM report preparation.

## APPENDIX 2

# 2018 Partner Associations

Central Asia Regional Economic Cooperation (CAREC) Corridor Performance Measurement and Monitoring (CPMM) partners are national carrier and forwarder associations already established in CAREC member countries and are essential to the success of the CPMM mechanism. Trained to gather CPMM raw data, their key responsibilities include the following:

- act as the local focal point to collaborate with the Asian Development Bank (ADB) CAREC trade facilitation team in conducting the CPMM annual exercise;
- organize and train drivers to use customized drivers' forms for data collection;
- review completed drivers' forms to ensure data completeness and correctness;
- input raw data from drivers' forms into the CPMM spreadsheets; and
- submit completed CPMM files to CAREC.

**Table A2: 2018 Corridor Performance Measurement and Monitoring Partner Associations**

	Country	Association	Abbreviation	Shipment Data Collected
1	Afghanistan	Association of Afghanistan Freight Forwarding Companies	AAFFCO	360
2	China,	Chongqing International Freight Forwarders Association	CQIFA	275
3	People's	Inner Mongolia Autonomous Region Logistics Association	IMARLA	240
4	Republic of	Xinjiang Uygur Autonomous Region Logistics Association	XULA	420
5	Georgia	Georgia International Road Carriers Association	GIRCA	89
6	Kazakhstan	Association of National Freight Forwarders of the Republic of Kazakhstan	KFFA	120
7	Kyrgyz Republic	Freight Operators Association	FOA	120
8	Mongolia	Federation of Mongolian Freight Forwarders	FMFF	240
9		National Road Transport Association of Mongolia	NARTAM	240
10	Pakistan	Pakistan International Freight Forwarders Association	PIFFA	240
11	Tajikistan	Association of Road Transport Operators of Republic of Tajikistan	ABBAT	120
12		Association of International Automobile Transport of Tajikistan	AIATT	110
13	Uzbekistan	Association for Development of Business Logistics	ADBL	360
		<b>TOTAL</b>		<b>2,934</b>

Source: Asian Development Bank.

## Trade Facilitation Indicators

Recognizing the pivotal roles of trade facilitation and transport connectivity in the economic growth of the Central Asia Regional Economic Cooperation (CAREC) region, member countries jointly developed and endorsed the CAREC Transport and Trade Facilitation Strategy (TTFS) in 2007. The TTFS had an integrated approach that centered on the development of six priority CAREC corridors through transport infrastructure investments and trade facilitation initiatives. It also mandated the monitoring and periodic measurement of the performance of the six transport corridors to

- identify the causes of delays and unnecessary costs along the links and nodes of each CAREC corridor, including border-crossing points (BCPs) and intermediate stops;
- help authorities determine how to address the identified bottlenecks; and
- assess the impact of regional cooperation initiatives.

In 2008, ADB developed the CAREC Corridors Performance Measurement and Monitoring (CPMM) methodology that offers an accurate and evidence-based foundation for policies aimed at addressing these objectives. The current CPMM methodology is a result of modifications in the original United Nations Economic and Social Commission for Asia and the Pacific (UNESCAP) time–cost–distance (TCD) methodology that optimized its ability to measure and monitor effectively the border crossing and performance of CAREC corridors over time. The methodology offers an extensive picture of the time and cost dimensions of transport and trade facilitation, particularly with regard to border crossings and other impediments along a transit corridor. Aside from time and cost, derived measures such as speed can be used to assess traffic density and road quality. With these factors, several measures and indicators can be developed for the monitoring of border-crossing and customs service efficiency, as well as road and rail infrastructure performance along corridors. When the corridors are monitored regularly, policy makers can easily pinpoint areas that need improvement and financial investment.

With data from TCD-format questionnaires, the following four trade facilitation indicators (TFIs) are monitored regularly to enable assessment of improvements made in the CAREC corridors. However, unlike other indicators, TFIs are less easy to quantify as they depend on a variety of factors such as (i) the quality and availability of physical infrastructure, (ii) national policies and regulations for transit and trade, (iii) border-crossing procedures, and (iv) the degree of harmonization among countries.

- **TFI1: Time taken to clear a BCP.** This TFI refers to the average length of time (hours) it takes to move cargo across a border from the exit point of one country to the entry point of another. The entry and exit points are typically primary control centers where customs, immigration, and quarantine are handled. Along with the standard clearance formalities, this measurement includes waiting time, unloading or loading time, and time taken to change rail gauges, among other indicators. The intent is to capture both the complexity and the inefficiencies inherent in the border-crossing process.
- **TFI2: Costs incurred at a BCP.** This is the average total cost, in United States dollars (\$), of moving cargo across a border from the exit point of one country to the entry point of another. Both official and unofficial payments are included. This indicator assumes 20 tons of cargo, so that the average costs across various samples are comparable.

The CPMM mechanism also analyzes unofficial payments: these are defined as a sum paid on top of that officially recognized by law, with the aim of gaining a favor preferential treatment in return. No official receipt is given. Tracking an unofficial payment is inherently difficult due to the opaque nature of the transaction.

- **TFI3: Costs incurred while traveling along a corridor section.** This is the average total costs, in United States dollars, incurred for a unit of cargo traveling along a corridor section within a country or across borders. A “unit of cargo” refers to a cargo truck or train with 20 tons of goods. A “corridor section” is defined as a stretch of road 500 kilometers (km) long. Both official and unofficial payments are included.

This indicator is the sum of border-crossing cost and vehicle operating cost (VOC). VOC is defined as the variable cost component for a shipment—including remuneration for the driver during the shipment, sustenance cost (food and drink and accommodation), fuel cost, parking fees, and minor repairs.

The cost components must be specific to the shipment. Nonspecific cost items that are overheads or annual fees such as vehicle tax, insurance, depreciation, and one-time vehicle overhaul are not included in the calculation of VOC. In general, the main cost drivers for VOC are driver remuneration and fuel cost.

Many factors can affect VOC and, thus, influence the total transport cost. Factors such as distance, weight of cargo, quality of transport infrastructure, number of BCPs, oil price, foreign currency exchange rate, time of year of travel, empty backhaul, market competition, and new legislation can exert a sizable influence on VOC. All things being equal, VOC will be primarily affected by the distance and cargo weight, as this is the basis for the carrier’s quote of the shipment price.

To standardize transport cost, the CPMM adopts 500 km as a unit of distance and 20 tons as a unit of weight. This standardized unit enables comparisons to be made between road shipments across different corridors with varying distance and weight.

- **TFI4: Speed of travel along a corridor section.** This is the average speed, in kilometer per hour (km/h), at which a unit of cargo travels along a corridor section within a country or across borders. Again, a “unit of cargo” refers to a cargo truck or train with 20 tons of goods, and a “corridor section” refers to a stretch of road 500 km long. Speed is calculated by dividing the total distance traveled by the duration of travel. Distance and time measurements include border crossings.

The CPMM uses two measures of speed: speed without delay (SWOD) and speed with delay (SWD). SWOD is the ratio of the distance traveled to the time spent by a vehicle in motion between origin and destination (actual traveling time). SWD is the ratio of distance traveled to the total time spent on the journey, including the time the vehicle was in motion and the time it was stationary. Under the CPMM, all activities that delay transit (customs clearance, inspections, loading and unloading, and police checkpoints, among others) are recorded by drivers. SWOD represents a measure of the condition of physical infrastructure (such as roads and railways), while SWD is an indicator of the efficiency of BCPs along the corridors.

## Statistical Derivation of the Trade Facilitation Indicators

### TFI1: Time taken to clear border-crossing point (hour)

This indicator highlights bottlenecks at BCPs, which typically involve lengthy border-crossing procedures and serious delays. Each component activity can be further examined to pinpoint the principal cause of delays.

	Formula	Remarks
<b>Formula</b> , per TCD calculation	$TFI1_i = \sum_{j=1}^a t_j$ <p> <math>t_j</math> = time spent on each activity j  <math>j = 1, 2, \dots, a</math> a = number of activities in each border crossing  <math>i = 1, 2, \dots, n</math> n = number of TCDs </p>	The sum is taken from all of the activities carried out in each border crossing. However, for comparison, activities recorded under “others” are not included.
<b>Aggregation</b> , average value per corridor and per mode of transport	$\sum_{i=1}^n TFI1_i$ <p> <math>n</math> = number of TCDs qualifying a given filter (per mode/per corridor)  <math>i = 1, 2, \dots, n</math> n = number of TCDs </p>	The computation of the average is straightforward; no weights are necessary.

### TFI2: Costs incurred at a BCP (\$)

This indicator highlights BCPs that have relatively expensive border-crossing procedures, including unofficial payments. Each component activity can be further examined to pinpoint the drivers of cost.

	Formula	Remarks
<b>Formula</b> , per TCD calculation	$TFI2_i = \sum_{j=1}^a c_j$ <p> <math>c_j</math> = cost incurred on each activity j  <math>j = 1, 2, \dots, a</math> a = number of activities in each border crossing  <math>i = 1, 2, \dots, n</math> n = number of TCDs </p>	The sum is taken from all of the activities carried out in each border crossing. However, for comparison, activities recorded under “others” are not included.
<b>Aggregation</b> , average value per corridor and per mode of transport	$\sum_{i=1}^n TFI2_i$ <p> <math>n</math> = number of TCDs qualifying a given filter (per mode/per corridor)  <math>i = 1, 2, \dots, n</math> n = number of TCDs </p>	The computation of the average is straightforward; no weights are necessary.

### TFI3: Costs incurred traveling along a corridor section (\$)

This indicator provides an insight into the cost structure of a corridor and how it compares with those of other corridors. By examining each component, measures can be developed to minimize transit cost.

	Formula	Remarks
<b>Formula</b> , per TCD calculation	$TFI3_i = v_i + b_i + s_i$ <p> <math>v_i</math> = cost incurred during transit, per 500 km  <math>b_i</math> = cost incurred during border crossing, per 500 km  <math>s_i</math> = cost incurred during intermediate stops, per 500 km  <math>i = 1, 2, \dots, n</math> n = number of TCDs </p>	The normalized cost incurred, per 500 km and per 20 tons of cargo (road) or one 20-foot equivalent unit (rail), in traveling a corridor section is the sum of normalized vehicle-operating or rail wagon-operating cost during transit and normalized cost during intermediate stops and border crossings.

	Formula	Remarks
<b>Aggregation</b> , average value per corridor and per mode of transport	$\sum_{i=1}^n TFI3_i$ <p><math>n</math> = number of TCDs qualifying a given filter (per mode/per corridor)</p> <p><math>i = 1, 2, \dots, n</math> <math>n</math> = number of TCDs</p>	The computation of the average is straightforward; no weights are necessary.

### TFI4: Speed of travel along a corridor section (km/h)

Speed indicators provide insights into the level of infrastructure development of CAREC corridors by providing information on the speeds that cargo trucks and trains can attain while traversing specific corridor sections. Under the CPMM, speed is measured by two indicators: SWOD and SWD.

Another factor to consider is the weighting of the observations in the aggregation. As the computed speed represents the transport of the truck or train, speed should be weighted by the tonnage of cargo to represent the weighted average of speed of the cargo itself.

**SWOD**, in km/h. This metric considers travelling speed only, i.e., when the delivery truck is moving on the road, or when the train is moving on the tracks. When the vehicle or train is stationary, the time is not counted.

	Formula	Remarks
<b>Formula</b> , per TCD calculation	$SWOD_i = \frac{D_i}{T_i}$ <p><math>D</math> = distance traveled from previous stop</p> <p><math>T</math> = duration of travel</p> <p><math>i = 1, 2, \dots, n</math> <math>n</math> = number of TCDs</p>	
<b>Aggregation</b> , average value per corridor and per mode of transport	$\sum_{i=1}^n (w_i) SWOD_i$ <p><math>n</math> = number of TCDs qualifying a given filter (per mode/per corridor)</p> $w_i = \frac{c_i}{\sum_{i=1}^n c_i}$ <p><math>i = 1, 2, \dots, n</math> <math>n</math> = number of TCDs</p>	Since computation is per-TCD calculation, each TCD is normalized and treated independently. Also, speed average is not weighted by duration of travel (a mathematical computation), and equal weights are given to each record. This method does not give more importance to longer trips than to shorter ones. But records should be weighted by tonnage to measure the average speed of a unit of cargo, and not of the trips.

**SWD**, in km/h. This application of SWD considers the total time taken for the entire journey, including stoppage time for various reasons.

	Formula	Remarks
<b>Formula</b> , per TCD leg	$SWD_i = \frac{D_i}{T_i + A_i}$ <p><math>D</math> = distance traveled from previous stop  <math>T</math> = duration of travel  <math>A</math> = duration of activities (BCP and non-BCP)  <math>i = 1, 2, \dots, n</math> <math>n</math> = number of TCDs</p>	
<b>Aggregation</b> , average value per corridor and per mode of transport	$\sum_{i=1}^n (w_i)SWD_i$ <p><math>n</math> = number of TCDs qualifying a given filter (per mode/per corridor)</p> $w_i = \frac{c_i}{\sum_{i=1}^n c_i}$ <p><math>i = 1, 2, \dots, n</math> <math>n</math> = number of TCDs</p>	<p>Since computation is per-TCD calculation, each TCD is normalized and treated independently. Also, speed average is not weighted by duration of travel (a mathematical computation), and equal weights are given to each record. This method does not give more importance to longer trips than to shorter ones. But records should be weighted by tonnage to measure the average speed of a unit of cargo, and not of the trips.</p>

## Border-Crossing Activities

Under the Corridor Performance Measuring and Monitoring (CPMM) mechanism, time spent and payments made (official and unofficial) at each stop are recorded by activity. The list of activities encompasses all anticipated checks and procedures, both at border-crossing points (BCPs) and at intermediate stops along the transit corridor. However, as the CPMM focuses on BCPs, the list comprises mainly customs procedures and inspections during border crossings.

### Road Transport

- (i) **Border security and control.** Security personnel (i.e., the police or military) inspecting goods and checking documents at BCPs. Also includes payment of fees that may be official or unofficial.
- (ii) **Customs clearance.** Customs personnel inspecting documents and goods entering or exiting a country. Similar activities are compiling customs forms and paying fees.
- (iii) **Health or quarantine inspection.** Health authorities checking a person for the presence of malignant or contagious disease. Also includes filling up health or quarantine forms, paying fees, and others.
- (iv) **Phytosanitary inspection.** Agriculture authorities inspecting cargo for possible presence of harmful pests and plant diseases. Similar activities include filling up phytosanitary forms and paying fees.
- (v) **Veterinary inspection.** Veterinary authorities inspecting cargo for the possible presence of infectious animal diseases and regulating the flow of animals and animal products to a location. Similar activities are filling up veterinary forms and paying fees.
- (vi) **Visa or immigration.** Immigration authorities checking visas, and other required activities to apply for a visa to enter and exit the country when the driver has no valid visa. Also includes filling up immigration or visa forms and paying fees.
- (vii) **Traffic inspection.** Inspection by the Traffic Inspectorate or State Traffic Safety Inspectorate. GAI means *Gosudarstvennaya Avtomobilnaya Inspektsyya*.
- (viii) **Police checkpoint or stop.** Traffic police covering roadblocks or checkpoints along a road that also requires payment to proceed.
- (ix) **Transport inspection.** Checking the Certificate of Approval or Conformity for the vehicles. Road passes are also checked.
- (x) **Weight and standard inspection.** Checking the dimensions and weight of the vehicle with cargo, including queuing, payment of fees, and others.
- (xi) **Vehicle registration.** Registration of vehicle, and/or payment of applicable road use taxes and/or transit fees.
- (xii) **Emergency repair.** Ad hoc repairs on vehicles that may be due to a tire blow-out, broken axle, and other reasons, generally because of bad road conditions. This is different from planned maintenance.
- (xiii) **Escort or convoy.** A convoy is a row of vehicles that moves together. The vehicles are accompanied by escorts, who can be customs officials or traffic police to ensure that the cargoes reach their destination.

- (xiv) **Loading and/or unloading.** Loading goods at the point of origin or loading and unloading at intermediate stops to deconsolidate cargo (i.e., transfer goods to another vehicle), or unloading upon delivery at the destination.
- (xv) **Road toll.** Fees payable when drivers use a special section of roads or highways that are intended to shorten the travel time.
- (xvi) **Waiting or queuing.** Waiting in lines at BCPs. Note that this activity does not include other activities, such as waiting in line to fill up or submit customs clearance documents, which is recorded as part of customs clearance.

## Rail Transport

- (i) **Load cargoes.** The movement of goods from storage or warehouse to the train. If the goods are moved to a temporary storage, such as the staging area or loading docks before relocating to the train, then only the time from the staging area or loading docks to the train is considered.
- (ii) **Unload cargoes.** The movement of goods from the train to storage or warehouse. If the goods are moved to a temporary storage, such as the staging area or loading docks before relocating to the warehouse, then consider only the time from the train to the staging area or loading docks.
- (iii) **Fix cargo shift.** This refers to the securing of cargoes inside the container or wagon. When items are stuffed into containers, workers may “choke” or secure the cargoes to ensure they stay in position during transit. For instance, automobiles also need additional securing. This is to ensure cargoes stay in position during transit. Normally, this is a problem related to manufactured products transported on pallets or in cartons and may not apply bulk commodities.
- (iv) **Remove excess cargo.** The movement of excess goods to comply with the weight requirement. This does not include inspection time. This activity only starts when the officer declares an “overweight” and orders a removal, and ends when the excess goods are relocated from the train.
- (v) **Transload at gauge change point.** This only happens at the People’s Republic of China (PRC) border or Polish border with a Commonwealth of Independent States (CIS) country. As the CIS uses 1,520 millimeter (mm) gauge, while non-CIS countries use 1,435 mm gauge, the cargoes need to be transloaded. This is done by changing the wheel sets or relocating the goods using forklifts.
- (vi) **Pickup and deliver wagons.** The movement of loaded containers and wagons between terminals to the consignee’s premises.
- (vii) **Replace or repair inoperable wagon.** This applies only if one or more train wagons is found to need service because they are significantly damaged and cannot be addressed by emergency repair. The action includes the movement from the tracks to the servicing centers, as well as the actual repair of the wagon in the servicing center.
- (viii) **Emergency repair.** Servicing of wagons on the tracks in the marshaling yard, without removing the wagon from the train. In this case the wagon is salvageable, in contrast to the more severe problem under the previous activity.
- (ix) **Trains classification.** The internal regroup of goods, platform, wagons, and containers to form a new train. This is needed as goods are bound for different destinations and leave at different schedules. Normally this happens at major rail terminals.
- (x) **Document errors.** This applies to a special situation when there are errors on the documents (freight bill, cargo manifest, packing list, and others). It does not include normal processing time and starts only when an error is found, and action is taken to correct the error. This activity ends when the authorities confirm the error is corrected. At borders, this correction may require substantial effort and many days to complete.

- (xi) **Reissue transit documents.** This typically applies to PRC rail shipments to CIS countries. Not all PRC railways stations can handle international shipments, but there are occasions when loading and/or unloading is necessary in such domestic stations. Thus, a domestic document is used for movement of cargo from this station to the international terminal (such as Urumqi in the Xinjiang Uygur Autonomous Region), where another set of international documents is used. This is when the data are manually rewritten or translated.
- (xii) **Customs inspection.** The customs officer inspecting to assess compliance with the customs code. The customs officers also check for any dutiable goods, forbidden items, or dangerous goods.
- (xiii) **Technical inspection.** Engineers or technicians inspecting to ascertain cargo security and safety, as well as the condition of the train and its equipment.
- (xiv) **Sanitary and phytosanitary control.** The phytosanitary team regularly checking the train's sanitation standards, as well as the acceptability of goods, such as agriculture, food, meat, and consumable products. This action also covers health issues, such as health certificates of the staff onboard the train.

# Central Asia Regional Economic Cooperation Border-Crossing Points

The endorsement and implementation of the Central Asia Regional Economic Cooperation (CAREC) Transport and Trade Facilitation Strategy in 2007 included the identification of six priority CAREC corridors where transport infrastructure investments and trade facilitation initiatives would be focused. The CAREC Corridor Performance Measuring and Monitoring (CPMM) mandate to identify causes of delays and unnecessary costs along the links and nodes of each CAREC corridor, including border-crossing points (BCPs) and intermediate stops, emphasizes monitoring BCPs where shipments undergo several transactions and procedures related to transborder trade.

Table A5 lists key BCP pairs for each side of the border.

**Table A5: CAREC Corridor Border-Crossing Points**

No.	Corridor	BCP1		BCP2	
1	1a, 2c	PRC	Alashankou	KAZ	Dostyk
2	1a, 1c	KAZ	Kairak	RUS	Troitsk
3	1b	PRC	Khorgos	KAZ	Korgas
4	1b, 6b, 6c	KAZ	Zhaisan	RUS	Kos Aral/Novomarkovka (Sagarchin)
5	1c	PRC	Torugart/Topa	KGZ	Torugart
6	1c, 3b	KAZ	Merke	KGZ	Chaldovar
7	2a, 2b, 2d, 5a, 5c	PRC	Yierkeshitan	KGZ	Irkeshtam
8	2a, 2b	KGZ	Kara-Suu (Dostuk)	UZB	Kara-Suu/Savay (Dustlik)
9	2a, 2b	TAJ	Kanibadam	UZB	Kokland
10	2a, 2b	TAJ	Nau	UZB	Bekabad
11	2a, 6a	KAZ	Beyneu (rail)/Tazhen (road)	UZB	Karakalpakstan (Daut-Ata)
12	2a, 2c	AZE	Baku	KAZ	Aktau
13	2a, 2b, 2c	AZE	Red Bridge (road)–Beyuk Kesik (rail)	GEO	Red Bridge (road)–Gabdabani (rail)
14	2b, 3a	UZB	Alat	TKM	Farap
15	2b	AZE	Baku	TKM	Turkmenbashi
16	2d, 3b, 5a, 5c	KGZ	Karamyk	TAJ	Karamyk
17	2d, 5a, 5c, 6c	AFG	Shirkhan Bandar	TAJ	Panji Poyon/Nizhni Pianj
18	3a, 3b	KGZ	Aul	RUS	Veseloyarsk
19	3a, 6b, 6c	KAZ	Zhibek Zholy–Saryagash/Yallama	UZB	Gisht Kuprik–Keles
20	3a	TKM	Saraks	IRN	Sarakhs
21	3b	TAJ	Pakhtaabad	UZB	Saryasia
22	3a, 6a, 6b	AFG	Hairatan	UZB	Termez/Airatom
23	3b, 6b, 6d	AFG	Islam Qala	IRN	Dogharoun
24	4a	MON	Ulaanbaishint/Tsagaanur	RUS	Tashanta
25	4a	PRC	Takeshikent	MON	Yarant
26	4b, 4c	MON	Sukhbaatar	RUS	Naushki
27	4b	PRC	Erenhot	MON	Zamiin-Uud
28	6a, 6d	KAZ	Kurmangazy (road)/Ganyushking (rail)	RUS	Krasnyi Yar (road)/Aksaraskaya (rail)
29	6c	TAJ	Istaravshan	UZB	Khavast

*continued on next page*

Table A5 *continued*

No.	Corridor		BCP1		BCP2
30	6d	KAZ	Bolashak	TKM	Serkhetyaka
31	2d	AFG	Aqina	TKM	Imam Nazar
32	2d, 6d	AFG	Torghondi	TKM	Serkhet Abad
33	5b	PRC	Khunjerab	PAK	Sost
34	5c, 6a, 6b, 6d	AFG	Chaman	PAK	Spin Buldak
35	5a, 6c	AFG	Torkham	PAK	Peshawar
36	4c	PRC	Zuun Khatavch	MON	Bichigt

AFG = Afghanistan, AZE = Azerbaijan, BCP = border-crossing point, GEO = Georgia, IRN = Iran, KAZ = Kazakhstan, KGZ = Kyrgyz Republic, MON = Mongolia, PAK = Pakistan, PRC = People's Republic of China, RUS = Russian Federation, TAJ = Tajikistan, TKM = Turkmenistan, UZB = Uzbekistan.

Source: Asian Development Bank.

## Trade Facilitation Indicators: Summary Statistics

Table A6 provides a brief comparison of Corridor Performance Measurement and Monitoring road and rail trade facilitation indicators for all applicable corridors during 2017 and 2018. Mean, median, and margin (or the 95% confidence interval band around the mean) estimates are provided to describe the distribution of the sample collected.

Table A6: Trade Facilitation Indicator Summary Statistics

Corridor	Overall																	
	2017				2018				2017				2018					
	Mean	Median	Margin	Mean	Median	Margin	Mean	Median	Margin	Mean	Median	Margin	Mean	Median	Margin			
<b>TF11</b>	Time taken to clear a border crossing point (hour)																	
<b>Overall</b>	19.1	6.4	± 0.7	16.6	7.5	± 0.5	16.9	5.1	± 0.9	12.0	5.4	± 0.4	26.2	20.3	± 1.0	23.2	11.9	± 1.1
1	26.7	22.3	± 1.2	24.0	15.3	± 1.3	5.9	2.4	± 1.8	3.5	2.1	± 0.5	32.4	38.8	± 1.2	30.6	26.3	± 1.6
2	6.4	6.0	± 0.7	17.1	8.8	± 2.1	6.4	6.0	± 0.7	8.5	6.7	± 0.8	-	-	-	1.7	1.7	± 11.1
3	4.9	3.4	± 0.9	4.2	1.8	± 0.3	4.9	3.4	± 0.9	5.1	3.4	± 0.4	-	-	-	1.1	1.0	± 0.1
4	7.7	3.3	± 0.6	9.4	3.6	± 0.7	2.9	2.7	± 0.1	2.8	2.5	± 0.1	19.1	12.0	± 1.5	21.4	10.5	± 1.7
5	50.2	36.6	± 3.2	28.2	26.6	± 1.3	50.2	36.6	± 3.2	28.2	26.6	± 1.3	-	-	-	-	-	-
6	15.0	6.8	± 1.0	15.3	9.7	± 0.9	15.4	6.5	± 1.1	15.0	9.7	± 0.9	7.4	7.3	-	4.5	4.0	± 0.2
<b>TF12</b>	Cost incurred at border crossing clearance (\$)																	
<b>Overall</b>	168	143	± 4	170	131	± 4	159	147	± 4	156	136	± 3	202	120	± 11	196	120	± 9
1	238	190	± 12	217	120	± 11	174	37	± 28	150	37	± 24	255	190	± 14	236	125	± 12
2	194	285	± 17	150	88	± 11	194	285	± 17	121	72	± 10	-	-	-	-	-	-
3	97	81	± 5	77	71	± 4	97	81	± 5	75	71	± 4	-	-	-	118	90	± 60
4	108	89	± 4	117	113	± 5	113	92	± 5	121	136	± 5	87	41	± 12	101	39	± 14
5	254	250	± 8	273	292	± 5	254	250	± 8	273	292	± 5	-	-	-	-	-	-
6	137	120	± 6	151	122	± 7	144	127	± 6	138	126	± 6	50	50	-	143	114	± 9

continued on next page

Table A6 continued

Corridor	Overall												Road						Rail						
	2017			2018			2017			2018			2017			2018			2017			2018			
	Mean	Median	Margin	Mean	Median	Margin	Mean	Median	Margin	Mean	Median	Margin	Mean	Median	Margin	Mean	Median	Margin	Mean	Median	Margin	Mean	Median	Margin	
<b>TFI3</b>	Cost incurred to travel a corridor (\$ per 500 km, per 20-ton cargo)																								
<b>Overall</b>	955	719	±23	958	712	±31	947	711	±27	953	704	±38	976	738	±46	970	728	±57							
1	739	584	±34	850	664	±52	753	794	±52	1,129	919	±68	734	553	±42	729	562	±66							
2	521	479	±20	595	583	±28	521	479	±20	595	583	±28	-	-	-	-	-	-							
3	573	551	±25	461	521	±47	573	551	±25	546	655	±54	-	-	-	80	64	±15							
4	1,173	859	±64	1,629	1,095	±106	1,167	796	±84	1,805	1,101	±161	1,181	978	±99	1,416	1,075	±127							
5	1,513	1,338	±54	708	353	±57	1,513	1,338	±54	708	353	±57	-	-	-	-	-	-							
6	930	732	±39	900	708	±37	866	637	±42	836	677	±39	1,329	1,492	-	1,286	1,351	±77							
<b>TFI4</b>	Speed to travel on CAREC corridors (km/h)																								
<b>Overall</b>	19.8	20.0	±1.7	20.8	19.5	±1.8	22.2	23.1	±1.8	23.4	22.7	±2.0	14.8	9.9	±3.1	15.9	10.1	±3.2							
1	21.4	20.3	±5.0	21.2	19.9	±4.4	29.6	27.5	±7.3	30.1	23.6	±7.4	18.1	8.5	±5.8	17.3	10.2	±4.8							
2	22.8	21.4	±3.4	25.2	22.4	±4.4	22.8	21.4	±3.4	25.2	22.4	±4.4	-	-	-	-	-	-							
3	24.5	27.3	±5.8	29.4	28.1	±6.7	24.5	27.3	±5.8	26.1	26.1	±6.8	-	-	-	41.2	44.8	±12.6							
4	18.3	19.0	±2.7	19.5	15.4	±3.6	25.1	25.0	±1.9	30.3	30.9	±3.4	10.0	9.4	±1.6	9.3	8.5	±1.4							
5	10.1	7.9	±2.0	11.3	10.3	±1.2	10.1	7.9	±2.0	11.3	10.3	±1.2	-	-	-	-	-	-							
6	21.1	22.4	±2.9	20.2	21.8	±3.0	22.1	23.6	±3.2	21.3	22.8	±3.4	12.9	13.5	-	13.1	13.4	±1.1							
<b>SWOD</b>	Speed without delay (km/h)																								
<b>Overall</b>	42.7	47.3	±2.0	42.5	48.7	±2.0	45.0	47.4	±1.7	46.3	50.0	±1.8	37.6	47.3	±5.0	35.4	35.8	±4.5							
1	51.2	50.6	±3.1	47.6	50.0	±4.1	53.2	51.4	±2.9	53.9	53.5	±2.3	50.4	49.5	±4.1	44.8	49.6	±5.4							
2	49.4	49.9	±2.2	53.2	53.9	±2.9	49.4	49.9	±2.2	53.2	53.9	±2.9	-	-	-	-	-	-							
3	40.8	40.7	±6.9	44.9	48.9	±5.8	40.8	40.7	±6.9	44.1	47.6	±5.9	-	-	-	47.8	51.5	±16.0							
4	34.9	37.2	±5.1	34.3	24.2	±5.4	46.6	48.1	±4.0	50.1	53.9	±4.6	20.6	15.6	±5.1	19.1	16.6	±4.1							
5	46.5	54.2	±4.5	38.4	35.4	±3.3	46.5	54.2	±4.5	38.4	35.4	±3.3	-	-	-	-	-	-							
6	38.8	38.5	±2.6	40.2	36.4	±3.1	40.6	39.2	±2.4	42.9	41.1	±2.7	24.7	29.5	-	23.4	26.8	±5.3							

CAREC = Central Asia Regional Economic Cooperation, km = kilometer, km/h = kilometer per hour, TFI = trade facilitation indicator.  
Source: Asian Development Bank.

## Structure of Trade Facilitation Indicator 3

Table A7 shows the breakdown of transit and activity cost per 20 tons of cargo in relation to total transport cost incurred to travel a 500-kilometer corridor section. Summary statistics are provided for road and rail transport, and for all applicable corridors during 2016 and 2017. Percentage to total estimates are provided to describe distribution of the samples collected.

**Table A7: Structure of Trade Facilitation Indicator 3**

Corridor	Overall						Road						Rail					
	2017		2018		2017		2018		2017		2018		2017		2018			
	Total	Activity	Total	Activity	Total	Activity	Total	Activity	Total	Activity	Total	Activity	Total	Activity	Total	Activity		
<b>TFI3</b>	Cost incurred to travel a corridor section (\$ per 500 km, per 20-ton cargo)																	
<b>Overall</b>	<b>955</b>	<b>491</b>	<b>464</b>	<b>600</b>	<b>359</b>	<b>471</b>	<b>476</b>	<b>953</b>	<b>578</b>	<b>375</b>	<b>976</b>	<b>649</b>	<b>327</b>	<b>970</b>	<b>745</b>	<b>225</b>		
1	739	428	311	850	634	216	753	1,129	859	270	734	430	303	729	510	218		
2	521	379	142	595	572	23	521	595	572	23	-	-	-	-	-	-		
3	573	445	128	461	657	(196)	573	546	659	(113)	-	-	-	80	1	79		
4	1,173	736	437	1,629	961	668	1,167	1,805	936	869	1,181	912	269	1,416	1,043	374		
5	1,513	940	572	708	542	167	1,513	708	542	167	-	-	-	-	-	-		
6	930	453	477	900	552	348	866	836	525	311	1,329	1,375	(45)	1,286	1,329	(43)		
%	Percent to total																	
<b>Overall</b>	<b>51%</b>	<b>49%</b>	<b>63%</b>	<b>37%</b>	<b>50%</b>	<b>50%</b>	<b>61%</b>	<b>39%</b>	<b>66%</b>	<b>34%</b>	<b>77%</b>	<b>23%</b>	<b>77%</b>	<b>23%</b>	<b>77%</b>	<b>23%</b>		
1	58%	42%	75%	25%	45%	45%	76%	24%	59%	41%	70%	30%	59%	41%	70%	30%		
2	73%	27%	96%	4%	73%	27%	96%	4%	77%	23%	74%	26%	77%	23%	74%	26%		
3	78%	22%	100%	0%	78%	22%	100%	0%	77%	23%	100%	0%	77%	23%	100%	0%		
4	63%	37%	59%	41%	57%	43%	52%	48%	62%	38%	63%	37%	62%	38%	63%	37%		
5	62%	38%	76%	24%	62%	38%	76%	24%	63%	37%	63%	37%	63%	37%	63%	37%		
6	49%	51%	61%	39%	49%	51%	63%	37%	100%	0%	100%	0%	100%	0%	100%	0%		

km = kilometer.

Source: Asian Development Bank.





Table A8.1 continued

BCP	Country	Corridor	Count	Cost (\$)																			
				Total		Activities																	
				Average	Median	i	ii	iii	iv	v	vi	vii	viii	ix	x	xi	xii	xiii	xiv	xv	xvi	xvii	xviii
Hairatan	AFG	3,6	156	136	135	8	10								9							103	8
Khorgos	KAZ	1	12	220	220	-	100	120															
Karasu	PRC	0	158	380	505	-	-	435	14				58							40		260	-
Panji Poyon	TAJ	2,5,6	175	175	16	2	4		2	3	2	5			1	65	9	2			295		
Yarant	MON	4	12	55	55	-	55																
Erenhot	PRC	4	358	164	173	9	96	17												50			
Kurmangazy	KAZ	6	32	11	10	11																	
Karamyk	KGZ	2,3,5	31	42	48	3	22		3	4	5	3		3		3		3					
Khiyagt	RUS	4	60	8	8																		8
Khunjerab	PRC	5	27	-	-	-																	-
Torugart	KGZ	1	1	33	33	5	16					12											
Taskala	KAZ	1,6	19	11	10	11	20																
Torugart	PRC	1	67	-	-	-	-																-
Baku	AZE	2	56	111	150	14		15						20					26	39		25	25
Aktau	KAZ	2	15	108	150	15		15											21	45		25	31
Merke	KAZ	1,3	13	10	10	10																	
Guliston	TAJ	0	3	34	24	8	21				4								2				
Fotehobod	TAJ	2,3,6	1	27	27	5	22																
Zuun Khataavch	PRC	4	60	16	16		16																
Karamyk	TAJ	2,3,5	4	28	28	5	15				8												
Kyzyl-Bel	KGZ	0	14	19	18	3	14				9								3				
Dustlik	UZB	2	13	22	21	4	14				8												
Dostuk	KGZ	2	11	21	20	4	14			6				2									
Chon Kapka	KGZ	1,3	2	10	10	10																	
Irkeshstan	PRC	2,5	3	-	-	-																	-
Zhaisan	KAZ	1,6	5	11	14	10													6				
Ak Zhol	KGZ	1	4	8	8	8																	
Chaldovar	KGZ	1,3	14	7	7	7													3	3			
Ak-Tilek	KGZ	1	17	9	9	8	6							3		7	2						
Karasu	KAZ	1	13	7	6	7																	
Troitsk	RUS	1	3	3	3	3																	
Aul	KAZ	3	2	-	-	-																	
Kairak	KAZ	1	2	2	2	2																	
Novomarkovka	RUS	1,6	4	2	2	2																	
Veselayarsk	RUS	3	1	-	-	-																	
Kos Aral	RUS	1,6	1	-	-																		
Pogodaev	KAZ	0	1	0	0	0																	

■ More than one hour ■ More than \$100

i. Border security and control, ii. Customs controls, iii. Commercial inspection, iv. Health and quarantine, v. Phytosanitary inspection, vi. Veterinary inspection, vii. Visa or immigration, viii. Transit conformity, ix. GAI or traffic inspection, x. Police checkpoint or stop, xi. Transport inspection, xii. Weight or standard inspection, xiii. Vehicle registration, xiv. Emergency repair, xv. Escort or convoy, xvi. Loading and/or unloading, xvii. Road or bridge toll, xviii. Waiting or queue.

AFG = Afghanistan, AZE = Azerbaijan, BCP = border-crossing point, GEO = Georgia, IRN = Iran, KAZ = Kazakhstan, KGZ = Kyrgyz Republic, MON = Mongolia, PAK = Pakistan, PRC = People's Republic of China, RUS = Russian Federation, TAJ = Tajikistan, TKM = Turkmenistan, UZB = Uzbekistan.

Source: Asian Development Bank.

Table A8.2 shows the time and cost spent on activities of inbound road shipments to the indicated country at selected border-crossing points.

**Table A8.2: Time and Cost Spent at Road Border-Crossing Points, Inbound**

BCP	Country	Corridor	Count	Duration (hours)																					
				Total		Activities																			
				Average	Median	i	ii	iii	iv	v	vi	vii	viii	ix	x	xi	xii	xiii	xiv	xv	xvi	xvii	xviii		
Torkham	AFG	5,6	482	27.6	5.8	0.7	16.5						0.5	0.5	0.6	0.5								0.5	20.6
Spin Buldak	AFG	5,6	108	25.7	13.1	0.5	11.2						0.6	0.6		0.5							2.7		13.0
Khorgos	PRC	1	12	20.4	17.4	3.5	22.3	1.0					0.2										3.6		
Konysbayeva	KAZ	3,6	82	12.0	12.3	1.2	2.4	1.3	0.6	0.6	0.8					0.7	0.7	0.5	0.5						5.5
Shirkhan Bandar	AFG	2,5,6	55	12.0	12.1	0.3	0.9	0.2					0.2			0.2	0.2						5.6	0.2	5.0
Tazhen	KAZ	2,6	87	11.4	11.5	1.1	2.2		0.6	0.5						0.6	0.6	0.6							6.1
Saryasia	UZB	3	21	10.0	10.0	1.0	2.1		0.5	0.5						0.7	0.6	0.5							4.1
Alat	UZB	2,3	36	9.8	10.0	1.1	2.2		0.6	0.6						0.7	0.7	0.6	0.6						4.1
Farap	TKM	2,3	60	9.8	9.7	0.8	1.9		0.5	0.4	0.6	0.6			0.3	0.6	0.6	0.6						0.4	4.1
Sarahs	TKM	3	26	9.0	9.2	0.9	1.8		0.3	0.5		0.6				0.7	0.6	0.6						0.4	3.3
Dautota	UZB	2,6	210	7.9	6.5	0.6	2.9		0.4	0.5	0.3	0.3	0.2			0.6	0.7	0.5					0.2		4.9
Fotehobod	TAJ	2,3,6	2	7.0	7.0																				7.0
Khorgos	KAZ	1	36	6.8	6.8	0.2	3.0						0.2												3.5
Panji Poyon	TAJ	2,5,6	120	5.6	5.6				0.4	0.7		0.6			0.5					5.5					
Takeshikent	PRC	4	12	4.5	4.5	0.2	1.4	0.9				0.2											1.8		
Zamiin-Uud	MON	4	359	4.0	4.0	1.1	1.9	0.7	0.1	0.1	0.0	0.1				0.1	0.1	0.1					0.3	0.4	
Yarant	MON	4	48	3.9	3.8	0.2	2.3	1.2				0.2													
Pakhtaabad (Dusti)	TAJ	3	130	3.8	1.7	0.5	2.2		0.3	0.4	0.3	0.4				0.7	0.6	0.6							5.1
Kyzyl-Bel	KGZ	0	3	3.3	1.1	0.6	1.0			0.3						0.3									4.0
Krasnyi Most	AZE	2	56	3.2	2.7	0.2	0.4	0.1			0.5	0.3				0.1	0.2	0.4		0.2			0.1	2.4	
Aktau	KAZ	2	56	3.0	0.8	0.7		0.2		0.1	0.3	0.1	1.0	0.2	2.4	0.2	0.3		0.2			0.2	0.6		
Oibek	UZB	2,3,6	1	2.8	2.8	0.3	2.4									0.2									
Kulma	TAJ	0	158	2.8	2.9	0.2	0.6		0.5	0.2	0.2	0.2				0.3		0.2							1.4
Serkhet Abad	TKM	2,6	18	2.3	2.3		2.3																		
Torugart	KGZ	1	67	2.3	2.4	0.2	0.7			0.1		0.3				1.4									1.9
Altanbulag	MON	4	60	2.2	2.2	0.2	1.3		0.1	0.1		0.1				0.1	0.1	0.1							0.4
Kurmangazy	KAZ	6	59	2.2	1.8	0.6	3.3							0.3									4.7		1.2
Khunjerab	PAK	5	27	2.1	2.0	0.2							0.2												1.8
Pogodaevo	KAZ	0	21	1.8	1.6	0.7																			1.1
Bichigt	MON	4	60	1.4	1.4	0.1	0.7		0.1			0.1				0.1	0.1	0.1							0.3
Chaldovar	KGZ	1,3	13	1.2	1.6	0.5							0.2												1.4
Tsiteli Khidi	GEO	2	14	1.2	1.0	0.1	0.1																		1.1
Guliston	TAJ	0	13	1.2	1.1	0.2	1.0			0.2				0.1											
Baku	AZE	2	15	1.2	0.5	0.7					0.2		0.2	0.3	0.3	0.3	0.2							0.1	
Dustlik	UZB	2	10	1.1	0.7	0.2	0.8			0.3				0.2		0.2	0.2								
Karamyk	TAJ	2,3,5	7	1.0	0.9	0.2	0.7			0.2				0.1											
Irkeshtam	KGZ	2,5	3	0.9	0.8	0.2	0.8																		
Karamyk	KGZ	2,3,5	4	0.8	0.7	0.1	0.6			0.1															

continued on next page





# Activities at Rail Border-Crossing Points

Table A9 shows the time and cost spent on activities of inbound and outbound rail shipments to and from the indicated country at selected border-crossing points.

**Table A9: Time and Cost Spent at Rail Border-Crossing Points, Outbound and Inbound**

## Rail Outbound Traffic

BCP	Country	Corridor	Count	Duration (hours)																								
				Total		Activities																						
				Average	Median	i	ii	iii	iv	v	vi	vii	viii	ix	x	xi	xii	xiii	xiv	xv	xvi	xvii	xviii	xix	xx	xxi	xxii	
Chaman	PAK	5,6	108	21.9	20.7											1.8	0.5	0.3	0.6							20.7		
Peshawar	PAK	5,6	492	15.1	15.3											2.6	0.3	0.3	0.4							12.9		
Torghondi	AFG	2,6	84	11.9	10.1											8.9										19.1		
Tsiteli Khidi	GEO	2	48	11.8	12.7					1.0						1.0	0.9				10.7							
Khorgos	PRC	1	164	10.9	0.8											14.0	0.7	0.2	0.2	0.2						33.4		
Saryagash	KAZ	3,6	108	9.1	14.5											1.6	0.2	0.2	0.2							13.1	1.5	
Bekabad	UZB	2	1	4.3	4.3											0.3	0.3	0.4	0.3								3.0	
Torghondi	AFG	2,6	84	4.1	4.1	1.7	1.6									0.7												
Merke	KAZ	1,3	15	1.6	0.9											0.3	0.2	0.3	0.2							2.0		
Termez	UZB	3,6	4	0.6	0.6											0.3	0.2	0.2										
Naushki	RUS	4	48																									

BCP	Country	Corridor	Count	Duration (hours)																									
				Total		Activities																							
				Average	Median	i	ii	iii	iv	v	vi	vii	viii	ix	x	xi	xii	xiii	xiv	xv	xvi	xvii	xviii	xix	xx	xxi	xxii		
Chaman	PAK	5,6	108	49	65																						5		
Peshawar	PAK	5,6	492	100	100																						-		
Torghondi	AFG	2,6	84	113	113											113											-		
Tsiteli Khidi	GEO	2	48	27	27					27																			
Khorgos	PRC	1	164	61	84																						19		
Saryagash	KAZ	3,6	108	122	120											122											-		
Bekabad	UZB	2	1																										
Torghondi	AFG	2,6	84	220	227	104	104																						
Merke	KAZ	1,3	15																										
Termez	UZB	3,6	4																										
Naushki	RUS	4	48																										

continued on next page

Table A9 continued

## Rail Inbound Traffic

BCP	Country	Corridor	Count	Duration (hours)																								
				Total		Activities																						
				Average	Median	i	ii	iii	iv	v	vi	vii	viii	ix	x	xi	xii	xiii	xiv	xv	xvi	xvii	xviii	xix	xx	xxi	xxii	
Dostyk	KAZ	1,2	147	61.0	52.9					3.0	1.0				3.0			2.3	0.3	0.3	0.7	10.6	44.0	32.5		10.1	10.0	
Erenhot	PRC	4	120	55.7	72.0					55.7																		
Altynkol	KAZ	1	161	39.6	48.6					1.2								0.9	0.2	0.2	0.3	12.5		51.7		11.5	4.0	
Zamiin-Uud	MON	4	253	22.9	11.7	0.9		1.5		1.3					3.0			2.5	2.2		1.8		5.8		27.8		10.9	
Termez	UZB		22	8.3	8.5	7.7															0.6							
Sukhbaatar	MON	4	48	7.4	8.2							1.0						1.7	0.7				5.8					
Serkhet Abad	TKM	2,6	84	3.5	3.7			0.8										2.4	0.7									
Farap	TKM	2,3	37	2.6	2.7			3.3										2.5	0.4	0.5	0.5							
Nau	TAJ	2	1	2.6	2.6													0.7	0.6	0.7	0.7							
Keles	UZB	3,6	108	2.4	2.7													1.9	0.3	0.3	0.4						1.4	
Baku	AZE	2	2	1.7	1.7													0.3	0.3	0.2							2.0	
Chaldovar	KGZ	1,3	11	1.2	1.4													0.4	0.3	0.4	0.3							
Hairatan	AFG	3,6	5	1.0	1.0					1.0																		
Naushki	RUS	4	12																									

BCP	Country	Corridor	Count	Duration (hours)																									
				Total		Activities																							
				Average	Median	i	ii	iii	iv	v	vi	vii	viii	ix	x	xi	xii	xiii	xiv	xv	xvi	xvii	xviii	xix	xx	xxi	xxii		
Dostyk	KAZ	1,2	147	61.0	52.9					331	250										211								
Erenhot	PRC	4	120	55.7	72.0					227																			
Altynkol	KAZ	1	161	39.6	48.6					175											77								
Zamiin-Uud	MON	4	253	22.9	11.7						15	35									50	97							
Termez	UZB		22	8.3	8.5					104											13								
Sukhbaatar	MON	4	48	7.4	8.2																8								
Serkhet Abad	TKM	2,6	84	3.5	3.7						20										50	12							
Farap	TKM	2,3	37	2.6	2.7					108											120								
Nau	TAJ	2	1	2.6	2.6																								
Keles	UZB	3,6	108	2.4	2.7																119								
Baku	AZE	2	2	1.7	1.7																								
Chaldovar	KGZ	1,3	11	1.2	1.4																								
Hairatan	AFG	3,6	5	1.0	1.0						370																		
Naushki	RUS	4	12																										

■ More than one hour ■ More than \$100

i. Load cargoes, ii. Unload cargoes, iii. Fix cargo shift, iv. Remove excess cargo, v. Transload at gauge change point, vi. Pickup and delivery, vii. Replace or repair inoperable wagon, viii. Emergency repair, ix. Train classification, x. Document errors, xi. Reissue transit documents, xii. Customs inspection, xiii. Technical inspection, xiv. Commercial inspection, xv. Sanitary and phytosanitary control, xvi. Materials transfer, xvii. Faulty handling equipment, xviii. No wagons available, xix. Restriction on entry, xx. Marshaling, xxi. Waiting for priority trains to pass, xxii. For other reasons.

AFG = Afghanistan, AZE = Azerbaijan, BCP = border-crossing point, GEO = Georgia, IRN = Iran, KAZ = Kazakhstan, KGZ = Kyrgyz Republic, MON = Mongolia, PAK = Pakistan, PRC = People's Republic of China, RUS = Russian Federation, TAJ = Tajikistan, TKM = Turkmenistan, UZB = Uzbekistan.

Source: Asian Development Bank.

# CAREC Corridor Performance Measurement and Monitoring

*Annual Report 2018*

Using data from real-time road and rail cargo shipments, the Corridor Performance Measurement and Monitoring (CPMM) mechanism assesses the efficiency of the six Central Asia Regional Economic Cooperation (CAREC) transport corridors that link CAREC member countries. It considers travel time and costs and the ease of crossing borders. Analysis of 2018 CPMM data shows steady average improvement in speed without delay, largely attributed to infrastructure investment. Delays at the border decreased but remain a major hindrance to efficient trade. This report informs policymakers about transport and trade blockages, and aims to help guide infrastructure investment and trade facilitation reform and modernization.

## About the Central Asia Regional Economic Cooperation Program

The Central Asia Regional Economic Cooperation (CAREC) Program is a partnership of 11 member countries and development partners working together to promote development through cooperation, leading to accelerated economic growth and poverty reduction. It is guided by the overarching vision of “Good Neighbors, Good Partners, and Good Prospects.” The CAREC countries are Afghanistan, Azerbaijan, the People’s Republic of China, Georgia, Kazakhstan, the Kyrgyz Republic, Mongolia, Pakistan, Tajikistan, Turkmenistan, and Uzbekistan.

## About the Asian Development Bank

ADB is committed to achieving a prosperous, inclusive, resilient, and sustainable Asia and the Pacific, while sustaining its efforts to eradicate extreme poverty. Established in 1966, it is owned by 68 members —49 from the region. Its main instruments for helping its developing member countries are policy dialogue, loans, equity investments, guarantees, grants, and technical assistance.



## ASIAN DEVELOPMENT BANK

6 ADB Avenue, Mandaluyong City  
1550 Metro Manila, Philippines  
[www.adb.org](http://www.adb.org)