A SUMMARY OF INITIAL FINDINGS AND PRELIMINARY RECOMMENDATIONS

OF

THE REVIEW OF THE CENTRAL ASIA REGIONAL ECONOMIC COOPERATION PROGRAM CORRIDOR PERFORMANCE MEASUREMENT AND MONITORING

CONTENTS

ABBREVIATIONS

ADB	-	Asian Development Bank
BCP	-	border crossing point
CAREC	-	Central Asia Regional Economic Cooperation
CPMM	-	Corridor Performance Measurement and Monitoring
ESCAP		Economic and Social Commission for Asia and the Pacific
SWD	-	speed with delay
SWOD	-	speed without delay
TFI	-	trade facilitation indicator
TTFI	-	trade and transport facilitation indicator

I. INTRODUCTION

1. In 2009, the Central Asia Regional Economic Cooperation (CAREC) Program launched the Corridor Performance Measurement and Monitoring (CPMM) to measure and monitor the performance of the CAREC corridors as conduits for international trade.[1] Since then, the CPMM has produced a large quantity of data on transport times and costs for international shipments along the CAREC corridors.[2] The data have been used in numerous research projects and publications.[3] However, they have not been utilized in policymaking in the CAREC Program member countries (henceforth referred to as the CAREC countries) as extensively as one would expect given (i) the importance that the governments of many CAREC countries attach to trade and transport facilitation and (ii) the potential usefulness of the CPMM data for the identification, design, monitoring, and evaluation of trade and transport facilitation measures in these countries.

2. In late 2023, the CAREC Program initiated a review of the CPMM with a view to enhancing its effectiveness in fostering the development of the CAREC Corridors. The objectives of the review are to (i) identify weaknesses in the CPMM that adversely affect its effectiveness and (ii) make recommendations that address the identified weaknesses. The first phase of the review was conducted in November-December 2023. It involved a desk review of CPMM data and documents and virtual consultations with CPMM team members, researchers, and several CPMM partners. The team assessed each of the key CPMM tools and processes, including the Trade Facilitation Indicators (TFIs), template for data collection, sampling methodology, data validation and aggregation, and dissemination of the CPMM data and findings. The second phase of the review will be conducted in April-June 2024 and involve further consultations with key stakeholders.

3. This note summarizes findings and recommendations of the first phase of the CPMM review. As part of the second phase of the review, the findings and recommendations will be discussed with participants of the CAREC event that will be held at the sidelines of the 11th Asia-Pacific Trade Facilitation Forum in Samarkand, Uzbekistan on 4 April 2024. The findings and recommendations will then be revised, as appropriate, taking into account the comments provided by event participants.

II. AN OVERVIEW OF THE CPMM

4. The CPMM is a regional transport corridor performance monitoring mechanism. It is based on the Time/Cost-Distance Methodology of ESCAP.[4]

5. **CPMM objectives and target audience**. 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; (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 (ADB, 2021). Its target audience is policymakers who need to have empirical data to make educated decisions on infrastructure and trade facilitation initiatives (ADB 2018).

[1] Detailed information about the CAREC Program and the CAREC corridors is available at www.carecprogram.org.
[2] Technical Assistance from the Asian Development Bank (ADB) has supported the development and implementation of CPMM.
[3] Examples include ADB (2014, 2017, 2020, 2022), Iimi (2022), Karymshakov and Sulaimanova (2022), Kim, Abesamis and Ardaniel (2022), Samad, Masood and Ahmed (2023), Sharafeyeva (2023), the United Nations Economic and Social Commission for Asia and the Pacific (ESCAP, 2017, 2018, 2022) and the World Bank (2014).
[4] ESCAP (2007) provides a good exposition of the Time/Cost-Distance Methodology.

6. **CPMM processes**. The CPMM involves the following processes:

- collection of primary data on the duration and costs, including official and unofficial costs, of various activities entailed in transporting goods along the CAREC corridors—in particular through border-crossing points (BCPs) located along these corridors—by road, rail and multimodal transport;[5]
- validation, cleaning and aggregation of the primary data to derive five CPMM TFIs;
- analysis of the primary data and the TFIs; and
- dissemination of CPMM data and findings.

7. The CPMM partners collect—through transport and logistics companies—primary CPMM data on international shipments along the CAREC corridors.[6] They then input the data into the CPMM template in Microsoft Excel and submit them to the CPMM team for validation, cleaning and analysis. When collecting data for the CPMM, truck drivers use paper forms based on the CPMM template.

8. **CPMM TFIs**. The five CPMM TFIs are as follows:

a. **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 entry to exit point of a BCP. 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 and 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.

b. **TFI2: Cost incurred at a BCP.** This is the average total cost, in United States dollars, of moving cargo across a border. Both official and unofficial payments are included.

c. **TFI3: Cost incurred to travel a corridor section.** This comprises average total costs, in United States dollars, incurred for one unit of cargo traveling along a corridor section. One unit of cargo refers to 20 tons. A corridor section is defined as a stretch of road or railway that is 500 kilometers (km) long. Both official and unofficial payments are included. The official payments include the transport rates (for shipments by road) or the railway tariffs (for shipments by rail).

d. **TFI4: Speed to travel along CAREC corridors.** This is the average speed, in kilometers per hour (km/h), at which a unit of cargo travels along a corridor section. Speed is calculated by dividing the total distance traveled by the duration of travel. The distance and time measurements include border crossings (ADB 2021).[7] TFI4 is also referred to as speed with delay (SWD).

[5] The data are collected on the three sets of transport activities—namely, (i) road activities, (ii) rail activities and (iii) water activities—separately for different categories of stops, including BCPs, intermediate stops and inland depots. Lists of the activities are in Appendix 1.
[6] There is at least one CPMM partner in all CAREC countries, except Azerbaijan and Turkmenistan. Most of them are associations of transport and/or logistics companies. A list of the CPMM partners is in Appendix 2.
[7] See ADB (2018, 2021) for more information about the CPMM TFIs.

e. **Speed without delay (SWOD).** This is the ratio of the distance traveled to the time spent by a vehicle in motion between origin and destination (actual traveling time). While SWD is intended to serve as an indicator of the efficiency of BCPs, SWOD is a measure of the condition of physical infrastructure, such as roads and railways (ADB 2021).

9. The average values of the TFIs are computed separately for road and rail transport at various levels of aggregation (Table 1).

Table 1: CPMM TFI Aggregation Levels

Aggregation level	TFI1	TFI2	TFI3	TFI4	SWOD
BCPs	For the inbound, outbound and all shipments in the sample		Not applicable		
CAREC corridors and corridor sections	For all shipments in the sample				
CAREC countries	For the inbound, outbound and all shipments in the sample		For all shipments in the sample		
CAREC region	For all shipments in the sample				

BCP = border crossing point, Corridor Performance Measurement and Monitoring, SWOD = speed without delay, TFI = Trade Facilitation Indicator.
Sources: Asian Development Bank (2020) and CPMM review team.

10. **CPMM merits**. The CPMM has many merits. In particular, it systematically generates data on the performance of dozens of BCPs in the CAREC region and some neighboring countries, with the time series on most BCPs starting in 2010.[8] The data can be used to compare the performance of various BCPs and assess how the performance of a particular BCP has changed over time (e.g. as a result of the modernization of the BCP and/or the implementation of trade facilitation measures). The primary CPMM data are granular and can be used not only to identify institutional, procedural, infrastructure-related and other factors that raise transport costs and/or lengthen transport times for international shipments along the CAREC corridors, but also to design interventions aimed at eliminating or lowering these trade barriers. The identification of trade barriers can be done separately for various types of shipments (export/import/transit shipments, shipments of perishable goods, etc.) and/or for specific routes. Unofficial payments are recorded separately from official ones. Therefore, the CPMM data can be useful to CAREC countries in combating corruption.

III. WEAKNESSES IN THE CPMM

11. The CPMM has a number of weaknesses that adversely impact on its effectiveness. These include the shortcomings of the TFIs, the data issues, and the inadequacies in the dissemination of CPMM data and findings.

3.1 Shortcomings of the CPMM Trade Facilitation Indicators

12. **Limitations of TFI1 and TFI2.** Several features of TFI1 and TFI2 limit their usefulness for measuring the efficiency of border management and for assessing and comparing the performance of BCPs. In particular, TFI1 and TFI2 cover operational transport activities (such as transloading of cargo at a break-of-gauge point) whose duration and cost

[8] A list of the BCPs covered by the CPMM is in Appendix 3.

do not depend, or depend to a limited degree, on the efficiency of border controls. Therefore, both indicators underestimate the performance of the BCPs at which operational transport activities are routinely undertaken relative to the performance of the BCPs where such activities are usually not undertaken.

13. TFI1 and TFI2 include the duration and cost, respectively, of waiting in queue for entering a BCP. Yet, many factors unrelated to the efficiency of border controls at a BCP affect the duration and cost of waiting in queue for entering the BCP. Notably, for outbound cargo traffic, the waiting time for entering a BCP usually depends more on the performance of the counterpart BCP than on the performance of the exit BCP. Further, the duration and cost of waiting in queue for entering a BCP depend, to a considerable degree, on the volume of traffic passing through the BCP. When the volume of traffic increases, the duration and cost of waiting in queue may rise even if the performance of the BCP improves. Accordingly, TFI1 and TFI2 underestimate the performance of a BCP when its counterpart BCP underperforms or when the volume of traffic increases.

14. TFI1 and TFI2 do not differentiate shipments assigned to different channels under risk management in border controls. Most CAREC counties have implemented risk management in customs administration. In these countries, how long it takes a particular international shipment to clear a BCP depends, to a considerable degree, on which channel under risk management in customs administration the shipment is assigned to. It takes a shipment assigned to the yellow or red channel much longer to clear a BCP than a shipment assigned to the green or blue channel. Likewise, the cost of border crossing is often considerably higher for a shipment assigned to the red channel than for a shipment assigned to any of the other channels. Which channel a particular international assignment is assigned to in turn depends on many factors most of which are unrelated to border management and BCP performance. Hence, TFI1 and TFI2 underestimate the performance of a BCP when the proportion of shipments assigned to the yellow or red channels in total freight traffic through the BCP is comparatively large.

15. **Shortcomings of TFI3.** TFI3 has deficiencies that reduce its reliability and accuracy in measuring the performance of the CAREC corridors. For road transport in particular, the variation in the value of TFI3 across corridor sections and the changes in the value of the indicator over time fully or mostly reflect the differences and changes in the transport rates. They do not reflect, or reflect to a small degree, differences and changes in the performance of the corridor sections. This is because (i) the transport rates account for the bulk, if not all, of the cost of road shipments along the CAREC corridors and (ii) they vary considerably across corridor sections and fluctuate substantially over time for reasons unrelated to corridor performance.

3.2 CPMM Data Issues

16. Like with many other survey-based large datasets, there are some issues related to the completeness and accuracy of the CPMM data.

17. **Gaps in time series.** There are many gaps in the CPMM time series on BCPs, including BCPs that account for a significant percentage of freight transport flows between the CAREC countries concerned (Tables 2 and 3). This reduces the usefulness of CPMM data for both policymaking and research.

Table 2: TFI1 for Inbound Road Shipments through Selected BCPs, 2010-2022

BCP, country	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Krasnyi Most, Azerbaijan	-	0.5	-	-	-	-	-	-	3.2	4.6	11.9	3.7	3.1
Tsiteli Khidi, GEO	0.4	0.3	0.3	-	-	-	-	-	1.2	2.1	3.1	1.4	1.8
Dostyk, KAZ	40.8	19.1	49.3	-	-	-	-	-	-	-	17.0	46.8	20.7
Irkeshtan, PRC	-	-	-	6.0	-	-	-	-	-	1.6	0.8	-	-
Dostuk, KGZ	3.6	7.9	3.0	4.5	3.3	-	-	1.2	0.6	1.0	1.9	2.5	0.4
Dustlik, UZB	10.2	23.3	9.2	6.8	7.2	-	-	-	1.1	0.6	2.4	1.9	0.9
Merke, KAZ	2.5	3.1	7.0	1.2	-	-	-	-	0.3	0.1	-	-	-
Oibek, UZB	-	4.6	-	-	-	-	-	-	2.8	-	1.4	3.0	-
Bichigt, MON	-	-	-	-	3.7	1.8	1.0	1.7	1.4	1.4	1.6	-	-

BCP = border crossing point, TFI = Trade Facilitation Indicator.
Source: Corridor Performance Measurement and Monitoring database.

Table 3: TFI1 for Inbound Rail Shipments through Selected BCPs, 2010-2022

BCP	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Alashankou, PRC	-	10.0	-	-	-	-	-	-	-	-	-	-	-
Merke, KAZ	-	16.8	25.7	3.9	-	-	-	-	-	-	-	-	-
Saryagash, KAZ	1.1	3.4	4.7	3.2	-	-	-	-	-	-	1.7	4.0	-
Keles, UZB	-	-	-	4.9	0.8	5.7	3.5	2.7	2.4	2.4	3.5	4.5	5.9
Ganyushking, KAZ	-	2.0	-	-	-	-	-	-	-	-	-	-	-
Farap, TKM	-	-	-	14.5	14.9	4.7	3.5	2.9	2.6	2.7	21.4	-	-
Ak Zhol, KGZ	-	-	2.9	-	-	-	-	-	-	-	-	-	-

BCP = border crossing point, TFI = Trade Facilitation Indicator.
Source: Corridor Performance Measurement and Monitoring database.

18. **Inconsistencies with other evidence.** There are inconsistencies between the CPMM data and other evidence on transport infrastructure development and trade facilitation in the CAREC region. These inconsistencies indicate that there are some inaccuracies in the CPMM data.

19. **Need for complementary data.** The CPMM data are very useful but not sufficient for achieving the objectives of the CPMM. To achieve the first and, especially, the third objectives, additional data are needed. These include, but are not limited to, data on the volumes of freight transport flows along the corridor sections, and through the BCPs, covered by the CPMM; infrastructure and traffic management along the corridor sections; and infrastructure and business processes at the BCPs.

3.3 Causes of the CPMM Data Issues

20. Besides the shortcomings of the TFIs, a number of other factors contribute to the CPMM data issues.

21. **CPMM Template.** The CPMM data template requires that the time spent on and the cost of visa, customs, transport, phytosanitary, veterinary and other border controls be recorded separately. However, in most CAREC countries, one government agency (usually customs) carries out several border controls. When an international shipment undergoes integrated border controls, the transport operator often cannot determine how much time is spent on each control.

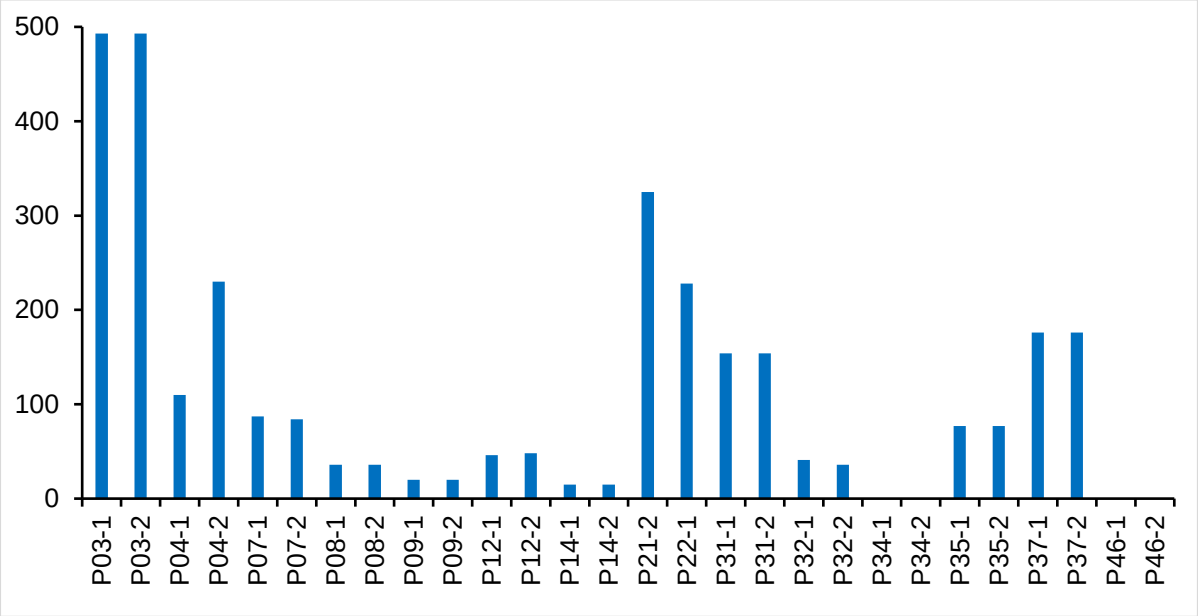
22. The CPMM is not fully utilized to generate data on the adequacy of transport infrastructure and on the bottlenecks along CAREC corridors, despite the usefulness of the data in improving transport connectivity in the CAREC region. The CPMM template only includes a few variables that can serve as proxies for the adequacy of road transport infrastructure. Using CPMM data, it is practically impossible to identify bottlenecks that slow down traffic considerably without causing stops.

23. **Sampling.** The CPMM partners have too much discretion in selecting shipments for the CPMM data collection. They can select any shipment that meets the following broad criteria:

- The shipment is commercial. Humanitarian, diplomatic, military and emergency shipments are excluded.
- The shipment follows a CAREC corridor or passes through a section or sections of a CAREC corridor or corridors. Due to special considerations (such as a new study), shipments that do not pass through any CAREC corridor can be included in the sample for data collection on a case-by-case basis.
- The shipment passes through at least one BCP along a CAREC corridor.
- The shipment is by road, rail or multimodal transport.

24. Consequently, the size and composition of the CPMM samples vary substantially across BCPs, CAREC corridors and CAREC countries for a particular year, as well as across years for most BCPs, CAREC corridors and CAREC countries. The samples for some years include no or a few shipments through some major BCPs but hundreds of shipments through other BCPs (Figure 1). There are also considerable imbalances in the CPMM samples in terms of the CAREC corridor covered and the direction of shipments. With non-weighted averages mostly used in the aggregation, the cross-sectional and the intertemporal differences in the samples cause significant variations in the TFIs across BCPs, CAREC corridors, CAREC countries and years.

Figure 1: Number of Shipments through Selected BCPs in the CPMM Database, 2022



BCP = border crossing point, CPMM = Corridor Performance Measurement and Monitoring.
Note: The names of the BCPs covered by the CPMM are in Appendix 3.
Source: CPMM database.

25. **Data aggregation.** Simple averages are used at all stages of aggregation of CPMM data due to lack of data needed for using weighted averages. This causes considerable measurement errors and fluctuations in the TFIs due to (i) the significant differences in the duration and the cost of many border crossing procedures for shipments of different types and (ii) the cross-sectional differences and the intertemporal changes in the size and the composition of the sample of shipments for individual BCPs and corridor sections.

26. **Underutilization of the CPMM in data collection**. While the CPMM cannot produce all the data needed to assess the performance of the CAREC corridors, it is currently not fully utilized to gather such data. Some of the additional data needed to assess the performance of CAREC corridors (e.g. data on key characteristics of BCPs along the corridors) can be collected through the CPMM at relatively low cost.

3.4 Inadequacies in the Dissemination of CPMM Data and Findings

27. The dissemination of CPMM data and findings needs to be optimized to improve the outreach, effectiveness and efficiency of the CPMM. At present, CPMM data and findings are disseminated through multiple channels, including presentations at various CAREC events, annual reports, policy briefs, blog posts, an online database and provision of data upon request. However, some of these channels are ineffective and/or inefficient, while others are underutilized.

28. The CPMM annual reports are published with long lags. This considerably reduces the value of the reports and their usefulness in achieving the CPMM objectives.

29. Policy briefs and blog posts are more efficient tools for dissemination of CPMM data and findings in part because they are more focused and policy-oriented and/or contain more up-to-date information than CPMM annual reports. Notably, the Government of Pakistan provided positive feedback on the CPMM policy brief jointly prepared by ADB and the CAREC Institute in 2020. It swiftly took action to address issues highlighted in the brief.

Nevertheless, CPMM policy briefs have not been prepared regularly, and only a few CPMM blog posts have been published thus far.

30. The online CPMM database is rather rudimentary. It only includes data on the CPMM TFIs. It does not contain primary CPMM data. Nor does it provide metadata on the TFIs. Users cannot make online comparisons of the performance of various BCPs or corridor sections. They can only obtain the primary data from the CPMM team. This limits the use of the primary CPMM data in both policymaking and research.

IV. RECOMMENDATIONS

31. To eliminate or mitigate the CPMM weaknesses discussed in the previous section, the CPMM review team offers the following recommendations concerning the TFIs, data collection, data aggregation, and dissemination of CPMM data and findings:

4.1 Trade and Transport Facilitation Indicators

4.1.1 Replace the TFIs with the following trade and transport facilitation indicators (TTFIs):

A. TTFIs measuring the performance of BCPs and ports:[9]

TTFI1: Waiting time to enter a BCP/port (in hours).

TTFI2: Payments related to the waiting in queue to enter a BCP/port (in US$).

TTFI2a: Official payments related to the waiting in queue to enter a BCP/port (in US$).

TTFI2b: Unofficial payments related to the waiting in queue to enter a BCP/port (in US$).[10]

TTFI3: Duration of the border controls (in hours).

TTFI4: Payments related to the border controls (in US$).

TTFI4a: Official payments related to the border controls (in US$).

TTFI4b: Unofficial payments for the border controls (in US$).

TTFI5: Duration of the operational transport activities unrelated to border controls (in hours).

TTFI6: Payments related to the operational transport activities unrelated to border controls (in US$).

TTFI6a: Official payments related to the operational transport activities (in US$).

TTFI6b: Unofficial payments related to the operational transport activities (in US$).

[9] These TTFIs are intended to (i) separate waiting in queue to enter a BCP/port from other border crossing activities and (ii) combine border controls and operational transport activities unrelated to border controls into two separate groups of border crossing activities.
[10] Refers to the unofficial payments for shortening the waiting time to enter a BCP/port.

B. TTFIs measuring the performance of corridor sections:

TTFI7: Speed without delays (in km/hour).

TTFI8: Number of the stops for emergency repair (per 100 km).

TTFI9: Number of the intermediate stops for checks and controls (per 100 km).

TTFI10: Duration of the intermediate stops for checks and controls (in hours per 100 km).

TTFI11: Payments related to the checks and controls at intermediate stops (in US$ per 100 km).

TTFI11a: Official payments related to the checks and controls at intermediate stops (in US$ per 100 km).

TTFI11b: Unofficial payments related to the checks and controls at intermediate stops (in US$ per 100 km).[11]

TTFI12: Speed with delays (in km/hour).

4.2 Sampling

4.2.1 Impose more structure on the CPMM samples by

(i) compiling—in consultation with key stakeholders—lists of BCPs, ports and corridor sections that are to be covered by the CPMM;[12]

(ii) fixing the types of shipments (export/import/transit shipments, perishable/ nonperishable goods, etc.) and the number of shipments of each type for which data are to be collected for each BCP, port and corridor section every year;

(iii) ensuring, as much as possible, that the target samples for various BCPs, ports and corridor sections serving the same mode of transport are comparable in terms of the types of the shipments; and

(iv) allocating the resulting target samples to the CPMM partners in such a way that, if practicable, 2-4 CPMM partners will collect data on each BCP, port and corridor section.

4.2.2 When selecting shipments on which data are to be collected, choose shipments whose cargo type (except perishable goods), weight and size are unlikely to have a significant impact on the value of any TTFI.

4.3 Data Collection

4.3.1 In addition to local associations of transport and/or logistics companies, engage foreign logistics companies that regularly undertake international shipments in the

[11] The TTFI8-TTFI11b are intended to separate the effects of the stops for emergency repair from those of the intermediate stops for checks and controls.
[12] The lists may include a few comparator BCPs outside the CAREC region and sections of the Middle Corridor that do not belong to any CAREC corridor. To reduce the overall cost of the CPMM, only those BCPs and CAREC corridor sections that are particularly important for trade in the CAREC region can be included in the lists.

CAREC region, local survey companies and/or more local think tanks as CPMM partners.[13]

4.3.2 Collect—through CPMM partners—information on key characteristics of the BCPs covered by CPMM (including the number of lanes, availability of express lanes and use of electronic queue management), make the information available in the online CPMM database, and keep it up-do-date by asking CPMM partners to report changes in the BCP characteristics.

4.3.4 Explore the possibility of collaborating with the customs of the CAREC countries in monitoring and assessing the performance of BCPs along CAREC corridors, whereby the customs would share data on trade/traffic flows via the BCPs with the CPMM team and the CPMM team would make a comparative assessment of the performance of the BCPs using the CPMM data and the data provided by the customs.

4.4 Data Aggregation

4.4.1 In the absence of sufficiently comprehensive data and proper weights, compute and report the TTFIs at low levels of aggregation (e.g., various categories of shipments, BCPs and ports) and avoid using the TTFIs at high levels of aggregation (i.e., corridors, CAREC countries and the CAREC region).

4.5 Dissemination of CPMM Data and Findings

4.5.1 Improve the online CPMM database so that users will be able to make online comparisons of the performance of BCPs/ports and corridor sections using various TTFIs, visualize CPMM data online, download all or subsets of the CPMM data using online queries, and review and download the CPMM metadata.[14]

4.5.2 Publish posts presenting CPMM findings in blogs (such as the Asian Development Blog) and knowledge sharing platforms (such as Development Asia) shortly after new CPMM data become available.

4.5.3 Regularly prepare policy briefs based on CPMM data and, as appropriate, complementary data obtained from other sources.

4.5.4 Discontinue publishing CPMM annual reports.

4.5.5 Establish a cooperation arrangement between ADB and CI whereby the two institutions will closely collaborate in disseminating CPMM data and findings, with ADB remaining in charge of CPMM data collection and processing and CI having the primary responsibility for the preparation of policy briefs based on CPMM data.

[13] Some think tanks that are members of the CAREC Institute's Think Tank Forum might be interested in becoming CPMM partners and participating not only in collecting CPMM data (in collaboration with local and foreign transport and logistics companies), but also in disseminating CPMM data and findings and conducting research using CPMM data.
[14] To implement this recommendation, additional financing will be needed.

APPENDIXES

Appendix 1: Transport Activities on Which Primary CPMM Data are Collected

No.	Road transport	Railway transport	Water transport
1	Border Security/Control	Loading Cargo	Berthing
2	Customs Controls	Unloading Cargo	Loading/Unloading
3	Commercial Inspection	Fixing Cargo Shift	Documentation
4	Health/Quarantine	Removing Excess Cargo	Customs Controls
5	Phytosanitary	Transloading at Gauge Change Point	Inspection and Examination
6	Veterinary Inspection	Pick-up and Delivery	Waiting Time
7	Visa/Immigration	Replacing/Repairing Inoperable Wagon	
8	Transit Conformity	Emergency Repair	
9	GAI/Traffic Inspection	Train Classification	
10	Police Checkpoint/Stop	Document Errors	
11	Transport Inspection	Reissuance of Transit Documents	
12	Weight/Standard Inspection	Customs Inspection	
13	Vehicle Registration	Technical Inspection	
14	Emergency Repair	Commercial Inspection	
15	Escort/Convoy	Sanitary/Phyto-sanitary Control	
16	Loading/Unloading	Materials Transfer	
17	Road/Bridge Toll	Faulty Handling Equipment	
18	Waiting/Queue	No Wagons Available	
19		Restriction on Entry	
20		Marshalling	
21		Waiting for Priority Trains to Pass	
22		Waiting for Other Reasons	

CPMM = Corridor Performance Measurement and Monitoring.
Source: CPMM database.

Appendix 2: CPMM Partners

No.	CPMM partner	Country	Shipments*
1	Association of Afghanistan Freight Forwarding Companies (AAFFCO)	Afghanistan	330
2	Xinjiang Uygur Logistics Association (XULA)	People's Republic of China	530
3	Georgian International Road Carriers Association (GIRCA)	Georgia	90
4	Kazakhstan Freight Forwarders Association (KFFA)	Kazakhstan	118
5	Kyrgyzstan Freight Association (FOA)	Kyrgyz Republic	60
6	Mongolia Chamber of Commerce and Industry (MNCCI)	Mongolia	101
7	National Road Transport Association of Mongolia (NARTAM)	Mongolia	240
8	Pakistan International Freight Forwarders Association (PIFFA)	Pakistan	240
9	Association of International Automobile Carriers of Tajikistan (ABBAT)	Tajikistan	120
10	Business Logistics Development Association (ADBL)	Uzbekistan	270
11	Association of International Road Carriers of Uzbekistan (AIRCUZ)	Uzbekistan	240
	TOTAL		2,339

CPMM = Corridor Performance Measurement and Monitoring.
* The number of the shipments on which the CPMM partner collected data in 2022.
Source: CPMM database.

Appendix 3: Border Crossing Points Covered by the CPMM

No.	BCP code	BCP name	Country	CAREC Corridor(s)
1	P01-1	Hairatan	AFG	3,6
2	P01-2	Termez	UZB	3,6
3	P02-1	Islam Qala	AFG	3,6
4	P02-2	Dogharoun	IRN	3,6
5	P03-1	Torkham	AFG	5,6
6	P03-2	Peshawar	PAK	5,6
7	P04-1	Shirkhan Bandar	AFG	2,5,6
8	P04-2	Panji Poyon	TAJ	2,5,6
9	P05-1	Baku	AZE	2
10	P05-2	Aktau	KAZ	2
11	P06-1	Beyuk Kesik	AZE	2
12	P06-2	Gabdabani	GEO	2
13	P07-1	Krasnyi Most	AZE	2
14	P07-2	Tsiteli Khidi	GEO	2
15	P08-1	Alashankou	PRC	1,2
16	P08-2	Dostyk	KAZ	1,2
17	P09-1	Takeshikent	PRC	4
18	P09-2	Yarant	MON	4
19	P10-1	Erenhot	PRC	4
20	P10-2	Zamiin-Uud	MON	4
21	P11-1	Khorgos	PRC	1
22	P11-2	Khorgos	KAZ	1
23	P12-1	Torugart	PRC	1
24	P12-2	Torugart	KGZ	1
25	P13-1	Irkeshtan	PRC	2,5
26	P13-2	Irkeshtam	KGZ	2,5
27	P14-1	Dostuk	KGZ	2
28	P14-2	Dustlik	UZB	2
29	P15-1	Chaldovar	KGZ	1,3
30	P15-2	Merke	KAZ	1,3
31	P16-1	Karamyk	KGZ	2,3,5
32	P16-2	Karamyk	TAJ	2,3,5
33	P17-1	Aul	KAZ	3
34	P17-2	Veseloyarsk	RUS	3
35	P18-1	Kairak	KAZ	1
36	P18-2	Troitsk	RUS	1
37	P19-1	Zhaisan	KAZ	1,6
38	P19-2	Kos Aral	RUS	1,6
39	P20-2	Novomarkovka	RUS	1,6
40	P21-1	Beyneu	KAZ	2,6

41	P21-2	Dautota	UZB	2,6
42	P22-1	Tazhen	KAZ	2,6
43	P23-1	Saryagash	KAZ	3,6
44	P23-2	Keles	UZB	3,6
45	P24-1	Zhibek Zholy	KAZ	3,6
46	P24-2	Gisht Kuprik	UZB	3,6
47	P25-1	Ganyushking	KAZ	6
48	P25-2	Aksaraskaya	RUS	6
49	P26-1	Kurmangazy	KAZ	6
50	P26-2	Krasnyi Yar	RUS	6
51	P27-1	Sukhbaatar	MON	4
52	P27-2	Naushki	RUS	4
53	P28-1	Ulaanbaishint	MON	4
54	P28-2	Tashanta	RUS	4
55	P29-1	Patar	TAJ	2
56	P29-2	Andarkhon	UZB	2
57	P30-1	Nau	TAJ	2
58	P30-2	Bekabad	UZB	2
59	P31-1	Pakhtaabad (Dusti)	TAJ	3
60	P31-2	Saryasia	UZB	3
61	P32-1	Alat	UZB	2,3
62	P32-2	Farap	TKM	2,3
63	P33-1	Khavast	UZB	6
64	P33-2	Istaravshan	TAJ	6
65	P34-1	Ak Zhol	KGZ	1
66	P34-2	Kordai	KAZ	1
67	P35-1	Chaman	PAK	5,6
68	P35-2	Spin Buldak	AFG	5,6
69	P36-2	Turkmenbashi	TKM	2
70	P37-1	Konysbayeva	KAZ	3,6
71	P37-2	Yallama	UZB	3,6
72	P38-1	Karachi	PAK	5,6
73	P39-1	Tianjin	PRC	4
74	P40-1	Aisha Bibi	KAZ	1,3
75	P40-2	Chon Kapka	KGZ	1,3
76	P41-1	Sarahs	TKM	3
77	P41-2	Sarakhs	IRN	3
78	P42-1	Taskala	KAZ	1, 6
79	P42-2	Ozinki	RUS	1, 6
80	P43-1	Jana Jol	KAZ	1,6
81	P43-2	Petuchovo	RUS	1,6
82	P44-1	Pogodaevo	KAZ	0
83	P44-2	Mashtakovo	RUS	0

84	P45-1	Kensay	KGZ	0
85	P45-2	Uchkurgan	UZB	0
86	P46-1	Fotehobod	TAJ	2,3,6
87	P46-2	Oibek	UZB	2,3,6
88	P47-1	Khodjand	TAJ	0
89	P48-1	Kunya Urganch	TKM	0
90	P48-2	Khodjayli	UZB	0
91	P49-1	Kyzyl-Bel	KGZ	0
92	P49-2	Guliston	TAJ	0
93	P50-1	Karasu	PRC	0
94	P50-2	Kulma	TAJ	0
95	P51-1	Khiyagt	RUS	4
96	P51-2	Altanbulag	MON	4
97	P52-1	Ak-Tilek	KGZ	1
98	P52-2	Karasu	KAZ	1
99	P53-2	Altynkol	KAZ	1
100	P54-1	Bichigt	MON	4
101	P54-2	Zuun Khatavch	PRC	4
102	P55-1	Torghondi	AFG	2,6
103	P55-2	Serkhet Abad	TKM	2,6
104	P56-1	Khunjerab	PRC	5
105	P56-2	Khunjerab	PAK	5
106	P57-1	Aqina	AFG	2
107	P57-2	Imam Nazar	TKM	2
108	P58-1	Bolashak	KAZ	5
109	P58-2	Serkhetyaka	TKM	5
110	P59-1	Khodzhadavlet	UZB	2,3
111	P60-2	Jalgan	TAJ	2,3,5
112	P61-2	Kuryk	KAZ	2
113	P62-1	Lianyungang	PRC	1,2,5
114	P63-1	Poti	GEO	2
115	P64-1	Batumi	GEO	2
116	P65-1	Sarpi	GEO	2
117	P65-2	Sarp	OTH	2
118	P66-2	Nur Zholy	KAZ	1
119	P67-1	Turksib	KAZ	1,3
120	P67-2	Turksib	KGZ	1,3

Note: List is not exhaustive of all CAREC BCPs. Majority of the BCPs are along CAREC corridors.
BCP = border crossing point, CPMM = Corridor Performance Measurement and Monitoring.
Country abbreviations: AFG = Afghanistan, AZE = Azerbaijan, GEO = Georgia, KAZ = Kazakhstan, KGZ = Kyrgyz Republic, MON = Mongolia, OTH = Others, PAK = Pakistan, PRC = People's Republic of China, RUS = Russia, TAJ = Tajikistan, TKM = Turkmenistan, UZB = Uzbekistan
Source: CPMM database.

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