



RAILWAY SECTOR ASSESSMENT FOR UZBEKISTAN

MARCH 2021

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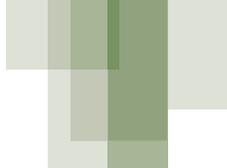
In this publication, “\$” refers to United States dollars.

Cover design by Edith Creus.

Cover photos (left to right): Tanker and wagon (photo by TA consultants), two locomotives (photo by ADB), and obsolete Tashkent wagon to truck transfer track (photo by TA consultants).

CONTENTS

TABLES AND FIGURES	iv
ACKNOWLEDGMENTS	v
ABBREVIATIONS	vi
CURRENCY EQUIVALENTS	vi
1 INTRODUCTION AND BACKGROUND	1
A. Introduction	1
B. The railway network	1
C. Institutional responsibilities for railways	3
D. Cross-border and transit traffic routes	4
E. Relevant CAREC corridors	8
2 TRENDS IN RAILWAY TRAFFIC	13
A. Introduction	13
B. Analysis of traffic	13
C. Growth scenario	15
3 MARKET COMPETITIVENESS	17
A. Introduction	17
B. Market feedback	17
C. Problems affecting rail competitiveness	18
4 RAILWAY OPERATING AND FINANCIAL PERFORMANCE	20
A. Introduction	20
B. Commercial orientation	20
C. Financial performance	20
D. Operational benchmarking	21
5 PROPOSALS FOR INVESTMENT, COMMERCIALIZATION, AND REFORM	25
A. Introduction	25
B. Policy setting	25
C. Commercialization and reform	26
D. Proposals for support from CAREC Railway Sector Development TA	26
1. Prefeasibility studies	26
2. Knowledge products and events	27
E. Main opportunities for support under CAREC Railway Sector Development TA	29
APPENDIX: CAREC DESIGNATED RAIL CORRIDORS	30
REFERENCES	32



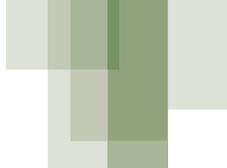
TABLES AND FIGURES

TABLES

2.1	Value of Uzbekistan's Exports and Imports	13
2.2	Uzbekistan Export, Import, and Transit Cargo by Mode, 2015–2018	14
2.3	Rail Freight and Passenger Transportation Data, 2015–2018	14
2.4	Railway Freight by Commodity, 2014–2018	15
2.5	Development Strategies of the Railway Transport System of Uzbekistan Until 2035	16
3.1	Actual and Projected Membership of the Association of International Road Carriers of Uzbekistan	17
3.2	Market Feedback on Rail Competitiveness for Different Traffic Types	18
4.1	Uzbekistan Railways Profitability and Borrowing, 2018 Estimate and 2019 Forecast	21
5.1	Promising Opportunities for Uzbekistan to Obtain Support Under CAREC Railway Sector Development TA	29

FIGURES

1.1	Uzbekistan Railway Network	2
1.2	Uzbekistan's High-Speed Passenger Trains	3
1.3	Organization Chart of Uzbekistan Railways	4
1.4	Regional Rail Links and Ports Serving Cross-border and Transit Traffic	5
1.5	Sections of CAREC Corridor 1 Relevant for Uzbekistan	8
1.6	Sections of CAREC Corridor 2 Relevant for Uzbekistan	9
1.7	Sections of CAREC Corridor 3 Relevant for Uzbekistan	10
1.8	Sections of CAREC Corridor 5 Relevant for Uzbekistan	11
1.9	Sections of CAREC Corridor 6 Relevant for Uzbekistan	12
4.1	Revenues by Source, 2018 Expected and 2019 Forecast	21
4.2	Comparison of Railway Length and Staff Size in Uzbekistan, other CAREC Member Countries and other Leading Railway Countries	22
4.3	Comparison of Railway Rolling Stock Fleet in Uzbekistan, other CAREC Member Countries and other Leading Railway Countries	22
4.4	Comparison of Annual Railway Freight and Passenger Traffic Levels in Uzbekistan, other CAREC Member Countries and other Leading Railway Countries	23
4.5	Comparison of Railway Track and Staff Productivity in Uzbekistan, other CAREC Member Countries and other Leading Railway Countries	24
4.6	Comparison of Locomotive and Wagon Productivity in Uzbekistan, other CAREC Member Countries and other Leading Railway Countries	24



ACKNOWLEDGMENTS

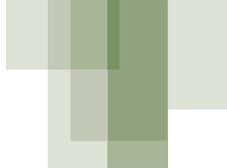
This country railway sector assessment is part of an Asian Development Bank (ADB) technical assistance (TA) project on *Railway Sector Development in Central Asia Regional Economic Cooperation (CAREC) Countries*. The project has been assisting CAREC member countries to identify promising opportunities for investment in cross-border railways and develop railway commercialization and reform measures to strengthen railway performance in accordance with the *CAREC Railway Strategy* approved by CAREC ministers in 2017.

Preparation and supervision of the project was led by Jurgen Sluijter, Senior Transport Specialist, and overseen by Dong-Soo Pyo, Director, Transport and Communication Division, Central and West Asia Department. Administrative support was provided by Krisanta Carissa Vila, Associate Project Analyst.

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Valuable insights and information were provided by Uzbekistan Railways, the Ministry of Transport, other government departments, international development partners and representatives of the private sector. Useful comments were provided by ADB staff including Ko Sakamoto.



ABBREVIATIONS

ADB	Asian Development Bank
AIRCUZ	Association of International Road Carriers of Uzbekistan
CAREC	Central Asia Regional Economic Cooperation
CIS	Commonwealth of Independent States
CRC	China Rail Corporation
EBRD	European Bank for Reconstruction and Development
EEU	Eurasian Economic Union
EMU	electric multiple unit
EU	European Union
FSU	former Soviet Union
JSC	joint stock company
KTZ	Kazakhstan Temir Zholy (Kazakh Railways)
MC	Member Country
MOT	Ministry of Transport
PRC	People's Republic of China
ROT	Rohi Ohani Tojikiston (Tajikistan Railway)
SOE	state-owned enterprise
TA	technical assistance
TDA	Turkmen Demir Yollari (Turkmenistan Railway)
TEU	twenty-foot equivalent
TITR	Trans-Caspian International Transport Route
UIC	International Union of Railways
UTY	O'zbekiston Temir Yo'llari (Uzbekistan Railways)

CURRENCY EQUIVALENTS

(as of 5 June 2020)

Currency unit	-	Sum (UZS)
UZS1.00	=	\$0.0001
\$1.00	=	UZS10,039

INTRODUCTION AND BACKGROUND

A. Introduction

1. In 2017, the eleven Member Countries (MCs) of the Central Asia Regional Economic Cooperation (CAREC) program approved the CAREC Railway Strategy with a view to expanding the role of railway transport in the region.¹ The strategy aims to accelerate the identification, preparation and financing of feasible railway investment projects and, at the same time, advance the commercialization and reform of railways to improve their performance (ADB 2017).
2. In 2018, the Asian Development Bank (ADB) approved a \$2 million regional technical assistance (TA) project for CAREC Railway Sector Development to assist MCs in implementation of the CAREC Railway Strategy (ADB 2018).² The TA is intended to accelerate the sound development of the railway sector in CAREC countries by providing support for railway transport market research, project identification and preparation, knowledge sharing and preparation of practical actions for commercialization and reform in MCs.
3. During the first part of TA implementation, the TA consultants conducted assessments of the railway sector in each MC. The purpose of these assessments was to examine the setting, characteristics, performance and prospects of railways, and identify promising investment opportunities,

and commercialization and reform actions, that could be considered for support through the TA. This short report summarizes the findings of the railway sector assessment for Uzbekistan, based on a country visit during 16–21 September 2019.

B. The railway network

4. Uzbekistan is a double-landlocked lower-middle income country with a population of 32.7 million in 2018 (ADB 2019a). It is located at the heart of Central Asia, bounded to the north and west by Kazakhstan, to the southwest by Turkmenistan, to the south by Afghanistan, to the southeast by Tajikistan, and to the east by the Kyrgyz Republic.
5. Railways were originally developed in Uzbekistan by the Russian Empire and later by the former Soviet Union (FSU). Central Asia's first railway, known as the Central Asian Railway, was completed in 1888. It extended from the Caspian Sea port of Krasnovodsk (Turkmenbashi) to Tashkent via Bukhara and Samarkand. A branch line to Andijan was added in 1898 and further branches serving the Fergana Valley and Tajikistan were added in 1935. The headquarters of the Central Asian Railway was based in Tashkent.³ The second major railway, completed in 1906, was the Trans-Aral Railway from Tashkent to Orenburg (Russia) via Arys, Turkestan, and Aktobe (all in Kazakhstan).

¹ The eleven CAREC member countries are Afghanistan, Azerbaijan, the People's Republic of China (PRC) (specifically the Xinjiang Uygur Autonomous Region and the Inner Mongolia Autonomous Region), Georgia, Kazakhstan, the Kyrgyz Republic, Mongolia, Pakistan, Tajikistan, Turkmenistan, and Uzbekistan.

² The TA is cofinanced by the PRC Poverty Reduction and Regional Cooperation Fund and the United Kingdom Fund for Asia Regional Trade and Connectivity (under the Regional Cooperation and Integration Financing Partnership Facility).

³ Sredneazitskaya Zheleznaya Doroga (Central Asian Railway) also encompassed railway lines in Tajikistan, Turkmenistan, southern Kyrgyz Republic, and southern Kazakhstan.

With a northwest orientation, this railway provided the first direct railway connection from Central Asia to Russia. Between the end of World War II and the 1980s, a further northwestern railway corridor was built via Nukus and Beyneu (Kazakhstan) providing a more direct route than the Trans-Aral Railway for some Central Asian traffic to and from the Caspian Sea port of Aktau and parts of Russia north of the Caspian Sea. When the former Soviet Union (FSU) collapsed in 1991, Uzbekistan established O‘zbekiston Temir Yo‘llari (UTY) to manage, operate, and maintain the country’s railway network.

6. Railway network coverage in Uzbekistan is denser than in most other CAREC countries. UTY also enjoys a strong market position. It is predominantly a freight railway, with steadily rising freight volume accompanied by growing containerization linked to growth in industrialization.

7. UTY’s network is entirely broad gauge (1,520 mm). The length of the operational network is 4,718 km, with 2,530 km electrified (54%). UTY uses a semi-automatic block signalling system. Its railway lines are well-maintained, with the section between Tashkent, Samarkand, Bukhara, Karshi, and Termez capable of handling high-speed Talgo passenger trains. At independence, some of Uzbekistan’s internal traffic had to transit through border areas of Tajikistan and Turkmenistan, which meant that cargo was subject to additional border inspections and transit tariffs. In the intervening years, UTY invested in new railway sections within Uzbekistan territory to replace the sections passing through Tajikistan and Turkmenistan. It completed the internally integrated network in 2016. The current railway network is shown in Figure 1.1.

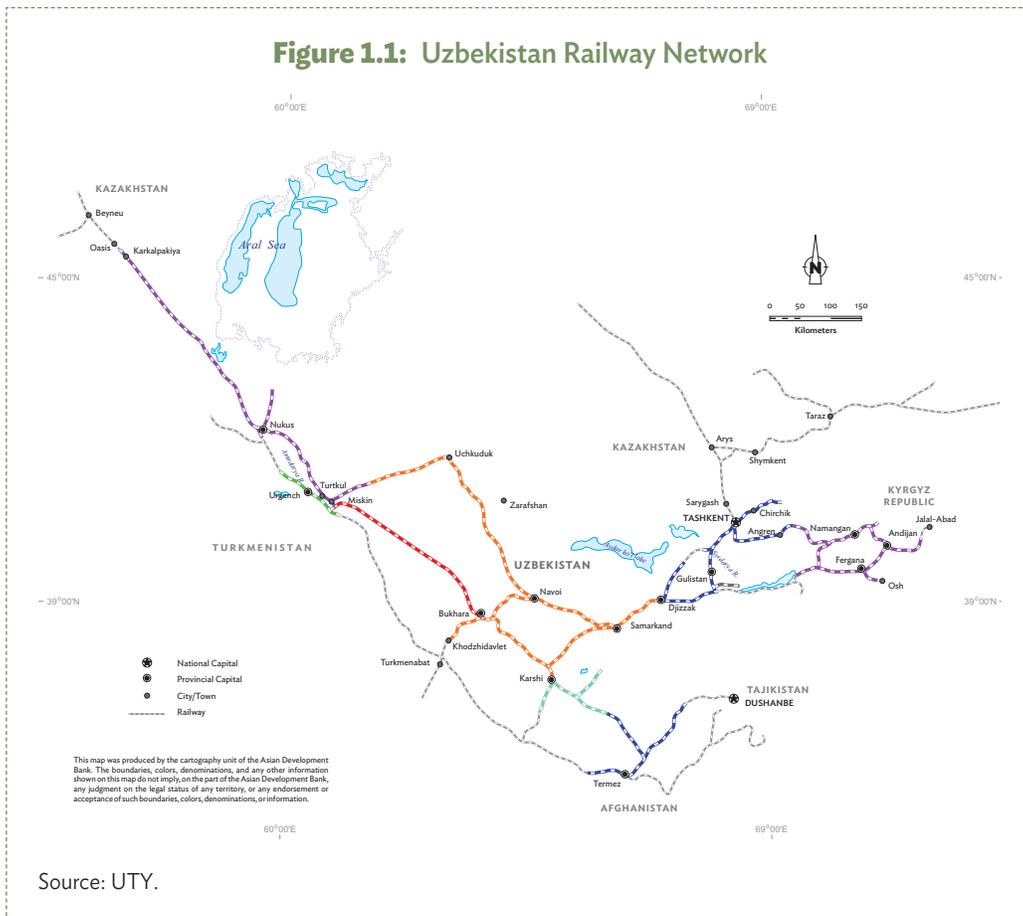


Figure 1.2: Uzbekistan's High-Speed Passenger Trains



Source: ADB consultants.

8. At the end of 2018, UTY's in-service fleet consisted of 98 mainline electric locomotives, 82 mainline diesel locomotives, 21 electric multiple units (EMUs), and 172 shunting locomotives. Many of the locomotives in its possession are near end of service life. Two-thirds of mainline diesel locomotives, 91% of shunting locomotives, and 35% of electric locomotives are over 30 years old. These will require replacement in the coming years.

C. Institutional responsibilities for railways

9. UTY is a state-owned joint stock company responsible for management and maintenance of railway infrastructure and operation of railway passenger and freight services. It has a staff of about 70,000 persons. Staffing size has remained fairly constant over the past decade.

Figure 1.3: Organization Chart of Uzbekistan Railways

BOARD CHAIRMAN							
First Deputy Chairman	Chief Manager–Chief Engineer	Deputy Chairman	Deputy Chairman	Deputy Chairman	Deputy Chairman	Deputy Chairman – Manager “Toshkent metro” UE	Chairman Advisor 1
Economic Analysis and Forecast Department 15 units	Department of Labor Protection, Technical and Industrial Safety 3 units	Transportation Management Department 10 units	Investment Attraction and Investment Projects Implementation Department 10 units	Directorate of the Construction Facility for Development of “Tebinbulak” Deposit	Special Service Department 7 units	“TASHKENT Metropolitan” UE	Legal Department 5
Financial Department 16 units	Department for Organization and Control of Industrial Activity; Strategic Development Department; Railway Equipment, Machines and Mechanisms Department; Locomotives Operation Department; Track Facilities Department; Signaling and Communication Department; Power Supply Department; Nodal Division Signaling and Communication Department; “Temiryulenyilgita'min” Department; Locomotive Depot	Paramilitary Security Services Department Information-Computing Centre Logistics, Freight, and Commercial Work Department; Unified Dispatch Center; Technical and Technological Control Department; Statistics and Accounting Department; Service Center for “Afrasiob” High-Speed Electric Trains; Militarized Security Department; Information and Computing Center	Department of Agriculture Capital Construction Department Specialized Directorate Specialized Mechanized Track Station Department for Operation and Development of Sardoba Reservoir Facilities	“Uzbekugol” JSC “Shargunkumir” JSC “Pap Logistics Center” UE “Agroindustrial complex” Sardoba” UE	Personnel Management and Training Department 8 units	Samarkand Vocational College of Railway Transport Kokand Vocational College of Railway Transport Medical Service with Medical Institutions at Stations Central Sanitary-Epidemiological Station with Branches at the Stations Road Anti-Plague Station “Nazarbek” Sanatorium	Administrative Office 3
“UZJELDORRASCHET” Centre							UTY JSC Representative at OSJD 1 unit
“Plant for Repair of Excavators and Tracked Vehicles” Unitary Enterprise; “UZJELDORREMMASH” UE; “Foundry-Mechanical Plant” DE; “Andijan Mechanical Plant” DE; “Rail Welding Train No. 14” UE; “Tashkent Plant for Construction and Repair of Passenger Cars” UE; “Uzvagontamir” JSC; “Granit” JSC; “Eyvalek Machsus Tem Beton” JSC; “Tashkent Mechanical Plant” JSC		“Uzbekzheldorekspeditsiya” UE; “RRJ-Tashkent” UE “RRJ-Kokand” UE “RRJ-Bukhara” UE “RRJ-Kungrad” UE “RRJ-Karshi” UE “RRJ-Termez” UE “Uztemiryulovochi” JSC “Yulreftrans” JSC “Uztemiryulkonteyner” JSC	“Energomontaj Train No. 1” UE “Specialized Construction and Assembly Train – 406” UE “Uztemiryulkurilish-Montaj” UE “Trust” Kuprik Qurilish” UE Ugam-Chatkal Reserve UE; “Termez makhsus” kurilish” UE	International Cooperation and Foreign Economic Relations Department 6 units	Information Security and Information Development Department Information, Public Relations, and Branch Newspaper Department “Lokomotiv” Central Physical Culture and Sports Club with branches at the stations	UTY JSC Representative in Moscow 1 unit	Corporate Relationship Management Board of Management Department
					Tashkent Institute of Railway Engineers Tashkent Professional College of Railway Transport		

Source: UTY 2019.

10. UTY was originally responsible for both railway operations and regulatory functions. After reform, in 2001 it became a 100% state-owned enterprise responsible for railway operations, overseen by a Board of Directors with diverse backgrounds (Figure 1.3). In 2019, policy and regulatory responsibilities were transferred to the newly established Ministry of Transport (MOT).

11. The government expects UTY to operate on a self-financing basis, without capital or operating subsidies. UTY is profitable (Chapter 4) and can finance most of the investments needed to preserve infrastructure and modernize rolling stock from its own resources.

D. Cross-border and transit traffic routes

12. In 2018, domestic traffic contributed nearly two-thirds of UTY freight traffic turnover and volume. Transit traffic accounted for less than 10% of freight volume but contributed nearly 20% of freight turnover, while imports contributed 19% of volume and 13% of turnover, and exports contributed 9% of both volume and turnover. The higher contribution of transit traffic to traffic turnover was because the average rail distance within Uzbekistan for transit traffic (540 km) was more than twice that of domestic traffic (227 km), exports (258 km), and imports (163 km).

Figure 1.4: Regional Rail Links and Ports Serving Cross-border and Transit Traffic

Notes: (1) Within the PRC, the map covers principal railway trunk routes used for trade between the PRC and CAREC member countries and regional railway links relevant for Inner Mongolia and Xinjiang, the two PRC regions that participate in CAREC; (2) the boundaries, colors, denominations, and any other information shown on this map do not imply, on the part of ADB, any judgment on the legal status of any territory, or any endorsement or acceptance of such boundaries, colors, denominations, or information.

Source: TA consultants.

13. The national borders adopted after the collapse of the FSU bifurcated the roughly 1,000 km northwestern railway corridor between Bukhara and Beyneu (Kazakhstan). In the Soviet era, this was an important route between Central Asia and Russia. At independence, nearly half of the corridor was now located a short distance across the border in Turkmenistan, making it difficult to operate long distance services. Most traffic diverted to the parallel northwestern corridor several hundred kilometers to the northeast in Kazakhstan, via Arys and Shalkar (Figure 1.4). Since then, UTY has progressively built new railway sections within Uzbekistan to replace those in Turkmenistan but there are still some remaining capacity bottlenecks to be overcome.

Once this has been accomplished, the corridor could play a greater role in serving Uzbekistan's trade with the Russian Federation, Europe, and the Middle East, which would significantly increase the average length of haul on the Uzbek railway, leading to higher freight turnover and revenue.

14. Two other major international corridors of the FSU also suffered significant declines in traffic but have potential to recover in future. First, the corridor from Bukhara to the Iranian port of Bandar Abbas via Mary (Turkmenistan) used to provide Central Asian countries with access to ocean shipping. Due to Iran economic sanctions this corridor is currently utilized to its potential but

it is likely to become attractive again when sanctions eventually come to an end. Second, under the FSU the corridor from Bukhara to Turkmenbashi via Mary and Ashgabat provided a shorter route for Trans-Caspian freight to and from southern parts of Central Asia. As economic cooperation grows between Uzbekistan and Turkmenistan, this corridor could play an increasing role in future.

15. Expansion of transit traffic is one of the priorities identified by UTY's Strategy for Development, 2015–2019. UTY wishes to leverage upon its strategic position in Central Asia, connecting with international transit corridors to the north, south, east, and west. In its 2019 business plan, UTY seeks growth in its main existing transit traffic flows. These refer to transit traffic between the Uzbekistan–Kazakhstan border at Sarygash (near Tashkent) and both Afghanistan (Keles–Galaba) and the Kyrgyz Republic (Keles–Bekabad), as well as flows between Tajikistan and Turkmenistan (Boldyr–Kudukli) (UTY 2018).

16. The segments of the international freight market relevant for UTY over the medium and long term are summarized as follows:

(i) **Russian Federation.** Trade with the Russian Federation remains the largest part of Uzbekistan's cross-border railway traffic. There is strong competition from road transport. Currently, most rail traffic to and from the direction of Moscow proceeds via Tashkent, Sarygash, Arys, and Shalkar (both Kazakhstan) to connect with the Russian railway network at Orenburg.⁴ Traffic to parts of the Russian Federation north of the Caspian Sea proceeds from Shalkar via Beyneu.

For more easterly locations in the Russian Federation, traffic may proceed north from Shalkar or use eastern sections of the Kazakh network, for example via Shu and Nur-Sultan or via Almaty and Aktogay. As discussed above, if capacity and speeds are improved on Uzbekistan's northwestern corridor, it could attract much of the traffic to and from Moscow and other western parts of the Russian Federation, which would significantly increase UTY's freight turnover, revenue, and overall financial performance.

(ii) **PRC and East Asia.** Due to economic sanctions against Iran, Uzbekistan lacks direct access to ocean shipping, so traffic to and from the PRC and East Asia uses overland routes. The two routes are the Trans-Siberian Railway through the Russian Federation connecting with Uzbekistan via Kazakhstan and the Trans-Caspian International Transport Route (TITR) via the PRC that crosses from the PRC into Kazakhstan at Khorgos or Dostyk. Both routes connect with Uzbekistan via Sarygash. The TITR is a significantly shorter distance than the Trans-Siberian Railway but currently takes several days longer to cross. A small portion of traffic uses road transport, either following the TITR corridor or by crossing between Kashgar (PRC) and the Fergana Valley via Irkeshtam and Osh in the Kyrgyz Republic. The proposed PRC–Kyrgyz Republic–Uzbekistan railway, which would follow a similar route from Kashgar to the Fergana Valley, would reduce journey distance and delivery time for some traffic, so it may have potential to attract significant volumes transit traffic.⁵

⁴ In the Soviet era, this was a heavily used route known as the Trans-Aral Railway.

⁵ According to some reports, this project would reduce journey distance by 900 km and delivery time by 7–8 days (CTI Engineering 2012).

- (iii) **Europe and the Middle East.** The TITR corridor across the Caspian and Black Seas is the most established route. Between Uzbekistan and the Caspian Sea most rail traffic proceeds through Kazakhstan via Sarygash, Arys, Shalkar, and Beyneu to connect with ferry services between the ports of Aktau and Baku (Azerbaijan). West of Baku, traffic follows the Trans-Caucasus Corridor through Azerbaijan and Georgia to connect with shipping services at Georgia's Black Sea ports. Traffic to and from Turkey turns south soon after entering Georgia onto the new Baku–Tbilisi–Kars Railway. In future, on the section between Uzbekistan and Baku there may be options to reduce distance and travel time depending on traffic origin and destination, including: (a) using UTY's northwestern corridor to reach Beyneu, rather than the parallel corridor in Kazakhstan [similar to item (i)], and (b) taking a southerly route on the Lapis–Lazuli Corridor through Turkmenistan via Mary and Ashgabat to cross the Caspian Sea at the newly upgraded port of Turkmenbashi.⁶ These alternative routes would also offer advantages for transit traffic between the PRC and southern Europe and the Middle East, particularly if the proposed PRC–Kyrgyz Republic–Uzbekistan railway is built [item (ii)]. While there is competition from road transport, especially to and from Turkey, rail can be competitive for many origins and destinations if operated efficiently. Uzbekistan has been invited to join the multi-country Middle Corridor Association which is working on streamlining and harmonizing rail-based transport on the TITR.⁷
- (iv) **Iran, Afghanistan, and Pakistan.** As a double-landlocked country, Uzbekistan attaches priority to railway connectivity with Iran and Pakistan to gain access to their deep-water ports for ocean shipping. This is needed for economic security and to support trade with more distant markets including in South Asia, Southeast Asia, and North America. Uzbekistan also hopes to expand trade with Iran, Afghanistan, and Pakistan which have a combined population of more than 300 million people. Once Iran economic sanctions come to an end, trade with Iran should resume and Bandar Abbas can again become the main port used by Uzbekistan (para. 12). Freight to and from the port would mainly be transported by rail via Bukhara and Mary (Turkmenistan), although there could also be competition from road transport. Uzbekistan also seeks access via Afghanistan to Pakistan's Arabian Sea ports of Karachi and Gwadar which could provide an alternative to Bandar Abbas if needed. For transport between Uzbekistan and Afghanistan, railway faces strong competition from road transport. South of the Afghan border all freight is transferred to road as the Afghan rail network terminates at Mazar-e-Sharif, 75 km south of the Uzbekistan–Afghanistan border.⁸ There are proposals to extend the Afghan rail network to form a ring-shaped network connecting with neighboring countries, and Pakistan is planning to upgrade its railway network, but the distances and costs involved are enormous and corridor development would take many years.

⁶ This route is the same as the Central Asian Railway which was one of the region's main railways until the collapse of the FSU.

⁷ The members of the Middle Corridor Association comprise Azerbaijan Caspian Shipping, ADY, Aktau Port, Baku Port, GR, Kazakh Railways, Turkish Railways, and Ukraine Railways. Associate members include the Polish Broad-Gauge Railway, Batumi Port, Kaskor-Transservice (Kazakhstan), Port Kuryk (Kazakhstan), Anaklia Development Consortium, Lianyungang Port Holdings Group (PRC), Grampet Group (Romania), Astyk Trans (Kazakhstan), Kazakhstan National Maritime Shipping Company, and Eastcomtrans (Kazakhstan).

⁸ According to freight forwarders, most rail freight from Uzbekistan to Afghanistan is currently transferred to road transport near the border at Termez or Hairatan. Due to high charges and operational issues, the newly-built section from Hairatan to the railhead at Mazar-e-Sharif remains underutilized.

(v) **Other Central Asian countries.** Nearly all Uzbekistan’s rail-based trade with Kazakhstan crosses the border at Sarygash and proceeds westward and eastward at Arys. It can be expected that these routes will continue to be important in future. If Uzbekistan’s northwestern corridor is improved [item (i)] it could offer a shorter alternative route via Oasis and Beyneu (Kazakhstan) for some traffic serving central and western parts of Uzbekistan and/or northwestern parts of Kazakhstan. In the cases of trade and transit traffic to and from western parts of Tajikistan and southwest Kyrgyz Republic, the existing branch lines connecting into the UTY network are likely to remain the main routes. On most shorter distance routes within Central Asia, railways also face competition from road transport.

E. Relevant CAREC corridors

17. The CAREC corridors relevant for railway development in Uzbekistan are Corridors 1, 2, 3, 5, and 6.

18. **CAREC Corridor 1: Europe–East Asia—Subcorridors 101–103 (Figure 1.5).** This corridor, located entirely in Kazakhstan and the PRC, is the main route used by Uzbekistan’s existing cross-border railway traffic. Traffic enters the corridor via the Uzbekistan–Kazakhstan border at Sarygash. Subcorridor 102 provides access to the PRC, Europe, and parts of the Russian Federation north of the Caspian Sea. Between the PRC and Shalkar (Kazakhstan) it is the same as the TITR. Subcorridor 102 also connects with 103 and then Subcorridor 101 to provide access to northern Kazakhstan and the Russian Federation via Shu, Mointy, Astana, and Kokshetau.

Figure 1.5: Sections of CAREC Corridor 1 Relevant for Uzbekistan



Source: CAREC Secretariat.

Figure 1.6: Sections of CAREC Corridor 2 Relevant for Uzbekistan



Source: CAREC Secretariat.

19. CAREC Corridor 2: Mediterranean—East Asia—Subcorridors 202–203 (Figure 1.6).

The central section of Corridor 2 (Subcorridor 202) and the southern section (Subcorridor 203) both traverse Uzbekistan. Both subcorridors are important for traffic to and from the central and southern parts of Central Asia, including Uzbekistan, the Kyrgyz Republic, Tajikistan, Turkmenistan, and northern Afghanistan. Traffic to and from Central Asian countries located near the Caspian Sea has few borders to cross—for example, Turkmenistan (no crossings) and Uzbekistan (one crossing). Longer distance traffic, in particular to the PRC, has to cross multiple countries which adds to the costs and time for border crossing. Another problem for PRC traffic is that railway connections between the PRC rail terminal at Kashgar and both the Kyrgyz Republic and Tajikistan have yet to be built, so freight has to be transferred to road transport for this section of the journey.

20. For traffic along Corridor 2 between East and Central Asia and the Mediterranean and southern Europe, UTY is an important part of the shortest distance route. The route is multimodal and has four

main parts (i) land transport between East Asia and the Caspian Sea, (ii) shipping across the Caspian Sea, (iii) land transport across the CTC (Azerbaijan and Georgia), and (iv) shipping across the Black Sea. Freight has to be transferred from rail onto roll-on-roll-off ferries or container vessels to cross the Caspian Sea and Black Sea. Subcorridor 202 uses Aktau (Kazakhstan) and Subcorridor 203 uses Turkmenbashi (Turkmenistan) for Caspian Sea transit. On the Black Sea, the main routes are between the Georgian ports of Poti or Batumi and the ports of Odessa (Ukraine), Constanta (Romania), Varna (Bulgaria), and Istanbul (Turkey).

21. The northern section of Corridor 2 (Subcorridor 201) remains the simplest and most predictable route. Fast, reliable rail transport is already available between the Caspian Sea and East Asia on this route, with only two country crossings (Kazakhstan and the PRC) along Subcorridor 201. To attract traffic to Subcorridor 202 and Subcorridor 203, UTY must work with interline railways to enhance the speed, service frequency, and reliability of both subcorridors, as well as offering competitive rates.

Figure 1.7: Sections of CAREC Corridor 3 Relevant for Uzbekistan



Source: CAREC Secretariat.

22. CAREC Corridor 3: Russian Federation–Middle East and South Asia—Subcorridors 301–302 (Figure 1.7). This corridor connects the Russian Federation and Iran via Uzbekistan. Subcorridor 301 is the main rail route connecting the Russian Federation, Kazakhstan, Uzbekistan, Turkmenistan, and Iran, terminating at the Iranian port of Bandar Abbas. Even though the amount of Russian cargo through Bandar Abbas is not high, this port is very popular for Central Asian exports and imports. Economic sanction has diverted much of the traffic along this subcorridor to Corridor 2. Due to the strategic importance of Bandar Abbas, traffic is expected to return once the sanction is lifted. Subcorridor 302 connects the

Russian Federation, Kazakhstan, Uzbekistan, Afghanistan, and Iran, but much of the rail infrastructure within Afghanistan has yet to be built. Afghanistan’s security and economic development are keys to the future usage of this subcorridor.

23. CAREC Corridor 5: East Asia–Middle East and South Asia—Subcorridor 501–503 (Figure 1.8). This corridor connects the PRC with Pakistan via the Kyrgyz Republic, Tajikistan, and Afghanistan. Its relevance for Uzbekistan is that, when completed, it would provide access to Pakistan’s deep-water ports of Karachi and Gwadar. Having efficient rail access to Pakistan’s ports would improve Uzbekistan’s economic

Figure 1.8: Sections of CAREC Corridor 5 Relevant for Uzbekistan



Source: CAREC Secretariat.

security and competitiveness. Uzbekistan traffic would connect with Subcorridor 503 via Termez or Dushanbe, and proceed south to the ports either by connecting with Subcorridor 501 to Karachi or on Subcorridor 502 or 503 to Gwadar. Subcorridor 501 is Pakistan’s existing north–south railway. Freight capacity on this subcorridor is low, although Pakistan and the PRC have been considering

a large rehabilitation project through the proposed China–Pakistan Economic Corridor (CPEC). Most of Subcorridor 502, located in Pakistan, and all of Subcorridor 503, located in Afghanistan and Pakistan, have yet to be built. Since there are large missing links in Afghanistan and Pakistan, and construction would be difficult and costly, a long time frame may be needed before this corridor can be built.

Figure 1.9: Sections of CAREC Corridor 6 Relevant for Uzbekistan



Source: CAREC Secretariat.

24. CAREC Corridor 6: Europe–Middle East and South Asia—Subcorridor 605 (Figure 1.9). This corridor connects Europe with Iran and Pakistan. Its relevance for Uzbekistan is that it would provide access to the deep-water ports of Bandar Abbas in Iran (and potentially Chabahar),⁹ and Karachi and Gwadar in Pakistan, thereby improving economic security and competitiveness. Uzbekistan traffic would connect with Subcorridor 605 via Mary or Ashgabat (both Turkmenistan) and proceed in an anticlockwise route to Bandar Abbas via Subcorridor 603 with possible onward connection to the Pakistan ports on Subcorridor 604, or proceed clockwise through western Afghanistan on Subcorridors 605 and 604 to Gwadar and Karachi.

A more direct rail connection within Iran to Bandar Abbas is also available via Sarahs and Mashhad.

25. The relevant sections of Subcorridors 601–604 are complete. Once the present Iran economic sanctions come to an end, there will therefore be prospects for Uzbekistan to expand its use of Bandar Abbas. The Iranian railway network is reported to have limited freight capacity so it may require further investment in order to carry large additional freight volumes.¹⁰ The sections of Subcorridor 605 in Afghanistan and Pakistan are still missing links. Since investment costs would be high, and neither country has yet prioritized these links for investment, the time frame for their development is likely to be longer term.

⁹ India is currently assisting Iran to upgrade Chabahar port (Hindu Business Line 2019).

¹⁰ Iran's existing railway freight capacity is limited by relatively low axle loads and prioritization of passenger traffic. Its freight tariffs are among the highest in the region (Harral Winner Thompson Sharp Klein 2013).

TRENDS IN RAILWAY TRAFFIC

A. Introduction

26. Historically, Uzbekistan played an important role in transport between Central Asia and Russia and railway was the main mode used. Railway traffic declined after the collapse of the FSU but rebounded strongly in recent years as the economy and trade expanded.

27. In 2018, UTY transported 94.8 million tons of cargo and 22.6 million passengers. Its freight turnover was 22.9 billion ton-km and passenger turnover was 4,329 million passenger-km. About half of freight turnover was for import, export, and transit freight. The main commodities carried were cement, building materials, fuel, minerals, manufacturing inputs, chemicals, and fertilizer.

28. As efforts to expand regional economic cooperation and integration gather pace, trade between Asia and Europe have been increasing and countries have been addressing critical bottlenecks on regional transit routes. This is expected to lead to new and expanded traffic opportunities for UTY, including for transport of bulk commodities and containerized traffic.

B. Analysis of traffic

29. The PRC is Uzbekistan's largest trading partner followed by the Russian Federation, Kazakhstan, and Turkey. Trade with European countries (e.g., Poland, the Baltic States) has been growing steadily (State Committee on Statistics 2019).¹¹ Table 2.1 shows the steady growth in exports and imports, with imports rising sharply since the start of reform in 2016.

30. Rail and road transport are the two leading transport modes for exports and imports. Rail is generally the least cost mode for most longer distance consignments. Road transport has advantages for shorter distance traffic, is more flexible, and has benefited from improvements in the road network over the past two decades that have lowered road user costs. In 2018, railway attracted 66% of export cargo volume, 85% of import cargo volume and 84% of transit cargo volume (Table 2.2). While railway remains the dominant mode for transporting traded goods, the share of road transport rose steadily during 2015–2018, particularly for export cargo.

Table 2.1: Value of Uzbekistan's Exports and Imports (\$ million)

	2014	2015	2016	2017	2018
Exports	13,546	12,508	12,095	12,554	13,991
Imports	13,984	12,417	12,138	14,012	19,439
Total	27,530	24,924	24,232	26,566	33,430

Source: State Committee on Statistics 2019a.

¹¹ The PRC overtook the Russian Federation as the leading destination for Uzbekistan exports in 2015 and as its largest source of imports in 2017 (State Committee on Statistics 2019a).

Table 2.2: Uzbekistan Export, Import, and Transit Cargo by Mode, 2015–2018

	Cargo Volume (ton '000)				Mode Share (%)			
	2015	2016	2017	2018	2015	2016	2017	2018
Exports								
By rail	2,581	3,023	8,816	3,590	0.77	0.74	0.86	0.66
By road	758	1,087	1,461	1,880	0.23	0.26	0.14	0.34
Imports								
By rail	11,287	11,210	11,967	17,882	0.92	0.92	0.90	0.85
By road	919	1,008	1,266	3,148	0.08	0.08	0.10	0.15
Transit								
By rail	7,546	7,977	7,675	7,280	0.94	0.95	0.95	0.92
By road	494	459	397	621	0.06	0.05	0.05	0.08
TOTAL								
By rail	21,414	22,210	28,458	28,752	0.91	0.90	0.90	0.84
By road	2,171	2,554	3,124	5,649	0.09	0.10	0.10	0.16

Source: State Committee of Statistics 2019b.

31. From 2014 to 2018, UTY's total cargo volume has risen steadily, but cargo turnover has been unchanged, indicating a declining length of haul. During the same period, both passenger volume and turnover have increased significantly (Table 2.3). UTY's cargo volume remains stable in the first half of 2019, with a slight increase in cargo turnover over the first half of 2018.

32. As Table 2.4 shows, oil, coal, metal ores, cement, construction material, and chemicals/fertilizers are leading commodities moved by rail. These bulk and break-bulk cargos traditionally favor rail transport.

33. In the future, Uzbekistan expects increased in-country processing of its products before exporting (e.g., spinning raw cotton into yarns) and rising demand for consumer goods.

Table 2.3: Rail Freight and Passenger Transportation Data, 2015–2018

	2014	2015	2016	2017	2018
Volume of freight (million tons)	65.7	67.2	67.6	67.9	68.4
Freight turnover (billion ton-km)	22.9	22.9	22.9	22.9	22.9
Volume of passengers (million passengers)	19.1	20.1	20.5	21.1	22.1
Passenger turnover (billion passenger-km)	3.8	3.8	4.0	4.3	4.3

km = kilometer.

Source: State Committee on Statistics 2019a.

Table 2.4: Railway Freight by Commodity, 2014–2018 (million tons)

	2014	2015	2016	2017	2018
Coal	4.6	4.0	3.7	4.4	5.6
Oil cargos	10.6	10.8	10.7	11.0	6.8
Metal ores	4.8	4.9	4.9	5.0	5.3
Chemicals and soda	1.7	1.8	2.2	2.1	1.8
Ferrous metals, including ferrous scrap	1.5	1.7	1.6	0.8	1.1
Chemical and mineral fertilizers	4.4	4.3	4.4	4.0	3.5
Construction materials	11.7	11.3	10.0	9.2	5.5
Cement	5.3	5.3	5.5	4.8	4.9
Timber cargos	0.1	0.1	0.0	0.0	0.03
Grain and grinding products	1.3	1.3	1.2	1.7	1.7
Cotton (raw and fiber)	0.7	0.6	0.5	0.4	0.2
Other cargos	19.0	21.1	22.9	24.5	32.0
Total	65.7	67.2	67.6	67.9	68.4

Source: State Committee on Statistics 2019a.

These trends are likely to lead to changes in freight characteristics for rail transport: (i) smaller shipment sizes; (ii) lower freight density; (iii) customers increasingly demanding single bill, door-to-door services; and (iv) further increases in containerization of freight. It is therefore important for UTY to offer comprehensive logistics solutions in order to capture a larger share of future goods movements.

34. During 2018, railway passenger volume increased by 1.29 million to 22.3 million people, a rise of 6.1%. Passenger turnover increased by 56.2 million passenger-km to 4,350 million passenger-km, a rise of 1.33% over 2017. This trend has continued in the first half of 2019, with passenger volume of 11.788 million passengers compared with 11.514 million passengers for the same period of 2018.

Passenger turnover was 2,161 million passenger-km in the first half of 2019 compared with 2,127 million passenger-km for the same period of 2018.

C. Growth scenario

35. In the coming years, it is expected that higher economic growth will lead to significant growth in the demand for transport, including for both railways and road transport. Table 2.5 summarizes the expectations of MOT regarding traffic growth and future development of railways to accommodate higher traffic. Key priorities are to increase speeds, improve the quality of rolling stock and expand the railway network.

Table 2.5: Development Strategies of the Railway Transport System of Uzbekistan Until 2035

Indicator	Unit	Years		
		2018	2025	2035
1. Commissioning of new public railway lines ^a	Km	129.2	429.2	525.2
2. Commissioning of public roads ^a	Km	130	621	756
3. Commissioning of high-speed transport communications ^a				
Express railway lines		–	648	859.5
High-speed railway lines	Km	–	300	96
Motorways of category I		234	980	1,778
4. Annual capacity of cargo handling by logistics centers ^a	Million tons	3	5.3	13.8
5. Average commercial speed of goods movement by mode				
Railway	Km per day	76.9	120	200
Road		300	400	450
6. Containerized share of total volume of cargo transport				
Railway	%	2.5	6.2	8.4
Road		0.07	0.1	0.15
7. Speed of delivery by rail				
Freight shipments	Km per day	76.9	120	200
Containers		76	110	150
8. Average age of freight vehicles:				
Wagons	Years	32	24	15
Locomotives		28	26	23
9. Freight volume	Million tons	1,137	1,496	2,214
10. Passenger volume	Million passengers	5,818	6,963	9,001
11. Freight turnover	Million ton-km	36,917	37,437	38,193
12. Passenger turnover	Million passenger-km	134,427	233,387	513,273
13. Transportation of transit goods				
Railway	Million tons	7.2	7.9	8.5
Rail containers	TEU '000	7.8	8.4	8.8
Road transport	Million tons	0.6	0.8	1.3
Logistics Performance Index	International ranking	99	75	50

km = kilometer, TEU = twenty-foot equivalent.

^a Cumulatively from 2018.

Source: Draft development strategy for Uzbekistan transport system until 2035 being developed by the Ministry of Transport (still under consideration by the government).

MARKET COMPETITIVENESS

A. Introduction

36. Uzbekistan's freight transport market is highly competitive for both long and short distance traffic. While railway dominated the freight transport in the past, the level of competition from road transport has increased significantly. Road transporters face few market entry barriers and no regulation of tariffs, so there are many truck operators and competition is intense. Uzbekistan's economic reforms since 2016 have led to policies encouraging growth of the trucking industry including for acquisition of temperature-controlled vehicles to support exports of agricultural goods. Incentives have included tax exemptions (e.g., on customs duties for truck imports), low interest rates and simplification of the process to obtain licenses, permits, and certificates.

37. For freight transported by road, the average length of haul in Uzbekistan is just 20 km. This indicates that most road freight traffic is domestic. International road transport is also developing fast.

Table 3.1: Actual and Projected Membership of the Association of International Road Carriers of Uzbekistan

Year	Number of Members	Number of Trucks
2016	228	2,000
2017	280	2,800
2018	385	3,700
2019 (as of 11 Jan 2019)	540	7,000
2020 projection		15,000+
2025 projection		20,000+
2030 projection		25,000+

Source: AIRCUZ.

As road and border crossing infrastructure improve, more Uzbek trucks are entering the international transport market. Table 3.1 shows a sharp increase in the number of trucking companies that are members of the Association of International Road Carriers of Uzbekistan (AIRCUZ) and in the number of trucks in their fleets. This growth trend is expected to continue in future.

B. Market feedback

38. Interviews were conducted with more than a dozen shippers/receivers, freight intermediaries, truck companies, and trade associations to understand market perceptions and requirements for using railway. The findings are summarized in Table 3.2.

39. On this basis, railway is currently competitive for bulk cargo that is difficult to carry by truck, and for consignments that require a higher level of safety and security, including dangerous cargo. It can potentially be competitive for containerized traffic once upgrading of facilities and terminals on route has been completed. However, it is generally not competitive for perishables, time-sensitive cargo, and high value goods.

40. Multimodal transport solutions can improve the competitiveness of railways compared with road transport. UTY is partnering with private investors to expand and modernize its multimodal terminals and enhance their operating efficiency. This is expected to lead to further growth in railway container traffic.

Table 3.2: Market Feedback on Rail Competitiveness for Different Traffic Types

If Competitive	Traffic Type	Examples	Explanation of Rail Competitiveness
Rail is competitive	Project cargo, out-of-gauge cargo	Electricity generation and mining equipment	Rail has advantages for moving extra heavy, over-dimension cargo
	Minerals	From local and foreign mines	Rail is efficient in handling bulk cargo, which often requires specialized equipment
	Crude oil and refined petroleum products	From oil field to refineries and refineries to distribution hubs	For reasons of cost, safety, and security, rail is the preferred mode for oil products and for crude oil on routes not served by a pipeline
	Chemicals	Poisonous, flammable, corrosive cargo; fertilizers and chemicals using natural gas as feedstock	Rail has advantages for safety and security which are prime considerations
	Cargo to locations where it is difficult to attract backhaul traffic	Cargo to Mongolia and some Central Asian countries	More competitive for receivers with rail siding and facilities for loading/unloading. Much of containerized cargo is transloaded at port because ocean carriers are unwilling to provide containers to distant inland destinations with low prospects of attracting backloads. Shipper/receiver and freight forwarder do not have to manage empty containers when using rail wagons
	Containerized traffic	Containers between East Asia and Central Asia	PRC–Central Asia block trains offer fast, reliable, and secure transport
Rail is not competitive	Time-sensitive cargo	Goods to be displayed at trade expositions	If exposition date is missed, losses/damages are high
	High value cargo	Electronics, designer fashions	Driver teams are better at protecting cargo from theft
	Consumer products	Small to medium sized shipments requiring door-to-door service	Road is generally less costly, faster, and simpler to organize Road is especially price competitive for shorter trips (e.g., 100–300 km) and for origins and destinations not on railway line
	Perishables	Chicken from the US, banana from Latin America arriving by ship	Road is faster, more reliable (including real time tracking and tracing), and better at handling problems such as mechanical failure of refrigerated units

km = kilometer, PRC = People's Republic of China, US = United States.

Source: TA consultants.

C. Problems affecting rail competitiveness

41. Feedback was obtained on some of the main problems that currently limit the competitiveness of railway transport. These are discussed below.

42. Road transport is dynamic and highly competitive. Trucks are abundant, and transport by road is cheap, fast and flexible.

Shippers can use trucks to serve a much larger range of origins and destinations. Empty movements are less of a problem for trucks, as road carriers respond quickly to seasonal and other changes in demand, are flexible about pricing, and can triangulate to achieve loaded, profitable round-trips e.g., Tashkent to Moscow, Moscow to Vilnius, Vilnius to Tashkent.

43. UTY's fast passenger trains are slowing down its freight trains. UTY runs high-speed passenger trains along its high potential northwestern corridor from

Tashkent through Samarkand, Bukhara to the Kazakh border. However, shippers and forwarders mentioned that due to capacity bottlenecks and prioritization of high-speed passenger trains on this corridor the average journey time between Tashkent and Beyneu (Kazakhstan) is 10–12 days, compared with 2–3 days using the established TITR railway corridor via Arys, Shalkar, and Beyneu (all Kazakhstan) or using road transport.

44. Wagon availability and quality are recurring problems. UTY lacks sufficient wagons to meet the needs of shippers using its own wagon fleet. Many of its wagons are old (para. 8) and are not accepted for use in the Russian Federation. The mix of UTY's wagon types also does not match market needs (e.g., insufficient platform wagons for carrying containers). To address these problems, UTY has to borrow wagons from interline railways to meet its needs but this often leads to delays in the wagons becoming available to customers.

45. UTY does not make full use of price adjustments and service enhancements as tools for improving competitiveness. Road carriers are agile in adjusting their prices to match market conditions, which leads to diversion of traffic from rail to road. UTY should study its customer base to know which customers can bear a higher rate because of the special advantages they gain from using rail, and which potential customers could be attracted to rail if offered price discounts or service enhancements.

46. UTY has only limited control over the door-to-door price for long distance international traffic. UTY's tariff is just a component of the overall freight pricing. Together, the other international railways may transport the cargo over a considerably longer distance than UTY. Therefore, UTY's price competitiveness is strongly influenced by the tariffs of other interline railways.

47. Small and medium sized customers find it difficult to arrange cross-border shipments through UTY. While road carriers can provide immediate price quotations for cross-border shipments, it takes much longer to assemble quotations from the various parties involved in arranging door-to-door cross-border rail shipments. Also, UTY continues to follow an obsolete Soviet protocol of obtaining the destination railway's approval to accept wagons before they are dispatched, which can delay shipments by over a week.

48. UTY's sales channel and customer interface are inefficient. UTY contracts with approximately 5–6 master freight forwarders for reserving capacity on freight trains ("railway codes") for shipment of most export and import commodities. Other forwarders and shippers/receivers must buy such codes from this small group of intermediaries. This arrangement exposes customers to monopolistic practice, dilutes UTY's profit margin and limits its interaction with customers. If retained in future, UTY may lose contact with the market. For example, during one field interview a very large rail user reported that it had never had any direct sales contact with UTY. Another concern of customers is that procedures to pay for and collect of consignments are inefficient and outmoded. This includes imposition of various additional fees and fines that further reduce the competitiveness of railway.

49. UTY operates a capital-intensive business in a low margin environment. The intense competition among road transport operators, including the widespread practice of price-cutting, has reduced profit margins for road transport companies to around 3%–5%. In order to compete with road carriers, UTY has had to make a comparable reduction in its own profit margin. This reduces the financing that UTY can generate for investment in infrastructure renewal and other long-life assets such as locomotives and wagons.

RAILWAY OPERATING AND FINANCIAL PERFORMANCE

A. Introduction

50. This chapter briefly examines UTY's commercial orientation and its operating and financial performance.

B. Commercial orientation

51. UTY is widely seen as one of Uzbekistan's most capable and efficient state-owned enterprises (SOEs). It is also one of the more commercially oriented railways in the CAREC region. It has the legal form of a joint stock company, is required by the government to operate on a self-financing basis, has established separate business units to be accountable for its main lines of business, maintains accounts in accordance with International Accounting Standards and International Financial Reporting Standards, makes realistic provision for depreciation, and is subject to external audit (ADB 2019b). In line with good practice, UTY's annual business plan reassesses its operational and financial performance, and examines business risks and mitigation measures needed (UTY 2018).

52. UTY's main limitations in terms of commercial orientation are that (i) its staff size is relatively large compared with the size of its railway business (Figures 4.1 and 4.4); (ii) the speed and reliability of freight services has been reduced by giving priority to passenger traffic on some routes (e.g., from Tashkent to Samarkand and Bukhara); (iii) railway freight is treated as a natural monopoly and freight tariffs continue to set by the government

rather than through market competition, and shippers and freight forwarders report that tariff increases and cross-subsidy of some commodities have reduced price competitiveness compared with road transport; (iv) UTY's sales and marketing function, including its interface with customers, is underdeveloped; and (v) it continues to retain a wide range of non-core activities.

C. Financial performance

53. As reported in UTY estimates for 2018 and forecasts for 2019 (Table 4.1), UTY has been operating on a profitable basis. Growth in railway traffic as a result of expansion in the economy and trade should provide a basis for continuing profitability in the immediate future.

54. Revenues from freight are UTY's main source of income. As shown in Figure 4.1, in 2018 freight provided 73% of revenues, passenger traffic provided 5% and non-transport revenues provided a further 22% (UTY 2018).

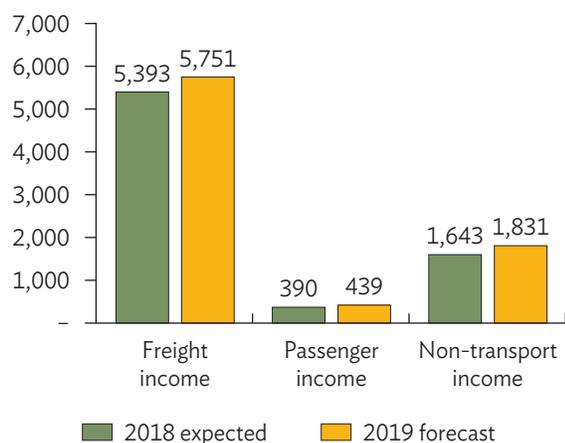
55. Operating costs and the cost of servicing UTY's foreign debt have been affected by declines in the value of the Sum. Since 2019, the Sum devalued by about 70% compared with the US dollar. This led to UTY's debt-to-equity ratio rising to over 1.0 although it is expected to decrease in future as a result of forecast revenue growth.

Table 4.1: Uzbekistan Railways Profitability and Borrowing, 2018 Estimate and 2019 Forecast
(Sum billion)

	2018 Estimate	2019 Forecast
Income—freight	5,393	5,751
Income—passengers	390	439
Income—other	1,643	1,831
Operating expenses	(4,591)	(5,233)
Depreciation	(1,149)	(1,599)
Social expenses	(197)	(240)
Net income from financial activities	(508)	(508)
Profit before tax	981	441
Income tax	(108)	(28)
Profit after tax	873	413

Source: UTY 2018.

Figure 4.1: Revenues by Source, 2018 Expected and 2019 Forecast
(Sum billion)



Source: UTY 2018.

D. Operational benchmarking

56. Drawing upon railway operational data obtained from the International Union of Railways (UIC),¹² aspects of the operational performance of UTY have been benchmarked in relation to other CAREC railways (except Afghanistan)¹³ and leading railways from other regions (Germany, India, the Russian Federation, and North America).¹⁴ In most cases the data refers to operational activities in 2017. In other cases, it refers to the most recent year for which data is available.

57. In terms of size of railway network and number of employees, UTY is the fourth largest railway in the CAREC region (the PRC's China Railway Corporation is the largest). Its railway network and staffing are a number of times smaller than the railways of the PRC and Kazakhstan, but also similar in magnitude to the network length and staff strength of five smallest CAREC railways taken together. This is shown in Figure 4.2.

58. Among the comparator countries, UTY also has the third largest number of owned wagons and diesel locomotives and fourth largest number of diesel locomotives. This is generally consistent with the size of the railway network and the traffic level. This is shown in Figure 4.3.

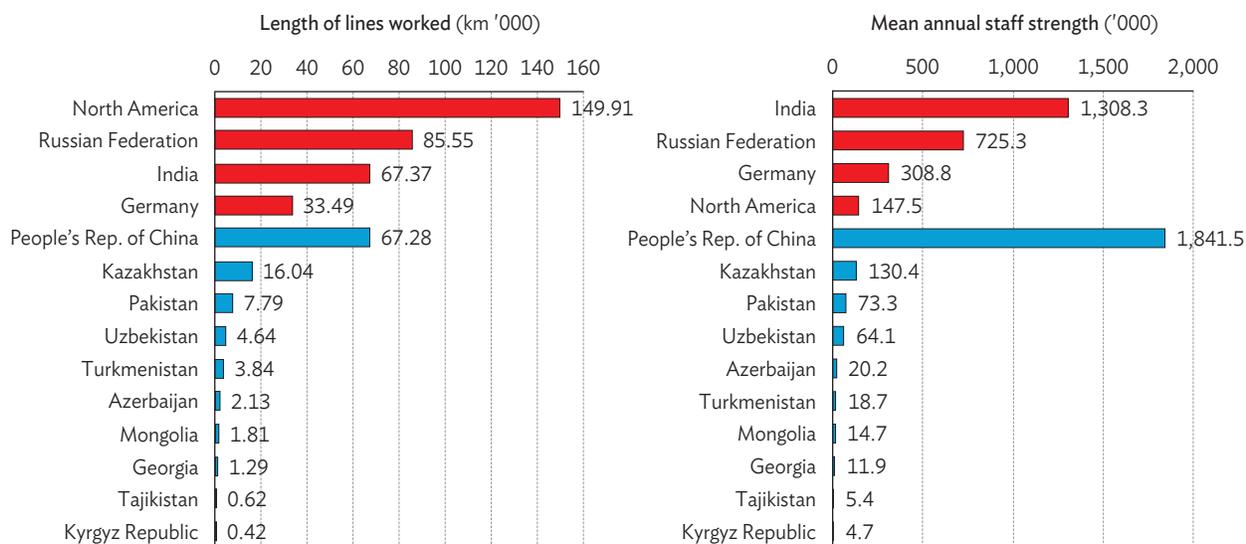
59. Similarly, UTY has the third largest annual freight turnover among the comparator countries (after the PRC and Kazakhstan). This is about half the combined freight turnover of the seven lowest CAREC countries but also only 11% of the second highest country, Kazakhstan.

¹² The UIC database consists of data self-reported by individual railway organizations.

¹³ The UIC database does not yet include data for Afghanistan so it is not included in the benchmarking analysis.

¹⁴ In addition to the national railways of CAREC countries, the sample includes Indian Railways (India), Deutsche Bahn AG (Germany), Russian Railways, and the Association of American Railroads (North America) which represents the major freight railways of Canada, Mexico, and the US.

Figure 4.2: Comparison of Railway Length and Staff Size in Uzbekistan, other CAREC Member Countries and other Leading Railway Countries

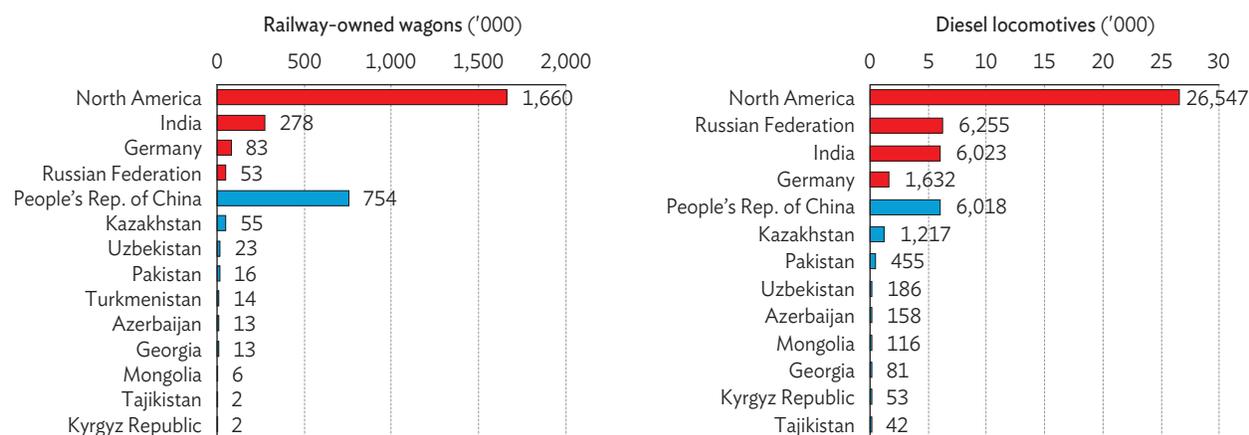


CAREC = Central Asia Regional Economic Cooperation, km = kilometer.

Note: CAREC Member Countries shown in blue, comparators from other regions shown in red.

Source: UIC 2019.

Figure 4.3: Comparison of Railway Rolling Stock Fleet in Uzbekistan, other CAREC Member Countries and other Leading Railway Countries

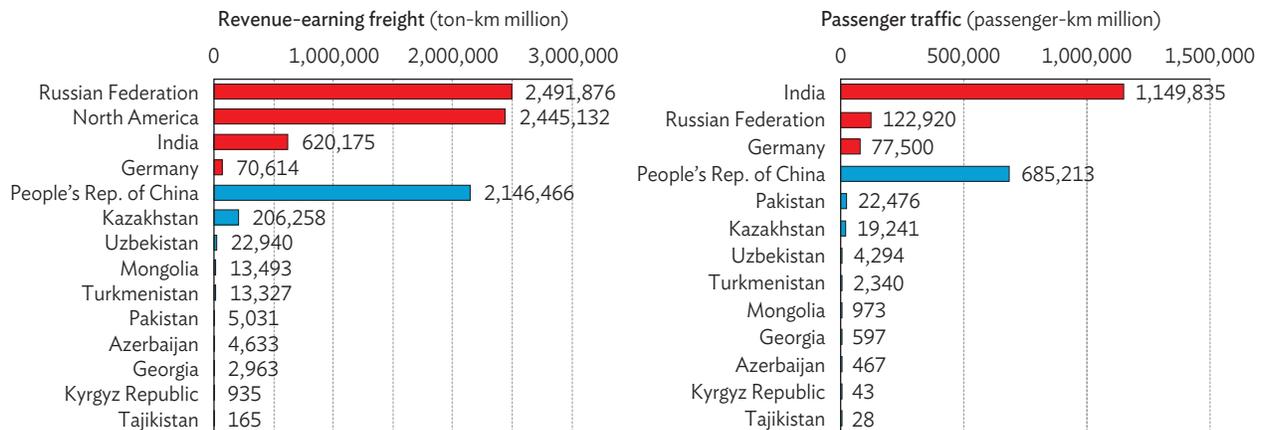


CAREC = Central Asia Regional Economic Cooperation.

Note: CAREC Member Countries shown in blue, comparators from other regions shown in red.

Source: UIC 2019.

Figure 4.4: Comparison of Annual Railway Freight and Passenger Traffic Levels in Uzbekistan, other CAREC Member Countries and other Leading Railway Countries



CAREC = Central Asia Regional Economic Cooperation, km = kilometer.

Note: CAREC Member Countries shown in blue, comparators from other regions shown in red.

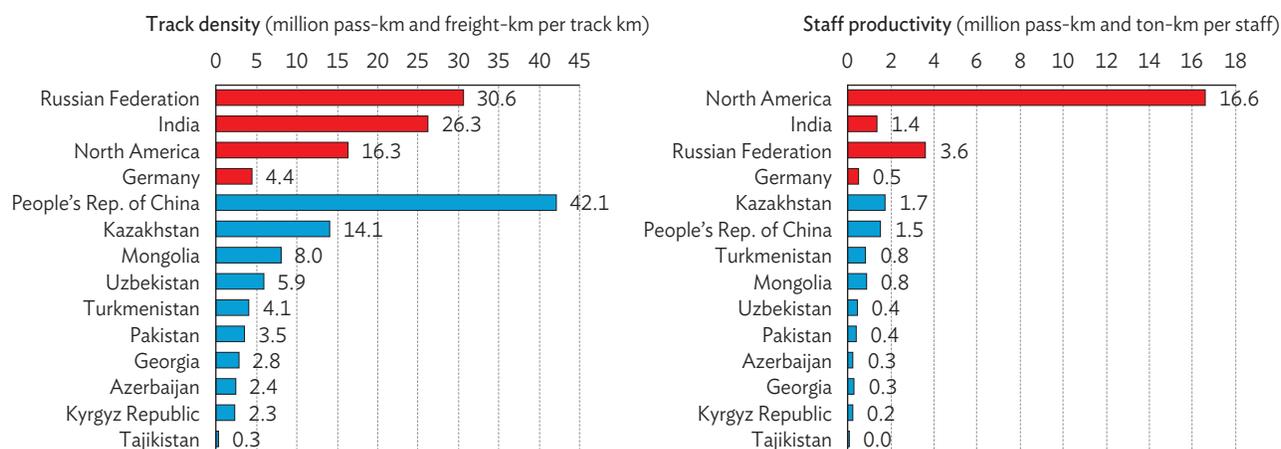
Source: UIC 2019.

In the case of passenger traffic, UTY has the fourth largest passenger turnover (after the PRC, Kazakhstan, and Pakistan). This is shown in Figure 4.4.

60. Track density measures the intensity of track utilization in terms of traffic turnover per km of rail. UTY's track density is fourth highest among the comparator countries (the PRC is highest). While some parts of the network, such as between Tashkent and the Sarygash border and the rail section connecting the Fergana Valley with Tashkent have relatively high track density, other parts may have significantly lower density. Most international traffic is routed via Sarygash which contributes to high turnover on the Kazakh railway instead of the Uzbek railway. Staff productivity can be measured as traffic turnover per staff member. UTY's staff productivity is fifth highest among the comparator countries, and closer in magnitude to the least productive CAREC railways than to the most productive. This is shown in Figure 4.5.

61. A further set of productivity measures concern rolling stock asset utilization. Locomotive productivity measures annual traffic turnover per locomotive. UTY's locomotive productivity is the fourth highest among the CAREC MCs. Some of the countries with higher productivity—notably the Kyrgyz Republic and Georgia—face locomotive shortages. This suggests that UTY has not invested enough on locomotive acquisition (particularly since many of the existing locomotives are old and require frequent repair). Wagon productivity measures annual traffic turnover per owned wagon. KTZ's wagon productivity is the fifth highest among the CAREC MCs, but this measure overstates productivity which would be lower if the widespread use of wagons owned by other countries is also taken into consideration. This is shown in Figure 4.6. It may be noted that the higher levels of locomotive and wagon productivity in some CAREC MCs is partly an indication of rolling stock shortages due to lack of investment to replace obsolete items inherited from the FSU.

Figure 4.5: Comparison of Railway Track and Staff Productivity in Uzbekistan, other CAREC Member Countries and other Leading Railway Countries

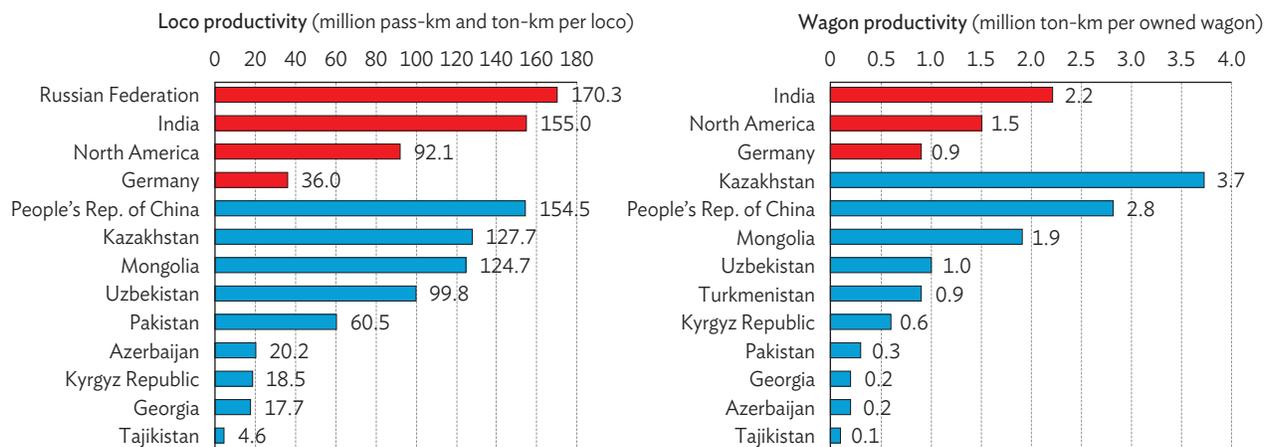


CAREC = Central Asia Regional Economic Cooperation, km = kilometer.

Note: CAREC Member Countries shown in blue, comparators from other regions shown in red.

Source: UIC 2019.

Figure 4.6: Comparison of Locomotive and Wagon Productivity in Uzbekistan, other CAREC Member Countries and other Leading Railway Countries



CAREC = Central Asia Regional Economic Cooperation, km = kilometer.

Notes: (i) CAREC Member Countries shown in blue, comparators from other regions shown in red; (ii) productivity calculations are less accurate for countries with higher use of leased locomotives or wagons, such as Kazakhstan.

Source: UIC 2019.

PROPOSALS FOR INVESTMENT, COMMERCIALIZATION, AND REFORM

A. Introduction

62. Drawing on the previous chapters, this final chapter discusses opportunities for railway sector development in Uzbekistan and identifies promising proposals to be considered for prefeasibility study support, capacity development, and knowledge-related assistance through the present CAREC Railway Sector Development TA.

B. Policy setting

63. Since 2016, the government has established a broad agenda for economic reform and modernization in order to transition from a centrally-planned economy to a private-sector driven, market-based economy that can support improvements in living standards and expand economic opportunities. Key elements of this agenda include opening the country for trade and investment, encouraging the role of the private sector and reforming SOEs. Emphasis has been given to strengthening relations and economic cooperation with neighboring countries including Afghanistan, Kazakhstan, the Kyrgyz Republic, Tajikistan, and Turkmenistan, as well as with major potential export markets including the PRC and the EU.¹⁵

64. In the transport sector, MOT was recently established to develop and oversee an integrated policy covering all transport modes. To provide competitive freight services for industry and agriculture, the government has encouraged the private sector to expand the road transport fleet, which has reportedly grown from 3,000 to 11,000 vehicles in the past two years, and is targeted to reach 30,000 vehicles in 2022 (also see Table 3.1). In civil aviation, which is important for the growth of tourism and high-value exports, the vertically integrated sector monopoly was restructured by separating airline operations, airport management and air traffic control, and by separating sector policy-making, technical regulation and operation functions. This has led to rapid expansion in private airlines, which has strengthened competition and reduced airfares (CAPA 2019).

65. The reform program has led to rapid growth in the market for transport and increased competition among modes and transport service providers. So far, the government has not announced reforms of railways, such as restructuring and increasing private sector participation, although these could be considered in future. However, Uzbekistan's president has tasked UTY with "creating modern logistics routes for export of goods" (Mirziyoyev 2018). This will require UTY to address bottlenecks on international railway corridors and provide integrated transport and logistics services. Customs services are also being reformed and simplified to contribute to export development.

¹⁵ In his annual address to the parliament, the president identified five main tasks for reform during 2019–2022: (i) to maintain macroeconomic stability, (ii) to accelerate the transition from state-led economy into a market-driven system, (iii) to improve social services, (iv) to strengthen government's role in a market economy, and (v) to preserve environmental sustainability (Mirziyoyev 2018).

C. Commercialization and reform

66. MOT recognizes that railway sector reforms are needed so that Uzbekistan can realize the full potential of railways. Reform challenges include (i) separation of railway infrastructure from railway operations to establish a basis for competition; (ii) tariff reform to improve price competitiveness, allow tariffs to be responsive to market conditions, and remove cross-subsidy; (iii) removal of conflicts of interest and strengthening of transparency (MOT 2020).

67. As discussed in Chapters 1 and 4, UTY is recognized as one of Uzbekistan's leading SOEs and has already adopted various improvements to operate along more commercial lines. Some aspects that merit further attention include: (i) further strengthening of UTY's customer orientation; (ii) introduction of new railway technologies and best practices; (iii) addressing issues associated with the present reliance on foreign-owned rolling stock; (iv) in collaboration with shipping lines, developing strategies to expand containerization; and (v) improving the effectiveness of regional initiatives to develop, promote, and manage transit corridors.

D. Proposals for support from CAREC Railway Sector Development TA

68. The following proposals were discussed with the TA consultants during the Uzbekistan country visit.

1. Prefeasibility studies

69. **PRC–Kyrgyz Republic–Uzbekistan Railway.** As discussed in Chapter 1, this project would form part of CAREC Subcorridor 202, providing a direct

rail connection between the PRC and Uzbekistan's Fergana valley via the Kyrgyz Republic. Due to distance shortening and time savings, the route would attract substantial traffic, especially from the PRC to Uzbekistan, the Middle East, and Southern Europe; and from Uzbekistan's Fergana Valley to the PRC. Construction would be challenging and costly due to the mountainous terrain. A previous study by the PRC reportedly estimated that the length of the new railway would be 268 km (48 tunnels and 95 bridges) but a later Kyrgyz Republic study proposed a northerly alignment that was 380 km in length (Levina 2018).

70. The Kyrgyz Republic, the PRC, and Uzbekistan are still considering how to proceed with this project. Issues requiring attention include (i) choice of alignment, (ii) technical specifications, (iii) operating arrangements, (iv) ownership structure, (v) investment financing, and (vi) tariffs. Since ADB is a trusted development partner of each of the countries pursuing the project, it is uniquely positioned to act as honest broker in carrying out a prefeasibility study to recommend an optimal approach to the project that can reconcile the interests of the three countries.

71. **Northwestern international freight corridor.** During the FSU, this corridor from Bukhara to Beyneu (Kazakhstan) was an important link to the Caspian Sea port of Aktau and parts of the Russian Federation. It has potential to again be a major international freight corridor if bottlenecks are addressed to provide a level of service that is competitive with existing routes (including the parallel corridor through Kazakhstan). Diversion of traffic onto this corridor would significantly increase the average distance that exports and imports travel on the Uzbek railway network, which would improve UTY's traffic turnover and profitability. At present, average speeds for freight on this corridor are much slower on existing routes. This reflects infrastructure and operational capacity constraints as well as recent prioritization of passenger services to support tourism. A prefeasibility study is needed to examine

the present level of service of the corridor and planned improvements,¹⁶ and identify a package of phased improvements to achieve a competitive level of service for freight traffic, taking into account railway infrastructure, motive power, rolling stock and container availability, signaling, tariffs, and other relevant aspects.

72. Uzbekistan–Turkmenbashi container block trains and connecting ferry services. Another major railway corridor during the FSU was between Bukhara and Turkmenistan’s Caspian Sea port of Turkmenbashi via Mary and Ashgabat (both Turkmenistan). This route served traffic to Europe and the Middle East via Baku. It remains intact and Turkmenistan has recently invested in expansion of Turkmenbashi port. However, traffic to and from Uzbekistan is low and there are no scheduled container ferry services between Turkmenbashi and Baku. As a first step toward reviving this route, there is potential for UTY and Turkmenistan Railways to jointly establish regular container block train services between Uzbekistan and Turkmenbashi. By creating an assured basis of container traffic, there would be prospects for attracting scheduled container ferry services to operate between Turkmenbashi and Baku. A prefeasibility study is needed to confirm the viability of this proposal. The study would include examining the market to be served, identifying the level of service required by potential users (including for border crossing, block train operations, and port and ferry operations), identifying investments needed to achieve the required level of service, proposing joint arrangements for corridor management and monitoring, and preparing outline protocols on key technical aspects that would need to be agreed between the two governments before proceeding to implementation.

2. Knowledge products and events

73. Study of wagon supply on regional corridors.

Although UTY faces shortages of railway wagons, including container platforms, it has successfully managed this situation by utilizing wagons from other countries, especially privately-owned wagons from Belarus, Kazakhstan, the Russian Federation, and Ukraine. This has been facilitated by the predominance of import over export traffic leading to a surplus of empty foreign wagons in Uzbekistan. However, it has also meant that foreign rather than Uzbek wagon owners have been profiting from renting of wagons, and may have resulted in shippers paying relatively high charges for wagon usage. With the expected rise in export volumes and reduction in imbalances between imports and exports, the situation is likely to change and could lead to wagon shortages becoming a bottleneck in future. The proposed study would examine scenarios for railway exports and imports, review existing approaches to wagon supply and management (including positioning, utilization, and tracking), examine existing wagon charges and compare these with charges in comparator countries, and identify options for ensuring adequate, efficient, and cost-effective wagon supply and management in future including possible private wagon ownership.

74. Best practices in improving railway customer service orientation.

According to freight forwarders, it is not very easy to interface with UTY to obtain railway transport services. Problems can include difficulty in ordering railway wagons to carry shipments; delays and add-on charges when collecting goods upon arrival, including continued reliance on paper-based clearance and payment procedures; lack of consignment tracking services; and lack of last mile delivery. As the domestic and regional freight markets becomes increasingly competitive, UTY will need to strengthen its customer service orientation in future.

¹⁶ ADB is preparing a new financing operation to support electrification of the Bukhara-Miskin-Urgench-Khiva section of the corridor.

75. The proposed knowledge support would mobilize international experts with leading experience of improving the customer orientation of railways. They would conduct short studies in Uzbekistan and other interested MCs to benchmark railway customer orientation against top international and regional railway organizations. The experts would then identify international best practices that the respective countries could utilize to improve their customer orientation. Country seminars would be held to share the results of the benchmarking studies and proposals for adoption of best practice approaches. Depending on country interest, this could be followed by the experts providing hands-on support to assist in introducing the best practice approaches.

76. **Joint dialogue with shipping companies to promote efficient containerization.** Central Asia lags behind advanced countries in the level of containerization of freight. For railways this has made multimodal freight less efficient as either wagons have to be transported from origin to destination or they have to be unloaded and reloaded at each mode change. Among the main reasons for low containerization are low trade volumes, and imbalances due to inbound volumes exceeding outbound volumes leading to accumulation of empty containers. However, in recent years trade has been growing rapidly in Central Asia. The adoption of export-oriented policies by Uzbekistan, the region's largest economy, is potentially an important milestone. In the last year, there was a 40% rise in container throughput at UTY's largest container terminal in Tashkent.

77. Some of the leading international container shipping companies are now allowing their containers to be used more widely in Central Asia in the expectation that the coming decade will see rapid growth in containerization. This is an encouraging development both for Uzbekistan and for UTY. Containerization improves the competitiveness of railways compared with other modes, especially when volumes are sufficient to operate regular container block trains. To realize the full potential of

containerization, UTY and other CAREC railways need to work closely with shipping companies, for example to introduce complementary approaches to promoting containerized services to customers, plan for the expansion of container terminal coverage, introduce modern container tracking methods, establish systems for positioning containers and container wagon platforms at locations where they are needed, and adopt modern practices for refrigerated container management. The proposed knowledge support would initiate a joint dialogue between UTY and other interested CAREC railways and several international container shipping companies. This could be arranged on a corridor or multi-corridor basis.

78. **Best practices in private sector participation in operation of terminals and stations.** UTY has recently been encouraging the private sector to invest in freight terminals in Tashkent and expects to adopt a similar approach in other parts of the country. This is a positive step that can use the private sector's customer orientation and business capability to complement UTY's expertise in operating railways. There may also be similar potential to involve the private sector in running railway stations that have significant freight throughputs. Around the world, there have been a wide range of different experiences with private sector participation in the operation of railway terminals and stations. The proposed knowledge support would provide UTY and other interested CAREC railways with advice on best practice approaches applicable to their current situation and future plans, and provide access to international experts to assist in applying such approaches in practice.

79. **Open data collection tools for tracking railway traffic and operational performance.** In developing its overarching role for guiding the transport sector, MOT is interested to draw upon the latest technologies for collecting data on railway traffic and operational performance. The proposed knowledge support would obtain information on open data collection tools used for this purpose in other countries and provide advice on how to introduce such approaches in Uzbekistan.

E. Main opportunities for support under CAREC Railway Sector Development TA

80. Based on the preceding chapters, the more promising opportunities for possible support under the present TA are summarized in Table 5.1.

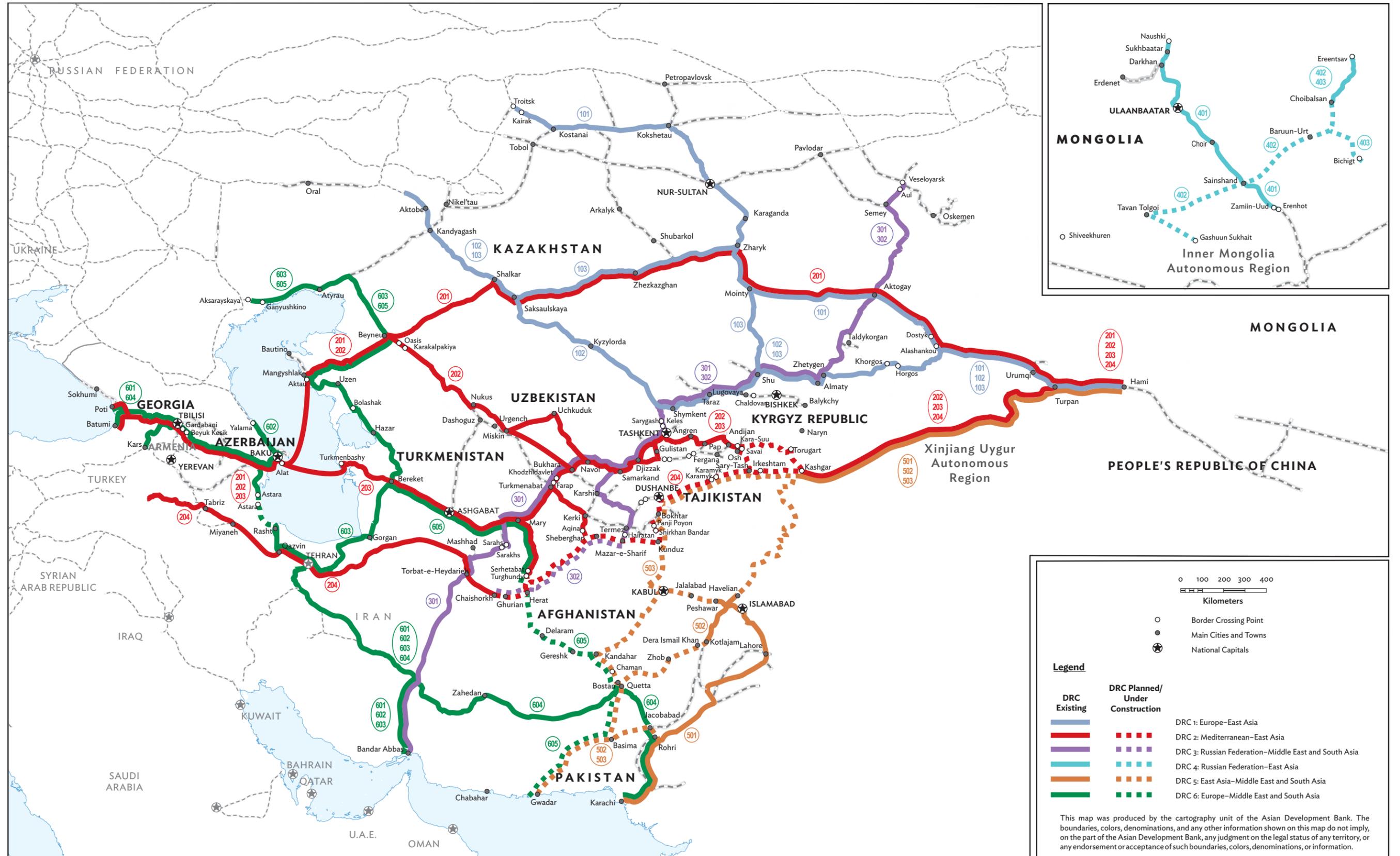
Table 5.1: Promising Opportunities for Uzbekistan to Obtain Support Under CAREC Railway Sector Development TA

Type of Support	Subject
Prefeasibility study	PRC–Kyrgyz Republic–Uzbekistan Railway Northwestern international railway corridor Trans-Caspian container block train services between Uzbekistan and Turkmenbashi
Knowledge products and events	Study of wagon supply on regional corridors Best practices to improving railway customer orientation Joint seminar of shipping companies on efficient container utilization Best practices in private sector participation in operation of stations and terminals Open data collection tools for tracking railway traffic and operational performance

Note: Selection of prefeasibility studies, capacity development support and knowledge products and events are based on established submission templates and selection criteria, and overseen by the Railway Working Group.

Source: TA consultants.

APPENDIX | CAREC DESIGNATED RAIL CORRIDORS



DRC = designated rail corridors.
Source: CAREC Secretariat.

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Railway Sector Assessment for Uzbekistan

Through a technical assistance project on railway sector development, the Asian Development Bank is helping member countries of the Central Asia Regional Economic Cooperation (CAREC) region to strengthen the role and performance of railways. This short report summarizes the findings of the railway sector assessment for Uzbekistan, based on a country visit on 16–21 September 2019. It examines the context, characteristics, performance and potential of railways, and identifies opportunities for future investment, commercialization, and reform.

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.” CAREC countries include: Afghanistan, Azerbaijan, the People’s Republic of China, Georgia, Kazakhstan, the Kyrgyz Republic, Mongolia, Pakistan, Tajikistan, Turkmenistan, and Uzbekistan.