Completion Report

Project Number: 30506
Loan Number: 1773
March 2008

Uzbekistan: Railway Modernization Project

Asian Development Bank

CURRENCY EQUIVALENTS

Currency Unit – sum (SUM)

		At Appraisal (June 2000)	At Project Completion (December 2006)
SUM1.00	=	$0.004057	$0.000808
$1.00	=	SUM246.48	SUM1,237.18

ABBREVIATIONS

ADB	–	Asian Development Bank
CAR	–	Central Asian republicr
DFI	–	direct foreign investment
EA	–	executing agency
EIRR	–	economic internal rate of return
FIRR	–	financial internal rate of return
FRP	–	first railway project
FSU	–	former Soviet Union
IDC	–	interest and other charges during construction
OFID	–	OPEC Fund for International Development
OPEC	–	Organization of the Petroleum Exporting Countries
O&M	–	operation and maintenance
PAX	–	passengers
PCR	–	project completion report
PIU	–	project implementation unit
PPTA	–	project preparatory technical assistance
PSO	–	public service obligation
SBF	–	small business fund
TA	–	technical assistance
URM	–	Uzbekistan Resident Mission
UTY	–	Uzbekistan Temir Yullari
WACC	–	weighted average cost of capital

NOTE

In this report, "$" refers to US dollars.

Vice President	L. Jin, Operations 1
Director General	J. Miranda, Central West Asia Department (CWRD)
Country Director	H. Wei, Uzbekistan Resident Mission (URM), CWRD
Team leader	Y. Shiroishi, Senior Portfolio Management Specialist, URM, CWRD
Team member	R. Nadyrshin, Portfolio Management Officer, URM, CWRD, CWRD

CONTENTS

BASIC DATA

A. Loan Identification

1.	Country	Republic of Uzbekistan
2.	Loan Number	1773
3.	Project Title	Railway Modernization Project
4.	Borrower	Republic of Uzbekistan
5.	Executing Agency	Uzbekistan Temir Yullari
6.	Amount of Loan	$70.0 million
7.	Project Completion Report Number	

B. Loan Data

1.	Appraisal	
	– Date Started	29 May 2000
	– Date Completed	12 June 2000
2.	Loan Negotiations	
	– Date Started	27 September 2000
	– Date Completed	29 September 2000
3.	Date of Board Approval	31 October 2000
4.	Date of Loan Agreement	17 May 2001
5.	Date of Loan Effectiveness	
	– In Loan Agreement	15 August 2001
	– Actual	21 September 2001
	– Number of Extensions	0
6.	Closing Date	
	– In Loan Agreement	31 December 2005
	– Actual	31 March 2007
	– Number of Extensions	1
7.	Terms of Loan	
	– Interest Rate	Pool-based variable lending rate for US dollars later converted to London interbank offered rate-based lending rate for US dollars
	– Service Charge	0.75%
	– Maturity (number of years)	25
	– Grace Period (number of years)	5
8.	Terms of Relending	
	– Interest Rate	0%
	– Maturity (number of years)	25
	– Grace Period (number of years)	5
	– Second-Step Borrower	Uzbekistan Temir Yullari

9. Disbursements

a. Dates

Initial Disbursement	Final Disbursement	Time Interval
12 January 2004	29 March 2007	3 years and 3 months
Effective Date	**Original Closing Date**	**Time Interval**
21 September 2001	31 December 2005	4 years and 3 months

b. Amount ($ ’000)

Category[a] oro Subloan	Original Allocation	Last Revised Allocation	Amount Increased/ (Decreased)	Net Amount Available	Amount Disbursed	Undisbursed Balance
01	25,200	29,279	4,079	29,279	29,279	0
02	35,700	39,650	3,950	39,650	39,650	0
03	500	371	(130)	371	371	0
04	700	700	0	0	700	0
05	7,900	0	(7,900)	0	0	0
Total	**70,000**	**70,000**		**70,000**	**70,000**	**0**

( ) = negative.
[a] 01 = equipment, 02 = materials, 03 = consulting services, 04 = front-end fee, 05 = unallocated.

10. Local Costs (Financed)

Item	Appraisal	Actual
Amount ($ million)	52.2	44.0
Percent of Local Cost	100.0	100.0
Percent of Total Cost	33.6	33.5

C. Project Data

1. Project Cost ($ million)

Cost	Appraisal Estimate	Actual
Foreign Exchange Cost	102.80	87.14
Local Currency Cost	52.20	44.05
Total	**155.0**	**131.19**

2. Financing Plan ($ million)

Cost	Appraisal Estimate			Actual		
	Foreign	Local	Total	Foreign	Local	Total
Implementation Costs						
ADB Financed	69.30	0.00	69.30	69.30	0.00	69.30
OFID	5.00	0.00	5.00	5.00	0.00	5.00
UTY	18,70	52.20	70.90	12.14	44.05	56.19
Total	**93.00**	**52.20**	**145.20**	**86.44**	**44.05**	**130.49**
IDC Cost						
ADB Financed	0.70	0	0.70	0.70	0	0.70
UTY	9.10	0	9.10	0	0	0.00
Total	**9.80**	**0**	**9.80**	**0.70**	**0**	**0.70**

ADB = Asian Development Bank, IDC = interest during construction, OFID = OPEC Fund for International Development, UTY = Uzbekistan Temir Yullari.

3. Cost Breakdown by Project Component ($ million)

Component	Appraisal Estimate			Actual		
	Foreign	Local	Total	Foreign	Local	Total
A. Base Cost						
1. Track Rehabilitation, including Materials and Equipment	72.50	31.30	103.80	72.04	37.95	109.99
2. Telecommunications and Computerization of Financial Accounting System	7.80	9.00	16.80	14.03	5.54	19.57
3. Consulting Services, Human Resource Development,, SBF, and Administration	0.70	5.60	6.30	0.37	0.56	0.93
Subtotal (A)	**81.00**	**45.90**	**126.90**	**86.44**	**44.05**	**130.49**
B. Contingencies						
1. Physical	4.10	1.80	5.90	0	0	0
2. Price	7.90	4.50	12.40	0	0	0
Subtotal (B)	**12.00**	**6.30**	**18.30**	**0**	**0**	**0**
C. Interest During Construction	**9.80**	**0.00**	**9.80**	**0.70**	**0.00**	**0.70**
Total Cost	**102.80**	**52.20**	**155.00**	**87.14**	**44.05**	**131.19**

4. Project Schedule

Item	Appraisal Estimate	Actual
Consulting Services		
E01 – Consulting Services on Computerization of Accounting System	Nov 2000–Apr 2001	6 Mar 2003–17 Mar 2006
D12 – Inspection Services	Not Envisaged at Appraisal	6 Mar 2003–31 Dec 2006
Procurement:		

D01 – Rails	Aug 2000–Dec 2001	28 Nov 2003–15 Jul 2004
D023 – Concrete Sleepers with Elastic Fastening	Jan 2001–Jul 2001	21 Oct 2004–27 Nov 2006
D04 – Freight Trolleys	Nov 2000–Nov 2001	7 Oct 2004–7 Jun 2005
D05-1 – Earth Moving Equipment	Nov 2000–Nov 2001	14 Sep 2004–3 Oct 2005
D05-2 – Earth Moving Equipment	Nov 2000–Nov 2001	7 Sep 2004–25 Jan 2005
D06-1 – Track Machines	Nov 2000–Nov 2001	23 Nov 2003–25 Aug 2004
D06-2 – Track Equipment	Nov 2000–Nov 2001	27 Nov 2003–25 Aug 2004
D08 – Workshop Equipment	Nov 2000–Nov 2001	25 Oct 2004–15 Dec 2005
D091- Fiber Optic Cable	Nov 2000–Dec 2001	25 Oct 2004–25 Aug 2004
D092 – Telecommunication Equipment	Nov 2000–Dec 2001	26 Aug 2005–30 Nov 2005
D10 – Computer Equipment and Software	Nov 2000–Dec 2001	25 Nov 2005–21 Jun 2002
Construction		
Start of Construction	May 2002	Jan 2004
Completion of Construction	Jul 2005	Dec 2006

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5. Project Performance Report Ratings

	Ratings	
Implementation Period	**Development Objectives**	**Implementation Progress**
From 15 September 1998 to 31 December 1998	Satisfactory	Highly Satisfactory
From 1 January 1999 to 31 December 1999	Satisfactory	Highly Satisfactory
From 1 January 2000 to 31 December 2000	Satisfactory	Highly Satisfactory
From 1 January 2001 to 31 December 2001	Satisfactory	Satisfactory
From 1 January 2002 to 31 December 2002	Satisfactory	Partially Satisfactory
From 1 January 2003 to 31 December 2003	Satisfactory	Satisfactory
From 1 January 2004 to 31 December 2004	Satisfactory	Satisfactory
From 1 January 2005 to 13 April 2005	Satisfactory	Satisfactory

D. Data on Asian Development Bank Missions

Name of Mission	Date	No. of Persons	No. of Person-Days	Specialization of Members[a]
Fact-Finding Mission	21 February–6 March 2000	6	83	a, b, c, d, h,i
Appraisal Mission	29 May–12 June 2000	3	45	a, c, d
Inception	30 Sep–14 Oct 2002	2	28	d, e
Review Mission 1	23-29 April 2003	2	14	a, d
Review Mission 2	14–18 December 2004	3	10	a, d,i
Review Mission 3	25July–12 August 2005	3	12[b]	g, i
Review Mission 4	7 August–13 September 2006	3	12[b]	g, i
Review Mission 5	19–25 December 2006	3	12[b]	g,i
Review Mission 6	26 March–12 April 2007	2	6[b]	g, i
Project Completion Review	15 October–1 November 2007	4	20	g, I, j

Notes:
[a] a – financial analyst, b – programs officer, c – economist, d – engineer, e – economist (Uzbekistan Resident Mission [URM]), f – counsel, g – senior portfolio management specialist (URM), h – social development specialist, i – portfolio management officer (URM), j – staff consultant.
[b] Number of person days indicates duration of the mission being in the field as the missions consisted of URM staff only


UZBEKISTAN
RAILWAY MODERNIZATION PROJECT
(as completed)
N
0 50 100 150
Kilometers
60°00'E
69°00'E
45°00'N
39°00'N
KAZAKHSTAN
TURKMENISTAN
TAJIKISTAN
KYRGYZ REPUBLIC
AFGHANISTAN
Aral Sea
KARAKALPAKSTAN
NAVOI
KHOREZM
BUKHARA
SAMARKAND
DJIZZAK
TASHKENT
SYRDARYA
NAMANGAN
ANDIJAN
FERGANA
KASHKADARYA
SURKHANDARYA
Muynak
Kungrad
Khodzheyli
Nukus
Urgench
Turtkul
Uchkuduk
Zarafshan
Gazli
Bukhara
Navoi
Samarkand
Djizzak
Gulistan
TASHKENT
Chirchik
Angren
Namangan
Andijan
Kokand
Fergana
Sukh
Jordan
Karshi
Oklya
Guzar
Denau
Kumkurgan
Termez
National Capital
Provincial Capital
City/Town
Main Road
Project Railway Section
Railway
River
Provincial Boundary
International Boundary
Boundaries are not necessarily authoritative.
GE 6809 80

I. PROJECT DESCRIPTION

1. Prior to Uzbekistan's independence, the country's railway system was the largest part of the former Soviet Union's (FSU's) Central Asian railways. The system traced the ancient trade route linking Asia and Europe and the Persian Gulf with Central Asia and provided a strategic corridor for the transportation of passengers and goods within the Central Asian region and between Central Asia and other states that were part of the FSU.

2. After independence, the Uzbek part of the Central Asian Railway became the Uzbekistan Temir Yullari (UTY), a state-owned joint-stock company responsible for all facets of planning and operating Uzbekistan's railway system. Independence from the FSU brought several challenges for UTY: (i) a sharp drop in traffic, which caused financial problems and subsequent underinvestment in replacement assets; (ii) deterioration of infrastructure as a consequence of inadequate maintenance; and (iii) the existing network, which had catered to regional transport needs and the needs of the FSU, had to be complemented by new lines, so as to create a contiguous national rail network.

3. Under its first railway project (FRP)[1] in Uzbekistan, the Asian Development Bank (ADB) assisted UTY in the rehabilitation of the main rail corridor from the border with Kazakhstan in the northeast of the country to the border with Turkmenistan in the southwest. This route carried the highest volume of rail traffic. The FRP focused on rehabilitation of the section between Chengeldy and Samarkand; the Railway Modernization Project[2] (the Project) was to rehabilitate the remainder of the route, and continue railway sector policy and institutional reforms begun under the previous project.

4. The main goal of the Project was to facilitate pro-poor economic growth through technical and institutional measures to improve the operational efficiency of railway transport. Specifically, the Project was aimed at (i) providing more efficient movement of freight and passengers, (ii) facilitating international trade through improved access to neighboring countries and seaports, and (iii) enhancing UTY's institutional capacity. The scope of the Project comprised: (i) rehabilitation of 341 km of railway track on the Samarkand-Bukhara-Khodjadavlet route and parts of the second line between Djizzak and Samarkand; (ii) provision of modern equipment for track laying and efficient maintenance of railway tracks; (iii) installation of fiber optic telecommunications systems; (iv) computerization of financial accounting systems, including consulting services; (v) human resources development, including training staff in sustaining the technological improvements; and (vi) establishment of the Small Business Fund (SBF). ADB and the OPEC Fund for International Development (OFID) financed the equipment and telecommunications improvements, while UTY financed the track rehabilitation works.

5. To continue the institutional and policy reforms begun under ADB's FRP, advisory technical assistance (TA) was provided in connection with the Project.[3] The TA had four components: (i) preparation of a railway master plan; (ii) drafting of policies and procedures for the operation of the proposed SBF, which was established in connection with staff reduction measures; (iii) preparation of a marketing strategy for tourists; and (iv) assessment of the impact of soil salinity on railway infrastructure and proposed mitigation measures.

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[1] Loan 1631- UZB: *Railway Rehabilitation Project,* for $70 million, approved on 15 September 1998.

[2] Loan 1773- UZB: *Railway Modernization Project*, for $70 million, approved on 31 October 2000.

[3] TA 3529-UZB: *Facilitating Development of the Railway Sector*, for $600,000, approved on 31 October 2000.

6. Uzbekistan was the Borrower, with UTY acting as the Executing Agency (EA). An ADB loan of $70 million from ordinary capital resources was approved on 31 October 2000. The original terms of the loan were determined in accordance with ADB's pool-based variable lending rate system for US dollar loans. In October 2002, following a request by the Government, the loan was converted to LIBOR-based terms.

II. EVALUATION OF DESIGN AND IMPLEMENTATION

A. Relevance of Design and Formulation

7. The relevance of the Project needs to be assessed in the light of the significance of rail transport for the transport sector and the Uzbek economy at large. Railways have traditionally captured the largest share of the freight market in Uzbekistan, but this share has declined steadily over the past decade, from 90% of total freight traffic carried in 1997,[4] to 80% in 2000, and 58% in 2006. Increased motorization and private ownership of road hauling companies, and a changing industrial and distribution pattern involving shorter transport hauls of manufactured goods has resulted in a significant increase in the freight traffic carried on roads. Table 1 shows the modal split of the transport sector.

8. The composition of railway freight has been relatively stable. The key commodities—including petroleum products, grain, coal, fertilizer, cotton and soybeans—constitute captive traffic for the railways. These are regarded as strategic commodities, and major quantities are allocated for shipment by rail. The commodities are transported in bulk over relatively long distances and are therefore especially suited for rail transport.

Table 1: Modal Split in Transport (2006)

Mode	Tons (million	Ton-km (billion)	Haul Distance (km)	Share (tonnage)	Share (ton-km)
Road	668.5	14.1	21	91.9%	42.0%
Rail	58.9	19.5	331	8.1%	58.0%
Total	**727.4**	**33.6**		**100%**	**100%**
	Passengers (million)	**Passenger-km** (billion)	**Trip Distance** (km)	**Share** (pass. no.)	**Share** (in pass-km)
Road	953.2	9.532	10	**98.1%**	**80%**
Rail	18.5	2.331	126	**1.9%**	**20%**
Total	**971.7**	11.915		**100%**	**100%**

km = kilometers, pass. = passengers.
Source: Statistical Review of Uzbekistan 2005 and Uzbekistan Temir Yullari (2007).

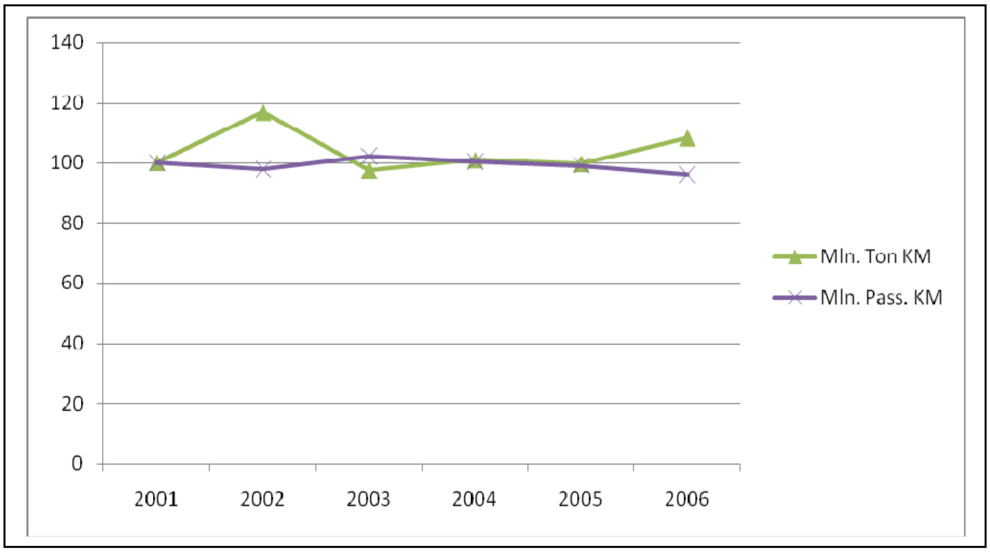
9. The share of passenger transport carried by roads has risen steadily from about 60% in 1990 to above 80% in 2006. Table 1 provides an overview of the shares of road and rail transport in Uzbekistan. The railway data in Table 1 relate to the whole UTY system. The Project route carries about 50% of UTY's freight, and 18% all passenger traffic.

10. Details of traffic for the UTY system as a whole and the project line are in Appendix 8. The development of traffic on the entire UTY system is shown in Figure 1. After strong growth

[4] Freight traffic output is measured in terms of ton-kilometers

from 2001 to 2002, freight traffic has fluctuated at about 20 billion ton-km. Passenger traffic has been on a gradual decline since 2003.

Figure 1: Development of Traffic on the Uzbekistan Temir Yullari System
(2001=100)



Source: Uzbekistan Temir Yullari 2007

11. According to the design and monitoring framework prepared at appraisal, the Project was to support pro-poor economic growth, improve per capita income and expenditure levels, and increase passenger flows in the project area. In addition, the Project was to play a promotional role with respect to foreign trade and direct foreign investment (DFI). The achievement of these goals assumed that macroeconomic stability and growth in Uzbekistan and neighboring countries would continue, that regional development of infrastructure would be coordinated, and that political stability in the region would be sustained.[5] In general, these goals are likely to be achieved. Economic growth has been substantial over the last 5 years and foreign trade and DFI have also risen. A notable exception was the development of passenger traffic, which has dropped slightly since 2003 (Figure 1). The assumptions for attaining the objectives—sustained political stability and coordinated development of infrastructure—were only partly met, although it is unclear how crucial they were for the stated objectives. Figure 2 shows the development of overall foreign trade and regional trade over the last 5 years.

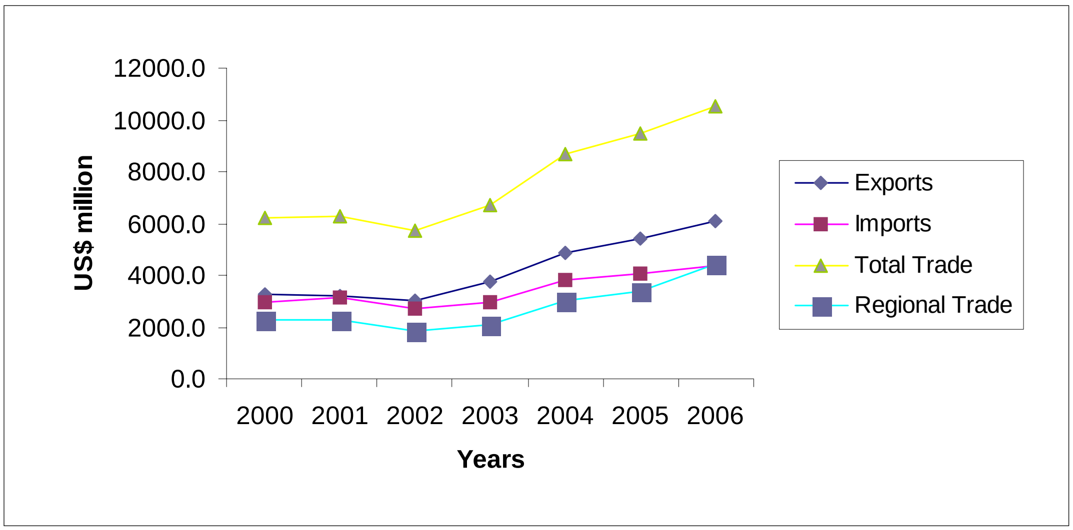
12. The Project involved rehabilitation and modernization of an existing functional route, rather than construction of a new railway line. While the existing route was inefficient, it was maintained sufficiently to support continued service, and provided access to markets and production centers and supported economic activity, as evidenced by the development of traffic on the project line during the implementation period. Traffic output has grown despite the disruptions inherent to such rehabilitation works. Thus, while the Project may not claim the entire benefits associated with the railway line, it has made an incremental contribution to attaining the goals outlined in the design and monitoring framework. The Project has contributed to development of conditions more conducive to regional trade, although the importance of such

[5] Appendix 1 compares the design and monitoring framework at appraisal with the situation at project completion.

trade may have been overstated. The last section of the project line (leading to the town of Khodjadavalet, on the border with Turkmenistan), was rehabilitated with old, recycled rails and sleepers, rather than with the new rail and sleepers used in all other parts of the project line.

13. The design and monitoring framework assumed that regional development of infrastructure would be coordinated, which may have been optimistic. After attaining independence, nation building became a high priority of all Central Asian republics (CARs); this focused on highlighting delineating factors rather than on emphasizing commonalties and greater regional integration. Despite assertions regarding regional cooperation, and a proliferation of regional agreements, forums and institutions, substantial barriers have remained and progress toward regional coordination has been slow. As a corollary to seeking independence and forging a national identity, since becoming independent the CARs have pursued policies that may have been detrimental to the creation of greater regional unity. Economic policies after independence were focused on import substitution rather than trade, and the independent development of infrastructure rather than sustaining and modernizing the shared assets inherited from the FSU. These conditions provided both the rationale for, and continued challenges to, ADB's Central Asia Regional Economic Cooperation (CAREC) Program. The overall objective of the CAREC Program is to promote economic growth and raise living standards by encouraging economic cooperation in Central Asia.

Figure 2: Development of Foreign Trade in Uzbekistan 2000–2006



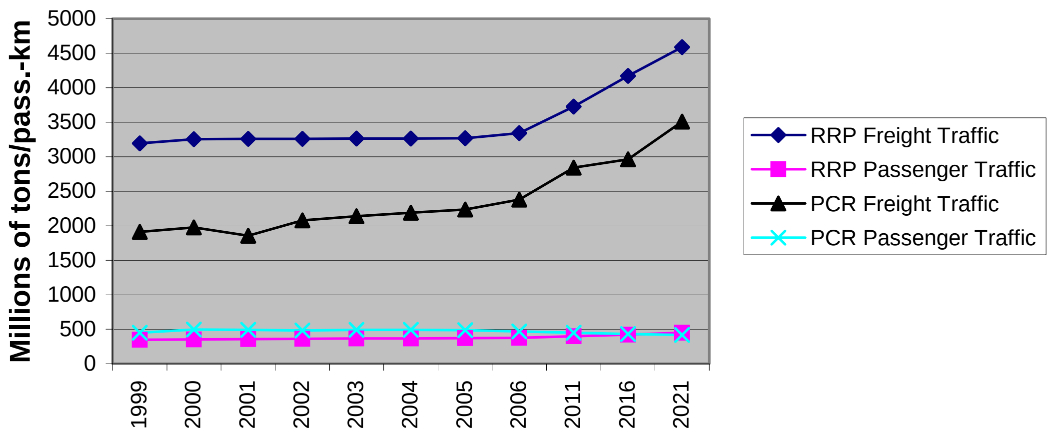
Source: www.uzbearingpoint.com

14. The justification for the Project was based on the gradual deterioration of the railway route between Tashkent and Bukhara. Inadequate investment and maintenance caused the route to deteriorate, and led to major operational inefficiencies and relatively high operating costs. Given the significance of the project route for domestic and international trade, the physical and institutional improvements were expected to generate efficiency gains that would spur economic growth. This rationale was sound. It was realistic to expect that transport cost could be reduced by providing a smoother riding service, enabling increased operating speeds and more efficient fleet and track utilization. Reduced transport costs would contribute to improved transport logistics and trade competitiveness.

15. The Project was completed in late 2006. It is therefore too early to assess its achievements with respect to the above goals. Available traffic data do, however, suggest that the railway line has retained its significance (Figure 3). While passenger traffic has largely been stagnant, freight traffic has grown modestly during the Project's implementation period. The expected efficiency gains were also achieved. The average speed of passenger trains increased from about 60 km per hour to 90 km per hour, reducing travel time between Tashkent and Bukhara by nearly two hours. Increased operating speeds contribute to increased fleet turnaround, higher track utilization and thus to reduced transport cost. Whether the physical improvements will translate to sustainable financial improvements will depend to a large extent on concomitant improvements in service quality. Relevant indicators include punctuality, reduction in freight loss and damage and traffic accidents, and UTY's performance in this regard will have to be evaluated once reasonably reliable trends for these indicators can be established.

16. The significance of the project line for regional trade and international transit traffic has increased with the completion of a missing link on the railway route between the Persian Gulf port of Bandar Abbas and the railway systems of Uzbekistan and Turkmenistan in 2003.[6]

Figure 3: Development of Traffic on the Project Line 1999–2021 (Traffic Forecast for 2006–2021)



km = kilometer, pass = passenger, PCR = project completion report, RRP = report and recommendation of the President.
Source: Uzbekistan Temir Yullari 2007
Note: PCR data for 1999-2006 shows actual traffic. The difference between the freight forecast at appraisal and that of the PCR are explained by the much longer average haul distance assumed at appraisal.

17. Iran provides the shortest railway corridor for CARs to reach the Persian Gulf, with Bandar Abbas and Chabahar ports serving as important outlets for the transit of some of Uzbekistan's export commodities, and goods originating from Kazakhstan and Kyrgystan. It is

[6] Iran's ports of Bandar Abbas and Chabahar are of significant importance for the transit of Uzbekistan's goods, with 70% of Uzbekistan's cotton currently exported via Bandar Abbas port. The 800-km route, dubbed the new silk road, connects the town of Bafq in central Iran with the city of Mashhad in northeastern Iran, closing a vital gap between railways systems of Iran and Central Asia.

estimated that 25% of the freight traffic on the UTY system represents such transit traffic.[7] The same share would apply to the project line.

18. However, Iran, Kazakhstan, and Turkmenistan have recently announced plans to construct a new railway line that will link the three countries without forcing traffic to transit through Uzbekistan.[8] The new line will be the shortest and most direct route from Central Asia and Russia to the Persian Gulf, and may thus pose a serious competitive threat to UTY. Groundbreaking for the line was carried out in November 2007, with completion expected by 2012. The traffic forecast shown in Figure 3 is based on the assumption that the project line will lose about 12% of its traffic after 2011.

B. Project Outputs

19. The Project was to complete the rehabilitation and improvement of the 800 km railway route from Keles to Khodjadavalet, begun under ADB's FRP.[9] The Keles to Khodjadavalet line is the main route of the UTY system, linking Uzbekistan's northeastern border with Kazakhstan and the southwestern border with Turkmenistan. The route carries more than 50% of all UTY traffic. Major sections of the track had outlived their economic life, were in a poor state of repair, and in urgent need of replacement. Speed restrictions had to be imposed, adversely affecting operational efficiency.

20. ADB's FRP covered rehabilitation of 320 km of track in the most deteriorated sections between Keles and Samarkand. The Project was to extend track rehabilitation and improvement from Samarkand through Bukhara to Khodjadavlet, as well as to those parts of the double-track section between Dzhizak and Samarkand not covered by the FRP. These sections were to be rehabilitated using modern track materials, including rails and elastic fastenings. The rehabilitation and improvement under the Project was expected to enable normal operating speeds on the entire route without speed restrictions. Specifically, the Project was expected to generate the following outputs.

(i) Rehabilitation of 341 km of railway track on the Samarkand-Bukhara-Khodjadavlet route and parts of the section between Dzhizak and Samarkand not included under the FRP. The procurement for this component included all necessary track upper structure materials (rails, concrete sleepers, and elastic fastenings).
(ii) Modernization of track-laying techniques and improvement of maintenance of railway tracks through the provision of equipment. This component included track laying machines and maintenance equipment.
(iii) Procurement of telecommunications equipment, including train to station control radio equipment and fiber optic cable and equipment.
(iv) Computerization of UTY's financial accounting systems.
(v) Development of human resources through training with respect to the computerized accounting system and the workshop equipment procured under the Project.

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[7] Transport Sector Strategy. Final Report 2005. TA 4076-UZB

[8] The existing Sarakhs-Tajan-Mashhad railroad in northeast Iran will be extended to pass through Turkmenistan and Kazakhstan, stretching out to eastern Russia, with 700 km of the 900 km railway built by Turkmenistan.

[9] ADB. 1998. *Report and Recommendation of the President to the Board of Directors on a Proposed Loan and Technical Assistance Grant to the Republic of Uzbekistan for the Railway Rehabilitation Project*. Manila. The loan was for $70 million; TA for institutional strengthening of UTY was financed by the Japan Special Fund for $850,000.

(vi) Establishment of the Small Business Fund (SBF).

21. The rehabilitation was carried out and completed by UTY's Track Maintenance Department. A total of 341 km of doubled track between Samarkand and Bukhara was rehabilitated, as envisaged at appraisal. The track rehabilitation work commenced in December 2004 and was completed 2 years later. The project completion review mission traveled on the largest section of the Project line from Tashkent to Bukhara. The riding quality was smooth and the targeted increase in operating speed from an average of 65 km per hour prior to the Project to 90 km per hour after its completion was fully achieved. The travel time from Tashkent to Bukhara was reduced from 9.5 to 7 hours as a result of the Project.

22. The track-laying equipment procured under the Project was expected to shorten the construction time. The 14 km of track rehabilitation achieved per month was significantly below the target of 24 km per month, and resulted primarily from adverse weather conditions, interrupted supply of rails, and deployment of project equipment to other construction sites.

23. The installation of fiber optic communication lines and radio equipment has greatly improved UTY’s entire communication network and has made communications more reliable and efficient. It has enhanced the volume and improved quality of information available for more efficient management of the entire railway network.

24. A computerized financial accounting system was to replace the existing accounting system, which had to be operated manually and used outdated technology and accounting standards. Training equipment was to be procured to accelerate the introduction of new technologies and accounting systems. Some training activities under this component are still ongoing, with completion expected by early 2008. Along with hardware and software for the accounting system, computerization was also expected to lead to the introduction of internationally recognized accounting standards. UTY has made limited progress towards that end, as evidenced by the independent auditor’s report on UTY’s financial statements (the latest available is for 2005). The large number of disclaimers in relation to major financial items, for which the auditors could not find sufficient evidence, is reason for concern.[10]

25. Under the Project, UTY was expected to establish the SBF to assist former UTY employees in starting their own business. The SBF, which was fully funded by UTY, was registered in September 2001. By end 2006, it had approved and financed four small projects for a total financing of SUM163 million ($136,000).[11] All four loans were repaid by 1 July 2007. The four projects provided employment and income for 103 former UTY employees. As SBF is a revolving fund, the repaid amounts will be re-lent and will generate additional benefits in the future.

26. The track machine workshop in Bukhara started operations in 1992 and was to be modernized under the Project. Some of the equipment that was procured under the Project, notably a lathe, has yet to be installed. As a consequence, training of staff on that machine is still pending. The reason for the delay was poor planning and sequencing of the activities involved in the modernization of the workshop. The installation of the lathe was to take place prior to the construction of the building that was to provide cover for the equipment. As the

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10 The Auditors could not verify the accuracy of UTY asset figures, depreciation and other major cost items.

11 The business ventures included (i) production of toilet paper (SUM18 million), (ii) production of paintwork materials (SUM20 million), (iii) production of rubber goods (SUM25 million), and (iv) production of ceramic construction materials (SUM100 million).

foundation for the machine required earthworks extending about 3 meters below the surface, heavy rain flooded the construction site and impeded the installation. The building is now complete and the workshop staff is awaiting the arrival of an engineer from Italy to supervise installation and provide training in the operation of the equipment.

C. Project Costs

27. At appraisal, the project cost was estimated at $155 million, of which $102.8 million (66.3%) was estimated to be the foreign exchange cost. The local currency cost was estimated at $52.2 million (33.7%). The ADB loan of $70 million from ADB's ordinary capital resources was to finance 45.2% of the total project cost. The remaining foreign exchange costs of $32.8 million were to be financed by a loan of $5 million from the OFID and the balance from UTY's own resources. UTY was also to meet all local currency costs of $52.2 million.

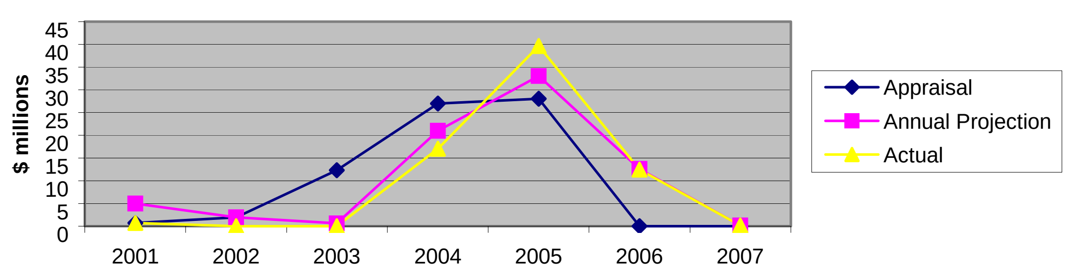
28. The actual completion cost of the Project was $131.19 million, 16.4% less than the appraisal estimate. The actual foreign exchange cost of $87.14 million was 16.3% less than the appraisal estimate. The local currency cost of $44.05 million was 16.7% less than estimated at appraisal. Estimated costs exceeded actual costs primarily due to lower actual costs for track rehabilitation and equipment, which meant that the physical and price contingencies, which accounted for about 12% of the appraisal cost estimates, were not utilized. Detailed costs for each component of the Project compared with that estimated at appraisal are shown in Appendix 3. For cost comparison, the local currency costs incurred by UTY have been converted into dollars at the rate prevailing during each transaction. A summary of contracts financed by ADB is in Appendix 7.

D. Disbursements

29. The loan proceeds were disbursed in accordance with ADB's Loan Disbursement Handbook, including reimbursement, commitment letter, direct payment, and imprest account. Loan disbursement occurred more slowly than expected at appraisal.

30. Figure 4 shows a comparison of projected annual disbursements at appraisal with actual disbursements during project implementation. The loan was approved on 31 October 2000 and became effective on 21 September 2001. Following loan effectiveness, the first pro forma disbursement was the payment of the front-end fee of $700,000 from the loan account. The first actual disbursement of $2.46 million was not made until 2003, with 57% of the loan disbursed by 2005, when project completion and original loan closing had been scheduled. The dates for physical completion and loan closure were extended to 31 December 2006 and 31 March 2007, respectively. By end 2006, 99.8% of loan proceeds had been disbursed.

Figure 4: Actual and Projected Loan Disbursements



Source: UTY Final Project Completion Report

E. Project Schedule

31. It was envisaged at appraisal that the Project would be implemented within 5 years, with procurement of materials and equipment starting in the second half of 2000 and commencement of civil works towards the end of 2001. Completion of the Project was originally expected by 30 June 2005, with completed sections of track to be open for normal operation by mid-2004. Actual physical completion occurred on 31 December 2006, 1.5 years behind schedule. About 6 months of the delay was attributable to start-up delays prior to loan effectiveness. ADB approved the loan on 31 October 2000. Loan signing took place more than 6 months later, and the loan became effective 9 months after loan approval. The commencement of civil works were contingent of the completion of civil works under FRP as the track had to be used for the transportation of construction material. The delay in completing FRP triggered a delay in the civil works of the Project. Other reasons for delays during implementation included delays in the tendering process, in the delivery of rails, in the registration of contracts, and inclement weather. Actual and appraisal implementation schedules for major project activities are compared in Appendix 5.

32. Installation of equipment for UTY's Bukhara workshop is still incomplete and part of the workshop is not yet ready for operation. Poor planning and sequencing of the activities involved in the modernization of the workshop caused the delay. However, the project completion review mission was fielded on the understanding that normal operations on the railway line started in 2006 and that measures to accelerate completion of the workshop have been adopted. The workshop building is now complete and the workshop staff members are awaiting the arrival of an engineer from Italy to supervise installation of the equipment and provide training in its operation. The continuing work is minor and the pending activities do not mean that the entire Project is incomplete.[12]

F. Implementation Arrangements

33. UTY was the EA for the Project. Implementation arrangements were largely the same as those for the FRP and relied on the project implementation unit (PIU) for day-to-day operations and monitoring of project progress. The PIU consisted of a project manager, a deputy project manager, two engineers, an economist, an accountant, and four technical and administrative staff members. Technical departments of UTY have assisted the PIU as required during implementation. The technical expertise and capacity of UTY was adequate due to experience gained from similar projects undertaken in the past, and the continued availability of engineers from UTY's technical institute. Project implementation also benefited from the experience gained under the FRP, particularly with respect to training provided to PIU staff on ADB procedures and policies for the international procurement of goods and consulting services.

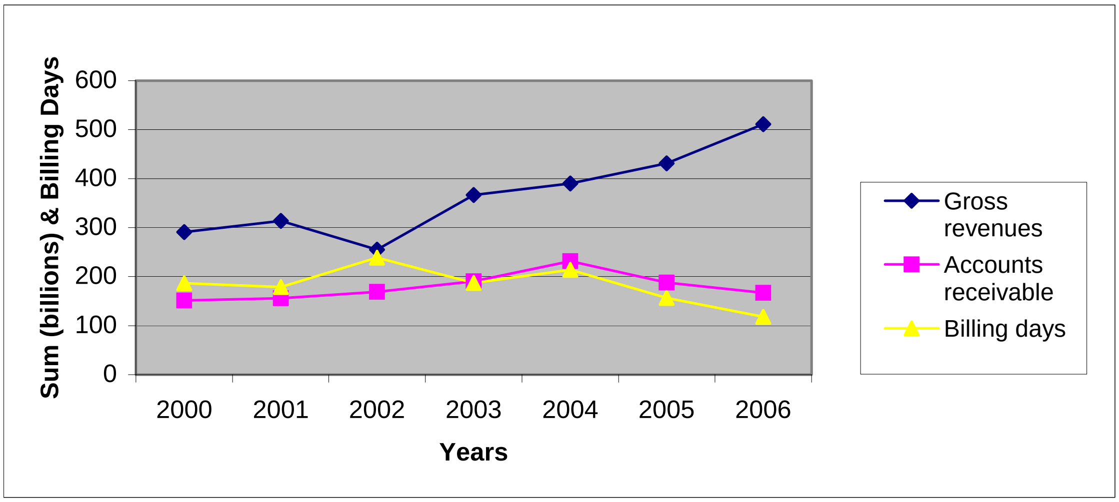
G. Conditions and Covenants

34. Appendix 6 indicates that compliance with conditions and covenants was mixed. UTY has complied with the general covenant requiring it to adhere to sound administrative, engineering, and environmental and railway practices. In particular, environmental covenants were complied with. Dust pollution resulting from ballast removal and cleaning was reduced by spraying water in project sites prior to and during the operations. UTY's compliance with

[12] This understanding would be consistent with ADB's Project Administration Instructions No. 6.07, revised in February 2006.

financial covenants, notably timely submission of audited project accounts and agency financial statements, has been unsatisfactory. Conditions set to sustain the reform process that was started under the FRP were only partially met. This includes the downsizing of assets and the implementation of a public service obligation policy. On the other hand, targeted operational and financial indicators have been achieved. UTY has not succeeded in meeting the covenant to reduce its accounts receivable to the required level of 90 days billings. Although accounts receivable have gradually declined, the 2006 level was equivalent to about 120 days of billings (Figure 5). The largest share of these accounts was from state-owned enterprises in the oil and natural gas sector.

Figure 5: Accounts Receivable



Source: Uzbekistan Temir Yullari 2007

H. Consultant Recruitment and Procurement

35. **TA Consultants.** Consultants were recruited in connection with the TA attached to the loan.[13] The scope of the TA required the services of 15 international and 32 local consultants and envisaged continuation of the institutional and policy reforms begun under ADB's FRP. A firm of international consultants in association with national consultants were engaged in accordance with the ADB's *Guidelines on the Use of Consultants, 1998* . The TA had four components: (i) preparation of a railway sector study, including a master plan and financial analysis; (ii) provision of assistance to operationalize the SBF; (iii) assistance in development and marketing of railway services for tourists; and (iv) a study on the adverse effects of soil salinity on railway infrastructure, and proposed mitigation measures. While the TA was evaluated as partly successful, the performance of the consultants was satisfactory.

36. **Loan Consultants.** No provision was made under the Project for consulting services for construction supervision. Experienced technical staff from UTY's Track Maintenance Department supervised the civil works. Eight person-months of international consultants financed from the loan were involved in assisting UTY in the design, procurement, installation, commissioning, and operation of the financial accounting computer system. The consulting

[13] TA No. 3529-UZB: Furthering Policy Reform in the Railway Sector, for $600,000, on a grant basis from the Japan Special Fund.

services included training of staff of UTY's computer and financial accounting departments. It was envisaged that the financial accounting system would comply with international accounting standards and practices. While the consultants have performed satisfactorily in delivering the outputs expected from them, the impact of their services and the new equipment on UTY’s accounting system has yet to be established. Of the $500,000 originally allocated to the consultant services, only $370,528 was utilized.

37. **Procurement** of all goods and equipment financed under the loan was carried out in accordance with ADB's *Guidelines for Procurement,1999.* Materials and equipment for the Project, including rails and fittings, concrete sleepers, elastic fastenings, and equipment and software for the financial accounting system were to be procured using international competitive bidding or international shopping procedures. Each supply contract estimated to cost less than $500,000 equivalent was awarded on the basis of international shopping. The list of contract packages is given in Appendix 7. The procurement of rails under the OFID loan also followed ADB's *Guidelines for Procurement*. The materials financed by UTY from its own resources were procured in accordance with the Government's procedures. Track rehabilitation was undertaken by force account through UTY's track-relaying units. This work was also financed from UTY's own resources.

I. Performance of Consultants, Contractors and Suppliers

38. While the outcome of the TA and loan consultants may be regarded as partly successful, the performance of the consultants measured by the quality of their outputs was good. The performance of suppliers was generally satisfactory. All 12 procurement contracts were completed satisfactorily and the project implementation delays were generally not attributable to delays in supplies. The supply of rails was delayed because of capacity constraints at the port of Astrakhan and lack of wagons. The supplier requested an extension of the delivery period, which was granted by UTY against liquidated damages for the delay.

J. Performance of the Borrower and the Executing Agency

39. The overall performance of the Borrower and Executing Agency was partly satisfactory. Although delayed, project implementation was generally smooth. The compliance with loan covenants related to the submission of reports, the financial performance of UTY, and covenants related to important reform areas was, however, less than satisfactory. The quality of UTY’s monthly progress reports and the final project completion report left much to be desired. Accurate traffic data on the project line could not be provided. While this made the analysis of the Project’s financial and economic performance more difficult, the apparent problems in providing the requested data also negatively reflects on UTY’s performance as a business. The same applies to the still inadequate accounting practices. The performance of the Borrower was rated partly satisfactory. Reasons for the less than fully satisfactory rating included the Borrower's role in the unsatisfactory handling of UTY’s accounts receivable and the inadequate interpretation of the public service obligation provision under a loan covenant.

40. UTY’s performance as EA was rated partly satisfactory. While the Project’s objectives were achieved, delays in project implementation were due mainly to delayed track rehabilitation, as a result of the incomplete civil works under FRP, reassignment of resources to other projects and delays in supplying concrete sleepers. UTY diverted concrete sleepers (produced under an ADB-financed contract) to a new rail line that had been given a higher priority by the Government, which, in turn, slowed the track-laying rate to 10 km per month.

K. Performance of the Asian Development Bank

41. ADB's performance was rated partly satisfactory. Both the Borrower and the EA appreciated the assistance and cooperation extended to them by ADB and considered ADB's performance partly satisfactory. Other positive performance elements were ADB's responsiveness to emerging issues, reflected in the number of review missions and the quality of its interaction on professional railway matters, particularly during the early phase of project implementation. ADB undertook one inception mission and five review missions. It appears, however, that a midterm review mission was not undertaken, although this had been envisaged at appraisal. This must be considered a major shortcoming in project administration.

42. The design of the Project as reflected in the Project Framework appeared unrealistic and overly optimistic with respect to the expected outcomes of the Project. ADB's Uzbekistan Resident Mission administered the Project. The absence of a railway specialist affected ADB's dialogue with UTY on important issues, notably the adherence to reform covenants related to the public service obligation (PSO)[14] and the downsizing of assets. Considering that the Project pursued similar, if not identical, objectives as the FRP, ADB has been lenient in dealing with repeated non-compliance with important covenants.

III. EVALUATION OF PERFORMANCE

A. Relevance

43. The rationale of the Project as perceived at appraisal was to promote economic growth and contribute to poverty reduction by providing employment and income generating opportunities in rural areas. The Project was further expected to (i) provide a more efficient transportation corridor that would connect to the markets of East Asia and Europe, (ii) facilitate exploitation of mineral reserves and production of mineral-based industries, and (iii) help expand the tourism industry in Bukhara and Samarkand. The design and monitoring framework implied that the Project was to provide continued support to UTY's transition to a commercially oriented enterprise. This was to be achieved through development of the policy environment and promotion of private sector participation in transport facilities and services. The rationale for the latter component was sound and highly relevant in view of Uzbekistan's ongoing transition to a market economy and the associated need for restructuring of the country's key institutions.

44. The relevance of the physical project components varies in accordance with what would have occurred had the Project not been undertaken. Given the significance of the project line for both domestic and regional transport, the most realistic assumption would have been avoidance of periodic maintenance and rehabilitation at the expense of rising levels of annual routine maintenance. It would have been highly unlikely that that an important rail link such as the project line would have been allowed to fall into total disrepair. Without the Project, rather than investing in track rehabilitation, the Government would have maintained the line to keep it open for traffic, with increasing recurrent maintenance and higher transport costs. The rehabilitation work under the Project represented periodic maintenance that needed to be carried out to restore deteriorated sections of the project line to a maintainable level. As the with-Project case reflects a more cost-efficient maintenance regime, the viability of the Project rests on savings in both

[14] ADB seems to have accepted the EA's assertion that the Government met its obligation to establish a PSO by granting preferential on-lending credit terms.

maintenance and operating costs. This was also implied in the economic evaluation of the Project undertaken at appraisal. The economies involved in the Project and the significance of the project line for the transportation of vital commodities mean that the rationale of the Project was sound. The Project is rated "highly relevant".

B. Effectiveness in Achieving Outcome

45. The Project is rated "effective", on the basis that the outputs and outcome of the project as defined in the project framework were achieved or are likely to be achieved.

46. Out of the Project's six components, four were rated "highly effective", including (i) rehabilitation of railway track, (ii) modernization of track laying techniques, (iii) improvement of telecommunications, and (iv) establishment of the Small Business Fund. Two components were rated "partly effective" (computerization of UTY's financial accounting systems and the associated staff training). Both components have yet to be completed.

47. The Project has achieved a primary objective: improving the railway's operational efficiency, as reflected in reduced travel times, and maintenance and transport costs.[15] It is less clear to what extent the Project has (i) contributed to more employment opportunities in rural areas, (ii) facilitated exploitation of mineral reserves, and (iii) provided support to the tourism industry. While the Project has improved transportation efficiency on an existing route, it has not provided new access to rural areas, sites with mineral deposits, and tourism centers. The impact of the Project on these objectives depends on the degree to which cost reductions (i) have been or will be passed on to railway users, and (ii) will lower the prices of commodities transported by rail. With the exception of cotton and grain, agricultural produce is predominantly transported by trucks. International tourist arrivals have increased significantly. However, many tourists travel in relatively large groups, and visit the ancient cities by bus. As to the Project's relevance for regional integration, the Project has made regional transport more efficient, rather than making it possible. The Project's regional relevance will also be affected by the construction of the Kazakhstan-Turkmenistan-Iran railway line, which will come into use by 2012, and will carry some of the international transit traffic currently moving on the project line.

C. Efficiency in Achieving Outcome and Outputs

48. The Project is rated "efficient".[16] The approach adopted for the economic reevaluation of the Project is similar to that adopted at appraisal, both being based on a comparison of the with- and without-project scenarios (Appendix 10). The reevaluation of the Project took into account some of the benefits included in the appraisal evaluation, primarily consisting of cost savings related to maintenance costs. The reevaluation disregarded benefits that did not appear realistic or consistent with the Project's rationale, including the following:

Savings in the rehabilitation costs, which the appraisal estimate assumed as benefits. As the Project consisted mainly of such rehabilitation and its cost mainly of the associated investment cost, these could not have been at the same time included as benefits.

- Savings from avoided costs of diverting traffic to roads, which the appraisal evaluation assumed would be needed without the Project. The evaluation assumed

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15 To what extent UTY costs were reduced will have to be assessed later. The improved track reduces costs in two ways: (i) it is less maintenance intensive, and (ii) it allows higher operating speeds, saving passenger time and improving fleet and track utilization.

16 A "highly efficient" rating would have required timely completion of the Project and an EIRR of 18% or above.

rising cost levels for track maintenance under the without-Project scenario. However, the purpose of such maintenance would have been to keep the line open for traffic, rather than allowing traffic to divert to roads.

- The residual value of rails and sleepers replaced by the Project. As the replaced sleepers and rails were used on the last section of the project line, their cost after refurbishment was included in the construction cost for that section.

49. The economic internal rate of return (EIRR) based on current data is 15.9%, compared with 14.9% at appraisal. The difference in the EIRRs is due primarily to time savings accrued to passengers, as these were not included in the appraisal EIRR. Sensitivity analysis indicates that a 10% increase in costs or a 25% decrease in traffic would be necessary to bring the EIRR down to the cutoff level of 12%.

D. Preliminary Assessment of Sustainability

50. Project sustainability is rated "likely", bordering on "highly likely", based on the positive financial evaluation and projections (Appendix 9). Sustainability hinges, however, on UTY's financial performance, which is difficult to assess in the absence of proper financial accounting. UTY has made limited progress towards the adoption of internationally recognized accounting standards, as evidenced by the Independent Auditor's Report on UTY's financial statements, the latest being available for 2005.[17] The large number of disclaimers in relation to major financial items, for which the auditors could not find sufficient evidence, is reason for concern. This could point to the risk of unsustainable performance, as do the many financial covenants that have not been complied with. Without a proper financial management system, it may be difficult for UTY to allocate adequate funds for maintenance. The seemingly tenacious problem of reducing accounts receivable is another factor that may adversely affect sustainability.

Table 2: Financial Ratios

	Target	2000	2001	2002	2003	2004	2005	2006
Debt-equity ratio (%)	below 80 %	70.3	54.0	50.9	28.1	31.8	38.5	41.2
Debt-service ratio	above 1.2	-39.9	-6.4	0.9	21.4	23.2	26.8	30.6
Working ratio (%)	below 70 %	143.4	114.6	98.7	72.3	67.6	55.7	47.3
Operating ratio (%)	below 80 %	146.6	118.7	102.5	77.0	72.4	61.1	53.2

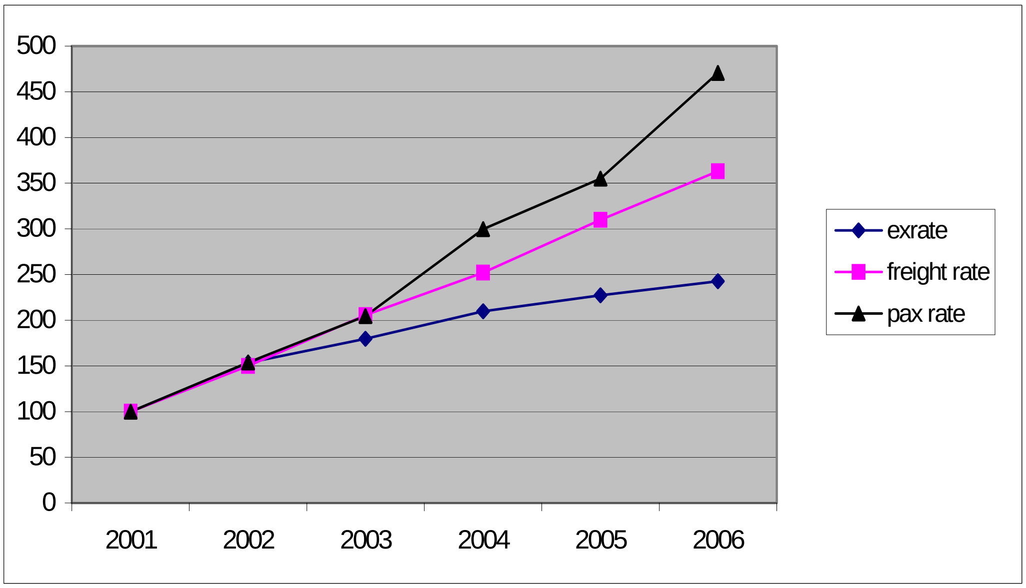
Definitions: Debt/equity ratio: Ratio of total debt to total equity
Debt-service ratio: Ratio of net revenues before depreciation to total debt service
Working ratio: Ratio of operating costs to revenues after taxes
Operating ratio: Ratio of operating costs, including depreciation, to revenues after taxes
Source: Uzbekistan Temir Yullari and project completion review mission estimates

51. The accounting issues notwithstanding, the Project is technically sound and adequate maintenance and operating policies are in place. UTY has demonstrated strong ownership and commitment to the Project. A Financial Internal Rate of Return (FIRR) was recalculated for the Project using updated traffic forecasts and tariffs, and actual and forecast operating costs (Appendix 9). The revised FIRR is 7.3%, compared with 8.7% at appraisal. The recalculated FIRR is above the weighted average cost of capital, estimated at 5% per year.

[17] Deloitte. *Independent Auditors' Report to the Shareholder of the Joint Stock Railway Company "Uzbekistan Temir Yullari".* 17 August 2007. Tashkent.

52. Appendix 9 presents the actual and projected financial performance of UTY, and details of the FIRR calculation. UTY's financial situation appears sound and has achieved all targeted financial indicators (Table 2). Given Uzbekistan's multiple exchange rate regime that had been in place until 2002, UTY has consistently adjusted its tariff to the development of the Swiss franc (Figure 6). Because of this tariff policy, UTY appears to have achieved full cost recovery. A caveat in this regard is called for, however, as UTY's independent auditors have placed a disclaimer on many important accounting items.

Figure 6: Development of UTY Tariffs and Exchange Rates
(Years 2002–2006)
(2001=100)



Note: Exchange rate for the Swiss franc/Uzbek sum
Source: Uzbekistan Temir Yullari 2007 and Internet Currency Converter

E. Impact

53. As was envisaged at appraisal, the Project did not have any adverse impact on the environment. Track rehabilitation was carried out on the existing right-of-way. Precautionary measures were taken to mitigate the risk of dust pollution emanating from the cleaning of ballast. The social assessment undertaken at appraisal did not identify social costs that would result from the Project. The cost of UTY's restructuring that was started under FRP[18] was addressed under the Project by the establishment of the SBF. The SBF has started operations as a revolving fund and is providing start-up capital for business opportunities to former UTY employees.

54. The Project and associated TA were to continue the institutional and policy reforms begun under ADB's FRP. The Project's impact in this regard was limited. The impact of the TA was reduced by its scope, which was too broad relative to the TA resources. The TA covered four distinct areas, and it was not possible to cover all of them to the extent envisioned. The lack of focus resulted in less in-depth work than otherwise would have been possible. Various other

[18] These costs were related to staff reductions, and to separating the ancillary social services from core railway functions operations.

factors prevented the TA from achieving its objectives. Limited progress was made on the introduction of a modern accounting system, the downsizing of assets, and the implementation of a public service obligation system.

IV. OVERALL ASSESSMENT AND RECOMMENDATIONS

A. Overall Assessment

55. The Project is rated “highly relevant”, “effective”, “efficient”, and “likely sustainable”. Its contribution towards capacity building was limited. The Project has been implemented with no significant changes in scope, but behind its original schedule. The Project's formulation and design were technically sound and highly relevant to the achievement of its development goals at appraisal and at completion. The main outputs have been well implemented, with the notable exception of the introduction of modern accounting standards. The goals of the Project as stated in the RRP have largely been achieved, although the outcomes as stated appeared ambitious in relation to the nature of the Project.

56. The reevaluation by the project completion review mission showed that the Project remains economically and financially viable, with an EIRR of 15.4%, and an FIRR of 7.6%, respectively. Financial sustainability is ensured through tariff levels designed to achieve cost recovery over the long term. The project completion review mission confirmed that tariff revenues would be sufficient to cover operation and maintenance costs, income taxes and debt service to ADB and other banks, and to provide a reasonable rate of return over the long term. All financial indicators reflect a robust position and have met their respective covenants. Overall, the Project was well implemented and is rated "successful".

B. Lessons

57. The project framework appeared overly optimistic, in expecting general outcomes for which the cause and effect relationship with the Project was tenuous. While the relevance of the Project is not in doubt—in view of the significance of the corridor and the poor state of repair prior to the Project—normal operations continued, albeit with high operating and maintenance costs. The Project’s principal outcomes are thus likely to be efficiency gains rather than avoidance of a collapse of rail operations. The appraisal analysis could have been more diligent in assessing the mechanism through which the efficiency gains in the form of cost savings would be transmitted to other sectors.

58. Capacity building under the Project would have benefited from more focused TA and more a more consistent dialogue between ADB and UTY on reform issues. More focused TA would have required additional financial resources or a reduced scope. Resources were spread too thinly for the TA to attain development results. As the Project was largely a continuation of the agenda started under FRP, ADB had more leverage in dealing with issues that had already emerged under FRP. This potential was not well used. Issues such as UTY’s accounts receivable, the covenanted public service payment, and submission of audited financial statements have not yet been resolved. UTY’s explanation for not meeting the public service obligation covenant revealed that the concept was not well understood.[19] The project completion report for the FRP noted that sector specialists and a railway sector focal point

[19] UTY suggested that the scope of its public service was marginal and that it would not warrant compensation from the Government. On another occasion, UTY argued that the Government compensated UTY through soft credit terms.

would have been desirable at URM and at ADB headquarters, respectively. The project completion review mission confirms this conclusion.[20]

C. Follow-Up Actions and Recommendations

1. Project-Related

59. At the time of the preparation of this project completion report, the workshop at Bukhara was still incomplete, with a piece of major equipment and staff training on this equipment being awaited. It is proposed that a follow-up mission be fielded by mid-2008 to ascertain the final status in this regard.

60. A more in-depth assessment of the issue of accounts receivable appears to be called for. UTY's independent auditors have placed a disclaimer of opinion in relation to these accounts. The receivables are generated in connection with the transport of commodities considered "strategic" by the Government and it is unclear how, when, and if the accounts are settled. Given the nature of the commodities and the fact that they are shipped by state-owned enterprises, the Government may consider placing them under the Public Service Obligation (PSO). This would presume that the PSO is fully implemented.

61. While the project framework appeared less than realistic at this stage in attributing certain outcomes to the Project, it is too early to arrive at a more conclusive assessment. The project completion review mission therefore reiterates the suggestion made in the FRP PCR to combine a project performance evaluation for the Project with that for the FRP, as the projects are part of the same corridor. This could be done in late 2009.

2. General

62. The design and monitoring framework should be consistent with what a project can reasonably be expected to achieve. The framework for the project was relevant to ADB's strategic objectives, but the assumed links between outputs and outcomes were tenuous.

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[20] ADB. April 2006. *Uzbekistan: Railway Rehabilitation Project*. Completion Report. Loan Number: 1631-UZB.

PROJECT FRAMEWORK

Design Summary	Performance Indicators at Appraisal	Performance Indicators at Completion	Monitoring Mechanisms	Assumptions
A. Goal				
To support pro-poor economic growth	Improvement of per capita income, and freight and passenger flows in the project area	All indicators have been increasing, with the exception of passenger traffic.	Annual economic reporting at the national level	Continued macroeconomic stability and growth in Uzbekistan and neighboring countries
To provide an efficient regional transportation corridor	Tonnage of regional trade by rail and road		Project monitoring and evaluation process	Coordinated development of infrastructure facilities in the region
To facilitate exploitation of mineral reserves	Increase in trade ratios with trading partners		Annual economic reporting at the national level	Region remains politically stabile
To expand the tourism industry	Increase in foreign direct investment in the country		Annual review of cross-border statistics Project monitoring and evaluation process	
B. Purpose				
To improve railway transport services through: (i) Efficient movement of freight and passengers	Increased number and quality of transport services for both freight and passengers Increased international transit trade	Efficiency goal achieved Improved quality of service reflected in reduced travel time. Other quality	Freight and passenger statistics Project administration missions Annual	Timely implementation of the Project Region remains politically stable Government and UTY committed to policy reform

Design Summary	Performance Indicators at Appraisal	Performance Indicators at Completion	Monitoring Mechanisms	Assumptions
		indicators (safety, loss, damage, need)	marketing statistics	action program
(ii) Improved international trade access to neighboring countries	Increase in trade ratios with trading partners Creation of business units	To be assessed later. Trade (regional and international) has grown	Annual cross-border statistics	Government provides financial support for business agencies
(iii) Enhanced institutional capacity	Development of business plan, human resources development plan, and financial projections	Business units and plans, HR plan are in place. Institutional improvement yet to be assessed	Annual business and HRD plans, and financial projections	Government provides support for justifiable tariff adjustments
	Commercialization of service areas	Operations are commercialized. Financial indicators on track	Financial statements of UTY	Investment program is sustainable
	Proper accounting for profit and cost centers	Proper accounting not in place	Operating ratio not more than 0.80 up to 2005 and 0.75 from 2006 onward	
	Market and cost-based tariff rates Financial and operational performance targets	Market and cost-based tariff rates and targets introduced under previous project	Debt service ratio of no less than 1.2 from 2002 onward	

Design Summary	Performance Indicators at Appraisal	Performance Indicators at Completion	Monitoring Mechanisms	Assumptions
C. Outputs				
Rehabilitation of 341 km of railway track	Rehabilitation of railway track completed by December 2005	Achieved with delay of 1 year	Contract awards, progress reports, and PA missions	Strong implementation capacity and strong commitment by UTY
Procurement of equipment for O&M	Equipment to be procured by December 2002	All equipment procured with various delays		Government is supportive of the scheme
Procurement of telecom equipment	Equipment to be procured by December 2002			The associated TA is implemented in a timely manner
Computerization of financial accounting systems	Equipment to be procured by December 2002			
Consulting services for computerization of accounting systems	Consultants to be recruited by March 2001	Consultants recruited with delays		
Human resources development	Training programs skills mix established	Training programs established		
Establish small business fund	Establishment of fund by 30 September 2001	Establishment of SME fund with delay		
	Number of businesses supported	Adequate number of businesses supported		

CHRONOLOGY OF MAJOR EVENTS

Date	Event
1999	
30 June	Approval of PPTA
2000	
21 February	Fact-finding mission fielded
22 May	Management review meeting approved appraisal mission
29 May	Appraisal mission fielded
27–28 September	Loan negotiations at ADB headquarters, Manila
31 October	ADB approved loan for $70 million and ADTA for $0.6 million.
20 November	ADTA 3529 signed by Uzbekistan
2001	
20 March	Cabinet of Ministers Resolution No. 136 on project implementation issued
17 May	Loan Agreement and Project Agreement signed
30 August	Subsidiary Loan Agreement between Ministry of Finance and UTY signed
21 September	ADB loan became effective
1 October	Inception mission fielded
2002	
26 February	Loan Agreement between OFID and Government of Uzbekistan signed
1 May	ADTA consultant, HWTSL, fielded
30 Sep–14 Oct	Inception mission fielded
27 November	Loan terms transformed from a pool-based to a LIBOR-based facility
2003	
3 January	ADTA consultant, HWTSL, submitted the final report
28 January	OFID Loan became effective
6 March	Contract D12 – Inspection Services awarded, for $0.15 million

Date	Event
23–29 April	Review mission fielded
18 July	Project consultant contract awarded, for $0.14 million
26 November	Contract D061 – Equipment awarded, for EUR0.56 million
27 November	Contract D062 – Equipment awarded, for EUR1.59 million
28 November	Contract D01 – Rails awarded, for $15.66 million
11 December	Contract E01 – Computer Consultant awarded, for $0.26 million
2004	
1 March	ADTA consultant, HWTSL, submitted the final report
13 May	ADB approved Contract B01 – Rails, valued at $8.8 million
31 May	ADTA completed
25 August	Execution of Contracts D061 and D062 – Equipment completed
7 September	Contract D052 – Earthmoving equipment awarded, in the amount of $0.19 million
14 September	Contract D051: Earthmoving equipment awarded, for EUR1.1 million
7 October	Contract D041 – Track Machines awarded, for EUR5.66 million
21 October	Contract D023 – Sleepers & Fastenings awarded, for $29.3 million
25 November	Contract D08 – Workshop Equipment awarded, for EUR3.05 million
25 November	Contract D091 – Optical Fiber Cable awarded, for EUR1.69 million
14–18 December	Review mission fielded
15 December	Project was delegated to Uzbekistan Resident Mission
2005	
25 January	Execution of Contract D052 – Earthmoving equipment completed
5 February	Execution of Contract D051 – Earthmoving equipment completed
5 June	Execution of Contract D091 – Optical Fiber Cable completed
7 June	Execution of Contract D041 – Track Machines completed

Date	Event
22 June	Execution of Contract D01: Rails completed
20 July	Contract D092 – Telecommunication Equipment awarded, in amount of EUR6.08 million
25 Jul–12 Aug	Review mission fielded
2 September	Loan closing date extended
21 September	Contract D10: Computers and Software awarded, in amount of $5.88 million
2006	
17 February	Execution of Contract E01 – Computer Consultancy completed
10 March	Loan proceeds reallocated
7 Aug–13 Sep	Review mission fielded
27 November	Execution of Contract D023 – Sleepers and Fastenings completed
5 December	Execution of Contract D12 – Inspection Services completed
7 December	Execution of Contract D092 –Telecommunication Equipment completed
19–25 December	Review mission fielded
28 December	UTY officially informed ADB on physical project completion
2007	
27 March	Loan Proceeds reallocated
30 March	Loan account closed
31 March	Execution of Contract D10 – Computers and Software completed
23 March–19 April	Final review mission
16–31 October	Project completion review mission

PROJECT COST AND FINANCING SOURCES

Table A3.1: Estimated and Actual Project Cost
($ million)

	APPRAISAL			ACTUAL		
	Foreign Exchange	Local Currency	Total Cost	Foreign Exchange	Local Currency	Total Cost
A. Base Cost						
1. Track rehabilitation	72.5	31.3	103.8	72.04	37.95	109.99
2. Telecommunications and computerization	7.8	9.0	16.8	14.03	5.54	19.57
3. Consulting services, HRD, SBF and administration	0.7	5.6	6.3	0.37	0.56	0.93
Subtotal (A)	81.0	45.9	126.9	86.44	44.05	130.49
B. Contingencies						
1. Physical	4.1	1.8	5.9	0	0	0
2. Price	7.9	4.5	12.4	0	0	0
Subtotal (B)	12.0	6.3	18.3	0	0	0
C. Interest and other charges during construction	9.8	0.0	9.8	0.7	0	0.7
TOTAL	**102.8**	**52.2**	**155.0**	**87.14**	**44.05**	**131.19**

Table A3.2: Estimated and Actual Financing Plan
($ million)

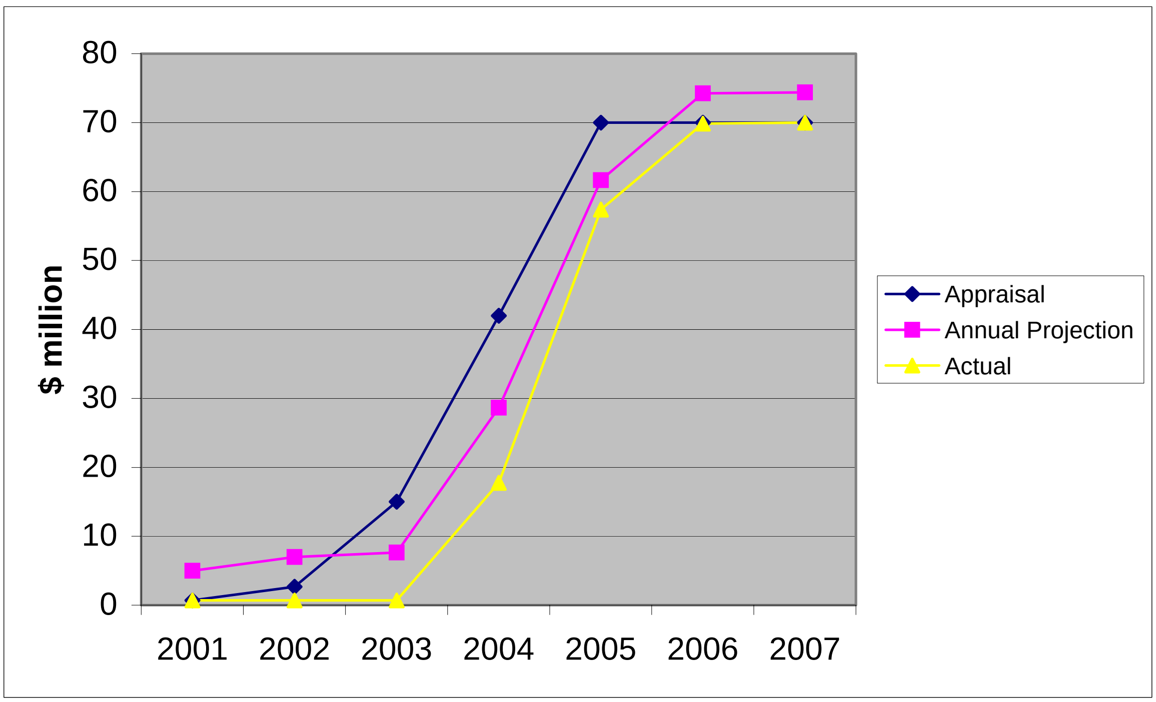
	APPRAISAL			ACTUAL		
	Foreign Exchange	Local Currency	Total Cost	Foreign Exchange	Local Currency	Total Cost
ADB	70.00	0.00	70.00	70.00	0.00	70.00
OPEC Fund	5.00	0.00	5.00	5.00	0.00	5.00
UTY	27.80	52.20	80.00	12.14	44.05	56.19
TOTAL	**102.80**	**52.20**	**155.00**	**87.14**	**44.05**	**131.19**
	%	**%**	**%**	**%**	**%**	**%**
ADB	68.1	0.0	45.2	80.3	0.0	53.4
OPEC Fund	4.9	0.0	3.2	5.7	0.0	3.8
UTY	27.0	100.0	51.6	13.9	100.0	42.8
TOTAL	100.0	100.0	100.0	100.0	100.0	100.0

DISBURSEMENTS

Table A4.1: Projected and Actual Disbursements
($ million)

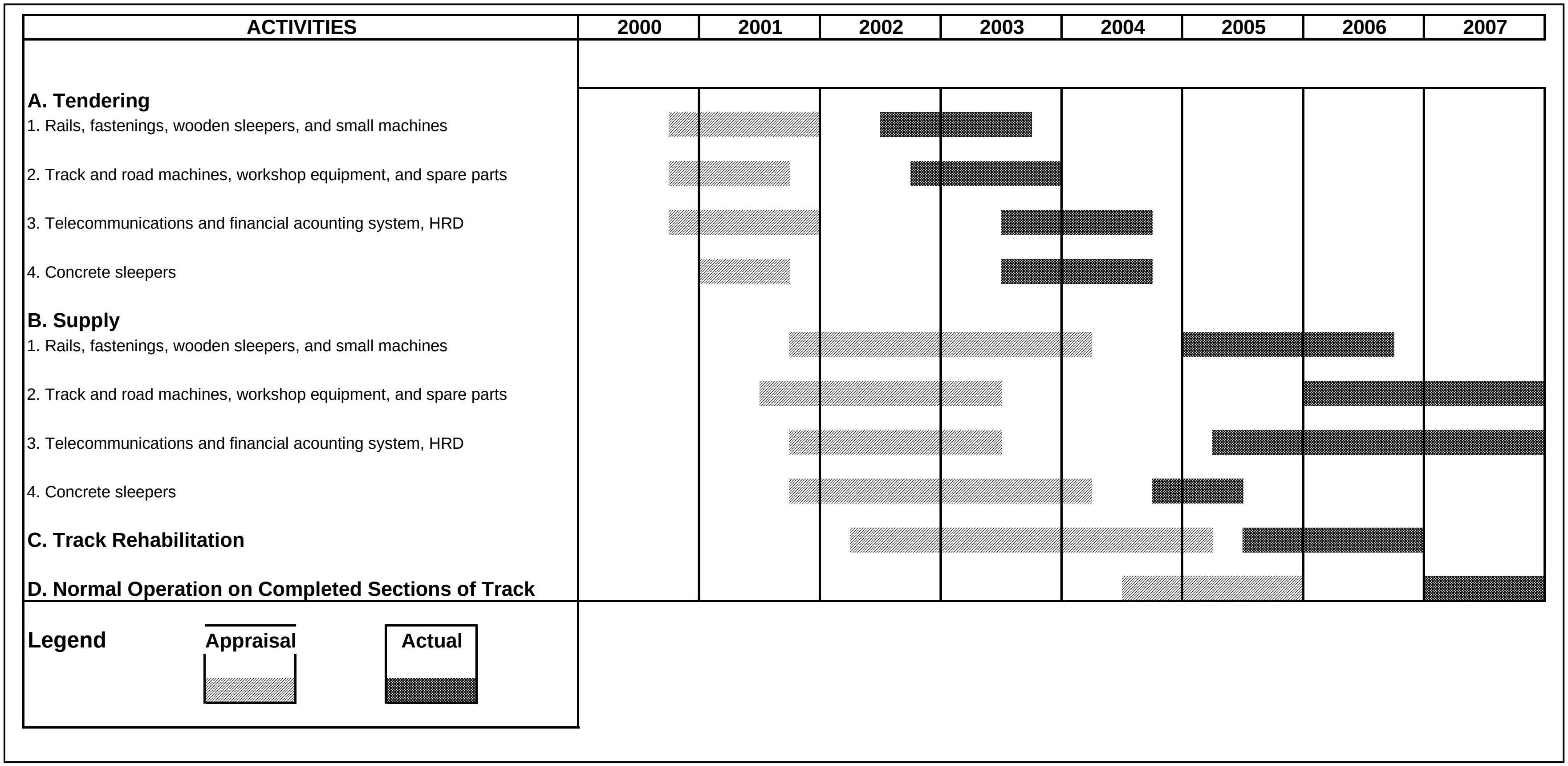
	2001	2002	2003	2004	2005	2006	2007
RRP	0.70	2.00	12.30	27.00	28.00	0.00	0.00
Projected	5.00	2.00	0.65	21.00	33.00	12.60	0.15
Actual	0.70	0.00	0.00	17.06	39.63	12.47	0.15

Figure A4.2: Cumulative Disbursements



Source: ADB, PPR system

PLANNED AND ACTUAL IMPLEMENTATION SCHEDULE



COMPLIANCE WITH LOAN COVENANTS

COVENANT	STATUS
1. UTY shall carry out the Project with due diligence and efficiency, and in conformity with sound administrative, financial, engineering, environmental, and railway practices. (PA, Sec. 2.01)	**Partly Complied with.** UTY complied with the general covenant requiring it to adhere to sound administrative, engineering, and environmental and railway practices. However, compliance with financial requirements (financial covenants and timely submission of AFS) was unsatisfactory
2. UTY shall furnish to ADB quarterly reports on the execution of the Project and on the operation and management of the Project facilities. (PA, Sec. 2.08 (b))	**Complied with.** The Quarterly Progress Report for the quarter ending 31 December 2006 was submitted on 30 January 2007.
3. Promptly after physical completion of the Project, but in any event not later than nine months thereafter or such later date as ADB may agree for this purpose, UTY shall prepare and furnish to ADB a report, in such form and in such detail as ADB may shall reasonably request, on the execution and initial operation of the Project, including its cost, the performance by UTY of its obligations. (PA, Sec. 2.08(c))	**Complied with.** UTY submitted a Project Completion Report in Russian in March 2007 and an English version two months later.
4. UTY shall (i) maintain separate accounts for the Project and for its overall operations; (ii) have such accounts and related financial statements audited annually; and (iii) furnish to ADB, promptly after their preparation but in any event not later than nine months after the close of the fiscal year to which they relate, certified copies of such audited accounts and financial statements and the report of the auditors relating thereto, all in the English language. (PA, Sec. 2.09(a))	**Partially Complied with.** UTY maintained separate accounts for the Project and for its overall operations and had such accounts and related financial statements audited annually. UTY submission of audited project accounts (APAs) was generally satisfactory. However, UTY's submission of audited financial statements (AFS) has consistently been late.
5. UTY shall continue to implement its existing asset-downsizing program. In addition, UTY shall take the necessary measures to rationalize freight handling stations and container terminals into fewer and better-equipped distribution centers with improved service quality standards. (PA, Schedule, para. 8)	**Partly Complied with.** A Government Decree of November 2002 aimed at devolving assets related to freight transportation onto the private sector and at increasing efficiency of the railways. Given UTY's satisfactory sales growth of about 10% p.a., the asset-downsizing program was not considered urgent and has been kept in abeyance.
6. Without prejudice to the generality of Section 2.11(c) of the Project Agreement, UTY shall (i) establish facilities for the maintenance of equipment procured under the Project; and (ii) ensure that railway tracks and facilities are efficiently and economically maintained for safe movement of forecast passenger and freight traffic levels. (PA, Schedule, para. 12)	**Partly Complied with.** In Bukhara, UTY has specialized track workshops for the maintenance of track equipment. While contract D08 provided critical maintenance equipment for this workshop and the equipment was delivered, its installation is being awaited and will take place by end 2007.

COVENANT	STATUS
7. UTY shall monitor and evaluate the Project benefits by compiling and analyzing traffic data for the Project railway sections. The data to be collected shall include (i) freight traffic in net tons and ton-km, and average distance traveled per trip distance; (ii) number of passengers and volume of passenger-km and average trip distance; (iii) average load and turnaround time of wagons; (iv) yearly km run by locomotives in service and locomotive-km per failure; (v) total number of staff and staff productivity; (vi) financial and operational performance indicators of UTY; (vii) Project costs; and (viii) freight tariffs and passenger fares. (PA, Schedule, para. 15)	**Partly Complied with.** The required traffic data for the Project line have only been partially provided in the UTY's Project Completion Report. Other data were supplied as required.
8. UTY shall ensure that appropriate mitigation measures are undertaken to minimize adverse environmental impacts during implementation of the Project, and that environmental monitoring is carried out in accordance with the Borrower's relevant environmental regulations and laws and ADB's guidelines. (PA, Schedule, para. 11)	**Complied with.** Dust pollution caused by ballast cleaning was reduced. The spreading of dust that was associated with the cleaning of ballast was contained by spraying the sites with water. Special attention to reducing dust levels was given in and near settlements. According to the state committee on environment, GOSKOMPRIRODA, the Project was environmentally sound and harmless.
9. UTY shall, through a combination of a freeze on recruitment, natural attrition and voluntary staff separation, reduce its staff levels for the core railway operations, to not more than 40,000 by 31-Dec-03 and 39,000 by 31-Dec-04. (PA, Schedule, para. 9 (a))	**Complied with.** The staff reduction program was successful. As of 31 December 2006, total number of staff in core activities was 33,262.
10. UTY shall prepare a human resource development program to ensure that staff reductions are managed with maximum consultation, outplacement and retraining support, especially for workers deemed to be vulnerable due to factors such as age, gender, incapacity or ethnicity. UTY shall take into account ADB's Policy on Gender and Development in formulating the human resource development program. (PA, Schedule, para. 9 (b))	**Complied with.** UTY approved an HRD program for 2006. The program provides directions for training and re-training of the core staff in 2006, curricula for training, a list of staff to be trained, and training schedules. UTY has also developed a medium-term staff reduction strategy, which linked staff reductions to the privatization process and separation of UTY's ancillary entities from UTY's core business.
11. UTY shall establish a revolving small business fund to provide start-up capital for former employees to undertake small business ventures. UTY shall ensure that, no later than 31-Mar-01, the SBF shall be registered with the appropriate authorities and shall be established with sufficient initial funding. UTY shall further ensure that the organizational structure, institutional arrangements and lending policies for the SBF are finalized, in consultation with ADB, no later than 30-Sep-01. (PA, Schedule, para. 10)	**Complied with.** UTY Chairman issued an Order No. 200-H establishing the Small Business Fund (SBF) after the due date in September 2001. Although UTY pledged an initial US$3.0 million to support these activities, to date the SBF has disbursed only SUM163 million ($133,000) for four small commercial projects and provided jobs for 103 redundant staff.
12. UTY shall establish a human resources department (HRD) no later than 31-Dec-00. UTY shall ensure that HRD shall (i) recruit suitable personnel for the planning of UTY's future skill requirements; (ii) create a career transition support program; (iii) develop skill motives matching job profiles to skills; and (iv) develop training programs to meet skill requirements. In addition, UTY shall ensure that HRD shall continuously review UTY's staffing levels in order to improve staff productivity and the efficiency and economy of UTY's operations. (PA, Schedule, para. 13)	**Complied with.** HRD was established in connection with the restructuring of UTY. On 18 February 2005, HRD approved a list of skills and qualification criteria for UTY staff. Every year HRD approves a training program for the subsequent year.

COVENANT	STATUS
13. UTY shall undertake an annual review and updating of its business plan by 31-Mar of each year and, during Project implementation, submit to ADB for review and comments, on an annual basis. The business plan shall be prepared in accordance with the generally accepted accounting practices, and incorporate an account of UTY's actual performance for the past two years. (PA, Schedule, para. 14)	**Partly Complied with.** In April 2006, UTY prepared and submitted to URM a Business Plan covering 2006–2010.
14. UTY shall maintain its financial performance at levels which are sufficient to achieve (i) a working ratio of less than 0.95:1 in 2000 and 2001, & less than 0.85:1 from 2002 onward; (ii) an operating ratio of not more than 0.80:1 up to 2005 & 0.75:1 from 2006 onward; & (iii) a debt service ratio of not less than 1.2:1 from 2002 onward. (PA, Schedule, para. 2 (a))	**Complied with.** As of 31 December 2006 (i) the working ratio was 0.47:1, (ii) the operating ratio was 0.53:1; and (iii) the debt-service ratio was 30.6:1.
15. UTY shall (a) introduce accounting policies and practices that conform to international standards of reporting and financial management; and (b) adopt a depreciation policy in accordance with international practice. UTY shall prepare its accounts in accordance with such policies and practices with effect from its fiscal year ending 31-Dec-02. (PA, Schedule, para. 3)	**Not complied with.** (a) UTY's accounting is in line with national standards of reporting. The transition to international standards is underway. Compliance with the covenant will be supported by the computerization of UTY's financial management system. (b) Depreciation is based on the rates prescribed by national legislation. These rates differ from those that would be based on wear-and-tear and the useful economic life.
16. UTY shall at all times maintain its accounts receivable at an amount equivalent to no more than three months' billings. (PA, Schedule, para. 3)	**Not complied with.** Although accounts receivable have gradually declined, the 2006 level was equivalent to about 120 days of billings.
17. UTY shall review its capital asset investment plan by 31 March of each year to ensure that (i) it complies with the financial ratios, and (ii) each investment has an adequate financial and economic internal rate of return. (PA, Schedule, para. 5)	**Partly complied with.** UTY includes its capital investment program in the Business Plan 2006–2010. Only viable projects with feasibility studies approved by the Cabinet of Ministers are included in the business plans.
18. UTY shall continue to carry out regular reviews of its freight and passenger tariffs to ensure that such tariffs are based on cost and market considerations and are at levels sufficient to ensure UTY is at all times in compliance with the financial ratios. UTY shall conduct such tariff-setting reviews on at least an annual basis and shall apply to the Borrower for any necessary tariff adjustment or adjustments promptly after the end of each such review. (PA, Schedule, para. 6 (a))	**Complied with.** UTY's present tariffs are based on Swiss francs. On 21 April 2006 URM received a new tariff structure for 2006. The CIS and Baltic States Railways Council set annual tariffs for international and transit transportation. Local tariffs are set by UTY and approved by the Ministry of Finance.
19. UTY shall annually submit to ADB reports on its tariff-setting reviews by 31 January of each year during Project implementation. (PA, Schedule, para. 6 (b))	**Complied with.**
20. UTY shall, by 31 December of each year, prepare a plan for projected losses arising from non-commercial transportation services mandated by the Borrower for the ensuing year for the purpose of securing from the Borrower compensation for such projected losses through budgetary transfers on a quarterly basis. (PA, Schedule, para. 7)	**Complied with.** UTY informed that the Government protects UTY from obligations to render non-remunerative services. UTY provides non-commercial services, but the scope of such services is much less than 1% of UTY's annual revenue.

COVENANT	STATUS
21. UTY shall, no later than 31 March in each year, review and update its five-year rolling business plan, and submit the updated plan to ADB for its review and comment. UTY shall also ensure that its marketing department shall be responsible for studying railway tariffs, analyzing market conditions and preparing marketing strategy. (PA, Schedule, para. 14)	**Complied with.** A copy of the latest 5-year business plan (covering 2006–2010) was submitted to URM on 21 April 2006.

CONTRACT PACKAGES FINANCED BY ADB

Contracts	Disbursed		Goods purchased under the contracts
	In bid currency	In US$	
	$700,000	700,000	Front-end fee in the amount of 1% of the Loan
D01	$10,371,099 $5,000,000	10,371,099 5,000,000	27,054 tons of rails from Japan
D023	$29,279,304	29,279,304	527,008 concrete sleepers with Pandrol-type elastic fastenings, produced in the Republic of Uzbekistan
D04	EUR5,627,912	7,410,127	11 freight trolleys from France
D05-1	EUR1,105,700	1,419,475	6 bulldozers from Switzerland
D05-2	$190,506	190,505	2 graders from China
D06-1	EUR558,082	675,636	100 mobile power plants from Germany
D06-2	EUR1591,371	1,956,750	482 track equipment from France
D08	EUR2,992,181	3,681,103	Equipment for Track Machine Repair Workshop in Bukhara
D09-1	EUR1,689,683	2,166,182	670 km of fiber optic cable
D09-2	EUR6, 079, 913	7,511,470	Telecommunication equipment
D10	$4,267,819	4,267,819	Computer equipment for UTY financial accounting system
D12	$138,898	138,898	Pre-shipment inspection services of goods purchased under contracts
EOI	$231,630	231,630	Consulting services on computerization of UTY financial accounting system
Total		70,000,000 (ADB) 5,000,000 (OFID)	

TRAFFIC FORECASTS

Table A8.1: Traffic Forecast and Actual Traffic on the UTY System

	1999	2000	2001	2002	2003	2004	2005	2006	2011	2016	2021
Oil & Oil Products	13015	13536	12038	14202	14520	13255	14175	14864	18084	22002	26769
Construction Materials	11762	9297	9362	6641	7189	7534	7283	7036	8514	10301	12465
Grain	3172	4275	3538	3622	2355	2949	3249	3565	3815	4082	4367
Coal	2761	3100	3000	2888	2237	2656	2987	2195	2349	2513	2689
Fertilizers	3890	3333	2995	3684	3439	4551	3903	3926	4201	4495	4810
Ferrous Metals	796	1288	1187	1129	1657	1871	1958	1978	2393	2896	3504
Ore	1364	1500	2132	3863	4113	2867	2646	2970	3594	4348	5262
Cotton	1072	1055	1032	1049	985	1062	1152	1024	1004	983	964
Timber	412	455	569	638	728	1098	1415	1915	2317	2804	3393
Cement	2573	2700	3156	3423	3394	4142	4179	4349	5262	6367	7705
Other	6430	7665	7038	10265	11058	11858	12045	14302	17305	20940	25337
Total (tons '000)	**47247**	**48204**	**46047**	**51404**	**51675**	**53843**	**54992**	**58124**	**68837**	**81731**	**97263**
Ton-KM (million)	**16158**	**16389**	**15748**	**18403**	**17931**	**18091**	**18037**	**19530**	**23129**	**27462**	**32680**
Passengers ('000)	**14761**	**16271**	**16080**	**15721**	**16062**	**16111**	**15971**	**15351**	**14737**	**14147**	**13582**
Pass.-KM (million)	**1889**	**2083**	**2058**	**2012**	**2056**	**2062**	**2044**	**1965**	**1886**	**1811**	**1738**

Table A8.2: Traffic Forecast and Actual Traffic on the Project Line

	1999	2000	2001	2002	2003	2004	2005	2006	2011	2016	2021
Oil & Oil Products	2755	2865	2548	3006	3074	2806	3001	3146	3828	4657	5666
Construction Materials	1908	1508	1519	1077	1166	1222	1181	1141	1381	1671	2022
Grain	505	681	563	577	375	469	517	568	607	650	695
Coal	90	101	98	94	73	87	97	72	77	82	88
Fertilizers	485	415	373	459	429	567	486	489	523	560	599
Ferrous Metals	287	464	427	406	597	674	705	712	862	1043	1261
Ore	161	177	252	456	485	338	312	350	424	513	621
Cotton	100	98	96	98	92	99	107	95	93	91	90
Timber	5	5	7	8	9	13	17	23	28	33	40
Cement	359	377	440	478	473	578	583	607	734	888	1075
Other	1096	1306	1200	1750	1885	2021	2053	2438	2950	3569	4319
Total (tons '000)	**7750**	**7998**	**7523**	**8408**	**8656**	**8874**	**9060**	**9641**	**11507**	**13758**	**16476**
Ton-KM (million)	**1914**	**1975**	**1858**	**2077**	**2138**	**2192**	**2238**	**2381**	**2842**	**3398**	**4070**
Passengers ('000)	**3526**	**3887**	**3841**	**3755**	**3837**	**3848**	**3815**	**3667**	**3520**	**3379**	**3244**
Pass.-KM (million)	**451**	**497**	**492**	**481**	**491**	**493**	**488**	**469**	**451**	**433**	**415**

Source: Mission estimate

FINANCIAL PROJECTIONS

Table A9.1: Financial Projections
(SUM billion)

I. INCOME STATEMENTS	2000	2001	2002	2003	2004	2005	2006	2011	2016	2021
Operating Revenues										
Freight Revenue	78.7	102.2	179.1	239.3	302.7	353.5	459.7	544.4	644.7	763.5
Passenger Revenue	3.7	5.5	8.3	11.2	16.5	20.8	24.7	23.7	22.8	21.9
Other Revenue	31.3	40.9	71.2	95.2	119.6	155.8	184.1	215.9	253.7	298.5
Total Revenue	113.7	148.6	258.5	345.8	438.8	530.1	668.5	784.1	921.2	1083.9
Income Tax	11.4	14.9	25.9	34.6	43.9	53.0	66.9	78.4	92.1	108.4
Op Revenues after Tax	102.4	133.7	232.7	311.2	394.9	477.1	601.7	705.7	829.1	975.5
Operating Expenses	146.7	153.2	229.7	224.9	266.8	265.9	284.6	331.2	386.6	452.5
Operating EBDIT	-44.4	-19.5	2.9	86.3	128.1	211.2	317.1	374.5	442.4	523.0
Depreciation	3.3	5.5	8.8	14.6	18.9	25.4	35.8	28.7	23.9	19.9
Operating EBIT										
Interest Charges	1.11	3.06	3.40	4.03	5.51	7.87	10.36	9.8	6.9	4.0
Total financing charges	1.11	3.06	3.40	4.03	5.51	7.87	10.36	9.8	6.9	4.0
Operating EBT	-48.82	-28.02	-9.25	67.66	103.67	177.91	270.95	336.0	411.7	499.1
II. CASH FLOWs	**2000**	**2001**	**2002**	**2003**	**2004**	**2005**	**2006**	**2011**	**2016**	**2021**
Cash Inflows										
Operating EBDIT	-44.4	-19.5	2.9	86.3	128.1	211.2	317.1	374.5	442.4	523.0
Loan disbursements	12.0	12.0	18.0	30.0	10.0	15.0	12.0	28.7	0.0	0.0
Total cash inflow	-32.4	-7.5	20.9	116.3	138.1	226.2	329.1	345.8	442.4	523.0
Cash Outflows										
Disburse to construction	12.0	12.0	18.0	30.0	10.0	15.0	12.0	0.0	0.0	0.0
Interest charges on loans	1.1	3.1	3.4	4.0	5.5	7.9	10.4	9.8	6.9	4.0
Repayment of loans	0.0	0.0	0.0	0.0	0.0	0.0	0.0	14.3	14.3	14.3
Total debt services	1.1	3.1	3.4	4.0	5.5	7.9	10.4	24.1	21.2	18.3
Total cash outflow	13.1	15.1	21.4	34.0	15.5	22.9	22.4	24.1	21.2	18.3
Net cash flow	**-45.5**	**-22.6**	**-0.5**	**82.2**	**122.6**	**203.3**	**306.7**	**350.4**	**421.2**	**504.7**
III. BALANCE SHEET	**2000**	**2001**	**2002**	**2003**	**2004**	**2005**	**2006**	**2011**	**2016**	**2021**
Assets										
Short term assets	62.7	168.0	249.8	299.6	370.8	371.8	364.2	370.2	370.2	370.2
Long term assets	92.5	216.5	243.9	405.3	525.3	706.5	993.7	796.4	663.0	551.9
Depreciation	3.3	5.5	8.8	14.6	18.9	25.4	35.8	28.7	23.9	19.9
Total net assets	151.9	379.0	484.9	690.3	877.2	1052.9	1322.1	1137.9	1009.3	902.3
Liabilities										
Short term liabilities	34.9	56.3	78.6	50.8	73.6	96.2	126.8	133.3	133.3	133.3
Long-term liabilities	27.8	76.6	84.9	100.7	137.8	196.7	259.0	244.1	172.6	101.1
Total liabilities	62.7	132.9	163.5	151.5	211.4	292.9	385.8	377.3	305.8	234.3
Equity										
Paid-in capital	118.0	266.1	330.7	491.1	617.1	710.0	865.3	629.6	541.8	460.8
Losses/earnings	-28.7	-20.0	-9.3	47.7	48.7	50.0	71.0	131.0	161.7	207.2
Total equity	89.2	246.1	321.5	538.8	665.8	760.0	936.3	760.6	703.4	668.0
Total capital	151.9	379.0	485.0	690.3	877.2	1052.9	1322.1	1137.9	1009.3	902.3
IV. RATIOS	**2000**	**2001**	**2002**	**2003**	**2004**	**2005**	**2006**	**2011**	**2016**	**2021**
Debt-equity ratio (%)	70.3	54.0	50.9	28.1	31.8	38.5	41.2	49.6	43.5	35.1
Debt-service ratio	-39.9	-6.4	0.9	21.4	23.2	26.8	30.6	15.6	20.9	28.5
Working ratio (%)	143.4	114.6	98.7	72.3	67.6	55.7	47.3	46.9	46.6	46.4
Operating ratio	146.6	118.7	102.5	77.0	72.4	61.1	53.2	51.0	49.5	48.4

Approach

The financial internal rate of return (FIRR) is based on an incremental project analysis. The revenues attributable to the Project are assumed to be those generated by the incremental traffic thought to be enabled by the Project. Further revenues are related to cost reductions for operating costs and track maintenance costs. The FIRR is above the weighted average cost of capital (WACC), estimated at 4.3%.

Table A9.2: Financial Internal Rate of Return ($ Million)

YEAR	PROJECT COST			PROJECT REVENUES				NET
	INVESTMENT COST	OPERATING COST	TOTAL COST	INCREMENT. REVENUES	OPER COST SAVINGS	TRACK COST SAVINGS	GROSS REVENUES	REVENUES
2003	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2004	32.01	0.00	32.01	0.00	0.00	0.00	0.00	-32.01
2005	74.65	0.68	75.33	2.00	1.21	1.98	5.19	-70.15
2006	23.47	1.05	24.52	2.74	1.86	3.05	7.64	-16.88
2007	0.36	1.65	2.01	4.30	1.91	3.22	9.43	7.42
2008	0.00	2.27	2.27	5.91	1.97	3.40	11.28	9.01
2009	0.00	2.91	2.91	7.58	2.03	3.58	13.20	10.29
2010	0.00	3.57	3.57	9.31	2.09	3.78	15.19	11.62
2011	0.00	4.42	4.42	11.52	2.16	3.99	17.67	13.25
2012	0.00	3.41	3.41	8.90	1.98	4.21	15.09	11.67
2013	0.00	4.09	4.09	10.67	2.04	4.44	17.15	13.06
2014	0.00	4.79	4.79	12.51	2.10	4.68	19.29	14.50
2015	0.00	5.52	5.52	14.40	2.17	4.94	21.51	15.99
2016	0.00	6.27	6.27	16.37	2.24	5.21	23.82	17.54
2017	0.00	7.05	7.05	18.40	2.31	5.50	26.20	19.15
2018	0.00	7.86	7.86	20.50	2.38	5.80	28.68	20.82
2019	0.00	8.69	8.69	22.67	2.45	6.12	31.25	22.56
2020	0.00	9.55	9.55	24.92	2.53	6.46	33.91	24.36
2021	-3.81	10.44	6.63	27.24	2.61	6.81	36.67	30.04
							FIRR	7.3%

Table A9.3: Weighted Average Cost of Capital (WACC)

	ADB		OPEC		UTY		TOTAL
Amount ($ million)	70.00		5.00		52.75		127.75
Weighting	0.55		0.04		0.41		1.00
Interest (%)	4.72		4.72		7.00		
Tax Rate (%)	5.00		5.00				
Nominal Cost	4.48		4.48		7.00		
Inflation (%)			7.00		7.00		
Real Cost (%)	4.48		-0.31		0.00		
Min Rate	4.48		4.00		4.00		
Weighted Component	2.46		0.16		1.65		
WACC (%)	**4.27**						**4.27**

ECONOMIC REEVALUATION

I. Approach

The economic viability of the Project was reevaluated in the light of updated information on traffic and the actual implementation schedule. The methodology followed the approach adopted at appraisal and is based on with- and without-Project scenarios. In the without-Project case, high maintenance costs will be incurred to keep the line open for traffic. The with-Project case reflects a more efficient maintenance scenario, with lower costs incurred for routine maintenance and periodic maintenance interventions. The with-Project scenario further envisages higher operating speeds for trains and thus increased fleet productivity and reduced unit costs.

II. Economic Cost

The actual investment cost for the Project was converted to economic cost reflecting consumption of economic resources. Taxes and duties were eliminated from the cost. Based on these considerations, a conversion factor of 0.96 was used to convert financial to economic costs. For recurrent cost items, data obtained from Uzbekistan Temir Yullari (UTY) for administration and maintenance were applied together with other operating costs. A residual value was allowed for the rail investment at the end of the investment period. The value applied was the current market value for scrap iron.

III. Project Benefits

The benefits generated by the Project include (i) maintenance cost savings; (ii) savings in the operating cost of freight trains resulting from higher operating speeds and increased fleet productivity; (iii) and time savings realized by passengers.

IV. Reestimation of the Economic Internal Rate of Return

The recalculated economic internal rate of return (EIRR) for the Project was 15.9%, compared with 14.9% estimated at appraisal. The calculation is shown in Table A10.1. The sensitivity analysis shows that the viability of the Project is sensitive to a reduction in benefits, and less sensitive to a reduction in traffic. The reason for this is that the viability is dependant on the value added of coal mining, rather than efficiency gains reflected in traffic.

Table A10.1: Economic Reevaluation ($ million)

YEAR	PROJECT COST				PROJECT BENEFITS				NET
	INVESTMENT COST	ROUTINE MAINTENANCE	PERIODIC MAINTENANCE	TOTAL COST	MAINTENANCE SAVINGS	OPER. COST SAVINGS	PASS. TIME SAVINGS	TOTAL BENEFITS	BENEFITS
2003	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2004	30.73	0.00	0.00	30.73	0.00	0.00	0.00	0.00	-30.73
2005	71.66	0.05	0.00	71.71	4.70	5.28	1.18	11.16	-60.55
2006	22.53	0.05	0.00	22.59	9.87	5.53	1.13	16.53	-6.06
2007	0.35	0.06	0.00	0.40	10.46	5.68	1.13	17.27	16.87
2008	0.00	0.06	0.00	0.06	11.09	5.83	1.13	18.06	18.00
2009	0.00	0.06	0.00	0.06	11.76	6.00	1.13	18.88	18.82
2010	0.00	0.06	0.00	0.06	12.46	6.17	1.13	19.76	19.70
2011	0.00	0.06	0.00	0.06	13.21	6.38	1.08	20.68	20.61
2012	0.00	0.06	0.00	0.06	14.00	6.11	1.08	21.20	21.14
2013	0.00	0.06	0.00	0.06	14.84	6.28	1.08	22.21	22.15
2014	0.00	0.06	3.40	3.46	15.73	6.46	1.08	23.28	19.82
2015	0.00	0.06	0.00	0.06	16.68	6.65	1.08	24.41	24.35
2016	0.00	0.07	0.00	0.07	17.68	6.84	1.04	25.56	25.49
2017	0.00	0.07	0.00	0.07	18.74	7.04	1.04	26.82	26.75
2018	0.00	0.07	0.00	0.07	19.86	7.25	1.04	28.15	28.08
2019	0.00	0.07	0.00	0.07	21.05	7.46	1.04	29.56	29.48
2020	0.00	0.07	0.00	0.07	22.32	7.68	1.04	31.04	30.97
2021	-3.80	0.08	3.40	-0.32	23.65	7.91	1.00	32.57	32.89
								EIRR	**15.9%**
								NPV (12%)	**21.75**

Table A10.2: Sensitivity Tests

		EIRR	Sensitivity Indicator
1. Best estimate	15.5%		
2. Benefits	-10%	13.1	-1.24
3. Benefits	-20%	10.6	-1.09
4. Traffic growth	10%	16.9	0.10
5. Traffic growth	-20%	10.3	-0.56
6. Operating costs	50%	13.4	0.09
7. Combination of 5. & 6.		11.9	

Source: ADB Staff estimates