ADB

Performance Evaluation Report

Reference Number: PPE: UZB 2010-63
Project Numbers: 30457 and 30506
Loan Numbers: 1631 and 1773
December 2010

Uzbekistan: Railway Rehabilitation Project and Railway Modernization Project

Independent Evaluation Department

Asian Development Bank

CURRENCY EQUIVALENTS

(as of November 2010})

Currency Unit	–	sum (SUM)
SUM1.00	=	$0.000615
$1.00	=	SUM1,626.23

ABBREVIATIONS

ADB	–	Asian Development Bank
ADTA	–	advisory technical assistance
DMF	–	design and monitoring framework
EIRR	–	economic internal rate of return
FIRR	–	financial internal rate of return
FSU	–	former Soviet Union
IAS	–	international accounting standards
GDP	–	gross domestic product
IED	–	Independent Evaluation Department
IMF	–	International Monetary Fund
JNR	–	Japan National Railways
OFID	–	OPEC Fund for International Development
PCR	–	project completion report
PIU	–	project implementation unit
PPTA	–	project preparatory technical assistance
RRC	–	Railway Restructuring Commission
RRP	–	report and recommendation of the President to the board of directors
SBF	–	small business fund
TOR	–	terms of reference
TPER	–	technical assistance performance evaluation report
UTY	–	Uzbekistan Temir Yullari

NOTE

(i) The fiscal year (FY) of the Government ends on 31 December.
(ii) In this report, "$" refers to US dollars.

Key Words
adb, asian development bank, railways, railway modernization, reforms, rehabilitation, restructuring, small business fund, technical assistance, uzbekistan.

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CONTENTS

APPENDIXES

The guidelines formally adopted by the Independent Evaluation Department (IED) on avoiding conflict of interest in its independent evaluations were observed in the preparation of this report. Because of his previous involvement in ADB's operations in Uzbekistan, the Director General of IED recused himself from the review and approval of this report, and delegated them to the Director of IED1. Kakhraman Zukhurov and Christopher Castles were the consultants. To the knowledge of the management of IED, there were no conflicts of interest of the persons preparing, reviewing, or approving this report.

BASIC DATA
Railway Rehabilitation Project (Loan 1631-UZB)

Project Preparation and/or Institution Building

TA No.	Technical Assistance Name	Type	Person-Months	Amount ($'000)	Approval Date
2754	Railways Development Project	PPTA	25	600	28 January 1997
3068	Institutional Strengthening of Uzbekistan Temir Yullari	ADTA	48	850	15 September 1998

Key Project Data ($ million)	**Appraisal**	**Actual**
Total Project Cost	126.00	116.84
Foreign Exchange Cost	100.00	92.97
Local Currency Cost	26.00	23.87
ADB Loan Amount—Utilization	70.00	62.61
ADB Loan Amount—Cancellation	–	7.39

Key Dates	**Expected**	**Actual**
Fact-Finding		20 Nov–10 Dec 1998
Appraisal		27 May 1998
Loan Negotiations		10 August 1998
Board Approval		15 September 1998
Loan Agreement		9 December 1998
Loan Effectiveness	9 March 1999	23 February 1999
First Disbursement		26 August 1999
Project Completion	30 December 2002	30 June 2004
Loan Closing	31 December 2003	13 April 2005
Months (effectiveness to completion)	45	64

Internal Rates of Return (%)	**Appraisal**	**PCR**	**PPER**
Economic Internal Rate of Return	17.0	14.3	38.7
Financial Internal Rate of Return	12.7	4.5	29.9

Borrower	Republic of Uzbekistan
Executing Agency	Uzbekistan Temir Yullari

Mission Data

Type of Mission	**No. of Missions**	**No. of Person-Days**
Fact-Finding	1	89
Appraisal	1	56
Inception	1	7
Project Administration		
Review	6	101
Project Completion	1	16
Independent Evaluation	2	25

BASIC DATA
Railway Modernization Project (Loan 1773-UZB)

Project Preparation and/or Institution Building

TA No.	Technical Assistance Name	Type	Person-Months	Amount ($'000)	Approval Date
3218	Railway Modernization Project	PPTA	22	450	6 July 1999
3529	Facilitating Development of the Railway Sector	ADTA	47	600	31 October 2000

Key Project Data ($ million)	**Appraisal**	**Actual**
Total Project Cost	155.0	131.19
Foreign Exchange Cost	102.8	87.14
Local Currency Cost	52.2	44.05
ADB Loan Amount—Utilization	70.0	70.0
ADB Loan Amount—Cancellation		–

Key Dates	**Expected**	**Actual**
Fact-Finding		21 Feb–6 Mar 2000
Appraisal		29 May 2000
Loan Negotiations		27 September 2000
Board Approval		31 October 2000
Loan Agreement		17 May 2001
Loan Effectiveness	15 August 2001	21 September 2001
First Disbursement		12 January 2004
Project Completion	July 2005	December 2006
Loan Closing	31 December 2005	31 March 2007
Months (effectiveness to completion)	47	63

Internal Rates of Return (%)	**Appraisal**	**PCR**	**PPER**
Economic Internal Rate of Return	17.0	15.9	17.0
Financial Internal Rate of Return	8.7	7.3	7.4

Borrower	Republic of Uzbekistan
Executing Agency	Uzbekistan Temir Yullari

Mission Data

Type of Mission	**No. of Missions**	**No. of Person-Days**
Fact-Finding	1	83
Appraisal	1	45
Inception	1	28
Project Administration		
Review	6	66
Project Completion	1	20
Independent Evaluation	2	25

EXECUTIVE SUMMARY

This report presents the findings of an evaluation of the Railway Rehabilitation Project and the Railway Modernization Project in Uzbekistan. The Asian Development Bank (ADB) approved a loan for the Railway Rehabilitation Project (the first project) in 1998 and for the Railway Modernization Project (the second project) in 2000. The rehabilitation project was the third project financed by ADB after Uzbekistan became a member of ADB; the modernization project was the sixth. The two projects are similar, and so are evaluated together in this report.

The first project aimed to rehabilitate 320 kilometers (km) of track along the railway line from just north of Tashkent, the capital, to Samarkand, Uzbekistan's second largest city. The project also aimed to improve the maintenance capabilities of the state railway enterprise, Uzbekistan Temir Yullari (UTY), by upgrading its maintenance equipment, and to restructure and reform UTY and railway operations. The second project aimed to continue rehabilitating the track from Samarkand to just beyond Bukhara, Uzbekistan's fifth largest city, to continue upgrading UTY's maintenance capabilities, to continue the reforms of UTY, and to upgrade UTY's information technology system. The total cost was $116.8 million for the first project and $131.2 million for the second. Procurement under both projects followed ADB's guidelines, but by limiting procurement to ADB-member countries, UTY was unable to procure rail from the least-cost source. Thus, the cost of rail rose by 150%. ADB's loan for each project was $70 million; ADB disbursed $62.6 million for the first loan, and the full $70 million for the second loan.

UTY was the executing agency for each project. At the time of the first loan, UTY was responsible for all railway operations in Uzbekistan, and provided many ancillary services for its employees, following the model of state enterprises in the former Soviet Union. In each project, the reforms aimed to focus UTY on core railway operations, partly by devolving the ancillary activities; and to restructure UTY to develop a commercial orientation. ADB provided advisory technical assistance (ADTA) to accompany each loan in support of the reforms of UTY. The two associated ADTAs are also evaluated in this report

The outcomes of each project, as stated in the design and monitoring framework (DMF) developed for this evaluation, were better track quality and faster train speeds on the Tashkent−Samarkand–Bukhara line, and better operational performance of UTY. The impact in the DMF was to maintain Uzbekistan's economic growth by avoiding disruptions to freight and passenger traffic due to deteriorating track conditions and railway inefficiencies.

ADB provided project preparatory technical assistance (PPTA) to help design each project. UTY was highly satisfied with the design of the first project, and implemented it as designed, with only minor changes in scope. The changes included a small study of railway fasteners that resulted in UTY adopting new fastener technology, both for the project and throughout the railway system. The second PPTA, in contrast to the first, did not provide an adequate basis for developing the feasibility study for approval by the Government. As a result, the project implementation unit (PIU) had to prepare the feasibility study of the second project, including collecting data and redoing forecasts and analyses.

Findings. Implementation of each project deviated from its original expected completion date by about 1.5 years. The first project faced delays caused by the Government's procurement procedures and by diversion of equipment to work on another railway line that was a higher priority to the Government. The late completion of the first project delayed rehabilitation in the second project. The evaluation team observed the track, obtained measurements on track quality, and found the rehabilitated track in good condition 4 to 6 years after completion.

Compliance with loan covenants was satisfactory overall. The most noteworthy among the covenants that are partially complied with are those requiring UTY to devolve its ancillary social services and to adopt international accounting standards. UTY did not devolve any recreational facilities, and partially devolved housing and health facilities. UTY has an adequate rationale, however, for retaining some housing and health facilities, and the partial devolvement of housing and health facilities has had a positive and significant institutional impact on UTY. The covenant requiring UTY to adopt international accounting standards was not feasible since UTY is required to follow Uzbekistan's accounting standards, which are not yet up to international standards. Uzbekistan is expected to adopt international accounting standards in 2011.

Overall, each project is rated *successful*. The first project is *highly relevant*, *effective*, *efficient*, and *likely sustainable*. The second project is *relevant*, *effective*, *efficient*, and *likely sustainable*.

The physical investments financed by the two loans (track rehabilitation, maintenance equipment, computer systems, and telecommunications equipment) are *highly relevant*. For geographic and historical reasons, rail transport was (and remains) an important part of Uzbekistan's economy,. Rehabilitating and reforming Uzbekistan's railways was a top priority for the country in the 1990s. The two railway projects financed by ADB were part of the Government's master plan for developing transport and communication, and supporting railways was included in ADB's country strategies that applied to each loan.

The reforms of UTY (downsizing, restructuring, and privatizing) supported by the first loan are *relevant*; those of the second are *partly relevant*. The reform of UTY was started by the Government in 1997, and then further developed by ADB in the subsequent PPTAs and ADTAs. The relevance of the reforms in the second project was limited by a subproject, the small business fund that aimed to develop a microfinance institution specifically for former UTY employees who were made redundant under the reforms. The small business fund was not consistent with the legal and regulatory framework in Uzbekistan. Despite that, UTY implemented the fund, but it issued only four loans. The fund no longer operates. Considering the predominance of the physical investments over the reforms, the first project is rated *highly relevant* overall, and the second is rated *relevant.*

The evaluation assessed the effectiveness of track rehabilitation with the use of data on track quality and the observed speed of passenger trains. Past and recent data show that track quality had significantly improved so that passenger trains were running 60% faster than before rehabilitation.

The effectiveness of the reforms was assessed with the use of performance indicators and targets set out in the report and recommendation of the President (RRP). The performance indicators apply to the whole of the railway system (not specific to the rehabilitated segments) and aim to measure UTY's operational effectiveness. The reforms are *less effective,* considering that less than half of the performance indicators met their targets. Given the predominance of the physical investments over the reforms, the overall rating is *effective* in achieving outcomes.

The evaluation recalculated the economic internal rate of return (EIRR) for each project to assess the efficiency of the investment. The recalculated EIRR is 38.7% for the first project, and 17.0% for the second. High rates of return are typical in rehabilitation projects, which require a reinvestment cost much lower than that of the original investment. The economic analysis confirms the significant change that occurred in the railway as a result of track rehabilitation.

The evaluation rates the rehabilitation and reforms in each project *likely sustainable*, considering the good ongoing maintenance, high financial returns to the rehabilitation, UTY's strong financial position as operating agency, and the continuing commitment and adherence to reforms. The recalculated financial internal rate of return (FIRR) is 29.9% for the first project and 7.4% for the second. The FIRR of the first project is higher because of much higher traffic on the Tashkent−Samarkand line. All but one of the reforms that were implemented are still in place and have become inherent to UTY. The main limitation to the sustainability of reforms is the failure of the small business fund, which was implemented in the second project.

The reform component of each project had significant institutional impacts. The reforms helped in downsizing and reorganizing UTY, transferring technology to it, and strengthening its capabilities. The reforms cut UTY's staff by one third and allowed the enterprise to focus more on its core functions by devolving the ancillary social services. Working with ADB gave UTY experience in working up to international standards in project implementation, and strengthened UTY to the point that it is now working successfully as a contractor on an ADB-financed railway project in Afghanistan. The socioeconomic impacts of the projects were positive but moderate, and environmental impacts were negligible. The evaluation surveyed passengers traveling on segments of the rehabilitated railway line. Despite claims of pro-poor benefits in the second RRP, the evaluation found that the projects did not affect passenger services in a way that could have significantly helped the poor.

Lessons. A lesson from procurement delays for projects in Uzbekistan is that loan agreements should include a covenant that can avoid delays from the contract registration process in the Ministry of Foreign Economic Relations, Investment, and Trade. The ministry is required to register contracts within 10 days of an application, but it tends to register contracts with qualifications on pricing, implicitly encouraging renegotiation of bid prices. ADB's procurement guidelines do not allow bid prices to be renegotiated once the contract is awarded, and so the qualification results in unnecessary delays to convince the ministry to register a contract without qualification. A loan covenant requiring the ministry to register ADB-financed contracts without qualification is allowed under Uzbekistan's tendering procedures.

A lesson from the procurement of rail is that, before preparing projects in Central Asia or the Caucasus, ADB should determine if the added cost of limiting procurement to ADB-member countries will significantly raise project costs. Uzbekistan and other countries of Central Asia and the Caucasus still have significant economic ties to other countries of the former Soviet Union, and projects can benefit from being able to procure from former Soviet countries that are not members of ADB. Restricting procurement to its members can put ADB at a disadvantage relative to other international financial institutions, which can finance procurement from all former Soviet countries, and can limit ADB's development effectiveness. When the membership restriction imposes significantly higher costs, ADB should advise the borrower on how to request an exemption from the requirement from ADB's Board of Directors.

The first railway project is a good model for ADB to follow when starting a new program in a country. The first railway project was among the first projects that ADB financed in Uzbekistan. When ADB starts a new program in a country, government officials and others must learn about ADB's policies, procedures, and requirements, including those regarding safeguards, anticorruption, and procurement. Despite the extra burdens of learning about ADB, the first railway project was implemented without major problems for three reasons: (i) it was relatively simple (rehabilitation of an existing railway line, instead of building a new line); (ii) it was among the government's highest priorities, and so government ownership and commitment were strong and confirmed; and (iii) the PIU was strong and capable. The PIU later became a source of knowledge and advice for PIUs of other ADB-financed projects in Uzbekistan. The first project shows that, when starting a new country program, ADB should initially stick to simple projects that are among the government's highest priorities, and build a strong PIU that can lay the foundation for future ADB-financed projects.

There is no need for any follow-up actions by ADB. UTY and the Government are expected to ensure good maintenance and operations of the projects.

I. INTRODUCTION

A. Evaluation Purpose and Process

1. This report evaluates the support of the Asian Development Bank (ADB) for two related rail projects in Uzbekistan: (i) the Railway Rehabilitation Project,[1] and (ii) the Railway Modernization Project.[2] ADB's Independent Evaluation Department (IED) chose to evaluate the two projects as part of ADB's country assistance program evaluation planned for 2010–2011. The two rail projects are among the nine completed projects that were eligible for evaluation, and the only two completed projects in the transport sector.[3]

2. The two projects are closely related, and so are evaluated together in this report. ADB approved financing for the Railway Rehabilitation Project (first project) in 1998 and that for the Railway Rehabilitation Project (second project) in 2000. Together, the two aimed to rehabilitate the track from the border at Chengeldy, near Tashkent in northeastern Uzbekistan, to the border at Khodjadavalet, near Bukhara in western Uzbekistan; and to reform the state-owned railway enterprise, Uzbekistan Temir Yullari (Uzbekistan Railways, or UTY). The first project could be considered as phase 1 of the rehabilitation and reform project, and the second as phase 2, building on lessons from the first project.

3. The evaluation team drew on several information sources and reviewed documents relevant to the projects, including the two project completion reports (PCRs).[4] The team interviewed key staff members of ADB and the Government of Uzbekistan. Then it visited project sites in May–June 2010, and conducted a survey of railway passengers in July 2010. The views of ADB and the Government have been included in this report, except as otherwise indicated.

4. IED validated the PCR of the second project,[5] fully supporting the PCR's rating (IED did not issue validation reports at the time of the first PCR). This evaluation finds that, in general, the PCRs fairly and objectively assessed the projects, and provided sufficient evidence to support the ratings and other findings. A limitation of the second PCR was that it failed to report on the project performance targets common to both projects and relevant in assessing effectiveness. This evaluation updates the performance targets for the projects through 2009, to the extent that data are available.

B. Expected Results

5. The two projects had similar inputs and outputs. Each had a physical investment component and a reform component. Each physical investment component included track rehabilitation and maintenance equipment; the second project included information technology (fiber optic cables, and computerization of accounting systems). The reform component of each

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[1] ADB. 1998. *Report and Recommendation of the President to the Board of Directors: Proposed Loan to Uzbekistan for the Railway Rehabilitation Project*. Manila.

[2] ADB. 2005. *Report and Recommendation of the President to the Board of Directors: Proposed Loan to Uzbekistan for the Railway Modernization Project*. Manila.

[3] IED evaluates projects at least 3 years after completion. By the end of 2009 13 ADB-financed projects had been completed in Uzbekistan, but only 9 were completed in 2007 or earlier. In 1999 ADB approved a loan for a roads project in Uzbekistan, but the loan was cancelled in 2002 at the Government's request.

[4] ADB. 2006. *Completion Report: Railway Rehabilitation Project in Uzbekistan*. Manila. ADB. 2008. *Completion Report: Railway Modernization Project*. Manila.

[5] ADB. 2008. *Validation Report: Railway Modernization Project in Uzbekistan.* Manila.

project was represented by covenants in each loan, and was supported by advisory technical assistance (ADTA).[6]

6. ADB helped develop the projects and processed the loans before ADB had adopted design and monitoring frameworks (DMFs); therefore, neither of the reports and recommendations of the President (RRP) included a DMF. The evaluation therefore formulated a DMF applicable to both projects (Appendix 1). A single DMF was formulated because the projects have similar impacts and outcomes.

7. The outcome of the investment components is improved track quality and faster train speeds on the Tashkent−Samarkand−Bukhara line, while the outcome of the reform components is improved efficiency of the railway network, as measured by a set of system-wide performance indicators. Railways can have major impacts on economic growth and development, including benefits for the poor, but the railway was already operating before the projects, and so the economic impacts of the railway itself were already realized. The aim of rehabilitation was to prevent future degradation of track quality and to keep the railway running, thus maintaining the previously realized benefits of railway development. The impact of the projects was therefore to maintain Uzbekistan's economic growth by preventing disruptions to freight and passenger flows that could result from deteriorating track quality and system inefficiencies.

8. The DMF formulated for the evaluation is consistent with the project frameworks and other information in the RRPs. To assess the outcome of the reform component, the DMF uses a table of system-wide performance indicators that was included in each RRP. The table includes suitable baselines, targets, and deadlines, and so has all the information needed for a DMF (Appendix 1). Although the RRPs did not include any information on track quality to assess the outcome of the physical investments, UTY provided the earliest available data on track quality. The goal of the first project, as stated in the RRP, was to "promote economic development," and the goal of the second project was to "support pro-poor economic growth." Each project framework included per capita income as an indicator for the goal. Hence, the DMF includes per capita income as an indicator for the impact of maintaining economic growth.

II. DESIGN AND IMPLEMENTATION

A. Formulation

9. ADB proposed a loan for the first railway project in its first country programming mission to Uzbekistan in 1996. As a result of the mission, the Government asked ADB to be the lead development partner in railways and ADB took the first step to coordinate with other development partners in the sector.

10. Each project was developed with the help of a project preparatory technical assistance (PPTA). ADB approved the PPTA for the first project in early 1997,[7] and that for the second in 1999.[8] The second PPTA reviewed progress in the first railway project and corresponding ADTA study, and proposed further physical investments and reforms.

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[6] ADB. 1998. *Technical Assistance to Uzbekistan for the Institutional Strengthening of Uzbekistan Temir Yullari*. Manila. ADB 2000. *Technical Assistance to Uzbekistan for the Facilitating Development of the Railway Sector*. Manila.

[7] ADB. 1997. *Technical Assistance to Uzbekistan for the Railways Development Project*. Manila.

[8] ADB 1999. *Technical Assistance to Uzbekistan for the Railway Rehabilitation Project*. Manila.

11. ADB supported each project with a project loan. ADB recognized that it was supporting a comprehensive investment program by UTY and could have used a sector loan or sector development program loan to support the investment program, but other issues made a project loan more suitable. In 1996, the Government restricted foreign exchange to protect its foreign reserves. The International Monetary Fund (IMF) advised the Government against that policy, and in December 1996, suspended disbursements from its Stand-By Arrangement with Uzbekistan. ADB recognized that, to be consistent with the IMF's position, ADB should not approve quick disbursing loans, and should process only project loans until government policy changed.

12. UTY was highly satisfied with the design of the first project and with the contributions of the first PPTA. The suitability of the project design is also supported by the fact that no significant changes to the design were requested or were needed during project implementation. UTY expressed a strong commitment to the projects and was fully consulted and involved in the PPTA study. UTY was highly satisfied with ADB's efforts to coordinate aid for the project and for other railway projects.

13. The second PPTA, in contrast to the first, did not provide an adequate basis for the project from UTY's perspective. In comments on the draft final report of the PPTA, UTY reported that the "feasibility study has not been carried out according to the technical-economic requirement of the Uzbekistan Republic Ministers Council (KM RU of the 09.04.1999 No. 165) concerning investment projects." The consultants replied that "the study has been carried out in accordance to [the] ADB's Guidelines."[9] ADB had no such guidelines, but the consultants perhaps meant their terms of reference (TOR). ADB's TOR for the consultants stipulated that the final report should be submitted within 2 weeks of receiving comments from ADB and the government, but did not stipulate that the final report should be revised to the satisfaction of ADB and the government. The TOR left the consultants with little time for further work after receiving comments, and left ADB and UTY with no recourse if the final report was not satisfactory. As a result, the project implementation unit (PIU) of the first project had to prepare the feasibility study for the Government's approval of the second project, including collecting data and redoing forecasts and analyses.

14. The evaluation concurs with the first PCR's discussion of project formulation. The second PCR, however, did not discuss project formulation.

B. Rationale

15. The rationale for each project is sound, at the time of project development and in retrospect. A top priority for Uzbekistan in the 1990s was to rehabilitate and reform its railways. In the former Soviet Union, rail was the primary means of transporting freight throughout Central Asia. With the breakup of the Soviet Union in the early 1990s, the centralized railway system had to be reorganized along the lines of the new countries, and the economic decline led to falling revenues of railways. The institutional changes and falling revenues each contributed to poor maintenance and deterioration of railways in Uzbekistan and other Central Asian countries.

16. Ordinary maintenance of the railway was apparently not an option for Uzbekistan's railways, and track rehabilitation with new maintenance equipment was required. Parts and supplies to maintain the railway previously came from other parts of the Soviet Union. UTY

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[9] Consultant Final Report. 2000. *Technical Assistance to Uzbekistan for the Railway Modernization Project. Annex B-, Answers to Draft Final Report Comments.* page 41.

reported that, after Uzbekistan's independence, the needed parts and supplies were difficult or impossible to obtain; sustainability of the railway therefore required rehabilitating the track and acquiring new maintenance equipment, as supplied by the projects. The need to rehabilitate the track instead of carrying out ordinary maintenance is plausible as a rationale, but the evaluation was not able to independently confirm it.

17. The two ADB-financed projects were part of the Government's master plan for developing transport and communication. Appendix 4 of the RRP for the first railway loan included UTY's capital asset investment plan for railway development, showing the ADB-financed railway rehabilitation project among other projects not financed by ADB (footnote 1). The Government, together with the Railway Reform Commission, started the reform of UTY in 1997. The evaluation team's discussions with the Government confirmed the importance of the projects to the Government in retrospect. UTY reported that the projects were the most important ones to UTY at the time of project design, and that UTY remained fully committed to them.

18. The rationale for ADB's involvement is sound. The first railway loan was just the third loan that ADB had approved for Uzbekistan after the country became a member of ADB in 1995. The initial idea for the loan came from ADB (like all other loans in the first programming mission), based on an "interim country operational strategy" that focused ADB's support on financing and reforms in railways and roads.[10] The rationale for ADB's involvement in the second railway loan is the same as that for the first loan, since the two are essentially two phases of the same project. ADB's continuing support for UTY with a second railway loan was further justified by the satisfactory progress of the first project.

19. The main limitation in the rationale is that for the small business fund (SBF) created under the second project. The SBF aimed to mitigate the social impact of layoffs from UTY by establishing a microfinance group-lending scheme involving former employees. The SBF was proposed by a consultant for the PPTA of the second loan, although not specifically in that consultant's TOR. The PPTA final report indicates that the consultant aimed to develop a kind of group-lending scheme, along the lines of the Grameen Bank, in UTY.[11] There is no clear rationale for a financial institution that is limited to former employees of an organization; a credit union open to current and former UTY staff would have been a better model to follow. UTY later sought advice from the Central Bank on implementing the SBF, and was told that the fund was not consistent with legal and regulatory requirements in the financial sector, and that former employees should seek financing from banks. Meanwhile, ADB was also helping the government develop a microfinance project that could have served the demand for financing from former railway staff, among others.[12]

20. The PCRs presented a fair and accurate assessment of the rationale for the projects. The evaluation concurs with that assessment in the PCRs.

C. Cost, Financing, and Executing Arrangements

21. At completion, the first project had a total cost of $116.84 million, 7.27% lower than the appraisal estimate of $126.0 million. Costs were lower than expected because of changes in

[10] ADB. 1996. Interim *Operational Strategy: Uzbekistan*. Manila.
[11] ADB 1999. *Technical Assistance to Uzbekistan for the Railway Modernization*. Manila.
[12] ADB. 2002. *Report and Recommendation of the President to the Board of Directors: Proposed Loan and Technical Assistance to Uzbekistan for the Small and Microfinance Development Project*. Manila.

foreign exchange rates, lower bid prices, and UTY's decision to postpone procurement of some equipment until the second project.

22. ADB's financing for the first project totaled $62.61 million, 10% lower than the $70 million projected at loan approval. UTY financed a total of $40.7 million, which was also 10% lower than the $45.3 million estimated at loan approval. Foreign currency made up 80% of total costs ($92.97 million), of which two thirds ($62.61 million) was financed by ADB. UTY financed all of the local currency costs ($23.87 million). UTY was not fully satisfied with ADB's financing terms, which were not attractive compared to UTY's other financing options at the time; ADB's interest rate in 1998 was about 6%.

23. The second project cost $131.19 million, 16.36% lower than the appraisal estimate of $155.0 million. The PCR claimed that costs were lower because of lower than expected costs for track rehabilitation and equipment; UTY did not use the physical and price contingencies, which accounted for 12% of appraisal cost estimates. The evaluation finds, in contrast, that equipment costs were 6% higher than the appraisal estimates. The lower than expected total cost is partly due to low utilization of the budget for consulting services, human resources development, and particularly the SBF, where the actual cost was only $0.93 million, or 14.8% of the appraisal estimate of $6.3 million.

24. ADB financed $70.0 million of the second project, while the OPEC Fund for International Development (OFID) contributed $5.0 million, each close to what was estimated at appraisal. Financing from UTY, in contrast, was only $56.19 million, 20% lower than the $70.9 million projected at appraisal. Foreign currency costs made up two thirds of the total ($87.14 million), 80% of which was financed by ADB ($70.0 million), 14% by UTY ($12.14 million), and the remaining 6% ($5 million) by OFID. UTY financed all local costs ($44.05 million).

25. UTY was the executing agency for both projects, as originally planned. A PIU was established, and for 5 months the PIU's staff members were trained in procurement, bid evaluation, and contract administration. During the first project, a small-scale TA financed the services of a procurement expert who also trained the PIU staff on ADB's policies on and procedures for international procurement of goods and services. Relevant technical departments of UTY supported the PIU as needed during implementation. Implementation of the second project benefited from experience gained in the first project.

26. Although actual costs for each project were lower than expected at appraisal, the costs were much higher than if the project had been wholly financed by UTY. Following ADB's procurement guidelines, procurement was limited to ADB member countries. Manufacturers in nonmember countries, however, were the least-cost source of rails. As reported in the PCR, rails procured under ADB financing cost $609 per ton, whereas rails procured by UTY without ADB financing cost only $240 per ton. The ADB-financed rail cost more because rail manufacturers in ADB-member countries do not produce rail of the same specification used in the former Soviet Union, and so the manufacturers contracted to supply rail had to develop production especially for the ADB-financed projects; meanwhile, manufacturers in nonmember countries of the former Soviet Union have the advantage of economies of scale. Limiting procurement to ADB-member countries thereby raised the cost of rails by more than 150%. UTY questioned the restriction of procurement to member countries, but did not request an exemption from the membership restriction for either project.

the financial terms of the first loan were comparatively "expensive" as the interest rate was high and determined in accordance with the Bank's pool-based variable lending. That time it was about 6% per-annum.

27. Appendix 2 presents details of the cost and financing for each project.

D. Procurement, Construction, and Scheduling

28. **Procurement.** Procurement financed under the two loans followed ADB's guidelines, involving international competitive bidding, international shopping, and direct purchase. Table 1 lists the items procured under the loans

Table 1: Procurement Financed under Two Loans ($ million)

Item	First Loan	Second Loan
Equipment	32.11	27.25
Materials	29.47	46.82
Consulting Services	1.03	0.23
Total	62.61	74.30

Source: ADB project completion reports.

29. Procurement faced delays due to Government procedures. The Government requires contracts for public procurement to be registered with the Ministry of Foreign Economic Relations, Investment, and Trade before procurement can proceed. In the contract registration process, the ministry reviews the results of tenders, and either verifies that prices are reasonable, or qualifies the registration if it believes prices are too high. If the contract is registered with qualifications, government officials responsible for the contract can be personally liable for the excess. Hence, officials will always seek unqualified registrations, either by negotiating lower prices with bidders, or negotiating an unqualified registration with the ministry. In each railway project, the ministry questioned the prices quoted in the bids that ADB had already accepted. Under ADB's procurement guidelines, however, prices cannot be renegotiated after the bid is accepted, and the only way to obtain an unqualified registration was to convince the ministry that the quoted prices were reasonable. Eventually the ministry accepted the bids and registered the contracts without qualification, but only after unnecessary discussions and delays that added no value to the procurement process.

30. **Construction.** The first project rehabilitated 320 kilometers (km) of track between Keles (northeast of Tashkent) and Samarkand, and the second project, 341 km of track between Samarkand and Khodjadavalet (west of Bukhara). Work was conducted on the existing alignment and involved cleaning the ballast and replacing rails and sleepers. UTY staff supervised the rehabilitation, which was undertaken by force account through UTY's Track Maintenance Department.

31. **Scheduling.** The first loan was approved on 15 September 1998, the loan agreement was signed on 9 December 1998, and became effective on 23 February 1999; the first disbursement occurred on 26 August 1999. Track rehabilitation started in June 2000. By 1 July 2001 only 38 km of track had been rehabilitated. Delays were caused mainly by diversion of equipment and materials to another railway construction project of higher priority to the Government. By 31 March 2003, 156.3 km had been completed. To make up for the implementation delays, the loan was extended from its original closing date of 31 December 2003 to 30 June 2004. Rehabilitation of the total 320 km was completed by 30 June 2004.

32. In the first project, equipment that was to be supplied for the weld finishing center in Tashkent could not be installed and commissioned on schedule because of delays in completing the weld finishing center buildings, which UTY was to complete by September 2001. Delays were due to the inability of UTY's Construction Department to construct in a timely manner the foundations and minor building works required for rehabilitating the weld finishing center. The equipment procured for the center was eventually installed and commissioned 2 years later than the original schedule.

33. The second loan was approved on 31 October 2000, the loan agreement was signed in 17 May 2001, and became effective on 21 September 2001; the first disbursement occurred on 12 January 2004. Delays in finishing the first project caused delays in starting the second one, and work on the second project started only in mid-2005. Work was also affected by delays in the tendering process, delivery of rails, and registration of contracts, and by inclement weather. The loan closing date was extended from the original 31 December 2005 to 31 March 2007.

34. Maintenance equipment procured under ADB's second loan was not installed on schedule because of delays in constructing a maintenance workshop. The equipment was to be installed in a workshop in Bukhara built by UTY, but flooding at the building site delayed construction. The workshop was finished at the time of the second PCR, but the equipment had not yet been fully installed. The evaluation team visited the workshop in June 2010 and found it and the equipment in use and conducting regular repairs.

E. Design Changes

35. The first project originally proposed rehabilitating 320 km of track on the Tashkent−Samarkand route and procuring equipment for track rehabilitation and maintenance. UTY asked ADB for permission to substitute 34 km of track originally included in the project with the same length of alternative sections along the same railway line, because the original sections had already been rehabilitated using UTY's own funds. ADB approved the substitution, with no change in overall cost. Thus, track rehabilitation occurred within the specified route, and can be considered completed with no major design changes.

36. UTY requested and ADB approved a minor change in scope to include procurement of additional equipment to facilitate track rehabilitation, and additional consulting services. The additional equipment included a sleeper-changing machine, spare parts for track machines, and testing equipment. The additional consulting services were for a specialist in railway track to help review and install a modern track, comprising continuous welded rails, flexible fasteners, and switch expansion joints. The additional consulting services, though only a minor change in scope, resulted in significant technological changes and private sector impacts (discussed in IV.A. Impact).

37. The design of the first project was flexible enough to accommodate these minor but important changes. The second project was implemented as originally designed, with no need or requests for changes.

38. The loan covenants representing reforms were maintained throughout the life of the loan without modification. Although UTY did not fully comply with all covenants, the covenants did not change and so it can be said that the reform components of the projects have been implemented within the original design.

F. Outputs

39. The projects used all inputs and produced all physical outputs as planned, but with delays. Table 2 outlines the planned and actual physical inputs and outputs. The physical outputs of the first project were delayed by 1.5 to 2 years; those of the second project, by 1.5 to 4 years. The reforms included as loan covenants are shown in Appendix 3.

Table 2: Planned and Actual Inputs and Outputs of the Two Projects and Associated Advisory Technical Assistance

	Inputs		Outputs	
	Planned	**Actual**	**Planned**	**Actual**
First project				
Track rehabilitation	Rails, sleepers, track materials, and track laying	As planned (with different fasteners)	320 kilometers (km) rehabilitated by Dec 2002	Achieved (delayed by 1.5 years, and some segments substituted)
Track equipment	Track machines, rail welding machines, and consulting services	As planned	Equipment procured by Dec 2000	Achieved (delayed by 2 years)
Second project				
Track rehabilitation	Rails, sleepers, track materials, and track laying	As planned	341 km rehabilitated by Dec 2005	Achieved (delayed by 1.5 years)
Track equipment	Sleeper-changing machines, bulldozers, crane, rail equipment, miscellaneous vehicles and equipment	As planned	Equipment procured by Dec 2002	Achieved (delayed by 2.5 years)
Telecom-munications	Fiber optic cables and radio equipment	As planned	Equipment procured by Dec 2002	Achieved (delayed by 4 years)
Accounting systems	Computer hardware, software, and consultants	As planned	Equipment procured by Dec 2002	Achieved (delayed by 3 years)
Human resources	Training materials	As planned	Human resource development plan, training programs	As planned

Source: IED's site visits and review of project documents.

40. **Track rehabilitation.** The rehabilitation significantly improved the quality of the track. The evaluation team inspected track replacement at accessible points and found the rehabilitated track of good quality. The evaluation also observed UTY's measurements of track quality between Tashkent and Bukhara, and obtained the latest track quality ratings per route-km. The evaluation also obtained track quality ratings for each route-km from 2003, the earliest data available.

41. The track quality data show that, between Tashkent and Samarkand in June 2003 (1 year before the end of rehabilitation on the first project), 465 out of 589 (79%) route-km of track that was rated were in satisfactory or better condition. By 2010, 106 km of those 124 route-km that were unsatisfactory had improved, but 21 route-km of track had deteriorated to poor condition. As of April−May 2010, 574 of 609 (94%) route-km of track that was rated were in satisfactory or better condition, a rise of 15 percentage points over that 1 year before rehabilitation was completed. The data show that the rehabilitated track is of adequate quality, and that UTY has adequately maintained it since completion of the project.

42. Between Samarkand and Bukhara in 2003 (before the start of work on the second project), 36 of 246 (15%) route-km of track that was rated were in poor condition. By 2010, 32 of those 36 (89%) route-km had improved, while the 4 route-km in unsatisfactory condition in 2003 remained unsatisfactory in 2010. A total of 148 route-km of track with ratings in both 2003 and 2010 had improved either from unsatisfactory to satisfactory or better, or from satisfactory to good or excellent, while 5 route-km had dropped to unsatisfactory. As of April–May 2010, 277 of the 291 (95%) route-km rated between Samarkand and Bukhara were in satisfactory or better condition. The data show that track quality between Samarkand and Bukhara significantly improved before and after the project either from track replacement or maintenance, or both, and that UTY has adequately maintained the track since rehabilitation was completed.

43. **Track equipment.** The evaluation team observed the track equipment procured under the two ADB loans and found it in use and in reasonable condition. UTY is satisfied with the equipment procured under ADB financing; the equipment reportedly worked well in both projects, and has been used extensively in other railway projects in Uzbekistan. UTY intends to update its rail welding equipment, however; as a result, one of the machines procured under the first ADB loan will no longer be needed.

44. **Telecommunications.** The evaluation team observed the telecommunications equipment procured under the second ADB loan, and interviewed the officials involved in its use. The officials reported that the equipment had improved communication, used much less space, and had cut power and maintenance costs by half. The equipment increased the capacity of communication beyond that needed by UTY, and so the railway was allowing other organizations to use its spare communications capacity in exchange for other services (UTY is not allowed to sell its spare communications capacity).

45. **Accounting systems.** Hardware and software were installed in 2006, but as usual need to be upgraded. The computer system was meant to help UTY adopt international accounting practices, but UTY is required to follow Uzbekistan's accounting practices, and those practices still do not meet international standards.

46. **Human resources.** UTY adopted a human resource development plan in 2006, covering training and staff reduction.

G. Consultants

47. Consultants were engaged to support implementation of the first project. The consultants had six duties: (i) prepare tender documents for international procurement, (ii) evaluate bids, (iii) monitor construction, (iv) prepare the project accounts, (v) prepare progress and completion reports, and (vi) liaise with ADB on project implementation. The consultants started work in July 1999 and finished in July 2002. In February 1999 the Government requested and ADB approved additional consulting services to conduct trials on elastic rail-sleeper fastenings.

48. In the second project, consultants were engaged to support UTY in the design, procurement, installation, commissioning, and operation of the computerized financial accounting system. The consulting services included training the staff of UTY's computer and financial accounting departments. UTY's financial accounting system was supposed to comply with international accounting standards and practices, but could not because Uzbekistan has not yet adopted international standards. The consultants performed satisfactorily in delivering the expected outputs, but the impact has been limited since UTY does not follow international accounting standards.

49. The second project did not provide for consulting services for construction supervision. Experienced technical staff from UTY's Track Maintenance Department supervised the civil works. Monthly reports prepared by UTY lacked details in project implementation and did not specify which track sections financed by ADB were rehabilitated.

50. UTY reported that the consultants supporting the two projects were highly effective. UTY was satisfied with the level of consulting inputs, and the balance between international and domestic consultants. UTY reported that the consultants complemented the UTY staff involved in the project, and partly but not fully transferred their expertise.

H. Loan Covenants

51. The evaluation confirms the PCR's assessments on compliance with covenants in the first loan. The Government or UTY fully complied with 20 of the 29 covenants, partly complied with 8, and did not comply with 1. UTY was not able to comply with the covenant to keep accounts receivable below 3 months billing because it was required to continue serving some state-owned enterprises that did not pay their bills on time.

52. Among the covenants with partial compliance, the most noteworthy are those requiring UTY to devolve its health and recreation facilities. A covenant in the first loan required UTY to devolve all its health and recreation facilities. The second loan had a similar covenant, but did not specify that all facilities must be devolved, thus allowing UTY to keep some and still be compliant. The two sets of covenants may therefore be inconsistent. At the time of the evaluation, UTY operated 16 health facilities, down from 26 before the first loan. UTY had devolved its pharmacies and specialist hospitals (for example, a hospital for treating tuberculosis). UTY employees can use the health facilities at no charge; nonemployees are allowed to use the facilities but are charged at rates set by the Government, as in all public hospitals in Uzbekistan. UTY did not devolve any recreation facilities, and continues to operate four sanitariums, one resort, eight sports clubs, and two swimming pools. UTY employees can use the recreation facilities at a subsidized rate. Nonemployees are allowed to use the facilities, but pay the full cost.

53. The evaluation confirms the PCR's assessments for 18 of the 21 covenants in the second loan. A covenant on establishing facilities for maintenance was only partially complied with at the time of the PCR because the workshop in Bukhara was not yet fully operational. During the evaluation, UTY had fully complied with that covenant, for the workshop was fully operational. The PCR reported the covenant on the SBF as fully complied with, but since the fund is no longer operating, the evaluation notes it is partially complied with. A covenant on financial performance was fully complied with during the PCR but partially complied with during the evaluation because one of the indicators was not within the targeted range.

54. Overall, the evaluation finds that 11 of the 21 covenants for the second loan were complied with, 9 were partially complied with, and 1 was not complied with. Among the covenants with partial compliance, the most noteworthy are those related to UTY's accounting systems. The covenants required UTY to adopt international accounting standards, but UTY is legally required to follow national accounting standards, which are not, however, consistent with international standards. Uzbekistan is expected to adopt international accounting standards in 2011. The covenant was therefore not feasible, and should have been excluded or revised into a statement with which UTY could comply.

55. Appendix 3 lists the covenants and their status as assessed in the PCRs and the evaluation.

I. Policy Framework

56. There were no significant changes in policies, institutions, leadership, or personnel that affected the investment components during implementation. Some changes in policy, however, affected the reform components. The Government's position on reforming UTY appears to have changed in 2000. Previously the Government appeared to be moving toward privatizing UTY, allowing competition in freight and passenger services and leaving only rail infrastructure as a legal monopoly. In 2000, however, the Government issued a series of decrees aiming to privatize UTY's passenger and other services, but keeping most freight services within UTY. International experience in railway reforms shows that a well-defined policy and direction for reforms is a prerequisite for a successful reform program. The change in policy on reforming UTY created uncertainty over the direction of and the Government's commitment to reforms, and may have hurt the overall reform prospects.

57. The reform components of the two projects were part of a broader process of reforming UTY started and led by the Government. Appendix 4 gives a comprehensive review of the reform process, putting ADB's support for reforms in the context of the broader reform process.

III. PERFORMANCE ASSESSMENT

A. Overall Assessment

58. The first project is *highly relevant*, *effective*, *efficient*, *likely sustainable*, matching the ratings in the PCR; the project is *successful* overall, as in the PCR. The evaluation rates the second project *relevant*, *effective*, *efficient*, *likely sustainable*, differing from the second PCR only in downgrading the *highly relevant* to *relevant*; the project is *successful* overall, as in the PCR. Table 3 summarizes the assessment.

Table 3: Overall Assessment

Criterion	Weight	Railway Rehabilitation Project (Loan 1631-UZB) Assessment	Rating Value	Weighted Rating	Railway Modernization Project (Loan 1773-UZB) Assessment	Rating Value	Weighted Rating
Relevance	20%	Highly relevant	3	0.6	Relevant	2	0.4
Effectiveness	30%	Effective	2	0.6	Effective	2	0.6
Efficiency	30%	Efficient	2	0.6	Efficient	2	0.6
Sustainability	20%	Likely sustainable	2	0.4	Likely sustainable	2	0.4
Overall		Successful		2.2	Successful		2.0

Source: IED's assessment.

B. Relevance

59. The physical investments in each project (track rehabilitation, maintenance equipment, computer systems, and telecommunications equipment) are *highly relevant*. The reforms of UTY (downsizing, restructuring, and privatizing) in the first project are *relevant*; those in the second are *partly relevant*. Considering the predominance of the physical investments over the reforms, the first project is rated *highly relevant* overall, and the second, *relevant.*

60. For geographic and historical reasons, rail transport was (and remains) an important part of Uzbekistan's economy. The first railway loan was processed under ADB's Interim Operational Strategy (footnote 10), covering 1996−1999. That strategy aimed to support the country's railways by financing rolling stock and electrification, and not through track rehabilitation. ADB's financing for railways was thus relevant to the country strategy. Financing of track rehabilitation instead of rolling stock and electrification was less relevant to the strategy, but the evaluation finds the limitation was in the strategy, not the project. The second railway loan was processed under ADB's Country Operational Strategy[13] covering 2000 to 2005; that strategy aimed to support railways exactly as proposed in the second loan. The relevance of the second project is limited by the poor quality of the PPTA study, (discussed in II.A. Formulation).

61. The reforms were intended to help further the country's transition to a market-based economy by developing a commercial orientation in UTY. Each of ADB's applicable country strategies aimed to support railway reforms. UTY reported that the reforms were among the Government's top priorities.

62. The relevance of the reforms is limited by the uncertainty in the Government's reform program for UTY, and by one of the reform components in the second project, the SBF. ADB did not adjust the reform program after the Government's position on privatization changed, and continued advocating the same reforms for UTY. Although those reforms were still appropriate by international standards, their relevance to UTY and Uzbekistan declined as the Government's position on and commitment to privatization changed. The SBF was not consistent with the legal and regulatory framework of Uzbekistan's financial sector, nor with best international practice in either microfinance or in aiding redundant employees. The evaluation finds the SBF not relevant, although the overall reform program in the second loan and ADTA are still rated *relevant*.

[13] ADB. 2000. *Country Operational Strategy: Uzbekistan: Country Operational Strategy-Enabling Transition*. Manila.

C. Effectiveness

63. The evaluation rates each project as *effective* at achieving outcomes. The physical investments are *effective* based on the evaluation's analysis of track quality and observation of train speeds. The reforms are *less effective,* for less than half of the performance indicators met their targets. Given the predominance of the physical investments over the reforms, the overall rating is *effective*.

64. The outcome of the investment component in the DMF is improved track quality and faster train speeds on the Tashkent–Samarkand–Bukhara line. The observed track quality of each segment (discussed in II.F. Outputs) exceeds the target of 90% of route-km in satisfactory condition (94% on the Tashkent–Samarkand segment, and 95% of the Samarkand–Bukhara segment). The evaluation team traveled between Bukhara and Tashkent, recording data on speed, distance, elevation, and time. The data show that in most of the rail sections, passenger train speed reaches 100 to 120 km/hour. The average speed between Tashkent and Samarkand and also between Samarkand and Bukhara was 80 km/hour, meeting the target for passenger train speeds in the DMF.

65. The outcome of the reform component is assessed using the table of system-wide performance indicators (Appendix 1). The evaluation obtained data for 2005 on 19 of the 26 performance indicators, and for 2009 on 17 of the 26 indicators. By 2005, 9 of the 19 indicators had reached their targets. By 2009, 8 of the 9 indicators were still at or above their 2005 targets, and none had fallen below (one indicator had no data for 2009); one additional indicator had met the 2005 target. The successful indicators were in staffing, traffic, and overall financial targets; some targets for overall operating performance were met. The 2003 targets for passenger numbers were met, but that indicator later fell short of the 2005 targets, and passenger numbers were lower in 2009 than in 2005.

66. The only indicator where UTY made significant progress was in staff numbers. UTY cut staff numbers significantly, but some indicators for operating performance were partly based on staff numbers, and so UTY met targets for those indicators at least partly because of progress in cutting staff. UTY did not have direct control over traffic, and it met the traffic-related indicators only by chance. Some of the indicators are based on traffic, and so UTY met targets for those indicators at least partly by chance. Judging by the performance indicators, the evaluation rates the reforms *less effective* because less than half of the indicators met their targets by the specified dates, and because there seems little progress in reforms besides cutting staff.

67. The project impact in the DMF is to maintain economic growth by avoiding disruptions to freight and passenger traffic due to deteriorating track conditions, with a target of maintaining the 4% annual real per capita gross domestic product (GDP) growth rate in Uzbekistan in 1998. From 1999 to 2009, real per capita GDP grew by a minimum of 4.4% (2002) to a maximum of 11% (2007). The projects were therefore *effective* at preventing a downturn in Uzbekistan's economic growth and development.

D. Efficiency

68. The evaluation rated efficiency in resource use considering the economic internal rate of return (EIRR) and efficiency of processes. The evaluation rates the investments in the first project *efficient*, based on an estimated EIRR of 38.7%, and the second project *efficient*, based on an EIRR of 17%. Despite the high EIRRs, the efficiency of each project was limited by the delays and the high cost of rail procured under ADB financing.

69. The evaluation obtained the model used in the financial and economic analyses of the second PCR. No model or other documentation was available for the first PCR, and the

evaluation is unable to replicate or corroborate the analysis in the first PCR. The model for the second project, however, was easily adaptable to the first project. The main difference between the first and second projects was the section of the line on which the projects focused. Adapting the second model to the first project required changing only the parameters of the Samarkand–Bukhara segment into those of the Tashkent–Samarkand segment.

70. The recalculated EIRR for the first project is 38.7%, much higher than the 14.3% in the PCR and the 17% estimated at appraisal, but below the 45.6% estimated in the first PPTA. The model for the second PCR has higher benefits and also higher costs than the model for the first PCR. High rates of return are expected in rehabilitation projects. Without further details on the PCR's economic model, however, the evaluation cannot completely determine the differences between the PCRs' and the evaluation's EIRRs. The recalculated EIRR for the second project is 17%, slightly higher than the 15.9% in the PCR and in the PPTA study, but matching the 17% estimated at appraisal. The first project has a much higher EIRR because costs are comparable but traffic (and hence benefits) is much higher between Tashkent and Samarkand. Appendix 5 further discusses the economic analysis.

71. ADB's and the government's procedures caused some inefficiencies. Delays in issuing the Certificate of Contract Registration, caused by the government's procurement procedures, were one cause of delays in project implementation. ADB's procurement guidelines did not allow UTY to procure rail from the least-cost source without an exemption, ADB did not request exemption from the guidelines, and so the projects faced much higher costs for rail financed by ADB. In discussions with UTY, the evaluation team noted the much higher cost and suggested to UTY that ADB's procurement guidelines prevented UTY from adopting the least-cost option. UTY, however, disagreed, arguing that the rails procured with ADB financing were of high quality, and UTY did not object to paying the higher price. UTY does not, however, continue to procure rail from the same sources as in the ADB loans.

E. Sustainability

72. The evaluation rates the outcomes of the physical investments and reforms under each project *likely sustainable*, based on good ongoing maintenance, high financial returns to the rehabilitation, UTY's strong financial position as operating agency, and the continuing commitment and adherence to reforms. A main limitation to sustainability in the second project is the failure of the SBF.

73. The evaluation reviewed and observed UTY's maintenance procedures, and obtained measurements on the quality of the rehabilitated track (discussed in II.F Outputs). UTY's Railway Section Offices are usually responsible for 75 to 110 km of single- or double-track railways, and conduct daily routine maintenance, lifting repairs, and medium repairs. UTY measures track conditions twice a month on key routes (such as Tashkent–Bukhara), and once a month on other routes. Analysis of the data on track quality indicates that the track remains in good condition 4 to 6 years after rehabilitation. From a physical perspective, the evaluation rates the rehabilitation in each project *likely sustainable*.

74. The evaluation used the model in the second PCR (discussed in III.D Efficiency) to recalculate the financial internal rate of return (FIRR) for both projects. The FIRR of the first project is 29.9%, well above UTY's weighted average cost of capital of 4.0%, the 4.5% FIRR in the first PCR, the 12.7% estimated at appraisal, and the 11.7% FIRR estimated in the PPTA. The FIRR of the second project is 7.4%, above UTY's weighted average cost of capital of 4.3%. The evaluation's recalculated FIRR is slightly above the 7.3% in the second PCR, but below the 8.7% estimated at appraisal and the 9.4% estimated in the PPTA. From a financial perspective,

the evaluation rates rehabilitation in each project *likely sustainable*. Appendix 5 further discusses the financial analysis.

75. UTY has maintained generally good financial performance. It manages new capital asset investments to maintain financial performance targets and ensure that new investments are financially and economically viable, but without estimating rates of return. UTY met and has sustained targets for working and debt service ratios, but by 2009 the operating ratio was 0.8:1, above its target of 0.75:1. The Government requires UTY to provide some loss-incurring services, but the cost of those services is less than 1% of UTY's revenues, and the Government partly compensates UTY with concessional loans. The Government also requires UTY to provide some services for state enterprises, some of which are habitually late in paying their bills. As a result, UTY's accounts receivable have averaged 4 months of billings, down from 12 months before the first project. A review of recent financial statements shows that UTY remains a financially viable enterprise. The evaluation rates UTY, as operating agency for the investments in each project, *likely sustainable*.

76. The loan covenants required UTY to undertake reforms, such as reducing staff and devolving or separating its social assets (schools, hospitals, clinics, housing, and recreational facilities). UTY exceeded its targets for reducing staff, and has maintained staffing levels comparable to those targeted in the reforms. The separation of social assets was not implemented entirely as planned, and UTY still maintains some social assets. UTY is highly committed to the reforms that were undertaken. The evaluation assesses the actual reforms under the first loan *likely sustainable*. The SBF implemented under the second loan no longer issues loans and so there is nothing to sustain. The evaluation rates the actual reforms undertaken in the second loan *likely sustainable*, limited by the failure of the SBF.

IV. OTHER ASSESSMENTS

A. Impact

77. The projects had significant institutional impacts by helping to downsize and reorganize UTY, transfer technology to it, and strengthen its capabilities. Socioeconomic impacts were positive but moderate, and environmental impacts were negligible.

1. Impact on Institutions

78. The reforms in each project and associated TAs had a significant impact on UTY by supporting UTY's downsizing and restructuring. In 1999, just after ADB approved the first loan, UTY had 45,220 employees. By 2009, UTY had cut staffing by a third to 30,875. UTY devolved many of the schools, housing, and medical facilities that it was running, and retained only those that are arguably relevant. UTY officials reported that they initially opposed devolving the ancillary operations, but, in retrospect, view those as beneficial reforms and fully support them. Although the reforms did not go as far as originally planned, those that took place are significant.

79. The physical investments had a moderate impact on UTY by introducing new technology and by introducing UTY to ADB and to international practices in project implementation. The first project set up ADB's first PIU in Uzbekistan. That PIU then became a source of knowledge and expertise for PIUs in other ADB-financed projects. The first PIU head has become PIU head in another ADB-financed project in a different sector.

80. During track rehabilitation, UTY became aware of the potential of different railway fasteners. The first project, through a minor change in scope, financed a study to help UTY review and select the different technology, the flexible fastener. UTY observed the benefits of the different fasteners in implementing the two projects, and has adopted the technology for use throughout the country's railway network. Partly because it successfully implemented the two projects, UTY became the main contractor for an ADB-financed railway project in Afghanistan.[14] The projects helped build capabilities so that UTY is now able to work internationally.

81. The fiber optic communications network installed in the second project was the second such network in Uzbekistan. That subproject transferred technical skills to UTY, and then from UTY to others in Uzbekistan.

2. Socioeconomic Impact

82. The second RRP claimed that the project would "facilitate pro-poor economic growth through technical improvements and restructuring initiatives to improve the operational efficiency of railway transport."[15] Railways can have major impacts on economic growth and development, including benefits for the poor, but the railway was already operating before the projects, and so the socioeconomic impacts of the railway itself were already realized. The investment components of the projects aimed to improve track quality and allow faster speeds; therefore, a direct socioeconomic impact of the project was through the marginal change in passenger services that resulted from the projects. Reviewing the changes in passenger services, the evaluation finds negligible benefits to the poor.

83. The projects raised the efficiency of passenger transport by cutting travel time. Travel time between Tashkent and Samarkand was cut by about 2.5 hours, and that between Samarkand and Bukhara by about 2.1 hours, each way. The trip between Tashkent and Samarkand, however, still takes about 4.65 hours, and that between Samarkand and Bukhara about 4.15 hours, which is too long for daily commuting between those cities. On the Tashkent–Samarkand line, the closest station to Tashkent is at Gulistan, about 100 km from Tashkent. The project cut the travel time between Tashkent and Gulistan by about 35 minutes, from 1.8 hours to 1.25 hours each way. The change in travel time is not enough to significantly affect job prospects in Tashkent for people living in Gulistan; a change in commuting time of 35 minutes would help commuters, but would not be decisive in a person's choice to seek work in Tashkent. The biggest limitation in commuting by train to Tashkent is the train schedule, which does not allow commuting between Gulistan and Tashkent for work during normal office hours. Hence, although the projects made travel more convenient, they did not cut travel time in a way that was directly relevant to improving employment prospects of the poor or anyone else.

84. The evaluation surveyed passengers traveling between Tashkent and Gulistan (Appendix 6 gives the results). Most passengers (57%) reported annual personal incomes between $738 and $2,583 (SUM100,000–350,000 a month); only 5% reported annual incomes of less than $442 (SUM60,000 a month, or less than $40 a month). Most passengers surveyed (54%) were men. Most passengers (78%) reported using the train daily for commuting to work. Among the reasons for traveling by train instead of by car are faster travel time (5%), comfort (78%), reliability (51%), cost (36%), and safety (29%). Only 4% reported recent improvements in travel time, and 12% said that travel time had worsened. The line had been rehabilitated for 5 years at the time of the survey, and the rehabilitation may be too long ago to still register with

[14] ADB 2009. *Technical Assistance Grant to Afghanistan for the Hairatan to Mazar-e-Sharif Railway Project*. Manila

[15] ADB. 2005. *Report and Recommendation of the President to the Board of Directors: Proposed Loan and Technical Assistance to Uzbekistan for the Railway Modernization Project. Manila*. page 16.

current passengers. Among the improvements in services requested by passengers, shorter travel time was the most popular (37%). It seems there is still a demand for faster service. Hence, the first project had little impact on passengers commuting to Tashkent for work, and only a small percentage of all passengers are poor.

85. The evaluation also surveyed passengers traveling between Tashkent and Samarkand (Appendix 6). Only 1% of passengers surveyed reported annual incomes of less than $442 (SUM60,000 a month); most passengers (70%) reported annual incomes of over $1,850 (SUM250,000 a month). The majority of the passengers (63%) were men. Few passengers surveyed (7%) travel weekly between Tashkent and Samarkand, with most (56%) making only a few trips a year. About 33% travel for work or business, and about 40% for recreation. The most common reason for traveling by train instead of by car was comfort, cited by 73% of the passengers; only 28% reasoned that the train was faster. Many passengers (42%) recognized that travel time on the train had been cut, but the most notable improvement in the quality of service was comfort in the trains (reported by 69% of passengers), which was due to new passenger trains (not part of either project). The most popular improvement in services desired by passengers is shorter travel time. Hence, passengers between Tashkent and Samarkand seem to have noticed the shorter travel time as a result of the project, but there is still a significant demand for even shorter travel times. Passenger services between Tashkent and Samarkand are not for the poor, but are more for recreation than for work or business.

86. Despite their potential negative impacts, the reforms had negligible socioeconomic impacts because of UTY's cautious and judicious approach to implementing the reforms. UTY's staff was cut by a third, but the staffing cuts occurred by natural attrition or voluntary separation. Staff members who volunteered for redundancy were given severance pay in accordance with Uzbekistan's law, and maintained their benefits from UTY, including access to UTY's remaining health facilities at no charge. The projects and reforms reportedly had minor positive impacts for the remaining UTY employees, improving their working conditions and making UTY a more attractive place in which to work. The elementary schools previously run by UTY were devolved, with local governments' voluntarily taking over and running the schools. Where local governments were initially unwilling or unable to assume responsibility for the schools, UTY negotiated voluntary transfer of the schools through various means, including renovating the schools at UTY's expense before handing them over to local governments. Privatizing some assets had minor positive impacts on private sector development, including improved use of land.

87. The projects had a significant impact on private sector development by promoting foreign direct investment. The flexible fasteners required sleepers different from those previously produced and used in Uzbekistan, and UTY advertised internationally for the supply of the appropriate sleeper. As a result, a firm from Greece invested in a plant in Tashkent to manufacture the sleepers for UTY and employed about 300 people. That firm is currently exploring options to export the sleepers to other central Asian countries. UTY also reported that its use of the flexible fastener has promoted adoption of the technology in other developing countries.

3. Environmental Impact

88. The projects had negligible environmental impact. The evaluation team observed track maintenance works, specifically ballast cleaning operations, and found that the only adverse impacts were dust and noise. Cleaning the ballast separates unsuitable materials from the ballast and dumps it (using a conveyor belt) beside the track. Large piles of unsuitable material

can accumulate, but they are usually removed and dumped at suitable sites elsewhere. The projects would have had a small, positive environmental impact, including avoiding greenhouse gas emissions, by raising the efficiency of the railway and by attracting freight and passenger traffic that might have otherwise used less efficient road transport.

B. Performance of the Asian Development Bank and the Borrower

89. The evaluation rates the performance of ADB and of the borrower *highly satisfactory*. ADB responded well to the government's priorities, and capably supported the two railway projects. The government strongly supported the projects, and UTY competently implemented them.

90. ADB's initial country strategy aimed to finance rolling stock and electrification, but ADB shifted to track rehabilitation at the government's request. The government asked ADB to be lead development partner in the transport sector; the other development partners were satisfied with ADB's efforts to coordinate aid.[16] UTY was satisfied or highly satisfied with every aspect of ADB's involvement in the project, including its responsiveness, the quality of staff assigned to the project, and support for project design and implementation. UTY is seeking ADB's support for a third railway project, which shows UTY's overall satisfaction with ADB's support for the first two railway projects. ADB was diligent in implementing applicable safeguard standards; dust from ballast cleaning raised some concerns during project implementation, an issue that ADB investigated and took appropriate action to mitigate. The quality of each PCR was good, and ADB fully cooperated with and supported the evaluation.

91. The government took a strong interest in the projects, keenly engaging ADB's first programming mission, and providing all needed financing and other resources through project development and implementation. The PIU performed well, paving the way and becoming a resource for later PIUs. The first PIU head proved competent and later became PIU head of another ADB-financed project. The government made serious efforts to implement all covenants, including those that it did not initially support; UTY even implemented the SBF despite the central bank's opinion that the fund was not consistent with the regulatory framework in the financial sector. No cases of potential corruption were referred to ADB's Office of Anticorruption and Integrity during implementation of either loan. UTY's financial reports during project implementation were consistently late, but the tardiness was due to difficulties in meeting ADB's standards, which were not consistent with Uzbekistan's standards that UTY was required to follow.

C. Technical Assistance

92. The two associated ADTAs are assessed in the technical assistance performance evaluation report in Appendix 7.

93. The first ADTA is rated *successful*. It is *highly relevant*, as it was clearly based on the Government's reform program and helped UTY implement reforms supported by ADB's first railway loan. It is *less effective*, considering that less than half of the reforms it proposed (including some not covered by loan covenants) have been adopted, and that UTY in 2010 is very similar to what it was in 2000. Implementation was *efficient*, delivering all the expected outputs of the project and within a month of the originally expected completion date. The reforms that UTY implemented in the first ADTA are still in place and secure, and are *likely*

[16] ADB. 2006. *Country Assistance Program Evaluation: Uzbekistan*. Manila.

sustainable. The first ADTA helped devolve UTY's ancillary services, which has had a significant impact on UTY, but other impacts are limited.

94. The second ADTA is rated *unsuccessful*. Like the first ADTA, the second helped UTY comply with reform-related covenants in ADB's second railway loan, but is only *partly relevant* as it included a component that was not relevant (the SBF) and a component that was partly relevant (a study of soil salinity), and faced an unclear policy environment. It is *ineffective,* considering that only 1 of 12 proposed reforms has been adopted and sustained (including some reforms not included as loan covenants). It is *less efficient*, as it required redesign before implementation, and the consultants' draft report was out of line with expectations and required 15 months to review and revise. Virtually nothing in the second ADTA was adopted and so nothing could be sustained, and so it is *unlikely sustainable*.

V. ISSUES, LESSONS, AND FOLLOW-UP ACTIONS

A. Issues

95. There are no unresolved issues related to the projects. At the time of the second PCR, the maintenance workshop in Bukhara had not been completed, but the evaluation found the workshops now operating as intended.

B. Lessons

96. Before preparing projects for Central Asia or the Caucasus, ADB should determine if restricting procurement to ADB-member countries will significantly raise the cost of goods and services over unrestricted procurement. For the two railway projects, the least-cost source of rails was nonmember countries, and limiting procurement to ADB member countries raised the cost of rails by more than 150%. Uzbekistan and other countries of Central Asia or the Caucasus still have significant economic ties to other countries of the former Soviet Union, and projects can benefit from being able to procure from former Soviet countries. The membership restriction also affects ADB. First, it puts ADB at a competitive disadvantage relative to other development partners, like the World Bank and the European Bank for Reconstruction and Development (EBRD), which can finance procurement from all former Soviet countries. Second, ADB should use its involvement in projects to promote competitive bidding and other good procurement practices; restricting procurement to ADB-member countries is a less efficient model of procurement for ADB to present to its developing member countries (although ADB charter requires it), and so such restrictions limit ADB's development effectiveness. As long as ADB's guidelines restricts procurement to member countries, when ADB determines that project costs are significantly lower in nonmember countries, ADB should advise the borrower on how to request an exemption from the membership requirement from ADB's Board of Directors.

97. Loan agreements for projects in Uzbekistan should include a covenant that will avoid unnecessary delays from the contract registration process of the Ministry of Foreign Economic Relations, Investment, and Trade. In each railway project, the ministry's price verification during the contract registration process unnecessarily delayed procurement. Price verification aims to encourage renegotiation of bid prices when the ministry believes prices are too high. ADB's guidelines for procurement, however, do not allow renegotiation of bids awarded on a competitive basis, including international competitive bidding. The appropriateness and reliability of the ministry's method of price verification are also questionable. Hence, the ministry's price verification has no potential to add value to ADB-financed procurement, and may lead to violations of ADB's guidelines for procurement, causing ADB to declare mis-procurement or cancel part of the loan. A loan covenant requiring the ministry to register ADB-

financed contracts without qualification would eliminate the lengthy discussions that inevitably result in registering the contracts without qualification, but with long delays that affect project implementation. Such loan covenants are already allowed under Uzbekistan's tendering procedures, which allow exemption from following national tendering procedures if different rules apply to loan agreements with international financial institutions.[17] Loan agreements in Uzbekistan could include a covenant that ADB-financed projects are exempt from Clause 62 of General Regulations in the Cabinet of Ministers Resolution No. 456, concerning the requirements for examination of tender results, and that no price verification should be exercised for contracts funded partly or in whole by ADB and awarded on the basis of competitive bidding, including international competitive bidding. ADB's Office of the General Counsel should determine the specific language of such a covenant in consultation with the Government of Uzbekistan.

98. Future projects should have an implementation consultant or a construction supervision consultant throughout project implementation. In each railway project, the monthly reports prepared by UTY did not discuss civil works in detail and lacked information, for example, on detailed designs and who developed them, the exact location of rehabilitated sites, and photographs showing progress. ADB's limited oversight of civil works probably also contributed to resources being temporarily diverted to another project during implementation of the first project. Although UTY capably implemented the projects without support from consultants, a project implementation consultant can supervise implementation on behalf of ADB, and ensure that ADB gets sufficient information on progress.

99. The first railway project is a good model for ADB to follow when starting a new program in a country. The first railway project was among the first projects that ADB financed in Uzbekistan. When ADB starts a new program in a country, government officials and others must learn about ADB's policies, procedures, and requirements, including those regarding safeguards, anti-corruption, and procurement. Despite the extra burden of learning about ADB, the first railway project was implemented without major problems for three reasons: (i) it was relatively simple (rehabilitation of an existing railway line, instead of building a new line); (ii) it was among the government's highest priorities, and so the government was strongly committed to it; and (iii) the PIU was strong and capable. The PIU later became a source of knowledge and advice for PIUs of other ADB-financed projects in Uzbekistan. The lesson of the first project is that, when starting a new country program, ADB should initially stick to simple projects that are among the government's highest priorities, and build a strong PIU that can lay the foundation for future projects.

C. Follow-Up Actions

100. The evaluation finds that there is no need for follow-up actions related to the projects. UTY and the Government are expected to ensure good maintenance and operation of the projects.

[17] Resolution #456 of the Cabinet of Ministers on Measures for Improving Tendering Procedures. 2000 with amendments in 2003, 2004, and 2005. General Regulations, Clause 3.

DESIGN AND MONITORING FRAMEWORK (Formulated for the Evaluation)

Design Summary	Performance Targets/Indicators	Data Sources/Reporting Mechanisms	Assumptions and Risks
Impact Maintain economic growth by avoiding disruptions to freight and passenger traffic due to deteriorating track conditions and operational inefficiencies	Per capita gross domestic product growth maintained at 1998 level of 4% or higher (based on purchasing power parity)	World Economic Outlook, International Monetary Fund	**Assumptions** Continued infrastructure development among regional neighbors Sound macroeconomic management **Risks** Project implementation delays and reform failure External economic shocks
Outcomes Physical investments: Improved track quality and faster train speeds on Tashkent–Samarkand–Bukhara line Reforms: Improved operational performance of UTY	Physical investments: Track quality maintained in satisfactory condition in 90% or more of route-kilometers (km) Passenger train speed rises from 55 km/hour (h) on Tashkent–Samarkand line and 50 km/h on Samarkand–Bukhara to at least 80 km/h on each line Reforms: See system-wide performance indicators in Table A1.	Periodic measurement by Uzbekistan Temir Yullari (UTY) of track quality including train speeds UTY's annual and financial reports	**Assumptions** UTY is capable and committed. Government is committed to reforms. Asian Development Bank's technical assistance is effective. **Risks** Project implementation delays and reform failures

Design Summary	Performance Targets/Indicators	Data Sources/Reporting Mechanisms	Assumptions and Risks
Outputs Physical investments: 1. 320 km of track rehabilitated between Chengeldy and Samarkand 2. 341 km of track rehabilitated between Samarkand and Khodjadavalet 3. Maintenance equipment 4. Fiber optic communication lines Reforms: 5. Organizational and policy reforms 6. Small business fund established and operational for redundant workers	Physical investments: 1. Rehabilitation finished by 2002 2. Rehabilitation finished by December 2005 3. Equipment procured and installed by December 2002 4. Unspecified completion date Reforms: 5. UTY operating as financially sustainable commercial entity by 2000 6. Fund established and operational by September 2001	Contract awards Progress reports Project administration missions UTY's financial statements	**Assumptions** UTY is capable and committed. Government clearances and approvals are on time. **Risk** None specified

Design Summary	Performance Targets/Indicators	Data Sources/Reporting Mechanisms	Assumptions and Risks
Activities with Milestones Physical investments: 1.0 Rehabilitate track (Chengeldy–Samarkand) 1.1 Complete preconstruction activities and designs by 2000 1.2 Construction started in 2000 2.0 Rehabilitate track (Samarkand–Khodjadavalet) 2.1 Procure materials (no milestones specified) 2.2 Lay track (no milestones specified) 3.0 Strengthen maintenance capabilities 3.1 Procure equipment by December 2002 4.0 Lay fiber optic cables 4.1 Procure equipment by December 2002 4.2. Lay cables (no milestones specified) Reforms: 5.0 Set out general reforms of UTY 5.1 Develop master plan for institutional development 5.2 Develop business plans for railways units 5.3 Introduce management information system (MIS) 5.4 Improve marketing capabilities 5.5 Develop plans to cut social costs from layoffs 5.6 Recruit consultants for new accounting systems by March 2001 5.7 Procure computer equipment by December 2002 5.8 Establish desired skills mix (no milestones specified) 5.9 Establish training programs (no milestones specified) 6.0 Establish small business fund 6.1 (no activities or milestones)			**Inputs** Loan 1631 Government $56 million ADB $70 million loan $850,000 grant for advice on reforms Loan 1773 ADB Loan of $70 million Grant of $600,000 for ADTA Government $80 million (equivalent) Initial environmental examination Technical design and final survey OPEC Fund for International Development (OFID) $5 million loan

Source: Independent Evaluation Department.

Table A1: Indicators and Targets

Indicators	1996	1999	2000 Target	2000 Actual	2003 Target	2003 Actual	2004	2005 Target	2005 Actual	2009
1. Traffic										
Net tons (thousands)	53,996	47,247	76,672	48,024	83,094	52,349	**53,843**	**52,470**	**54,992**	**68,394**
Ton-km (million)	17,539	13,883	20,181	15,442	21,871	18,887	**18,007**	**16,237**	**18,092**	**22,227**
Passenger-km (million)	2,029	1,898	**2,029**	**2,163**	**2,029**	**2,077**	**2,012**	**2,031**	**2,099**	**2,632**
Converted ton-km	19,568	15,781	22,210	17,065	23,900	20,964	**20,019**	**18,268**	**20,191**	**24,859**
2. Staff										
Staff level (core transportation)	52,000	45,220	**46,000**	**32,163**	**40,000**	**32,730**	**33,473**	**40,000**	**33,335**	**30,875**
3. Overall Operating Performance										
Staff productivity (ctkm per employee)	397,000	391,100	**439,000**	**614,000**	**597,500**	**673,000**	**802,600**	**597,500**	**605,709**	**805,150**
Employees per route km	14	12	13	--	11	--		**11**	**8.30**	**7.69**
Freight ton-km per route km (million)	5.091	3.59	**5.521**	**8.828**	**5.984**	**8.197**	**8.383**	**5.984**	4.507	5.537
Net ton km/freight train km	1,623	--	**1,704**	**1,712**	**1,785**	**1,971**	**1,982**	**1,785**		
4. Traction and Rolling Stock										
Yearly km performance per diesel locomotive	161,900	169,400	170,000	151,268	178,000	154,614	161,294	178,000	164,141	151,694
Yearly km performance per electric locomotive	180,900	184,700	190,000	168,214	199,000	169,689	167,718	199,000	159,104	172,901
Number of operational wagons	16,000	12,830	16,000	11,234	16,000	10,281	10,155	16,000	10,300	
Turnaround time of wagons	5.9	4.1	--		3.4	--	--	3.4		
Yearly net ton-km per wagon	1,163	1,082	--	3.75	**1.367**	**4.8**	**4.9**	**1.367**	**4.950**	**2.5**
5. Time and speed										
Average speed of freight train (kph)	32	34	--	--	45	41	41.3	45	40.6	40.2
Average time per wagon at int. terminal (hours)	14	2.6	--	3	**6**	**4**	**3**	**6**		
Time per wagon through end terminal (hours)	11	9.3	--	--	4	--	--	4		
6. Freight Traffic										
Wagon km/wagon day	108	99	--	121	**153**	**153**	154	153	152.8	86.1
Net ton-km/wagon day	3,230	3,093	--	--	3,797	--	--	3,797		
7. Passenger Traffic										
Number of passengers (thousand)	15,828	14,761	**15,828**	**16,271**	**15,828**	**16,062**	16,110	17,000	15,970	15,303
Passenger km/passenger train km	245	290	**294**	**352**	343	333	313	343	316	**349**
8. General										
Monthly locomotive km/locomotive (km)	22,700	29,600	34,050	12,483	39,725	13,059	13,599	39,725	13,356	13,420
Locomotive km per failure (km)	24,600	39,400	36,900	--	49,200	--	--	49,200		
Locomotive km/locomotive day (km)	797	450	--	1,358	**1,395**	**1,568**	**1,570**	**1,395**		
Converted ton-km/route km (million)	5.65	4.34	6.08	--	6.54	--	--	6.54	5.03	6.19
9. Overall Financial Targets										
Working ratio	0.75	--	**<0.95**	**0.69**	**0.85 (2002)**	**0.71**	0.77	--	**0.67**	

ctkm = cubic tons per kilometer.
Source: Uzbekistan Temir Yullari.

RAILWAY REHABILITATION PROJECT FINANCING PLAN
($million)

Table A2.1: Loan 1631: Railway Rehabilitation Project Financing Plan

Item	At Appraisal			Actual			Actual /
	Foreign Exchange	Local Currency	Total Cost	Foreign Exchange	Local Currency	Total Cost	Appraisal (%)
Implementation Cost							
Asian Development Bank	70.00	0.00	70.00	62.61	0.00	62.61	89.44
Uzbekistan Temir Yullari	19.30	26.00	45.30	16.83	23.87	40.70	89.85
Total	**89.30**	**26.00**	**115.30**	**79.44**	**23.87**	**103.31**	**89.60**
Interest During Construction	10.70	0.00	10.70	13.53	0.00	13.53	13.53
Total	**100.00**	**26.00**	**126.00**	**92.97**	**23.87**	**116.84**	**103.13**

Source of Basic Data: ADB. 2008. Completion Report. PPER estimates.

Table A2.2: Loan 1773: Railway Modernization Project Financing Plan
($million)

Item	At Appraisal			Actual			Actual /
	Foreign Exchange	Local Currency	Total Cost	Foreign Exchange	Local Currency	Total Cost	Appraisal (%)
Implementation Cost							
Asian Development Bank	69.30	0.00	69.30	69.30	0.00	69.30	100.00
OPEC Fund for International Development	5.00	0.00	5.00	5.00	0.00	5.00	100.00
Uzbekistan Temir Yullari	18.70	52.20	70.90	12.14	44.05	56.19	79.25
Total	**93.00**	**52.20**	**145.20**	**86.44**	**44.05**	**130.49**	**89.87**
Interest During Construction							
Asian Development Bank	0.70	0.00	0.70	0.70	0.00	0.70	100.00
Uzbekistan Temir Yullari	9.10	0.00	9.10	0.00	0.00	0.00	0.00
Total	**9.80**	**0.00**	**9.80**	**0.70**	**0.00**	**0.70**	**100.00**

Source of Basic Data: Asian Development Bank 2008. Project Completion Report. PPER estimates.

Table A2.3: Loan 1631: Railway Rehabilitation Project—Appraisal and Actual Project Costs
($million)

Item	At Appraisal			Actual			Actual / Appraisal (%)
	Foreign Exchange	Local Currency	Total Cost	Foreign Exchange	Local Currency	Total Cost	
A. Base Costs							
1. Track rehabilitation							
a. Rails	22.6	1.1	23.7	18.95	0.77	19.72	83.21
b. Concrete sleepers	12.1	4.7	16.8	10.20	2.85	13.05	77.68
c. Wooden sleepers	1.9	0.3	2.2	0.09	0.0	0.09	4.09
d. Track materials	11.4	4.2	15.6	10.93	2.84	13.77	88.27
e. Track laying		4.0	4.0	0.0	13.83	13.83	345.75
Subtotal (A1)	**48.0**	**14.3**	**62.3**	**40.17**	**20.29**	**60.46**	**97.05**
2. Track machinery and equipment	27.7	2.1	29.8	36.88	2.60	39.48	132.48
3. Rail welding equipment	1.8	1.2	3.0	1.29	0.48	1.77	59.00
4. Consulting services	1.8	0.6	2.4	1.10	0.30	1.40	58.33
5. Administration and miscellaneous	1.4	1.8	3.2	0.0	0.20	0.20	6.25
Subtotal (A)	**80.7**	**20.0**	**100.7**	**79.44**	**23.87**	**103.31**	**102.59**
B. Contingencies							
1. Physical	2.4	1.0	11.2	0.0	0.0	0.0	0.00
2. Price	6.2	5.0	11.2	0.0	0.0	0.0	0.00
Subtotal (B)	**8.6**	**6.0**	**14.6**	0.0	0.0	0.0	**0.00**
C. Interest During Construction and Other Charges	**10.7**	**0.0**	**10.7**	**13.53**	**0.0**	**13.53**	**126.45**
Total	**100.0**	**26.0**	**126.0**	**92.97**	**23.87**	**116.84**	**92.73**

Source of basic data: Asian Development Bank 2006. Project Completion Report. PPER estimates

Table A2.4: Loan 1773: Railway Modernization Project—Appraisal and Actual Project Costs
($million)

Item	At Appraisal			Actual			Actual / Appraisal (%)
	Foreign Exchange	Local Currency	Total Cost	Foreign Exchange	Local Currency	Total Cost	
A. Base Costs							
1. Track rehabilitation (including materials and equipment)	72.50	31.30	103.80	72.04	37.95	109.99	105.96
2. Telecommunications and computerization of financial accounting system	7.80	9.00	16.80	14.03	5.54	19.57	116.49
3. Consulting services, human resource development, small business fund, and administration	0.70	5.60	6.30	0.37	0.56	0.93	14.76
Subtotal (A)	**81.00**	**45.90**	**126.90**	**86.44**	**44.05**	**130.49**	**102.83**
B. Contingencies							
1. Physical	4.10	1.80	5.90	0.00	0.00	0.00	0.00
2. Price	7.90	4.50	12.40	0.00	0.00	0.00	0.00
Subtotal (B)	**12.00**	**6.30**	**18.30**	**0.00**	**0.00**	**0.00**	**0.00**
C. Interest During Construction and Other Charges	**9.80**	**0.00**	**9.80**	**0.70**	**0.00**	**0.70**	**7.14**
Total	**102.80**	**52.20**	**155.00**	**87.14**	**44.05**	**131.19**	**84.64**

Source of basic data: Asian Development Bank 2008. Project Completion Report. PPER estimates.

LOAN COVENANTS

Table A3.1: Covenants for Loan 1631 (Status as of the Project Performance Evaluation Report [PPER])

Covenant	Reference in Loan Agreement	Status as of PCR	PPER Comments
1.1 The Subsidiary Loan Agreement, in form and substance satisfactory to the Bank, shall have been duly executed and delivered on behalf of the Borrower and Uzbekistan Temir Yullari (UTY) and shall have become fully effective and binding upon the Borrower and UTY in accordance with its terms, subject only to the effectiveness of the Loan Agreement.	Loan Agreement Sec. 6.01	Complied with.	Confirmed.
1.2 The Subsidiary Loan Agreement, in form and substance satisfactory to the Bank, has been duly authorized or ratified by, and executed and delivered on behalf of, the Borrower and UTY and is legally binding upon the Borrower and UTY in accordance with its terms, subject only to the effectiveness of the Loan Agreement.	Loan Agreement Sec. 6.02	Complied with.	Confirmed.
2. The Borrower shall cause UTY to apply the proceeds of the Loan to the financing of expenditures on the Project in accordance with the provisions of the Loan Agreement and the Project Agreement.	Loan Agreement, Sec. 3.01 (b)	Complied with.	Confirmed.
3. All goods and services to be financed out of the proceeds of the Loan shall be procured in accordance with the provisions of the Loan Agreement.	Loan Agreement, Sec. 3.03	Complied with.	Confirmed.
4. The Borrower shall cause all goods and services financed out of the proceeds of the Loan to be used exclusively in the carrying out of the Project.	Loan Agreement, Sec. 3.04 Project Agreement, Sec. 2.13	Partially complied with. Equipment, machinery, and materials were diverted to a new railway line given high priority by Government from autumn 2001 to September 2002. The equipment and machinery were returned to the Project in August 2002, but some materials were still outstanding.	Confirmed.
5. The Borrower shall make available to UTY, promptly as needed and on terms and conditions acceptable to the Bank, the funds, facilities, services, land and other resources which are required, in addition to the proceeds of the Loan, for the carrying out of the Project.	Loan Agreement, Sec. 4.02	Complied with.	Confirmed.

Covenant	Reference in Loan Agreement	Status as of PCR	PPER Comments
6. The Borrower shall cause UTY to furnish to the Bank quarterly reports on the execution of the Project. Such reports shall be submitted in such form and in such detail and within such a period as the Bank shall reasonably request.	Loan Agreement, Sec. 4.04 (b) Project Agreement, Sec. 2.08 (b)	Complied with.	Confirmed.
7. Promptly after the closing date for withdrawals from the Loan Account, but in any event not later than three (3) months after the said closing date or such later date as may be agreed upon for this purpose between the Bank and the Borrower, the Borrower shall cause UTY to prepare and furnish to the Bank a report, in such form and in such detail as the Bank shall reasonably request, on the utilization of the Loan, the economic benefits generated, and the accomplishment of the purposes of the Loan.	Loan Agreement, Sec. 4.04 (c) Project Agreement, Sec. 2.08 (c)	Complied with.	Confirmed.
8. The Borrower shall cause UTY to (i) maintain separate accounts for the Project; (ii) have such accounts and financial statements audited annually, in accordance with sound international auditing standards, by independent auditors whose qualifications, experience and terms of reference are acceptable to the Bank; (iii) furnish to the Bank, as soon as available but in any event not later than six (6) months after the end of each related fiscal year, certified copies of such audited accounts and financial statements and the report of the auditors relating thereto (including the auditors' opinion on the use of the Loan proceeds and compliance with the covenants of the Loan Agreement), all in the English language.	Loan Agreement, Sec. 4.04 (d) Project Agreement, Sec. 2.09 (a)	Complied with.	Confirmed.
9. Project Implementation Unit: Commencing from the effective date, the Borrower shall cause the Project Executing Agency to establish and maintain a Project Implementation Unit (PIU). The PIU shall plan project implementation and monitor the Project progress, including procurement, construction, and commissioning	Loan Agreement, Schedule 6, para. 1	Complied with.	Confirmed.
10. Regulatory Framework: The Borrower shall: (i) by 30 June 1999 prepare a plan for the separation of regulatory functions from operations in the railway sector, and (ii) by 30 June 2000 fully implement the said plan.	Loan Agreement, Schedule 6, para. 2	Complied with. (Resolution No. 108-3 March 2001)	Confirmed.
11. Restructuring: Core Operations (i) Beginning in 1998, the Borrower and UTY shall implement in a timely manner the restructuring action plan	Loan Agreement, Schedule 6, para. 3	Complied with. (Resolution No. 378-5 November 2002, which became effective on 1 January 2003)	Confirmed.

Covenant	Reference in Loan Agreement	Status as of PCR	PPER Comments
as formulated by the Railway Restructuring Commission. (ii) Following the separation of passenger operations, the Borrower shall cause other business units such as freight, infrastructure, rolling stock and construction to be created in one-year intervals during the period 1999-2002 (iii) The Bank shall be forwarded a copy of the Railway Restructuring Commission's report on the progress of the organizational restructuring program for Bank review and comment every six months, commencing 1 July 1999. (iv) By 31 December 2000, UTY and the Borrower shall prepare a long-term privatization program for selected core operations.			
12. Ancillary Operations Health and Recreation Facilities: The Borrower, in conjunction with UTY, shall (i) prepare a plan for separation of all health and recreational facilities by 31 December 1998, and (ii) fully implement the said plan by 31 December 2001.	Loan Agreement, Schedule 6, para. 4 (a)	Partially complied with. UTY still maintains ownership in four hospitals and one polyclinic that are used by current and former workers of UTY.	Confirmed. The covenant conflicts with a covenant in the second loan which allows UTY to keep some health and recreation facilities. At the time of the evaluation, UTY operated 16 health care facilities, including four hospitals in Tashkent, down from 26 facilities before the project. UTY devolved its hospitals devoted to treating specific conditions (for example, tuberculosis) and its pharmacies. UTY did not devolve any recreation facilities, and still operates 4 sanitariums and 1 resort.
13. Housing and Other Facilities: The Borrower and UTY shall (i) prepare a plan for the separation of the housing and other facilities from UTY's core operations by 31 December 1998, and (ii) fully implement the said plan by 31 December 2001.	Loan Agreement, Schedule 6, para. 4 (b)	Complied with.	Confirmed. UTY still maintains housing for staff in isolated areas.
14. Educational Facilities: The Borrower and UTY, by 31 December 2002, shall fully implement the existing plan for separation of educational facilities owned and operated by UTY.	Loan Agreement, Schedule 6, para. 4 (c)	Complied with. (Resolution No. 458-9 September 2002, which became effective on 1 January 2003).	Confirmed. UTY still operates educational facilities for training future railway employees, but devolved the primary schools.
15. Social Impact: As part of the review of the separation of ancillary activities, the Borrower and UTY shall (i) include provisions for a range of options for continuing health, education and housing services in a new form, and (ii) manage the divestiture of social services to preserve	Loan Agreement, Schedule 6, para. 4 (d)	Complied with. Early retired workers have free access to UTY's four hospitals and one polyclinic for 2 years. Small Business Fund was set up to provide loans to early retirees on the basis of small and medium enterprise business	Confirmed. However, the Small Business Fund (SBF) was unsuccessful as only 4 loans were approved, and the Central Bank advised UTY that the SBF was not consistent with the legal and regulatory requirements of the financial sector. The

Covenant	Reference in Loan Agreement	Status as of PCR	PPER Comments
social and institutional capital.		plans.	SBF was not operating at the time of the evaluation.
16. Compensation for Noncommercial Services: (i) By 31 December of each year, the Borrower shall prepare a plan for budgetary compensation for UTY for projected losses for noncommercial transportation services mandated by the Borrower for the ensuing year. (ii) The Borrower shall make budgetary allocations with respect to such projected losses and effect budgetary transfers on a quarterly basis.	Loan Agreement, Schedule 6, para. 4 (d)	Partially complied with. Instead of budgetary allocations, UTY gets soft loan concessions from the Government.	Confirmed.
17. Financial Performance: The Borrower shall ensure that UTY maintains its tariff rates at sufficient levels, and receives allocations from the Borrower's annual budget, to (i) achieve a working ratio of less than 0.95:1 by 2000 and 2001, and of less than 0.85:1 from 2002 onward; and (ii) achieve a debt service ratio of not less than 1.2:1 from 2002 onward.	Loan Agreement, Schedule 6, para. 6 (a) Project Agreement, Schedule, para. 2 (a)	Partially complied with. Tariff rates based on Swiss francs per ton-km have increased. Working ratio targets were met. Debt service coverage exceeded 1.2 times for 2002 and 2003.	Confirmed. As of end 2009, the working ratio was 0.67:1 and the average debt service ratio was 1.21. Tariffs are still based on Swiss francs and does not reflect cost recovery.
18. The Borrower shall ensure that UTY prepares pro forma accounts which shall show the actual position and situation that will be required to comply with above financial ratios. The pro forma accounts shall comprise an income and expenditures statement, funds flow statement, and balance sheet. In the periods where deficits are projected, the Borrower shall make provision for budgetary allocations and effect budgetary transfers on a quarterly basis.	Loan Agreement, Schedule 6, para. 6 (b)	Partially complied with. Some financial ratios were not provided, i.e., debt service ratio. Pro forma accounts were not always in the same format and did not always include income, funds flow, and balance sheet statements.	Confirmed.
19. Accounts Receivable: The Borrower, in conjunction with UTY, shall, commencing from the Effective Date, (i) implement an action plan, acceptable to the Bank, to ensure that overdue accounts are settled by 31 August 1999, and (ii) ensure that future accounts receivable do not exceed three months' billings.	Loan Agreement, Schedule 6, para. 7 Project Agreement, Schedule, para. 3	Not complied with. Accounts receivable have always been above 3 months billings	Confirmed.
20. (i) The Borrower and the Bank shall jointly undertake annual reviews of the Project to assess progress, identify constraints, and agree on strategies for resolving constraints. (ii) The Borrower and the Bank shall undertake a midterm review of the Project in the year 2000.	Loan Agreement, Schedule 6, para. 7	Complied with.	Confirmed.
21. UTY shall make available, promptly as needed, the funds, facilities, services, equipment, land and other resources which are required, in addition to proceeds of the Loan, for	Project Agreement, Sec. 2.02	Complied with. However, the machinery and equipment that were diverted from autumn 2001 to September 2002 left inadequate resources and delayed the	Confirmed.

Covenant	Reference in Loan Agreement	Status as of PCR	PPER Comments
carrying out of the Project.		Project.	
22. By 31 December 1999, UTY shall submit to the Bank for review UTY's first five-year business plan specifying financial and operational performance, service quality and safety targets, and shall undertake an annual review and updating of the business plan by 31 March of each year from 2001 onwards. UTY and the Borrower shall together ensure that the business plan is prepared in accordance with generally accepted international accounting standards and practices.	Project Agreement, Schedule, para. 1	Complied with.	Confirmed.
23. Starting in 1999, and by 31 March of each year thereafter, UTY shall review its capital asset investment program to ensure that (i) it complies with the financial targets enumerated above, and (ii) each investment has an adequate financial and economic internal rate of return.	Project Agreement, Schedule, para. 4	Partially complied with. Capital asset investment program reviewed but UTY did not assess each investment to determine adequacy of financial and economic rates of return.	Confirmed.
24. Commencing from the effective date, UTY shall 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 specified financial ratios (working ratio and debt-service ratio). The tariff-setting reviews shall be conducted on at least an annual basis, and UTY shall make application to the Ministry of Finance for any necessary tariff adjustment or adjustments promptly after the end of each review. Commencing in 1999, UTY shall submit reports of its tariff-setting reviews to the Bank each year by 31 March.	Project Agreement, Schedule, para. 5 (a), (b)	Partially complied with. Tariffs are reviewed but not always on a yearly basis and these have not always been submitted to Asian Development Bank.	Confirmed. At the time of the evaluation, tariffs had not been reviewed since 2006.
25. (i) By 31 December 1998, UTY shall prepare an asset downsizing program, and (ii) by 31 December 2000 shall implement the aforesaid asset downsizing program to ensure that an appropriate number and size of assets are maintained for efficient railway operations.	Project Agreement, Schedule, para. 6	Complied with.	Confirmed.
26. UTY shall, through a combination of a freeze on recruitment (except for areas in which the necessary expertise is not available within the organization), natural attrition, and voluntary staff separation, achieve a reduction in its staff levels for its existing core railway operations, to not more than 46,000 by 31 December 2000, and to	Project Agreement, Schedule, para. 7	Complied with.	Confirmed.

Covenant	Reference in Loan Agreement	Status as of PCR	PPER Comments
not more than 40,000 by 31 December 2003.			
27. By 30 June 1999, UTY in conjunction with the Borrower shall have prepared measures to mitigate the social impact of the staff reduction and ancillary operations separation. The Bank's policy on Gender and Development shall be compliance as part of the formulation of the mitigating measures for social impacts.	Project Agreement, Schedule, para. 8	Complied with.	Confirmed.
28. In accordance with the recommendations contained in the Initial Environmental Examination for the Project dated September 1997, 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 the Bank's guidelines.	Project Agreement, Schedule, para. 9	Partially Complied with. Dust pollution was caused by ballast cleaning. To mitigate this, the surface of the ballast was moistened before cleaning.	Confirmed. There were no adverse environmental impacts after project completion until the time of the evaluation.

Table A3.2: Covenants for Loan 1773
(Status as of the Project Performance Evaluation Report [PPER])

Covenant	Reference in Loan Agreement	Status as of PCR	PPER Comments
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	Partially complied with. UTY compliance 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.	Confirmed.
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.	Confirmed.
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 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 PCR in Russian in March 2007 and an English version two months later.	Confirmed.

Covenant	Reference in Loan Agreement	Status as of PCR	PPER Comments
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.	Confirmed. The AFS late submissions were due to differences in accounting procedures between the Government of Uzbekistan and internationally accepted standards.
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	Partially Complied with. A Government Decree of November 2002 aimed at devolving assets related to freight transportation to 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.	Confirmed.
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	Partially 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.	Compliance. The workshop was completed and equipment installed.
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	Partially 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.	Confirmed.
8. UTY shall ensure that appropriate mitigation measures are undertaken to minimize adverse environmental impacts during implementation of	PA, Schedule, para. 11	Complied with. Dust pollution caused by ballast cleaning was reduced. The spread of dust that was associated with	Confirmed.

Covenant	Reference in Loan Agreement	Status as of PCR	PPER Comments
the Project, and that environmental monitoring is carried out in accordance with the Borrower's relevant environmental regulations and laws and ADB's guidelines.		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, OSKOMPRIRODA, 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.	Confirmed. The estimated number of staff in core activities was 36,000 at the time of the evaluation. For the years 2007, 2008, and 2009 the number of staff was 32,000, 34,000 and 35,000 respectively.
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 retraining of 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.	Confirmed.
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 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.	Partial compliance. After 2006 there were no fund releases from SBF. The SBF is not functional and the money is back with UTY.
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	Confirmed.

Covenant	Reference in Loan Agreement	Status as of PCR	PPER Comments
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.	Partially Complied with. In April 2006, UTY prepared and submitted to URM a Business Plan covering 2006–2010.	Confirmed. A Business Plan for 2009−2013 has been prepared.
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.	Partial compliance. As of end 2009, the working ratio was 0.67:1, and the average debt service ratio was 1.21. However, the operating ratio was 0.80:1, which is more than the targeted 0.75:1.
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. (i) UTY's accounting is in line with national standards of reporting. The transition to international standards is under way. Compliance with the covenant will be supported by the computerization of UTY's financial management system. (ii) 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	Partial compliance. Software and computer installation was completed and financed by UTY in late 2006. The upgrading of software is a continuous process and UTY is planning to move to fully accepted international accounting standards by 2011.
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.	Confirmed. The evaluation found that the reason for noncompliance was the failure of some state-owned enterprises to settle their financial obligations on time.
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	Partially complied with. UTY includes its capital investment program in Business Plan 2006–2010. Only viable projects with feasibility studies approved by the Cabinet of Ministers are included in the business plans.	Confirmed.
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	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	Confirmed.

Covenant	Reference in Loan Agreement	Status as of PCR	PPER Comments
shall apply to the Borrower for any necessary tariff adjustment or adjustments promptly after the end of each such review.		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.	Confirmed.
20. UTY shall, by 31 December of each year, prepare a plan for projected losses arising from noncommercial 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 noncommercial services, but the scope of such services is much less than 1% of UTY's annual revenue.	Confirmed.
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.	Confirmed. At the time of the PPER, a Business Plan for 2009-2013 has also been prepared.

RESTRUCTURING AND REFORM OF UZBEKISTAN TEMIR YULLARI

1. The Asian Development Bank (ADB) provided technical assistance (TA) support to Uzbekistan Temir Yullari (UTY) from 1999 to 2006 as part of a financing program for rehabilitating parts of the railway network. This report reviews the TA program to support the restructuring and reform so that the railway can be managed on commercial principles and adapt to a market economy environment. It examines the experience of that reform program and some of the lessons that can be learned with respect to the way the TA was provided. It starts with a brief review of international experience in railway reform to set the context in which the experience in Uzbekistan can be evaluated.

2. Railways are among the most difficult of industries to restructure and reform. They are among the complex "network" industries such as electricity, telecommunications, and water. These industries provide essential services and use a fixed infrastructure network that is shared by services provided to a range of different markets. Because the cost of replicating this network is normally very high, the network provider has a monopoly across the geographic area served. However, the technical and market characteristics of each network industry differ markedly, and the issues that have arisen during the restructuring of UTY have differed.

3. Railways have a number of characteristics, which, when taken together, create particular difficulties in implementing radical structural change. The most important influences are the following:

(i) The government's roles and objectives in railways as owner, policymaker, customer, regulator, and financier are rarely distinguished clearly and the exercise of these interests is not placed in a clear and rational structure and set of processes. The situation can create confusion in railway management and often undermines authority and the incentives to operate efficiently.

(ii) Railways use common infrastructure assets to serve a range of market conditions, from monopolies, through various degrees of competition, to the provision of loss-incurring services under government policy constraints. They go through a complex process to reconcile different market conditions and prioritize the use of resources to serve them to meet business objectives, and allocate and recover common costs within a regulatory and policy framework.

(iii) Like other network industries, railways operate as an integrated system of geographically dispersed services provided by a range of distinct, but interdependent, technical functions which must operate in close coordination. Policymakers who make decisions on high-level restructuring alternatives often do not fully understand the engineering and operational issues and requirements that arise from this operation system.

(iv) The specific geographic characteristics, market conditions, and technical features of each particular railway system can have an important influence on the appropriate structure for each railway.

(v) Railways usually have a conservative management culture that is resistant to change. That arises from the traditional basis of the industry, the safety-critical and real-time environment in which it operates, and the relatively slow pace of technical change in the industry.

4. Partly as a result of these features, there is no single, agreed-upon common model for an optimum structure that can be applied successfully across different railways. Those advising governments and railways on restructuring tend to be influenced by the structure they know best, and often fail to analyze adequately the specific features, requirements, and environment of the

railway in question. Hence, the history of railway restructuring and reform has had a patchy record of success across the world.

A. International Experience in Railway Restructuring

5. The experience of railway restructuring in Japan, the United States (US), and Europe provides some useful lessons. Lessons can also be learned from the experience of railway reform and restructuring in the developing world. Industry restructuring can broadly be divided into two stages: (i) deciding on the overall structure for the industry, and (ii) designing and implementing the new structure.

6. There are potential pitfalls at each stage. A poorly conceived structure can usually be made to work by careful design and implementation, enabling the industry to continue to operate even with a flawed structure. But a poorly conceived structure will fail to bring the benefits expected, and will result in inefficiencies and tensions in the operations of the industry. The consequences may be serious if safety is compromised, and the long-term viability of the industry may be undermined if costs are permanently increased or operational inefficiencies are entrenched. Thus, some have argued that the major restructuring of the railway system in Britain has resulted in a permanent increase in the unit costs of railway operations, although the system continues to run normally.

7. The second stage in the restructuring is also critical to success. Any major change in an industry requires careful design and implementation. Industry reform usually fails at this stage, and further adaptations over time are required to rectify faults.

8. The national railway systems of Japan and the US are widely acknowledged as the most successful in the world in terms of efficiency and profitability. This success is largely due to the favorable market and operating conditions in those countries. Japanese railways are primarily operated for passenger traffic. The density and distribution of the population ensure that most railway lines have very high density flows of traffic, thus enabling assets to be utilized intensively. In contrast, railways in the US are primarily freight railways. They also serve high density flows of traffic over long distances, enabling good levels of profitability to be achieved at freight rates that are among the lowest in the world. Yet some 30 years ago, both railway systems were on the brink of financial collapse.

1. Japan National Railways

9. Japan National Railways (JNR) had operated under severe constraints and without clear objectives since its establishment at the end of World War II. JNR was subject to pressures from various interest groups, including labor unions, local and national politicians, national government, and industry, each of whom benefited from heavy and often inefficient investment in the railways. As a result, JNR operated a technically sophisticated system that was also heavily overmanned and retained a large number of inherently unprofitable lines. Consequently, it was burdened by growing debts. JNR and the Government were slow to recognize the impact of falling market share, high labor costs, and excessive investment. By 1980 JNR's debt burden had risen to $110 billion. Various plans were put forward for addressing the debt burden. The plans failed, for most were based on unrealistic assumptions and the needed changes were resisted by the main interest groups.

10. In 1980, a new government established a committee of independent individuals to develop a comprehensive solution for the railway. The core plan for restructuring was first

developed by a group of JNR managers who recognized the need for change. The group developed a plan to break up the monolithic JNR organization into six regional passenger railway companies plus a national freight company, with a view to their subsequent privatization. The group's knowledge of the railway enabled them to develop a practical plan that acknowledged the features of Japan's railway system. The geography of Japan meant that dividing the system by region was the most workable solution. The result was three self-contained railways on the smaller islands of Hokkaido, Kyushu, and Shikoku, and three railway companies on the main island of Honshu. The three railways on Honshu were relatively self-contained as a result of the linear geography of the island.

11. The committee heard evidence from a wide range of interested parties, and all interest groups had an opportunity to present their views. The issues were discussed in public through the media. The issues and conflicts were brought out and addressed early in the process to have a consensus on the reform program. Eventually, the remaining resistance was isolated and changes in senior JNR management were made to ensure that railway management was committed to implementing the reform program successfully.

12. The proposals were radical. Apart from the seven operating companies, a JNR Settlement Company was formed to take over the liabilities of JNR, including responsibility for dealing with large-scale labor force reduction, and to settle its excess debt burden. The company was financed from a portfolio of valuable property assets and the planned proceeds from the subsequent sale of the operating companies. Any remaining debts were to be assumed by the Government. The new railway operating companies were designed carefully and in detail before the change to the new structure so that they could be established quickly and would operate successfully from the outset. The Shinkansen Holding Company was created as a device to redistribute profits from the high-speed rail service and to deal with differences in profitability between the three railway companies on Honshu. The three companies on the smaller islands were given financial "dowries" so that they could be financially self-sufficient and operate profitably in the long term while maintaining the unprofitable social services without the intervention of politicians.

13. The whole restructuring process took about 6 years to complete. Issues and options were discussed and debated for 2 years to build a consensus on the new structure. Detailed design took 2 years to ensure that the plan had been thoroughly thought through and was implementable. Forming the regional companies and the other entities that were created as part of the reform took 2 years.

14. The key lessons from the railway reform process in Japan are as follows:

(i) Careful management of the public debate and the process of building consensus among the key interest groups and isolating any remaining resistance meant that everyone was committed to the success of the reforms when implemented.

(ii) That railway managers developed the broad plan for restructuring ensured that it was practical and workable. The plan also acquired credibility, which helped build consensus and commitment to it within the railway management, even though many had doubts about such a radical restructuring.

(iii) After the high-level policy decision on the broad structure was made, the plan was developed in detail by railway managers, and all the main implementation issues were addressed to avoid the need for ad hoc redesign during implementation.

(iv) The plan was implemented by the railway management team that was to run the entities concerned and who were committed to its success.

2. Railway Restructuring in the United States

15. In the US the railways reached a financial crisis point about the same time that it did in Japan, but for different reasons. US railways had suffered under heavy regulation and policy constraints for many years, while competition from roads had grown in strength. The resulting financial constraints led to underinvestment and deterioration of assets and performance. The bankruptcy of the Penn Central Railway precipitated a crisis. It then became clear to the Government that action must be taken to break the cycle of decline caused by regulatory and policy constraints on the freedom of the railways to be managed commercially.

16. The result was the Staggers Act. Regulation of freight rates by the Interstate Commerce Commission was removed for most cargoes, provided they could go by road. Deregulation under the Act precipitated a wave of consolidation in the industry combined with the closure or transfer of branch line operations to small-scale ”short line” operators. Restructuring therefore took place through market forces and was implemented by railway management. The result was the creation of a number of powerful regional railways, which enjoyed some degree of local monopoly in rail transport in markets where road transport was not a cost-effective alternative, while at the same time the railway companies competed with one another over many of the main long-distance, interregional, routes.

17. There was a dramatic improvement in productivity, financial performance, and freight traffic volumes on the railways. Since 1981 productivity has risen by 172% after years of stagnation. Over the same period, freight rates have fallen by 55% in real terms, and rail now enjoys a share of 43% of freight ton miles in the relevant market, a much greater share than that in Europe. The US railways’ financial position is sufficiently robust to enable large-scale investment to expand capacity. Thus, with private sector control and market incentives, the US freight railways have been restructured to achieve a remarkable turnaround, enabling them to exploit the natural advantages offered by rail over the long-distance rail routes in the US.

18. The position of passenger rail in the US is less favorable due to strong competition from a deregulated air transport industry and the established pattern of use of road transport. A further constraint is that passenger rail services must share the use of densely used track with freight services. The scheduling of fast passenger trains with heavy, slow, freight trains on densely used track reduces effective track capacity to the detriment of both services. As a result, rail passenger services outside the cities offer a relatively slow and infrequent service and have to be supported financially by the Government.

19. In railway companies in both Japan and the US, the internal organization structure remained relatively conservative, with integrated technical management of all the infrastructure and rolling stock assets geared to provide efficient and reliable train services to the specification of the business and marketing departments. Europe has, however, adopted a different approach by moving toward the separation of the management of railway infrastructure from the operation of train services.

3. National Railways in Europe

20. In 1988, Sweden created Banverket, a state-owned organization responsible for managing and developing the railway infrastructure. Train services for the main intercity routes continued to be operated by the original state-owned railway, Statens Järnvägar, ("State Railways", or SJ), while independent operators were given the opportunity to bid against SJ to

operate local, provincial, and commuter services through a tendering process. Funding for Banverket was mainly from the state budget. The rationale for the structure was an analogy with the road transport industry where the government took responsibility for the supply and maintenance of the road network and private sector groups operated road transport services in competition with one another, using the roads infrastructure supplied by the state.

21. Around this time, some academic articles promoted the idea of separating ownership and management of the railway infrastructure (i.e., track) from all other above-rail services (egg, freight and passenger services), an idea known as “vertical separation”. None of the articles addressed practical issues, such as how to achieve efficient allocation of track capacity under constrained capacity conditions, how much freedom to give train operators to allow them to compete effectively, or how to deal with the technical coordination issues in the safety-critical, real-time operations of a railway.

22. The European Commission (EC) took up the idea of encouraging ”open access” to the rail networks of Europe, with the initial aim of encouraging greater cross-border integration of freight train services. The fragmentation of the rail networks of Europe under national rail administrations was seen as a barrier to efficient trade. EC Directive 91/440 provided a first step to giving international freight train operators open access. However, attempts to open new services were initially few and even fewer were successful. Nevertheless, the EC persisted with the idea and passed a series of directives to facilitate ”open access,” mainly aimed at creating transparency and neutrality in allocating capacity and in ensuring that track access prices were not set at a level that would inhibit progress. Gradually, open access train operations were developed and now comprise 10−20% of the market. They have had a significant impact on competition in the market, but do not appear to have increased rail traffic overall.

23. Meanwhile, a number of railways in Europe have been restructured to achieve various degrees of vertical separation of the management of infrastructure from train operations. After Sweden, the next country to take this route was Britain. This policy was chosen after more than 3 years of debate over the appropriate structure for the privatization of British Railways. In the end, the policy was developed by a small group of policymakers with no input from railway managers, and was announced in the Conservative Party election manifesto of 1992. A key motivation for the policy was the success of a similar structure that had been implemented in the electricity industry in Britain, where introduction of competition in electricity generation was considered the key to success. The proposed structure was to create a rail infrastructure monopoly and more than 20 passenger train operating companies that would be franchised to private sector operators through competitive tendering, plus a number of rail freight companies that would be sold to the private sector. Few details of the structure had been worked out at the time the commitment to the policy was made.

24. Once the policy was announced, its practical implications created considerable debate, particularly among railway managers and industry specialists, most of whom were skeptical that the proposed structure would prove practical. However, all opposition was swept aside and the Government of the United Kingdom (UK) pressed ahead with a concerted drive to implement the restructuring policy, which eventually created some 100 new separate companies and other units in the railway industry. During this process, all of the design work had to be carried out from scratch, since the policy had initially been developed only at a high-level concept stage. The detailed design required the close involvement of railway managers as well as consultants and lawyers. A complex contractual matrix was created to mediate the relationships between the new entities. The success of the new structure depended crucially on the incentives created within this contractual matrix, particularly since all of the new operating entities were to be

privatized. The roles of the new independent rail regulator and the public sector franchising authority were important in setting and managing the framework of incentives for the industry.

25. The experience of this major restructuring of the railway industry in Britain has been mixed. Rail traffic has increased markedly, partly because of economic conditions, but also because incentives in the franchise contracts of the train operating companies encouraged traffic growth. Coordination and optimization at various levels in planning investment, train planning and in operational performance under the new structure have, however, been problematic, and overall costs in the rail industry have risen considerably, particularly after political, regulatory, and public pressure following a series of accidents. Many of the early freedoms given to the new train operating companies have been withdrawn from the later franchise agreements, as the Government wanted more control over the use of subsidy. Overall, it would be difficult to judge this restructuring model for the railways in Britain as a success.

26. Nevertheless, many countries in Europe have followed the vertical separation model to some degree, although often the infrastructure management unit has remained as a division of a single railway organization to address the concerns about coordination. The motivation for restructuring among European railways has been partly influenced by EC policy on open access, which requires a degree of separation of the management of rail infrastructure to achieve neutral allocation of capacity for open-access operators.

27. A common feature of the rail restructuring initiatives in Europe was that they were driven by politicians and by advisers, with little input from railway management at the conceptual design stage. This was in contrast to the experience in Japan and the US. Railway management in Europe showed resistance to the concept of vertical separation in the railway industry, and therefore tended to be sidelined. Sometimes too, railway management failed to convince politicians and the public that management's own efforts and proposals for restructuring were likely to succeed. The arguments against vertical separation were seen as detailed technical arguments about issues such as the integration of railway timetables, the problem of coordinating planning and investment, and the operational interdependence of train services. These arguments were often treated as ”special pleading” by industry managers who were seen as resistant to change. Hence, European railway policy has continued to be driven in the direction of vertical separation.

28. In all cases where there has been radical restructuring of the railway industry, in Europe and other countries where the railways are owned by the government, the Government has firmly led the process. Railway management had a key role in the detailed design and implementation work, but this was carried out within the overall supervision and project management by government officials, with the senior railway management sitting on the high-level policy and project management committees. The process of restructuring and reform required leadership from both the top of the relevant government department and the top management of the railway. The process cannot be left to a restructuring unit within the railway, since it tends to meet resistance and is likely to get caught up in detail. The experience of major restructuring in the UK and elsewhere has demonstrated that detail is important, since many of the flaws that subsequently appeared in the incentive structure of the UK rail industry were due to detail problems in the incentive framework and contractual design.

4. Railway Restructuring in Developing Countries

29. Aid agencies have a long history of assisting in restructuring railways in developing countries. In the 1980s, the programs usually took the form of assistance with specific initiatives

for incremental change to gradually improve the structure and functioning of individual railways, rather than comprehensive reform programs. Projects such as organization and management studies, development of performance contracts with government, corporate plans, systems improvements (especially accounting systems), departmental efficiency improvement programs, training and provision of long-term advisors were provided, sometimes over many years, in an effort to improve the performance of railways. The result of much of this work was disappointing, particularly in countries with a weak base of management resources, or where the policy framework of the government for railways was unclear or in flux. Although many improvements resulted from the specific projects, often they were not sustained and had little impact on the overall efficiency of the railways. Railways are typically only as strong as the weakest component of the system. The weak financial performance of most railways undermined asset maintenance and other aspects of operations. Governments sometimes aggravated the situation by imposing constraints on pricing and maintaining unprofitable services. Human resource constraints, labor force management problems, and lack of skills often made it difficult for management to address problems decisively.

30. Eventually, during the 1990s, governments and the aid community became impatient with lack of progress as some railways virtually collapsed in extreme cases and others became an increasing drain on government resources. Pressure then built to introduce the private sector through public-private partnerships (PPPs) of various kinds to enable it to take over the management of railways, in whole or in part, and to commit investment where possible. A major advantage of this approach was that the government was no longer responsible for the performance of railway management to improve the efficiency of railway operations. The PPP contract also prevented ad hoc intervention by the government in the railways and gave management a free hand to do its work.

31. The main challenge in a PPP approach to railway reform is to decide on the most effective model for the PPP and to establish contractual arrangements that will allow operating and developing the railway in the most appropriate way. The favored model in most developing countries was the long-term concession contract, allowing a private sector company to operate part or all of a railway for a period of 10−20 years, while the government retained ownership of the fixed assets. For relatively simple rail networks, where there is adequate intermodal competition in most of the markets served, this approach often worked well. The full business risks of railway operations can be passed to the private sector without the need for excessive regulation. Competition can be relied on to ensure that the operator provides a good level of service. Performance under the contract can be monitored to ensure the terms are being adhered to. The main difficulties with concession contracts are as follows:

(i) Failure of the concessionaire to meet contractual obligations to invest when the financial performance of the railway has not met business plan expectations. The Government then faces the choice of taking back responsibility for the railway or renegotiating the contract terms. Bidders for concessions can then vigorously seek to win the concession in the expectation that, if need be, they can renegotiate the terms from a stronger incumbent position.

(ii) Failure to meet operational performance objectives for traffic growth or service quality. Where there is adequate intermodal competition, the need for performance objectives should be reduced since the operator should have sufficient incentives to provide good quality services so as to attract traffic.

(iii) Difficulties in regulating a monopoly market position through a fixed contract. If prices, capacity, and service performance need to be regulated due to monopoly power, a fixed long-term concession contract may not provide sufficient flexibility to achieve this, and a more dynamic regulatory regime may need to be developed under a licensing regime.

(iv) Unanticipated changes in market conditions, either in favor of the concessionaire—which may lead to excessive profits—or against it—which may require contract renegotiation.

(v) Other unanticipated changes causing tension between the concessionaire and the contract manager. Concession contracts can become very detailed in an attempt to anticipate future events and make provisions for dealing with them. Quite often difficulties have arisen requiring some flexibility in the interpretation of the contract. The contract management regime should therefore foster trust and flexibility where required, without being excessively lax.

B. Implementation of Major Structural Reform

32. The preceding discussion has concentrated on establishing the policy and structural framework for railway reform. The implementation process is equally important. Many reform programs have failed at the detailed design and implementation stage, usually because of unresolved resistance to reform during the high-level design stage—those charged with implementation are insufficiently committed to its success, or they are not given sufficient powers and authority to push reform against any resistance they may meet. A generic lesson from all structural reform programs is the need for commitment from the most senior level of the organizations involved and the authority to ensure that all the needed changes are implemented.

33. Thus, major structural reform programs for state-owned railways are normally led by the Government acting in its various roles as owner, policymaker, regulator, and financier. As part of the reform program, these roles should be separated and rationalized as required. A senior minister should oversee the reform, supported by senior officials who dedicate most of their time to the project. A structure of committees and working groups need to be formed. A typical structure might be led by a high-level policy and monitoring committee supported by a project management unit. There would be a range of other committees dealing with individual issues, or groups of issues, to design the detailed arrangements and then manage their implementation. The committees and working groups would include both government officials and railway managers and, where required, advisers and consultants. Usually, individuals would participate in more than one committee to encourage “cross-fertilization” between groups and to ensure consistency in the arrangements designed. The high-level policy committee would have a crucial role in ensuring this consistency and in providing coherent policy guidance for the detailed work in the committees and working groups. Numerous detailed issues will arise during the process of design and implementation; concerted effort and authority are needed to resolve these issues quickly as they arise and insist on the changes required to achieve major reform.

34. Where a slow and incremental approach to reform, extending over a long period, is adopted, it will not be possible to adopt this approach since the senior personnel cannot be mobilized for an extended period while there is only limited activity. The risk therefore of a gradual approach is a loss of direction, momentum, and coherence in the reform program. Individual projects may be completed but their linkages and relationships to other changes needed in the organization may not be clear since they have not yet been defined. Furthermore, it is easier for change to be resisted or distorted if it takes place in a fragmented manner without a clear overall framework coming together simultaneously. An obvious example of this danger is early introduction of new financial and management information systems before new information requirements for future restructuring are defined. If an incremental approach to reform is to be

adopted, there must be certainty over the long-term vision for the railway. Without this, changes will be introduced against a static or uncertain framework, and they are unlikely to be successful.

C. Restructuring and Reform of Uzbekistan Temir Yullari

35. UTY was created as a wholly state-owned, national railway organization in 1994. It was formed from the Central Asian regional railway system, based in Tashkent, which was formerly part of the railway system of the Soviet Union. UTY inherited a structure typical of a state railway monopoly operating in a centrally planned economy. Its organization and management were heavily oriented to the needs of the technical production functions of the railway responsible for the supply of railway infrastructure and train capacity. There was little recognition of the business functions of marketing and profit generation in the organization.

36. ADB's report and recommendation of the President[1] on a proposed loan and technical assistance grant for UTY described the basic structure of UTY at the time, the main issues concerning its business, and the policy environment when the loan was approved.

1. Uzbekistan Temir Yullari in 1998

37. In 1998, UTY's organization structure was based on six regions responsible for the day-to-day supply and maintenance of railway infrastructure, locomotives and rolling stock, and the operation of train services. The central corporate organization reflected the production-led bias of the railway with strong engineering and technical departments carrying out planning and monitoring functions and setting policies relating to the physical operations of the railway in the regions. Long-term planning focused on the physical development of assets, while short-term planning was mainly concerned with the maintenance and usage of assets.

38. Other corporate functions included finance, economics, human resources, legal affairs, and government and international relations. There was little focus on forward business planning or marketing in these corporate support functions. The finance function was responsible for recording and reporting financial transactions, but did not carry out financial analysis or forecasting to assist in managing business performance. The economics department was mainly responsible for traffic forecasting to support physical planning and updating tariff rates in accordance with a fixed structure that differed little from that under the former Soviet Union (FSU).

39. There was no recognizable marketing function. Customer needs and the services they required were not analyzed systematically to plan UTY's product offer. UTY was operated as a monopoly and, for the great majority of its services, this was a reasonable way to operate. There was little understanding of the costs of railway operations and the effect of different types of traffic and train services on those costs. Neither was there sufficient analysis of competitors' prices and costs, or the competitive features of the services they offered to enable competitive threats to be evaluated.

40. UTY operated largely as a self-regulated monopoly although the Government maintained an oversight role and could influence UTY's operations on an ad hoc basis. This form of intervention, however, had the potential to undermine the responsibilities of management and the viability of UTY's business operations. The Government therefore

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[1] ADB. 1998. *Report and Recommendation of the President to the Board of Directors: Proposed Loan and Technical Assistance Grant to Uzbekistan for the Railway Rehabilitation Project*. Manila.

required UTY to maintain passenger services at low prices for social reasons. The result was heavy financial losses that had to be recovered through effective cross-subsidy from freight services. UTY experienced a persistent problem of late payment from its customers, many of which were state-owned enterprises over which it had little influence. Accounts receivable were about 12 months total revenue.

41. UTY operated an extensive range of social services for its staff and their families, including health, education, recreational facilities, and housing. Such services were funded from the profits generated by monopoly freight services.

42. Thus, the pricing of UTY's services was heavily distorted by cross-subsidies. UTY lacked the systems to develop an understanding of the costs of supplying railway services in relation to the characteristics of the traffic carried. The understanding of costs and profit concepts was further undermined by the use of national accounting standards, which differed from international accounting standards (IAS) in that they fail to provide for asset depreciation at realistic current market prices. Thus, UTY's reported profits tended to be overstated and financial provision for asset maintenance, renewal, and replacement was insufficient. UTY's accounting systems were also outdated and needed upgrading for the needs of a commercial organization.

43. The financial performance of the railways in the region had been suffering from heavy loss of traffic and revenue since the breakup of the FSU. The restructuring of the economies in the region led to a reduction and redirection of rail traffic, resulting by 1996 in a sharp fall in rail freight traffic volumes on UTY's system to about one third of the level in 1990. Passenger traffic also dropped by 50% over the same period. Although the traffic position had stabilized by 1998, the railway was expected to face increasing competition from road transport in the longer term. Furthermore, the transition to a more market-driven economy in Uzbekistan and the wider region would require UTY to transform its own business operations in the future to become more commercially driven, with greater emphasis on marketing, cost analysis, business planning, and profit.

44. The loss of traffic not only resulted in a sharp loss of revenue, but also aggravated the problem of an excessive quantity of assets inherited from the former Central Asian railway. Many of the assets were in poor condition, and the costs of holding and maintaining surplus assets added to the financial burden on UTY. UTY also had a large surplus of staff as a result of the fall in demand for its services, and because of the need for efficiency improvements.

45. Thus, at the time ADB was considering making its first loan to UTY, UTY was facing a wide range of challenges to its market position, structure, mode of business operations, policy environment, and cost base. These issues needed to be addressed to ensure that it was prepared for operating in an increasingly market-driven economy and could benefit effectively from ADB's assistance in rehabilitating its infrastructure.

2. Policy Dialogue at the Time of the RRP

46. In preparation for the proposed loan and TA grant for the railway, ADB carried out an intensive policy dialogue with the Government and UTY over the following reform requirements: (i) regulatory framework, (ii) restructuring of UTY into cost/profit centers (business units), (iii) separation of ancillary operations from the transport business of the railways, (iv) strengthening of UTY in the areas of financial accounting systems and business plans, (v) introduction of

pricing policies aimed at full cost recovery and responsive to market conditions, and (vi) downsizing of staff and assets for efficient and sustainable operations.

47. The Government had established a Railway Restructuring Commission (RRC) in June 1997, with the deputy prime minister as chairperson, to restructure UTY along commercial lines and to explore opportunities for privatization. The commission had made good progress with mapping the way forward. In May 1998, the Government issued a proclamation setting out a time-bound action plan for implementing the reform framework program; however, there were many details to consider to convert this into a clear implementation plan. The conditions therefore seemed favorable in 1998 for ADB to assist with a major program of reforms for restructuring to fundamentally change UTY's business practices and operations.

3. Regulatory Framework

48. The Government began to draft the Railway Law in 1997, which established the division of responsibilities for various matters, including shifting to the Government the responsibility for regulating railways. When the law was subsequently implemented, the Government had to approve all tariff changes requested by UTY and also take responsibility for railway safety regulation.

4. Restructuring UTY

49. The RRC proposed that UTY be restructured into five new organizational units to be responsible for (i) freight and passenger transport services, (ii) maintenance and development of infrastructure, (iii) supply of locomotives and rolling stock, (iv) train operations, and (v) capital works and construction. The RRC also proposed that ancillary services (education, health, mining, and publishing) be separated from UTY's core railway operations. The Government endorsed the proposals in September 1997, and a more detailed analysis of the proposed structure was initiated. In December 1997, the Government approved the separation of passenger operations from freight, and a new rail passenger company was formed in January 1998 as a first step in implementing the new structure. The Government also agreed to prepare a plan to compensate UTY for the operation of loss-incurring passenger services to enable the passenger business to operate on a financially independent basis. The other business units were expected to be established sequentially at 1-year intervals between 1999 and 2003. A long-term plan for privatizing the core railway operations would be prepared by the end of 2000.

5. Ancillary Activities

50. The RRC considered the separation some of the ancillary activities carried out by UTY, including commercial enterprises such as the Akhangaran Sleeper Factory, and social services such as education, health, and recreational facilities. Many of the commercial enterprises were considered candidates for privatization. The Government had approved the transfer of some education facilities to the central and local governments. The Government also agreed to prepare a plan for transferring health and recreational facilities, as well as for separating housing and other facilities.

The law requires UTY to prepare its accounts according to national standards, for the purposes, among other things, of calculating tax liabilities and reporting financial results. Uzbekistan's national accounting standards differ IAS in a number of important respects. For instance, national accounting standards are based on historic costs and understate the requirement for depreciation to enable UTY to replace its assets at current values. Hence, profits were overstated. Furthermore, the accounting systems did not produce adequate management information to support a business-oriented railway operating in a market economy environment. Business plans were not produced regularly to enable the forward planning of the business. ADB proposed to address these issues through a TA as part of the project.

7. Pricing Policies and Traffic Costing Systems

52. UTY's tariffs were based on the structure inherited from the FSU. Tariffs were based on ad valorem principles and were fixed according to traffic characteristics, including commodity, wagon type, density, and distance. Tariff levels were adjusted according to exchange rate changes and inflation factors to achieve revenue requirements. The financial and management information systems could not help UTY systematically determine costs associated with particular traffic movements. Neither did UTY collect information on the rates charged by competitors to inform the setting of rates at market levels.

8. The First TA for the Institutional Development of UTY

53. The first RRP proposed an advisory TA to prepare a master plan for institutional development of UTY to address all those issues with emphasis on the restructuring of UTY, and to develop its financial accounting, business planning, and marketing functions. The consultants performed their work in 1999 and submitted their final report in January 2000.

9. Proposed Organizational Restructuring Plan for Uzbekistan Temir Yullari

54. The conditions for this work at the time appeared favorable since the policy environment was receptive to organizational change. The RRC had recommended a new structure for UTY based on five primary units: (i) a passenger business, (ii) a freight business, (iii) an infrastructure supply business. (iv) a traction and rolling stock and train operations business, and (v) a capital works business. The proposed structure had the potential to create a business-oriented railway focused on meeting customer needs against financial performance objectives.

55. The passenger business had already been created in January 1998, and the plan was to create each of the new units sequentially, with the process being completed during 2001. This timetable was later revised in July 1999 to include the creation of 10 regional transportation directorates before creating the remaining businesses by 2004.

56. The consultants for the first ADTA endorsed the restructuring proposals of the RRC, and made a number of recommendations regarding the implementation of that structure, including the following:

(i) The new businesses should be created at the same time rather than sequentially as the RRC's proposal suggested, and they should not be separate legal entities but business units within UTY, accountable for the profit and loss accounts of their separate businesses.
(ii) The new businesses should only be vested with the assets and resources they needed, and surplus assets and manpower should be dealt with separately.
(iii) The new businesses should have adequate support systems for accounting and management information, business plans, and a marketing capability.
(iv) The existing regional structure, including the recently created transportation directorates, must be dismantled as the new businesses become established.

57. The consultants also proposed that a clear distinction be made between business units and service units in the organization structure. The freight and passenger businesses would operate as business units to ”drive” the railway business, and would have their own profit and loss accounts. The infrastructure and rolling stock units would be service units providing service to the two market-facing business units. The costs of providing these services would be transferred to the accounts of the business units. The consultants’ proposal to transfer to the new units only those assets and staff required for efficient levels of operation would provide an incentive for efficient operations, while UTY took responsibility for disposing of any surplus assets or staff.

58. The consultants’ proposals implied that the new structure for the railway should be based on the primacy of the freight and passenger businesses, which would make the key planning, pricing, and marketing decisions for the railway, and which would monitor business performance. The three service units would provide the capacity specified by those two business units. This concept was similar to the sector-based business structure that British Railways (BR) had adopted before it was privatized. BR had dismantled its former regional structure since this had proved to be an obstacle to the reforms that the new sector businesses had wished to implement. The consultants similarly proposed a dismantling of UTY’s integrated regional structure to place each of the relevant parts of the regional operations under the control of each of the four new businesses, to enable the new structure to operate successfully.

59. In their report, the consultants stated that the “Government and UTY management are having difficulties deciding on the approach to restructuring that will be appropriate to the Uzbekistan environment.” They did not, however, elaborate on the nature of the issues under debate. The consultants emphasized that, in any structure that is finally decided, it is important to maintain the principle that the structure should have business and marketing, and not the technical and engineering functions, as the drivers of the organization, , Although the consultants proposed a different staging for implementing the new structure so that the new units were created concurrently rather than sequentially, they did not present an implementation schedule based on that recommendation. Instead, they presented the implementation timetable proposed by the Government/RRC in both the main report and the draft business plan. It appeared that the debate over the appropriate structure for UTY remained unresolved at that point.

60. Soon after the completion of the consultants’ report on the master plan for institutional .development, ADB commissioned another firm of consultants to prepare a report on the feasibility of a new project loan for UTY. These consultants commented on the work done on the master plan, and recommended what they viewed as a different structure for UTY based on an integrated structure for managing all the functions of the railway, similar to the structure of the freight railways in the US. They also recommended a faster implementation program toward early privatization of UTY.

61. The debate within government over the structure for UTY at that time was moving toward the European model for railway structure. It involved separating the management of railway infrastructure—which was a natural monopoly—from the management of train services, to allow competition in providing railway services. The proposals of RRC and the master plan consultants were therefore interpreted in this light: to have a vertically separated structure by creating separate infrastructure and rolling stock businesses. However, the master plan consultants did not explicitly propose this structure. And, as noted earlier, their proposals appeared to be closer to the sector management structure of the former BR, which was based on a vertically integrated structure for the railway with the market-facing business units ”driving”

the production side of the business rather than buying services from it, as would be the case under a vertically separated structure.

62. It is not clear how much dialogue took place among the consultants, the Government, and UTY over the issue of the structure for the railway at the time the master plan was prepared. The organizational concepts that were proposed in the master plan report were not straightforward, particularly in an organizational culture based on central planning with little experience of market disciplines and profit and loss. It is clear from international experience that debates over the structure of a large complex strategic industry, such as railways, need to be exhaustive to enable all parties to understand and accept the proposals. Without such a debate, the key interested parties are not likely to have a sense of ownership of the organizational concepts being discussed and their practical implications. The master plan consultants had a challenging amount of work to cover in their terms of reference (TOR) and it is unlikely that they were able to participate fully in such a debate to explain their proposals, the concepts underlying them, and the practical implications for managing the railway under a fundamentally new structure.

10. The Reform Program for Institutional Development

63. The master plan for institutional development addressed all the main issues required to prepare a comprehensive program of reform for UTY. The need to develop the financial accounting and management information systems to support this new structure and the marketing function and business planning capability of UTY was also recognized. and addressed in the second TA

64. The consultants carried out a detailed review of the financial management and accounting function of UTY, and gave training in IAS concepts. They restated the accounts using IAS standards and reviewed the financial systems of UTY. They proposed that a new centralized financial accounting system be implemented to enable UTY to prepare its accounts and management information efficiently in a form required for a commercial business. They also developed a business forecasting model that was used to prepare financial forecasts as part of a drafting of a corporate plan for UTY. The model demonstrated the impact of the consultants' proposed strategy for restoring financial stability to UTY. The model involved (i) reducing costs by eliminating surplus assets, reducing staff levels, and implementing other efficiency measures; (ii) separating ancillary activities from UTY; (iii) increasing revenue by more effective marketing and pricing policies; and (iv) transferring to the Government financial responsibility for the operation of loss-incurring passenger services for social reasons. A range of policies were proposed for achieving the latter objective. The Government agreed to compensate UTY for the support of loss-incurring passenger services, and the TA gave advice on how that could be done.

65. Another major output from the work was a report on marketing, including analysis of market conditions and forecasts, marketing policies, and strategies and plans designed to assist UTY in establishing its own marketing function. The consultants also carried out a detailed review of the social services that UTY provided. The Government agreed that the noncore ancillary enterprises and services that UTY operated would be separated, and the first TA set out a strategy for achieving that. In addition, the consultants recommended the means for reducing staff levels and addressing the social implications of a staff reduction program. They also recommended various measures for improving the efficiency of the railway over time.

66. The consultants summarized their proposed reform program for UTY as follows:

(i) Restructure the organization to focus management on business rather than production issues. The objective would be to create business units (freight, passenger, rolling stock, and infrastructure) and to dismantle the existing regionally managed structure.
(ii) Establish a marketing capability for passenger and freight businesses.
(iii) Strengthen the strategic planning and cost accounting capability in the Economics Department.
(iv) Downsize the rolling stock fleet to match forecast traffic volumes.
(v) Adjust the infrastructure to suit the requirements of the forecast traffic volumes.
(vi) Consolidate general freight operations into well-equipped freight distribution centers, and close unprofitable stations.
(vii) Rationalize long-distance and local passenger services and close smaller stations.
(viii) Withdraw from unprofitable business except where compensation for losses can be negotiated with government or municipalities.
(ix) Consolidate rolling stock repair into fewer major workshops and reduce maintenance staff to match the reduced rolling stock fleet.
(x) Withdraw from funding social services, including health, education, and housing.
(xi) Restructure infrastructure maintenance activities to take advantage of modern maintenance procedures, and reduce staff to suit the new structure and greatly reduced traffic volumes.
(xii) Reduce the number of separate subsidiary companies controlled by UTY and sell off noncore subsidiaries.
(xiii) Establish international accounting practices and computerize UTY's accounting systems.
(xiv) Modernize signaling and communication systems.
(xv) Update computerized rolling stock operational management and information systems.
(xvi) Electrify major traffic routes and increase the electric locomotive fleet.
(xvii) Rehabilitate track on major traffic routes.
(xviii) Provide capability to repair electric locomotives.
(xix) Close industrial sidings that are unprofitable to service, and reduce the number of shunt locomotives.
(xx) Establish staff training capability, especially in business-related skills and management.

67. The institutional reform master plan set out a radical and comprehensive program of reform designed to enable UTY to adapt to the needs of a market economy. The plan was expected to take 10 years to implement. The consultants recognized that a vital element in implementing such a program of reform was full support of the Government and the commitment of UTY management to the implementation program. At the time the consultants completed their work, however, it was not clear that those conditions would be met.

11. Second ADB Loan and TA

68. ADB prepared an RRP for a second loan and TA in October 2000. It noted the progress the Government and UTY had made in reforming UTY's social services. But it commented that ”the process of reform and restructuring UTY has not been easy.” It also stated that the ”Government and UTY are committed to implementing the reforms and restructuring agreed [upon] under the ongoing [first railway project] as well as those agreed [upon] for the proposed project.” It is notable that the RRP did not list organizational restructuring as a priority of the

Government in the restructuring of UTY, although this could be regarded as fundamental to an effective reform program.

69. ADB covered the following topics in the policy dialogue with the Government as part of the preparation for the loan:

(i) **Regulation**. The RRP noted that the Railway Law establishes a basis for a clear separation of regulatory roles between the Government and UTY, and the Government had agreed to the principle of compensating UTY for operating mandated noncommercial services. However, the means by which that would be done most effectively was not specified.

(ii) **Restructuring**. The RRP noted the formation of the passenger business and the creation of 10 new regional transportation directorates, and "the remaining business units would be created after the passenger business unit is successfully operationalized" UTY would prepare a long-term privatization program and monitor the implementation of the restructuring program through progress reports for ADB to be produced every 6 months.

(iii) **Ancillary activities**. Good progress was made in removing ancillary activities from UTY by privatization and transfer to other authorities.

(iv) **Financial accounting systems and business plans**. The RRP noted that UTY's accounts are not prepared according to IAS, but that UTY had agreed to introduce IAS and a new accounting system under the proposed loan. UTY had agreed to regularly update the business plan produced in the first TA.

(v) **Pricing policies and traffic costing**. The RRP stated that the new accounting system would enable UTY to analyze its costs and relate them to traffic carried. UTY and the Government agreed to ensure that tariff levels would be adjusted regularly to enable UTY to meet its financial covenants. No agreement was made relating to the structure of tariffs and the new TA had no component for developing a traffic costing system despite the emphasis on the need for a revised structure of tariffs related to costs and market factors.

(vi) **Accounts receivable**. The RRP noted improvement in the issue of delays in accounts receivable, mainly from state-owned enterprises, and that the 3 month billings target would remain in the covenants.

(vii) **Staffing and assets reduction**. Good progress was made in reducing staffing levels ahead of target and UTY agreed to limit staff in the core railway to 40,000 by 2003 and 39,000 by 2004. Over 1,000 units of locomotives, passenger coaches, and freight wagons had been liquidated from the inventory in 1998 and 1999. Progress in implementing an ongoing 3-year program was being monitored.

(viii) **Development of a marketing function.** UTY had complied with the requirement to establish a marketing department with at least five qualified staff members in July 2000. It was noted that there was potential for developing the tourist market for the passenger business and that the new TA would provide assistance in this area.

(ix) **Human resource development.** The importance of an HRD function in the reform program was noted and UTY agreed to establish an HRD department by December 2000.

(x) **Mitigating negative impacts of staff reductions.** It was proposed that a Small Business Fund (SBF) be set up to help former UTY employees establish new businesses as part of an effort to mitigate the effect of expected redundancies. The forthcoming TA would help establish the practical arrangements for operating the SBF.

70. The proposed TA for the second railway loan comprised a number of components defined in the appendix to the RRP in the TOR titled "Facilitating the Development of the Railway Sector." The components are the following:

- (i) Assist the Government with updating the detailed action plan for the railway sectors to implement policy and institutional reform.
- (ii) Prepare a master plan for the physical development of the railway network.
- (iii) Prepare projections of the financial performance of UTY.
- (iv) Assist with making the SBF operational.
- (v) Advise on developing and marketing tourist passenger services.
- (vi) Investigate the environmental effects of soil salinity on railway infrastructure.

71. The rationale for this diverse set of components for the proposed TA was not made clear in the RRP. They do not relate clearly to the reform program prepared in the first TA. Only the first element is clearly related to institutional reform of the railway, and the wording of the TOR makes no explicit mention of the proposals from the previous TA or the nature and direction of the reform program that was to be implemented.

12. The Second TA for the Institutional Development of UTY

72. Work on the second TA started in May 2002 and was completed in January 2003. The Government's position on the restructuring plan for UTY appears to have changed around the time of the submission of the RRP. The Government formed in October 2000 a Commission on Railway De-monopolization and Denationalization, and in March 2001 issued a series of decrees that identified four major components of the railway industry:

- (i) the natural monopoly elements comprising infrastructure, traction, and train control which were to remain under state ownership in UTY;
- (ii) potentially competitive elements including freight and passenger services and noncore enterprises, which could be privatized;
- (iii) social services that should be separated from UTY; and
- (iv) regulatory functions that should be carried out by government.

73. The decrees required the separation and privatization of five noncore enterprises (the passenger business, refrigerated services, a container services business, wagon repair, and passenger coach repair) plus some 45 small and medium-sized enterprises. This arrangement left the great majority of freight services within UTY.

74. The status of UTY also changed from a state joint stock company (SJSC) to an open joint stock company (OJSC) reporting to a supervisory board.

75. Thus, the consultants for the second TA faced a policy environment that was different from that faced by the earlier consultants, who had worked on the basis of the RRC's proposals in 1997. The consultants noted that the Government appeared to be moving toward a form of vertical separation similar to that adopted by European railways although a commitment to competitive access on UTY's network had not been made. The consultants, however, commented that the boundary of the monopoly element of the railway had been drawn too broadly by including locomotive and wagon supply, and they recommended that this boundary be redrawn.

76. The discussion in the consultants' report of the intention of the Government at the time revealed a high degree of uncertainty over the future direction of the railway restructuring policy. The consultants stated that the current restructuring "presently leaves almost all the core

transport functions apart from passenger services within UTY. It does not commit UTY to a more fundamental separation of above-the-rail train operations from infrastructure on the European model, nor does it foreclose either that option or the eventual privatization of UTY as an integrated enterprise."

77. The consultants noted that the separation of the passenger business was a useful first step, but that the primary purpose of this "has been to isolate the loss-making [sic] service, hopefully leading to resolution of the subsidy issues." The four other businesses separated for privatization were not part of the core railway, and played a relatively small role in providing transport services. The consultants noted also that to implement a more fundamental restructuring, there should be a considerable development of the accounting and management information systems, and of policies and systems for costing traffic and pricing access to infrastructure.

78. The consultants commented that, although regulatory functions had been separated and assigned to the government, there was still potential confusion and overlap in economic regulatory responsibilities within the government with the powers of the Anti-Monopoly Committee potentially conflicting with broader powers over price regulation.

79. Against this background, the consultants focused their work on developing privatization strategies for the five enterprises that had been identified as potentially competitive to assist in meeting the Government's stated objectives in the reform process so far. Each of the five enterprises faced different conditions in terms of competitiveness, market power, and public policy issues. The passenger business needed a clear resolution of the subsidy issue to support loss-incurring services before it could be privatized. The refrigerated services business had equipment that effectively limited it to the markets in the Commonwealth of Independent States (CIS). The container services business had a franchise with UTY, but had a limited amount of equipment and facilities. It competed with other container operators and would need substantial investment to enable it to become a full-fledged rail container service provider. The wagon repair business was almost wholly dependent on UTY for its market although there was some potential for a wider market. The passenger coach repair business was a new enterprise that had been equipped under a Japanese loan. It was largely dependent on the passenger business, which in turn was dependent on future subsidy policy from the Government or UTY.

80. The consultants presented strategies for privatizing each of the businesses and provided additional advice on the relationship between the businesses and UTY with regard to contractual arrangements, pricing, and the treatment of liabilities. They also gave a broad range of high-level advice on how competition could develop within the railway industry, including some principles for pricing access to infrastructure, regulatory requirements, and advice on accountability and productivity issues, and on regional rail and investment strategy. The advice, however, was made against the background of the uncertain policy environment described earlier, and it was unclear how relevant it would prove to be to the future intentions of the Government and UTY.

13. Progress in Implementing Restructuring Plans

81. In 2006 consultants reviewed progress in implementing restructuring plans for UTY as part of project preparation for a third ADB loan. The Government and UTY later declined the loan, and the proposed project did not materialize.

82. The consultants highlighted the progress made in separating the social services and ancillary enterprises from UTY. They also mentioned policy regarding the pricing regime, financial accounting systems and business plans, reducing staff, and downsizing assets. They noted the establishment of the RRC in 1997 and the Railway De-monopolization and Denationalization Commission in 2000, but they did not mention the original recommendations of the RRC—which had formed the basis of the work in the first TA—and the differences in the proposals made by the two bodies. They stated that "UTY has been active in addressing all these areas, but the restructuring of the subsector is still very much a work in progress." They did not elaborate on the difficulties being experienced in implementing policy.

83. In Appendix 3 of the consultants' report, relevant sections of which are reproduced as Annex 1, the consultants summarized progress in implementing their own restructuring plans and in the recommendations of the two TAs.

84. The consultants reviewed the status of the recommendations in the first TA. They claimed that the four business units (freight, passenger, rolling stock, and infrastructure) had been formed. Only the passenger business, however, had been formed as a discrete unit. There was no recognizable freight business unit in the organizational structure that the consultants presented in Appendix 9 of their report, and the structure for managing rolling stock and infrastructure was much as it had always been. They were functional departments within UTY's organizational structure. Neither were the accounting and management information systems nor contractual arrangements in place to manage these businesses as business units. The consultants noted that the regional structure remained in place although it had been recommended that it be dismantled as part of the creation of the four businesses.

85. The consultants identified little progress in implementing the other elements of the comprehensive reform program prepared in the first TA. Marketing departments had been formed, but they carried out only a limited range of marketing functions and had little impact on the activities of the other departments of UTY. No progress had been made in developing a traffic costing system. Accounting standards remained on a national basis. The process for implementing the new computerized accounting system was still being prepared. The downsizing of assets had stalled, and reductions in staff had ceased since traffic levels had stabilized. There was no support in UTY for most of the operational changes recommended in the first TA, such as consolidating freight operations and rolling stock repair; and only limited progress with other measures to improve efficiency. Progress in privatizing noncore enterprises had been limited.

86. Similarly, the consultants reported little progress in implementing the recommendations of the second TA. The consultants made no mention of the implementation of the privatization strategies for the five new businesses, but at that time none of them had been privatized. The proposal to remove locomotives from the scope of UTY's monopoly supply was not accepted. There was no formal process for determining losses from passenger services and no competitive tendering of loss-incurring passenger services. Access of independent operators to infrastructure was not being considered, and no mechanism for pricing access had been developed in the absence of a computerized accounting and costing system.

14. UTY in 2010

87. In practice, relatively few of the reforms recommended in the two ADB-financed TAs have been carried out in the 10 years since the original master plan and reform program were prepared in the first TA. In fact, the status of UTY remains broadly as reported in 2006, and as

shown in Figures A4.1 to A4.2. The main achievement has been UTY's withdrawal from most of the ancillary activities it previously carried out. UTY was able to meet its covenants with ADB relating to reduction in staffing levels, but is currently increasing staff as demand for freight and passenger services has grown. The consultants for the first TA estimated in 2000 that efficient levels of staffing in 2010 would be 28,500. One of the five businesses created by the March 2001 decree has now been partially privatized. A 49% stake in the refrigerated services business has been sold to a Korean company, with UTY still holding a 51% stake.

88. New computerized accounting systems have been implemented, but UTY reports they have had considerable difficulties in adapting these systems to their requirements, and the improvements in information management are yet to be achieved. UTY has not adopted IAS because the law requires the use of national standards for preparing accounts for tax and other reasons. Attempts to prepare a parallel set of accounts to IAS standards have not been successful, partly because the accounts were qualified as a result of continuing problems with accounts receivable, mainly from state-owned enterprises.

89. A Marketing Department exists in UTY, but it carries out few of the activities that would normally be associated with marketing such as product analysis and specification, pricing analysis, customer relationship, and surveys of customer needs. It carries out mainly market analysis to understand market trends and developments. It also deals with international agreements and has other functions relating to asset management that have little to do with marketing.

90. According to the 2006 review of reforms, UTY had suspended further reductions in the rolling stock fleet, and it appears that UTY has not reduced its asset levels to the extent proposed by the consultants in 2000. The draft business plan in 2000 proposed (i) reducing the wagon fleet by about 70%, (ii) reducing the diesel locomotive fleet by about 85%, (iii) increasing the electric locomotive fleet by about 60%, and (iv) reducing the passenger coach fleet by about 30%

91. Furthermore, the other operating efficiencies proposed in the reform program in 2000, such as consolidating freight operations into fewer freight centers and fewer workshops for repair of rolling stock, have not been carried out.

92. Most importantly, UTY did not carry through the structural reforms for establishing a business-led organization by creating freight and passenger business units and infrastructure and rolling stock service units, as proposed by RRC and the Government up to 2000 and endorsed, with modifications, by the consultants for the first TA. Neither does it appear to be any commitment to implement a vertically separated model for restructuring UTY, with competitive access by independent operators as implied by government policy after 2001. The basic organization structure of UTY has changed little in the past 10 years. It is still based on a regional structure dominated by the engineering and operational functions delivering train services. There is no focus on the structure for a business-led railway with an emphasis on profit production. Pricing is still set by the Economics Department with little understanding of the detailed cost drivers of traffic or market-based prices although there seems to be work on pricing access to infrastructure for passenger services. Marketing is still a relatively passive function, and planning is primarily about developing asset investment plans and train operations plans.

93. Overall, the judgment of the consultants in 2006, that restructuring is very much work in progress, appears to remain valid in 2010. There is a long way to go to create the kind of business-led and market-oriented railway envisaged at the start of ADB's involvement in 1997.

15. Review of the Reform Program Overall

94. The overall results of the railway reform program after 10 years have been modest in achieving significant change in the way the core railway is structured and managed. The main achievement has been the "unbundling" of UTY to remove nearly all the ancillary services from the core railway operation. Such slow progress is not, however, uncommon among railways. Typically, several attempts are made at reform before any fundamental change can be achieved.

95. The Government's establishment of an RRC in 1997 was a good start to reforming UTY. The approach was similar to that adopted in many other countries contemplating major restructuring of the railways. The broad plan produced by the RRC seems to have been sound, but it needed further definition of the roles and relationships of the proposed new businesses and the Government to complete the conceptual framework before beginning the design work. Too much may have been open to interpretation in the RRC's high-level plan, so it seemed that the debate on the fundamental structure continued between the Government and UTY while the first TA was being carried out. The decision in 1999 to create 10 regional transportation directorates and to delay the creation of the new businesses signaled a departure from the RRC plan. It indicated a lack of commitment to a coherent plan for restructuring, since a strong regional organization did not appear consistent with the original concept. However, ADB appeared not to have addressed this apparent conflict at the time.

96. The TOR for the first TA was ambitious in scope. It required a master plan for institutional development, a draft corporate plan, as well as some detailed work in finance and marketing. The consultants successfully carried out the TOR and produced a comprehensive set of recommendations for a broad program of reform. This program appears to have been appropriate to support and carry forward the recommendations of the RRC. However, the degree of definition in some of their recommendations was necessarily limited by the scope and resources for the work.

97. Thus, in the crucial area of structural change, the first TA built on the proposals of the RRC and made some important recommendations with regard to the roles and status of the proposed new business units and the need to dismantle the regional organization. These recommendations, however, were not explained in detail, and some of the organizational concepts discussed relating to the rationale for business units and service units may not have been familiar to managers whose background was in the Soviet era. For such fundamental recommendations, a more thorough explanation might have been expected unless they had already been accepted by the Government and UTY. This appears not to have been the case, judging from subsequent events.

98. International experience suggests the need for considerable debate and discussion of the rationale and implications of major organizational change to enable all relevant parties to understand and accept the proposals. While the consultants had close working relations with UTY staff in the areas of focus, finance, and marketing, it is not clear if they had the time and resources to participate in a higher level debate with Government and UTY management to explain all their proposals in the detail required. Thus, they may not have been able to achieve sufficient "ownership" of their proposed reform program.

99. It seems that while the consultants were working, the status of the proposals from the RRC was unclear. As the consultants state in their report ”the Government and UTY management are having some difficulties in deciding on the approach to restructuring that will be most appropriate.” This was confirmed when, soon after the work was completed, the Government formed a new Commission on Railway De-monopolization and Denationalization, which produced a different set of proposals for railway restructuring.

100. The RRP for the second loan prepared in October 2000 did not indicate that the Government was contemplating any change in the direction of structural reform. The RRP confirmed the Government’s commitment to reforms and restructuring” as well as those agreed [upon] under the proposed project.” It was not made clear how much of the detailed reform program proposed by the first TA had been accepted by the Government and UTY. In the end, it was clear from the consultants’ review of progress with the reform program in 2006, and also the current situation in 2010, that very few of the original consultants’ recommendations in 2000 for structural and operational reform within UTY’s core business had been accepted and implemented.

101. It is probable that the change in direction of the policy on structural reform of UTY proposed by the second government commission in 2000, with its emphasis on competition and privatization, meant that the momentum for the reform program set out by the consultants in the first TA was lost. It is not clear from the second RRP in 2000 how much discussion took place between ADB and the Government about the specifics of the reform program. It seems there were changes in ADB staff at the time that may have made it difficult to pursue the specific proposals in the reform program in detail. Instead, the RRP for the second loan and TA highlighted a number of specific issues which, while important, did not encompass the totality of the reform program proposed by the first TA. It is possible that this loss of momentum was inevitable if the debate within the Government and UTY was not at a stage where there could be agreement on an overall restructuring plan that would provide a framework for the reform program. The RRP, however, did not indicate such doubts, and thus reassessment of the direction of the reform program at that point did not ensure that the objectives could be achieved.

102. The TOR for the second TA appeared to confirm this lack of strategy, because it comprised an apparently unrelated set of tasks without a clear overall framework and objectives for the reform program. The TOR refer to assisting with ”updating the detailed action plan for the railway to implement policy and institutional reform,” but the only plan available at the time was the proposals from the Commission on De-monopolization and Denationalization. As the consultants subsequently reported, the proposals were loosely defined to enable the Government to implement either a very limited program of reform, or a major structural change-based vertical separation of the railway. As the Government’s intentions at the time were not clear, the consultants pragmatically focused on developing privatization strategies for the five largest of the businesses that had been separated from UTY and identified for privatization. These strategies highlighted the limited attractions of these businesses for privatization, and in the end only one recently found a private sector partner. Since the core freight business remained integrated within the original regional and functional structure of UTY, the impact of separating the businesses was limited.

103. The TA programs had three recurring themes: (i) the Government needs to provide compensation for loss-incurring services, (ii) the finance function must be strengthened, and (iii) a marketing department must be established. Despite agreeing to the principle of specific compensation for operating loss-incurring services, the Government has not developed a mechanism for doing so beyond the general funds it provides to support strategic investment.

There appears to be no will within the Government to address this issue, and until there is a financial imperative arising from an obvious deterioration in UTY's financial capability to support passenger services, the Government is likely to avoid the issue.

104. New financial systems have been implemented, but they appear to still be experiencing teething problems, and have not yet led to major changes in the financial management of UTY or in
the use of management information. ADB has consistently included the adoption of IAS in the covenants of the loan agreements. The practicality of this requirement, however, is open to question while UTY is required by law to prepare its accounts to national standards. Attempts have been made to prepare accounts in both national and international standards, but the auditors have qualified the accounts on each occasion. A change in the law may be required to allow the full adoption of IAS to become part of the financial management of the business. Such a change in the law is likely to have ramifications beyond UTY.

105. A marketing department exists but carries out only a limited range of functions, and does not have a major influence on key product and pricing decisions. This lack of progress is not surprising, given the loss of impetus and loss of direction of the overall restructuring program. Establishing a marketing department is not enough for it to have a real impact on the business. Its role and functions must be defined clearly in the organizational structure for it to have an impact on the management of the business. It does not appear that ADB addressed this issue during the program. There now appears to be no clear policy for restructuring the core railway and it continues to operate within broadly the same organizational structure it had 10 years ago.

106. One of the reasons is that change may no longer be seen as a pressing need. In 1997, UTY needed to adjust to a large loss of traffic and revenue and the prospects of major changes in the economy. The traffic and revenue position later stabilized and has since improved so that the need for change is not felt so sharply. The continued use of national accounting standards means that inadequate maintenance and investment provision may not be evident in the financial results of the business, thus contributing to a lack of urgency in making change. UTY continues to enjoy a monopoly for much of its traffic, so the costs of any inefficiency can be passed on to customers. In addition, the conservative culture in most railways makes the management averse to radical change, unless there is a pressing reason. This resistance may be pronounced in the face of the vertical separation model—which appeared to be the direction of policy after the government commission in 2001—since that model has not had a record of international success .

107. There remains the question of whether ADB could have achieved different results by different means. It seems the fundamental reason for the failure to achieve major reform in the core railway business of UTY was a lack of certainty and direction in Government policy on the structure of the railway. This came to the fore in 2000 when the second loan was being prepared, when the Government changed direction from the original structural proposals of the RRC. The logic of the proposals from the second government committee seemed to be toward vertical separation of the railway, privatization, and competition. If there was such a commitment, it would raise many fundamental questions of practicality, given the experience with this approach in Europe. It is unclear how much the issues relating to vertical separation were debated within the Government and UTY but, in any case, there has been little progress in this direction.

108. The second RRP in 2000 does not reflect the uncertainty over the direction in the Government's strategy. It does not confirm what current Government policy is with respect to

structure; neither does it attempt to build comprehensively on the reform program prepared in the first TA. Instead, the TOR for the consultants' work at this time has the vague title "TA for Facilitating Development of the Railway Sector." It has only one component related to structural and institutional reform, and no guidance is given on the policy direction of this reform.

109. At this time, there might have been loss of an opportunity to influence the direction of the restructuring of UTY, or to better define the proposals coming out of the Government's committee, so that a practical and implementable restructuring plan could have been developed. Much would have depended on the attitude of the Government and UTY toward such an intervention. But given the lack of definition in the proposals that were produced and the quandary that the consultants for the second TA found themselves in, which is reflected in their report, this would have been a more effective approach than the result of the work that was commissioned. The failure of this work to have an impact was not the fault of the consultants, whose work was sound; the fault was the lack of a clearly defined policy for restructuring UTY. At that time, ADB should have chosen one of two options: (i) providing assistance to fill that gap by developing a coherent restructuring plan, working closely with the Government and UTY at the strategic level; or (ii) redirecting the program toward a strategy for incremental change strategy within the existing structure of the railway using, as a basis, the components of the reform program that had already been defined in the first TA.

110. Without a well-defined policy and direction for the restructuring program for the railway after 2000, the other requirements for effective reform are not relevant. The Government was unlikely to launch an implementation program for major structural change when the initiatives proposed were only the privatization of a few relatively small businesses with weak business prospects. Had the Government accepted the proposals from the first TA, there would have been a need for the kind of implementation effort that has been used to restructure other railways internationally, including a structure of high-level joint Government/UTY committees supported by committees and working groups to design and oversee the implementation of specific elements of the restructuring and reform program.

111. Many of the reforms from the first TA relating to financial strategy—business planning, operational improvements, marketing, tariff reform, training, and manpower—could have been implemented even without major structural reform of the core railway. Thus, an alternative approach that ADB could have pursued, in the absence of clarity on overall structural policy, would have been to support incremental change through these individual initiatives. This might have maintained the momentum for change and would have been a lower-risk strategy than forcing the issue of structural change, which is always contentious. It is not clear why the second RRP in 2000 was silent on most elements of the reform program. If there were elements that UTY had not accepted then, they could have been dropped from the implementation program, or further work could have been commissioned to demonstrate the need and efficacy of the proposals, or new elements could have been proposed.

112. In reality, ADB pursued neither the strategy to develop a restructuring policy, nor one to implement relevant elements of the reform program, except for the accounting systems implementation project. When, in 2006, the consultants considered the possible components of another TA, they appeared to have abandoned the idea of supporting reform of UTY. The consultants' report did not discuss the implications of the failure to make progress with structural and institutional reform. Instead, they switched focus by proposing a TA to promote regional railway cooperation through a regional rail master plan study. The Government, however, refused the loan and no new projects were initiated.

D. Summary of Lessons

113. The major lessons that could be drawn from this experience and the international experience of railway reform are as follows:

(i) To be successful, a comprehensive reform program must have a clear overall restructuring plan for the railway and a firm commitment of the Government and the railway management to that plan.

(ii) If the policy direction does not exist, ADB should face the implications of an uncertain policy environment in pursuing institutional reform. For instance, TA could be used to analyze and evaluate the restructuring options that the Government is considering, to facilitate the debate with stakeholders and to decide on the preferred option. Or TA might be used to develop and clearly define a specific high-level restructuring approach that the Government is considering. In this way the implications of the option can be tested and properly evaluated.

(iii) The preferred structural option must be defined in sufficient detail to ensure that it is not open to different interpretations. Otherwise, the structural debate is likely to continue and thus confuse the design and implementation work.

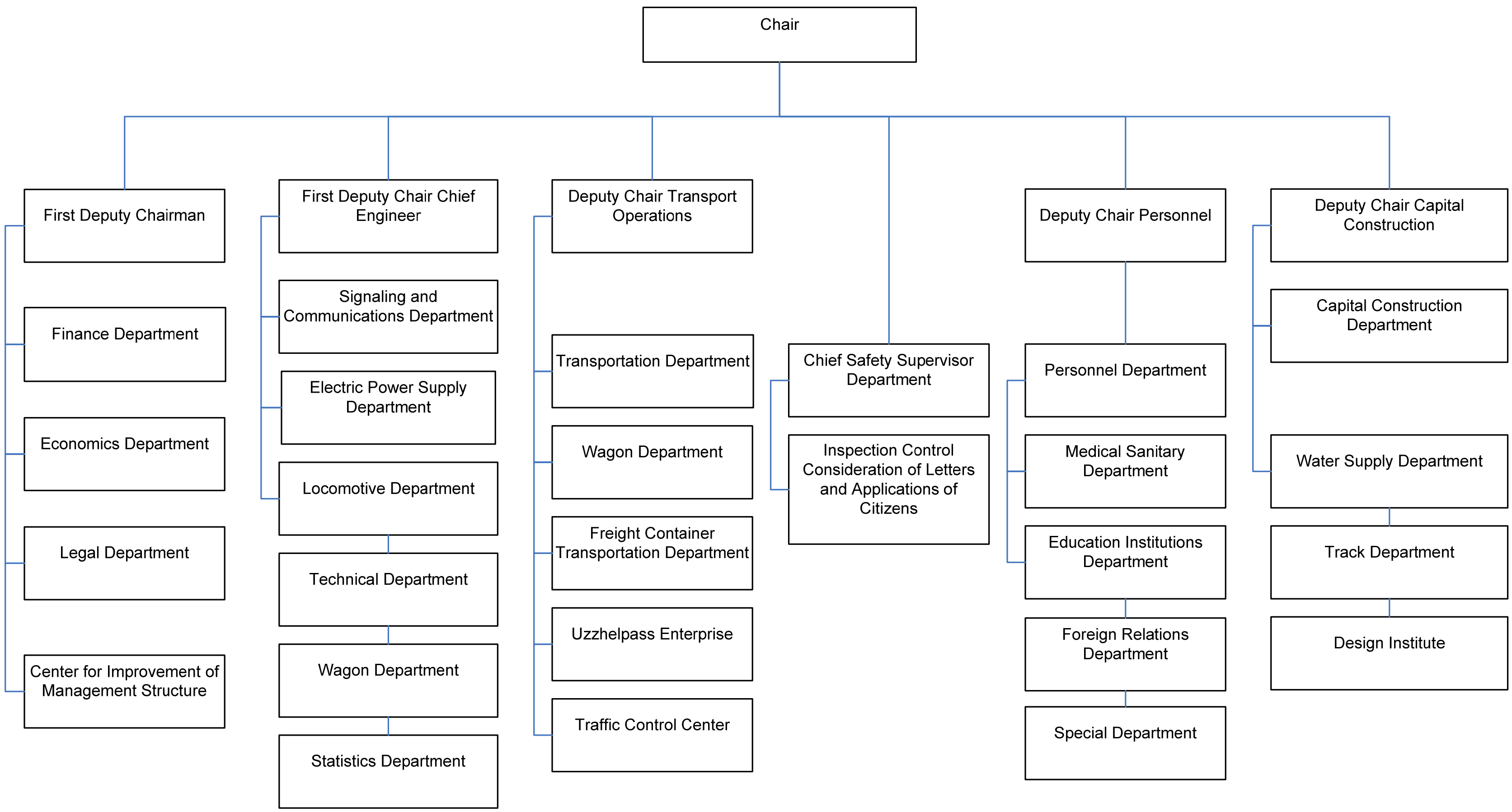
(iv) If consultants are used to help provide restructuring advice, they should develop their proposals while working jointly with railway management to establish ”ownership” of the proposals. The proposals can then be presented to the Government by a joint management-adviser team. This approach will need greater resources than if external advisers alone develop restructuring proposals and then present them to a steering group. Consultants should be given sufficient time to contribute fully to the debate on structural options and to address issues as they arise, rather than to present a single solution.

(v) If, in the course of the program, the direction of the restructuring policy becomes uncertain, ADB should recognize and address that uncertainty. This may require either backtracking to revisit structural options to obtain clarity on policy, or proceeding with some elements of reform that are less sensitive to structure.

(vi) An incremental change to reform within an existing structure is a valid approach if it is judged that the risk of initiating structural change at the time could be greater than the benefits. A reform program can be designed to introduce process and management improvements incrementally, but it should be designed with care to ensure that the linkages within the system are recognized. Some forms of restructuring can also be carried out incrementally, provided there is a clear policy at the end point.

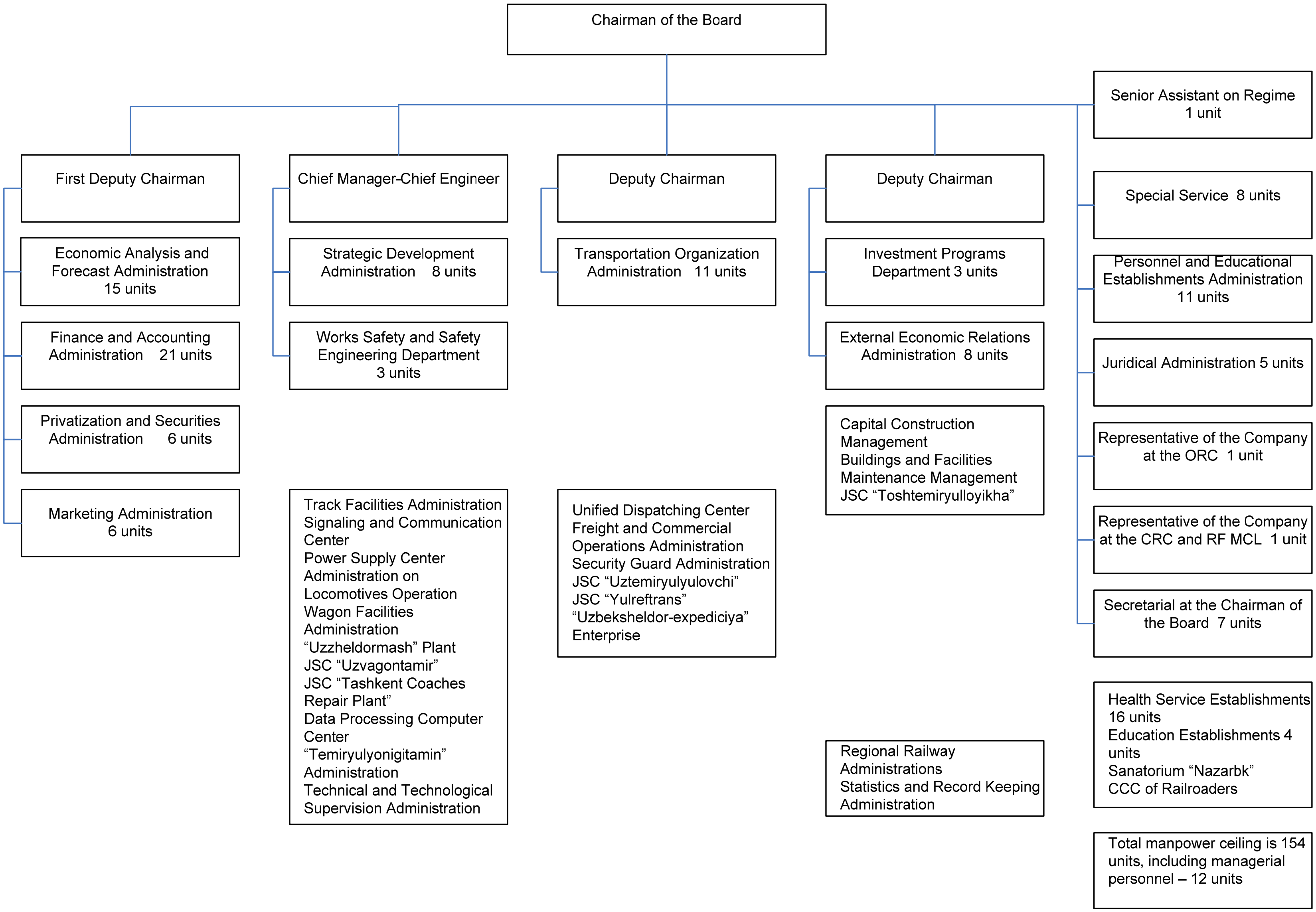
(vii) The risk of an incremental change approach, which addresses a few specific areas for improvement while leaving the rest alone, is that it does not gain sufficient momentum to embed effective improvements in performance overall. Railways operate as a system and often are only as strong as their weakest link.

Figure A4.1: Organization of Uzbekistan Temir Yullari, 2000



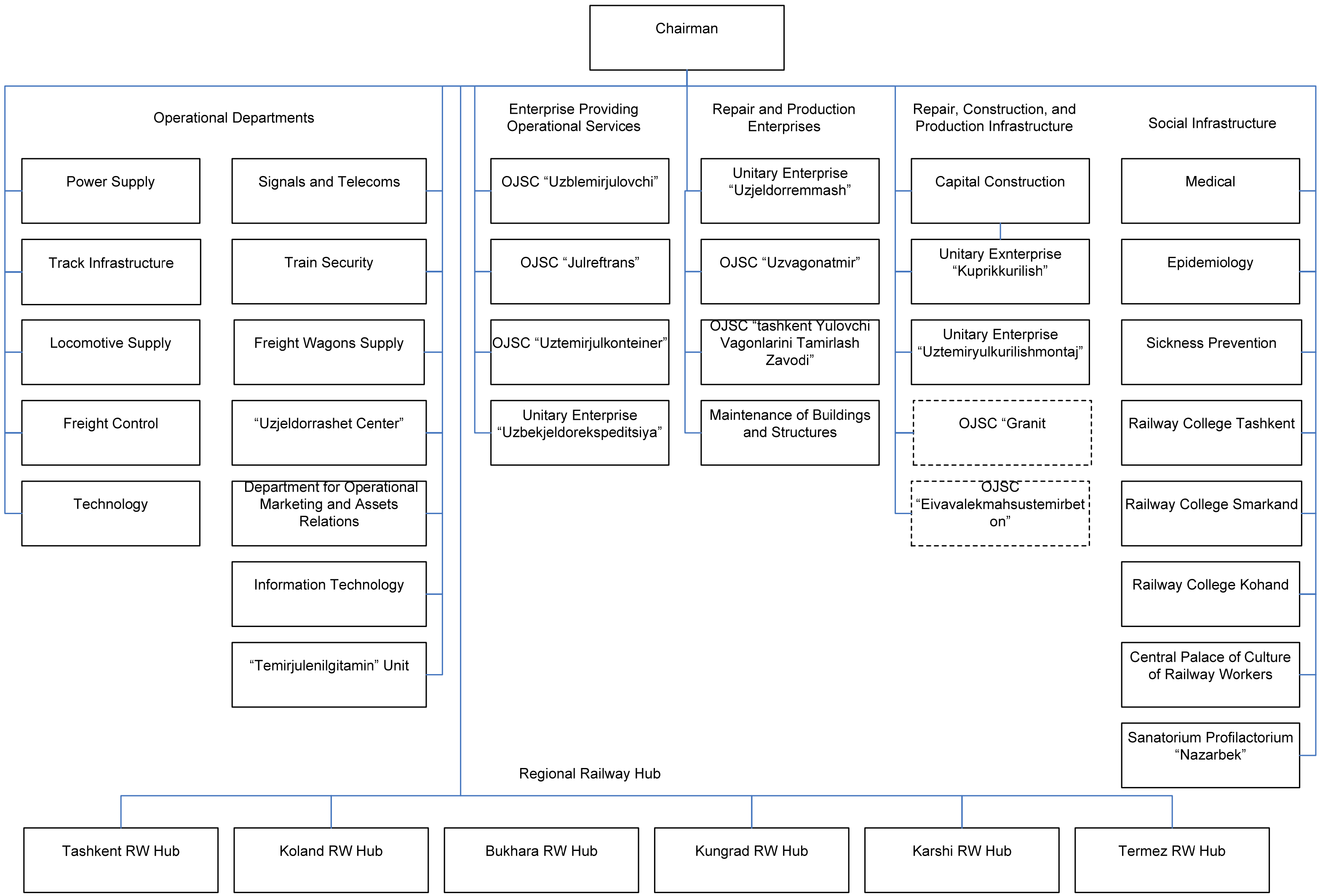
Source: Uzbekistan Temir Yullari.

Figure A4.2: Structure of Management Personnel of the SJSRC Uzbekistan Temir Yullari, 2006



Source: Uzbekistan Temir Yullari.

Figure A4.3: Organizational Structure of the JSC Uzbekistan Temir Yullari, 2010



Source: Uzbekistan Temir Yullari.

FINANCIAL AND ECONOMIC ANALYSES

1. The evaluation obtained the Microsoft Excel model used in the financial and economic analyses of the second project completion report (PCR). The evaluation attempted but was unable to obtain the model used in the first PCR. After reviewing the model in the second PCR, the evaluation confirms the validity of that model, and so uses it to calculate the financial internal rate of return (FIRR) and economic internal rate of return (EIRR) for each project. Appendixes 8 and 9 of the second PCR discuss the financial and economic models, including the basic assumptions and parameters for each model. This appendix discusses how the model was adapted to the first project, and how it was updated for the second project.

A. Adapting and Updating the Model from the Second Project Completion Report

2. The first and second railway projects are very similar; each involved the same kind of track rehabilitation along two segments of a single railway line. The benefits and costs for each project should therefore be the same, differing only in size depending on the length of each segment and any differences in freight and passenger traffic. The evaluation analyzed the model used to estimate benefits and costs in the financial and economic analyses of the second project, and identified parameters that differed between the two segments. Table A5.1 lists the benefits and costs for the financial and economic analyses, and the parameters that differed for each railway segment.

Table 5.1: Parameters in the Financial and Economic Analyses for Each Segment

Item	Type of Benefit/Cost	Parameters	Parameter Values	
			Tashkent–Samarkand	Samarkand−Bukhara
Finance	Incremental operating cost	% system freight on segment	50	33
	Incremental revenue	% system freight on segment	50	33
	Track cost savings	Segment length (km)	372	338
	Operating cost savings	% of system cost for the segment	50	25
Economics	Residual value	Segment length (km)	372	338
	Routine maintenance	% of system cost for the segment	50	25
	Periodic maintenance	Segment length (km)	372	338
	Maintenance savings	Segment length (km)	372	338
	Operating cost savings	% of system passengers on the segment	50	25
		average haul length (km)	272	247
	Passenger time savings	% of system passengers on the segment	50	25
		change in travel time on the segment (hours)	2.1	2.5

Source: ADB. 2008. *Completion Report: Railway Modernization Project*. Manila.

3. The financial and economic model used in the second PCR estimates several of its benefits and costs based on freight and passenger traffic in the system, applying a fraction of system traffic to the Samarkand−Bukhara line. This system-based approach was necessary because traffic data on the Samarkand–Bukhara line was not collected during project implementation, and was otherwise not available from Uzbekistan Temir Yullari (UTY). (The performance indicators for each project included only traffic data for the system, and not for the Tashkent–Samarkand–Bukhara segments; see the performance indicators in Appendix 1). Applying the model to the first project therefore required using the fraction of system traffic from Tashkent–Samarkand for the same item in Samarkand–Bukhara.

4. Without details on the analysis in the first PCR, the evaluation was unable to replicate the PCR's project cost estimates. The evaluation therefore re-estimated the time distribution of project costs (Table 5.2).

5. The evaluation applied the model to the second project by updating the traffic data. The PCR used forecasts of freight and passenger traffic for 2007 to 2009. The evaluation substituted actual traffic for the forecasts of those years, and recalculated the FIRR and EIRR. The PCR's forecasts were close to actual values, and so the FIRR and EIRR changed very little in the updating.

B. Results

6. The streams of benefits and costs for the financial and economic analyses are shown in Tables A5.3 through A5.6. The FIRR from the first project is 29.9%, well above the 4.5% recalculated in the second PCR, the 12.7% estimated at appraisal, and the 11.7% estimated in the PPTA. The FIRR from the second project is 7.4%, slightly above the 7.3% recalculated in the second PCR, but below the 8.7% estimated at appraisal and the 9.4% estimated in the PPTA. The EIRR for the first project is 38.7%, much higher than the 14.3% recalculated in the PCR and the 17% estimated at appraisal, but below the 45.6% estimated in the first PPTA. The EIRR for the second project is 17%, slightly higher than the 15.9% in the PCR and in the PPTA study, but matching the 17% estimated at appraisal.

Table A5.2: Re-estimated Time Distribution of Project Costs
($million)

	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Project Cost	32.01	74.65	23.47	0.36	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Incremental Operating Cost	0.00	0.00	3.03	11.55	20.52	11.89	13.89	12.08	9.27	11.17	13.15	15.19	17.30	19.48	21.74	24.07	26.49	28.99
Total Cost	32.01	74.65	26.50	11.91	20.52	11.89	13.89	12.08	9.27	11.17	13.15	15.19	17.30	19.48	21.74	24.07	26.49	28.99
Incremental Revenue	0.00	0.00	5.40	20.53	36.48	21.14	24.69	21.48	16.48	19.87	23.37	27.00	30.75	34.63	38.65	42.80	47.10	51.54
Cost Savings Track	0.00	0.00	1.57	1.60	1.63	1.67	1.70	1.73	1.77	1.80	1.84	1.88	1.91	1.95	1.99	2.03	2.07	2.11
Cost Savings Operations	0.00	0.00	1.06	1.22	1.39	1.23	1.27	1.31	1.20	1.23	1.27	1.31	1.35	1.40	1.44	1.49	1.53	1.58
Total Revenues	0.00	0.00	8.03	23.35	39.51	24.04	27.66	24.52	19.44	22.90	26.49	30.19	34.02	37.98	42.08	46.32	50.70	55.24
Net Revenues	-32.01	-74.65	-18.48	11.45	18.99	12.15	13.77	12.44	10.17	11.73	13.34	15.00	16.72	18.50	20.34	22.25	24.21	26.25

Source: Estimates of Independent Evaluation Mission.

Table A5.3: Financial Internal Rate of Return ($ millions)

(Loan 1631)

Year	Project Cost	Incremental Operating Cost	Total Cost	Incremental Revenue	Cost Savings Track	Cost Savings Operations	Total Revenues	Net Revenues
2000	56.4	0.0	56.4	0.0	0.0	0.0	0.0	-56.4
2001	1.0	8.1	9.1	14.4	1.7	1.9	17.9	8.8
2002	2.1	8.5	10.6	15.1	1.7	1.8	18.7	8.0
2003	4.7	11.8	16.4	20.9	1.8	2.2	24.8	8.4
2004	21.2	13.5	34.7	24.0	1.8	2.2	27.9	-6.7
2005	0.0	18.2	18.2	32.4	1.9	2.3	36.5	18.3
2006	0.0	32.9	32.9	58.4	1.9	2.7	63.0	30.1
2007	0.0	48.6	48.6	86.5	1.9	3.0	91.4	42.8
2008	0.0	33.7	33.7	59.9	2.0	2.7	64.5	30.8
2009	0.0	37.2	37.2	66.2	2.0	2.8	71.0	33.7
2010	0.0	40.9	40.9	72.7	2.0	2.7	77.5	36.5
2011	0.0	44.7	44.7	79.5	2.1	2.5	84.0	39.3
2012	0.0	48.6	48.6	86.4	2.1	2.5	91.1	42.5
2013	0.0	52.7	52.7	93.7	2.2	2.6	98.5	45.8
2014	0.0	56.9	56.9	101.1	2.2	2.7	106.0	49.2
2015	0.0	61.2	61.2	108.9	2.3	3.1	114.3	53.0
2016	0.0	65.7	65.7	116.8	2.3	3.3	122.4	56.7
2017	0.0	70.4	70.4	125.1	2.4	3.4	130.8	60.5
2018	0.0	75.2	75.2	133.7	2.4	3.5	139.5	64.3
2019	0.0	80.2	80.2	142.5	2.4	3.6	148.5	68.4
2020	0.0	85.3	85.3	151.7	2.5	3.7	157.8	72.5
							FIRR =	**29.9%**

Source: Estimates of Independent Evaluation Mission.

Table A5.4: Economic Internal Rate of Return ($ millions)
(Loan 1631)

Year	Project Cost	Routine Maintenance	Periodic Maintenance	Maintenance Savings	Operating Cost Savings	Time Savings Passengers	Total Cost	Total Benefits	Net Benefits
2000	49.8	0.0	0.0	0.0	0.0		49.8	0.0	-49.8
2001	0.9	0.1	0.0	2.9	8.0	3.5	0.9	14.4	13.4
2002	1.8	0.1	0.0	7.0	8.8	3.4	1.9	19.2	17.3
2003	4.6	0.1	0.0	11.9	8.8	3.6	4.7	24.3	19.6
2004	17.6	0.1	0.0	12.7	9.2	3.7	17.8	25.5	7.8
2005	0.0	0.1	0.0	13.4	9.3	3.8	0.1	26.6	26.5
2006	0.0	0.1	0.0	14.2	9.8	4.0	0.1	28.0	27.9
2007	0.0	0.1	0.0	15.1	11.2	4.2	0.1	30.4	30.3
2008	0.0	0.2	0.0	16.0	12.8	4.3	0.2	33.1	32.9
2009	0.0	0.1	0.0	16.9	11.3	4.5	0.1	32.7	32.6
2010	0.0	0.1	3.7	17.9	11.7	4.7	3.9	34.3	30.4
2011	0.0	0.1	0.0	19.0	12.0	4.9	0.1	35.9	35.8
2012	0.0	0.1	0.0	20.2	12.4	5.1	0.1	37.6	37.5
2013	0.0	0.1	0.0	21.4	12.8	5.3	0.1	39.5	39.3
2014	0.0	0.1	0.0	22.7	13.2	5.5	0.1	41.3	41.2
2015	0.0	0.1	0.0	24.0	13.6	5.7	0.1	43.3	43.2
2016	0.0	0.2	0.0	25.5	14.0	5.9	0.2	45.4	45.3
2017	0.0	0.2	3.7	27.0	14.5	6.1	3.9	47.6	43.7
2018	0.0	0.2	0.0	28.6	14.9	6.4	0.2	50.0	49.8
2019	0.0	0.2	0.0	30.3	15.4	6.6	0.2	52.4	52.2
2020	0.0	0.2	0.0	32.1	15.8	6.9	0.2	54.9	54.7
2021	-4.6	0.2	1.0	34.1	16.3	7.2	-3.4	57.6	61.0
							EIRR =		**38.7%**

Source: Estimates of Independent Evaluation Mission.

Table A5.5: Financial Internal Rate of Return ($ millions)
(Loan 1773)

Year	Project Cost	Incremental Operating Cost	Total Cost	Incremental Revenue	Cost Savings Track	Cost Savings Operations	Total Revenues	Net Revenues
2004	32.0	0.0	32.0	0.0	0.0	0.0	0.0	-32.0
2005	74.7	0.0	74.7	0.0	0.0	0.0	0.0	-74.7
2006	23.5	3.0	26.5	5.4	1.6	1.1	8.0	-18.5
2007	0.4	11.5	11.9	20.5	1.6	1.2	23.4	11.4
2008	0.0	20.5	20.5	36.5	1.6	1.4	39.5	19.0
2009	0.0	11.9	11.9	21.1	1.7	1.2	24.0	12.1
2010	0.0	13.9	13.9	24.7	1.7	1.3	27.7	13.8
2011	0.0	12.1	12.1	21.5	1.7	1.3	24.5	12.4
2012	0.0	9.3	9.3	16.5	1.8	1.2	19.4	10.2
2013	0.0	11.2	11.2	19.9	1.8	1.2	22.9	11.7
2014	0.0	13.1	13.1	23.4	1.8	1.3	26.5	13.3
2015	0.0	15.2	15.2	27.0	1.9	1.3	30.2	15.0
2016	0.0	17.3	17.3	30.8	1.9	1.4	34.0	16.7
2017	0.0	19.5	19.5	34.6	2.0	1.4	38.0	18.5
2018	0.0	21.7	21.7	38.6	2.0	1.4	42.1	20.3
2019	0.0	24.1	24.1	42.8	2.0	1.5	46.3	22.2
2020	0.0	26.5	26.5	47.1	2.1	1.5	50.7	24.2
2021	0.0	29.0	29.0	51.5	2.1	1.6	55.2	26.2
							FIRR =	**7.4%**

Source: Estimates of Independent Evaluation Mission.

Table A5.6: Economic Internal Rate of Return ($ millions)
(Loan 1773)

Year	Project Cost	Routine Maintenance	Periodic Maintenance	Maintenance Savings	Operating Cost Savings	Time Savings Passengers	Total Cost	Total Benefits	Net Benefits
2004	30.4	0.0	0.0	0.0	0.0	0.0	30.4	0.0	-30.4
2005	70.9	0.1	0.0	2.6	5.1	2.0	71.0	9.7	-61.3
2006	22.3	0.1	0.0	6.4	5.4	1.9	22.4	13.7	-8.7
2007	0.3	0.1	0.0	10.8	6.2	2.0	0.4	19.1	18.7
2008	0.0	0.1	0.0	11.5	7.1	2.1	0.1	20.7	20.6
2009	0.0	0.1	0.0	12.2	6.3	2.1	0.1	20.6	20.5
2010	0.0	0.1	0.0	12.9	6.5	2.2	0.1	21.6	21.5
2011	0.0	0.1	0.0	13.7	6.3	2.3	0.1	22.3	22.2
2012	0.0	0.1	0.0	14.5	6.0	2.4	0.1	22.9	22.9
2013	0.0	0.1	0.0	15.4	6.2	2.5	0.1	24.1	24.0
2014	0.0	0.1	3.4	16.3	6.4	2.6	3.5	25.3	21.8
2015	0.0	0.1	0.0	17.3	6.6	2.7	0.1	26.6	26.5
2016	0.0	0.1	0.0	18.3	6.8	2.8	0.1	27.9	27.9
2017	0.0	0.1	0.0	19.4	7.0	2.9	0.1	29.4	29.3
2018	0.0	0.1	0.0	20.6	7.2	3.1	0.1	30.9	30.8
2019	0.0	0.1	0.0	21.8	7.4	3.2	0.1	32.4	32.4
2020	0.0	0.1	0.0	23.1	7.7	3.3	0.1	34.1	34.0
2021	-4.2	0.1	3.4	24.5	7.9	3.4	-0.7	35.9	36.6
								EIRR=	**17.0%**

Source: Estimates of Independent Evaluation Mission.

7. The sensitivity analysis in the second PCR showed that the FIRR and EIRR were not sensitive to changes in traffic growth or operating costs, two of the main factors driving benefits and costs. The evaluation tested the sensitivity of the model to the parameters unique to each segment (Table A5.7). The FIRR and the EIRR are not significantly affected by changes of +/-10% in the parameters for each segment. The values of some of the parameters are in percent, and those parameters were changed by 10 percentage points; for example, from 25% to 15%. A change of 10 percentage points is a large change, but nonetheless the rates of return are not significantly affected.

Table A5.7: Sensitivity Analysis of the Parameters Applied to Each Line

	Tashkent–Samarkand				**Samarkand–Bukhara**			
	FIRR		**EIRR**		**FIRR**		**EIRR**	
Parameter	-10%	+10%	-10%	+10%	-10%	+10%	-10%	+10%
% system freight on segment	26.2	33.4	36.1	41.3	4.1	10.2	15.3	18.6
% system passengers on segment	31.3	28.7	39.6	37.9	7.4	7.4	16.0	18.4
Average haul length (%)	28.5	31.1	37.7	39.6	6.5	8.5	16.5	17.6
% system cost on segment	29.5	30.4	38.7	38.7	6.9	7.9	17.0	17.0
Time savings on segment (%)	29.9	29.9	38.1	39.3	7.4	7.4	16.7	17.2
Base case	29.9%		38.7%		7.4%		17.0%	

Source: Estimates of Independent Evaluation Mission.
EIRR = economic internal rate of return, FIRR = financial internal rate of return.

QUESTIONNAIRE FOR PASSENGER SURVEY

1. The evaluation surveyed passengers traveling between Tashkent and Gulistan, and Tashkent and Samarkand. Each segment was surveyed once a day in each direction over 7 days in July 2010. One passenger car per class was selected and all passengers in the selected car were surveyed. Enumerators hired by the evaluation and supervised by UTY officials administered the survey. For the Tashkent–Gulistan survey, 973 responses were obtained (482 traveling to Tashkent, and 491 traveling to Gulistan). For the Tashkent–Samarkand survey, 1,306 responses were obtained (639 traveling to Samarkand, and 667 traveling to Tashkent). Table A6.1 summarizes the responses.

Table A6.1: Questionnaire Response Summary

Question	Tashkent–Gulistan	Tashkent–Samarkand
Frequency of travel (%):		
Daily	79	3
Several times a month	7	4
Once or twice a month	11	36
A few times a year	3	57
Usual purpose of the trip (%):		
Commute to work	82	12
Visit friends or relatives	9	32
Leisure/holiday	5	22
Business	5	34
Reason for traveling by train instead of by road (%):		
Less expensive	36	5
Safer	29	21
More reliable	51	16
Faster	5	16
More comfortable	78	41
Number of years using the train:		
First quartile	3	3
Average	8	7.6
Third quartile	10	10
Perceived change in railway facilities and services (%):		
Better	47	85
Worse	40	28
Things that are better (%):		
Ticket price	2	13
Comfort	35	69
Travel time	4	42
Train schedule	17	36
Customer service	5	35
Things that are worse (%):		
Ticket price	19	17
Comfort	4	2

Question	Tashkent–Gulistan	Tashkent–Samarkand
Travel time	12	1
Train schedule	9	2
Customer service	2	8
Most important needed improvement (%):		
Lower ticket prices	15	16
Better services on the train	5	12
More comfortable seats	17	16
Shorter travel time	37	30
Better services at the station	3	6
More convenient departure time	3	3
No change	14	9
Others	6	8
Nationality (%):		
Uzbek	98	93
Sex (%):		
Male	54	63
Female	46	37
Age (%):		
Below 18	9	6
18–29	16	24
30−39	31	27
40−49	30	23
50−59	9	15
60 and above	1	3
No answer	4	2
Monthly income (%):		
Below SUM60,000	5	1
SUM 60,001−100,000	12	5
SUM100,001–250,000	31	13
SUM250,001−350,000	26	22
SUM350,001−450,000	6	25
Above SUM450,000	10	22
No answer	20	12

Source: Independent Evaluation Mission Survey Results.

TECHNICAL ASSISTANCE PERFORMANCE EVALUATION REPORT (TPER)

I. INTRODUCTION

A. Evaluation Purpose and Process

1. The Asian Development Bank (ADB) selected two railway projects in Uzbekistan to evaluate in support of the country assistance program evaluation.[1] Reforming the railway enterprise Uzbekistan Temir Yullari (UTY) was an important part of each railway project. The reforms under the projects were supported by two advisory technical assistance projects[2] (ADTAs): (i) institutional strengthening of UTY (the first ADTA); and (ii) facilitating development of the railway sector (the second ADTA). The two ADTAs are evaluated in this technical assistance performance evaluation report.

2. The two ADTAs were also assessed in technical assistance (TA) completion reports.[3] The completion reports fairly and objectively assessed the projects, but following ADB's guidelines, the completion reports are very brief, and do not thoroughly assess the ADTAs. The evaluation has considered the views of ADB and the government in completing this evaluation.

B. Technical Assistance Objectives

3. Each technical assistance (TA) project was described in an appendix to the report and recommendation of the President[4] (RRP) of ADB's loan for each project. As was ADB standard practice at the time of loan processing, neither ADTA had a project framework nor a design and monitoring framework (DMF). Table A7.1 lists the objectives or goals and outputs of each TA.

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1 ADB. 2006. Country Assistance Program Evaluation: Uzbekistan. Manila.

2 ADB. 1998. *Technical Assistance to Uzbekistan for the Institutional Strengthening of Uzbekistan Temir Yullari*. Manila. ADB 2000. *Technical Assistance to Uzbekistan for Facilitating Development of the Railway Sector*. Manila.

3 ADB. 2002. Completion Report: *Institutional Strengthening of Uzbekistan Temir Yullari*. Manila. ADB 2004. *Completion Report: Facilitating Development of the Railway Sector in Uzbekistan*. Manila.

4 ADB. 1998. *Report and Recommendation of the President to the Board of Directors: Proposed Loan and Technical Assistance to Uzbekistan for the Railway Rehabilitation Project*. Manila. ADB. 2005. *Report and Recommendation of the President to the Board of Directors: Proposed Loan and Technical Assistance to Uzbekistan for the Railway Modernization Project*. Manila.

Table A7.1: Objective, Goals, and Purposes of the Two Technical Assistance (TA) Projects

	First TA	Second TA
Objective/Goal	Support institutional restructuring and capacity building in the railway subsector to improve efficiency and quality of service and to make the subsector economically and financially viable in a market economy	Support economic development and poverty reduction, and institutional strengthening of Uzbekistan Temir Yullari (UTY) to improve the effectiveness and efficiency of the railway system
Outputs	(i) A master plan for institutional development of the subsector, (ii) assisting the business units created under the restructuring program in formulating detailed plans for operating on a commercial basis, (iii) improved financial management and adoption of international accounting standards, (iv) improved marketing capabilities, (v) mitigation measures to address the social impacts of staff reduction and other organizational reforms	(i) A strategy for developing the railway sector; (ii) procedures, policies, and mechanisms to operationalize the proposed Small Business Fund; (iii) strategy to develop and effectively market passenger services for tourists; (iv) report on the adverse effects of soil salinity on railway infrastructure, including mitigation measures as necessary

4. The DMF for the projects (formulated for the evaluation) includes outcomes relevant to the reforms (Appendix 1). That DMF is therefore applicable to the ADTAs.

II. DESIGN AND IMPLEMENTATION

A. Rationale

5. The TAs were closely related to the associated projects, and so the general rationales for the TAs are those of the projects.

6. The Government established a Railway Restructuring Commission (RRC) in June 1997 to restructure UTY along commercial lines and explore opportunities for privatization. In May 1998, the Government issued a proclamation setting out a time-bound action plan for implementing the reform framework program. The project preparatory technical assistance (PPTA) for ADB's first loan reviewed the basis for reforming UTY, and proposed reforms as a component of the first project.[5] The reforms were later included as covenants in ADB's first loan, including cutting staff and devolving or "separating" parts of the organization. The rationale for

[5] ADB. 1998. *Report and Recommendation of the President to the Board of Directors: Proposed Loan to Uzbekistan for the Railway Rehabilitation Project*. Manila.

the first ADTA was to develop direction and details for UTY to implement reforms and comply with loan covenants.

7. The PPTA study for the second project reviewed the first ADTA and progress of the reforms, and proposed further reforms of UTY.[6] ADB's second loan included those reforms as covenants, including developing a small business fund (SBF) to finance small, private enterprises of employees made redundant by the reforms. The rationale for the second ADTA, like that for the first, was to help UTY comply with the covenants of the loan that were related to reforms. Two components of the second ADTA had weak rationale: the SBF, and a study of soil salinity. When UTY tried to implement the SBF, the central bank declared it inconsistent with the legal and regulatory framework in the finance sector, and advised UTY not to implement it. Against the central bank's advice, UTY implemented the SBF. However, UTY issued only four loans, and the fund no longer operates. Although the rationale for studying soil salinity was adequate, there was no obvious reason for including the study in an ADTA that was focused on organizational reforms.

B. Formulation

8. The reforms to be supported by each project loan, such as reducing staff and setting up a SBF for redundant staff, were proposed in the PPTA of each project, and included as covenants to the loans. The second PPTA also reviewed the progress of reforms in the first loan. The PPTAs were implemented in consultation with the government, and the government contributed to the reform proposals. The PPTAs only proposed reforms and did not develop them in detail. ADB recognized the need for support in implementing the reforms, and so worked with the government to design each ADTA study.

9. UTY was satisfied with the design of the ADTAs, and with the level of consultation involved in designing the TAs.

C. Cost, Financing, and Executing Arrangements

10. The budget was $850,000 for the first ADTA and $600,000 for the second. It was financed wholly by the Japan Special Fund, with no cofinancing. The first ADTA spent all but $52,000, or 6%, of its budget, while the second spent only $473,000, or 79%. As originally planned, UTY was the executing agency for each ADTA, and there were no changes in executing arrangements.

D. Consultants and Scheduling

11. The first ADTA was implemented as scheduled. The TA was approved in September 1998, signed in October 1998, and consultants were fielded in February 1999. The consultants submitted their final report in January 2000, 1 month past the expected closing date. The second ADTA was delayed by security concerns that prevented country visits, negotiations with the selected consultants over their terms of reference (TOR) (discussed in para. 12), and by delays in reviewing the consultants' draft final report. The ADTA was approved in October 2000 and signed in November 2000, but the consultants were not fielded until May 2002 because of security concerns. The consultants submitted their draft report in December 2002, but the length of the report delayed ADB's and the government's reviews. The consultants submitted their final

[6] ADB 1999. *Technical Assistance to Uzbekistan for the Railway Rehabilitation Project*. Manila.

report in March 2004, 15 months after submitting the draft. The ADTA was closed in May 2004, well past the original closing date of June 2002. UTY found the consultants for both ADTAs effective, and was satisfied with the balance of international and national consultants. UTY needed the ADTA consultants' expertise only for their work on the ADTAs. There was no need to transfer expertise, and no transfer occurred.

E. Design Changes

12. The first ADTA was implemented as originally designed, with no changes. The TOR for the second ADTA was revised during contract negotiations with the consultants. The consultants argued that the original TOR could not be met within the budget, and ADB agreed. The original components were kept, but some tasks involving collecting original information were replaced with tasks relying on existing, available information. The TA was therefore implemented within the original scope, but less intensively.

F. Outputs

13. The TOR for the first ADTA was ambitious in scope. It required a master plan for institutional development, a draft corporate plan, as well as some detailed work in finance and marketing. The consultants successfully carried out the TOR and produced a comprehensive set of recommendations for a broad reform program appropriate to support and carry forward the recommendations of the RRC. The degree of definition in some of the recommendations, however, was necessarily limited by the scope and resources for the work.

14. The first ADTA had five outputs, consistent with the original design: (i) a master plan for institutional development, in which the consultants endorsed restructuring proposed by the RRC, and made specific recommendations on how to implement those proposals; (ii) a draft corporate business plan for UTY; (iii) a review of UTY's financial management and accounting practices, and training in international accounting standards; (iv) a report on marketing, in which the consultants analyzed market conditions, and UTY's marketing strategies, policies, and plans; and (v) a report with a detailed review of UTY's ancillary activities, a strategy for separating those activities, ways to reduce staff, and means to mitigate the adverse impact of redundancies.

15. The second ADTA produced four outputs, consistent with the revised design: (i) a master plan for developing railways in Uzbekistan, (ii) proposals for developing the SBF, (iii) a review of and recommendations for developing railway tourism, and (iv) a report on the effects of soil salinity on railway infrastructure.

16. Key outputs of the ADTAs, embedded within the main outputs, were proposals for further reforms for UTY (Tables A7.2 and A7.3). In 2006 ADB supported a third PPTA study to help develop a third railway project to be financed by ADB. That PPTA study reviewed progress of the reforms.[7] The current status of the proposed reforms is virtually the same as that reported in the third PPTA study in 2006.

Table A7.2: Reforms Proposed by the First ADTA in 2000, and Status as Reported in the Third PPTA Study

Reform	Status
Restructure the organization to	**Partly achieved.** The businesses have been created and

[7] ADB. 2002. *Technical Assistance to Uzbekistan for the Third Railway Development Project*. Manila.

Reform	Status
focus management on business rather than production issues. The objective would be to create business units (freight, passenger, rolling stock, and infrastructure) and to dismantle the existing regionally managed structure.	seem to be functional. However, the regional structure has not been fully abandoned. Management control is centralized and along national functional lines. Operational control is relegated to regional control.
Establish a marketing capability for passenger and freight businesses.	**Achieved.** Separate and distinct offices with marketing responsibility exist for both freight and passenger businesses. Passenger operations have opened a separate office for tourism. The freight division of Uzbekistan Temir Yullari (UTY) likewise has established an office with marketing responsibilities.
Strengthen the strategic planning and cost accounting capability in the Economics Department.	**Achieved.** Economic departments are exercising some costing expertise. More time is needed before they are able to strengthen economic analysis with new costing disciplines, but the capability seems to be in place.
Downsize the rolling stock fleet to match forecast traffic volumes.	**Partly achieved.** Some passenger fleet downsizing has occurred. About 80 cars that were well beyond productive life were retired. Passenger services are getting ready to try to sell some of the passenger cars. However, the wagon fleet, which is divided into Operational, Standby and Long-Term Standby categories, is a most comfortable arrangement for UTY management and therefore, the current fleet size will remain.
Adjust the infrastructure to suit the requirements of the forecast traffic volumes.	**Achieved.** Staff size remains stable and consistent with the targets. New line construction has been such that the staff has been fully employed with the dual tasks of meeting maintenance needs and new construction.
Consolidate general freight operations into well-equipped freight distribution centers, and close unprofitable stations.	**Not achieved.** UTY's management does not consider this venture desirable for shippers or UTY's operations. UTY appears to have undertaken a comprehensive analysis of this topic. In reality, the management has difficulty assessing the costs and benefits of such a venture, essentially because cost accounting has not yet achieved the detail necessary to separate true operating costs and thus defers to average costs.
Rationalize long-distance and local passenger services, and close smaller stations.	**Achieved.** Downsizing of trains has definitely begun, and small, essentially unprofitable, stations have been closed.
Withdraw from unprofitable business except where	**Partly achieved.** Spinning off the Uztemirjeldorcontenyer, Yolreflrans, and Uzremwagon into private operations is a

Reform	Status
compensation for losses can be negotiated with government or municipalities.	classical example of withdrawing from unprofitable businesses. Until cost accounting can include the necessary detail required by management accounting, UTY will not be able to properly identify unprofitable business.
Consolidate rolling stock repair into fewer major workshops, and reduce maintenance staff to match the reduced rolling stock fleet.	**Not achieved.** Workshops that were spun off into Uzremwagon are all integrated in the business plan of the firm and some remained with UTY. Since UTY does not plan to reduce the wagon fleet at all these facilities, the remaining workshops will likely remain active.
Withdraw from funding of health, education, and housing services.	**Achieved.** An extensive effort was made to withdraw from these noncore activities, and UTY efforts can be judged as laudable.
Restructure infrastructure maintenance activities to take advantage of modern maintenance procedures, and reduce staff to suit the new structure and greatly reduced traffic volumes.	**Partly achieved.** Maintenance staff have been restructured consistent with the new equipment (for example; ballast cleaning equipment, welding machines, single sleeper replacement, and joint welding). Reduction of staff has not occurred as noted above.
Reduce the number of separate subsidiary companies controlled by UTY and sell noncore subsidiaries.	**Partly achieved.** A limited number of subsidiary companies have been separated. UTY noted that further separations are not likely. If UTY perceives subsidiaries as profitable, it will certainly retain its 51% equity interest and not advocate separation. This will make UTY’s operations more complex than perceived earlier and possibly compromise its ability to become more efficient; however, the attitude seems to be rooted in the executive hierarchy.
Establish international accounting practices, and computerize UTY'S accounting systems.	**Partly achieved.** International accounting standards (IAS) are being incorporated into UTY's financial reporting procedures. While application of IAS is not yet fully realized, indications are that progress is being made and that in future reporting periods, matters will improve. Implementation is anticipated in due time.
Modernize signaling and communication systems.	**Partly achieved.** Except for the installation of an optical fiber network, no other step to modernize the signaling and communication system has been taken.
Update computerized rolling stock operational management and information systems.	**Achieved.** This system has been consistently upgraded.
Electrify major traffic routes and increase electric locomotive fleet.	**Partly achieved.** UTY is active in this field. Twelve units of electric locomotives were scheduled to be received and funded by a loan from the European Bank for Reconstruction and Development (EBRD). UTY's long-term

Reform	Status
	investment plan will electrify 159 kilometers (km), with 53% of the capital cost scheduled to come from UTY's own funds.
Rehabilitate track on major traffic routes.	**Achieved.** UTY rehabilitates certain critical sections periodically, using its own funds. New line construction absorbs all surplus staff. About 300 km of track can be rehabilitated each year.
Provide capability to repair electric locomotives.	**Achieved.** Capability to repair electric locomotives within UTY is more than adequate for current as well as future service requirements. This stage was achieved by sending a staff of 20 to Russia for training and adding two Russian specialists to the staff when the team returned.
Close industrial sidings that are unprofitable to service, and reduce the number of shunt locomotives.	**Not achieved.** Some industrialized sidings are under review. The shunt locomotive fleet is excessive in size, particularly for the amount of use of shunt locomotives; however, fleet reduction is being done cautiously. In essence, there is no reduction program.
Establish staff capability to give training , especially in business-related skills and management.	**Not achieved.** There certainly have been certain attempts by UTY, supported by the Railway Institute, to meet such goals. However, the knowledge of and business skills of staffs immersed in the organization and their awareness of underlying principles are disappointing. With training, it is believed that a critical base of these principles can be implanted in management staffs and then they can add their own work-based wisdom and succeed superbly in the transition

Sources: ADB. 2002. *Technical Assistance to Uzbekistan for the Third Railway Development*. Manila Appendix 4, and IED's review.

Table A7.3: Reforms Proposed by the Second ADTA in 2003, and Status as Reported in the Third PPTA Study

Reform	Status
Institute competitive tendering for capital repairs and materials for wagons, locomotives, and track.	**Not achieved.** Competitive tendering is not yet an agreed-upon path for management. All rail material purchased with Asian Development Bank (ADB) funds was obtained through competition, and tendering was done by ADB. However, when using own funds, UTY buys rail directly from Russia. Some equipment is purchased from local manufacturers, with no competition.
Develop access pricing regime for Uzjeldorpass.	**Not achieved.** The cost accounting system is very limited in its ability to execute the analysis required by such.
Develop and implement cost reduction program.	**Not achieved.** Advancement on this topic is restricted by UTY's still limited accounting practices.

Reform	Status
Develop and implement a program for identifying and ameliorating loss-incurring services.	**Not achieved.** Can only be achieved once UTY can cost specific movements and services.
Institute rigorous investment prioritization and approval process, including post audit of investments.	**Not achieved.** Rigorous investment prioritization is indicated in the long-term investment plan. However, it could be facilitated with a costing model. No post audit of investments is evident.
Sell Uzremwagon assets to 1–2 competitive private sector suppliers.	**Not achieved.** Uzremwagon has been created, but only five of the nine workshops have been separated from UTY and the other four are likely to remain with UTY forever. It does not appear that the sale as advocated here will ever occur.
Remove locomotive ownership and train operation from railway monopoly sector activities.	**Not achieved.** Not being seriously considered within UTY's Privatization Department
Extend infrastructure access to Yolreftrans and Uzjeldorcontainer.	**Achieved.** Uztemirjeldorcontenyer stated that its access to UTY's infrastructure is not restricted.
Extend infrastructure access to other operators.	**Not achieved.** Not being considered by UTY.
Establish division of freight revenue as interim measure to fund rail passenger services.	**Not achieved.** Detailed operating costs of passenger trains are required before this measure can be achieved with confidence.
Develop a formal process for funding loss-incurring services.	**Not achieved.** A formal process for funding loss-incurring passenger services is not yet in place.
Competitively tender for subsidized passenger services.	**Not achieved.** Not yet in place, or even contemplated.

Source: ADB. 2002. *Technical Assistance to Uzbekistan for the Third Railway Development*. Manila Appendix 4, and IED's review.

G. Policy Framework

15. In the government's original plan for reforming UTY, only railway infrastructure was to remain a legal monopoly. UTY's above-rail services were to be privatized, and competition for them would be allowed. In March 2001, however, the government's reform plan changed. A Commission on Railway De-Monopolization and Denationalization issued a series of decrees that left almost all of the core transport functions, except passenger services, with UTY. The rationale for separating passenger services was, not to improve service through private incentives and competition, but merely to isolate the loss-incurring passenger service business and force a resolution of the need for subsidies. The status of UTY was also changed from a state joint stock company to an open joint stock company reporting to a supervisory board. This change of direction created uncertainty about the government's commitment to reforms, and

created for the second ADTA a policy environment that was significantly different from that for the first ADTA.

101. The reforms supported by the two ADTAs were part of a broader process of reforming UTY, started and led by the Government. Appendix 5 contains a comprehensive review of the reform process, putting ADB's support for reforms in the context of the broader reform process.

III. PERFORMANCE ASSESSMENT

A. Overall Assessment

16. The first ADTA is *highly relevant*, *less effective*, *efficient*, *likely sustainable*, and *successful* overall. The second ADTA is *partly relevant*, *ineffective*, *less efficient*, and *unlikely sustainable*, and *unsuccessful* overall (Table A7.4). The completion report rated the first ADTA *successful*, and the second ADTA *partly successful.* The TA completion reports did not rate the four criteria.

Table A7.4: Overall Assessment

		Institutional Strengthening of UTY (ADTA 3068)			Facilitating Development of the Railway Sector (ADTA 3529)		
Criterion	**Weight**	**Assessment**	**Rating Value**	**Weighted Rating**	**Assessment**	**Rating Value**	**Weighted Rating**
Relevance	20%	Highly relevant	3	0.6	Partly relevant	1	0.2
Effectiveness	30%	Less effective	1	0.3	Ineffective	0	0.0
Efficiency	30%	Efficient	2	0.6	Less efficient	1	0.3
Sustainability	20%	Likely sustainable	2	0.4	Unlikely sustainable	0	0.0
Overall		Successful		1.9	Unsuccessful		0.5

ADTA = advisory technical assistance, UTY = Uzbekistan Temir Yullari.
Source: IED's assessment.

B. Relevance

17. The first ADTA is *highly relevant*, as it was clearly based on the Government's reform program and supported ADB's first railway loan. The second ADTA is *partly relevant*, as it included a component that was not relevant (the SBF) and a component that was partly relevant (the study of soil salinity), and faced an unclear policy environment.

18. The first ADTA aimed to help UTY implement reforms and comply with covenants in the first loan. The reforms and covenants were based on directions set by the Government's Railway Restructuring Commission and proposed during the first PPTA. Like the first ADTA, the second ADTA aimed to help UTY implement reforms and comply with covenants in the second loan. Those covenants were based on findings of ADB's second PPTA, which reviewed the first ADTA and progress of the reforms so far.

19. The relevance of the second ADTA was limited, however, by the SBF and the study of soil salinity. The SBF was not consistent with the legal and regulatory framework in the finance sector, and so was not relevant. A credit union would have been relevant to UTY. A study of soil salinity might have been highly relevant on its own, but was not relevant to the overall aims of the ADTA. ADB should have provided a separate ADTA for the study.

20. The relevance of the reforms supported by both ADTAs was also limited by the change in the Government's direction of reforms. International experience with enterprise reform shows that a well-defined policy and direction for the restructuring program are prerequisites for reform. The change in policy created uncertainty over the direction of and the Government's commitment to the reforms, and damaged the prospects for successfully implementing the reforms.

21. UTY reported that the ADTAs were among the Government's and UTY's highest priorities. UTY was fully committed to the ADTAs, was adequately consulted in designing them, and was satisfied with the designs. UTY rated the first ADTA *relevant*, and the second *highly relevant*. Despite UTY's high opinion of the second ADTA, the evaluation still rates it *partly relevant*, limited by the SBF and the study of soil salinity.

C. Effectiveness

22. The first ADTA is *less effective* at achieving outcomes, considering that less than half of the reforms it proposed have been adopted, and that UTY in 2010 is very similar to what it was in 2000. The second ADTA is *ineffective,* considering that only 1 of 13 reforms has been adopted.

23. The evaluation assesses effectiveness using the outcome of reforms in the design and monitoring framework (DMF) of the projects (Appendix 1), and against the general goal of reforming UTY. The project evaluation found that less than half of the performance indicators had met and sustained their targets by 2009. On that basis, the ADTAs are *less effective.*

24. A review of the ADTAs in 2006 showed that some reforms proposed in the first ADTA and a few in the second ADTA had been adopted. Of the 20 proposed reforms in the first ADTA, 8 were achieved, 8 were partly achieved, and 4 were not achieved. On this basis, the first ADTA can be considered *less effective*. Among the 12 reforms proposed in the second ADTA, 1 was achieved, and 11 were not achieved. On this basis, the second ADTA can be considered *ineffective*. The reforms related to accounting practices may, however, be adopted eventually when Uzbekistan adopts and UTY is able to implement international accounting standards (IAS).

25. The evaluation's comprehensive review of the reform program (Appendix 4) shows that few of the reforms recommended in the two ADTAs have been achieved in the 10 years since the original master plan and reform program was prepared under the first ADTA. The main achievement is that UTY has withdrawn from most of its ancillary activities. UTY was able to meet the loan covenants relating to reducing staffing levels. One of the five businesses created under the March 2001 decrees has been partially privatized. New computerized accounting systems have been implemented, but UTY reports considerable difficulties in adapting them to their requirements, and improvements in management information are yet to be achieved. UTY has not adopted IAS because the law requires it to use national standards. Attempts to prepare a set of accounts parallel to international standards have not been successful partly because the accounts were qualified as a result of continuing problems with accounts receivable, mainly from state-owned enterprises.

26. A Marketing Department exists in UTY, but it carries out few of the activities that would normally be associated with marketing, such as product analysis and specification, pricing analysis, customer relationship, and surveys of customer needs. The department also deals with international agreements and has other functions relating to asset management, which have little to do with marketing. It appears that UTY has not reduced its asset levels to the extent proposed by the first ADTA. Furthermore, the other efficiencies in operation proposed in the reform program in 2000, such as consolidating freight operations into fewer freight centers and rolling stock repair into fewer workshops, have not been carried out.

27. Most importantly, UTY did not carry through the structural reforms for establishing a business-led organization based on the creation of freight and passenger business units and infrastructure and rolling stock service units, as proposed by the Railway Restructuring Commission and endorsed, with modifications, by the consultants in the first ADTA. There does not appear to be any commitment to implement a vertically separated model for restructuring UTY, with competitive access by independent operators that government policy after 2001 seemed to imply.

28. The basic organization structure of UTY has changed little since 2000. It is still based on a regional structure dominated by the engineering and operational functions of delivering train services. The structure has no focus on a business-led railway that produces profit. Pricing is still set by the Economics Department, with little understanding of the detailed cost drivers of traffic or of market-based prices, although there may be work on the price of access to infrastructure for passenger services. Marketing is still a relatively passive function, and planning is primarily about developing asset investment plans and train operations plans.

D. Efficiency

29. The first ADTA was *efficient*. The ADTA was implemented as originally designed, and within the original budget. Consultants were fielded within 4 months of signing the ADTA, and delivered their final report within 1 month of the ADTA's expected closing date. All outputs were delivered as originally designed, and with adequate quality.

30. The second ADTA was *less efficient*. Its original design was out of line with available resources, and the TOR had to be revised during contract negotiations with the consultants. The late fielding of consultants was beyond the control of ADB or the Government, and so is not counted against the ADTA's efficiency. The consultants submitted their draft final report within 8 months of fielding, an otherwise efficient result, but the report was too long for ADB and the Government to easily review. ADB did not adequately design the ADTA, or did not adequately guide the consultants in the outputs expected of them; either way, inefficiency resulted. The ADTA consumed only 70% of its budget, perhaps indicating efficiency in implementing the ADTA, but more likely further indicating that the ADTA's design and budget were not adequately matched. Furthermore, the design did not change in response to the Government's change in policy in 2001.

31. UTY was satisfied with the implementation of each ADTA. UTY believed that the ADTAs' budgets were adequate, ADB staff members assigned to the ADTAs were competent, and ADB's supervision of the processing of the ADTAs was highly efficient.

E. Sustainability

32. The reforms that UTY implemented in the first ADTA are still in place and secure, and are *likely sustainable*. The second ADTA is rated *unlikely sustainable.* Virtually no reform it proposed was adopted and so nothing could be sustained.

33. The reforms proposed by the first ADTA and adopted by UTY have become inherent to UTY, with little or no risk of backtracking. Uzbekistan's accounting practices limited the adoption of some of the proposed reforms, but those reforms may eventually be adopted as Uzbekistan adopts and UTY is able to implement IAS.

34. The SBF designed for the second ADTA issued only four loans, and no longer operates. It was unsustainable by design, since it was meant for former UTY staff made redundant by the reforms. The fund itself became redundant when staff reduction ended.

35. UTY believes that the outcomes and impacts of the ADTAs are *likely sustainable*, and the evaluation concurs, focusing on the outcomes and impacts that were actually achieved, and not considering the many that were not.

IV. OTHER ASSESSMENTS

A. Impact

36. After 10 years, the overall impacts of the reform program have been *moderate* in achieving significant change in the way the core railway is structured and managed. The main achievement has been the "unbundling" of UTY to remove nearly all the ancillary services from the core railway operations. Since the unbundling was covered in the first ADTA, the impact of the first ADTA is considered *moderate*, while that of the second ADTA is *negligible.*

37. There were three recurring themes throughout the two ADTAs: (i) the need for the Government to compensate UTY for loss-incurring services, (ii) strengthening the railway's finance function, and (iii) establishing a marketing department. Despite agreeing to the principle of compensation for loss-incurring services, the Government has not developed a means for compensating UTY beyond the general funds it provides for strategic investment. There appears to be no will within the Government to address this issue, and until a financial need arises from deterioration in UTY's financial capability to support passenger services, the Government is likely to ignore the issue.

38. New financial systems have been implemented in UTY, but they are still not fully developed, and have not yet led to major changes in the financial management of UTY or the use of management information. ADB's two loans included covenants requiring the adoption of IAS, but the practicality of the covenants is questionable as UTY is required by law to prepare its accounts to national standards. Attempts have been made to prepare accounts to both national and international standards, but the auditors have qualified the accounts on each occasion.

39. UTY has a marketing department, but it carries out only a limited range of functions and does not have a major influence on key product and pricing decisions. This lack of progress in marketing is not surprising, given the loss of impetus and loss of direction of the overall reform program. Merely establishing a marketing department is not enough to have a real impact on

the enterprise. The department's role and functions must be defined clearly in the organizational structure for it to have an impact on management. There now appears to be no clear policy for restructuring UTY and it continues to operate within broadly the same organizational structure it had 10 years ago.

B. Performance of ADB and the Executing Agency

40. ADB's performance in the first ADTA was *satisfactory*. ADB was responsive to the preferences of the Government and of UTY in designing the ADTA. The ADTA was well-designed and had adequate resources. UTY was satisfied with ADB supervision and inputs during implementation. The completion report for the ADTA was prepared 2.5 years after the ADTA was completed. The delay appears to be due to problems with consultants not submitting proper documentation to close the ADTA's account. The completion report fairly assessed the ADTA, but at only one page in length it did not provide much information about outputs or achievements.

41. ADB's performance in the second ADTA was *unsatisfactory*. The original TOR for the ADTA was not consistent with the ADTA's budget, and so the TOR had to be revised during contract negotiations with consultants. ADB apparently did not recognize the shift in policy on reforms that occurred in 2001 under the Commission on Railway De-Monopolization and Denationalization, and so did not respond in further reviewing or revising the TOR. ADB did not adequately convey to the consultants what was expected in their draft final report. As a. result, the consultants' draft was not useful to UTY and was difficult for ADB and UTY to review. Thus the ADTA's completion was delayed by a year or longer. The completion report was done within 6 months of the ADTA's completion, and before the ADTA's account was closed. Though brief, the completion report assessed the ADTA fairly, noting most of the ADTA's limitations and rating it *partly successful*.

42. The performance of the government (comprising the central Government and UTY) in each ADTA was *satisfactory*. Because the evaluation took place 8 to 10 years after completing the main work for each ADTA, memories have faded and there is little available information on the government's support for implementation. The government appears to have provided adequate resources for each ADTA, to have cooperated well with the ADTA's consultants, and to have posed no problems in implementation. The government cooperated well with the Independent Evaluation Department in this evaluation.

V. ISSUES, LESSONS, AND FOLLOW-UP ACTIONS

43. There are no issues requiring follow-up actions from ADB or the government.

44. For a comprehensive railway reform program to succeed there must be clarity on the overall restructuring plan and a firm commitment from Government and railway management to that plan. If uncertainty over the direction of the restructuring policy arises during the course of the program, ADB should recognize and address it either by reviewing structural options to clarify policy, or proceeding with some elements of reform that are less sensitive to structure.

45. For instance, the ADTA could be used to help analyze and evaluate the restructuring options that the Government is considering, to facilitate the debate with stakeholders and to decide on the preferred option. The ADTA might also be used to develop and clearly define a specific high-level restructuring approach that the Government is considering. In this way the implications of the option can be tested and properly evaluated. The preferred structural option

must be defined in sufficient detail to ensure that it is not open to different interpretations. Otherwise, the structural debate is likely to continue and this will confuse the design and implementation.

46. If consultants are used to assist in providing restructuring advice, they should develop their proposals while working jointly with railway management to establish ownership of the proposals. The proposals can then be presented to the Government by a joint management-consultant team. This approach will need greater resources than if restructuring proposals are developed by consultants alone and then presented to a steering group. Consultants should be given sufficient time to contribute fully to the debate on structural options and to address issues as they arise, rather than to simply present a single solution.