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The World Bank

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Report No: 88015-UZ

INTERNATIONAL BANK FOR RECONSTRUCTION AND DEVELOPMENT

PROJECT APPRAISAL DOCUMENT

ON A

PROPOSED LOAN

IN THE AMOUNT OF US$195 MILLION

TO THE

REPUBLIC OF UZBEKISTAN

FOR A

PAP-ANGREN RAILWAY PROJECT

January 22, 2015

Transport and ICT Global Practice
Europe and Central Asia Region

CURRENCY EQUIVALENTS

(Exchange Rate Effective October 30, 2014)

Currency Unit	=	Uzbekistan Sum
UZS 1	=	US$0.00042
US$1	=	UZS 2,3834

FISCAL YEAR

January 1 – December 31

ABBREVIATIONS AND ACRONYMS

ADB	Asian Development Bank
BFM	Beneficiary feedback mechanism
CAREC	Central Asia Regional Economic Cooperation
CIS	Commonwealth of Independent States
CPS	Country Partnership Strategy
DA	Designated Account
EATL	Euro-Asian Transport Links
EBRD	European Bank for Reconstruction and Development
ECA	Europe and Central Asia
ECAPDEV	ECA Region Capacity Development
EIA	Environmental Impact Assessment
EIRR	Economic internal rate of return
EMF	Environmental Management Framework
EMP	Environmental Management Plan
ERP	Enterprise Resource Planning
EU	European Union
FM	Financial Management
FY	Fiscal Year
GDP	Gross domestic product
GHG	Greenhouse gases
IBRD	International Bank for Reconstruction and Development
IDA	International Development Association
IDF	Institutional Development Fund
IEG	Independent Evaluation Group
IFI	International Financial Institution
IFRS	International Financial Reporting Standards
IMF	International Monetary Fund
ISA	International Standards on Auditing
JICA	Japan International Cooperation Agency
KfW	Kreditanstalt für Wiederaufbau (Reconstruction Credit Institute)
M&E	Monitoring and Evaluation
MoF	Ministry of Finance
ORAF	Operational Risk Assessment Framework
PDO	Project Development Objectives
PFS	Project Financial Statements
PIU	Project Implementation Unit
PSIA	Poverty and Social Impact Analysis
QBS	Quality-Based Selection
QCBS	Quality- and Cost-Based Selection
RASAP	Resettlement Audit/ Social Action Plan
RAP	Resettlement Action Plan
RPF	Resettlement Policy Framework
SME	Small and medium enterprise
SOE	Statement of expenses
TTP	Talimarjan Transmission Project
TRACECA	Transport Corridor Europe–Caucasus–Asia
UNESCAP	United Nations Economic and Social Commission for Asia and the Pacific
US$	United States Dollar
UTY	Uzbekistan Temir Yo'llari (Uzbekistan Railways)
UE	Uzbekenergo
UZS	Uzbekistani sum

Regional Vice President:	Laura Tuck
Country Director:	Saroj Kumar Jha
Senior Global Practice Director:	Pierre Guislain
Practice Manager:	Juan Gaviria
Task Team Leader:	Jacques Buré

UZBEKISTAN
Pap-Angren Railway Project

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PAD DATA SHEET

Uzbekistan

Pap-Angren Railway (P146328)

PROJECT APPRAISAL DOCUMENT

EUROPE AND CENTRAL ASIA

Report No.: PAD926

Basic Information		
Project ID P146328	EA Category A - Full Assessment	Team Leader(s) Jacques Bure
Lending Instrument Investment Project Financing	Fragile and/or Capacity Constraints [ ] Financial Intermediaries [ ] Series of Projects [ ]	
Project Implementation Start Date 13-Feb-2015	Project Implementation End Date 31-Mar-2019	
Expected Effectiveness Date 31-Mar-2015	Expected Closing Date 31-Mar-2019	
Joint IFC No		

Practice Manager/Manager	Senior Global Practice Director	Country Director	Regional Vice President
Juan Gaviria	Pierre Guislain	Saroj Kumar Jha	Laura Tuck

Borrower: Republic of Uzbekistan			
Responsible Agency: Uzbekistan Temir Yo'allari State Joint Stock Company			
Contact:	Achilbay Ramatov	Title:	Chairman
Telephone No.:	998-71237-9028	Email:	ferd@uzrailway.uz
Responsible Agency: Uzbekenergo, State Joint Stock Company			
Contact:	Iskandar Basidov	Title:	Chairman
Telephone No.:	99871233-61-28	Email:	sjsc@uznet.net

Project Financing Data(in USD Million)		
[X] Loan	[ ] IDA Grant	[ ] Guarantee

[ ] Credit	[ ] Grant	[ ] Other	
Total Project Cost:	1633.75	Total Bank Financing:	195.00
Financing Gap:	0.00		

Financing Source	**Amount**
Borrower	1088.75
International Bank for Reconstruction and Development	195.00
China Export Import Bank	350.00
Total	1633.75

Expected Disbursements (in USD Million)

Fiscal Year	2015	2016	2017	2018	2019	0000	0000	0000	0000	0000
Annual	10.00	80.00	100.00	5.00	0.00	0.00	0.00	0.00	0.00	0.00
Cumulative	10.00	90.00	190.00	195.00	195.00	0.00	0.00	0.00	0.00	0.00

Institutional Data

Practice Area (Lead)

Transport & ICT

Contributing Practice Areas

Cross Cutting Areas

[ ] Climate Change

[ ] Fragile, Conflict & Violence

[ ] Gender

[ ] Jobs

[ ] Public Private Partnership

Sectors / Climate Change

Sector (Maximum 5 and total % must equal 100)

Major Sector	Sector	%	Adaptation Co-benefits %	Mitigation Co-benefits %
Transportation	Railways	90		
Industry and trade	Other domestic and	10		

	international trade			
Total		100		

☑ I certify that there is no Adaptation and Mitigation Climate Change Co-benefits information applicable to this project.

Themes

Theme (Maximum 5 and total % must equal 100)

Major theme	Theme	%
Trade and integration	Trade facilitation and market access	100
Total		100

Proposed Development Objective(s)

The proposed project development objectives are to reduce transport costs and to increase transport capacity and reliability through the construction of a rail link between the Uzbek part of the Ferghana Valley and the rest of Uzbekistan.

Components

Component Name	**Cost (USD Millions)**
Railway Main Infrastructure	1,438.75
Rail Electrification, Signaling, Track Maintenance and Railway Video Surveillance System	154.00
Power Distribution Line	35.00
Technical assistance to UTY for Supporting Railway Construction	0.50
Technical Assistance to UTY for Improving Railway Logistics	1.00
Implementation Support	4.50

Compliance

Policy

Does the project depart from the CAS in content or in other significant respects?	Yes [ ]	No [X]
Does the project require any waivers of Bank policies?	Yes [ ]	No [X]
Have these been approved by Bank management?	Yes [ ]	No [X]
Is approval for any policy waiver sought from the Board?	Yes [ ]	No [X]
Does the project meet the Regional criteria for readiness for implementation?	Yes [X]	No [ ]

Safeguard Policies Triggered by the Project	**Yes**	**No**

Environmental Assessment OP/BP 4.01	**X**	
Natural Habitats OP/BP 4.04		**X**
Forests OP/BP 4.36		**X**
Pest Management OP 4.09		**X**
Physical Cultural Resources OP/BP 4.11	**X**	
Indigenous Peoples OP/BP 4.10		**X**
Involuntary Resettlement OP/BP 4.12	**X**	
Safety of Dams OP/BP 4.37		**X**
Projects on International Waterways OP/BP 7.50		**X**
Projects in Disputed Areas OP/BP 7.60		**X**

Legal Covenants

Name	**Recurrent**	**Due Date**	**Frequency**
Schedule 2, Section I. A.	**X**		CONTINUOUS

Description of Covenant

The Borrower shall cause UE and UTY to maintain their respective PIUs at all times during Project implementation, with terms of reference, adequate funds, facilities, services and resources satisfactory to the Bank, and with competent staff in adequate numbers and with qualifications acceptable to the Bank.

Name	**Recurrent**	**Due Date**	**Frequency**
Schedule 2, Section I. D.1.	**X**		CONTINUOUS

Description of Covenant

The Borrower shall carry out the Project, and shall cause both UTY and UE to carry out their Respective Parts of the Project, in accordance with the requirements, criteria, organizational arrangements and operational procedures set forth in the RAP, RPF, the site specific RAP(s), RASAP, EMF, EIA(s), EMPs, and the Action Plan for Physical and Cultural Resources.

Name	**Recurrent**	**Due Date**	**Frequency**
Schedule 2, Section 5. 1.	**X**		CONTINUOUS

Description of Covenant

Except as the Bank shall otherwise agree, the Borrower shall ensure that the UTY maintain a ratio of current assets to current liabilities of not less than 1.5.

Conditions

Source Of Fund	**Name**	**Type**

IBRD	Article 5.01 (a)	Effectiveness
Description of Condition		
The RASAP has been implemented in accordance with its terms and in a manner acceptable to the Bank.		
Source Of Fund	**Name**	**Type**
IBRD	Article 5.01 (b)	Effectiveness
Description of Condition		
The UTY Subsidiary Agreement has been executed on behalf of the Borrower and UTY on terms and conditions satisfactory to the Bank.		
Source Of Fund	**Name**	**Type**
IBRD	Article 5.01 (c)	Effectiveness
Description of Condition		
UTY has upgraded its financial management reporting software in a manner acceptable to the Bank.		
Source Of Fund	**Name**	**Type**
IBRD	Article 5.01 (d)	Effectiveness
Description of Condition		
UTY has issued a circular noting the specific financial management and disbursement requirements of the World Bank to be followed by its PIU for the Project.		

Team Composition

Bank Staff

Name	Role	Title	Unit
Jacques Bure	Team Leader (ADM Responsible)	Lead Transport Specialist	GTIDR
Nagaraju Duthaluri	Procurement Specialist	Lead Procurement Specialist	GGODR
Galina Alagardova	Financial Management Specialist	Financial Management Specialist	GGODR
Alexei Slenzak	Safeguards Specialist	Senior Environmental Specialist	GENDR
Angela Nyawira Khaminwa	Team Member	Senior Social Development Specialist	GSURR
Antoine Avedis Kunth	Team Member	Senior Railway Specialist	GTIDR
Elizabeth C. Wang	Team Member	Senior Financial Officer	GTIDR
Eskender Trushin	Team Member	Senior Economist	GMFDR
Evgenia Epaneshnikova	Team Member	Transport Specialist	GTIDR
Fasliddin Rakhimov	Team Member	Procurement Specialist	GGODR

Funda Canli	Team Member	Program Assistant	GTIDR
Iskander Buranov	Team Member	Energy Specialist	GEEDR
Jasna Mestnik	Team Member	Finance Officer	WFALA
Lola Ibragimova	Safeguards Specialist	Senior Social Development Specialist	GSURR
Mansur Bustoni	Team Member	E T Consultant	GTIDR
Nicolas Perrin	Safeguards Specialist	Senior Social Development Specialist	GSURR
Nisso Makhmudovna Babakulova	Team Member	E T Temporary	ECCUZ
Sevara Abdusamatova	Team Member	Procurement Assistant	ECCUZ
Steven Farji Weiss	Team Member	E T Consultant	GTIDR
Sunil Kumar Khosla	Team Member	Lead Energy Specialist	GEEDR

Extended Team

Name	**Title**	**Office Phone**	**Location**
Charles Riley	Railway Signaling Expert		
Richard Bullock	Railway Economic & Financial Evaluation Advisor		Melbourne
Stephen Leonard	Railway Electrification Expert		

Locations

Country	**First Administrative Division**	**Location**	**Planned**	**Actual**	**Comments**
Uzbekistan	Toshkent	Toshkent Viloyati		**X**	Tashkent region for Angren
Uzbekistan	Namangan Province	Namangan Province		**X**	Namangan region for Pap

I. STRATEGIC CONTEXT

A. Country Context

1. ***Uzbekistan is a lower-middle income, resource rich country, strategically located at the heart of Central Asia***. It is the most populated country in the region. With about 30 million (2013) people, it accounts for about half of Central Asia's total population. It borders four other Central Asian countries as well as Afghanistan. The country's location on strategic trade routes buttresses the country's importance[1].

2. ***Uzbekistan's economy continued to grow steadily, at an annual rate of eight percent in 2013***. All sectors of the economy contributed to economic growth with services growing by more than nine percent a year (now close to half of GDP). The government's industrial modernization and localization program supported industrial sector growth of 6.2 percent in 2013.

3. ***Uzbekistan has seen notable increases in public investment and to a lesser extent, private consumption.*** The government has continued implementation of a US$47 billion public investment program for 2011-2015, of which over 70 percent is focused on oil, gas and electricity. Total investment increased by 2.8 percentage points in 2013 to reach 25.6 percent of GDP. Public investment accounted for 4.4 percent of GDP and private investment, including investment from state owned enterprises (SOEs), made up the remaining 21.2 percent. At the same time, rising real wages and steady remittance inflows, which reached 6.5 percent of GDP in 2013, helped drive private consumption. Domestic consumption has helped offset weaker external demand for Uzbek goods and services.

4. ***Uzbekistan is making steady progress towards the first Millennium Development Goal (MDG) of halving poverty by 2015***. Nationally defined poverty rates[2] declined from 27.5 percent in 2001 to an estimated 14.5 percent in 2013. Steady economic growth, sustained annual increases in salaries and remittances, and government social protection programs all contributed to this decline. While the country remains on course to achieve the goal of halving poverty, related challenges such as inequality, rural-urban and regional disparities, mainly in Karakalpakstan region[3] in the West and the Ferghana Valley areas in the East, continue to be an issue.

5. ***The project will address the transport connectivity issue for the Ferghana Valley, one of the main reasons for the Valley's lag in economic growth***. The Ferghana Valley constitutes the eastern most region of Uzbekistan, where lives almost one third of the country's population. This region has a vast industrial and agricultural potential[4]. Nonetheless, socio-economic development

[1] Uzbekistan is at a cross roads of transport corridors between the west and east, and the north and south connecting Europe to Asia. The Transport Corridor Europe–Caucasus–Asia (TRACECA) and three of the six Central Asia Regional Economic Cooperation (CAREC) corridors are crossing Uzbekistan.

[2] The national poverty line is measured based on the minimum food consumption equivalent to 2,100 kilo-calories per person per day.

[3] Karakalpakstan region is disadvantaged because of loss of employment opportunities and has one of the highest poverty, malnutrition, and illness rates in Uzbekistan due to water shortages and the shrinking of the Aral Sea.

[4] The largest industrial plants of Uzbekistan, such as "GM Uzbekistan" JV, Fergana and Altiarik refineries, "QUARTZ" JSC, etc. are located there. Fertile soil and mild climate allow for growing cotton, thereby enabling intensive development of textile industry here by such enterprises as "Daewoo-Fergana-textile, "Tagus textile" JV, "Poytugteks", "Samosherteks", etc.

of the region lags behind other regions of the republic. GDP per capita in 2012 of the three provinces located in the Ferghana Valley (Ferghana, Andizhan, and Namangan) was below the country average by 11 percent, 32 percent and 52 percent respectively. Poverty levels and poverty density are also very high across the region; for example, the region concentrates one fourth of all the poor in Uzbekistan and 22 percent of the total population, compared to Tashkent City, which is home to 8.2 percent of the total population but only 2.1 percent of the poor in the country. Lack of connectivity is the significant obstacle to development of the Ferghana Valley.

B. Sectoral and Institutional Context

6. ***The connectivity of Uzbekistan's territory has been affected by the dissolution of the Soviet Union[5].*** The Uzbek part of the Ferghana Valley[6] is isolated from the rest of the country. There are only two routes between the Valley and Tashkent: (i) via rail through Tajikistan's Khujand[7], and (ii) via road through the Kamchik Pass, a 4-lane highway through mountainous terrain. There is also a very limited air service. The most direct route is through Tajikistan's Khujand. A number of issues including border controls and tariffs erode significantly the traffic along this rail link over the last decade. As for the Kamchik pass, it is used by freight cargo[8] for exporting cars, petroleum and chemical products, agricultural and other goods and for importing capital and intermediary goods such as machinery and equipment, chemicals, metals, oil products, to the Valley. The Kamchik pass is the only means for movement of people in and out of the Valley using private cars or taxies[9]. It is not reliable as it regularly closes because of snow in the winter and landslides in the spring.

7. ***Railway is still a dominant mode of transport but it is losing market share in favor of road.*** The railway network is an important asset for the country[10] and it managed and operated by the state-owned joint stock company, "Uzbekistan Temir Yo'llari" (Uzbekistan Railways or UTY).

[5] The Soviet rail network was driven by a Moscow centered economy without regard to internal boundaries. Since the 1990s, national boundaries have created new barriers to trade flows and market access. These border crossings worsened internal connectivity as many of the rail and road routes cross into neighboring countries before crossing back into Uzbekistan. Similarly neighboring countries depend on Uzbekistan's transport network for moving goods and passengers (e.g. southern Uzbekistan provides transit for Tajikistan and northern Uzbekistan provides transit for Kazakhstan).

[6] The Ferghana Valley's territory is shared between Tajikistan, Uzbekistan and Kyrgyzstan. It is a historically prosperous and densely populated area – today 11.3 million people, with 1.6 million in Kyrgyz Republic, 2.1 million in Tajikistan and 7.6 million in Uzbekistan. The Uzbek part of the Ferghana Valley covers the Ferghana, Andijan, and Namangan provinces.

[7] The rail route through Tajikistan is a 110 km section the traverses the northern Sughd Province of Tajikistan before looping back into Uzbekistan.

[8] The road carries on average 16,800 vehicles per day travelled across the Kamchik Pass, of which 86% were light vehicles (mostly shared taxis) and 14% trucks.

[9] Buses are not allowed on the Pass; there is limited mini-bus service and taxi service. Taxi charge for one way is between UZS25,000 (US$11) and UZS50,000 (US$22). These fees represent up to 40 percent of the minimum wage in the country (UZS96,105). Airplane ticket is even more out of reach for the ordinary inhabitant in the valley.

[10] The railway network includes 4,186.2 km of railway lines, of which 487.3 km (12 percent of the network) are double-lines and 687.4 km (16 percent of the network) are electrified. It is capable of handling 120 km/hour trains on most sections. The international railway corridors crossing Uzbekistan spans approximately 2,154 km (excluding shared route sections) on the following routes: (i) Keles to Karakalpakayia (to Russian Federation and Europe); (ii) Keles to Hodjadavlet (to Iran); (iii) Havast to Nao on the route from Karakalpakstan to Osh (to Kyrgyzstan); and (iv) Karakalpakstan to Termez (to Afghanistan).

Railways have a strong position in the transportation market in Uzbekistan[11]. UTY carried 47.5 percent of the freight traffic (ton-km) – a significant market share when compared with railways worldwide[12]. However, rail freight transport is losing market share to road transport. While the volume of freight transported by rail in 2010 increased by about 24 percent compared to the volume in 2005, the railway market share has decreased from 54 to 47 percent compared with road transport. Passenger rail market had a share of 39 percent, which is much higher than the European average of 7.42 percent[13]. Nonetheless, rail is expected to continue to lose passenger share to roads in the future.

8. ***UTY objective is to maintain its market share in freight transport to ensure long term financial viability.*** Competition from road haulage is increasing, and UTY is likely to lose market share on freight transport, as it happened in other several comparable countries in the last 50 years. UTY appears to be able to maintain a freight services market share of at least 30 percent, which will allow to remain profitable[14].

9. ***UTY has retained its technical and operating expertize.*** It has a work force of 54,173 and undertakes rail construction projects[15] as well as operation and maintenance. The company is profitable and does not receive operating subsidies from the state. It is able to finance all investments necessary to preserve the current infrastructure and modernize the rolling stock. It also finances a significant portion of the modernization of the railway corridors. While not reliant on foreign assistance, UTY has a long history of cooperation with foreign agencies and International Financial Institutions (IFIs) (see Annex 2).

10. ***The project will support UTY's in addressing the sectorial issues discussed above.*** The project strategy is to improve inter-regional connectivity and retain market share by offering new services to the businesses and inhabitants of the Ferghana Valley.

C. Higher Level Objectives to which the Project Contributes

11. ***The project contributes to the Central Asia Regional Economic Cooperation or CAREC Program established in 1997.*** CAREC is an initiative of Asian Development Bank (ADB) to gather 10 countries[16] and 6 multilateral institutions[17] around the overarching goal to enhance

[11]In 2012, UTY handled 82 million tons of cargo of which 11 million tons were transit cargo. While UTY is predominately a freight railway, the rail company also provides passenger services and carried 16 million passengers in 2012.

[12] Railways in the European Union have an average freight market share of 17 percent, in the North America the percentage is between 25 and 30 percent.

[13] This percentage includes only public transportation and does not take into consideration the private cars.

[14] See Uzbekistan at a Crossroads: Towards Sustainability in the Transport Sector, Transport Sector Policy Note, March 2013.

[15] UTY recently completed with their own workforce and equipment the construction of several new rail investment projects totaling 640 km (sections Navoi to Uchkuduk, Tashguzar to Kumkurgan, electrification of Tukimachi to Angren). Also in 2010 UTY has completed construction of 80km Khayraton to Mazari-Sharif rail link in Islamic Republic Afghanistan funded by Asian Development Bank.

[16] Afghanistan, Azerbaijan, the People's Republic of China, Kazakhstan, the Kyrgyz Republic, Mongolia, Pakistan, Tajikistan, Turkmenistan and Uzbekistan

[17] Asian Development Bank, European Bank for Reconstruction and Development, International Monetary Fund, Islamic Development Bank, United Nations Development Programme, and the World Bank.

regional cooperation of Central Asia and its neighboring countries, thereby accelerating the economic growth and reduce poverty. CAREC is implementing a Transport and Trade Facilitation Strategy focused on 6 transport corridors. The Pap-Angren investment is located along Corridor 2 that runs from the east to the west, from China to the Caucasus.

12. ***The project supports the government's Medium Term Strategy***[18] embodied in four cross-cutting development goals: (i) to increase the efficiency of infrastructure, (ii) to enhance the competitiveness of specific industries, (iii) to diversify the economy with a reduce reliance on commodity exports, and (iv) to improve access to and the quality and outcomes of social services. The project will enhance the efficiency of transport services into and out of the Uzbek part of the Ferghana Valley.

13. ***The project also aligns with the main strategies in Country Partnership Strategy (CPS) Report for FY12-15[19] the focus of which remains valid.*** The CPS supports increasing the efficiency of infrastructure, improving access to social services through lending and advisory services and supporting the government's competitiveness and economic diversification agenda. The new railway connection to the Ferghana Valley would support the CPS strategy of diversification of the economy by improving infrastructure to increase economic productivity and competitiveness.

14. ***The project aligns with the corporate goals to reduce poverty and enhance shared prosperity.*** It is expected to reduce the income disparity between the Uzbek part of the Ferghana Valley and the rest of Uzbekistan. By increasing the rate of economic growth in the Ferghana Valley, the project will increase employment and business opportunities.[20] The project will result in important welfare gains for the poor and the bottom 40 percent. The railway link will improve year round inter-regional accessibility for a population of 7.6 million, of which approximately 2 million are considered poor (measured based the nationally defined poverty line threshold). Small and medium enterprises (SMEs) will be able to expand their market access and retain more of the delivered price of their goods. They will also benefit from cheaper inputs and enjoy seasonal stability. Women and youth traditionally engaged in small scale agriculture are expected to gain access to off-farm employment opportunities in the months when seasonal employment is not available in the Valley. The construction of the railway will stimulate enterprises' growing demand for workers in some key sectors such as textiles or the services sectors. Such development would be especially beneficial for able-bodied women and youth who find it increasingly hard to secure income-generating opportunities in the winter months.

II. PROJECT DEVELOPMENT OBJECTIVES

A. PDO

15. The proposed project development objectives are to reduce transport costs and to increase transport capacity and reliability through the construction of a rail link between the Uzbek part of the Ferghana Valley and the rest of Uzbekistan.

[18] Industrial Modernization and Infrastructure Development Program (2011-15).

[19] Report number 65028 –UZ discussed at the meeting of the Executive Directors on Tuesday, December 6, 2011..

[20] See Annex 6 for discussion of the employment benefit of the project.

B. Project Beneficiaries

16. ***The project will benefit the population in the Uzbek part of the Ferghana Valley, and Uzbekistan at large***. The project will address mobility for passengers travelling between the Namangan, Andijan and Ferghana oblasts, and the rest of the country. The line will offer a faster, cheaper, all season, more reliable, and safer transport service. UTY is forecasting about 600,000 passengers to use the new infrastructure during the first year of operation. The project will significantly reduce transport costs for freight between the Valley and Angren (see Annex 1), benefiting SMEs and large companies in agricultural and industrial sectors due to the expended markets and customer base. UTY is forecasting about 4.6 million tons goods to be transported during the first year of operation. The project is expected to reduce greenhouse gas (GHG) emissions by about 200,000 tons annually. See the discussion on the project long-term impact in Annex 6.

C. PDO Level Results Indicators

17. ***The project will be measured through the following PDO indicators:*** (i) transportation cost for public transport users; (ii) transportation costs for freight for oil and oil products, fertilizers, and automobiles; (iii) transport capacity; and (iv) reliability of rail services.

III. PROJECT DESCRIPTION

A. Project Components

18. ***The proposed project will help UTY to build a single 124 km track rail link between Angren and Pap, including a 19.2 km rail tunnel through the Kamchik Pass***. This investment is expected to reduce the cost of transportation, add capacity and increase the reliability of transport services to and from the Ferghana Valley. The government and UTY will provide the bulk of the financing for the project. The Bank will finance the signaling, electrification of the railway line, electric power distribution line, track maintenance equipment, and technical assistance to UTY.

19. **Component 1. Rail Main Infrastructure (estimated total cost US$1,438.75 million):** UTY is responsible for the construction of the new railway line main infrastructure including embankments, ballast, rail, bridges and a 19.2 km long tunnel. The construction work was initiated in June, 2013, and the commissioning is planned by July 2016. The proposed loan does not fund this portion of the project. The financing mainly comes from UTY own funds and the state budget. China Exim Bank participates in financing of the construction of the railway tunnel (total cost of the turnkey contract is US$455 million), providing a loan to UTY in the amount of US$350 million[21].

20. **Component 2. Rail Electrification, Signaling, Track Maintenance and Railway Video Surveillance System (estimated total cost US$154 million, 100% IBRD financing):** This component will finance four investments to equip and maintain the new railway line: (i) the

[21] UTY entered into the contractual arrangement with "China Railway Tunnel Group" (the Contractor) in June 2013. The total contract size is US$450 million, out of which US$350 million is from the China Exim Bank loan and the rest is from the UTY budget. According to the contract implementation schedule, the contract activities, which include design, supply, construction, installation and commission of the railway tunnel, are scheduled to be completed in July 2016.

installation of a microprocessor based train control system (estimated IBRD financing US$48 million); (ii) the construction of two traction substations and the installation of SCADA system (estimated IBRD financing US$30 million); (iii) the provision of necessary track maintenance equipment (estimated IBRD financing US$36 million); (iv) the installation of railway video surveillance and broadcasting system (estimated IBRD financing US$20 million); and a US$20 million contingency added to this component and embedded in the financing of the project to cover for possible change in technologies.

21. **Component 3. Power Distribution Line (estimated total cost US$35 million, 100% IBRD financing):** This component will finance three investments to bring energy to the new railway line: (i) the dismantling of overhead power lines (estimated IBRD financing US$2.6 million); (ii) the provision of equipment for the installation of new power lines (estimated IBRD financing US$13.3 million); (iii) the expansion of the Obihayot power substation and the construction of new power distribution lines (estimated IBRD financing US$17.6 million).

22. **Component 4. Technical Assistance to UTY for Supporting Railway Construction (estimated cost US$0.5 million, 100% IBRD financing):** This component will provide technical assistance to strengthen (i) UTY's financial management and asset management capacity; (ii) modernized marketing arrangements; and (iii) capacity development. This component will finance trainings and study tours for UTY staff to develop their knowledge of international best practice in financial management and asset management, and also finance the review of the current institutional arrangements related to asset management at UTY and preparation of recommendations on possible adjustments based on international experience.

23. **Component 5. Technical Assistance to UTY for Improving Railway Logistics (estimated cost US$1.0 million, 100% IBRD financing):** The component will further elaborate the analytical work developed during project preparation under ECAPDEV trust fund. This component will finance technical assistance to help UTY with its logistics plan for the new railway line. Based on case studies (e.g., agriculture, selected manufactures of higher value productions and agri-business), it will identify the needs of new customers, assess whether UTY fully responds to those needs and formulate a set of practical recommendations. In addition the component will finance the review of existing marketing procedures and IT systems and will make recommendations on how to monitor quality of services.

24. **Component 6. Implementation Support (estimated cost US$4.5 million, 100% IBRD financing):** This component will support UTY to monitor the project implementation, including procurement, supervision of the various contracts associated with the construction of the new railway line. The component will also finance the audits of the project as well as a project impact assessment, which includes specific actions to address needs of women and other vulnerable social groups (see para. 62 and Annex 6) and provides a thorough evaluation mechanism for measuring the project gender impact (see para. 33). Uzbekenergo (UE) supervision cost will be supported outside the project financing.

B. Project Financing

Lending Instrument

25. ***The IBRD share of the project cost would be financed through a US$195 million Investment Project Financing made available to the Ministry of Finance and on-lent to UTY for all components except component 3, and to UE for component 3.*** The Borrower would be the Republic of Uzbekistan represented by the Ministry of Finance (MoF).

Project Cost and Financing

26. ***The financing of the Pap-Angren investment was described in the President Resolution № 1985 dated June18, 2013 that also set out the implementation arrangements for the project***. The total project cost is US$1,633.75 of which US$1,088.75 million from UTY own funds and the State budget, US$350 million from China Exim Bank and US$195 million from IBRD. The Resolution states that costs for works, goods and services related to the project are exempted from taxes (e.g., VAT, custom duties).

Table 1 Project Finance Summary (total estimated costs)

Project Components	Project cost including contingencies	IBRD Financing
1. Railway Main Infrastructure	1,438.75	0
2. Rail Electrification, Signaling, Track Maintenance and Railway Video Surveillance System	154.0	154.0
3. Power Distribution Line	35.0	35.0
4. Technical Assistance to UTY for Supporting Railway Construction	0.5	0.5
5. Technical Assistance to UTY for Improving Railway Logistics	1.0	1.0
6. Implementation Support	4.5	4.5
Total Costs	1,633.75	195.0

C. Lessons Learned and Reflected in the Project Design

27. ***Policies and organizational changes should reflect the stage of engagement with a client***. The project is the first Bank-financed railway investment in Uzbekistan. The technical assistance activities are designed to implement and initiate a dialogue at the corporate level as a first stage of engagement in this new sector. The project will assist UTY in financial management, asset management, logistic and commercialization activities. Further dialogue will build on the Bank

2013 Transport Sector Policy Note for Uzbekistan[22], which identified emergent issues and provided policy recommendations for the sector.

28. ***New technologies when introduced should be accompanied by relevant supervision.*** The civil works for the project involve one of the longest railway tunnels in the world, more than 19 km.[23] Such projects often experience delays and significant cost increases, and UTY has no experience in managing such infrastructure. Therefore relevant technical expertise should be brought in from the start. UTY has hired seasoned supervision firm for the construction of the tunnel. Cooperation is already very fruitful.

29. ***A greenfield infrastructure calls for a new business model.*** UTY's objective is to provide better connectivity for the Ferghana Valley. But building a new infrastructure will not be sufficient. UTY needs a new vision for logistics activities as well as for user friendly passenger services. Engineering and operationally focused companies tend to lack such strategic vision. UTY will have to meet the needs of new customers located in the Valley, individuals as well as the private businesses, and answer their call for services. The project design includes a component focused on logistics that will provide recommendations on next steps and associated training.

30. ***The World Bank Independent Evaluation Group (IEG) supports increased investments in railways*** as it is considered as more energy-efficient and, hence, more economically and environmentally sustainable mode of transportation compared to roads, particularly with regard to freight. But IEG also highlights a lack of attention to maintenance in the sector in many developing countries due to the lack of exposure of local engineers and decision-makers to international practice *(Improving Institutional Capability and Financial Viability to Sustain Transport, March 2013).* IEG encourages policy actions to facilitate international professional networking among practitioners of the sector. Components 4 and 5 of the project are designed to provide UTY with more exposure to some of the most critical international operational standards.

IV. IMPLEMENTATION

A. Institutional and Implementation Arrangements

31. ***UTY will have responsibility for implementation of components 1, 2, 4, 5, and 6 of the project, whereas UE will be responsible for implementation of component 3***. Both Project Implementation Units (PIUs) at UTY and UE will be directly responsible for day-to-day management. They are experienced in implementing IFIs financed projects. Uzbekenergo has solid experience in implementing IFI-funded projects. The agency is currently managing the implementation of two World Bank-financed investment operations. It will be in charge of the activities under component 3. UTY has good technical, engineering and operational capacity. They have successfully built in recent years a new 80 km long railway line in Northern Afghanistan[24] and also another 230 km greenfield project from Baisun to Kamkurgan in Southern Uzbekistan. UTY has the capacity to implement the investment and undertake its construction. As of October 2014, UTY has implemented the early stage of construction of the Pap-Angren investment timely

[22] Report No. 66658-UZ, May 2013.
[23] There are only a few rail tunnels longer than 10 km in the world and they are all located in developed countries.
[24] UTY was involved in the civil work for this 80km investment that was funded by Asian Development Bank. The civil works that UTY carried out were completed in less than 8 months.

and efficiently. The Pap-Angren line represents a major engineering endeavor for UTY requiring 1,550 workers working 2 shifts for 36 months to complete the project as scheduled.

B. Results Monitoring and Evaluation

32. ***PDO level and intermediate indicators will be monitored by UTY and UE staff***. At project launch and during implementation, PIUs at UTY and UE will receive training on different monitoring and evaluation methodologies and approaches. The UTY's PIU will be responsible for collecting the data associated with the overall project and reporting the results to the Bank. Project monitoring cost is embedded in component 6. Also independent grievance redress systems are being designed to collect, address and manage possible complains related to environmental, social, governance and other possible issues.

33. ***The government will be conducting an impact evaluation of the project.*** The study will aim at capturing the project impact on welfare, human development, and labor market outcomes on the poor, the bottom 40 percent, unemployed youth, and female headed household among other vulnerable groups both before and after the line is operational. The first baseline survey will be financed out of the ongoing ECAPDEV trust fund. The methodology to be used for the survey is being finalized under the Poverty and Social Impact Analysis (PSIA) undertaken during project preparation (see Annex 6). The second survey will be conducted following the same methodology once the line is open, by the end of the project. It will be financed out of component 6.

C. Sustainability

34. ***UTY is currently a profitable company operating without subsidy and will be able to operate and maintain the new infrastructure and generate expected project benefits.*** UTY has already a culture of operation and maintenance over the existing assets. The company is engaged in modernizing its asset management practices. Component 4 will further support the current practice on asset management by bringing best international experience. The sustainability of the project objectives will depend on the ability of UTY to secure lower unit costs, as well as increased capacity and reliability. These objectives are already at the core of the business model in place at UTY as they are the key elements to retain sufficient market share for the company.

V. KEY RISKS AND MITIGATION MEASURES

A. Risk Ratings Summary Table

Risk Category	**Rating**
Stakeholder Risk	High
Implementing Agency Risk	
- Capacity	Substantial
- Governance	Moderate
Project Risk	
- Design	Substantial

- Social and Environmental	High
- Program and Donor	Moderate
- Delivery Monitoring and Sustainability	Moderate
- Other	
Overall Implementation Risk	High

B. Overall Risk Rating Explanation

35. ***The overall risk during implementation is high.*** The project is being implemented in a complex social and geopolitical setting. The new railway link would require close coordination of operating and investment activities at the regional level in order to mitigate the possible negative impact on the freight volume on the 110 km Tajik railway connection, which cuts across northern Tajikistan. A thorough analysis of regional railway demand traffic analysis was initiated by the Bank under MDTF financing. Once completed, the study will provide a platform for the policy level dialogue on regional railway infrastructure developments and operations.

36. ***The construction schedule for component 1 is demanding.*** The bulk of the activities financed by the Bank (signaling and electrification) will materialize once the main infrastructure, financed under component 1, is completed. Delay in the construction could affect disbursement. The Bank disbursement projection has assumed a conservative schedule. The electrification is on the critical path as it is expected to be completed in July 2016 in order to serve the objectives set by the government. The other activities could be implemented after the first opening of the line. Retroactive financing will be used to allow advance procurement and implementation of electrification and signaling infrastructures under components 2 and 3.

37. ***Safeguards have undergone comprehensive appraisal.*** The Bank's safeguards policies are applied to the entire US$1.6 billion project, even if the Bank finances only a portion of it. There is substantial risk associated with both environment and resettlement as activities have started and construction is on an accelerated pace. As of December, 2014, there were no impacts presenting a serious and irreversible danger to the environment. Progress has been made (monitored by the Bank) to address the remaining outstanding issues with regard to resettlement activities. A consultancy firm engaged by UTY with the support of an ECAPDEV Grant provided support towards preparing the Project's safeguards documents and monitoring implementation of the remedial measures on the ground. The firm also helps resolving pending issues as local authorities have not yet provided full compensation for resettlement (see Annex 3). The Bank continues to monitor the payment of compensation to all project affected persons. The Government is committed to fully implement the remedial measures regarding past resettlement by the loan effectiveness. Nonetheless, some of the measures may not be timely or fully addressed. This might create the risk of delaying the loan effectiveness.

VI. APPRAISAL SUMMARY

A. Economic and Financial Analyses

38. ***The Uzbekistan portion of the Ferghana Valley is forecast to achieve an economic growth of 8 percent per annum over the next few years***. Traffic volumes are conservatively expected to grow at around 4-5 percent per annum, which in the absence of the rail link will create significant congestion on the existing Kamchik pass highway. It is expected that in total, about 85 percent of the current road freight over the pass should transfer to rail. The oil traffic will remain on rail throughout, as will the 2 million tons of traffic currently transshipping at the Angren Logistics Centre. The forecasts have been developed based on a growth rate of about 4 percent per annum, which equals about half the growth rate expected for the regional economy.

39. ***The undertaking is expensive and has about US$1.6 billion cost estimate but will reduce the costs of goods coming from or going to the Uzbek part of the Valley.*** The construction of the proposed rail line will fundamentally change the logistic activities, reduce costs (essential to commodity based exports), and improve reliability (essential to high value exports). The new railway line will also provide passenger services. Rail passenger travel is well-established in Uzbekistan and will provide an affordable option for passenger travel. The project will deliver very substantial benefits compared to the current road transport and will address a major constraint on inter-regional transport and trade. While taking into account the total transport benefits, the project is expected to attain an economic internal rate of return (EIRR) of 15 percent[25]. In the event of a normalization of railway operations and tariffs along the 105 km stretch of railway in the northern part of Tajikistan the EIRR of the new investment is estimated to be 11 percent (see Annex 7 for details). In addition to the economic and connectivity benefits of the project, there will be positive effects on transport safety. Dangerous products, such as gas condensate, that are currently transported by road, will shift to rail, creating less hazardous travel through the Kamchik pass. The railway will provide an all-weather transport link, providing an alternative to the road, which is frequently closed by snow and avalanches.

40. ***A financial model has been created to assess the financial capacity of UTY. The model shows that the company is financially sustainable and generates sufficient revenue to cover operation costs and capital investments other than major network expansions***. Operating expenditure and revenues have been derived from UTY management accounts for 2012 and 2013 and were adjusted for the future productivity increases, based on past experience. The company has a working ratio[26] below 70 percent throughout the forecast period; over 30 percent of its revenues are thus available for debt service or for investment. Less than 10 percent of its free cash flow is earmarked for debt servicing. Capital investments over and above the current project include expenditure on track replacement at rate of about 150 km p.a. (this would renew the entire network over a 40-year cycle) and other electrification and duplication projects.

[25] The analysis is based on an electrified railway line. The technical justification for the electrification of the new line is as follows: (i) the longitudinal profile of the line through the mountainous area would be too demanding on the operation and maintenance of diesel engines, (ii) the 19km long tunnel can only be operated with electric engines, and (iii) the new line will be the continuation of an already electrified network toward Tashkent.

[26] Working ratio measures the ratio of operating cost (excluding depreciation) to operating revenue.

41. ***Rationale for public sector financing***: Public sector financing is the appropriate vehicle for financing the construction of the Pap-Angren rail line because private involvement in the rail sector in Uzbekistan is limited. The public sector is supported by the state in an effort to deliver services that are not supplied by the private sector and to facilitate a modal shift from road to rail, taking in consideration the benefits for the environment and the collectivity. There is no history of transport concession in the country yet. Also the traffic level on the proposed rail link is not high enough to justify concession to the private sector.

42. ***The Bank's value added is to bring necessary expertise in the design of a sustainable and technical sound investment and technical assistance.*** The inputs based on international experience in railways will ensure the use of reliable procurement processes, the fulfillment of social and environmental safeguards for the entire investment, the employment of modern technical standards and the proper quality control for the works. The Bank will also provide sound international practices for the institutional strengthening and logistics development. As an impartial institution, the Bank is in a position to analyze fairly and transparently the geopolitical dimensions of the proposed project and its impact on the regional transport corridors.

B. Technical

43. ***The line provides a direct rail link between Tashkent and the Uzbekistan part of the Ferghana Valley, about 90 km shorter than the existing route through Tajikistan***. It is planned as a single-line electrified railway, between the cities of Pap and Angren. The pre-feasibility study has been prepared by the Design and Surveying Institute of Uzbekistan. The preferred alignment option is 124.14 km long including a 19.2 km long tunnel. The tunnel rise/decline is 20/1000 (also the maximum grade for the line). The minimum curvature is generally 400 meters. Maximum speed is set at 60-70 km/hr. There are four intermediate stations for train control purposes, with a maximum block length of 34 km. The capacity of the line is quoted as 11 pairs of freight trains per day (allowing also for some passenger trains), with the freight trains being 2500 – 2700 gross tons. The current design of the line seems to limit the capacity to about 12 million net tons per year, although modern management techniques could bring the capacity up to 25 million net tons. The implementation of safety measures in the design and construction of the tunnel for passengers and goods will be monitored during project implementation.

44. ***The 19.2 km long Kamchik Tunnel is a civil work being undertaken as part of component 1***. The Bank conducted a comprehensive review of the design and the related construction activities. The contractor is a Chinese firm, specializing in tunnel construction since 1978 and with extensive experience, which provides comfort regarding the required capability and qualification for the construction of the tunnel. The construction is supervised with help from a seasoned consulting firm that has 48-year experience in developing, planning, constructing and operating rail infrastructure. The tunnel detailed design is of good quality, based on acceptable standards. Nevertheless there are aspects that need to be emphasized to enhance the preparedness regarding the safety of the workers and unanticipated events such as rockburst or waterburst (see Annex 2).

45. ***Electric power distribution and signaling:*** The pre-feasibility study has been prepared and being finalized by the Design and Surveying Institute "Sredazenergosetproekt, JSC". It is planned to expand the existing Obi-hayot power substation to ensure the reliable power supply to three traction power substations (TPS) at Koshminar, Pap and Sardala. A 15 km 110 kV power

distribution line will be constructed to connect Obi-hayot substation with TPS Koshminar, 48.8 km of 110kV power distribution line to connect Obi-hayot substation with TPS Pap, and 5 km of 220kV power transmission line to connect 220 kV power transmission line Angren - Obi-hayot with TPS Sardala. There are no specific technical issues associated with the construction of the electric power distribution lines. No specific environment or social issues have been identified related to the construction of electric power distribution. The project will also finance the installation of a SCADA system to operate and optimize the power distribution along the line, and signaling equipment commensurate with the traffic and characteristic of the new railway line. Those activities will be developed using international best practices.

C. Financial Management

46. ***Financial management capacity assessment of UTY PIU and UE PIU was carried out as part of the preparation of the project***. The two PIUs have sufficient capacity for managing financial management under the project. The UTY PIU will be responsible for financial management of components 1, 2, 4, 5 and 6 and for coordination of consolidated bi-annual financial reporting and annual financial auditing of the overall project. The UE PIU will be responsible for financial management of component 3 and for timely submission of required financial information to Pap-Angren PIU in UTY. The PIUs will have separate Designated Accounts, manage procurement and contract payments for their respective components through separate withdrawal applications, and maintain accounts in their respective systems. Both PIUs will follow the well-established planning, budgeting, accounting and internal control procedures of UTY and UE, respectively, which were assessed to be adequate for purpose of the project. Both PIUs are adequately staffed for financial management.

47. ***External Audit***: The annual audited financial statements together with the auditor's opinion and the management letter will be provided to the Bank within six months of the end of each fiscal year and at the closing of the project). UTY PIU will be responsible for selection and appointment project auditor, according to Terms of Reference acceptable to the Bank, and consistent with International Standards on Auditing (ISAs). Following the Bank's formal receipt of audited financial statements from the Borrower, the Bank will make them available to the public in accordance with the Policy on Access to Information through its website. .

48. ***Flow of Funds and Disbursement Arrangements***: Loan funds will mainly flow to the project via disbursements to two Designated Account (DAs) - one for UTY PIU and the other for UE PIU - and direct payments to third parties. The ceiling for UTY PIU DA is limited to US$12 million. The ceiling for UE PIU is limited to US$2 million. The counterpart funds from the Uzbekistan Government will be provided to UTY in a separate account. For UTY, both bank accounts will be maintained in the National Bank of Uzbekistan and will be operated by UTY PIU. This is the current practice followed by UTY in managing funds of other donor funded projects. UE will follow the existing practices adopted for TTP, which are acceptable to the World Bank.

49. ***Disbursement:*** The Loan will disburse through transaction-based disbursement methods that include: (i) advances to the DAs, (ii) replenishments to the DAs on the basis of either Statements of Expenditures (SOEs) for expenses below the defined thresholds or full documentation for expenses above the defined thresholds, (iii) payments against Special Commitments, (iv) direct payments to third parties, and (v) reimbursements. Withdrawal

applications will be signed by two persons: (i) an authorized representative of the Borrower (Ministry of Finance); and (ii) another designated official in UTY/UE. The project will be required to adopt e-disbursements.

D. Procurement

50. ***A country procurement assessment was conducted in 2003 (by the Bank and ADB)***. It identified weaknesses in the public procurement system in Uzbekistan. These weaknesses largely remain today: (a) absence of a unified legislative framework; (b) inefficient and non-transparent procurement practices; (c) absence of a single institution with oversight or regulatory authority for public procurement; (d) weak capacity for reviewing bidders' complaints; (e) complicated internal review/approval of bid evaluation reports which leads to low accountability and delays; (f) no comprehensive anti-corruption measures; and (g) low skills/capacity of the staff handling public procurement at various administrative level. Private sector suppliers and contractors remain unsatisfied with the rules governing public procurement and have little confidence in the system's fairness. Though the government has started extensive reforms of its public procurement system the recent assessments under the CIFA and PEFA studies indicate that there is not much changes in the public procurement environment yet. Thus, the procurement environment is considered a high risk.

51. ***The Bank staff conducted procurement capacity assessment of both UTY and UE PIUs***. The UTY and UE have got extensive experience of working under the IFI projects (ADB, EBRD, JICA, and WB). Their capacity has been assessed and found satisfactory. The procurement capacity assessment identified the following additional risks: (i) the government decrees and rules and regulations have internal conflict in major provisions such as price verification, which may lead to significant delays in project procurement and implementation; (ii) the difficulty in obtaining bank guarantee for bid security and performance security by the local bidders and non-availability of alternative instruments for such purpose in the country banking system in particular for Joint Ventures; (iii) there are several bid evaluation committees/stages involved and one interdepartmental tender committee that is large (eleven members), signing minutes may take more than two months; (iv) the overall procurement process from bid opening to the start of contract implementation may take over a year; and (iv) considerable procurement delays registration by Ministry for Foreign Economic Relations Investment and Trade (MFERIT) involving international contractors/consultants. A proposed risk mitigation plan is detailed under Annex 3. After risk mitigation, the procurement capacity and arrangements at the project level are considered acceptable. Further hiring of experienced procurement specialists in the PIU may be required by the project effectiveness. Procurement training will be provided to the procurement specialists and the UTY staff throughout the project implementation.

52. ***Procurement for the proposed project will be carried out in accordance with the World Bank's "Guidelines :*** Procurement of Goods, Works and non-Consulting Services under IBRD Loans and IDA Credits & Grants by World Bank Borrowers" dated January 2011 and revised 2014 (Procurement Guidelines); and "Guidelines: Selection and Employment of Consultants under IBRD Loans and IDA Credits & Grants by World Bank Borrowers" dated January 2011 and revised 2014 (Consultant Guidelines) and provisions stipulated in the Loan / Financing Agreement. If there is conflict between the Government decrees, rules and regulations and the Bank Procurement and Consultant Guidelines, then Bank Guidelines shall prevail. In addition, the

project will also follow "Guidelines on Preventing and Combating Fraud and Corruption in Projects Financed by IBRD Loans and IDA Credits and Grants dated October 15, 2006 and revised in January 2011".

53. ***Procurement Plans***: UTY and UE PIUs has developed a procurement plan covering procurement activities for the entire period of project implementation. The procurement plan (the summary is provided in Annex 3) will be continuously updated as the project progresses and will be reviewed and approved by the Bank accordingly.

E. Social (including Safeguards)

54. ***The project is expected to have a tangible impact on the livelihoods of low-income and vulnerable groups***. The PSIA found that the establishment of a well-managed railway link would play a critical role in the region's transport network, providing efficient and low cost transport in this high density corridor, particularly for the low income groups and women who face distinctive disadvantages in their mobility and access to transport services. Besides the project could potentially lead to employment stability and additional incomes for those already employed (agribusiness[27], manufacture and services), better access to education and health care, and economic and cultural exchanges between the provinces. While the railway construction may have some potentially negative effects[28] on selected groups, the overall social and distributional impact will be largely positive, directly enhancing access to opportunities for the poor and bottom 40 percent through increased mobility, lower freight costs for both producers and consumers, and reduced travel times.

55. ***The project activities will result in involuntary resettlement and therefore the Operational Policy on Involuntary Resettlement (OP 4.12) is triggered***. Two resettlement instruments have been prepared: (i) a Resettlement Action Plan for site-specific impacts identified prior to appraisal, and (ii) a Resettlement Policy Framework for impacts that may be identified later during implementation. As the construction of the new rail line and of the rail tunnel has already started and as it resulted in resettlement activities prior to the Bank's involvement, the Bank requested also the preparation of a Resettlement Audit / Social Action Plan (RASAP).

56. ***Resettlement Audit***. A resettlement audit commissioned by the Bank in May, 2014 found differences between the ongoing resettlement activities, the legislation of the Republic of Uzbekistan, and OP 4.12 (e.g., displacement prior to compensation, valuation below market value, compensation less than full replacement cost, fees to cover appraisal costs, and insufficient information about dissemination and consultation).

57. ***Remedial measures were identified and agreed upon jointly by UTY and the Bank in July, 2014 and further detailed and agreed upon prior to negotiations.*** Those measures are described in the RASAP that includes: (i) the creation of a database of the project affected people – including compensation rates and entitlements; (ii) awareness campaign focused on recent valuation data and relevant applicable legislation for land acquisition; (iii) appraisal of land at market rate and the provision of compensation at full replacement costs; and (iv) public consultations.

[27] Currently, it is the agricultural sector where there is a highest risk of poverty as a result of unemployment.
[28] The negative impacts are primarily associated with land acquisition and resettlement.

58. ***Resettlement Policy Framework (RPF) and Resettlement Action Plan (RAP) were prepared***. The RAP provides a summary of estimated losses and required compensations defined at the full replacement cost. The RAP is gender informed with special provisions and entitlements specified for vulnerable groups such as female headed families, low income households, the elderly headed households with unemployed family members and disabled. Resettlement progress as of November 1, 2014 is reported under Annex 3.

59. ***Disclosure and public consultations:*** A draft Resettlement Policy Framework (RPF) was disclosed by UTY on its official web-site on September 9, 2014 and on the Bank's Infoshop on October 9, 2014. Public consultations took place on September 15-16, 2014. Final RPF was disclosed on November 28, 2014. A draft Resettlement Action Plan (RAP) that includes the minutes of public consultation on the draft RPF was disclosed by UTY on its official web-site on October 10, 2014 and on the Bank's Infoshop on October 9, 2014. Public consultations on the draft RAP took place on October 21-22, 2014. Final version of the RAP was disclosed on December 13, 2014 by UTY on its official web-site and on December 15, 2014 on the Bank's Infoshop. Public consultations on the draft RASAP tool place on December 11-12 and 18-19, 2014. The final version of the RASAP was disclosed on January 12, 2015 in country and on the Bank's Infoshop.

60. ***The government is completing the implementation of the remaining resettlement remedial actions.*** A number of outstanding issues are being resolved (see Annex 3). The Bank team continues to monitor the progress in addressing the remaining issues. The Prime Minister issued a decree on October 14, 2014 instructing local administrations to complete the following remedial measures: (i) ensure provision of utilities to all new houses, and (ii) complete pending appraisal at the market rate and provide full compensation to the affected people currently affected. The government is committed to complete the implementation the RASAP in accordance with its terms and in a manner acceptable to the Bank by the time the loan will become effective.

61. ***Grievance redress and beneficiary feedback mechanisms (GRM) are designed for the implementation of RAP/RPF/RASAP and cover also broader project activities.*** The GRM, proposed by UTY, is designed specifically for the feedback, complaints handling and resolution during land acquisition process. The GRM model for a broader beneficiary feedback mechanism (BFM) is being finalized to cover all project activities. The project will monitor on the annual basis the progress on addressing project-related grievances. This will be a part of the proposed M&E framework.

62. ***Gender:*** PSIA consultations were disaggregated by gender. These consultations revealed that women are likely to increase their intra-regional mobility due to more affordable and reliable public transportation. The project will also lead to development of local markets (e.g., textile, agriculture), thereby providing more job opportunities for women, who performs domestic activities and thus far more likely to commute short distances. In terms of participation, the project ensures that women are adequately represented in public consultations and different demands and expectations of male and female beneficiaries are considered as part of the beneficiary feedback mechanisms.

F. Environment (including Safeguards)

63. ***The project is rated Environmental Category A as per World Bank environment policies***. This requires a comprehensive project-wide Environmental Impact Assessment (EIA) to identify potential impacts and the measures required to avoid, reduce or mitigate them. The EIA for construction of the railway line and the tunnel was prepared by the Design Institute Boshtransloiha. Consistent with Uzbekistan law, first preliminary (scoping) EIA was prepared and reviewed by the State Expert Review, which specified additional detailed studies required. The Bank also reviewed this preliminary EIA and provided comments. The EIA was updated taking into account comments from both the State Expert Review and the Bank. Radioactive hazard during tunnel construction was identified as potential risk. However, sampling carried out to date indicates there is no excess of radiation levels. An Action Plan for management of the radioactivity risk has been developed by the contractor[29]. Also included in the final EIA are action plans for: (i) mitigation of negative environmental impacts in sensitive areas (i.e. potential pollution of rivers and streams, water protection zones); (ii) management of borrow pits and sites for waste material: and (iii) management of geological risks and emergency situations. The final EIA was approved by the Uzbekistan authorities, but it was determined that some additional elements were required to meet the Bank's requirements as set out in OP 4.01. Rather than revising than already approved EIA, this additional information has been incorporated into the Environmental Management Framework (EMF), as described below.

64. ***The Environmental Management Framework addressed the components and activities not included in the project-wide EIA***. The project-wide EMF and EIA envisions preparation of site-specific EMPs (as per Bank policies) and site-specific EIAs (as per Uzbekistan law), which will complement each other with the purpose to meet the Bank's environmental standards. This includes, in particular, preparation of a site-specific EIA/EMP for the transmission line, which will be prepared by Boshtransloiha and the contractor following the completion of technical sections of the currently ongoing feasibility study.

65. ***The EMF also serves as a supplemental for project-wide EIA for the railway line and tunnel, as noted above***. It reiterates the important information from the existing EIA, including baseline data and potential impacts and mitigation measures, and also provides the additional information and analysis needed to meet the requirements for a Category A project under OP 4.01. Therefore, the EMF will be used as the primary environmental Safeguards instrument for the project. The draft EMF was reviewed by the Bank and – together with EIA was disclosed on September 15, 2014 by UTY on its official web-site and on the Bank's Infoshop. The public consultations took place on September 13 and 14, 2014 in Angren and Pap accordingly. Site-specific EIAs for other works (aside from the railway line and tunnel) will be prepared and disclosed when the respective feasibility studies are prepared[30].

66. ***Finally, the EMF provided guidance for an Environmental Audit of the works already carried out***. Findings of the Environmental Audit were included in the final version of the EMF.

[29] The plan includes independent monitoring and verification of radioactivity levels in the working zone and designation of sites for disposal of any radioactive materials. It is been implemented by the tunnel contractor under the supervision of the engineering consultants.

[30] For works carried out in areas where there are potentially affected people or sensitive sites, the Borrower and/or Contractor will also organize local public consultations.

Previous visits to ongoing construction sites by the team's environmental specialist indicated that there were no significant issues that would require a suspension of the works, but did identify some needed improvements. The Environmental Audit reviewed progress in these areas and provide specific recommendations for remedial measures. The Environmental Action Plan based on these recommendations was prepared, agreed and included in the EMF. The final EMF was disclosed on November 7, 2014 locally and on the Bank's Infoshop. The compliance of the contractors is being monitored by key regulatory agencies (environmental, health and safety) on a regular basis.

67. ***In summary of the above, the following environmental safeguard instruments will be applicable to the Project:*** (1) project-wide EIA and EMF; and (2) site-specific EIAs and EMPs.

G. Other Safeguards Policies Triggered

68. ***Implementation of the project takes place in part on the territory of ancient settlement Chilhujra of VI century BC – IV century AD, and OP 4.11 will be triggered.*** According to scientific conclusion of the research staff of the State Hermitage Museum (St. Petersburg, Russia), the site is of great historical importance and value for archaeology, history and culture of Ferghana Valley, Uzbekistan and the entire Central Asian region. The works on the alignment in the fall of 2013 resulted in damage to the site[31]. The Bank required from the UTY to stop the works to prevent further damage and prepare the Action Plan for Physical Cultural Resources. Such Action Plan was prepared as of the EMF and consulted with also authorities responsible for protection of historic and cultural heritage. The site will be surveyed by specialists in archaeology according to legislation of Uzbekistan. If the survey indicates the need for any additional protection measures, these will be put in place before any additional works are carried out that could impact the site. The Action Plan indicates that the alignment should avoid historic and cultural sites as much as possible.

69. ***OP 7.50 will not be triggered***. UTY formally confirmed that no abstraction of water from the Akhangaran and Chadak Rivers (tributaries of Syrdarya River that has a status of international waterway) is planned or necessary. The sources of water supply for all proposed construction activities of the Project are reported to be existing wells (stations Sardala, Razezd 2, Razezd 3 and Razezd 4), water tanks (stations Razezd 1 and Temirjulobod), and existing piped town water supply (stations Angren, Uglesborochnaja and Pap). As outlined in this EMF, precautions will be taken to ensure that there is no impact on the rivers from sewage effluent, erosion from works, or runoff from material stockpiles or machinery. In addition, it has been confirmed that construction of bridges, embankments, and channelization/straightening activities in the area of Akhangaran River does not trigger OP 7.50.

[31] The alignment makes a cut through the central section of the historic site. The dimensions of the cut are 50 m (width) x 120 m (length). Approximately 10 % of the historic area was damaged.

Annex 1: Results Framework And Monitoring

Country: Uzbekistan

Project Name: Pap-Angren Railway (P146328)

Results Framework

Project Development Objectives

PDO Statement

The proposed project development objectives are to reduce transport costs and to increase transport capacity and reliability through the construction of a rail link between the Uzbek part of the Ferghana Valley and the rest of Uzbekistan.

These results are at	Project Level

Project Development Objective Indicators

Indicator Name	Baseline	Cumulative Target Values				
		YR1	YR2	YR3	YR4	End Target
Transportation cost for public transport users per passenger (Amount(USD))	15.00	15.00	16.50	18.20	16.00	16.00
Freight cost for oil and oil products per tank (Amount(USD) - Sub-Type: Breakdown)	1944.00	1944.00	2218.60	816.00	930.00	930.00
Freight cost for fertilizers per wagon (Amount(USD) - Sub-Type: Breakdown)	2058.60	2058.60	2349.40	858.50	979.90	979.90
Freight cost for automobile per wagon	6714.00	6714.00	7662.50	529.00	604.00	604.00

(Amount(USD) - Sub-Type: Breakdown)						
Pairs of passenger trains per day (Number - Sub-Type: Breakdown)	0.00	0.00	0.00	0.00	1.00	1.00
Pairs of freight trains per day (Number - Sub-Type: Breakdown)	0.00	0.00	0.00	1.00	1.00	1.00
Reliability of rail services (percent of delays) (Percentage)	95.00	95.00	95.00	5.00	5.00	5.00

Intermediate Results Indicators

		Cumulative Target Values				
Indicator Name	Baseline	YR1	YR2	YR3	YR4	End Target
Installation of Signaling System (Text)	The system is not commissioned	The system is not commissioned	The system is not commissioned	The system is commissioned	The system is commissioned	The system is commissioned
Electrification of the Rail (Text)	The system is not commissioned	The system is not commissioned	The system is not commissioned	The system is commissioned	The system is commissioned	The system is commissioned
Construction of Power Distribution Line (Text)	The power distribution line is not commissioned	The power distribution line is not commissioned	The power distribution line is not commissioned	The power distribution line is commissioned	The power distribution line is commissioned	The power distribution line is commissioned
Working Ratio (Financial Sustainability of UTY) (Percentage)	64.00	65.00	66.00	66.00	67.00	67.00
Direct project beneficiaries (Number)	0.00	0.00	0.00	0.00	611740.00	611740.00
Beneficiary satisfaction with the quality of services (males) (Percentage - Sub-Type: Supplemental)	0.00	0.00	0.00	0.00	85.00	85.00
Beneficiary satisfaction with the quality of services (females)	0.00	0.00	0.00	0.00	85.00	85.00

(Percentage - Sub-Type: Supplemental)						
Grievances registered related to delivery of project benefits addressed (%) (Percentage) - (Core)	70.00	70.00	80.00	90.00	90.00	90.00
Grievances related to delivery of project benefits that are addressed-(number) (Number - Sub-Type: Supplemental) - (Core)	30.00	30.00	25.00	20.00	25.00	25.00

Indicator Description

Project Development Objective Indicators

Indicator Name	Description (indicator definition etc.)	Frequency	Data Source / Methodology	Responsibility for Data Collection
Transportation cost for public transport users per passenger	The baseline is the cost per passenger to travel from Andijan to Tashkent in a private taxi or mini-bus. The baseline cost is compared to a trip by rail in the economy class on the same route once the new line is operational. Annual rate of increase of fare is assumed to be 10% (historical rate of increase for the period of 2009-2014). The currency conversion from UZ sums to US dollars will be carried out using the exchange rate indicated in the PAD.	Annual	UTY	UTY
Transportation cost for freight	This indicator has three sub-indicators. These include freight costs for (i) oil and oil products, (ii) fertilizers, and (iii) automobiles.	Annual	UTY	UTY

Freight cost for oil and oil products per tank	Currently oil and oil products are transported on Tajik rail link because it is dangerous to transport petroleum products via the Kamchik Pass. Once Pap-Angren is built, these products will be transported via rail. The cost is calculated for the route Pap - Angren. Annual rate of increase of tariffs is assumed to be 14% (historical rate of increase for the period of 2010-2014). The currency conversion from UZ sums to US dollars will be carried out using the exchange rate indicated in the PAD.	Annual	UTY	UTY
Freight cost for fertilizers per wagon	Currently fertilizers (urea fertilizer and ammonium nitrate) are transported via rail, transferred to road through the Kamchik Passand then transferred back to rail. Once Pap-Angren is operational, the fertilizer products can be transported via rail directly to destination using similar size wagons. The cost is calculated for the route Pap - Angren. Annual rate of increase of tariffs is assumed to be 14% (historical rate of increase for the period of 2010-2014). The currency conversion from UZ sums to US dollars will be carried out using the exchange rate indicated in the PAD.	Annual	UTY	UTY
Freight cost for automobile per wagon	Currently, the manufactured cars are transported via road and car parts are delivered by railway through Sughd Province of Tajikistan. Once Pap-Angren is operational, the automobiles could be transported via rail through the Uzbek territory if the associated logistics and rail infrastructures are available. The cost is calculated for the route Pap - Angren.	Annual	UTY	UTY

	Annual rate of increase of tariffs is assumed to be 14% (historical rate of increase for the period of 2010-2014). The currency conversion from UZ sums to US dollars will be carried out using the exchange rate indicated in the PAD.			
Transport capacity	Once the Pap-Angren railway is operational, the transport connectivity between the Uzbek Part of the Ferghana Valley and the rest of Uzbekistan will be improved. The capacity of the new infrastructure is measured as a number of pair of trains (passenger and freight) on the line per day. The indicator has two sub-indicators.	Annual	UTY	UTY
Pairs of passenger trains per day	The sub-indicator measures a number of pairs of passenger trains per day on the Pap-Angren railway line	Annual	UTY	UTY
Pairs of freight trains per day	The sub-indicator measures a number of pair of freight trains per day on the Pap-Angren railway line	Annual	UTY	UTY
Reliability of rail services	Reliability of the new infrastructure is measured as percent of trips delayed by more than one day as per schedule. The baseline is the percent of delays on the Tajik railway line (Sughd Province of Tajikistan). It is compared with the percent of delays on the Pap-Angren railway line once it is operational.	Annual	UTY	UTY

Intermediate Results Indicators

Indicator Name	Description (indicator definition etc.)	Frequency	Data Source / Methodology	Responsibility for Data Collection

Installation of Signaling System	No description provided.	Annual	UTY	UTY
Electrification of the Rail	No description provided.	Annual	UTY	UTY
Construction of Power Distribution Line	No description provided.	Annual	UTY	UTY
Working Ratio (Financial Sustainability of UTY)	Working ratio measures the ratio of operating cost (excluding depreciation) to operating revenue.	Annual	UTY	UTY
Direct project beneficiaries	The indicator will be measured as the annual number of passengers that will travel via the new railway link	Annual	UTY	UTY
Beneficiary satisfaction with the quality of services (males)	The percentage of male respondents who are satisfied with the quality of services on the new railway line corridor	Annual	UTY	UTY
Beneficiary satisfaction with the quality of services (females)	The percentage of female respondents who are satisfied with the quality of services on the new railway line corridor	Annual	UTY	UTY
Grievances registered related to delivery of project benefits addressed (%)	This indicator measures the transparency and accountability mechanisms established by the project so the target beneficiaries have trust in the process and are willing to participate, and feel that their grievances are attended to promptly. It is understood that local sensitivities and tensions will not allow grievance or redress mechanisms to be established in all projects.	Annual	UTY	UTY
Grievances related to delivery of project benefits that are addressed-(number)	No description provided.	No description provided.	No description provided.	No description provided.

Annex 2: Detailed Project Description

Uzbekistan: Pap-Angren Railway (P146328)

SECTOR AND PROJECT BACKGROUND

Role of Railways and Project Objectives

1. ***Railways remain the dominant mode for freight transport and retain a large share of the long-distance passenger transport market in Uzbekistan***. It is recognized as a mode of transport that serves many of objectives of the government. It offers basic access to jobs and services, and it is a source of affordable and efficient transport services. Railways are also the most eco-friendly mode of transportation available in Uzbekistan. The railway system comprises of 4,186.2 km of railway lines, of which 487.3 km (12 percent of the network) are double-lines and 687.4 km (16 percent of the network) are electrified. It handles 120 km/hour trains on most sections. The network is an important link on the transport corridors between the west and east, and the north and south connecting Europe to Asia. The Transport Corridor Europe – Caucasus - Asia (TRACECA) and three of the six Central Asia Regional Economic Cooperation (CAREC) corridors are crossing Uzbekistan.

2. ***The Uzbekistan railway system is managed by the state-controlled joint stock company UTY***. Uzbekistan was the headquarters of the Central Asia railway network during the Soviet era, and UTY has retained its technical and operating expertize. UTY is profitable and does not receive operating subsidies. In 2012, UTY handled 82 million tons of cargo, of which 11 million tons were transit cargo. Since 1990 many of the Central and Eastern European countries have seen a significant drop in rail freight; this is not the case in Uzbekistan, where the railway transportation market is significant with high traffic volumes, well above the European average. While UTY is predominately a freight railway company, it also provides passenger services and carried 16.0 million passengers in 2012. Track renewal works since 2006 have been executed at a pace that is sufficient to avoid the accumulation of backlogs and allow the operation of traffic according to design parameters. Overall, the status of the railway infrastructure including telecommunication systems, signaling systems, power supply, catenaries and interlocking systems, is satisfactory. More than 50 percent of the available assets are less than 20 years old, which is superior to many European railways, but 66 percent of the fleet of freight wagons are older than 20 years and requires investments. All in all, UTY manages to operate with low maintenance costs.

3. ***Investments in maintenance, repair, and construction of railways and rolling stock are currently solely financed by UTY***. Presently, the high efficiency of railway operations on the railway infrastructure allows UTY to cover total costs of infrastructure and rolling stocks from its own revenue. Very few railways in the world are able to be financially sustainable with support from the state budget. Reportedly, there are no backlogs in maintenance works and the existing speed restrictions are on very limited distances and for short periods of time. This superior performance highly depends on the volume of traffic which implies that UTY must maintain the same intensity of the traffic in order to preserve its current policy of self-financing the maintenance, repair and construction/acquisition of infrastructure/rolling stock.

4. ***However, the connectivity between the regions of Uzbekistan is still affected significantly***

by the dissolution of the Soviet Union today. The Soviet rail network was driven by a Moscow-centered economy without regard to internal boundaries. Since the 1990s, national boundaries have created new barriers to trade flows and market access. Newly erected border crossings worsened internal connectivity as many of its rail and road routes cross into neighboring countries before crossing back into Uzbekistan. Similarly, neighboring countries depend on Uzbekistan transport network to transport its good and passengers (e.g. southern Uzbekistan provides transit for Tajikistan and Kyrgyzstan and northern Uzbekistan provides transit for Kazakhstan). Uzbekistan part of the Ferghana Valley is most affected by the lack of internal connectivity. Despite their major industrial, agricultural and petrochemical industries, the GDP per capita in 2012 of the three Uzbekistan provinces in the Ferghana Valley (Ferghana, Andizhan and Namangan) were below the average for Uzbekistan by 11 percent, 32 percent and 52 percent respectively.

5. ***The Ferghana Valley is connected to the rest of Uzbekistan by only two routes***. They are (i) via rail and road through Tajikistan's Khujand province and (ii) via road through the Kamchik Pass, a steep highway through mountainous terrain built around 2000. The use of the 110 km rail connection through Tajikistan has declined significantly since the 1990s when around 10 million tons of freight (largely oil-related but including a range of other commodities) used the line. Currently less than one million tons of goods to and from Uzbekistan (and a smaller volume to and from Kyrgyzstan) uses the line. Most of the Uzbekistan traffic is imports (and some exports) of freight (such as some petroleum products) which is not suitable for road transport.

6. ***The Kamchik Pass is used for most freight transport and is the only means for movement of people in and out of the Uzbek part of the Valley, other than a very limited air service***. The Kamchik pass is used for freight from the Ferghana Valley such as cars, oil products, chemical products, and agricultural products and freight to the Valley such as crude oil, machinery and equipment (including car components), chemicals, textiles and metals. The petroleum traffic to and from the refineries moves by road over the pass between two terminals at Angren and Pap and thus has two road-rail transfers and associated storage terminals. All other freight is carried by road between Tashkent or the rail terminal at Angren and its final origin/destination in the Valley. Almost all passenger transport is by car or shared taxi as passenger buses have been forbidden to use the pass for road safety reasons. In 2013, an estimated 16,800 vehicles per day travelled across the Kamchik Pass, of which 86 percent were light vehicles (mostly shared taxis) and 14 percent trucks. About half the trucks were heavy trucks (5 or more axles), carrying about 7 million tonnes of freight per annum. Importantly, the route is regularly closed because of snow in the winter and landslides in the spring.

7. ***The proposed Pap-Angren Railway Project will connect the Ferghana Valley to the rest of Uzbekistan***. The rail line will connect the existing railhead at the end of the Angren branch with Pap, located on an existing rail line in the Valley. From Pap, there are existing connections to Kokand and Ferghana to the west and to Namangan and Andijan to the east. The country aspires to develop this missing rail link because improving the connectivity of the Ferghana Valley to the rest of the country is a high priority. Moreover, the Government of Uzbekistan intends to boost development of a newly established Angren Free Industrial Economic Zone, connecting it to Ferghana Valley through this rail link, and further to China.

8. ***The undertaking is expensive and has a US$1.6 billion cost estimate***. The government is planning to finance about US$1,633.75 million; the World Bank contribution is set to US$195

million and; US$350 million from Chinese EximBank. The construction has started and the Pap-Angren line is expected to be operational in 2016. The project is challenging technically as it is new construction passing through mountainous terrain and includes a 19.2 km rail tunnel.

9. ***The project will contribute to needed logistic improvements and reduce the costs of goods coming from or going to the Uzbekistan part of Ferghana Valley.*** Currently, the cost of logistic activities in Uzbekistan is two times higher than in Europe. The double landlocked geography of the county only partly explains the high logistic costs – there should be improvement in terms of efficiencies and service quality. For instance, for fertilizers, rail transport lacks reliability, the traffic is unbalanced with empty backhaul and the seasonal nature of the freight is not addressed - factors contributing to higher costs. As for the automotive sector, better logistics would reduce the capital tied up parts and inventory so the industry could move from supply-driven to demand-driven operations. The construction of the proposed rail line will fundamentally change the logistic activities in Uzbekistan through cost reductions (essential to commodity based exports) and improved reliability (essential to high value exports).

Foreign Assistance

10. ***UTY, while not reliant on foreign assistance, has yet a long history of cooperation with foreign agencies and International Financial Institutions***. The main inter-action has been with ADB, EBRD and JICA.

a) ADB first engagement was for technical assistance back in 1998, focusing on institutional capacity of UTY in the field of project implementation. ADB then helped financing a series of investments (320 km between Chengeldy and Samarkand US$70 million in 2004; 340 km Samarkand-Bukhara-Khodjadavlet route US$70 million in 2006; rail electrification of 140-km rail section between Marokand and Karshi US$100 million in 2011. ADB also continued supporting institutional capacity on track maintenance and train operations.

b) EBRD provided a US$40 million loan in 1998 to help UTY improving the effectiveness and profitability of its freight business. The EBRD's investment was part of the Railway Restructuring Plan being undertaken by UTY with the support of the Government. The Railway Restructuring Plan consisted of several initiatives that address the main priorities of the railway sector such as staff training, regulatory reform, organizational changes, and financial economic restructuring and energy efficiency. The loan contributed to the modernization of UTY's locomotive fleet by funding the purchase of about 10 new electric freight locomotives. EBRD continued its engagement in 2001 by providing US$68 million loan to re-power diesel-electric locomotives.

c) JICA started in 1996 helping UTY with the improvement of railway passenger transport lending US$59 million to that end to construct a passenger wagons repair plant, retrofit old cars and purchasing new cars. In 2012 JICA provided about US$225 million financing for rail electrification of 325-km Karshi-Termez section. JICA also was involved in building the new Tashguzar-Kumkurgan railway line and provided a loan of US$150 million.

11. ***The development of Uzbekistan railways is also envisaged in the Central Asia Region Economic Cooperation (CAREC) Transport and Trade Facilitation and Action Plan***. From 2011

to 2013, above US$800 million was invested in the railway sector of Uzbekistan (taking into consideration some of the activities mentioned above).

12. ***Other countries have participated in the modernization of UTY***. More than 10 rail investment projects were financed by the Euro-Asian Transport Links (EATL) project started with Phase I (2002-07) as a joint undertaking between the United Nations Economic Commission for Europe (UNECE) and the United Nations Economic and Social Commission for Asia and the Pacific (UNESCAP) with 39 countries participating. IFIs such as ADB, JICA, KfW (Germany) and Kuwait Fund of Arabic Economic Development undertook active participation in providing financing for those projects. The following railway projects with costs of over US$905 million were implemented during the Phase 1 (2002-07):

a) Construction of a new 250-km long railway section Tashguzar-Boysun-Kumkurgan (financed by JICA);
b) Railroad modernization of 341-km long Samarkand- Khodjadavlet (financed by ADB);
c) Electrification of 114-km long Tukimachi-Angren railway section (financed by German development bank KfW and Kuwait Fund of Arab Economic Development);
d) Rehabilitation of 320-km long Keles-Samarkand-Kashi (financed by ADB);
e) Reconstruction of railroad section Termez-Galaba, including the bridge through the river Amu-Darya (financed by EBRD).

13. ***Under Phase II (2008-13) another US$668.34million are invested in the sector***, all financed by UTY:

a) Organization of high-speed passenger trains traffic on Tashkent-Samarqand route;
b) Construction of double-track electrified railway line Yangiyer-Jizzakh (financed by Uzbekistan Railways);
c) Rehabilitation of railway lines;
d) Completion of a new railway section Miskin-Nukus.

14. ***Beside the Pap-Angren investment, UTY has medium to long-term projects*** as follows:

a) Electrification of Marokand-Karshi railway line (by 2014);
b) Electrification of Marokand-Navoi-Bukhara railway line (by 2018);
c) Electrification of Karshi-Tashguzar-Baysun-Kumkurgan-Termez railway line (by 2017).

Challenges

15. ***The first priority for UTY is to act dynamically to keep its current position in the transportation market in Uzbekistan***. Uzbekistan Railway remains to have a substantial share of freight transportation services, but competition from road haulage will increase over the coming years. This competition will likely result in railway's loss of market share on freight transportation, as it happened in all other countries during the last 50 years. It would seem to be important that UTY will try to maintain a freight services market share of at least 30 percent. At the same time, the current market share of only 4 percent of volume of passengers (including the automobiles) is too low and should be increased over short term to at least 7-8 percent (European average). Given the high level of fixed costs, railways are worldwide highly sensitive to a reduction in traffic volumes as it may trigger substantial financial losses.

16. ***Second, while the technical status of railway infrastructure systems appears to be satisfactory, UTY would benefit from the development of a medium- to long-term plan for the modernization of the existing systems.*** Delaying the development of such a plan might have negative impacts, including: (i) it will increase the operating costs of the railway infrastructure, (ii) additional costs passed on to higher tariffs will reduce the attractiveness of rail transport, and (iii) the delayed modernization will increase the cost of assets over their life cycle, creating an additional burden on the budget of UTY and the government. Ideally, the medium- to long-term plan for the modernization of the railway infrastructure systems would include an assessment of the need to further increase the lengths of doubled and electrified lines, and the need to implement the latest technology for electronic interlocking systems and most up-to-date generation of centralized traffic control system.

17. ***Last, a long-term strategy for financing railway infrastructure in Uzbekistan is missing.*** A careful assessment of the future evolution of the market should be developed vis-à-vis the needs for investment in order to define the strategy of railway development for the next 20-25 years. The needs of investment must be assessed with two scenarios: (i) preserving the current transport capacity (infrastructure and rolling stock), and (ii) expanding the existing capacity through modernization of infrastructure (especially along the international corridors crossing the country), and acquisition of new rolling stock able to offer higher quality services. The annual financial needs for railway infrastructure and rolling stock modernization and renewal are very different from country to country and each railway must develop programs appropriate for their local conditions. It is of significant benefit to the country that UTY is currently a company that is able to cover all its operating and replacement costs through its own revenues. It is also able to contribute significantly to new infrastructure such as the Pap-Angren railway line. It is no doubt that UTY should maintain its capacity to fully finance all its operating costs, maintenance of infrastructure and rolling stock, and the investments in rolling stock and other assets necessary for providing transport services. Concerning the development of railway infrastructure (doubling and electrification of lines, construction of new lines, bridges, tunnels, etc.) if UTY will not be able to cover the full costs in the future, they may be eligible to receive funds from the state budget, similar to the methods used by the government for the construction of roads. Considering the annual need of rehabilitation of at least 240 km of track with an average cost per kilometer of about US$400,000 (according to estimates provided by UTY), the annual financing requirements for track rehabilitation is estimated at about US$125 million. The modernization and renewal of the fleet would require an annual average investment of about US$170 million to preserve the rolling stock fleet in operation for the current level of business. Creating a sustainable environment for financing the railway infrastructure is critical. During the last years, UTY succeeded to realize investments of about US$200 – US$490 million annually using its own revenues and international loans. This is an important achievement, but during the next 5-10 years the process should continue with an increasing annual investment program. According to the rough estimation, the annual investment needs are expected to increase to about US$420 million for infrastructure and US$170 million for rolling stock (yearly). It would be very difficult for UTY to achieve such a high level of investments by relying on their own funds. The current policy of attracting loans from international financial institutions is expected to continue. Analysis of the current flows of freight allows to rank the major lines according to the achieved traffic volumes and can help prioritizing investment projects such as track renewal for higher speed on existing line, or construction of new lines, modernization of signaling or interlocking systems, electrification of lines or any other important need of modernization of the railway network.

DETAILED PROJECT DESCRIPTION

18. ***The proposed project will support UTY to build a single 124 km track rail link between Pap and Angren including a 19.2 km rail tunnel through the Kamchik Pass***. It will also support UzEnergo (UE) for the reconstruction of Obihayot power substation and the construction of power distribution lines from Obi-hayot power substation to traction power substations (TPS) at Koshminar and Pap, and from power transmission line Angren - Obi-hayot to TPS Sardala to secure reliable power supply for the new railway line . The government and UTY will provide the bulk of the financing for the project, while the World Bank will finance the signaling, electrification of the railway line, electric power distribution line, track maintenance equipment, technical assistance to UTY, and technical assistance for logistics and commercialization activities by UTY focusing on new business that will grow following the opening of the Pap-Angren new railway line. Most of the disbursement will occur in the latter half of the project life because the electrification and the signaling investments could only take place after all other civil works are completed. The bidding document for electrification under UTY is being finalized. Additional bidding document for signaling and electrification under UE will be completed during fall 2014. Retroactive financing up to an aggregate amount not to exceed US$20 million will be used to allow UTY and UE start implementing supply and install activities under components 2 and 3 prior to effectiveness.

19. ***Component 1. Rail Main Infrastructure (estimated total cost US$1,438.75 million):*** This component will finance the construction of the new railway line main infrastructure including embankments, ballast, rail, bridges and a 19.2 km long tunnel. The proposed loan is not financing this portion of the project. The 124 km of new railway line will remain single track. It was designed by design and survey institute Boshtransloyiha in 2012. The new alignment follows the Akhangaran River and its valley oriented from northeast to southwest for about 190 km. The Angren plateau nearby reaches 3200 m above sea level. The Kamchik pass is 2200m high and this topography is imposing slopes on the new railways up to 4 percent. The 124 km start at the existing railway station at Angren in the West and use existing alignment for 6 km to an old coal mine before heading to the Akhangaran reservoir close to the Chinar settlement. The alignment then follows the slopes of the Akhangaran river valley until it reaches the Kamchik pass – the location of the 19.2 km tunnel financed under the component. Several variants were studied for the tunnel of which the one that is being built is the only one providing acceptable alignment and profile for the railway. East of the tunnel the alignment follows another valley, this time the Sansalaksay Valley, managing to avoid the settlements Mazar, Altinkan, Chadak and Hanabad. The new railway then reaches the valley of Kaydaksay and Chadak Rivers and the Feghana Valley and ends at the existing railway station in Pap.

20. ***The construction of the Kamchik tunnel is a challenge to the engineers because of its length.*** The tunnel was designed by the State Institute "Hydroproject", which is normally in charge of the construction of dams and with no experience in railway tunneling. The tunnel cross section is a classic horseshoe-shaped section 5.5 x 6.8 meters. The infrastructure includes the railway tunnel, a safety gallery in parallel to the railway tunnel with exits for evacuation of passengers during emergency situation. The railway tunnel and the safety gallery are connected every 300 meters with galleries for pedestrians. The tunnel and the galleries are equipped with required engineering facilities (watercourse, ventilation, fire safety facilities, power supply, signaling system, communication). The tunnel is under construction. Chinese contractor CRTG is processing

with tunnel excavation at seven different sites. Works are on schedule. Main and safety tunnel from Angren and Pap site and 3 incline shafts. On the Angren side, the rock that is encountered in the safety tunnel is set to class II (very good quality) whereas the rock in the main tunnel is set to class III (good quality). Water is so far absent. On the Pap side, the geology is different with main parts that are muddy sandstone or porphyr. Supervision is measuring radiation which has been identified as a potential hazard. Results so far show no danger of radiation. The construction time – 36 months – is very short and the contractor is under pressure to get the required work progress.

21. ***Considering the significance of the construction activities, and the risks associated with its construction, the Bank conducted a comprehensive review of the design and the related construction activities.*** The contractor is a large Chinese firm, specializing in tunnel construction since 1978 and has extensive experience in design and construction including tunneling under difficult conditions covering most of the safety challenges encountered under the project. The contractor experience provides comfort regarding the required capability and qualification for the construction of the tunnel. The construction is supervised with the help of the consulting firm from Germany. The detailed design that has been updated by the contractor is of good quality, based on acceptable standards. It provides sufficient guidance to the staff currently in charge of the construction. Nevertheless, there are aspects that need to be emphasized to enhance the preparedness regarding the safety of the workers and unanticipated events:

a) Record historical occurrence and analysis of rockburst and waterburst. Prepare plans for dealing with rockburst and waterburst occurrence;
b) Prepare a plan on deformation monitoring and measures to prevent large deformations during the construction;
c) Deploy professional with relevant qualifications and certificates to ensure the quality and the durability of the structure;
d) Deploy professional geologists to carry out geological observation, rock mapping and take part in the monitoring of rockburst, waterburst, radiation, high temperature, large-scale deformation, etc. in order assure the successful completion of the tunnel.

22. ***Component 2. Rail Electrification, Signaling, Track Maintenance and*** **Railway Video Surveillance System *(*estimated total cost US$154 million, 100% IBRD financing*)***: This component will finance four investments to equip and maintain the new railway line as follows:

a) *Signaling and Communications (estimated IBRD financing US$48 million).* The sub-component will finance a microprocessor based train control system with fiber optic-based communications. The system would be controlled from UTY's existing dispatching center in Tashkent. UTY will carry out the related civil works (buildings, cable ducts and cable laying). The strategy is to procure the signaling and communication through a supply and install contract with one of the world-wide leading suppliers. The procurement of the signaling system will be based on the latest technology and will benefit from the experience recently developed under other World Bank-financed project (e.g., Azerbaijan Rail Trade and Transport Facilitation). The tendering for the signaling contract is being prepared and should be launched during fall 2014 so that the contract can be signed prior to effectiveness.

b) *Electrification (estimated IBRD financing US$30 million).* The sub-component will finance (a) turnkey construction of two traction substations and (ii) a SCADA system for

optimizing energy use. UTY will construct the catenary structure and install the cabling. The power supply will be 25 kV AC. The same strategy as for signaling will apply with a supply and install procurement that is being finalized. Provided retroactive financing is put in place, the contract is expected to be implemented before effectiveness to align with the schedule imposed by the Presidential decree № 1985.

c) *Track Maintenance Equipment (estimated IBRD financing US$36 million)*. Track maintenance equipment will be used to maintain the new Pap-Angren line and will consist of cranes, rods, emergency and security trucks, and other machinery and maintenance equipment. The procurement related to this activity is not on the critical path. Therefore it will be initiated last.

d) *Railway Video Surveillance and Broadcasting System* (*estimated IBRD financing* US$20 million): The sub-component will finance surveillance system that will record video information to digital means, video broadcasting on any telecommunication channels, and support management of information to railway users.

e) A US$20 million contingency is added to the total cost of the various contracts mentioned above and embedded in the cost of the component. This provision would allow to finance possible change in technology.

23. ***Component 3. Power Distribution Line*** **(estimated total cost US$35, 100% IBRD financing*)***: This component will finance three investments to bring energy to the new railway line as follows:

a) *Reconstruction of overhead power lines (estimated IBRD financing US$2.6 million)*, including the Angren - Obi-hayot 220kV power line of total 18 km length, of which 11 km in Tashkent region and 7 km in Namangan region.

b) *Equipment for the installation of new power lines (estimated IBRD financing US$13.3 million)*, including the procurement of concrete structures for 110-220kV power lines, respective materials and communication equipment, protection relay, metering and controlling instruments, general power equipment and others.

c) *Expansion and upgrade of a power substation and construction of power distribution lines (estimated IBRD financing US$17.6 million)*. The sub-component will finance the reconstruction and expansion of 220 kV Obi-hayot substation and the construction of 15 km and 48.8 km of 110kV power distribution lines to connect Obi-hoyot power substation with TPSs Koshminar and Pap, and 5 km of 220kV power transmission line to connect 220 kV power transmission line Angren - Obi-hayot with TPS Sardala.

d) *Other capital costs associated with construction works (estimated cost US 1.5 million).*

24. ***Component 4. Technical assistance to UTY for Supporting Railway Construction (estimated cost US$0.5 million, 100% IBRD financing):*** This component will finance technical assistance to UTY in the form of consultant services to provide training and study tours for UTY staff to develop their knowledge of international best practice in financial management and asset management. The component will also finance the review of the current institutional arrangements

related to asset management at UTY and preparation of recommendations on possible adjustments based on international experience.

25. ***The current financial and accounting systems remain focused on the preparation of statutory reports.*** The operational structure of UTY is based around functions and inputs rather than products and outputs. The financial and accounting functions are spread within UTY. The Marketing Department oversees the preparation of accounts. The financial planning is assumed by the Economic Department – international best practices however generally consist of merging accounting and financial functions within a same entity. UTY's financial and accounting standards are quite advanced compared with other railway SOEs in the region. Accounting standards follow national guidelines. Financial reporting allows UTY's management to formulate timely and informed decisions. However the accounting systems are not fully automatized and numerous levels of consolidation occur. An automatized financial and accounting international standard could be set as an objective for UTY. The consultant services to provide training and study tours financed under the component will help UTY staff getting familiar with international best practice related to financial and accounting operations.

26. ***Asset management exists at UTY but it is norm-based rather than market based as it follows a national standard for asset management***. A comprehensive asset management system would help UTY to know its costs and ensure sound financial prioritization to develop activities in higher revenues market segments and additional tools could be developed for management purposes in addition to the national standards. Also successful recent experiences in other freight-focused railways (particularly North America, but also India) have shown that an Enterprise Resource Planning (ERP) system (to be gradually implemented within the organization) could facilitate the process. ERP systems integrate several data sources and processes of an organization into a unified system. A typical ERP system uses multiple components of computer software and hardware to achieve the integration. ERP induces enough visibility in the supply chain so that an efficient work flow can be established. By pulling together and sharing information from functions such as purchasing, warehousing, and sales it helps to control costs. The component will finance the review of the current institutional arrangements related to asset management at UTY and the preparation of recommendations on possible adjustments based on international experience. This will be the first step toward a better understanding of UTY costing mechanisms and prioritization of activities.

27. **Component 5. Technical Assistance to UTY for Improving Railway Logistics (estimated cost US$1.0 million, 100% IBRD financing):** The component will further elaborate the analytical work developed during project preparation under ECAPDEV trust fund. This component will finance technical assistance to help UTY with its logistics plan for the new railway line. Based on case studies (e.g., agriculture, selected manufactures of higher value productions and agri-business), it will identify the needs of new customers, assess whether UTY fully responds to those needs and formulate a set of practical recommendations. In addition the component will finance the review of existing marketing procedures and IT systems and will make recommendations on how to monitor quality of services.

28. ***Sound logistic organization is needed to allow the Pap-Angren railway new line reaching its full operational potential***. Provision of rolling stock, traction, and track capacity, grouping and dispatching, information to the users and competitive pricing systems constitute the elements of a coherent and efficient logistic system. UTY and the government are well aware that the railway line

itself is not sufficient to ensure competitiveness of rail services vis-à-vis longer distance road services, and to fully attract the potential market demand in the Valley. The new line will provide an opportunity to improve UTY level of service delivery as it would stretch Uzbekistan's railway network further east and would connect the Ferghana Valley to new international and domestic markets. The unprecedented opportunity provided by the newly constructed railway route to/from the Valley, calls for UTY to ensure that reliable, efficient and effective transport organizations and traffic capacity are in place when the line will start operations.

29. ***Currently the transportation of oil petroleum products and cars between the Ferghana Valley and the rest of Uzbekistan accounts for 42 percent of the freight traffic transiting through the Kamchik Pass***. While it seems that UTY has already developed specific plans for providing services to these existing primary customers, Bank's surveys has shown that other customers such as chemical products, textile and agribusiness industries would be interested in developing higher level of reliability in supply and distribution by using rail services. However, those potential new customers will require UTY to develop innovative products and use modern equipment and technologies, as a number of these new customers currently use door to door transportation (even on long distance origins/destinations) and request higher standard levels of services in terms of reliability, flexibility, timely information and safe handling of goods. Many of these customers do not benefit from direct rail connections to the networks. Considering the need for an efficient road interface to allow door to door services and to manage varying and sometimes rather small volumes over time, a plan shall be prepared including collecting points as part of the supply chain analysis. The plan could include a review of the existing and future physical capacity and organizations at terminals, stations and along the line, and formulate recommendations, including assessing areas for potential private sector participation in developing intermodal terminals[32].

30. ***Traffic forecasts, supply chain analysis and an intermodal plan are necessary to allow that sufficient analytical work is ready by the time of works completion to ensure effective operations of the railway line***. The supply chain analysis and the traffic forecast should highlight the potential demand between the Uzbek part of the Ferghana Valley, between the Valley and Uzbekistan, and between the Valley and international markets, particularly in the East with Kyrgyzstan and China, and in the North with Kazakhstan, Russia and Europe. In the short term and in order to inform the dialogue on the logistic and organizational issues, UTY is using ECAPDEV financing to move forward in preparing three case studies encompassing agriculture, selected manufactures of higher value productions and agri-business. The main objective of the case study are to: (i) identify the needs of the potential new customers, (ii) assess whether the existing plan as formulated by UTY will fully respond to the needs, and (iii) formulate a set of practical recommendations to UTY. The studies will require involvement from Ministry of Economic Development and local authorities. Also and at another level, industries and other activities currently located in Angren will likely be relocated elsewhere – the logistic plan shall factor this scenario as part of the risk evaluation in an effort to mitigate adverse economic impacts from the project. Enhanced information systems, including new marketing procedures and IT systems will also need to be designed and implemented in order to timely reach new customers and monitor quality of services. UTY should review the existing systems and establish a framework and timeframe for modernization.

[32] See Vision 2030 Background Note, p. 10.

31. ***Logistic systems cannot be developed in accordance with the demand without developing effective and modern marketing functions at UTY***. As UTY intends to reach new markets and maintain its freight market shares, it will need to ensure that logistic and marketing activities will function in a complementary way. Without reliable information from and to customers and the development of timely and reliable services, UTY cannot ascertain a given level of market share in the medium to long term. The existing operational set up for the delivery of marketing activities is fragmented among various departments including Marketing (marketing strategy), Traffic (information to customers and quality monitoring), the Economic Departments (planning and customers prioritization) and specialized subsidiary companies such as the one in charge of container traffic. The transport functions remain the primary interlocutor for freight users. The current Marketing Department and the Economic Department mostly deal with strategic issues, advising operational departments on medium and long term market trends. The Marketing Department manages UTY participations in the various subsidiaries. The planning functions are also fragmented, although to a lesser extent, with the Economic Department assuming a leading role. Financial planning is also the responsibility of the Economic Department. In practice, insufficient attention is given to marketing aspects of services such as methods of billing and giving customers information about locations of consignments and expected delivery times. UTY should designate a lead unit in charge of orchestrating all the core marketing functions for freight transport, from planning through tariff setting to quality monitoring and information/relations with customers.

32. ***There is a need to simplify the procedures to accommodate new customers***. Services can be developed packaging road, rail and border crossing services. Passenger and freight functions require very different types of marketing activities and strategies because freight and passenger services are entirely different activities.

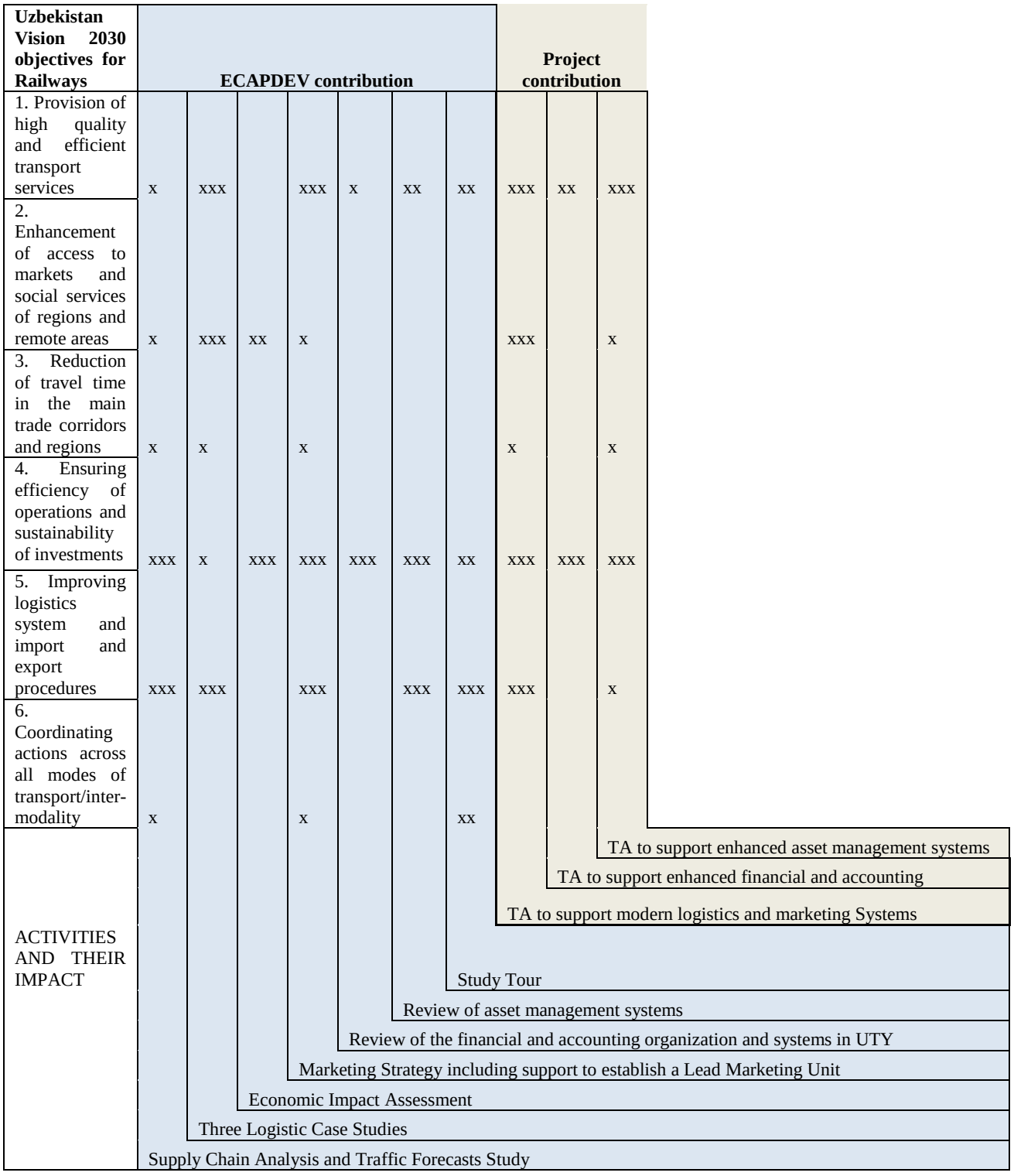
33. ***Components 4 and 5 above have been designed following important effort made by UTY to reflect the institutional dialogue with the World Bank during the project preparation***. They allow a focus on strategic activities limited in scope to support the project development objectives, and consistent with the capacity building objectives agreed with UTY. According to the Government's Vision 2030, railway transport shall contribute to sustainable economic growth by increasing logistic opportunities and overall, a reduction of transportation costs with lower footprint on environment. Railways will aim at preserving at least 30 percent market share in freight transportation and increase its share in passenger transportation to 8 percent. Consistent with Vision 2030, large investments such as the Pap-Angren Railway Project coupled with institutional reforms are expected to increase productivity of UTY by 10-15 percent. This is expected to strengthen position of the UTY in the competitive regional market. Vision 2030[33] sets high standards for the transport sector aiming at development of transport infrastructure, management and logistics to achieve more efficient and reliable movement of people and goods in support of sustainable economic growth and stronger trade competiveness. The Technical assistance to UTY will focus on (i) enhanced logistic systems, (ii) modernized marketing arrangements, (iii) capacity development, and (iv) improved financial management systems. The possible contribution of the

[33] Uzbekistan Vision 2030; Modernization of Transport Sector: A Backbone to Economic Growth and Trade Competitiveness. May 2014. Tashkent. The Vision Statement for 2030 is: *Uzbekistan will develop transport infrastructure, its management and logistics system for a more efficient and reliable movement of people and goods to support sustainable economic growth and strengthen trade competiveness.*

ECAPDEV grant and project respective inputs to the objectives that Uzbekistan Vision 2030 has set for UTY is summarized in the scheme below (Figure 1).

34. ***Component 6. Implementation Support (estimated cost US$4.5 million, 100% IBRD financing)*:** This component will support UTY to monitor the project implementation, including procurement, supervision of the various contracts associated with the construction of the new railway line. The component will also finance the audits of the project as well as a project impact assessment, which includes specific actions to address needs of women and other vulnerable social groups and provides a thorough evaluation mechanism for measuring the project gender impact. UE supervision cost will be supported outside the project financing.

Figure 1. Proposed Institutional Support



Annex 3: Implementation Arrangements

Uzbekistan: Pap-Angren Railway (P146328)

PROJECT INSTITUTIONAL AND IMPLEMENTATION ARRANGEMENTS

Implementing Entities

1. UTY will have the overall responsibility for project management and coordination except for component 3 that will be set under the responsibility of UE.

Components 1, 2, 4, 5 and 6 Arrangements

2. UTY structure already hosts an integrated Project Implementation Unit (PIU). The existing PIU will be responsible for the day-to-day management of the project - except for component 3 – including procurement, financial management, and liaison with the Bank. Incremental operational expenses of the PIU will be financed out of the loan funds. The PIU is already operational and is implementing component 1 of the project – (i) the construction of the rail track under UTY force account and (ii) supervision of the 19.2 km Kamchik tunnel with assistance from the international consulting firm. The PIU will report to the UTY Board of Directors on a quarterly basis and will update its management and the World Bank on the progress made toward the completion of the construction under component 1 and 2, and the reform agenda set under components 4 and 5.

3. The PIU at UTY has worked with other IFIs and donors, and is now informed about the Bank procedures. The PIU is led by a director and two deputy directors who are in charge of (i) coordinating with IFIs, and (ii) coordinating with decentralized government agencies. The PIU has a team of 10 specialists (e.g. engineers, procurement, financial and safeguards specialists) as well as support staff. PIU staff functions as full-time staff of UTY. The PIU has acquired a good knowledge of project management and project safeguards as required by IFIs, but it has not implemented a Bank-financed project yet. The PIU staff has completed a week-long Bank organized fiduciary training. Additional short-term support has been provided for the PIU to finalize the project safeguards documents.

Component 3 Arrangements

4. The already established PIU at UE will be responsible for implementation of component 3. The PIU, which is functioning since March, 2010, has already have a PIU director, a procurement specialist, three power engineers, specialist on social and gender issues, and an environmental specialist. UE has solid experience in implementing IFI-funded projects. The agency is currently managing the implementation of two World Bank-financed investment operations.

5. The implementation of component 3 as well as overall UE operations will be overseen by the Company Council and the Board.

FINANCIAL MANAGEMENT, DISBURSEMENTS AND PROCUREMENT

Financial Management

6. The two PIUs were assessed to have sufficient capacity for financial management as described below. However, in order to strengthen some of the weaknesses noted during assessment, the following actions have been agreed with UTY and UE.

7. The following FM capacity building actions have been agreed with UTY and UE:

Table 1. Summary of Actions

	Actions for capacity building	Responsible Entity	Completion date
1	Issue a circular noting the specific FM and disbursement requirements of the World Bank to be followed by the PIU of the Pap-Angren project.	UTY Finance Department	Prior to Effectiveness
2	Modify and adapt the existing 1-C software to meet specific reporting requirements of the World Bank, including, generation of Interim Financial Reports (IFRs), withdrawal applications, statements of expenditure (SOEs), and annual financial statements	UTY Finance Department	Prior to Effectiveness
3	Agree on the IFR formats for bi-annual consolidated financial reporting to the World Bank.	UTY Finance Department, PIU of UTY & PIU of UE	Completed
4	Appoint an auditor for the project, according to eligibility criteria and Terms of Reference acceptable to the Bank.	UTY PIU of UTY	After Effectiveness (at the date agreed with the Bank)

8. ***Budgeting and Planning***: The UTY has, in general, established budgeting and planning procedures in place. The annual program of work and budgets are reviewed and approved by the UTY Council. The same procedure would be used for the purpose of the proposed project, and would include the procurement plan and estimated annual disbursements from World Bank funds and counter-part funds. All changes to the procurement plan would be reviewed by the Council and approved by the World Bank. The UTY PIU will be responsible for this.

9. Budgeting and planning in UE will follow the existing practices adopted for the TTP, which are acceptable to the Bank.

10. ***Accounting and Maintaining of Accounting Records***: The UTY PIU will be responsible for maintenance of accounts and records for project components 1, 2, 4, 5 and 6 of the project, under the supervision of the UTY Finance Department. The UTY uses the Accrual Basis for accounting and reporting, in compliance with the National Accounting Standards of Uzbekistan.

UTY Finance Department will issue a circular specifying the accounting, recording and reporting requirements (including chart of accounts) for the World Bank funded project, which will be on cash basis. UTY PIU will modify the widely used 1-C accounting software for recording and accounting project transactions.

11. The UE PIU has a customized 1-C accounting system for accounting and recording TTP transactions. However, for the purpose of the Project, it will record all financial transactions in an excel spreadsheet. This is deemed satisfactory, as component 3 to be managed by UE PIU will have low volume (8-10 contracts), though high value, transactions which can easily be tracked and monitored using a spreadsheet.

12. ***Internal Controls***: The UTY PIU will comply with existing policies and procedures of UTY, as amended periodically by circulars issued by the UTY Finance Department. The internal controls system of UTY was assessed in general to be capable of providing reliable and adequate controls over authorizing, recording and reporting financial transactions of the project. UTY policies and procedures are in place for safeguarding of assets, for segregation of duties for authorization of transactions, and review and approval of invoice payments, for cash management and for reconciliation of accounts. The UTY PIU will have additional reporting and reconciliation requirements when implementing the World Bank funded project, which will be specified in the circular.

13. The UE PIU will follow the existing internal control procedures and practices of UE, which have been found acceptable to the World Bank.

14. ***Contract Management***: Both PIUs have well established policies, procedures and practices and an experienced team of professionals for contract management. UTY is the leading agency in Uzbekistan with responsibility for building, maintenance and operation of large scale railway projects in the country. Similarly, UE is the leading power agency in Uzbekistan responsible for building, maintenance and operation of power generation plants, transmission and distribution networks in the country.

15. ***Staffing***: At present, both PIUs have adequately experienced financial management staff for the purpose of managing project activities. However, FM supervision missions of the Bank will review the adequacy of staffing, as activities are expected to scale-up during later implementation years of the project.

16. ***Flow of Funds and Disbursement Arrangements***: Loan funds will mainly flow to the project via disbursements to two Designated Account (DAs) - one for UTY PIU and the other for UE PIU - and direct payments to third parties. The counterpart funds from the Uzbekistan Government will be provided to UTY in a separate account. For UTY, both bank accounts will be maintained in the National Bank of Uzbekistan and will be operated by UTY PIU. This is the current practice followed by UTY in managing funds of other donor funded projects. UE will follow the existing practices adopted for TTP, which are acceptable to the World Bank.

Disbursements

17. ***Disbursement Arrangements:*** The Loan will disburse through transaction-based disbursement methods that include: (i) advances to the DAs, (ii) replenishments to the DA on the

basis of either Statements of Expenditures (SOEs) for expenses below the defined thresholds or full documentation for expenses above the defined thresholds, (iii) payments against Special Commitments, (iv) direct payments to third parties, and (v) reimbursements. Withdrawal applications will be signed by two persons: (i) an authorized representative of the Borrower (Ministry of Finance); and (ii) another designated official in UTY/UE. The project will be required to adopt e-disbursements.

18. ***Thresholds***: Disbursements will be made on the basis of full documentation for: (i) contracts for goods costing more than the equivalent of US$200,000 each; (ii) contracts for works costing more than the equivalent of US$500,000 each; and (iii) contracts for consultancy services costing more than the equivalent of US$100,000 for consulting firms and the equivalent of US$50,000 each for individual consultants. Disbursements below these thresholds and for expenditures against incremental operating costs and training would be made according to certified SOEs. Threshold for direct payments and special commitments is to be set at US$800,000, as requested by the PIUs.

19. ***Documentation for SOEs***: For all expenditures disbursed on the basis of SOEs, full documentation in support of the SOEs will be retained in UTY PIU and UE PIU, for at least two years after the project closing date. This information will be available for review by Bank missions during project supervision and by the projects auditors.

20. ***Financing Parameters***: Table 3 specifies the categories of Eligible Expenditures that may be financed out of the proceeds of the Loan ("Category"), allocations of the Loan to each Category, and the percentage of expenditures to be financed for Eligible Expenditures in each Category.

Table 2. Eligible Expenditures

Category	Amount of the Loan Allocated (expressed in USD)	Percentage of Expenditures
(1) Goods, works, non-consulting services, consultants' services, and Incremental Operating Costs for Parts II, IV, V, and VI of the Project	160,000,000	100%
(1) Goods, works, non-consulting services, and consultants' services for Part III of the Project	35,000,000	100%
(3) Front-end Fee		Amount payable pursuant to Section 2.03 of Loan Agreement in accordance with Section 2.07 (b) of the General Conditions
(4) Interest Rate Cap or Interest Rate Collar premium		Amount due pursuant to Section 2.08(c) of Loan Agreement
TOTAL AMOUNT	195,000,000	

21. ***Financial Reporting***: The two PIUs will prepare separate six-monthly IFRs, and the PIU in UTY will be responsible for consolidating and submitting the IFRs for the project, which will be

due within 45 days of the end of the bi-annual period. The IFRs include: (i) Project Sources and Uses of Funds, (ii) Uses of Funds by Project Components, (iii) Project Balance Sheet, (iv) Two Designated Account Statements, separately; and (v) Two Statements of Expenditure Withdrawal Schedule.

22. ***Annual Project Financial Statements (PFS)***: The annual PFS will be prepared by UTY PIU, under supervision of the UTY Finance Department, and reviewed and approved by the UTY Council. TTP PIU will be responsible for submitting to the UTY PIU the required financial information for activities under component 3. PFS should be prepared on a cash basis of accounting.

23. ***External Audits***: External audits should be carried out by an eligible auditor, according to Terms of Reference acceptable to the Bank, and consistent with International Standards on Auditing (ISAs). UTY PIU will be responsible for selection and appointment project auditor. The Audit report and the management letter should be provided to the Bank within six months of the end of each fiscal year and at the closing of the project. The project audit report will include an opinion on (i) the PFS, (ii) reliability of the Statement of Expenditure procedure for disbursements, (iii) operation of the Designated Special Accounts, and (iv) confirmation that project funds have been used for the purposes intended. Table 3 identifies the required audit reports, together with the due dates for submission.

Table 3. Requirements for External Audit

Audit Report	Due date
Project Financial Statements: The Project Financial Statements include Sources and Uses of Funds, Uses of Funds by project activities, Statement of Expenditures Withdrawal Schedule, Designated Account Statement, Notes to the financial statements, and Reconciliation Statement.	Within 6 months of the end of each fiscal year and also at the closing of the project

Procurement

Procurement Implementation arrangements

24. ***General***: Procurement for the proposed project will be carried out in accordance with the World Bank's "Guidelines : Procurement of Goods, Works and non-Consulting Services under IBRD Loans and IDA Credits & Grants by World Bank Borrowers" dated January 2011 and revised 2014 (Procurement Guidelines); and "Guidelines: Selection and Employment of Consultants under IBRD Loans and IDA Credits & Grants by World Bank Borrowers" dated January 2011 and revised 2014 (Consultant Guidelines) and provisions stipulated in the Loan / Financing Agreement. If there is conflict between the Government decrees, rules and regulations and the Bank Procurement and Consultant Guidelines, then Bank Guidelines shall prevail. In addition, the project will also follow "Guidelines on Preventing and Combating Fraud and Corruption in Projects Financed by IBRD Loans and IDA Credits and Grants dated October 15, 2006 and revised in January 2011". For each contract to be financed by the Bank, the different procurement methods or consultant selection methods, the need for pre-qualification, estimated costs, prior review requirements, and time frame are agreed between the Borrower and the Bank

project team in the Procurement Plan. The Procurement Plan will be updated at least annually or as required to reflect the actual project implementation needs and improvements in institutional capacity.

25. The items to be procured would include the following:

(i) Procurement of Works: There will be two supply and installation packages. They are: (i) supply and installation of microprocessor based train control system with fiber optic-based communications; and (ii) supply and installation of two traction substations including the SCADA system for optimizing energy use. The Design, Supply and Installation SBDs will be used.

(ii) Procurement of Goods: Goods procured under the project would include (a) track maintenance equipment including tamping machines; (b) electrical materials such as catenary cables and (c) track material such rails, sleepers, turnouts, switches and fastenings for construction of truck. These goods will be procured following ICB procedures. The Bank's latest Standard Bidding Documents (SBDs) will be used for procurement of goods following ICB procedure. Domestic preference according to the Procurement Guidelines will apply to goods contracts only.

(iii) Consulting Services: The major consulting services would include: (a) the project implementation consultant; (b) supervision and TA; and (c) financial audit. QCBS and LCS procedures shall be applied.

26. ***Procurement Arrangement and Staffing***: The UTY PIU is responsible for the day-to-day implementation of the project. The procurement capacity of both PIUs and arrangements at the project level are considered acceptable. Further hiring of experienced procurement specialists in the PIU may be required by the project effectiveness. Procurement training will be provided to the procurement specialists and the UTY staff throughout the project implementation. It would be strongly suggested that the Evaluation Committee members shall be also trained in the Bank procurement and evaluation procedures.

27. Following the Memorandum of Understanding (MoU) signed on January 8, 2014 between the Bank and the Government the project will initiate advance procurement.

28. ***Record Keeping***: The procurement specialist of the PIU would be responsible for maintaining of the procurement files/records. Separate files should be maintained for each contract (including both hard copy and electronic copy). All the procurement documents (including bids, technical and financial proposals of consulting services) should be kept to the end of the project and then transferred to the Government Archives. The originals of various valuable documents (such as bid security, performance guarantee, advance guarantee) are being kept in the safe by the PIU's accountant.

Risk Analysis and Mitigation Measures

29. ***Procurement Risk Assessment and Mitigation***: The country procurement assessment report (Report # 25653 UZ) conducted in 2003 (by the Bank and Asian Development Bank (ADB)) identified the following weaknesses in the public procurement system in Uzbekistan which largely remain valid: (a) absence of a unified legislative framework; (b) inefficient and non-

transparent procurement practices; (c) absence of a single institution with oversight or regulatory authority on public procurement practices; (d) weak capacity for reviewing bidder's complaints; (e) complicated internal review/approval of bid evaluation reports which leads to low accountability and delays; (f) no comprehensive anti-corruption measures; and (g) low skills/capacity of the staff handling public procurement at every administrative level. We also note that (i) the government decrees and rules and regulations have internal conflict in major provisions such as price verification which leads to considerable delays in project procurement and implementation; (ii) the difficulty in obtaining bank guarantee for bid security and performance security by the local bidders and non-availability of alternative instruments for such purpose in the country banking system in particular Joint Ventures and (iii) considerable procurement delays contract signing and registration by MFERIT, involving international contractors/consultants contracts. Private sector suppliers and contractors remain unsatisfied with the rules governing public procurement and have little confidence in the system's fairness. Though the Government has started extensive reforms of its public procurement system the recent assessments under the Country Integrated Fiduciary Assessment (CIFA) and Public Expenditure and Financial Accountability (PEFA) studies indicate that there is not much changes in the public procurement environment yet. Thus, the procurement environment is considered a high risk. The risks identified and mitigation measures are summarized in the table below:

Table 4. Procurement Risk Assessment and Mitigation

Description of risk	***Rating of risk***	***Mitigation measures***	***Residual risk***
The Government Decrees and rules and regulations have internal conflict in major provisions such price verification.	S	The Bank Procurement and Consulting Guidelines shall be followed.	M
The difficulty in obtaining bank guarantee for bid security and performance security by the local bidders and non-availability of alternative instruments for such purpose on the country banking system.	H	There is an ongoing dialogue with the commercial banks to find a solution at this stage	H
There are four Steering Committees made of around twelve high ranked officials, and it takes up to a couple of months to sign the minutes, approve bid evaluation reports (BERs), etc.	H	Country Portfolio Performance Review Meetings will be held to follow up closely.	H
Contract registration requirements are arduous and may seriously impact procurement and contract implementation	H	The project team will monitor contract award notification and publication of contract award details as per Bank Procurement and Consultant Guidelines. The team will further monitor receipt of signed prior review contracts and take timely action to ensure Bank Guidelines are followed.	S

Staff of implementing agency has limited experience with the Bank procedures, guidelines.	S	Training will be provided by the Bank's the procurement specialist during project implementation. The team will support UTY and UE and their PIUs to improve procurement management efficiency. The procurement specialists and an operational officer would be based in the field and thus be able to provide timely support. Procurement supervision will be carried out on a timely basis as required by the client. Further hiring of experienced procurement specialists in the PIU may be required by the project effectiveness.	M
Government officials may intervene in the procurement decisions under the Project.	H	The Bank would follow-up closely that the Bank's procurement procedures are followed strictly. Any complaints shall be handled consistently and followed-up till fully addressed.	M

H: High; S: Substantial; M: Moderate and L: Low.

30. ***Procurement Supervision and Procurement Post Review***: Routine procurement reviews and supervision support will be provided by the procurement specialist based in the region/country office. In addition, two supervision missions are expected to take place per year during which ex-post reviews will be conducted for the contracts that are not subject to Bank prior review on a sample basis (e.g., 15 percent in terms of number of contracts). One ex-post review report will be prepared per fiscal year, including findings of physical inspections for not less than 10 percent of the contracts awarded during the review period.

31. ***Disclosure***: The following documents shall be disclosed in the UTY website: (i) procurement plan and updates, (ii) invitation for bids for goods and works for all ICB and NCB contracts, (iii) request for expression of interest for selection/hiring of consulting services, (iv) contract awards of goods and works procured following ICB/NCB procedures, (v) list of contracts/purchase orders placed following shopping procedure on quarterly basis, (vi) short list of consultants, (vii) contract award of all consultancy services, (viii) list of contracts following DC or CQS or SSS on a quarterly basis, (ix) Monthly physical and financial progress of all contracts and (x) action taken report on the complaints received on a quarterly basis. The works bidding documents shall include a clause to put up a notice board in the construction site disclosing the contract details (description, contractor name and contract amount, starting date, completion date, physical progress and financial progress).

32. The following details shall be sent to the Bank for publishing in the Bank's external website and UNDB: (a) invitation for bids for procurement of goods and works using ICB procedures, (b) request for expression of interest for consulting services with estimated cost more than $300,000, (c) contract award details of all procurement of goods and works using ICB procedure, (d) contract award details of all consultancy services with estimated cost more than $300,000, and (e) list of contracts/purchase orders placed following SSS or CQS or DC procedures on a quarterly basis.

33. ***Procurement Plan***: The PIU has developed the Procurement Plan (see the summary below) covering procurement activities for the entire period of project implementation. This

Procurement Plan will be continuously updated as the Project progresses and will be reviewed and approved by the Bank accordingly. The Procurement Plan will be published on the Bank's external website and UTY website by the time of Project negotiations. The General Procurement Notice (GPN) and advertisement of procurement opportunities will be published on the PIU's website and Uzbek media. The ICBs and major consultancy services will also be published in the Bank's external website and UN development business. The Borrower has the option of not disclosing the cost estimates while disclosing the procurement plan.

34. ***Thresholds for procurement methods and bank prior review:*** The following methods of procurement shall be used for procurement under the project:

Expenditure Category	Contract Value Threshold (US$)	Procurement Method	Contracts Subjects to Prior Review (US$)
Goods (including technical services)	>=1,000,000	ICB	All ICB contracts
	<200,000	Shopping	First 2 contracts
	NA	DC**	SSS contracts >=50,000
	>=5,000,000	ICB	All ICB contracts
Works	<5,000,000	NCB	First 2 contracts, amounting>=1,000,000
	<200,000	Shopping	First 2 contracts
	NA	DC/SSS**	SSS contracts >=50,000
	>=200,000	QCBS/QBS/LCS/FBS a/ b/	>=200,000 for firms; all SSS contracts;
Consultant Services (including training)	<200,000	CQS	First two contracts; SSS contracts >=2,000 None
	NA	SSS**	
	NA	IC	
	>=1,000,000	ICB	All ICB contracts

Notes: a) Shortlist may compose entirely of national consultants for assignments of less than US$300,000 equivalent per contract. b) As appropriate, these methods may be adopted for assignments costing less than $200,000.

All negotiations with lowest bidder, cancellation of procurement, of selection process and/or re-bidding shall be subject to prior review. ** - to be reflected and agreed in the procurement plan in advance

ICB – International Competitive Bidding

NCB – National Competitive Bidding

DC – Direct Contracting

QCBS – Quality and Cost Based Selection

QBS – Quality Based Selection

LCS – Least Cost Selection

FBS – Fixed Budget Selection

CQS – Selection Based on Consultants' Qualifications

SSS – Single Source Selection

35. It has been agreed that if a particular invitation for bid comprises of several packages, lots or slices, and invited in the same invitation for bid, then the aggregate value of the whole package determines the applicable threshold amount for procurement and also for the review by the Bank. The NCB conditions will be part of Loan Agreement.

Table 5. Procurement Plan Summary

No.	Description	Plan vs. Actual	Estimated Cost (US$ equivalent)	Procurement Method	World Bank Review (Prior/ Post)	Date of Invitation to Bids	Date of Bid Opening	Date of Contract Signing	Date of Contract Completion
Goods and works									
1	Design, supply, installation equipment and materials for traction substations including the SCADA system for optimizing energy use	Plan	30,000,000	ICB	Prior	October 19, 2014	December 21, 2014	March 2, 2015	November 27, 2015
		Actual							
2	Design, supply, installation equipment and materials for signaling and communication	Plan	48,000,000	ICB	Prior	October 30, 2014	January 1, 2015	March 13, 2015	February 10, 2017
		Actual							
3	Procurement of track maintenance equipment	Plan	36,000,000	ICB	Prior	October 19, 2014	December 21, 2014	April 1, 2015	December 27, 2015
		Actual							
4	Design, supply, installation of video surveillance	Plan	20,000,000	ICB	Prior	February 14, 2015	April 18, 2015	July 28, 2015	April 23, 2016
		Actual							
5	Procurement of substation equipment	Plan	15,000,000	ICB	Prior	September 25, 2014	November 6, 2014	November 27, 2014	December 25, 2014
		Actual							
6	Procurement of transmission line equipment	Plan	20,000,000	ICB	Prior	October 9, 2014	November 11, 2014	December 11, 2014	January 9, 2015
		Actual							
Consultancy services									
1	Consultant services for project implementation support, including control, monitoring and supervision	Plan	4,450,000	QCBS	Prior	September 25, 2014	November 10, 2014	December 1, 2014	
		Actual				September 25, 2014			

2	Consultant services for asset management review, review of marketing procedures and IT systems, preparation of logistics plan and marketing strategy, and training in financial management and asset management	Plan	1,500,000	QCBS	Prior	September 25, 2014	November 10, 2014	December 1, 2014	
		Actual							
3	Financial audit	Plan	50,000	LCS	Prior	September 25, 2014	November 10, 2014	December 1, 2014	
		Actual							

ICB – International Competitive Bidding
QCBS – Quality- and Cost-Based Selection
LCS – Least-Cost Selection

36. ***Anti-Corruption Measures***: The Bank's Anti-Corruption Guidelines (of October 15, 2006) and the transparency and disclosure provisions of the Bank's Procurement and Consultants Guidelines (published in May 2004 and revised in October 2006) will apply.

ENVIRONMENTAL AND SOCIAL (INCLUDING SAFEGUARDS)

Environmental safeguards

37. ***The project is rated Environmental Category A as per World Bank environment policies***. The project-wide EIA for construction of the railway line and the tunnel was prepared by the Design Institute Boshtransloiha - the leading institute for preparation of pre-feasibility, feasibility studies and design for railways in Uzbekistan. The EIA included the substantive independent inputs/views and conclusions of the specialists from 18 environmental academic research, nature conservation institutions, agencies and organizations.

38. Consistent with Uzbekistan law, first a preliminary (scoping) EIA was prepared and reviewed by the State Expert Review, which specified additional detailed studies required. The EIA was updated taking into account comments from both the State Expert Review and the Bank. The final EIA includes action plans for (a) management of radioactivity risk, (b) mitigation of negative environmental impacts in sensitive areas (i.e. potential pollution of rivers and streams, water protection zones), (c) management of borrow pits and sites for waste material, and (d) management of geological risks and emergency situations. The final EIA was approved by the Uzbekistan authorities, but it was determined that some additional elements were required to meet the Bank's requirements as set out in OP 4.01. Rather than revising than already approved EIA, this additional information has been incorporated into the Environmental Management Framework (EMF), as described below.

39. ***The Environmental Management Framework addressed the components and activities not included in the project-wide EIA***. The project-wide EMF and EIA envisions preparation of site-specific EMPs (as per Bank policies) and site-specific EIAs (as per Uzbekistan law), which will complement each other with the purpose to meet the Bank's environmental standards. This includes, in particular, preparation of a site-specific EIA/EMP for the transmission line, which will be prepared by Boshtransloiha and the contractor following the completion of technical sections of the currently ongoing feasibility study.

40. The EMF also serves as a supplemental to the project-wide EIA for the railway line and tunnel, as noted above. It reiterates the important information from the existing EIA, including baseline data and potential impacts and mitigation measures, and also provides the additional information and analysis needed to meet the requirements for a Category A project under OP 4.01. The EMF will be used as the primary environmental Safeguards instrument for the project.

41. The EMF provided guidance for an Environmental Audit of the works already carried out. Findings of the Environmental Audit were included in the final version of the EMF. Previous visits to ongoing construction sites by the team's environmental specialist indicated that there were no significant issues that would require a suspension of the works, but did identify some needed improvements. The Environmental Audit reviewed progress in these areas and provide specific recommendations for remedial measures. The Environmental Action Plan based on these recommendations was prepared, agreed and included in the EMF. The compliance of the contractors is being monitored by key regulatory agencies (environmental, health and safety) on a regular basis.

42. ***Public consultations and disclosure:*** The EMF and EIA were publically disclosed by UTY on its official web-site and on the Bank's Infoshop on September 15, 2014. In addition, public consultations were held on October 13-14, 2014 on the EMF and EIA. The final EMF that includes the Environmental Audit and Environmental Action Plan was disclosed locally and on the Bank's Infoshop on November 7, 2014. Site-specific EIAs for other works (aside from the railway line and tunnel) will be prepared and disclosed when the respective feasibility studies are prepared[34].

43. ***Implementing arrangements***: The UTY PIU will cooperate with OJSC "Boshtransloyiha", the State Committee of the Republic of Uzbekistan on Architecture and Construction[35], the State Committee of the Republic of Uzbekistan on Nature Protection and each of the involved ministries and agencies to ensure effective and continuous exchange of information with all project partners. The PIU will ensure coordination of all project activities, procurement of works, goods and consulting services for project implementation, control and monitoring activities within the project, and routine reporting to authorized services. The PIU will be responsible for coordination of preparing EIAs/EMPs for other project components. PIU will sign contracts with specialized agencies (such as Uzgiprozem, Giproleskhoz and others) for preparation of mitigation measures for other project components. These specialized agencies will be responsible for approval of all these EIAs in the State Nature Committee of the Republic of Uzbekistan. Environmental engineer (consultant) will be hired by PIU to ensure that all these mitigation measures are acceptable to the Bank. The environmental engineer will supervise environmental aspects of project implementation in coordination with other stakeholders (such as design engineering companies, contractors and engineers on supervision of construction and etc.).

44. There is Sanitary-Epidemiological Service (SES) within the organizational structure of UTY. The scope of responsibilities of SES includes, among other tasks, radiological and sanitary monitoring of design, construction and reconstruction of railway facilities, control of working environment conditions, workers' safety and sanitary conditions of construction camps, drinking and general use water quality.

45. The Bank team will monitor environmental performance of the project and will provide permanent support to the UTY and the PIU on environmental safeguard issues.

Social safeguards

46. ***The project activities will result in involuntary resettlement and therefore the Operational Policy on Involuntary Resettlement (OP 4.12) is triggered***. Two resettlement instruments have been prepared: a Resettlement Action Plan for site-specific impacts identified prior to appraisal and a Resettlement Policy Framework for impacts that may be identified during project implementation. As the construction of the new rail line and of the rail tunnel has started

[34] For works carried out in areas where there are potentially affected people or sensitive sites, the Borrower and/or Contractor will also organize local public consultations.

[35] The State Committee of the Republic of Uzbekistan on Architecture and Construction in the context of this project is entrusted to provide expert support, the state expertise of project documentation and appropriate state architectural and construction supervision of the quality of construction works.

and as it resulted in resettlement activities prior to the Bank's involvement, the Bank team also requested the client to prepare a Resettlement Audit / Social Action Plan (RASAP).

47. ***Resettlement Audit***. A resettlement audit commissioned by the Bank in May, 2014, found that about 150 households were affected prior to Bank involvement. The audit found differences between the resettlement activities and the legislation of the Republic of Uzbekistan and OP 4.12 (e.g., displacement prior to compensation, valuation lower than market value, compensation lower than full replacement cost, fees for appraisal costs, and insufficient information about dissemination and consultation). The number of affected persons was refined in November 2014 following the preparation of the RASAP.

48. ***Remedial measures were identified and agreed upon jointly between UTY and the Bank team first in July 2014 and further updated prior to negotiations and detailed in the RASAP.*** The RASAP included measures such as: (i) the creation of a database of the project affected people including compensation rates and entitlements; (ii) awareness campaign focused on recent valuation data and relevant applicable legislation for land acquisition; (iii) appraisal of land at market rate and the provision of compensation at full replacement costs; and (iv) disclosure and public consultations.

49. ***Resettlement Policy Framework (RPF) and Resettlement Action Plan (RAP) have been completed***. The RAP provides a summary of estimated losses and required compensations defined at the full replacement cost. The RAP is gender informed with special provisions and entitlements specified for vulnerable groups such as female headed families, low income households, the elderly headed households with unemployed family members and disabled.

50. ***Disclosure and public consultations***: A draft Resettlement Policy Framework (RPF) was disclosed by UTY on its official web-site on September 9, 2014 and on the Bank's Infoshop on October 9, 2014. Public consultations took place on September 15-16, 2014. Final RPF was disclosed on November 28, 2014 in country and on the Bank's Infoshop. A draft Resettlement Action Plan (RAP) that includes the minutes of public consultation on the draft RPF was disclosed by UTY on its official web-site on October 10, 2014 and on the Bank's Infoshop on October 9, 2014. Public consultations on the draft RAP took place on October 21-22, 2014. Final version of the RAP was disclosed on December 13, 2014 by UTY on its official web-site and on December 15, 2014 on the Bank's Infoshop. Public consultations on the draft RASAP tool place on December 11-12 and 18-19, 2014. The final version of the RASAP was disclosed on January 12, 2015 in country and on the Bank's Infoshop.

51. ***Resettlement progress:*** The final RAP provides specific measures to be undertaken to mitigate impacts of involuntary resettlement for all identified project affected persons who have not yet been resettled. As of November 30, 2014, the RAP identified 106 households, of which 56 residential structures with homestead land plots and 50 farmers. The final version of the RAP provided additional information such as census data for affected households, and further clarifications of livelihood impacts and mitigation measures. Data related to past resettlement that was part of the draft RAP was removed from the document and transferred in the RASAP. A draft audit was prepared in May 2014. The RASAP was completed on January 12, 2015. The RASAP includes a description of past resettlement and remedial measures aimed at bridging the gap between past practice and the Bank standards. The RASAP also includes an implementation

timeline for the remedial measures. Any Project Affected Persons identified in future as a result of design adjustments will be covered under subsequent RAPs to be prepared according to the guidelines of the RPF.

52. ***Grievance redress and beneficiary feedback mechanisms (GRM) are designed for the implementation of RAP/RPF/RASAP and will cover broader project activities.*** The GRM, proposed by UTY, is designed specifically for the feedback, complaints handling and resolution during land acquisition process. Since July 2014, UTY jointly with a consultancy firm has monitored the resettlement progress. The assistance is provided to the affected people on a daily basis by addressing complaints through focal points in Pap and Akhangaran administrations, and UTY. The GRM model for a broader beneficiary feedback mechanism (BFM) is being finalized to cover all project activities. The project will monitor on an annual basis the progress on addressing project-related grievances. This is part of M&E framework.

53. The Bank will continue to closely monitor the implementation of the remedial measures.

MONITORING AND EVALUATION

54. PDO level and intermediate indicators will be monitored by UTY and UE staff once the new railway line is commissioned. At project launch and during implementation, PIUs at UTY and UE will receive training on different monitoring and evaluation methodologies and approaches. The UTY's PIU will be responsible for collecting the data associated with the overall project and reporting the results to the Bank. Project monitoring cost is embedded in component 6. Also independent grievance redress systems are being designed to collect, address and manage possible complains related to environmental, social, governance and other possible issues.

55. The government will be conducting the impact evaluation of the project. The study will aim at capturing the project impact on welfare, human development, and labor market outcomes on the poor, the bottom 40 percent, unemployed youth, and female headed household among other vulnerable groups both before and after the line is operational. The first baseline survey will be financed out of the ongoing ECAPDEV trust fund. The methodology to be used for the survey is being finalized under the Poverty and Social Impact Analysis (PSIA) undertaken during project preparation. The second survey will be conducted following the same methodology once the line is open, by the end of the project. It will be financed out of component 6.

Annex 4

Operational Risk Assessment Framework (ORAF)

Uzbekistan: Pap-Angren Railway (P146328)

<table>
<tr><td colspan="7">Project Stakeholder Risks</td></tr>
<tr><td>Stakeholder Risk</td><td>Rating</td><td colspan="5">High</td></tr>
<tr><td rowspan="5">Risk Description:

1.1.1. Some stakeholders such as truck and taxi drivers over the Kamchik pass and associated support staff might be negatively impacted by the project.

1.1.2. One stakeholder risk in this project lies with Tajikistan; the project's main adverse impact is on the 110 km rail connection that cuts across northern Tajikistan. The project, by reducing distance y about 90 km, would prove attractive to the Uzbek traffic currently accessing the Tajik connection and maybe also for transit traffic between Russia, Kazakhstan and Kyrgyzstan impacting the financial profitability of the 110 km rail line connection in Tajikistan.</td><td colspan="6">Risk Management:

1.1.1.The labor associated with vehicle traffic over the Kamchik pass should have time to adjust as the rail service will ramp up over a period of time. In addition, this is a highly mobile labor force so the impact would be temporary and quickly absorbed in a growing economy. There is an on-going Poverty and Social Impact Assessment study that would assist in providing recommendations for the negative impact mitigation (if any).</td></tr>
<tr><td>Resp:</td><td>Status:</td><td>Stage:</td><td>Recurrent:</td><td>Due Date:</td><td>Frequency:</td></tr>
<tr><td>Both</td><td>Not Yet Due</td><td>Both</td><td>☐</td><td>31-Dec-2017</td><td></td></tr>
<tr><td colspan="6">Risk Management:

1.1.2. The project team met with the Government of Tajikistan during preparation. There were 3 million tons of goods (2012) going to and from the Uzbekistan using the Tajik line. As a result of project implementation underway the authorities of Uzbekistan and Tajikistan are already reported to be exploring an improved operating framework for the Tajik rail link. To mitigate the potential negative impact on Tajikistan, one possibility is additional Bank support the business model for the Tajikistan 110 km Northern route and missing rail link south of Dushanbe. The risk might also be mitigated with a better understanding of demand factors in the futures thorough regional railway demand traffic analysis which has been initiated by the Bank (under grant financing) and possible involvement by the Bank in the Tajikistan-Afghanistan-Turkmenistan railway link for which the Tajik Government is seeking assistance.</td></tr>
<tr><td>Resp:</td><td>Status:</td><td>Stage:</td><td>Recurrent:</td><td>Due Date:</td><td>Frequency:</td></tr>
<tr><td>Both</td><td>In Progress</td><td>Both</td><td>☐</td><td>31-Dec-2017</td><td></td></tr>
<tr><td colspan="7">Implementing Agency (IA) Risks (including Fiduciary Risks)</td></tr>
</table>

<table>
<tr><td>Capacity</td><td>Rating</td><td colspan="6">Substantial</td></tr>
<tr><td rowspan="5">Risk Description:

3.1.1. This is a complex engineering project including a 124 km of new single rail track and a 19.2 km rail tunnel. Part of the terrain is mountainous and construction will be challenging.

3.1.2. UTY and its PIU have gained some experience in working with other IFIs. However, the Bank is reengaging in the transport sector after a 10 year absence. The Government, UTY and the PIU staff are not fully aware of the Bank requirements.

3.1.3. UTY lacks knowledge and experience in specific financial management and disbursement requirements of the World Bank and UTY's practice of following its National Standards for accounting and auditing does not meet the Bank standards.

3.1.4. Bank projects in Uzbekistan experienced procurement issues and implementation delays.</td><td colspan="7">Risk Management:

3.1.1. UTY has retained much of its capacity when Uzbekistan was central to the Soviet Central Asia railway system. It has constructed new rail lines in Uzbekistan and in Afghanistan and has constructed rail tunnels. The Project will fund technical assistance for monitoring the design, tunnel safety and technology on signaling and communication.</td></tr>
<tr><td>Resp:</td><td>Status:</td><td>Stage:</td><td>Recurrent:</td><td>Due Date:</td><td>Frequency:</td></tr>
<tr><td>Both</td><td>Not Yet Due</td><td>Implementation</td><td>☑</td><td></td><td>Yearly</td></tr>
<tr><td colspan="7">Risk Management:

3.1.2. UTY is familiar with IFI requirements as it has on going investment projects with ADB and JICA and has worked with EBRD. UTY has set up a PIU in charge of the project. The PIU staff will receive training on Bank requirements at Project launch. The staff has already attended the fiduciary training held at the Bank office in Tashkent in March/April 2014. The PIU aims to make arrangements to establish the necessary fiduciary guidelines, systems and processes so that the fiduciary risks of the project are mitigated. In addition, the ECAPDEV TF will fund training to cover social and environmental safeguards, procurement and tunnel safety management.</td></tr>
<tr><td>Resp:</td><td>Status:</td><td>Stage:</td><td>Recurrent:</td><td>Due Date:</td><td>Frequency:</td></tr>
<tr><td>Bank</td><td>In Progress</td><td>Both</td><td>☐</td><td>30-Jun-2015</td><td></td></tr>
<tr><td colspan="7">Risk Management:

3.1.3. UTY will issue a circular noting the specific FM and disbursement requirements of the Bank to be followed by the PIU for the project and will modify existing accounting software to meet Bank specific reporting requirements by Effectiveness.</td></tr>
<tr><td>Resp:</td><td>Status:</td><td>Stage:</td><td>Recurrent:</td><td>Due Date:</td><td>Frequency:</td></tr>
<tr><td>Client</td><td>In Progress</td><td>Implementation</td><td>☐</td><td>02-Mar-2015</td><td></td></tr>
<tr><td colspan="7">Risk Management:

3.1.4. In the last few years, the introduction of systematic monitoring of contract registration and implementation, from the no-objection to the issuance of bid evaluation reports and draft contracts have improved project implementation and disbursement.</td></tr>
</table>

	There was considerable improvement in the registration of international contracts to the extent that now in most cases, the time for contract review and registration is less than one month after contract signature.					
	Resp:	**Status:**	**Stage:**	**Recurrent:**	**Due Date:**	**Frequency:**
	Both	In Progress	Implementation	☑		Yearly
Governance	**Rating**	**Moderate**				
Risk Description: 3.2.1. The footprint of the state in the economy is large. UTY needs to have a sufficient technical and fiduciary capacity to demonstrate that the USD 1.6 billion investment is contracted and monitored properly.	**Risk Management:** 3.2.1. UTY will be implementing about half of the works under force account. The Bank financed activities will be international competitively procured. UTY has engaged an international consulting firm with a solid reputation to support UTY in supervising the construction of the tunnel which is being implemented by an international contractor specialized in the construction of large tunnels.					
	Resp:	**Status:**	**Stage:**	**Recurrent:**	**Due Date:**	**Frequency:**
	Both	Not Yet Due	Implementation	☑		Yearly
	Risk Management: 3.2.2. The Bank is not funding large civil works which have a higher risk but funding mainly equipment which will be procured internationally. The prices will be compared with other similar packages financed under Bank projects in other countries. For social safeguards such as land acquisition and resettlement payments, although the Bank is not funding these payments, there is on-going due diligence to ensure proper payments were made. The Bank has also undertaken a full audit of the resettlement activities that are already completed.					
	Resp:	**Status:**	**Stage:**	**Recurrent:**	**Due Date:**	**Frequency:**
	Both	In Progress	Both	☑		Yearly
Project Risks						
Design	**Rating**	**Substantial**				
Risk Description:	**Risk Management:** 4.1.1. UTY has recent experience in designing and constructing new rail lines including rail tunnels. The Bank has received preparation funds to help design passenger safety					

4.1.1. The project is a new construction of a 124 km track with some sections in challenging mountainous terrain. There is also a 19. 2 km passenger rail tunnel. UTY has no experience in managing tunnel safety for passenger transport and particularly for relatively long tunnels. 4.1.2. As the new rail link will be electrified, the project will finance a power distribution network to connect the new rail operation to the power grid. This component will be implemented by UE.	equipment and action plan, as well as bringing international state of the art knowledge to the design. International experts will be reviewing the design and construction progress. The Project and the Bank will provide technical and organizational due diligence during project implementation.					
	Resp:	**Status:**	**Stage:**	**Recurrent:**	**Due Date:**	**Frequency:**
	Both	In Progress	Both	☑		Yearly
	Risk Management: 4.1.2. The Bank has extensive experience in the power sector in Uzbekistan and is working closely with UE on other issues. The Ministry of Finance and the Bank will coordinate the transport and power components of the Project.					
	Resp:	**Status:**	**Stage:**	**Recurrent:**	**Due Date:**	**Frequency:**
	Both	In Progress	Both	☑		Yearly
Social and Environmental	**Rating**	**High**				
Risk Description: 4.2.1. The scale of potential environmental and social impacts is significant and this project is classified as Environmental Category A. The railway involves new construction and there will be new sections along a water reservoir with overpasses for at least one of the reservoir's small bay. The alignment also runs through a river ravine with very diverse and rough topographic profile and through a historic/cultural heritage site. The project area is in a geologically complex area prone to landslides. Construction of the new rail line and of the rail tunnel has started. 4.2.2. The rail tunnel alignment will be located in an area where zones of higher radioactivity may potentially exist.	**Risk Management:** 4.2.1 To mitigate the impacts of land acquisition the Resettlement Policy Framework and Resettlement Action Plan were prepared, cleared by the Bank and disclosed. Regular implementation support will be needed from the Bank team, and this was integrated into the Resettlement Action Plan. The Environmental Audit was prepared to review of on-going and completed works regarding their environmental compliance with the requirements of the Bank. UTY has prepared the Action Plan for Physical Cultural Resources and ready to implement remedial measures if needed for the damage already done. Also, given the highest priority, the Government agencies are closely monitoring the compliance with environmental and sanitary/health norms and standards.					
	Resp:	**Status:**	**Stage:**	**Recurrent:**	**Due Date:**	**Frequency:**
	Both	In Progress	Both	☐	30-Jun-2016	
	Risk Management: 4.2.2. Uzbekistan has an experience handling issues of radioactivity. Potential radioactive hazard has been highlighted by the pre-feasibility study, but the survey/samplings suggest					

<table>
<tr><td rowspan="3">4.2.3. The ongoing works on the railway construction require land acquisition and resettlement. Some resettlement has already taken place with portion of the affected households already resettled. Local authorities are conducting resettlement activities independent of formal coordination with UTY. There are differences between the ongoing resettlement practice and OP 4.12. Information on the resettlement activities is not comprehensive. The level and nature of compensations appear vary between Pap and Angren regions.</td><td colspan="6">that the radiation levels are not excessive. Action plan to monitor radioactivity in the working zone was implemented by the contractor. The supervision engineering consultant is a reputable international company, and it is monitoring the implementation of the action plan on a regular basis.</td></tr>
<tr><td>Resp:
Client</td><td>Status:
In Progress</td><td>Stage:
Both</td><td>Recurrent:
☐</td><td>Due Date:
30-Jun-2016</td><td>Frequency:</td></tr>
<tr><td colspan="6">Risk Management:
4.2.3. A resettlement audit focused on the previous resettlement has been undertaken. The audit identifies gaps between the resettlement practice and OP 4.12. UTY has prepared a social action plan to guide implementation of remedial measures. However, based on an October 17th field visit by Bank staff, more scrutiny of the ongoing resettlement is required as is more guidance to UTY on how to ensure effective implementation of the mitigation measures.</td></tr>
<tr><td></td><td>Resp:
Both</td><td>Status:
In Progress</td><td>Stage:
Both</td><td>Recurrent:
☐</td><td>Due Date:
30-Jun-2016</td><td>Frequency:</td></tr>
<tr><td>Program and Donor</td><td>Rating</td><td colspan="5">Moderate</td></tr>
<tr><td rowspan="2">Risk Description:
4.3. The Government's project implementation schedule is very time constrained. The construction has started and the line is expected to be operational in 2016.</td><td colspan="6">Risk Management:
4.3. The Bank is designing the disbursement schedule that assumes a conservative implementation period of longer than 3 years and with much of the Bank's disbursement in years 2 and 3. The electrification is on the critical path as it is expected to be completed in July 2016 to serve the objectives set by the government. But other activities could be implemented after the first opening of the line.</td></tr>
<tr><td>Resp:
Bank</td><td>Status:
In Progress</td><td>Stage:
Both</td><td>Recurrent:
☑</td><td>Due Date:</td><td>Frequency:
Yearly</td></tr>
<tr><td>Delivery Monitoring and Sustainability</td><td>Rating</td><td colspan="5">Moderate</td></tr>
<tr><td>Risk Description:
4.4. Most of the data for monitoring of results are within the competency of UTY and should be readily available to the Bank. However, there will be some social and economic</td><td colspan="6">Risk Management:
4.4. M&E framework was agreed with UTY PIU and baseline and end target values are defined. The Poverty and Social Impact Analysis undertaken during project preparation will serve as base line to further impact monitoring.</td></tr>
</table>

data relating regional development that might not be easy to obtain. Once built, the risk to sustainability of the results will be low - unless the cost for freight and passenger transport is set unreasonably high. This is not a likely scenario.	**Resp:** Bank	**Status:** Not Yet Due	**Stage:** Implementation	**Recurrent:** ☑	**Due Date:**	**Frequency:** Yearly
Other (Optional)	**Rating**					
Risk Description:	**Risk Management:**					
	Resp:	**Status:**	**Stage:**	**Recurrent:** ☐	**Due Date:**	**Frequency:**
Other (Optional)	**Rating**					
Risk Description:	**Risk Management:**					
	Resp:	**Status:**	**Stage:**	**Recurrent:** ☐	**Due Date:**	**Frequency:**
Overall Risk						
Overall Implementation Risk:	**Rating**	**High**				
Risk Description:						
The geopolitical risk remains during project implementation. In addition, there will be inevitable engineering and technical challenges during implementation of civil works of this magnitude. While the Bank will support UTY, how the company will address these challenges is not known. Given that this is the first transport project in Uzbekistan for many years, whether UTY will adhere strictly to Bank environmental and social safeguards documents is also a major risk during implementation. The project funds investments, however, the development objectives will only be met if transportation services instituted on the new line attract the necessary freight and passenger volume. This would require development of new logistic arrangements and a market oriented approach to rail operations. The Bank will provide technical assistance but the transformation will have to come from UTY.						

Annex 5: Implementation Support Plan

Uzbekistan: Pap-Angren Railway (P146328)

Strategy and Approach for Implementation Support

1. The strategy for implementation support has been developed based on the nature of the project and its risk profile. The project involved two technical sectors, rail and power, and technical assistance is involved ranging from tunnel safety, rail operations, freight logistics to training and capacity building. The Plan will aim at making implementation support to the UTY more hands-on and intensive as this is the Bank's first engagement in Uzbekistan's rail sector. The focus of the implementation support will be to mitigate the risks described in the Operational Risk Assessment Framework (ORAF), namely the capacity, design, and stakeholder risks which are rated as high, as well as the traditional supervision focus areas including safeguards and fiduciary aspects.

2. Formal supervision and field visits will be carried at least semi-annually, and will focus on:

a. **Technical inputs**. Technical inputs are required to review bid documents to ensure fair competition through proper specifications and fair assessment of the technical aspects of bids. Railway specialists and a geotechnical engineer will review the implementation of civil works related to rail and tunnel construction. Energy specialists will review the works for installing new power distribution to the new rail link. Close environmental and social supervision will be undertaken throughout the life of the project but especially during the implementation of civil works. During commissioning, close technical supervision will be provided to ensure various components of the project as well as the launching of related transport services come together as smoothly as possible. The team's engineering/technical specialists will conduct site visits on a semi-annual basis throughout project implementation. Inputs will also be provided by rail and logistics specialists on the support towards improvement of rail and logistics operations, and the proposed technical assistance and studies.

b. **Fiduciary requirements and inputs**. Training will be provided by the Bank's financial management specialist and the procurement specialist during project implementation. The team will support UTY and UE and their PIUs in their financial management capacity and to improve procurement management efficiency. The financial management and procurement specialists and an operational officer would be based in the field and thus be able to provide timely support. Supervision of financial management arrangements will be carried out semi-annually as part of the project supervision plan and support will be provided on a timely basis to respond to client needs. Procurement supervision will be carried out on a timely basis as required by the client. Concerning financial management, the World Bank will conduct risk-based financial management implementation support and supervision within six months from the project effectiveness date, and then at appropriate intervals, as part of its project implementation and supervision missions. During project implementation, the World Bank will supervise the project's financial management arrangements in the following ways: (i) review the project's quarterly IFRs as well as the

project's annual financial statements and the auditor's management letters and remedial actions recommended in the auditor's management letters; and (ii) during the World Bank's on-site missions, review the following key areas: (a) project accounting and internal control systems; (b) budgeting and financial planning arrangements; (c) disbursement arrangements and financial flows, including counterpart funds, as applicable; and (d) any incidences of corrupt practices involving project resources. As required, a World Bank-accredited financial management specialist will participate in the implementation support and supervision process.

c. **Safeguards.** The environment and social specialist will support relevant counterpart staff and provide any necessary training. On the social side, supervision will focus on the implementation of the RPF and RAPs, and the social (including gender) and poverty-related impacts associated with the project. Early support on the implementation of the remedial plans for the previous resettlement will be robust, with at least three field visits over the course of the first year. The environmental specialist will supervise the implementation of the EIA/EMF and site-specific EIAs and EMPs. Field visits will be made on a semi-annual basis.

d. **Impact Assessment:** The government will conduct an impact evaluation of the project comprising a baseline survey at project launch and a follow up survey at the end of the project. This evaluation will utilize the findings of the Poverty and Social Impact Analysis undertaken during project preparation. The evaluation will assess transport-related outcomes as well as the extent to which the rail link improves accessibility to jobs and services and facilitates more efficient trade, increases markets opportunities and reduced the price that agriculture and industry pay for inputs and households pay for commodities.

e. **Client Relations**. The Task Team Leader will coordinate the Bank teams to ensure project implementation is consistent with Bank requirements and as specified in the legal documents. The Team Leader will meet with senior officials on a regular basis to keep them apprised of project progress and issues requiring resolution at their level. The Team Leader will also oversee communication and information dissemination of the project and liaise with other development agencies and stakeholders.

Implementation Support Plan

3. The main focus in terms of support to implementation would be as follows:

Time	Focus	Skills Needed	Resource Estimate (Staff Weeks/year)	
First twelve months	Team Leadership	Management, supervision, coordination, dialogue with government and other stakeholders	Task Team Leader	8
	Project Support	Supervision, coordination	Operations Officer in-country	8
	Technical	Rail and tunnel engineering, design, technical supervision	Rail Engineer	6
			Transport Specialist/Economist	4
		Power transmission and distribution	Energy Specialist	6

	Social	Social safeguards, land acquisition and resettlement, gender and poverty	Social Specialist	6
	Environment	Bank norms knowledge, environmental safeguards	Environmental Specialist	6
	Procurement	Procurement experience, Banks procurement norms knowledge, training	Procurement Specialist	4
	Financial Management	FM experience, knowledge of Bank FM norms, training	FM Specialist	4
	Monitoring & Assessment	Support training for monitoring and evaluation and impact assessment baseline survey	M&E Specialist	4
12-48 months	Team Leadership	Management, supervision, coordination, dialogue with potential country members of program	Task Team Leader	8
	Project Support	Supervision, coordination	Operations Officer in-country	10
	Technical	Rail engineering, supervision Logistics Power transmission and distribution	Rail Engineer Transport Specialist/Economist Energy Specialist	5 4 5
	Social	Social safeguards, land acquisition and resettlement, gender and poverty	Social Specialist	4
	Environment	Environmental safeguards, supervision and monitoring, training as needed	Environmental Specialist	4
	Procurement	Procurement reviews and supervision, training as needed	Procurement Specialist	3
	Financial Management	FM reviews and supervision, training and monitoring	FM Specialist	3
48-60 months	Team Leadership	Project management, supervision, coordination	Task Team Leader	8
	Project Support	Supervision, coordination	Operations Officer in-country	10
	Technical	Rail engineering, supervision, logistics and trade facilitation expertise Power transmission and distribution	Rail Engineer Transport Specialist/Economist Energy Specialist	8 5 4
	Social	Social safeguards, land acquisition and resettlement, gender and poverty	Social Specialist	3
	Environment	Environmental safeguards, supervision and monitoring, training as needed	Environmental Specialist	3
	Procurement	Procurement reviews, training as needed	Procurement Specialist	4
	Financial Management	FM reviews, training and monitoring	FM Specialist	4
	Monitoring & Assessment	Support impact assessment	M&E Specialist	4

4. The following skills mix is required for implementation support:

Skills Needed	Number of Staff Weeks	Number of Trips	Comments
Task Team Leader	8 Staff Weeks/year	Two/year	HQ based
Operations Officer	8-10 Staff Weeks/year	Two/year	Country based
Rail Engineer	5-8 Staff Weeks/year	Two/year	HQ based
Transport Specialist/Economist	4-5 Staff Weeks/year	As needed	Consultant
Energy Specialist	4 - 6 Staff Weeks/year	Two/year	HQ based
Social Specialist	3 - 6 Staff Weeks/year	Two/year	HQ based
Environmental Specialist	3 – 6 Staff Weeks/year	Two/year	Field based
Procurement Specialist	4 Staff Weeks/year	n/a	Country based
FM Specialist	4 Staff Weeks/year	n/a	Field based
M&E Specialist	4 Staff Weeks first and last year	One/year	HQ based
Disbursement officer	4 Staff Weeks/year	n/a	Country based

Annex 6: Project Contribution to Poverty Reduction and Shared Prosperity

Uzbekistan: Pap-Angren Railway (P146328)

1. Drawing on existing economic and social sources for Uzbekistan as well as the Poverty and Social Impact Analysis (PSIA)[36] which has been carried out as part of project preparation, this section summarizes key economic and socio-demographic trends observed in Uzbekistan and the Ferghana Valley. The section further describes the expected induced impact of the future railway link in the Valley, specifying likely benefits on the poor and the bottom 40 percent of the income distribution. The section ends by presenting the methodological framework for the project impact analysis.

Poverty and Shared Prosperity in Uzbekistan and the Ferghana Valley

2. ***Economic growth in Uzbekistan has been inclusive overall***. Uzbekistan has made laudable progress in expanding the country's economic base and improving the well-being of the poorer segments of society. The economy has grown by 8 percent annually since the mid-2000s and prospects are just as promising for the years ahead. Though data sources are scarce, there is evidence that growth in Uzbekistan's has generally been pro-poor. Indeed, recent studies suggest that based on a consumption-based poverty line threshold[37], the number of people considered poor, fell from 26.3 percent of the population to 14.5 percent in the 2007-2013 period, with similarly remarkable achievements on other social outcomes particularly health and sanitation indicators. For instance, the maternal mortality ratio fell from 59 to 28 per 100,000 live births between 1990 and 2010. Similarly, Uzbekistan successfully reached universal coverage in improved sanitation facilities by 2010. The government's commitment to promoting equity and shared growth is further acknowledged on its Welfare Improvement Strategy for 2013-2015 which aims to reduce poverty further by 2015, with a special emphasis on boosting the incomes of rural households and bridging the existing income divide in the lagging regions. These developments suggest that Uzbekistan's path towards achieving middle-income status is on the right track and that growth has been benefited low-income other disadvantaged groups. Despite the positive trends, some regions lag behind vis-à-vis the national average in terms of income growth and equity. Overall there is

[36] The objective of the exercise was to assess the expected distributional and socio-economic effects of improved rail connectivity in the Ferghana Valley and on the population in this isolated area, with a particular focus on welfare gains for the poor and other vulnerable groups. By utilizing a series of quantitative and qualitative techniques such as household surveys and focus group discussions, the study collected primary and secondary data and looked at the impact of improved connectivity with regard to labor markets, consumption, and access to basic goods and services among the lower income population. Stakeholder consultation activities also took place in order to assess the ex-ante welfare effect of the intervention on people, social groups and enterprises which are likely to be affected by the project. These included selected rural and urban household households and self-employed and salaried workers who may benefit from a new railway service. Key themes and research questions examined by the PSIA are: i) labor market dynamics: to which extent the proposed transport interventions could affect the structure of the labor market or the demand for labor in the project area, particularly in sectors that employ the poor (e.g. agriculture, textiles, manufacturing, etc.); ii) consumption patterns: whether the expected prices dynamics triggered by the project alter consumption and resource allocation decisions for various households, especially for small farmers and the self-employed; and iii) access to goods and services: geographical areas that would benefit from the improved access to markets and services.

[37] Uzbekistan's national poverty line is measured by the minimum food consumption equivalent to 2,100 kilo-calories per person per day.

evidence that important regional gaps in income still persist and in fact may have widened in the last five years.

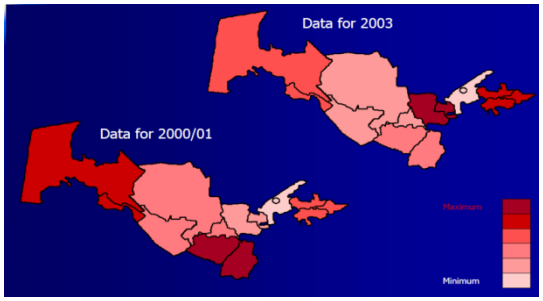


Figure 1. Poverty Incidence in Uzbekistan by Region (2000-2003)[38]

3. ***The Ferghana Valley constitutes the easternmost region of Uzbekistan and is topographically separated from the rest of Uzbekistan by a mountainous range crossed at the Kamchik Pass.*** GDP per capita in 2012 of the three Uzbekistan provinces located in the Ferghana Valley (Ferghana, Andizhan, and Namangan) was below the average for Uzbekistan by 11 percent, 32 percent and 52 percent respectively. Poverty levels and poverty density are also very high across the region; for example, the region concentrates one fourth of all the poor in Uzbekistan and 22 percent of the total population, compared to Tashkent city, which is home to 8.2 percent of the total population but only 2.1 percent of the poor in the country.

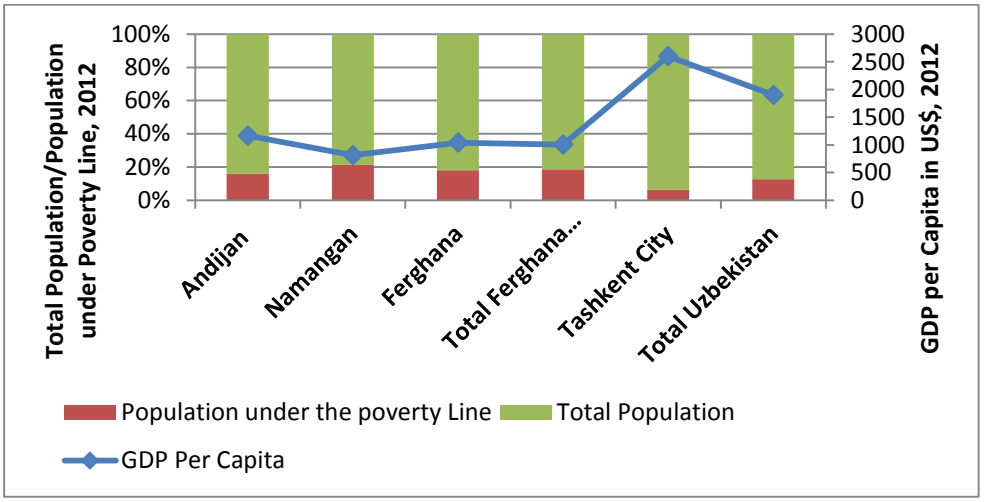


Figure 2. Selected Demographic Indicators for Uzbekistan and Ferghana Valley[39]

4. ***While the Ferghana Valley is a historically prosperous and densely populated region, it is not well served by the existing transport system***. The region is connected to the rest of Uzbekistan by only two routes. They are (i) via rail and road through Tajikistan and (ii) via road through the Kamchik Pass (see Annex 8 for maps). The pass is used for most freight transport and is the only means for movement of people in and out of the Uzbek part of the Valley, other than a very limited air service. The isolation of the Uzbek portion of the Ferghana Valley results from the fact that goods in and out of the area are affected by high transport costs as most goods have to

[38] World Bank 2003
[39] World Bank, Poverty Reduction Strategy Paper 2008.

transit three countries, and passengers pay high prices to enter or exit the area. The lack of connectivity in the region calls for the improvement of existing transport links and the development of new ones.

5. ***The PSIA unveiled that the labor market in the Ferghana Valley is heavily skewed and volatile, with women having very few opportunities outside farming and the handicraft sector.*** The unemployment rate among men is about 6 percent compared to over 10 percent for women and as much as 30 percent among young and unskilled women. Unpaid domestic work predominates with up to 45 percent of women working within the household. Furthermore, there is significant labor migration in the winter months with most men taking up the seasonal employment opportunities. About 500,000 able-bodied male population of the Valley (or, about 30%) work and live abroad for periods of between 3 and 8 months. While remittances received by their spouses partially cover household expenses, the lack of permanent jobs in the formal sector makes subsistence particularly difficult for unskilled, young women. The employment and incomes of men and women improve between March and November, with the highest peak in July, and drops between November and March, with the lowest peak in February. Therefore, in the absence of stable, year-round job opportunities, low-income households must smooth consumption and remain highly vulnerable to unforeseen idiosyncratic and covariate shocks.

6. ***Transport constraints adversely affect the development of key sectors of the regional economy.*** Findings from the PSIA suggest that inadequate transport connections have significantly restricted the job creation, growth, and the trading potential of key economic sectors, particularly fruit and vegetables production and processing, handicrafts, and mining. The problem is more acute in the development of SMEs as high transport costs constitute an entry barrier for small competitors and do not allow vulnerable groups such as small scale farmers to market their products in markets with larger demand or for other groups to diversify away from subsistence farming into other sectors.

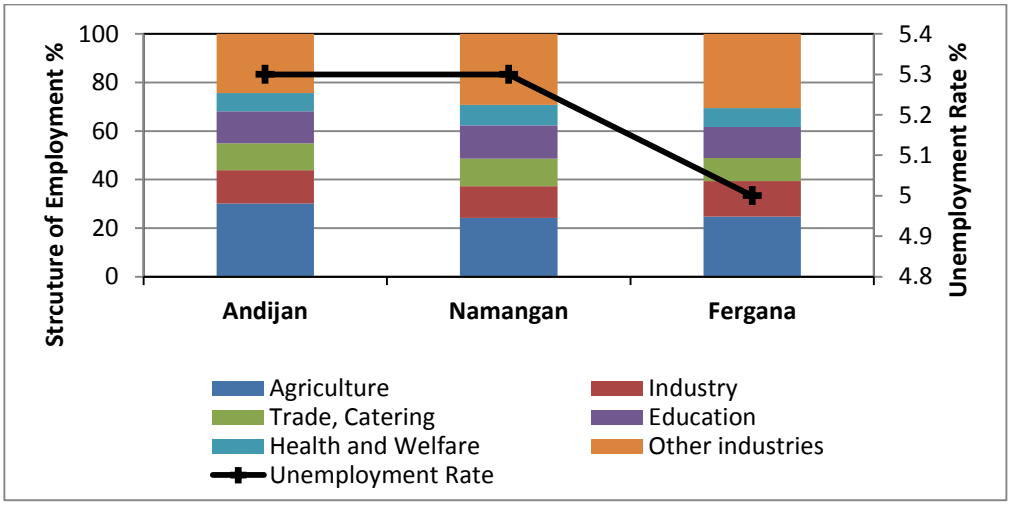


Figure 3. Structure of Employment in Ferghana Valley[40]

7. ***The costs of transporting commodities and consumer goods in and out of the Ferghana Valley are relatively high and adversely affect the profitability of the SME sector and small-***

[40] Labor and Employment in Uzbekistan, 2013

scale farming. Entrepreneurs and farmers in the three provinces of the Ferghana Valley reported that transport costs could represent anywhere between 10 and 200 percent of the cost of production, when the freight needs to be transported outside the Valley or when supplies come from abroad, with the costs varying significantly when there are road closures due to weather. Similarly, while the road-based infrastructure within the Fergana, Namangan and Andijan provinces is, on the whole, reliable and accessible, transport links to travel outside the provinces are inadequate and require several transshipments, which further increase the selling costs. Farmers in the region also report having to pay more for as fertilizers, seedlings, seed potatoes, fuel for land cultivation, equipment and machinery for growing and processing farm produce in the winter months; the increase in the traffic volume along the highway that runs via Kamchik pass has made these vital supplies dearer in the last years.

8. ***Passenger services in the region are not reliable and not affordable, imposing a significant mobility constraint on low-income households.*** Demand for passenger services has been increasing in the last ten years but supply has not kept its pace. While the main purposes for inter-regional trips continue to be for employment activities, to attend a higher education institution, or visit health centers with more advanced facilities, evidence from the PSIA suggests that the demand for trips for other purposes such as family visits, pilgrimage and tourisms has grown exponentially. Most of these trips take place in mini-buses which tend to be stable during the year but only run on fixed routes and deliver passengers to certain stops. Thus, those residing in the more remote areas may need to find a taxi to get to their destination, incurring excessive costs. Tariffs for inter-regional trips tend to be very volatile ranging from 25,000 to 50,000 Uzbek sums, but even higher when there are fluctuations in fuel and supplies. A trip to Tashkent, can thus represent as much as 20 percent of a poor household's income, making long distance trips virtually impossible, and hence, severely curtailing a household's access to economic, social and cultural opportunities outside its place of residence.

Box 1. Passenger Services and Mobility Patterns in the Ferghana Valley

Public transport supply in the Ferghana Valley is quite diverse and has been increasing significantly as inter-province trips have become more frequent. Household surveys carried out as part of the PSIA tend to demonstrate that residents in Andijan, Ferghana and Namangan provinces have a relatively vast set of options for meeting their intra- and inter-regional mobility needs. The following modes of transport are being used by household for passenger and freight transportation:

- For trips within their provinces and within the Valley, about 70% of all types of passengers use fixed-route taxis like *'Damas'*, *'Gazel'*, *'Ford'*, etc., with passenger capacity from 8 to 15 passengers. These modes are used mostly for visiting relatives for family, for events like holidays and rituals, and lastly for business, work, and study outside the place of residence.
- About 25% of all types of passengers make use cars of Soviet-made cars and *'Nexia'*, *'Lacetti'* with capacity of 4 passengers for trips within their provinces, within the Valley, and outside the Valley. Not surprisingly this mode comes at a higher price than the fixed-route taxis and thus is reserved for the upper quintiles of the income distribution who can comfortably afford them.
- About 4% of passengers travel by airplane for trips outside their provinces and the country. The main reason for these trips is labor migration and business. This mode of transport is unreliable in the winter because of fogs in the Valley and constitutes the priciest transportation mode in the country.
- Finally, about 1% of passengers are currently using the Uzbek Railroad network within their provinces and the Valley mainly, for accessing shopping and recreational centers in the larger cities of the region and for visiting relatives.

Household surveys carried out in the three Provinces, showed that about 12% of responders made trips outside the Valley in the period between January and July of 2014. While the majority of population in the region is quite mobile at large, when one looks more closely at passenger profiles, some distinctively different mobility patterns become evident. The poor have low mobility, travel for shorter distances usually within their rayon, and spend a higher proportion of their income on public transport. For example, the survey showed that only 3 percent of passengers making inter-urban trips belonged to the lowest quintile. Moreover, the data points to some gender-related disadvantages in inter-urban mobility patterns; while women on the whole pay less than men for trips between provinces, they accounted between 30 and 35 percent of total trips made outside the provinces in the period under scrutiny. This can be explained because a significant share of women performs domestic activities and thus are far more likely to stay at home and not commute at all. Repressed transport demand by women might be due to unequal access to the labor force, household decisions on resource allocation, geographic isolation, or safety concerns.

The findings demonstrate that the transport market for passengers in the region allows travelling to different geographical markets through a wide variety of transport services and varying prices. However, modal usage is still dominated by low-capacity, often unsafe and polluting modes characterized by unreliable service. The establishment of a well-managed railway link can hence play a critical role in the region's transport network, providing efficient and low cost transport in this high density corridor, particularly for the low income groups and women who, as we have seen, face distinctive disadvantages in their mobility and access to transport services.

Expected transport-related impacts on the regional economy and low-income groups

9. ***Adequate connectivity and access are both a critical requirements for poverty reduction and shared prosperity***. While transport alone cannot reduce poverty, the construction of roads, railways, and inland waterways or the improvement of existing infrastructure, serve a pervasive role in boosting household incomes and reducing income inequality (Booth et. al, 2001). From a distributional perspective, the economic literature in general supports the hypothesis that investment in transport infrastructure may have a significant impact on the poorest sectors of society, by enhancing their chances to access employment and investment opportunities, markets, and basic services in education and health, and other livelihood outcomes.

10. ***Railway investments in particular, can unambiguously boost economic activity within a specific locality, potentially closing the income divide that is often observed in lagged regions***. On solely efficiency grounds, railways can have significant effect on a given economy by reducing the cost of trading, reducing inter-regional price gaps, and increasing trade volumes (Donaldson, 2010). Building new rail tracks or rehabilitating existing ones also induce direct and indirect impacts on the livelihoods of the poor. At the most directly measurable level, railway projects reduce the time and costs associated with moving goods and persons from one place to another. The increased demand for transportation may ensure that more trips are made along the new railway link, that transport fares fall and commodities are transported cheaply and more conveniently often in containers. Indirect impacts would then ensue at the household level, as real consumption increases by virtue of both lower prices for consumer goods as well as increased earnings from employment and business opportunities created during project execution (e.g. short-term labor intensive works and associated forward linkages) and after the project is completed (e.g. added investment and jobs throughout the catchment area). Finally, another indirect effect from the establishment or improvement of a rail link would stem from enhanced access to better and more reliable health and education services, thereby strengthening capabilities and enabling the poor to accumulate human capital. It may be the case that most villages in a given area have adequate elementary schools or a first care center. However, in the more remote areas, low-income

citizens may be excluded from attending universities and visiting hospitals, not only due to relatively high cost of the service but also because of accessibility constraints.

11. ***The literature has generally pointed out that being closer to a railway line is generally associated with higher real incomes and improved welfare outcomes.*** At least forty econometric studies have been published using the aggregate production function approach, and different data and techniques to quantify the impact of public capital/transport infrastructure on the income level and output growth[41]. While empirical research on the contribution of railways to economic development and shared prosperity has been relatively thin, recent papers have made genuine progress on this issue. Two studies conducted in China[42], for example, show how proximity to the railway can be positively correlated with GDP per capita by as much as 33% percent after the railway begun to operate. Both studies correct for the common problem of reverse causality, indicating that improvements in the transportation network and proximity to a communication line between two cities or countries are responsible for the positive outcome; in this case higher GDP per capita vis-à-vis other comparable counties and regions with no railway access. While these results are promising, there is still a significant gap on the understanding of the links between large-scale transport interventions and poverty reduction and income distribution.

12. ***The Government of Uzbekistan recognizes that the further development and integration of the country's transport infrastructure together with adequate provision of transport services is a pre-requisite for sustainable and equitable economic growth in lagged regions such as the Ferghana Valley***. In this respect, it is expected that the new rail link will address one of the most pressing connectivity needs, the issue of accessibility and de facto geographic isolation, while concomitantly helping reduce regional inequalities in regards to income and population welfare.

13. ***While other constraints and challenges remain ahead for the Ferghana Valley to catch up with the richer regions of Uzbekistan, the Pap-Angren Railway Network will directly contribute to the region's economic development and growth***. By providing a high capacity transport mode to expand market access, trade opportunities, and access to employment and social services for the bottom 40 percent, the railway network will reduce the isolation that has consigned the Ferghana Valley to conditions of lower growth and higher poverty relative to the rest of the country. As evidence elsewhere has pointed out[43].

14. ***The project will address the Bank's two corporate goals in direct ways. Directly, the project will lower freight and passenger services costs***. The project team current estimates that direct-job creation will be about 2,000 during the construction and operations phase. The project will also significantly reduce transport costs for freight, from the current $30/ton for a typical movement between an industry in the Ferghana Valley and Angren to about $6/ton using the new

[41] See for example, Calderon, and Serven, 2011; Banerjee et al., 2012; Seveniratne and Sun, 2013; World Development Report 2009

[42] Banerjee A., Duflo E., and Qian N. 2012, *On the Road: Access to Transportation Infrastructure and Economic Growth in China*, Cambridge, MA NBER Working Paper No. 17897., and Wang Y. and Wu B., *Railways and the Local Economy: Evidence from Qingzang Railway, Tsinghua University,* 2013.

[43] Killick, Tony et al., *Africa Poverty Status Report 1999* (2000), Banerjee A., Duflo E., and Qian N. (2012) *On the Road: Access to Transportation Infrastructure and Economic Growth in China,* Donaldson D.. (2010) *Railroads of the Raj: Estimating the Impact of Transportation Infrastructure*.

line. Costs for rail traffic currently transiting Tajikistan will be reduced by about $3/ton. This reduction in freight costs – will alter consumption and resource allocation decisions for households (rural and urban), leading to positive income and substitution effects. Lower unit transport costs could translate into lower costs for inputs and outputs for small-scale farmers. In terms of passenger transport too, the project is likely to stimulate more trips and mobility options in a strategic corridor so that travelers can use a safer, faster, reliable, and affordable inter-regional transport system.

15. ***Consultations with low-income households, women, and relevant stakeholders carried out in the context of the PSIA suggest that the Pap-Angren Railway project is expected to have largely positive impacts on their livelihoods.*** Besides from the transportation-related outcomes noted above, the railway link will:

i. Increase productivity and earnings of enterprises and farms where the members of these households are employed, especially in the commodities, services, and food production sector. Hence, the project could potentially lead to improved employment stability and incomes of those already employed.
ii. Increased tax revenues for local authorities, which should result in higher transfers for low-income and vulnerable groups, such as female headed households.
iii. Create new enterprises, including enterprises at, and around, the railway stations. This would result in a potentially high number of job opportunities in both skilled and low-skilled professions.
iv. Ensure more seasonal stability of the agricultural economy thanks to improved supply chains and transportation links. This would help levelling out the existing high fluctuation in agricultural production, which currently makes farmers' revenue streams more volatile.
v. Increase economic and cultural exchanges between the provinces, together with better information flows within the Valley but outside the Valley as well.
vi. Enhance access to improved education and health facilities in other provinces.
vii. Development of the tourism industry with forward linkages to other well-established sectors, particularly textiles and handicrafts.

16. ***Some of these largely indirect effects on the livelihood conditions of the poor and bottom forty percent will be observable in the medium to long term***. First, it is estimated that the corridor's multiplier effect in the local and regional economy generates 15,000 jobs by 2020 and up to 25,000 jobs by 2030 in multiple sectors of the economy. Meanwhile, the low-income population of the region, 70 percent of whom resides in the rural areas, will benefit the most from creation of job opportunities in agriculture due to the growth of farms and shirkats. Currently, it is the agricultural sector where there is a highest risk of poverty as a result of unemployment. The economic estimations provided by the Ministry of Economy indicate that the production of assembly plants could be increased by 10-15 percent if the project were constructed. Some increase in agribusiness production (about 1 percent of the forecast growth) can also be expected, although not to the same extent. Finally, the services sector (4 percent of growth) could also expect an additional impetus as a result of the increased industrial production. Hence, the project will directly facilitate the country's economic diversification. Second, the project is likely to increase factor mobility, making labor markets more flexible and making available wider job opportunities for local communities in non-traditional sectors. Third, the project would enhance access to education, healthcare and other services in remote areas where facilities are scarce. The presence of a reliable

affordable transport connection will empower the poor of the Valley by facilitating their access to education and health care. Moreover, reliable transport systems that can operate despite snow in the winter and landslides in the spring will improve the resilience of the region, making it easier to respond to medical emergencies, and other needs. Finally, the project will have a direct impact on local and global pollutants emissions, which may disproportionately affect poor and vulnerable populations. The table below provides a more detailed account on the expected impacts, identifying groups that are likely to benefit from the project. While the railway construction will have some potentially negative effects on selected groups, the overall social and distributional impact will be largely positive, directly enhancing access to opportunities for the poor and bottom 40 percent through increased mobility, lower freight costs for both producers and consumers, and reduced travel times.

Table 1. Impact assessment of proposed intervention for different stakeholders

Project Stakeholders	***Main Benefits and Advantages***	***Main Costs and Disadvantages***	***Other measures required***
SME Sector	• Reliable deliveries all year round • Lowering of transport costs of up to 50% • More accessible and diverse inputs for production from outside the Valley and abroad • Higher capacity mode to ship perishable and non-perishable goods at lower cost. • Development of new services (e.g. IT and Logistics). • Investments in new sectors such as tourism, construction services and engineering.	• Increased competition from SMEs from outside the valley that would relocate. • Increased availability of goods may result in lower selling prices and thus lower revenues. • Loss in revenue for SMEs located along existing highway	• Need to ensure that logistic centers are developed in tandem with railway expansion. • Minimize paper work and transactions for shipping goods. • Improve information channels on the benefits of the shipping freight via rail. • Ensure high quality containers and railroad cars.
Households	• Reliability and increased frequencies of services all year round. • Lower fares and significant time-savings in inter-regional travel. • Creation of jobs in the Valley and other settlements. • Easier access to higher education institutions, training and vocational centers, and improved health facilities. • Strengthening of social networks and social capital. • Creation of new enterprises results in more employment options • Lower prices for consumer goods – particularly coal. • Increase in productivity and earnings for firms could translate into higher incomes for households. • More comfort for inter-regional trips than current menu of choices.	• Potential increase in goods manufactured in the Valley. • Increased competition in the labor market and possibly lower wages. • Prolonged periods of migration which may negatively affect the household. • Negative impact in settlements that is closer to the existing highway. • Potential "brain drain", with local population migrating to Tashkent and abroad.	• Ensure that passenger cars have minimum level of comfort • Avoid lengthy and frequent stops which add time to journeys 10-15km in between stations. • Develop parallel strategy to keep the qualified labor force in the region. • Minimize transaction costs when purchasing tickets. • Ensure flexibility in timetables.

Farmers	• Lower costs and faster delivery times (see SMEs above) • Reduction in prices for supplies (pedigree cattle, small machinery, refrigeration equipment, and fertilizers and seeds. • Development of loan and leasing services • Potential market development in meat and fishing industries. • Avoiding wholesale dealer services to sell instead the products themselves. • Higher prices for production resulting in higher revenues.	• Increased competition with farmers from outside the valley. • However, risks of this competition and a drop in income could be compensated with higher sales volumes, and lower expenses for transportation of supplies, and lower expenses for transportation; • Time and money expenses for preparation of shipping documents for loading and unloading; • The UTY might require payments for transportation of imported and exported goods in hard currency, which will be available for farmers only if they are able to export their production.	• Need to create logistic centers in the provinces to which farmers will deliver their products. • Building of refrigerated warehouses near the railway stations for exported production. • Development of infrastructure architecture to improve railway services.
Craftsmen	• An increase in supplies from outside the Valley, and, as a result, an increase in the volumes of sales of their production both outside the Valley and within the Valley; • Improve the stability of employment for women, who are overrepresented in this industry. • Lower prices for motor transportation due to competition between the railway and motor carriers. • Future development of foreign tourism and an increase in the demand for their arts and crafts; • Creation of new enterprises, including handicraft enterprises, and, – as a result, – new jobs at these enterprises; • More intensive exchange of production between artisans from the Valley and from other provinces of the country.	• Increased competition with counterfeit products imported to the Valley • Similar handicraft production from China, Iran, Afghanistan, etc. • No full utilization of railway services as priority might be given to other higher value products which are transported in large volumes.	• Need to ensure maximum safety in the railways compared to transportation by road where their production can be damaged. • Need to promote local merchandise and tourism through the railroads.
Motor Carriers	• Increased demand for experienced motor carriers and higher incomes for those who find a job • Less congestion on motor highways • Higher volumes of exchange of consumer goods and food products between the provinces of the country; • Increase in the number of hotels and travel agencies. • Reduced demand for fuel in the country, and, as a result, stable availability of it, and lower expenses of motor carriers.	• Significant job losses for truck, taxi, and mini-bus drivers. • Harsh competition from railroad which could result in lower revenue for same service. •	• Need to promote multi-modal transport services by designing routes and frequencies in a way that maximizes efficiency with little or no impact on jobs or revenues for motor carriers.

Framework of analysis, data collection, and methodology

17. ***An underlying priority under the project is to identify and incorporate design parameters and implementation arrangements that would potentially yield the biggest pro-poor impacts outlined above and optimize the project's distributional implications***. As a first step, the diagnostic assessment was financed during project preparation with resources from the PSIA Trust Fund (the final results should be delivered and disseminated by Q2 FY15) to conduct evidence-based assessments on how vulnerable individuals and groups would be positively or negatively affected.

18. ***The PSIA contains guidance on how the proposed intervention might interact with investments in other sectors within the region to optimize the impact on the incomes of the bottom 40 percent, social equity and inclusion***; particularly in the most socio-economically depressed areas such as the Ferghana Valley. While intended to become a critical input to inform project design and enhance the understanding on the connectivity needs of the poor in the Valley and the corridor's feedback effect on product and labor markets, the PSIA's ultimate aim is to elucidate how the Pap-Angren Railway link can be conducive to promoting shared prosperity and poverty reduction in the region.

19. ***As a second phase, the government will conduct a baseline study at project launch and complete an independent impact evaluation at the end of the project.*** This evaluation will utilize the findings of the Poverty and Social Impact Analysis undertaken during project preparation. This activity is planned to consist of innovative assessments and evaluations to better articulate the benefits of the planned railway and ancillary investments at the community and household levels. The goal of the impact evaluation will be to enable the government, the Bank and other donors and stakeholders to assess the cost-effectiveness and overall success of the project, and its impact on the well-being of the intended beneficiaries. Taking stock of the PSIA results, the ex post evaluation will emphasize project outcomes on the poor, the bottom 40 percent, small scale farmers and SMEs, and other vulnerable groups (women, elderly, disabled). Contingent on resource availability and timing of data collection[44], the impact assessment would generate quantitative and qualitative analysis with the use of traffic surveys as well as household and community level surveys emphasizing the following:

- Changes in real income levels brought about by better connectivity and railroad access.
- Impact of the railroad network on household welfare as measured by other non-income variables
- Local market development, enhanced investment, and employment generation in the districts with a new or an improved railway link.
- Reductions in the cost of trading and bilateral trade flows (with other regions and other countries) as reflected by inter-district price changes before and after the project.

[44] Sample data may include: Definition of area of influence (Region, Province or Department), list of communities and municipalities in the sub - region that benefit directly and indirectly, statistical information regions (population, income / consumption per capita, poverty levels, HDI, education, health, etc.), Digital maps of existing road system in the region (primary network, secondary, tertiary), database with information on journey time to / from different points, socio- economic characterization, of the target population, transport demand in the catchment area, supply of existing public transport services in the region and freight carriers. institutional arrangements between agricultural communities and how the organize to use transport services (cooperatives, etc.), gender aspects considered for the project design.

20. While transport-related outcomes would be thoroughly evaluated, the main focus of the analysis will be the extent to which the rail link i) facilitates more efficient trade, increases markets opportunities and reduces the price that agriculture and industry pays for inputs and households pays for commodities; and ii) the extent to which the project expands factor mobility and access to education, health care and other services.

Annex 7: Economic and Financial Analyses

Uzbekistan: Pap-Angren Railway (P146328)

1. ***According to the present initial economic evaluation, the project is expected to yield a net present value, discounted at 12 percent to 2013, of US$628 million and to achieve an economic rate of return of 15 percent***.

2. The new line will connect the existing railhead at the end of the Angren branch with Pap, on the northern loop of the Ferghana Valley network. From Pap, there are existing direct connections to Kokand and Ferghana to the west and to Namangan and Andijan to the east. If a line from China through Kyrgyzstan to Jalalabad or Osh is ever constructed, it will also provide a new route between Tashkent and China.

3. Almost all traffic between Tashkent and the Ferghana Valley currently travels by road over the Kamchik Pass. Some travels by road for the entire distance but much also travels by rail to Angren and is transshipped there to road. The petroleum traffic to and from the refinery is then transshipped back to rail at Pap but all other freight is carried by road between Angren and its final origin/destination in the Valley. Road transport over the Kamchik Pass is expensive (almost twice the typical rate in other parts of Central Asia) and unreliable in winter. Almost all passenger transport is by car or shared taxi, as passenger buses have been forbidden for safety reasons.

4. There is an existing rail connection between the Ferghana Valley railway network and the rest of the Uzbekistan railway network across 105 km of Tajikistan. This route, however, carries a limited volume of Uzbekistan traffic, with the majority being transit traffic to and from the Kyrgyzstan centers at the eastern end of the Valley. This is largely due to the very high transit charges imposed by Tajikistan. Also the new line will be around 90 km shorter for travel to and from Tashkent to the Valley.

5. ***The Uzbekistan portion of the Ferghana Valley is forecast to achieve an economic growth of 8 percent per annum over the next few years. Traffic volumes are conservatively expected to grow at around 4-5 percent per annum*** which in the absence of the new rail link would create significant congestion on the existing Kamchik pass highway. It is expected that in total, about 85% of the current road freight over the pass should transfer to rail. The oil traffic will remain on rail throughout, as will the 2 million tons of traffic currently transshipping at the Angren Logistics Centre. The forecasts have been developed based on a growth rate of about 4 percent p.a., which equals about half the growth rate expected for the regional economy.

6. The evaluation, covering a 30 year period following the completion of construction, covers both the direct transport impacts as well as the indirect effects on the regional economy and externalities. The direct transport impacts include both the benefits to passengers and freight of having the new link as well as the reduction in congestion for those users who remain on the Kamchik Pass. The impacts on the regional economy include both the benefits to the population derived from agglomeration as well as the expansion in production possible for those industries previously constrained by the lack of capacity and expense of the road link, together with the knock-on effects on the regional service sector.

Traffic Forecasts

7. In 2013, an estimated 16,800 vehicles per day travelled across the Kamchik Pass, of which 86 percent were light vehicles (mostly shared taxis) and 14 percent trucks. About half the trucks were heavy trucks (5 or more axles), carrying about 7 million tonnes p.a. of freight. Nearly 30 percent of the freight was petroleum and petroleum products, moving to and from the refineries at Ferghana, and 12 percent was traffic to and from the GM plant. Much of the rest was bulk and semi-bulk traffic, with general traffic comprising about 12 percent.

8. Most of this traffic will transfer to the new line. The oil traffic will remain on rail throughout, as will the traffic currently transhipping at the Angren Logistics Centre (about 2 million tonnes). About half the remaining traffic is expected to transfer. In total, about 85 percent of the current road freight over the Pass should transfer to rail. This is forecast to grow at 4 percent p.a., about half the growth rate expected for the regional economy.

9. The line will provide passenger services to the main centres. Rail passenger travel is well-established in Uzbekistan, with the services to Samarkand from Tashkent clearly out-performing the domestic air services and providing an attractive alternative to shared taxis and buses. The forecasts assume a similar type of service would be offered to the main centers in the Ferghana Valley; forecasts based on analysis of modal choice estimate that rail would achieve just over 50 percent of the market, with about 40 percent continuing to travel by shared taxi and 10 percent travelling by private car. This traffic is forecast to grow at 5 percent p.a.

10. The existing rail route through Tajikistan is currently carrying about 1.5 million tons per annum of traffic. The new route will provide a shorter route (by about 90 km) to and from Tashkent and this will prove attractive not only to the local Uzbek traffic but also to transit traffic between Russia and Kazakhstan and Kyrgyzstan. The forecasts assume 2/3 (i.e. 1 million tons per annum) of this traffic diverts to the new shorter route. The new line will also provide additional capacity at an economical rate for the major industries located in the Ferghana Valley. Based on preliminary discussions with these industries, an additional 10 percent has been allowed for this generated freight traffic. Table below summarizes these demand forecasts; these figures allow ramp-up periods of three to four years for both passenger and freight.

Table 1. Forecast rail traffic Angren - Pap (million passengers, tons)

	Passengers (million p.a.)	Freight (million tonnes p.a.)			
		Ex road	Ex rail	Generated	Total
2018	0.7	3.0	1.2	0.4	4.6
2020	1.2	4.8	1.3	0.6	6.7
2030	1.7	10.2	1.9	1.2	13.4
2040	2.6	15.1	2.9	1.8	19.8

11. The capacity of the line is estimated at about 25 million tons of freight per annum. The passenger forecasts will require about 5 pairs of passenger trains daily in 2040 but this should still be within the line's capacity with suitable timetabling.

Project Costs

12. The estimated cost of the project, excluding interest during construction, is US$1.8 billion[45] at current prices, net of taxes and excluding rolling stock and interest during construction. Although in principle, the project would provide work for unskilled labour, the tunnelling and much of the above-ground construction will require skilled construction workers and the analysis thus assumes all costs are adjusted to market prices and no shadow price factors have been used.

Project Benefits

13. The project will significantly reduce transport costs for freight, from the current US$30/ton for a typical movement between an industry in the Ferghana Valley and Angren to about US$6/ton using the new line. Costs for rail traffic currently transiting Tajikistan will reduce by about US$3/ton[46]. Against this, infrastructure maintenance costs have increased through the additional track-km.

14. The passenger-related benefits include a fare for passenger services of 5c/passenger-km. As this approximates the above-rail operating cost (i.e. excluding infrastructure-related costs) of passenger services, no additional allowance needs to be made for any losses incurred by UTY in operating these services.

15. ***User benefits***. The new service is expected to attract about half the passenger traffic currently using the Kamchik Pass. Passengers will reduce a quicker, more reliable and less dangerous service at about the same price as a shared taxi but with a reduced service frequency. The overall benefit, based on the model used to estimate the modal share, is US$3 per rail passenger, based on an average value of time savings of US$2 per hour. Benefits to freight users, over and above the saving in operating costs, will principally arise from the greater reliability in supply and distribution; although industries customarily hold reserve stocks of material to guard against traffic disruptions in the winter, any potential benefit is hard to quantify and has been omitted at this stage.

16. ***Benefits to generated traffic***. The increase in capacity and service reliability will generate additional passenger and freight traffic over and above that which will divert from other modes and routes. This traffic has been allowed benefits calculated at 50 percent of the benefits to the base traffic, consistent with the rule-of-a-half.

17. ***Road user benefits on Kamchik pass*.** This project will significantly reduce the volume of both passenger and freight traffic using Kamchik pass and thus provide congestion relief for the remaining traffic using this road. This has been estimated using standard capacity and speed-flow calculations. If the project does not proceed, speeds are forecast to reduce from the current averages of 70 km/hr for cars and 55 km/hr for trucks to 54 km/hr and 43 km/hr respectively by 2020. With the project, speeds in 2020 will be about 5 percent worse than they are currently, at 66 km/hr and 53 km/hr respectively. These time savings and improved operating conditions have been estimated using standard procedures. The reduced volume of traffic, and particularly heavy vehicles, will also create savings in both road maintenance and accident costs.

[45] *This figure has been recently revised to US$1.6 billion.*
[46] Based on operating costs as against the high transit tariffs currently charged by Tajikistan.

18. **Greenhouse gases (GHG).** The diversion of traffic from road to an electric railway will reduce GHG emissions. In Uzbekistan, 20 percent of electricity is generated by hydro-power and 80 percent from carbon fuels. However, the fuel efficiency of the project railway is from three to five times greater than the road-based modes and this will lead to a reduction in the emission of greenhouse gases (GHG). These have been valued at US$30 per ton of CO2 equivalent.

19. **Agglomeration.** Rail services will provide direct benefits for passengers in terms of both cost and level of service compared to the current shared taxis. The greater ease of travel will provide more opportunities for the population to travel between the Ferghana Valley and the other major centres in Uzbekistan, especially Tashkent, and this will generate longer-term benefits through agglomeration. Such benefits are associated with widening the range of products for production inputs, sharing a wider and more flexible pool of labour, capital, and raw materials, and the greater opportunities for the transfer of technology and innovation. Such agglomeration economies have long been understood to exist and methodologies have been developed in recent years to quantify such impacts, particularly when there has been a step change in accessibility. The estimates included in the evaluation are based on research in several countries and are consistent with the procedures used for similar rail projects in China which provide a step quantum improvement in accessibility.

20. **Benefits to the regional economy.** The cheaper freight transport and increased capacity will create opportunities to increase production and expand markets. Discussions with the Ministry of Economy indicated that the regional development program planned for the Ferghana Valley over the next five years will only be possible if the transport links have sufficient capacity to carry the planned changes in industrial production. This was supported by industry discussions, which found several examples of where improved transport links would reduce the costs of production and distribution, expanding the regions in which their products could be successfully marketed.

21. There is ongoing dialogue with the Ministry of Economy and its main research institute to provide an estimate of these benefits from a macro perspective. Further interviews are also being undertaken with several other industries located in the Ferghana Valley. Industrial production represents about 3 percent of the growth forecast for the medium-term and interviews to date suggest production of many plants could be increased by 10-15 percent if the project were constructed. Some increase in agribusiness production (about 1 percent of the forecast growth) can also be expected, although not to the same extent. Finally, the services sector (the residual 4 percent of growth) could also expect an additional impetus as a result of the increased industrial production. At this stage, increases in economic growth due to the project of 0.25 percent p.a. in 2018-2020 and 0.1 percent p.a. for 2020-2030 are conservative and will be progressively refined.

Economic Rate of Return and Sensitivity Analysis

22. ***For the economic evaluation, net benefits are calculated for the 34-year period covering the four-year construction period (2014-2017) and 30 years of operation from 2018 to 2047***. The net present value (discounted at 12 percent to 2013) is estimated at US$722 million and the

economic internal rate of return (EIRR) at 15 percent[47]. Table below summarizes the contributions to the NPV.

Table 2. Structure of Base Case NPV (US$ million, 2013) (discounted at 12 percent to 2013)

	Passenger	Freight	Other	Total	% of Total
Operating cost saving		879		879	41
User benefits	24			24	1
Road user benefits			312	312	15
GHG			7	7	0
Agglomeration			31	31	2
Regional economy			881	881	41
Total	24	879	1131	2133	100
% of total	1	41	58	100	
Construction cost				-1411	
NPV				722	

23. ***The robustness of these results was tested against changes in four base case assumptions*** (Table 3):

- including operating cost savings only
- including operating cost savings and user benefits only
- including operating cost savings, user benefits and road user benefits only
- excluding regional growth benefits

Table 3. Sensitivity of Project Evaluation (IRR and NPV discounted at 12% to 2013)

Test		IRR (%)	NPV $US (mill)
1	Base	15	722
2	Operating cost savings only	9	-532
3	Operating cost savings and user benefits	9	-508
4	Operating cost savings and user benefits and road user benefits	11	-196
5	Exclude regional growth benefits	11	-158

24. ***Although the project has a large cost, it delivers very substantial benefits compared to the current road transport as well as addressing a major constraint on inter-regional transport and trade***. Even if only the direct transport benefits are considered, the project still has an EIRR of over 8%

[47] The analysis is based on an electrified railway line. The technical justification for the electrification of the new line is as follows: (i) the longitudinal profile of the line through the mountainous area would be too demanding on the operation and maintenance of diesel engines, (ii) the 19km long tunnel can only be operated with electric engines, and (iii) the new line will be the continuation of an already electrified network toward Tashkent.

Impact of Tajikistan Route Normalising

25. Without the new investment and if the route via Tajikistan is normalised in terms of rail tariffs, and assuming a rail passenger service was reinstated, theoretically most of the current road freight using the Kamchik Pass could instead travel by rail through Tajikistan; the main exceptions being agricultural products, from what are widely dispersed origins and possibly some of the GM traffic, especially that only moving to Tashkent. Some road passenger traffic would move to rail also but the service is unlikely to be very attractive compared to the current shared taxis on any of travel time, cost or frequency.

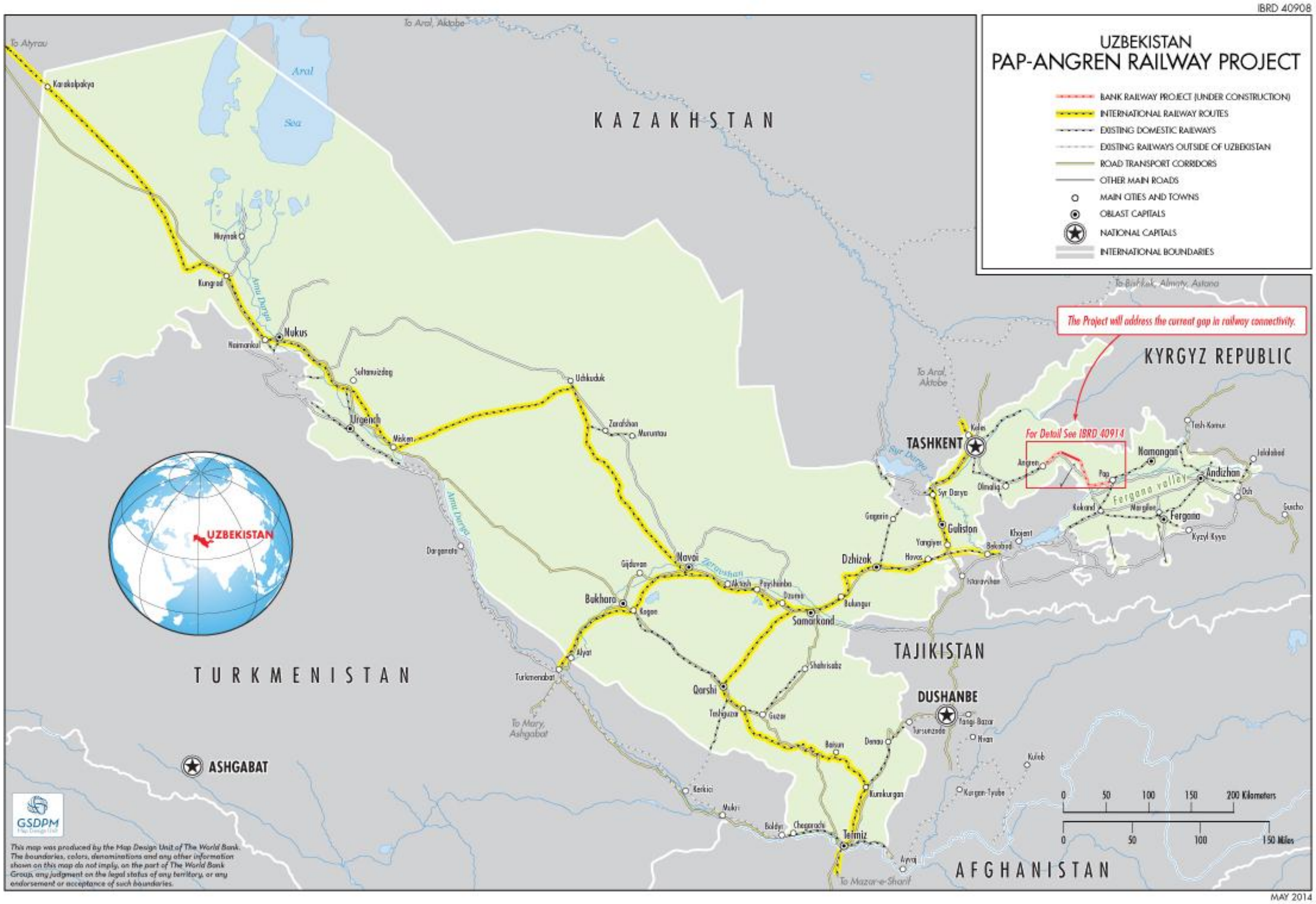
26. If the Tajik route is available when the new investment is completed, it is expected that most rail traffic would be capture by the Pap-Angren railway line, with the exception of the crude oil from the Bukhara region to the refineries at Ferghana that would transit through Tajikistan. Passengers would divert from the shared taxis to the Pap-Angren rail as in the Base Case but the contribution of the project to regional growth, although significant, would be rather less than the Base Case. The net present value (discounted at 12 percent to 2013) is estimated at – US$356 million and the economic internal rate of return (EIRR) at 11 per cent. Table below summarizes the contributions to the NPV.

Table 4. Structure of Base Case NPV (US$ million, 2013) (discounted at 12% to 2013)

	Passenger	Freight	Other	Total	% of Total
Operating cost saving		177		177	17
User benefits	15			15	2
Road user benefits			255	255	24
GHG			4	4	0
Agglomeration			20	20	2
Regional economy			583	583	55
Total	15	177	846	1055	100
% of total	1	19	80	100	
Construction cost				-1411	
NPV				-356	

27. ***A financial model has been developed to assess the financial capacity of UTY to implement the proposed project. The model shows that the company is financially sustainable and generates sufficient revenue to cover operation costs and capital investments other than major network expansions***. Operating expenditure and revenues have been derived from UTY management accounts for 2012 and 2013 and were adjusted for the future productivity increases, based on past experience. The company has a working ratio below 70 percent throughout the forecast period; over 30 percent of its revenues are thus available for debt service or for investment. Less than 10 percent of its free cash flow is earmarked for debt servicing. Capital investments over and above the current project include expenditure on track replacement at rate of about 150 km p.a. (this would renew the entire network over a 40-year cycle) and other electrification and duplication projects.

Annex 8: Maps


IBRD 40908
UZBEKISTAN
PAP-ANGREN RAILWAY PROJECT
BANK RAILWAY PROJECT (UNDER CONSTRUCTION)
INTERNATIONAL RAILWAY ROUTES
EXISTING DOMESTIC RAILWAYS
EXISTING RAILWAYS OUTSIDE OF UZBEKISTAN
ROAD TRANSPORT CORRIDORS
OTHER MAIN ROADS
MAIN CITIES AND TOWNS
OBLAST CAPITALS
NATIONAL CAPITALS
INTERNATIONAL BOUNDARIES
The Project will address the current gap in railway connectivity.
For Detail See IBRD 40914
KAZAKHSTAN
KYRGYZ REPUBLIC
TAJIKISTAN
TURKMENISTAN
AFGHANISTAN
UZBEKISTAN
Aral Sea
TASHKENT
DUSHANBE
ASHGABAT
Nukus
Urgench
Navoi
Bukhara
Samarkand
Dzhizak
Guliston
Qarshi
Termiz
Namangan
Andizhan
Fergana
Fergana valley
Angren
Pap
Kungrad
Uchkuduk
Miskin
Zarafshan
Kagan
Turkmenabat
To Mazar-e-Sharif
To Mary, Ashgabat
To Aral, Aktobe
To Bishkek, Almaty, Astana
To Atyrau
0 50 100 150 200 Kilometers
0 50 100 150 Miles
GSDPM
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MAY 2014


IBRD 40914
UZBEKISTAN
PAP-ANGREN RAILWAY PROJECT
BANK RAILWAY PROJECT (UNDER CONSTRUCTION)
EXISTING RAILWAYS
MAIN HIGHWAYS
MAIN ROADS
MAIN CITIES AND TOWNS
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KYRGYZ REPUBLIC
railway tunnel 19.7 km
UZBEKISTAN
NAMANGAN
TASHKENT
TAJIKISTAN
Angren
Ahlyk Rail Station
Angren Logistics Center
Chinar
Chetsu
Koksarai
Per. Kamchuk
Gulistan
Altynkan
Rezaksai
Chadak
Hanabad
Tuda
Punuk
Chorkesar
Madaniat
Gava
Varzik
Karkidan
Apmas
Ahcha
CHUST
Pap
Marguzar
Karakalpak
APRIL 2014