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Report No: PAD1280

INTERNATIONAL BANK FOR RECONSTRUCTION AND DEVELOPMENT

PROJECT APPRAISAL DOCUMENT

ON A

PROPOSED LOAN

IN THE AMOUNT OF
US$140 MILLION

TO THE

PEOPLE'S REPUBLIC OF CHINA

FOR A

URUMQI URBAN TRANSPORT PROJECT II

November 27, 2015

Transport and ICT Global Practice
East Asia and Pacific Region

CURRENCY EQUIVALENTS

(Exchange Rate Effective November 11, 2015)

Currency Unit	=	RMB
RMB1.00	=	US$0.16
US$1.00	=	RMB6.37

FISCAL YEAR

January 1	–	December 31

ABBREVIATIONS AND ACRONYMS

BRT	Bus Rapid Transit
CDB	China Development Bank
CPS	Country Partnership Strategy
DRC	Development Research Center
EA	Environment Assessment
EIRR	Economic Internal Rate of Return
EMP	Environment Management Plan
FM	Financial Management
FMM	Financial Management Manual
FSR	Feasibility Study Report
GDP	Gross Domestic Product
GEF	Global Environment Facility
GHG	Greenhouse Gas
GoC	Government of China
GRS	Grievance Redress Service
IBRD	International Bank for Reconstruction and Development
ICM	Integrated Corridor Management
ICT	Information and Communication Technologies
ITS	Intelligent Transport System
MOF	Ministry of Finance
MOT	Ministry of Transport
NPV	Net Present Value
PDO	Project Development Objectives
PIU	Project Implementation Unit
PLG	Project Leading Group
PMO	Project Management Office
PPP	Public-Private Partnership
RP	Resettlement Plan
SA	Social Assessment
SORT	System Operations Risk-Rating Tool
TransFORM	China Transport Transformation & Innovation Knowledge Platform
UCTIC	Urumqi Comprehensive Transport Information Center
UCTIMS	Urumqi Comprehensive Transport Information Management System
UCTRC	Urumqi Urban Comprehensive Transport Project Research Center
UDIC	Urban Development Investment Corporation
UFB	Urumqi Finance Bureau
UMECD	Urumqi Municipal Engineering Construction Division
UMG	Urumqi Municipal Government
UUDIC	Urumqi Urban Development Investment Company
UUTIC	Urumqi Urban Transport Investment Company
WB	World Bank
XARAO	Xinjiang Autonomous Region Audit Office
XARFD	Xinjiang Autonomous Region Financial Department
XUAR	Xinjiang Uyghur Autonomous Region

Regional Vice President:	Axel van Trotsenburg, EAPVP
Country Director:	Bert Hofman, EACCF
Senior Global Practice Director:	Pierre Guislain, GTIDR
Practice Manager:	Michel Kerf, GTIDR
Task Team Leader:	Binyam Reja, GTIDR

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Urumqi Urban Transport Project II (P148527)

PROJECT APPRAISAL DOCUMENT

EAST ASIA AND PACIFIC

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Basic Information		
Project ID P148527	EA Category A - Full Assessment	Team Leader(s) Binyam Reja
Lending Instrument Investment Project Financing	Fragile and/or Capacity Constraints [ ] Financial Intermediaries [ ] Series of Projects [ ]	
Project Implementation Start Date 21-Dec-2015	Project Implementation End Date 30-Jun-2021	
Expected Effectiveness Date 20-May-2016	Expected Closing Date 31-Dec-2021	
Joint IFC No		

Practice Manager	Senior Global Practice Director	Country Director	Regional Vice President
Michel Kerf	Pierre Guislain	Bert Hofman	Axel van Trotsenburg

Borrower: People's Republic of China					
Responsible Agency: Urumqi Urban Comprehensive Transport Project Research Center					
Contact:	Ming Zhang		Title:	Director	
Telephone No.:	(86)9914692795		Email:	urumqipmo@126.com	

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

Total Project Cost:	536.80	Total Bank Financing:	140.00
Financing Gap:	0.00		

Financing Source	**Amount**

Borrower	396.79
International Bank for Reconstruction and Development	140.00
Total	536.79

Expected Disbursements (in USD Million)

Fiscal Year	2016	2017	2018	2019	2020	2021	2022	0000	0000	0000
Annual	10.00	20.00	30.00	30.00	20.00	20.00	10.00	0.00	0.00	0.00
Cumulative	10.00	30.00	60.00	90.00	110.00	130.00	140.00	0.00	0.00	0.00

Institutional Data

Practice Area (Lead)

Transport & ICT

Contributing Practice Areas

Cross Cutting Topics

[X] 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	Urban Transport	70		40
Information and communications	Information technology	30		30
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	%
Urban development	City-wide Infrastructure and Service Delivery	70
Environment and natural resources	Climate change	20

management		
Financial and private sector development	Other Financial Sector Development	10
Total		100

Proposed Development Objective(s)
The PDO is to improve mobility in selected transport corridors in Urumqi.

Components	
Component Name	**Cost (USD Millions)**
Component 1 BRT Corridors	243.73
Component 2 Comprehensive Transport Information Management System	63.49
Component 3 Public Transport Infrastructure	100.71
Component 4 Capacity Building	6.84

Systematic Operations Risk- Rating Tool (SORT)	
Risk Category	**Rating**
1. Political and Governance	Moderate
2. Macroeconomic	Moderate
3. Sector Strategies and Policies	Moderate
4. Technical Design of Project or Program	Moderate
5. Institutional Capacity for Implementation and Sustainability	Substantial
6. Fiduciary	Substantial
7. Environment and Social	Moderate
8. Stakeholders	Moderate
OVERALL	Substantial

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 [ ]
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**
Parking management strategy adopted by UMG.		30-Jun-2018	

Description of Covenant

Project Agreement, Schedule, Section I A. 8. Urumqi Municipal Government (UMG) would finalize and adopt an improved parking management strategy along the three project BRT corridors no later than June 30, 2018.

Name	**Recurrent**	**Due Date**	**Frequency**
Establishment of the Urumqi Comprehensive Transport Information Center		30-Jun-2017	

Description of Covenant

Project Agreement, Schedule, Section I A. 9. UMG to establish Urumqi Comprehensive Transport Information Center (UCTIC) no later than June 30, 2017, assign adequate staff and resources, and ensure that: (a) relevant agencies and departments share information with the center; and (b) the information center shares data with transport users and the private sector in a meaningful and timely manner.

Name	**Recurrent**	**Due Date**	**Frequency**
Implementation Agreement among UCTRC, UMECD and UUTIC		31-Jan-2016	

Description of Covenant

Project Agreement, Schedule, Section I A. 6. UUTIC, UCTRC and UMECD shall enter into an Implementation Agreement by no later than January 31, 2016, under terms and conditions acceptable to the Bank.

Conditions

Source Of Fund	**Name**	**Type**
IBRD	Subsidiary Agreement signed between UCTRC and UMG	Effectiveness

Description of Condition

Loan Agreement, Article V, 5.01. A Subsidiary Agreement has been entered into between Urumqi Municipal Government and UCTRC.

Source of Fund	Name	Type
IBRD	Subsidiary Agreement signed between UUTIC and UMG	Effectiveness

Description of Condition

Loan Agreement, Article V, 5.01. A Subsidiary Agreement has been entered into between Urumqi Municipal Government and UUTIC.

Source Of Fund	Name	Type
IBRD	Effectiveness condition for CDB loan to UUTIC has been fulfilled	Effectiveness

Description of Condition

Loan Agreement, Article V, 5.01. The Co-financing Agreement between CDB and UUTIC has been executed and all conditions precedent to the right of UUTIC to make withdrawals from the CDB loan have been fulfilled.

Team Composition

Bank Staff

Name	Role	Title	Specialization	Unit
Binyam Reja	Team Leader (ADM Responsible)	Lead Transport Specialist	Transport economics and finance	GTIDR
Jianjun Guo	Procurement Specialist	Senior Procurement Specialist	Procurement	GGODR
Haixia Li	Financial Management Specialist	Sr Financial Management Specialist	Financial Management	GGODR
Alejandro Alcala Gerez	Team Member	Senior Counsel	Legal	LEGES
Anita Shrestha	Team Member	Procurement Assistant	Financial Analysis	GGODR
Jean Paul Velez	Team Member	Consultant	Urban transport	GTI02
Lei Wu	Team Member	Program Assistant	Operations support	EACCF
Shuai Ren	Team Member	E T Consultant	Transport Economics and planning	GTIDR
Songling Yao	Safeguards Specialist	Senior Social Development Specialist	Social Development/Safe-guards	GSURR
Xin Ren	Safeguards Specialist	Environmental Specialist	Environment	GENDR
Xin Wang	Team Member		Transport	GTIDR

Yan Zong	Team Member	Transport Specialist	Transport	GTIDR
Yuhui Jiao	Team Member	Transport Specialist	Transport	GTIDR

Extended Team

Name	Title	Office Phone	Location
Hongye Fan	Transport Consultant		Beijing
Michael Chiu	Sr. Public Transport Consultant		Beijing
Paul Barter	Parking Consultant		Singapore

Locations

Country	First Administrative Division	Location	Planned	Actual	Comments
China	Xinjiang Uygur Zizhiqu	Xinjiang Uygur Zizhiqu		**X**	

Consultants (Will be disclosed in the Monthly Operational Summary)

Consultants Required?	Consultants will be required

I. STRATEGIC CONTEXT

A. Country Context

1. The proposed project has been developed in the context of China's renewed focus on fostering urbanization in a sustainable manner, reforming municipal infrastructure financing mechanisms, and the national aim of reducing regional development disparities through better infrastructure development and regional economic integration. The joint *Urban China* report[1] by the World Bank and the Development Research Center of the State Council provides the project's primary conceptual framework: China's rapid urbanization is projected to continue and requires important reforms to steer it toward a more efficient, inclusive, and sustainable path.

2. Xinjiang Uyghur Autonomous Region (XUAR) is geographically the largest Chinese administrative division (over 1.6 million km^2). It is located in northwestern China and borders central Asia. More than 50 percent of its 22 million people (2010) are ethnic minorities mostly from Uyghur, Kazakh, Hui, Kirghiz, and Mongol communities. As a relatively less developed region, Xinjiang has received preferential development support from the central government under various national policy instruments. In particular, the Western Development Strategy launched in 2002 provided earmarked financial and technical support to Xinjiang. The 12th Five-Year Plan (2011-2015) prioritized western region development and emphasized the need to provide additional support for infrastructure development in minority-dominated areas. As a result of these development efforts, Xinjiang's economy has improved and its GDP increased from RMB161 billion in 2002 to RMB 926 billion in 2014.

3. The new national initiative of "One Belt, One Road" is opening up new opportunities for Xinjiang's development. The national framework for "One Belt, One Road,"[2] issued in March 2015, identifies the Xinjiang Uygur Autonomous Region as one of the core national area for the development of the Silk Road Economic Belt. Increased investment and international trading activities are expected to drive economic development and industrialization in the region.

B. Sectoral and Institutional Context

4. ***Urbanization and urban transport in China.*** Transport has been an essential element for growth and transformation of Chinese cities in the last decades. During the 1990s and early 2000s, most Chinese cities responded to rapid urbanization and motorization primarily with infrastructure expansion (e.g., road widening, highway construction, grade-separated intersections), often at the expense of public and non-motorized transport. However, as congestion, air quality, and climate change concerns

[1] World Bank and Development Research Center of the State Council, the People's Republic of China. 2014. Urban China: Toward Efficient, Inclusive, and Sustainable Urbanization. Washington, DC: World Bank. © World Bank. https://openknowledge.worldbank.org/handle/10986/18865 License: CC BY 3.0 IGO.

[2] National Development and Reform Commission (NDRC), Vision and Actions on Jointly Building the Silk Road Economic Belt and the 21st Century Maritime Silk Road, March 2015.

became more prominent in the mid-2000s, changes in policy and investments favoring sustainable transport practices started to materialize.[3] The Government of China (GoC) is actively promoting a more comprehensive approach for urban transport management that goes beyond supply-side options in two on-going initiatives. The first initiative is the Ministry of Transport's (MOT) *Transit Metropolis Demonstration Project*: 37 cities will pilot strategies on public and non-motorized transport priority schemes, travel demand management, and transit-oriented development patterns. The second initiative is the Ministry of Housing and Urban-Rural Development's *Smart City Program:* 90 cities are piloting information and communication technology (ICT) applications to optimize urban management practices including transport systems. *Urumqi, the project city, is a pilot city for both the Transit Metropolis and the Smart City Program.*

5. Changes in China's urban transport policy direction have changed local government investment priorities and expanded public transport infrastructure. The total length of bus lines in operation increased from 125,236 km in 2006 to 575,173 km in 2013. 21 cities have operational Bus Rapid Transit (BRT) systems totaling 2,695 km dedicated lanes. Similarly, the total length of metro lines in operation increased from 621 km in 2006 to 2,408 km in 2013, and is expected to reach 5,000 km by end of 2015. 38 cities have received central government approval to develop metros, and of these, 22 already have metros in operation.

6. ***Urumqi*** is the capital of XUAR. It has a population of 3.5 million (2014), surface area of 13,788 km^2, and urban built-up area of 368 km^2. The city benefitted from central government efforts to promote economic development in the western region. Since 2009, Urumqi's Gross Domestic Product (GDP) grew by an annual average rate of 16 percent, compared to the national average of 10 percent, and reached RMB240 billion (US$39 billion) in 2013.

7. ***Traffic Congestion in Urumqi.*** Currently, the most popular modes of transport in Urumqi are walking and cycling (43 percent of all trips) and public transport (30 percent). Private cars (19 percent) and taxis (8 percent) are less widely used. Alongside economic growth, the motorization rate increased rapidly in Urumqi (22 percent per year since 2008). From 2008 to 2013, motorized vehicle ownership doubled to 630,000 vehicles (125 vehicles per 1,000 habitants) and is expected to continue growing rapidly. Congestion on the city's main arterial roads has increased in recent years. According to a survey in April 2014, the peak hour travel speed on most major roads within the city center is less than 20 km/h, and less than 10 km/h on some road segments. Road safety issues are also a serious concern with 619 accidents in 2013 resulting in 245 fatalities, most of which occurred in the city core area. The fatality rate of traffic accidents in Urumqi was 2.68 per ten thousand vehicles in 2014, higher than the national average of 2.22 per ten thousand vehicles.

8. ***Public Transport in Urumqi.*** The Urumqi Municipal Government (UMG) has developed a Comprehensive Transport System Plan for 2010-2020 to prioritize the

[3] State Council Directives 46 and 64, mandating cities make public transport a priority in their urban transport plans, have been fundamental to this process.

development of mass transit systems (metro and BRT). The mass transit network will serve as the backbone for mobility throughout the city. It will include a seven-line, 224 km underground metro system and a seven-line, 128 km BRT system integrated by 18 multimodal hubs. The State Council approved Urumqi's construction plan for the first two metro lines, which should be completed by 2020. The first four BRT lines[4] are operational on some of the city's key high demand corridors. The proposed project will support the development of the next three BRT lines, thus completing the BRT master plan.

9. While the launch of BRT services in 2011 was an important breakthrough, the quality and efficiency of regular bus services still lag behind. There are currently 133 regular bus lines operated by three bus companies: Urumqi Bus Company, Jumbo Bus, and Haotian Bus. Public transport facilities, including interchanges, terminals, bus depots, and maintenance facilities, are inadequate. Route coverage is below national standards[5] and congestion on roads affects the efficiency of many bus services. According to a recent user satisfaction survey, 30 percent of bus riders along major road corridors express dissatisfaction with bus services, especially with respect to slow speed, overcrowding, long waiting times at bus stops, and lack of adequate sheltered bus stops.

10. ***Intelligent Transport System (ITS) Development.*** With support from the central government's Smart City initiative, Urumqi Municipal Government (UMG) has started to apply ITS to manage the urban transport system in the city, including: (i) traffic control signals; (ii) traffic guidance system; (iii) bus dispatching and operation system; (iv) taxi management system; (v) smart card system; and (vi) GIS-based transport database. However, the ITS modules are scattered in several different agencies and there are no uniform data formats and standards. Information collected is not shared among agencies or with the public. With support from the proposed project, UMG plans to upgrade the existing ITS applications and develop a comprehensive information platform to integrate data collection and sharing. The establishment of a common platform will make data sharing and analysis more accessible to users and government agencies. It will lay the foundation for coordinated ITS and open data development in Urumqi, which will be continuously updated by the city in part with support from China's Smart City initiative.

11. ***Institutional framework.*** The institutional framework for urban transport in Urumqi is fragmented and responsibilities are spread out over many agencies. Urumqi Construction Bureau's Municipal Engineering Construction Division (UMECD) is responsible for road construction and maintenance. The Urumqi Transport Bureau is responsible for public transport service regulation and policy. Reforms implemented in 2012 resulted in three regular bus companies and one BRT operator. The regular buses are operated by: Urumqi Bus Company (fully state-owned, operating on 77 routes), Jumbo Bus Company (joint venture with 80 percent private and 20 percent government, operating on 38 routes), and Haotian Bus Company (fully private company, operating on 3 routes). The BRT operator is owned by the Urumqi Urban Transport Investment

[4] The current four Bus Rapid Transit (BRT) lines cover 53 route-km with 362 buses.
[5] Urumqi's bus station area coverage is 49 percent at 300 m and 77 percent at 500 m, while the national standards are 50 percent and 90 percent, respectively.

Company (UUTIC), which also owns the smart-card company and bus terminals and depots. Traffic Police are responsible for traffic management and enforcement responsibilities. Urumqi Comprehensive Transport Project Research Center (UCTRC) is responsible for transport planning and policy research. Each agency has already deployed some ITS equipment to support daily operations; however, data sharing is inefficient, in part, due to lack of a central platform facilitating data exchange and to the need for directives requiring agencies to share information among themselves and with the public.

Urban Transport Infrastructure Financing under the Revised Budget Law[6]

12. ***Traditional Local Infrastructure Financing in China.*** China's local infrastructure financing mechanism is undergoing significant reforms. In the past, much of the local infrastructure was financed, developed, and operated through off-budget special purpose vehicles. Local governments were not allowed to borrow on their budgets under the 1994 Budget Law. Debt financing was made through Urban Development Investment Corporations (UDICs), local government-owned enterprises that served, among other things, as financing platforms. UDICs use land lease fees, own-raised revenues, and government support to borrow from policy and commercial banks. Financing through UDICs helped build substantial infrastructure assets in China, but also created large local government debt, which many experts and the central government consider unsustainable. Loans were often made with little economic evaluation of the project's return or the borrowing entity's revenue and creditworthiness; instead, creditors relied on local governments' implicit guarantees and future unrelated (non-project) revenues (including land lease fees).

13. ***New Local Infrastructure Financing Mechanism.*** The central government amended the 1994 Budget Law in 2014 to improve local governments' debt management and to reform the local infrastructure financing mechanism. Subsequently, the State Council issued several directives including Directive No. 43 on "Strengthening Local Government Debt Management" and No. 45 on "Deepening Reform of the Budget Management System". The budget law amendment and the State Council directives ended the infrastructure financing system that was in place since 1994 and ushered in a new mechanism that allows the market to decide on the financial viability of projects. Through reliance on market-based borrowing and Public Private Partnerships (PPP), the revised Budget Law provides a clearer role for sub-national governments to be the administrators and regulators of infrastructure service provision in their jurisdictions. Subnational governments can issue bonds on their budget to support capital expenditure programs and enter into partnership with the private sector to develop and operate local infrastructure.

14. ***Implications of the Revised Budget Law for World Bank Projects.*** Most World Bank transport projects in China are financed equally between IBRD loans and counterpart funds. In some cases, the IBRD share has been as low as 20 percent.

[6] The Revised Budget Law is also known as New Budget Law in China. It came into effect in January 2015 after the 1994 Budget Law was amended, and the State Council issued associated Directives, particularly No. 43 and No. 45

However, the Revised Budget Law limits local governments' ability to come up with counterpart funds for Bank-supported projects. A new arrangement for counterpart financing needs to be developed with fiscally prudent borrowing to support infrastructure development.

15. ***Co-financing under the Revised Budget Law.*** UUTIC (owner of the BRT company, smart-card company, and terminals and depots in Urumqi) is eligible to borrow from the market under the revised Budget Law. UUTIC generates revenues from BRT fare boxes, smart cards, and other operating sources. UUTIC also receives capital grants from UMG to develop the BRT system and operating subsidies to make up for losses in BRT operations. Given its cash flows, government grants, stable government subsidies, and acceptable financial reporting, UUTIC has received a loan commitment from the China Development Bank (CDB) for co-financing the proposed project (see Annex 6).

C. Higher Level Objectives to which the Project Contributes

16. ***Country Partnership Strategy***. The proposed project is aligned with the 2013-2016 World Bank Group Country Partnership Strategy (CPS) for China dated October 11, 2012. The 2013-2016 CPS focuses on three main pillars: greener growth, inclusive development, and mutually beneficial relations with the world. The proposed project supports the CPS pillars for green growth and inclusive development, as well as the sectoral objectives of the CPS for promoting low-carbon urban transport system in Chinese cities.

17. ***Supporting the implementation of the Revised Budget Law.*** The co-financing structure developed for the project will help UMG adapt to the revised Budget Law, and the CDB to scale up its project revenue-based loans for urban transport projects as most of its previous loans were provided based on UDIC's assets and local governments' implicit guarantee. The project's co-financing from CDB will be a loan to UUTIC based on future revenues from BRT services, other operating revenues, and subsidies from UMG. The financing structure will serve as a demonstration to secure future revenue-based financing for infrastructure projects in Urumqi and other cities in China based on the revised Budget Law.

18. ***Twin Goals*.** The proposed project supports the World Bank's Goal of boosting shared prosperity by providing the lower income population of Urumqi with greater mobility and access to jobs. The proposed BRT corridors will connect the old city center with new town areas where many people in lower income groups live. A bus-users' survey carried out as part of project preparation shows that 58 percent of public transport users in the project corridors earn less than the city's average per capita income. A statistical analysis of a city-wide household traffic survey conducted in September 2014 shows that residents with better access to the current BRT stations have a higher likelihood of better employment outcomes.

II. PROJECT DEVELOPMENT OBJECTIVES

A. Project Development Objective (PDO)

19. The PDO is to improve mobility in selected transport corridors in Urumqi.

B. Project Beneficiaries

20. In addition to providing benefits to commuters, the proposed project will also generate benefits to residents, businesses, and government agencies as described in Table 1 below.

Table 1: Project Beneficiaries

Beneficiary	Benefits	Linkage to project
Bus users	Better and more dependable bus services.	Segregated BRT lanes will improve the speed of travelling on buses and make schedules more dependable.
Private car users	Better access to travel data. Reduced delay at traffic lights.	Integrated information platform providing data to external users on traffic conditions. ITS application used to control traffic lights.
Residents and Businesses	Increased land value and business activities.	Improved transport access and better station and terminal integration with land use plans.
Government agencies	Improved decision making and coordination based on better access to integrated information.	Integrated information platform and data sharing among government agencies.

C. PDO Level Results Indicators

21. Achievement of the PDO will be measured by the following indicators along the targeted corridors:

a) Number of beneficiaries, measured as number of people (disaggregated by gender) having direct access to the project-supported BRT lines.
b) Increase in bus user satisfaction rate in the city.
c) Average passenger boarding per bus-kilometer in peak hour on targeted BRT corridors.
d) Peak-hour BRT speed on project corridors.
e) Daily traffic of data exchange on the Urumqi Comprehensive Transport Information Management System.

22. Indicators “a, b, and c” will measure improvement in the mobility of commuters, the main beneficiaries. Indicator “d” measures benefits to bus operators from improved bus speeds (also reflected in the economic benefits of the project). Finally, indicator “e” measures benefits to commuters in private cars and on public transport, as well as providing information to government agencies.

III. PROJECT DESCRIPTION

A. Project Components

23. ***Overall Design Concept***. The proposed project is a comprehensive urban transport project designed to significantly improve public transport service quality and increase the use of ITS applications to improve the efficiency of public transport services and improve traffic flows in the main arterial roads in Urumqi. The project will improve the mobility of people who rely on public transport for their commute, as well as those who commute by car on the main road corridors, where traffic congestion has increased in recent years due to high motorization rate and poor traffic management practices in the city. The project will finance a set of interrelated components, including the construction of BRT lines to segregate bus traffic from normal vehicle traffic, construction of bus terminals/interchanges and depots to facilitate transfer between the proposed BRT lines and regular buses (and in the future with metros), and the deployment of ITS applications on BRT corridors and bus terminals. In addition, for the city as a whole, the project will finance the establishment of a city-wide information platform to gather, store and analyze information on traffic and transport-related matters. The platform will help government agencies and users improve decision making on policy and investment programs and travel behaviors.

24. ***Component 1: Bus Rapid Transit (BRT) Corridors (Estimated cost: US$243.73 million; IBRD Loan: US$132.71 million).*** This component will finance the development of three new BRT lines (51.7 route-km) on existing road alignments: BRT 4 (20.1 km), BRT 6 (18.1 km), and BRT 6b (13.5 km). It will support: (i) construction of the BRT lines, including road rehabilitation and reconfiguration of existing lanes, installation of lane segregation and pavement markings, and construction of BRT station platforms; (ii) procurement of BRT equipment and supporting systems for fare collection, passenger information, safety screen doors, x-ray machines, BRT priority signal at intersections, power supply for BRT stations, BRT dispatching center software and hardware, and GPS-based onboard equipment for BRT vehicles; and (iii) procurement of 152 articulated buses (18m) and 29 regular buses (12m). These corridors were selected to meet traffic demand between new development areas in Midong and in the High Speed Rail Development Zone and job centers in Urumqi’s old town areas.

25. ***Component 2: Comprehensive Transport Information Management System (Estimated cost: US$63.49 million; no IBRD Loan).*** This component will support the development of the Urumqi Comprehensive Transport Information Management System (UCTIMS). This city-wide system will include: (i) development of a comprehensive transport information management platform to collect and process transport data from

various sources; (ii) installation of fiber optic cable network between different data centers, installation of traffic data collection equipment along major roads in Urumqi, and the development of a GIS-based transport data system; and (iii) improvement of parking management system, upgrade of the existing smart card system, installation of bus passenger counting system, and upgrade of existing GPS-based taxi onboard equipment.

26. ***Component 3: Public Transport Infrastructure (Estimated cost: US$100.71 million; no IBRD Loan).*** This component will finance: (i) construction of a public transport hub at the South Square of the High Speed Rail Station, including a BRT terminal, a regular bus terminal and a public transport dispatching and information center; (ii) construction of public transport terminals at Beijiao, Midong and the North Square of the High Speed Rail Station; and (iii) construction of two public transport parking and maintenance facilities at Sangong and Midong. These facilities are located at the end of BRT 4, 6 and 6b lines and will serve BRT buses and regular buses to facilitate passenger transfers between BRT buses and other transport nodes.

27. ***Component 4: Capacity Building (Estimated cost: US$6.84 million; IBRD Loan: US$6.08 million).*** This component includes a series of strategic studies, capacity building and training activities, and project management and consulting services aimed at enhancing local capacities for planning, designing, and operating urban transport services.

28. *Link road for BRT 4*. Urumqi is currently developing an elevated road over the northern segment of the BRT 4 corridor to provide additional travel capacity along the corridor. The 5.7 km elevated section along Aletai Road will be used for through traffic, while the vehicle travel lanes along the proposed BRT 4 corridor will mostly serve local traffic. The surface of BRT section under the road will be rehabilitated as part of the Aletai Road project. The proposed project will cover the design and construction of BRT stations, lane segregation, and ITS aspects.

29. The Aletai Road project is linked to the Bank-financed project in terms of technical and safeguards requirements (see Sections E and F). As such, the project will ensure that the design and implementation of the elevated road are compatible with the technical design of the BRT line, and that the agreed safeguard policies for the proposed project are followed in the elevated road as well.

B. Project Financing

30. The project cost of US$536.79 million will be financed by IBRD, China Development Bank and UMG as follows:

a. *IBRD loan (US$140 million)* to be on-lent to Urumqi Municipal Government (UMG) following established procedures for IBRD loans in China.
b. *CDB Loan (RMB 1.39 billion; USD217.46 equivalent)* to UUTIC. UUTIC will use revenues from BRT operations, commission from smart cards, and UMG subsidy to repay the CDB loan. UMG and UUTIC will sign a Service

Agreement specifying their obligations and responsibilities under the CDB loan.

c. *UMG fiscal support (RMB 1.04 billion; USD156.57 equivalent)* will be used to cover the remaining counterpart fund obligations.

31. ***Use of Loan Proceeds.*** The IBRD loan will be used to finance activities under Components 1 and 4 only. The CDB loan and UMG funds will finance activities under Components 2 and 3, as well as some equipment under Component 1. UMG funds will finance all land acquisition and resettlement and rehabilitation.

32. ***IBRD Lending Instrument.*** The lending instrument is Investment Project Financing (IPF) as the project finances specific investment. The Borrower has selected a US Dollar denominated, commitment-linked variable spread loan, based on six-month LIBOR plus an additional variable spread. It has also selected all conversion options, a level repayment profile, payment of the front-end fee and commitment fee with IBRD loan proceeds, and a final maturity of 30 years, including a five-year grace period.

33. ***The CDB loan terms*** include 12-year maturity, including a five-year grace period. The interest rate is based on the benchmark lending rate of financial institutions published periodically by the People's Bank of China, which was 4.90 percent as of October 24, 2015. The rate is expected to vary during the loan period as and when the benchmark rate changes.

Table 2: Project Cost and Financing Arrangement
Million

Component/Activity	**Total Cost (RMB)**	**Total Cost (USD)**	**Project Financing Arrangement**		
			IBRD (USD)	**UMG (USD)**	**CDB (USD)**
Component 1: BRT Corridors	1,552.55	243.73	132.71	38.06	72.95
Component 2: Comprehensive Transport Information Management System	404.43	63.49	-	23.46	40.03
Component 3: Public Transport Infrastructure	641.51	100.71	-	51.46	49.24
Component 4: Capacity Building	43.60	6.84	6.08	0.08	0.68
Total Cost	**2,642.09**	**414.77**	**138.79**	**113.07**	**162.91**
Land Acquisition and Resettlement	277.44	43.55	-	43.55	-
Interest During Implementation	347.52	54.56	-	-	54.56
Front-end Fee	2.14	0.35	0.35	-	-
Commitment fee	5.23	0.86	0.86	-	-
Total Financing Required	**3,274.42**	**514.04**	**140.00**	**156.57**	**217.46**

C. Lessons Learned and Reflected in the Project Design

34. The World Bank's China transport program currently includes 13 urban transport projects under implementation and three under preparation. Lessons learned from the Bank's urban transport projects are systematically captured, presented and disseminated through the China Transport Transformation & Innovation Knowledge Platform (TransFORM), a collaborative knowledge platform between the Bank and China established in November 2012 as a pilot to promote the Science of Delivery in China. TransFORM, sponsors seminars and other events throughout the year to discuss the implementation experience of Bank-supported projects and share international experience, innovations, and reforms in the sector from around the world. TransFORM events are disseminated to a wider audience through the virtual networks of local and central government agencies, policymakers, the private sector, research institutions, and academia. TransFORM is used to inform the design of Bank-financed projects and the development of policy reforms at the national level, and the implementation of innovative pilots at the local level. Authorities in Urumqi have participated in key events organized by TransFORM and used the experience of other Bank projects and international lessons to inform the design of the proposed project

35. The main lessons from urban transport projects in China and around the world included in the design of the project are: (i) the need for better institutional coordination and cooperation in the preparation and implementation of urban transport interventions; (ii) the need to pay attention to detail during technical design and to keep a customer-focused approach when designing urban transport interventions; and (iii) the need to introduce greater participation and consultation with users during planning and implementation. As discussed below, specific lessons for BRT and ITS design were incorporated based on international and domestic experiences.

36. ***Integrated Corridor Management to promote interrelated project activities.*** The development and management of urban transport is often spread out in several agencies, including the construction bureau, transport agency, bus companies, and traffic police. These institutions often work in isolation, which leads to ineffective utilization of scarce resources and lack of coordination in service provision. Many countries address institutional fragmentation by creating a metropolitan-wide planning agency or transport authority to bring all transport-related responsibilities into one agency. At the central level, China has created a super Ministry of Transport to bring all modes under one ministry. However, at the local level, institutional fragmentation continues. To overcome the institutional fragmentation in cities, an Integrated Corridor Management (ICM) approach has been introduced in Bank-supported projects in several cities in China, including Wuhan and Yining, as well as cities in Liaoning province. Under the ICM approach, the different agencies are brought together to cooperate in implementing their respective activities on a given corridor. Each agency is fully consulted before the planning and design stages; and evaluation of the proposed intervention is conducted jointly before and after investment. In the absence of a full institutional consolidation, the ICM experience has generally resulted in enhanced coordination among planners, designers and operators.

37. ***Urban transport interventions are more effective when greater attention is paid to the needs of users.*** Many urban transport projects in China suffer from lack of customer focus, resulting, for example, in terminal designs that are not easily accessible by pedestrians, transfer stations that have poor integration of modes, or crosswalks that are either not convenient or are unsafe for pedestrians. Planners in several cities with Bank-supported projects have given greater customer/user focus during the design of urban transport interventions, including pedestrian access and safety (e.g., Xining), accessibility to disabled travelers (e.g., Liaoning), staggered crosswalks (e.g., Wuhan), better interface with bus transfer terminals (e.g., Changsha), and convenient bus stop designs (e.g., Harbin and Mudanjiang).

38. ***Public consultations during project preparation provide important inputs for project design.*** Bank projects in China have introduced greater public consultation to inform project design, which has generally resulted in making urban transport interventions more user friendly. For example, the Heilongjiang Public Transport Project incorporated over 20 specific recommendations from potential users in the project design. The proposed Urumqi urban transport project includes 55 specific recommendations gathered from users during the consultation process.

39. ***Technical lessons included in BRT Design.*** During project preparation, several existing domestic and international BRT systems – including Guangzhou, Beijing, Changzhou, Bogota, Quito, and the existing BRT lines in Urumqi – were studied to select the operations and network design for the proposed BRT lines in Urumqi. These lessons informed whether Urumqi should adopt: (i) trunk-feeder or direct service system[7]; (ii) closed or open BRT system[8]; and (iii) the type of buses and station designs. The proposed project has adopted a "closed system" where designated BRT operators use dedicated lanes (as in Curitiba and Bogota), and a direct-service system that minimizes the need to transfer between feeder and trunk services (as in Guangzhou).

40. ***Technical Lessons for ITS Design.*** ITS implementation experience in some cities in China and other countries shows that local governments procure large ITS applications without deploying adequate budget and trained staff to maintain and operate the system. In other cases, ITS applications are procured without a centralized system to facilitate agency coordination and information sharing. Under the proposed project, Urumqi is establishing a centralized information platform, the Urumqi Comprehensive Transport Information Center (UCTIC), responsible for ensuring information and data exchange among relevant agencies and generating information for public use[9]. The UCTIC will be staffed and provided budget to operate and maintain the system through annual appropriations. Urumqi signed a technical cooperation agreement with Beijing ITS center

[7] In cities where the density on corridors is unbalanced, the trunk-feeder model utilizes smaller vehicles in lower-density areas and larger vehicles along high-density corridors. However, where the corridor has a uniform density (as in Urumqi), the direct services operation model provides better service to users because passengers travel directly from origin to destination with fewer transfer needed.

[8] Closed systems limit lane access to BRT operators only. Open systems allow all bus operators to use the BRT lanes.

[9] UMG is committed to establish UCTIC, which is part of the Loan Covenant for the project.

for training and hands on capacity building to operate the proposed centralized information center.

D. Institutional and Implementation Arrangements

41. UMG has established a Project Leading Group (PLG), headed by the Executive Vice Mayor, to coordinate and oversee project implementation. The Urumqi Transport Investment Company (UUTIC) will be responsible for financial aspects of the project, including obtaining and repaying the CDB loan and managing the flow of all funds for the project (including UMG funds and IBRD loan). For day to day project management, UMG has established a Project Management Office (PMO) under the Urumqi Urban Comprehensive Transport Research Center (UCTRC). The PMO will be responsible for project management, procurement, safeguards` implementation, monitoring and reporting, and communication with the Bank, as well as implementation of certain components of the project. In addition, a Project Implementing Unit (PIU) will be established in the Urumqi Municipal Engineering Construction Division (UMECD) to carry out implementation of civil works contracts. Given the fact that the project implementation responsibilities will be spread out among UUTIC, UCTRC (PMO) and UMECD (PIU), an Implementation Agreement has been prepared, clarifying each agency's responsibility for project implementation. Annex 3 provides the detailed implementation arrangement for the proposed project.

E. Partnership

42. The project will be co-financed by CDB through a loan of RMB1.385 billion to UUTIC. The Bank and CDB worked with UMG to structure a borrowing and repayment arrangement that is compatible with the revised Budget Law. Several of the project appraisal documents prepared for the Bank loan, including the Feasibility Study Report, Financial Analysis of UUTIC, and environment and social safeguard documents, will be the basis for CDB's appraisal and review of UUTIC's loan application. During project implementation, both CDB and the Bank will carry out joint supervision missions and exchange information on the progress of different project components. Activities financed under CDB would also be subject to the World Bank safeguard policies adopted for the project.

F. Results Monitoring and Evaluation

43. The Results Framework provided in **Annex 1** will be the main tool for monitoring and reporting on the project's intermediate and final outcome indicators. The PMO will be responsible for project monitoring and evaluation (M&E). The PMO will use data collected by BRT and smart-card companies, as well as the traffic information center to report on the M&E framework. The PMO has the capacity to carry out the M&E function, and will hire consultants as needed to support it in this function.

G. Sustainability

44. The economic, social, and environmental benefits generated from the proposed project are likely to be sustained during the operations phase because of the following:

45. UMG is fully committed to continuing its strategy to improve public transport services. Using its own revenues and fiscal transfers, UMG has invested, and will continue to invest, in public transport infrastructure (BRT, metro, regular buses, terminals), creating a public transport system that will maximize and sustain the benefits from the BRT lines developed under the proposed project. In addition, UMG's track record for providing the public transport subsidy has been good, with a clear formula for providing subsidies to bus companies. UMG is expected to increase its support for the public transport subsidy and with expected increases in local fiscal revenues and central government transfers, UMG's fiscal space will be adequate to support an expanded public transport network. The project has also established a financial model to forecast the change in fare box revenue (and hence possible reduction in subsidy reliance) that could be achieved through the introduction of tariff reforms. The dialogue on adjusting the pricing of public transport will continue during project implementation.

46. Existing BRT lines have already shown that the BRT system brings significant benefits to users (faster and dependable travel on buses). BRT lines supported by the proposed project are likely to garner similar user support and lead to higher ridership and revenues to support BRT operations.

47. Engaging citizens in each project stage can improve the performance of public transport services in the long run. Public consultation is required for major construction projects supported with fiscal funds in Urumqi. Public transport users were consulted in the project design and contributed 55 design suggestions/measures to the technical design. In addition, user satisfactory surveys are scheduled before, during and after project implementation along the project's BRT corridors. The results from these surveys, together with bus users satisfactory surveys to be carried out regularly by the city, will serve as a performance indicator for service providers and will affect the amount of operating subsidies allocated to the BRT and bus operators each year, as specified in their service agreement.

48. Finally, UMG is committed to making information from ITS applications and the information platform available to all appropriate government agencies, users, and the private sector. This will ensure that government agencies and citizens have the required information to improve decision making on transport investment/policy and travel behavior.

IV. KEY RISKS

A. Overall Risk Rating and Explanation of Key Risks

49. The overall risk rating for achieving the PDO is substantial based on the SORT ratings for the categories "institutional capacity for implementation and capacity" and "fiduciary".

50. ***Institutional Capacity for Implementation and Sustainability.*** There are three interrelated risks for "institutional capacity for implementation and sustainability." First,

the proposed project will be carried out in parallel with other construction efforts in the city, including metro development and road expansion. This poses a risk with respect to Urumqi's ability to ensure that the project is implemented in a timely manner and that the city does not divert counterpart funds, staff, and resources from the proposed project to other priorities during implementation. This risk is mitigated by carrying out advance procurement on the civil works for the BRT corridors to ensure a timely implementation start. To date, 19 percent of the loan is in the bidding stage to be retroactively financed under the proposed project.

51. Second, effective project implementation requires coordination and cooperation among several municipal government agencies responsible for transport/infrastructure development in the city. There is a risk that some of the agencies may not fully cooperate during implementation. To mitigate this risk, (i) a PLG has been established to lead and coordinate project implementation, and (ii) each concerned agency will designate technical staff to work with the PMO to make decisions and reduce the need for a prolonged coordination process.

52. Third, the information system platform financed under the proposed project requires specialized institutional arrangements, organizational capacity (including technical experts), and sufficient funding to ensure the system's long-term sustainability and effective operation. There is a risk that Urumqi may take a long time to establish a dedicated institution and deploy the required technical expertise and funding to operate and maintain the information system platform. To mitigate this risk, UMG has agreed (included as a Loan Covenant) to establish a comprehensive transport information center early during the project implementation period. In addition, UMG has entered into staff exchange programs with transport information centers in advanced cities in China, including Beijing, Shanghai, and Guangzhou, to provide advanced training for staff who will work on the proposed Urumqi information center.

53. *Fiduciary*. The implementation arrangement for the proposed project calls for UUTIC to be responsible for all Financial Management (FM) aspects, including managing the flow of funds for the IBRD loan and UMG funds and making payments to contractors. The PMO and PIU will be responsible for contract administration. This poses risks that contract management and administration may not be carried out in a coordinated manner. To mitigate such risk, (i) an Implementation Agreement will be entered into by the three parties clarifying their responsibilities, and (ii) Subsidiary Agreements will be signed between UMG and UUTIC and UTRC requiring them to carry out project implementation in accordance with the agreed contracts. The Bank will work with the UMG and Xinjiang Uygur Autonomous Region Finance Department (XARFD) to closely monitor and guide UUTIC and PMO/UMECD during project implementation. In addition, FM training sessions will be provided to project financial staff before and during the project implementation. Finally, the project Financial Management Manual (FMM) will establish necessary project financial management arrangements, including each party's roles and responsibilities as well as the document and information flow between UUTIC and the PMO/UMECD.

V. APPRAISAL SUMMARY

A. Economic and Financial Analysis

54. ***Economic Evaluation***. A cost-benefit analysis was conducted for the proposed project. Project costs include the cost of construction, operation, and maintenance over the assumed project life of 30 years, as well as financing costs. Economic benefits were calculated based on the outputs from the traffic forecast model and compare the "with-project" and "without-project" scenarios. The project's estimated economic internal rate of return (EIRR) is 17 percent and its estimated net present value (NPV) is US$157.05 million. Sensitivity analyses conducted assume higher costs and lower benefits. The EIRR is 13 percent when costs increased and benefits decreased by 10 percent. The EIRR drops to 9.5 percent in the worst case scenario when costs increased and benefits decreased by 20 percent. The results of sensitivity analyses indicate that the project is economically robust (see **Annex 5**).

55. ***Financial Analysis.*** Results from the financial analysis show that since bus fares (at RMB1) are set well below cost recovery levels (a common practice in Chinese cities, as central and local governments consider public transport to be a social good), UUTIC will not generate adequate revenues to cover operating and maintenance expenditures, as well as service the CDB debt. UUTIC's operating deficit will increase by RMB932 million (in present value terms) during the 12-year CDB debt repayment period. The government, therefore, will need to provide an additional subsidy of RMB 78 million every year compared to the "without project" scenario. UMG has a good track record in subsidizing public transport services and is committed to provide the additional subsidy required to keep the expanded BRT system in good operations and for UUTIC to cover its debt repayment obligations. Details of the financial analysis are provided in **Annex 6**.

56. ***Fiscal Space Review***. Urumqi government plans to provide RMB 1.035 billion from its fiscal budget as counterpart funds for this project. According to the fiscal revenue projections provided by Urumqi Finance Bureau, counterpart funds for the project will account for about 0.6 percent of total fiscal revenue in 2015 and no more than 2.5 percent of the 2015 transport budget. The impact of UMG's annual subsidy to UUTIC (to cover its operating expenditures and debt service obligations) on government fiscal revenue and the transport budget is also small, accounting for 0.91 percent of locally-generated revenues in 2018 when debt repayments start, and 3.2 percent of the transport budget. In sum, UMG has enough fiscal space to support the proposed project's counterpart fund and subsidy requirements. However, UMG counterpart fund support will depend on continued political support for the project from the UMG leadership.

B. Technical

57. Detailed surveys and traffic modeling were carried out to develop a conceptual design for the BRT lines. Alternatives were considered prior to finalizing the project design for the BRT system (e.g., choice between "hub-and-spoke" or "direct service" system, "open" or "closed" system, or "median" or "side" lanes and stations). The project BRT lines will be a *closed system, with direct service, and median bus lanes and stations.*

58. ***Hub-and-Spoke versus Direct Service***. Experience in South America shows that hub-and-spoke operations work where urban population density varies significantly. Service provision is optimized by using smaller vehicles in lower-density areas to bring passengers to a centralized terminal, from which larger vehicles are deployed in high-density corridors. However, Urumqi is a linear city with a uniform density in much of the urbanized area, and a direct service system is therefore proposed on each of the three BRT corridors operating individual lines. Last-mile connections to nearby neighborhoods will be completed primarily by walking and biking.

59. ***Open versus Closed Systems***. In a closed system, the BRT lanes are accessed by designated BRT operators only; in an open system, all bus operators (including normal buses) access the BRT lanes. In Urumqi, a closed system with standardized vehicles and ticketing systems was chosen to provide high quality service with large capacity buses and fewer delays at bus stations. The regular bus routes will be rerouted to avoid duplication with the new BRT services based on a bus network optimization study to be carried out under the project. The rerouting of bus services will mostly likely affect the SOE Urumqi Bus Company and the joint venture Jumbo Bus Company. Accordingly, the Urumqi Transport Bureau will need to redeploy the services provided by these two companies to other routes based on the bus route optimization study.

60. ***Median BRT Lanes and Station Design***. The BRT Lines will run in the road median in order to avoid traffic disruptions from side roads and development along the road. Stations will be either on the central island or have median-side platforms depending on availability of space and passenger volume.

61. Based on a review of the performance of existing BRT lines in Urumqi and other cities, the BRT design includes: (i) improved at-grade pedestrian crossings supplemented by elevated footbridges and underpasses when needed; (ii) BRT priority signals to minimize delays at junctions; (iii) concrete pavement at BRT stations; and (iv) overtaking lanes at locations where space is available to mitigate queueing at BRT stations.

62. ***ITS.*** Following a review of systems in Korea, the United States, and China (Shanghai and Guangzhou), Urumqi's proposed ITS system is designed to have three tiers. Tier one, the Urumqi Comprehensive Transport Information Management System (UCTIMS), will integrate transport information from various sources, store data, and facilitate information sharing among agencies and with the public. Tier two, platforms in seven different transport agencies, will collect information from different operating systems to feed into the UCTIMS. Tier three, 21 individual operating systems managed by the different transport agencies will use GPS-related equipment to gather, *inter alia*: (i) citywide traffic data (e.g., traffic volume, average speed, passenger origin-destination); (ii) bus occupancy and taxi location and availability; and (iii) availability of off-street parking.

C. Financial Management

63. The UUTIC will be responsible for the project's financial management, including, but not limited to, maintaining the project's financial records, budget execution and

monitoring, preparing financial management reports, and making payments to contractors and services providers. The Xinjiang Autonomous Region Finance Department (XARFD) will open and manage a Designated Account to manage the flow of IBRD loan proceeds. The Urumqi Finance Bureau (UFB), in coordination with XARFD, will oversee all FM work by UUTIC. The Bank team assessed both UUTIC's capacity to carry out FM work and the overall FM risk for the project and concluded that, with the implementation of the measures provided below, the project's FM arrangement satisfies the Bank's requirement under OP/BP 10.00.

64. The Fiduciary risk in SORT is rated substantial. The main FM risk stems from the complexity introduced by the tri-party implementation arrangement. In particular, UUTIC is new to Bank-financed operations and is not familiar with the Bank's FM policies and requirements. There is also a risk that delays in project accounting and financial reporting may occur, in part, because of inefficient working and document flows among UUTIC, PMO, and PIU. In order to mitigate these risks, the following measures are proposed: (a) XARFD, UFB, and PMO, who are experienced with Bank-financed operations, will provide necessary support and assistance to UUTIC for FM, including disbursement and preparation of withdrawal applications; (b) the Bank will provide training to UUTIC before and during project implementation; and (c) the FM Manual prepared specifies each party's roles and responsibilities, as well as the working and documents flow among the parties in FM/disbursement arrangements. Annex 3 provides details of the FM arrangement.

D. Procurement

65. The PMO, with assistance from two procurement agent companies, will be responsible for project procurement. Key risks identified from the procurement capacity and risk assessment include possible delays and non-compliance due to differences between the Bank's procurement requirements and domestic practices, and delays in preparing and obtaining domestic approvals for detailed designs and the technical aspects of procurement documents. The Bank has confirmed with domestic procurement authorities in Urumqi that the Bank's procurement requirements will prevail when domestic and Bank procurement practices are inconsistent. In addition, the Bank provided procurement training to officials responsible for processing and approving procurement transactions. The PMO has prepared a detailed and comprehensive procurement plan for the entire project, which is acceptable to the Bank. Further details on the procurement capacity assessment and the project procurement arrangements are provided in **Annex 3**.

E. Social (including Safeguards)

66. ***Social Assessment***. A social assessment (SA) conducted for the project concluded that the project will improve the public transportation system in Urumqi, especially in some of the suburban areas, and will benefit urban and peri-urban citizens. The SA provided 55 suggestions/measures to pursue a user-friendly project design to maximize social benefits. These are reflected in the project feasibility study and will be incorporated in the detailed project design.

67. ***OP 4.12, Involuntary Resettlement.*** The project will involve land acquisition and resettlement for Components 1and 3 triggering OP 4.12 on Involuntary Resettlement. A Resettlement Plan (RP) has been prepared to mitigate social risks, based on detailed investigation and analysis of resettlement impacts, and meaningful consultation with affected citizens. The RP provides details on resettlement implementation procedures and requirements to be followed during project implementation, including compensation rates, mitigation measures to restore livelihoods, institutional and monitoring arrangements, and grievance redress mechanisms. UMG is committed to fully financing the resettlement budget in the RP.

68. ***Gender Issues.*** The SA and the RP include gender-segregated analysis to explore gender-friendly measures for assisting women to benefit fully from the new transport facilities. Women participated in the consultation meetings and in the social assessment and their views were shared with the technical design consultants. The project will ensure: not less than 30 percent of women are provided work opportunities under the project and are paid the same as men for similar work; women are given priority in training for temporary work and at least 50 percent of such trainees being women; and women are provided information and consulted to ensure that they have the same rights as men to sign compensation agreements.

69. ***Indigenous People.*** Ethnic minorities, mainly Uyghur, Kazak, and Hui, are present in urban Urumqi City. Because they are part the city's mainstream population, OP 4.10 on Indigenous People is not triggered. However, in view of the complex ethnic composition of the city, the project conducted a thorough minority-differentiated social assessment to ensure that the improved public transport system will serve all communities and that construction disruptions and ensuing permanent access changes are not perceived as being disproportional for certain communities.

70. ***Citizen Engagement.*** During project preparation, public consultations were carried out where public transport users were consulted in the project design. Users suggested 55 design changes/measures to the technical design. In addition, user satisfaction surveys were carried out during project preparation, and the same surveys will be repeated during and after the works are completed on the project's BRT corridors. During implementation, the results of the bus users' satisfaction surveys will be used by the UMG to evaluate the quality of services. In doing so, the citizens will be involved in UMG's decision to reward/punish the BRT operator in accordance with the Service Agreement UMG will have with the BRT operator to provide subsidy.

71. ***Disclosure***. The SA/RP were disclosed locally on May 7, 2015. The SA was disclosed in the Infoshop on May 19, 2015, and the RP was disclosed in the Infoshop on May 22, 2015.

F. Environment (including Safeguards)

72. Component 1 (construction of BRT lines and stations) and Component 3 (building and rehabilitating bus depots and terminals) will have moderate and mostly temporary

adverse environmental impacts during construction. Based on the potential impacts described below, the project has been assigned environment Category A.

73. ***4.01 Environmental Assessment.*** In line with the Bank's safeguard policies and relevant domestic regulations, an Environmental Assessment (EA) was prepared by a well–qualified and experienced EA institute. The EA includes social and environmental baselines, project description, impact assessment, alternative analysis and public consultation. The EA was conducted in parallel with the feasibility studies to integrate environmental and social considerations into technical designs to maximize project benefits. The municipal government prepared and adopted an Environment Management Plan (EMP). The EMP includes measures to address the construction-stage negative impacts. Details of the EA and EMP are provided in Annex 3.

74. ***Public consultation and information disclosure.*** Two rounds of public consultations (March 2014 and June 2014) were undertaken following each round of public disclosure of the EA and EMP documents. The final version of the EA/EMP incorporating public comments was disclosed locally on January 4, 2015. The English versions of the EA/EMP were sent to the World Bank's Infoshop on June 26, 2015.

G. World Bank Grievance Redress

75. Communities and individuals who believe that they are adversely affected by a World Bank (WB) supported project may submit complaints to existing project-level grievance redress mechanisms or the WB's Grievance Redress Service (GRS). The GRS ensures that complaints received are promptly reviewed in order to address project-related concerns. Project affected communities and individuals may submit their complaint to the WB's independent Inspection Panel which determines whether harm occurred, or could occur, as a result of WB non-compliance with its policies and procedures. Complaints may be submitted at any time after concerns have been brought directly to the World Bank's attention, and Bank Management has been given an opportunity to respond. For information on how to submit complaints to the World Bank's corporate Grievance Redress Service (GRS), please visit http://www.worldbank.org/GRS. For information on how to submit complaints to the World Bank Inspection Panel, please visit www.inspectionpanel.org.

Annex 1: Results Framework and Monitoring

Country: China

Urumqi Urban Transport Project II

Results Framework

Project Development Objectives

Project Development Objective

The PDO is to improve mobility in selected transport corridors in Urumqi.

Project Development Objective Indicators

Indicator Name	Baseline (2015)	Cumulative Target Values				
		2017	2018	2019	2020	2021
Number of People gaining direct access to the targeted BRT corridors in Urumqi	0	285,000	592,000	609,000	627,000	645,000
Number of Females gaining direct access to the targeted BRT corridors in Urumqi (Sub-Type: Supplemental)	0	137,400	285,500	293,700	302,400	311,100
Bus user satisfaction rate on targeted BRT corridors (Percentage)	72			80		83
Average passenger boardings per bus kilometer during peak hours on targeted BRT corridors (boardings/bus-km)	2			7	8	9
Peak-hour in-vehicle BRT (bus) speed on BRT 4 corridor (km/h)	12.5			15.5		15.5
Peak-hour in-vehicle BRT (bus) speed on BRT 6 corridor(km/h)	16.8			19		19
Peak-hour in-vehicle BRT bus speed on BRT 6b	14.8			17		17

corridor(km/h)						
Daily traffic of data exchange of the Urumqi Comprehensive Transport Information Management System (GB)	0			5	11	16
Intermediate Results Indicators						
Total length of BRT 4, 6 and 6b in operation (km)	0	14.4	32.5	51.7	51.7	51.7
Percentage of intersections with bus priority signals on BRTs 4, 6 and 6b	0			66		66
Percentage of smart card usage on buses in Urumqi City	34	35	36	37	42	45
Number of agencies connected to and sharing information with the Comprehensive Transport Information Management System	0			5	9	9
Number of bus lines utilizing the terminals and hubs constructed	0			10		21
Number of passengers boarding and alighting BRT and regular buses at Beijiao Hub and HSR South Hub During peak-hours	0			3,400		9,300
Percentage of buses parked over-night in terminals and depots in Urumqi City	73.8	77	88	90	95	95
Number of TAs completed	0		3	6	7	7
Number of citizens involved in the preparation and evaluation of the project during implementation.	2,027			1,500		3,000

Indicator Description

Project Development Objective Indicators				
Indicator Name	Description (indicator definition etc.)	Frequency	Data Source / Methodology	Responsibility for Data Collection
Number of people gain direct access to the targeted BRT corridors in Urumqi (disaggregated by gender).	Measures direct project beneficiaries.	Annually	The target numbers estimated based on traffic forecast model, geographical area (500 meters buffer around BRT stations along the proposed corridors), and the implementation schedule of the project. The monitoring data will be population at local community level, collected from the city Police Bureau and the Statistics Bureau.	UCTRC
Bus user satisfaction rate on targeted BRT corridors.	Customer satisfaction surveys along the targeted corridors was conducted by the feasibility study consultants during project preparation.	Mid-term and End of Project	Evaluation standards also take Transit Metropolis evaluation indicators into consideration, including waiting time, on-time rate, transfer convenience, service attitude, trip information service, comfort, waiting environment and sanitation inside the vehicle, etc. The baseline data was collected in 2014 with 1860 valid samples along the three targeted corridors.	UCTRC
Average passenger boardings per bus kilometer in peak hour on targeted BRT corridors.	This indicator is used to measure BRT system performance.	Annually after construction completion	Baseline data was for regular buses running along BRT 4, BRT 6 and BRT 6b corridors.	UCTRC/BRT Company
Peak-hour in-vehicle BRT bus speed on targeted BRT corridors. BRT 4, 6, 6b.	In-vehicle bus speed measures not only the running speed between stations, but also	Annually after construction completion	Baseline data was collected during project preparation (regular bus speed). Average bus speed on target corridors for the “without” project scenario in future years will be projected	UCTRC

	includes boarding and alighting time at stations.		to obtain the appropriate base line taking into account of the rapid growth of transport demand. The projected value will be compared to the end targets under "with" project scenario.	
Daily traffic of data exchange of the Urumqi Comprehensive Transport Information Management System (UCTIMS).	The amount of data exchanged shows the utilization of transport information by different agencies and by the public.	Annually after construction completion	Data exchange is the amount of data uploaded and downloaded per day for UCTIMS. The target value of 16 GB/day in 2020 is set based on data usage forecast for UCTIMS functionalities, with reference to Beijing Transport Operation Communication Center and Shanghai Information Center.	UCTRC
Intermediate Results Indicators				
Total length of BRT 4, 6 and 6b in operation.		Annually		UCTRC
Percentage of intersections with bus priority signals on BRT 4, 6 and 6b.		Annually after construction completion		UCTRC
Percentage of smart card usage on buses in Urumqi City.	This is a Transit Metropolis Initiative indicator, which measures the percentage of bus and BRT trips in Urumqi that use smart cards for payment.	Annually	Total number of passenger trips using smart cards, divided by the total number of bus and BRT passenger trips.	UCTRC/IC card company
Number of agencies connected to and sharing information with the Comprehensive Transport Information Management System.		Annually after construction completion		UCTRC

Number of bus lines utilizing the terminals and hubs constructed.		Mid-term and End of Project		UCTRC
Number of passengers boarding and alighting BRT and regular buses at Beijiao Hub and HSR South Hub During peak-hours.		Mid-term and End of Project		UCTRC
Percentage of buses parked over-night in terminals and depots in Urumqi City.	This is a Transit Metropolis Initiative indictor.	Annually	Number of buses parked overnight in terminals/depots/hubs, divided by total number of buses in Urumqi.	UCTRC/UTB
Number of TAs completed.		Annually		UCTRC
Number of citizens involved in the preparation and evaluation of the project during implementation.	Measures citizen engagement during all stages of the project cycle.	Midterm and end of Project		UCTRC

Annex 2: Detailed Project Description

CHINA: URUMQI URBAN TRANSPORT PROJECT II

1. The project includes four components: (i) development of Bus Rapid Transit (BRT) corridors; (ii) establishment of a Comprehensive Transport Information Management System; (iii) construction of Public Transport Infrastructure Facilities; and (iv) providing Capacity Building and technical assistance programs for relevant agencies in Urumqi.

2. ***Component 1: Bus Rapid Transit (BRT) Corridors. Estimated cost: US$243.73 million; IBRD Loan: US$132.71 million.*** This component finances the construction of three new BRT lines (totaling 51.7 km), installation of BRT equipment, and BRT bus procurement.

3. *BRT Line Construction.* The project will provide financing for the construction of BRT Line 4 (20.1 km), BRT Line 6 (18.1 km), and BRT 6 Branch Line (13.5 km). The civil works include the following:

(a) Rehabilitation of roads to be used by the three BRT corridors. Civil works will mostly be on existing rights of way, and the road corridors will be re-configured to accommodate the BRT lanes.

(b) Installation of BRT lanes. The BRT lane will be segregated at the station. Where space permits, road segments will be segregated by barricades. Otherwise pavement strips will be installed to mark the BRT lane.

(c) Construction of BRT stations. There will be 28 station pairs for BRT 4, with an average distance of 710 meters between each station pair; 23 station pairs for BRT 6, with an average distance of 803 meters between each station pair; and 21 station pairs for BRT 6 branch, with an average distance of 658 meters between each station pair.

(d) Installation of pedestrian crossing facilities. Grade crosswalks, overpasses or underpasses will be installed at BRT stations depending on the feasibility at each crossing.

(e) Channelization of intersections. Intersection channelization will be optimized to minimize delays to BRT vehicles.

4. *BRT Service Equipment*. The project will finance the procurement and installation of automatic fare collection systems, passenger information systems, safety screen door systems, x-ray machines for baggage check, video cameras at the BRT stations, software and hardware to enhance the operational capacity of the BRT dispatch center, power supply for BRT stations, GPS-based onboard equipment for BRT vehicles, and BRT priority signals (signal head and controller) at intersections.

5. *BRT buses*. The project will finance about 152 articulated buses (18m) and 29 single buses (12m). Bus design includes low-floor setting for easy access from platforms, doors that

open on both sides, and priority seating for the disabled and the elderly. All buses will use CNG or LNG as fuel to reduce air pollution.

6. ***Component 2: Comprehensive Transport Information Management System (Estimated cost: US$ 63.49 million; no IBRD Loan).*** Urumqi is establishing the Urumqi Comprehensive Transport Information Management System (UCTIMS) to facilitate the collection, analysis, and sharing of transport data. This component includes: (i) development of the Urumqi Comprehensive Transport Information Management System platform; (ii) data collection and communication facilities; and (iii) upgrading the existing parking management system, taxi management system and bus intelligent operation system. The details of these sub-components are discussed below.

Comprehensive Transport Information Management System Platform.

7. Existing ITS systems in Urumqi were developed at different times and are scattered in various agencies. Data sharing between different departments is difficult. A comprehensive transport information management system will connect various stakeholders, including personnel from the traffic police department, transport bureau, municipal administration and enforcement bureau, transport administration department, and smart-card company. The platform will integrate transport data from different municipal government agencies, provide processed data to internal and external users, and analyze transport data to support decision making.

Supportive data collection and communication facilities for the platform.

8. *Dedicated Fiber Optic System*. A dedicated fiber optic cable network will be leased from the Information Service Provider (ISP) and will be used for data exchanges between the CTIMC and the various municipal government agencies (e.g., transport bureau, bus companies, traffic police department, construction bureau) to ensure real time transport information communication.

9. *Traffic Data Collection Equipment*. In order to collect real time transport information for data distribution, transport data collection equipment will be installed under the project at 210 locations along expressways and 40 locations along major urban roads.

10. *GIS-based transport base map*. With the customized GIS transport base map, transport infrastructure spatial information will be integrated into the GIS database for mapping and analysis purposes. Location information for citywide transport infrastructures, traffic control facilities, and transit facilities will be digitized.

Upgrading the existing parking management system, taxi management system and bus intelligent operation system.

11. *Parking Management System*. Upgrading of the existing parking management system covers field equipment and parking management center improvements. Field equipment includes hand-held POS machines for parking attendants, and hardware and software for off-street parking lot improvement along BRT corridors. At the parking management center, intelligent parking management software and associated hardware will be utilized. With the upgraded parking management system, real time parking information and guidance will be provided to

drivers and parking data will be forwarded to the comprehensive transport information system. Revenues from off-street parking facilities will be used to support public transport operations.

12. *Taxi Management System*. GPS data formats in the four existing taxi management systems are different. The Transport Bureau will standardize the data format in the existing taxi management systems and will integrate the data. The taxi management system upgrade involves system software development and central IT hardware procurement (network, server and storage equipment). Additionally, 3,000 GPS-based onboard navigation systems in taxis will be upgraded. The upgraded taxi management system will provide taxi speed and location data (floating car data) for the comprehensive transport information management system and serve as a measure to evaluate the operation of the city-wide transport system.

13. *Intelligent Bus Operation System*. The passenger-volume counting system will be installed on 600 regular buses operating on the major public transport corridor to provide data to the scheduling software. GPS-based onboard equipment will be upgraded on 4,300 buses to get location data during fare collection.

14. ***Component 3: Public Transport Infrastructure (PTI) (Estimated cost: US$ 100.71 million; no IBRD Loan).*** This component will include the construction of terminals, hubs, parking, and maintenance facilities as discussed below.

PTI in the High Speed Rail Station Complex

15. *Bus terminals*. Three terminals will be built in the north and south sections of the High Speed Rail Station complex. The terminals will help in integrating BRT Line 6 and regular buses with the metro and highway speed railway. The terminal areas will include a passenger waiting area, departure bay, parking area, dispatching unit, offices, and auxiliary facilities.

16. *Public Transport Dispatching and Comprehensive Transportation Information Center*. The project will finance a building in the High Speed Rail Station complex to host the public transport dispatching center and the Comprehensive Transport Information Management System center.

PTI in Beijiao Public Transport Passenger Interchange

17. The public transport interchange that will serve BRT 6 Line includes a site area of 6,000 square meters, a parking lot, departure bay, dispatch management center, other supporting facilities, and intelligent system equipment. It will connect with BRT line 6; the parking lot will serve six BRT vehicles.

PTI in Midong Area

18. *Bus Terminal*. The terminal will serve BRT Lines 6 and 6 branch. It includes a site area of 6,727 square meters, a parking lot, departure bay, dispatch management center, other supporting facilities, and intelligent system equipment.

19. *Bus parking and maintenance facility*. With a site area of 100,075 square meters, this facility will serve BRT 6 and BRT 6 branch lines. It includes a parking lot, an automatic washing

facility, a maintenance workshop, fire control equipment, power distribution and heating rooms, water pump room, other supporting facilities, and intelligent systems equipment.

PTI in Sangong Area

20. *Bus parking and maintenance facility*. With a site area of 52,500 square meters, this facility will serve BRT Line 4. It includes a parking lot, an automatic washing facility, a maintenance workshop, fire control equipment, power distribution and heating rooms, water pump room, other supporting facilities, and intelligent systems equipment.

21. ***Component 4: Capacity Building (Estimated cost: US $6.84 million; IBRD Loan: US$6.08 million)***. This component includes seven public transport related studies, capacity building (training and study tours), public consultation and participation, and project management consulting services.

(a) Public Transport related studies on Urumqi include:

i. Public transport improvement study.
ii. Public transport satisfactory survey.
iii. Post evaluation for the implementation of public transport corridors.
iv. Transport demand management study.
v. Parking management study.
vi. Non-motorized transport system planning.
vii. Optimization of Public transport network.

(b) Project management consulting service and technical support. A professional project management consulting firm and individual consultants will be hired to provide the project management and technical assistance to the PMO during implementation.

(c) Public consultation and participation. This sub-component will finance public consultations and public education programs for traffic safety during project implementation.

(d) Capacity building through training and study tours. This sub-component will support a series of training activities to improve the technical and management capacity of PMO and project implementing units. Training will focus on traffic engineering, ITS, public transport planning, traffic safety, traffic management, non-motorized transportation, procurement, finance management, and English. Domestic and international study tours are also planned.

Table A2.1: Project Cost and Financing Plan
(Millions)

Component	Cost (RMB)	Cost (USD)	IBRD (USD)	UMG (USD)	CDB (USD)	% IBRD
Component 1: Bus Rapid Transit (BRT) corridors						
BRT Corridors (w/o buses)	***1,249.95***	***196.22***	***132.71***	***20.91***	***42.60***	
BRT Line 4	*486.31*	*76.34*	*50.87*	*8.76*	*16.72*	
BRT 4 Civil Works	354.49	55.65	44.48	3.57	7.60	
BRT 4 Goods	131.82	20.69	6.39	5.19	9.12	
BRT Line 6	*403.08*	*63.28*	*38.71*	*8.23*	*16.33*	
BRT 6 Civil Works	304.74	47.84	38.71	2.40	6.73	
BRT 6 Goods	98.34	15.44	-	5.75	9.69	
BRT Line 6 Branch	*360.56*	*56.60*	*43.14*	*3.92*	*9.55*	
BRT 6b Civil Works	256.45	40.26	28.48	3.68	8.10	
BRT 6b Goods	104.11	16.34	14.65	0.24	1.45	
BRT Buses	*302.60*	47.50	-	17.15	30.35	
Subtotal	**1,552.55**	**243.73**	**132.71**	**38.06**	**72.95**	**52%**
Component 2 Comprehensive Transport Information Management System						
Urumqi Comprehensive Transport Information Management Platform	189.19	29.70	-	10.97	18.73	
Supporting Facilities for the Information Platform	155.44	24.40	-	9.02	15.38	
Sub-systems for Parking, Bus and Taxi Information	59.80	9.39	-	3.46	5.92	
Subtotal	**404.43**	**63.49**	**-**	**23.46**	**40.03**	**0%**
Component 3 Public Transport Infrastructure						
Ergong (HSR) South Information Center	429.04	67.35	-	39.15	28.21	
Beijiao Passenger Hub	4.41	0.69	-	0.25	0.44	
Sangong Depot	73.99	11.62	-	4.29	7.33	
Midong Depot	116.23	18.25	-	6.74	11.50	
Midong BRT Terminal	8.27	1.30	-	0.48	0.82	
Ergong (HSR) North Bus Terminal	9.56	1.50	-	0.55	0.95	
Subtotal	**641.51**	**100.71**	**-**	**51.46**	**49.24**	**0%**
Component 4 Capacity Building						
Transport Related Studies	14.90	2.34	1.38	0.28	0.68	

Project Management and Technical Support	10.00	1.64	1.64	0.00	-	
Training, Operating Cost and Public Consultation	18.70	3.07	3.07	0.00	-	
Subtotal	**43.60**	**6.84**	**6.08**	**0.08**	**0.68**	**85%**
Total project costs	**2,642.09**	**414.77**	**138.80**	**113.07**	**162.91**	
Land Acquisition and Resettlement	277.44	43.55	-	43.55	-	
Interest during Implementation	347.52	54.56	-	-	54.56	
Front-end Fee	2.14	0.35	0.35	-	-	
Commitment fee	5.23	0.86	0.86	-	-	
Total Financing Required	**3,274.42**	**514.04**	**140.00**	**156.57**	**217.46**	**26%**

Source: Urumqi Urban Transport Project Feasibility Study Report; Procurement Plan

Annex 3: Implementation Arrangements

CHINA: URUMQI URBAN TRANSPORT PROJECT II

A. Project Institutional and Implementation Arrangements

1. *Project Coordination.* The Urumqi Municipal Government (UMG) created a Project Leading Group (PLG) to coordinate and oversee project implementation and ensure compliance with government rules and World Bank policy requirements. The Executive Vice Mayor chairs the PLG. Its members include agency heads from the Urumqi Development and Reform Commission; the Urumqi Bureaus of Finance, Planning, Transport, Construction, Urban Management, Environmental Protection, Land and Resources, Traffic Police; the Urumqi Transport Investment Company (UUTIC); the Urumqi Urban Comprehensive Transport Research Center (UCTRC); and the Urumqi Municipal Engineering Construction Division (UMECD).

2. During implementation of the project, the PLG will be supported by various UMG agencies, including UUTIC, UCTRC, and UMECD. . As discussed below, each agency will be in charge of certain aspects of project implementation based on its institutional mandate and role in the project. Figure 1 provides the implementation arrangements and relationship among the different agencies involved in project implementation. Table 1 provides details of each agency's responsibilities.

3. *Financial Aspects.* UUTIC will be responsible for financial aspects of the project. This includes securing financing from CDB and managing the fund flow from UMG's fiscal contribution and the IBRD loan. UUTIC will receive UMG's contribution as counterpart funds for eligible activities. Although the IBRD loan will go to UMG, UUTIC financial oversight will ensure consolidated accounting and disbursement of funds (see below for details under Financial Management).

4. *Project Management.* For day-to-day project management, UMG has established a Project Management Office (PMO) under UCTRC, a research institute affiliated with the Urumqi Construction Bureau. UCTRC is the successor agency to the PMO that managed the implementation of the first Urumqi Urban Transport Project. As such, UCTRC and the new PMO have experience in implementing Bank-financed projects and are familiar with Bank policies and procedures. The PMO will be responsible for overall project management, including pre-construction preparation, procurement, safeguards implementation, monitoring and reporting, and communication with the Bank (see Table 1).

5. *Technical Management.* UMECD is the competent technical authority for construction works in Urumqi. It will be responsible for the execution of civil-work contracts, including contract negotiations, quality assurance, progress management, and construction inspection and acceptance. UMECD will establish a Project Implementation Unit (PIU) for this purpose. UCTRC is the competent technical authority for ITS, goods contracts, and capacity building activities. It will be responsible for their implementation. A designated team within UCTRC (PMO) will carry out contract administration, quality assurance, inspection, and acceptance of these activities.

6. *Contract Management.* Contract management and administration will be divided among UUTIC, UCTRC (PMO), and UMECD (PIU) based on their respective roles for the project as specified in the implementation agreement among them. As the entity responsible for financial management, UUTIC will award and sign all contracts with the selected contractors, suppliers, and consultants (providers) under the project. The UUTIC will make payments to the providers using the various sources of funds (including IBRD and CDB loans and fiscal funds) as per the procurement and financing plan agreed for the project. Contract administration and implementation oversight will rest with the competent authorities. In the case of civil work contracts, UMECD (PIU) will serve as the Employer's Authorized Representative for all civil work contracts financed by the IBRD Loan. For goods and services, UCTRC (PMO) will be responsible for supervising the execution of goods and service contracts financed by the IBRD loan and will serve as the Purchaser's/Employer's Authorized Representative for goods and service contracts. UMECD (PIU) and UCTRC (PMO) will be designated in the respective contract documents as Employer's/Purchaser's Authorized Representative to administer their respective contracts within the authorized scope as agreed with UUTIC. Prior to contract signing, all procurement activities will be carried out by the PMO which has the capacity and delegated authority from UMG to conduct procurement activities, including organizing tenders and evaluation of bids/proposals. Since UUTIC is the borrower of the CDB loan and beneficiary of IBRD loan and fiscal funds, the contract will be signed by UUTIC. Requests for payment will be made to UUTIC and invoices will be verified by the PMO/PIU (see details below under Procurement).

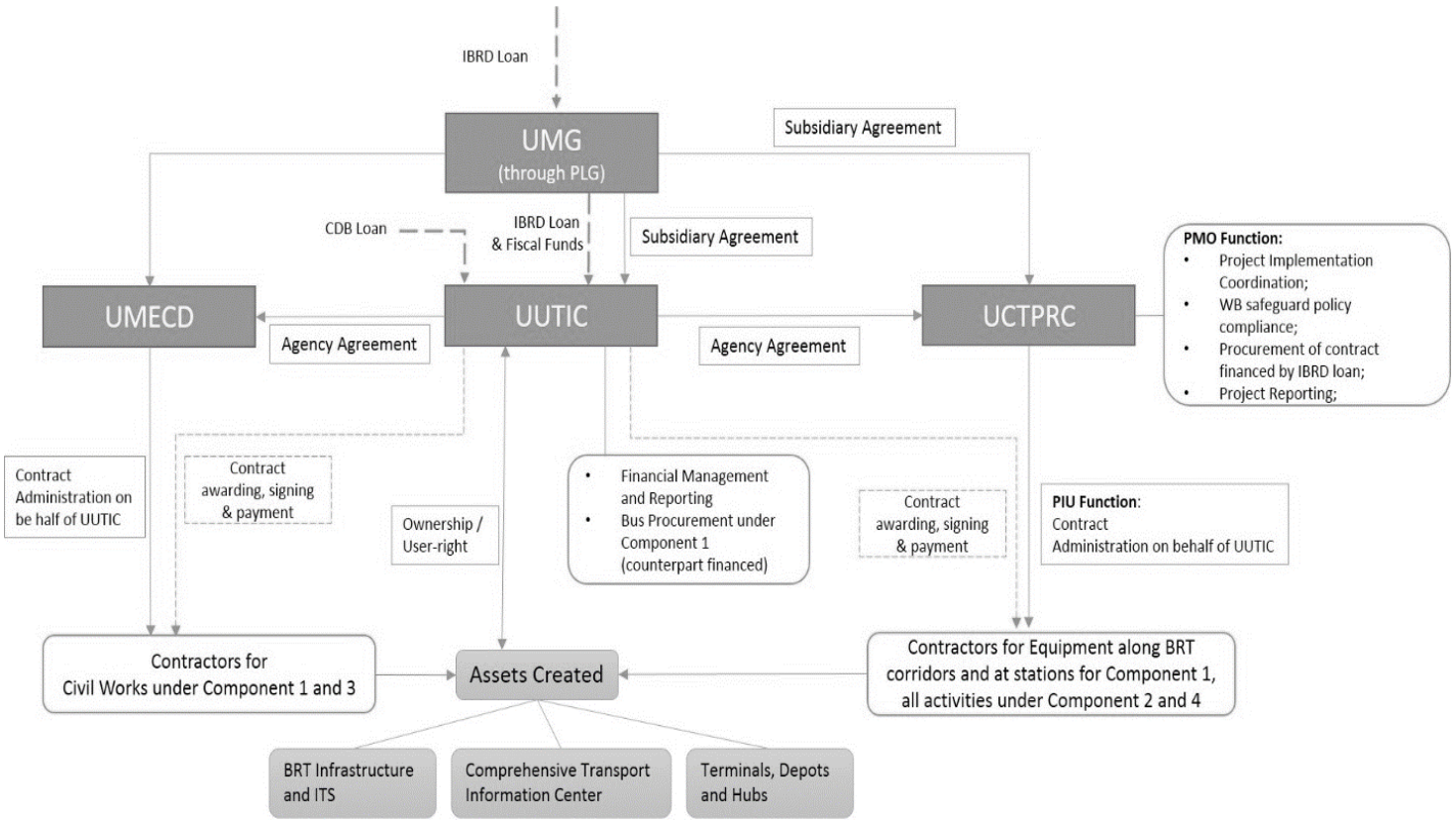


Figure 1 Institutional and Implementation Arrangement for the Project.

Table 1: Implementation Responsibility

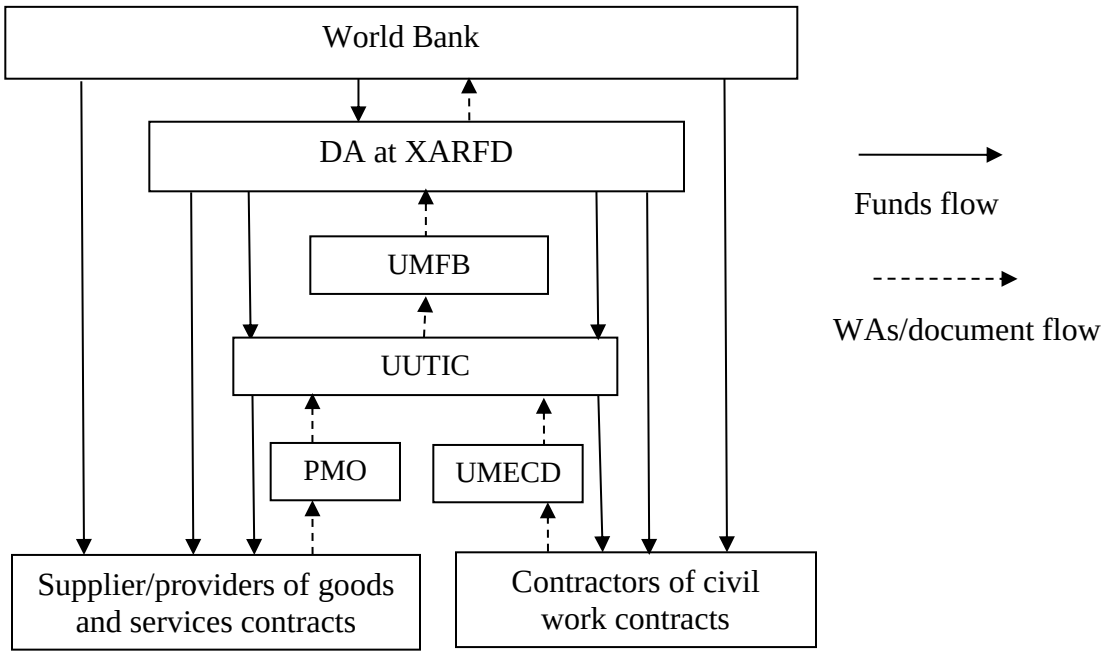
Agency	Function	Responsibility	Key Duties
UCTRC	PMO	Project Preparation	Complete project preparation procedures, including project appraisal and approval, feasibility study, preliminary design, construction drawings, as well as other planning permits and land certificates needed.
		Project Management	Day-to-day project implementation and communication with the World Bank task team.
		Procurement	Prepare and update procurement plan, organize bidding for all activities under the project except for BRT buses.
		Safeguards	Ensure project implementation is in compliance with World Bank safeguards policy.
		Monitoring and Reporting	Monitor and evaluate progress of the project and prepare project reports.
		Withdrawal Applications	Prepare withdrawal applications and submit to UUTIC and Urumqi Finance Bureau for approval and onward submission to Xinjiang Autonomous Region Finance Department.
		Contract Administration	Administer contracts of BRT corridors equipment and station equipment under Component 1, all activities under Component 2 and 4, as agreed and authorized by contract employer - UUTIC.
UMECD	PIU	Contract Administration	Administer civil work contracts under Component 1 and 3 as agreed and authorized by contract employer – UUTIC.
UUTIC	Financing	Project funding	Financing and repayment of CDB loan. Obtaining government fiscal funds according to annual implementation plans.
	Financial Management	Contract Management	Award and manage contracts as contract employer. The contract management work can be done through employer's representatives as agreed between them (UMECD for civil works and UCTRC for goods and services).
		Financial records	Maintain financial records, prepare consolidated financial statements, monitor expenditures, and prepare and submit financial statements. Xinjiang Audit Office will audit UUTIC for the project; however, it can decide to extend its audit to other related agencies as needed.
		Payment to contractors	Make payment to contractors for all non-IBRD loan-financed contracts and for IBRD loan-financed activities that were pre-financed by UUTIC.
	Procurement	Procurement of BRT buses	Organize bidding for BRT buses financed by counterpart funding.

B. Financial Management, Disbursements and Procurement

Financial Management

7. *Source of Project Funds.* Funding sources for the project include the IBRD loan, UMG fiscal budget, and the commercial loan from CDB. The World Bank Loan Agreement will be signed between IBRD and MOF. An on-lending agreement will be signed between MOF and Xingjian Autonomous Region Finance Depart (XARFD) on behalf of Xinjiang Autonomous Region Government. XARFD will, in turn, pass on the funds to UMG through the Urumqi Finance Bureau (UFB) based on an agreement between XARFD and UFB. Finally, the UMG will make the loan proceeds available to UUTIC for financing eligible activities under the project. The UMG will be responsible for repaying the Bank loan. The Bank loan proceeds will flow into UUTIC through a Designed Account (DA) to be set up and managed by XARFD. The CDB loan and UMG's fiscal contribution for the project will be provided directly to UUTIC.

8. *Funds Flow.* XARFD will establish a DA to manage the Bank loan. The PMO and UMECD will prepare and submit payment requests for their respective contracts to UUTIC and UFB for approval and submission to XARFD for payment processing. The payment from the DA will be processed in one of two ways: (i) XARFD will pay contractors/suppliers/consultants directly based on the instructions in the approved payment requests, or (ii) XARFD reimburses UUTIC for activities that were pre-financed by UUTIC. The proposed flow of Bank funds and withdrawal applications (WA's) or funding requests are as follows:



9. *Budgeting.* UUTIC and the PMO will jointly prepare an annual project implementation plan that includes funding resources and budgeted expenditures for the project. Once the budget

is approved, government fiscal appropriations for the project will be transferred into UUTIC accounts following government procedures. UUTIC will then execute the budget within its institutional budget execution system. Budget variance analysis will be included in regular project financial reports and monitored by the UUTIC to enable timely corrective actions.

10. *Accounting and Financial Reporting.* UUTIC will be responsible for project financial management, including but not limited to, budget execution and monitoring, maintaining project accounting records, and preparing project financial reports. UUTIC will establish a separate account (cost center) for the project activities within its existing computerized accounting system in accordance with Circular #13, "Accounting Regulations for the Bank-financed Projects," issued in January 2000 by MOF. UUTIC will consolidate DA information maintained by XARFD to prepare consolidated project financial statements. The unaudited semi-annual project financial reports will be prepared by UUTIC and furnished to the Bank as part of the Progress Report no later than 60 days following each semester (the due dates will be August 31 and February 28).

11. *Internal Control.* The general accounting policies, procedures and regulations have been issued by MOF and will be followed by UUTIC. The project will also utilize UUTIC's existing internal control procedures, including segregation of duties, review, approval, and accounting/reporting procedures, as well as the safeguarding of assets. A Financial Management Manual for the project will specify the roles and responsibilities of UUTIC and PMO/UMECD in project financial management as well as detailed working procedures and documents flow among them.

12. *Audit Arrangements.* Xinjiang Autonomous Region Audit Office (XARAO) has been assigned by the China National Audit Office (CNAO) as the auditor for the project. XARAO has been the auditor for Bank-financed projects for many years and its performance and quality are satisfactory to the Bank. The annual audit report will be issued by XARAO and due to the Bank within six months after the end of each calendar year (by June 30). The audit report and audited financial statements will be made publicly available in both World Bank and XARAO's official websites.

13. *The FM risk is rated substantial.* The main FM risk stems from the complexity introduced by the tri-party implementation arrangement. In particular, UUTIC is new to Bank-financed operations and is not familiar with the Bank's FM policies and requirements. There is also a risk that delays in project accounting and financial reporting may occur, in part, because of inefficient working and document flows among UUTIC, PMO, and PIU. In order to mitigate these risks, the following measures are included in the FM arrangement: (a) XARFD, UFB, and PMO, who are experienced with Bank-financed operations, will provide necessary support and assistance to UUTIC for FM matters, including disbursement and preparation of withdrawal applications; (b) the Bank will provide training to UUTIC before and during project implementation; and (c) the FM Manual prepared specifies each party's roles and responsibilities, as well as the working and documents flow among the parties in FM/disbursement arrangements. Annex 3 provides details of the FM arrangement.

Disbursement Arrangements

14. Four disbursement methods (advance, reimbursement, direct payment, and special commitment) are available to the project. The primary disbursement method will be advances to a US-dollar segregated DA opened at a commercial bank by XARFD. Withdrawal Applications (WAs) will be prepared to request Bank disbursements and to document the use of Bank financing. WAs will include supporting documents in the form of Statement of Expenditures (SOEs) and Summary Sheets (SS) and source documents identified in the Disbursement Letter issued by the Bank. The Funds Flow description below provides additional disbursement information.

15. *Retroactive financing* will be available for this project in the amount of US$28 million for payments made under the project prior to the date of the Loan Agreement (LA), but on or after June 1, 2015, for Eligible Expenditures.

16. The Bank loan will disburse against eligible expenditures (taxes inclusive) as provided below:

Category	**Amount of the Loan Allocated (expressed in USD)**	**Percentage of Expenditures to be Financed (inclusive of Taxes)**
(1) Civil works, goods, non-consulting services, consultant services, Training and Workshops, and Incremental Operating Costs	138,790,000	100%
(2) Commitment Charge	860,000	Amount payable pursuant to Sections 2.04 and 2.05 of this Agreement in accordance with Section 2.07 (c) of the General Conditions
(3) Front-end Fee	350,000	Amount payable pursuant to Section 2.03 of this Agreement in accordance with Section 2.07 (b) of the General Conditions
(4) Interest Rate Cap or Interest Rate Collar premium	0	Amount due pursuant to Section 2.08(c) of this Agreement
TOTAL AMOUNT	140,000,000	

C. Procurement

17. *Procurement Capacity and Risk Assessment.* Procurement under the project will be conducted by the PMO with assistance from procurement agent companies. The PMO will organize all procurement activities, including calling for tender and evaluation. Once the procurement is completed, the contract will be signed by UUTIC with the selected provider. The major procurement risks include: (i) impact of local procurement rules and regulations on project implementation; (ii) delay in completion of the design of the relevant project components and approval by the associated domestic procedures; (iii) delay in preparation of the technical parts of procurement documents; (iv) cost and time overruns during contract implementation caused by variations; and (v) overlapping responsibility among UUTIC, PMO and PIU.

18. The PMO and the Bank have agreed to strengthen procurement capacity and implement risk mitigation measures by: (i) Conducting procurement activities outside the local tendering centers or local tendering transaction centers; (ii) expediting the design of each project component; (iii) preparing a realistic procurement plan taking into account sufficient lead time for various steps in the procurement process; (iv) preparing bid documents based on detailed designs; (v) having the Bank provide support to the PMO in setting out appropriate procurement strategy and in handling special procurement arrangements, if applicable; (vi) providing training to bid evaluation committee members prior to the deadline for submission of bids; (vii) providing Bank support to the PMO in contract management, and (viii) signing an Implementation Agreement among the three parties (UUTIC, PMO, and PIU) clarifying their respective roles for procurement, contract management, and financial management. The overall procurement risk is rated Moderate.

19. *Applicable Guidelines.* Procurement will be carried out in accordance with the following documents: "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 in July 2014; "Guidelines: Selection and Employment of Consultants under IBRD Loans and IDA Credits & Grants by World Bank Borrowers" dated January 2011 and revised in July 2014; and the provisions stipulated in the Loan Agreement and the Project Agreement.

20. *Procurement of Works and Supply & Installation of Plant and Equipment.* Works to be procured under the project will include construction of three BRT lines and associated bus stations. Plant and equipment to be supplied and installed include intelligent dispatching systems, signal priority systems, platform screen door (PSD) systems, automatic fare collection (AFC) systems, and platform security systems in the three BRT lines. Procurement will be conducted using the Bank's Standard Bidding Documents for all ICB and model bidding documents for all NCB. The non-Bank financed works will follow government procurement procedures.

21. *Procurement of Goods.* Currently, goods will not be financed by the Bank loan. Procurement of goods that may be financed by the Bank loan in the future will be conducted using the Bank's Standard Bidding Documents for all ICB and model bidding documents for all NCB. The non-Bank financed goods will follow government procurement procedures.

22. *Selection of Consultants.* Consulting services will include assignments for selected transport policy research and development as described in Component 4 of the project. The

Bank's Standard Request for Proposals will be used for services estimated to cost more than US$300,000 or equivalent. Simplified Requests for Proposals will be used for services estimated to cost less than US$300,000.

23. *Training and Workshops.* Plans for training and workshops will be developed by the PMO and will be included in project annual work plans for Bank review. Expenditures incurred in accordance with the agreed plans and cost ceilings will be disbursed on the basis of statements of expenditure.

24. *Procurement Plan.* The PMO has prepared a Procurement Plan for the entire project that is acceptable to the Bank. The procurement plan sets forth the thresholds for procurement methods and prior review. The Procurement Plan will be updated annually or as required to reflect implementation needs and improvements in institutional capacity. It will be made available on the Bank's external website.

25. *Thresholds for Procurement Methods and Prior Review.* Thresholds for procurement methods and prior review are shown in the table below.

Thresholds for Procurement Methods and Prior Review

Expenditure Category	**Contract Value Threshold (USD)**	**Procurement/Selection Method**	**Prior Review Threshold (USD) [1/]**
1. Works and Supply & Installation of Plant and Equipment	-- <40,000,000 <500,000 --	ICB NCB Shopping Direct Contracting	All First NCB contract; all contracts >=15,000,000 All contracts >=200,000
2. Non-Consulting Services/Goods	-- <10,000,000 <500,000 --	ICB NCB Shopping Direct Contracting	All First NCB contract; all contracts >=3,000,000 All contracts >=200,000
3. Consultants Services	-- <300,000 --	QCBS/QBS CQS Individual Consultant	First contract; all contracts >=1,000,000 First contract Only in exceptional cases.

	--	Single-Source Selection (firm)	>=100,000
	--	Single-Source Selection (individual)	≥50,000

Note: 1. A contract whose cost estimate is below the Bank prior review threshold is subject to prior review if the price of the lowest evaluated responsive bid (or, in the case of consulting services, the financial offer of the selected firm) exceeds such threshold at the bid/proposal evaluation stage. TORs for all firm and individual consultants shall be subject to prior review by the Bank.
2. The threshold for shortlisting comprising only national consultants: USD500,000.
3. Procurement Post Review will be carried out at least annually by the Bank or by its consultants/auditors. The post review sampling ratio will be at least 1 in 15 contracts.

26. *Advance Contracting.* The procurement plan shall set forth those contracts that will be procured in advance and specify relevant Bank review procedures.

D. Environmental and Social (including safeguards)

Environment

27. *4.01 Environmental Assessment.* In line with the Bank's safeguards policies and relevant domestic regulations, an Environmental Assessment (EA) was prepared by a qualified and experienced EA institute and includes the social and environmental baselines, project description, impact assessment, alternative analysis, and public consultation summary. The EA was conducted in parallel with the feasibility studies to integrate environmental and social considerations into technical designs to maximize project benefits. The municipal government prepared and adopted an Environment Management Plan (EMP). The EMP includes measures to address construction-stage negative impacts.

28. The project is expected to have net positive environmental benefits by promoting public transport in Urumqi. There will be temporary moderate environmental impacts during the construction phase, such as dust, noise, waste disposal, vegetation loss, sewage discharge, traffic impact, workers' health and safety, and social and traffic disturbances. Long-term impacts will occur during operation, such as air pollution and noise from traffic, and road safety, but they are estimated to be moderate compared to long-term transport benefits.

29. *Alternative analysis* of different design options was undertaken as part of the EA process to avoid or minimize negative impacts of the project. The alternative analyses examined a "without project" scenario, choice of major corridors for improvement, site selection for bus facilities, and different land configurations, and impacts on green belt and vegetation. The project alternatives that result in the fewest social and environmental impacts were recommended for inclusion in the project design and incorporated into the Feasibility Study Report and Detailed Design. These include measures to minimize tree/bush removal and improve shelters for passengers from the cold and wind.

30. *Environmental Management Plan (EMP).* The EMP focuses on strengthening implementation of domestic regulations and engineering codes. Additional measures were included as needed based on experience from similar projects; the Bank/IFC General Guidelines on Environmental, Health and Safety; recommendations from the EA; and public consultations. Past project experience shows that China's engineering codes for construction include environmental requirements and are well established at the provincial and city levels, although enforcement of these requirements varies.

31. The EMP specifies supervising mechanisms, institutional arrangements, and a monitoring plan. Supervision engineers will be primarily responsible for daily supervision of EMP measures during construction. The PMO, assisted by its environmental experts, will carry out random inspections. During operation, responsibility to implement the EMP will largely be shifted to relevant operators and government agencies. The EMP will be included in bidding documents and contracts, and its implementation will be enforced as part of the contract terms.

32. *Linked activity.* Construction of the elevated road above the existing Aletai Road and re-configuration and rehabilitation of lanes at ground level are planned under a separate UMG-financed project in parallel with the proposed project. Due diligence carried out reveals that the draft EA for the linked activity is awaiting domestic review and approval. The municipal division in charge of the linked activity belongs to the Urumqi Construction Bureau (as does the PMO of the Bank project) and is committed to ensuring that construction of the linked activity on Aletai Road complies with Banks safeguard requirements and mitigation measures as reflected in the Bank project EMP. The EA for the Aletai Road project includes environmental training and monitoring and has incorporated lessons from the EMP of the Bank project.

33. *Public consultation and information disclosure.* Two rounds of public consultations were undertaken following each round of public disclosure. In March 2014, an overview of the project and plans for an EA were disclosed in the local newspaper and the official website of the Provincial Environmental Bureau, as well as on bulletin boards along the proposed corridors. In June 2014, the draft EA/EMP was disclosed on the above-mentioned website and was advertised in the newspaper with information on access to the hardcopy of the draft EA/EMP. In January 2015, the revised EA was disclosed locally again after some adjustments were made to the project. About 700 people from diverse backgrounds, including 17 percent from ethnic minority groups, were surveyed using a bilingual questionnaire in Chinese and Uygur. Most people supported the project. They expressed concerns on traffic, social disturbance, and noise during construction. Measures to address these concerns are incorporated in the EA/EMP. The English versions of the EA/EMP were sent to the World Bank's Infoshop on June 26, 2015.

34. *Capacity Building.* Capacity building of the clients has been an integral part of the project preparation. A budgeted training plan is included in the EMP and forms part of the overall training plan of the project.

Social

35. *Social Assessment.* A social assessment (SA) was conducted by an experienced team from Xinjiang Social Science Institute. The SA included both in-depth consultations with various stakeholders (transport service users, project affected citizens, officials, and academics) and

extensive data analyses. Quantitative and qualitative analyses of over 1,500 random samples examined impacts of the project on ethnic minorities, the poor, the disabled, and by gender. The SA concluded that the project will improve the public transportation system in Urumqi, especially in some of the suburbs, and provide direct benefit to the urban and peri-urban populations. The SA proposed 55 suggestions/measures to pursue a user-friendly project design to enhance social benefits. These are reflected in the project feasibility study report and incorporated in the detailed project design.

36. *OP 4.12, Involuntary Resettlement.* The project will involve land acquisition and resettlement triggering OP 4.12, Involuntary Resettlement. Components 1and 3 will require land acquisition and/or resettlement impacts, as summarized below:

(a) *Component 1.* Construction of the three BRT lines with 72 station pairs requires some extension of existing road corridors requiring land acquisition and structure demolition.
(b) *Component 3.* Construction of the public transport hub at the South Square of the High Speed Rail Station; public transport terminals at Beijiao, Midong and North Square of the High Speed Rail Station; and public transport parking and maintenance facilities at Sangong and Midong require land acquisition and structure demolition.
(c) *Linkage activities.* The Aletai Elevated Road, which will be built along the same corridor as the BRT4, will be a linked activity. It requires land acquisition and resettlement.

37. The project will acquire 239 mu of collective land in two villages (1.64 percent and 3.39 percent from each village, respectively) and will directly impact 216 persons in 50 households.

38. Land acquisition and resettlement related to the Beijiao Terminal and the two hubs at the north and south stations of the High Speed Rail was completed earlier and was subjected to a due diligence review. These include 69 mu of state-owned land with relocation of four households, 40 shops, and partial impact of one agency. The due diligence review, detailed in the annex of the Resettlement Plan (RP), concluded that the affected persons were fully compensated and that there are no unresolved complaints. The external monitor of the project will monitor these completed land acquisitions and resettlement as needed.

39. Resettlement under the linked Aletai Road project involves relocation of 69 households with 242 persons and partial demolition of the structures of 13 agencies. These are fully integrated into the proposed project's RP. Resettlement costs and civil works are covered under the Aletai Road project, financed separately by UMG, which has already allocated adequate budget for it.

40. *Resettlement Plan (RP).* An RP was prepared to mitigate social risks based on detailed investigation and analysis of resettlement impacts and meaningful consultations with affected citizens. The RP provides details of resettlement implementation procedures and requirements to be followed during project implementation, including compensation rates, mitigation measures to restore livelihoods, institutional and monitoring arrangements, and the grievance redress mechanism. The RP applies to all project activities, including those that are linked to the project. UMG will finance the land acquisition and resettlement costs indicated in the RP, and an adequate UMG budget has been provided for this purpose.

41. *Institutional Arrangement.* The PMO and the District PMO will establish a resettlement management system with trained staff and adequate resources prior to the commencement of resettlement. Dedicated staff will be responsible for resettlement related work, including the submission of semi-annual internal monitoring reports to the Bank on resettlement implementation. In addition, an experienced external resettlement monitor will be hired for external monitoring and reporting. A training program on social safeguards implementation will be conducted by PMO as early as possible to ensure capacity building.

42. *Indigenous People.* Ethnic minorities, mainly Uyghur, Kazak, and Hui, live in urban Urumqi City. Because they are mainstreamed into society, OP 4.10 on Indigenous People is not triggered. However, in view of the complex ethnic composition of the city, a minority-differentiated social assessment was conducted to ensure that the improved public transport system will serve all communities and that construction phase disruptions and ensuing permanent access changes are not perceived as affecting ethnic minority communities disproportionately.

43. *Gender Issues.* The SA and the RP include gender-segregated analysis to explore gender-friendly measures for assisting women to benefit fully from the new transport facilities. Women participated in the consultation meetings and in the social assessment and their views were shared with the technical design consultants. The project will ensure: not less than 30 percent of women are provided work opportunities under the project and are paid the same as men for similar work; women are given priority in training for temporary work and at least 50 percent of such trainees being women; and women are provided information and consulted to ensure that they have the same rights as men to sign compensation agreements.

44. *Consultations and Participation.* The SA and the RP were prepared based on extensive consultations with all stakeholders. Stakeholders' concerns and needs were discussed with the PMO and the technical consultants and 55 comments/suggestions were reflected in the Feasibility Study Report and integrated in the project design.

45. *Grievance Redress.* A grievance redress mechanism is included in the RP. Grievances may be filed either orally or in writing. Complainants may also file cases in court if they are not satisfied with the resolution of their grievances by the project authority. All grievances and resolutions will be recorded. The grievance redress mechanism was disclosed to the local population and will be further disseminated through the Resettlement Information Booklet attached to the RP.

46. *Monitoring & Evaluation.* Internal and external resettlement monitoring arrangements are included in the RP. Monitoring indicators, frequency of monitoring, and the roles of various agencies involved are detailed. The monitoring system will also cover resettlement in the linked Aletai Road project. The PMO will be responsible for monitoring and evaluating environment and social safeguards implementation. External monitors will work with the PMO to ensure compliance with safeguards policies in project-supported works.

47. *Information Disclosure.* Relevant information on the social aspects of the project was distributed among the local communities during the preparation of the SA and the RP. The SA and the RP were locally disclosed on the websites of the Urumqi Municipal Construction Committee and local resettlement offices on May 7, 2015. Hard copies of these documents have

been made available to the communities. The final English version of the SA was sent to the Infoshop on May 19, 2015, and the final English version of the RP was disclosed in the Infoshop on May 22, 2015.

Annex 4: Implementation Support Plan

CHINA: URUMQI URBAN TRANSPORT PROJECT II

Strategy and Approach for Implementation Support

1. The strategy for Bank implementation support is based on the nature of the project and the risks to achievement of the PDO as assessed by the Systematic Operations Risk-Rating Tool (SORT). Implementation support will focus on two risk categories "institutional capacity for implementation and sustainability" and "fiduciary" both rated as having substantial risks resulting in the overall implementation risk rating of substantial. A Since this is an environmental Category A project, Bank implementation support will also focus on compliance with Bank safeguards policies.

2. *Institutional Capacity for Implementation and Sustainability.* The Bank will support the project's comprehensive capacity building program through: (i) training for PMO staff by Bank technical, procurement, financial management, and safeguards specialists; (ii) support for the peer learning program to enable key PMO staff to visit other World Bank project cities (e.g., Wuhan and Shenyang) to learn from their experiences; and (iii) support for capacity building of municipal agencies, especially with regard to information platform development and fiduciary aspects. Bank implementation support on FM reviews will focus on:

- ability of the project's accounting system to capture and record project transactions and generate the required financial reporting documents in an accurate and timely manner;
- provision of the required counterpart funds as planned;
- smooth implementation of the project Financial Management Manual in terms of document and information flows, as well as other procedures;
- appropriate functioning of Bank loan disbursement and fund flow arrangements; and
- knowledgeable financial staff able to manage the financial aspects of a Bank-financed operation satisfactorily.

3. In the area of procurement, Bank implementation support will include prior reviews of contracts above the threshold and post reviews of contracts below the threshold on a sample of at least one in 15 contracts. The Bank will also conduct at least one mission (either as part of a regular mission or as a separate mission) each year to review procurement operations in the PMO. In addition, the Bank will periodically review the status of implementation of the Procurement Plan and confirm that updates are realistic.

4. *Environment and Social.* The Bank will closely monitor the implementation of the EMP and the RP through internal and external monitoring reports, discussions with the PMO and their safeguards staff, and periodic site visits. The Bank will ensure that relevant project staff are provided adequate training on safeguards and that adequate resources are allocated for implementation of the EMP and RP. The Bank will seek to resolve any issues of significant non-compliance through discussions with senior UMG leaders.

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Implementation Support Plan

5. The Bank will conduct two to three implementation support missions per year on average. These will be supplemented by desk reviews, training, and short visits to follow-up on project implementation. The Bank task team will include technical, financial management, procurement, social, and environmental specialists. Detailed inputs from the Bank team are outlined in the table below.

Primary Focus of Implementation Support

Time	***Focus***	***Skills Needed***	***Resource Estimate***	***Partner Role***
First twelve months	• Bus service plan • Bus service survey • Public consultation • Project design • Procurement • Safeguards • Financial management • Capacity development	• Technical (public transport service, BRT design, traffic management, public consultation, training) • Procurement • Safeguards • Financial management	6-7 staff, two to three trips per staff, some thematic trips as needed.	
12-48 months	• Project implementation • Procurement • Monitoring and supervision	• Technical (public transport service, BRT design, traffic management, public consultation, training) • Procurement • Safeguards • Financial management	5-6 staff, one to two trips per staff; some thematic trips as needed.	
Other				

Skill Mix Required

Skills Needed	***Number of Staff Weeks***	***Number of Trips***	***Comments***
Public transport planning and operation	1 staff member: 11 weeks	11	2 trips + 2 weeks per project year +1 extra week +1extra trip in the first year.
BRT design	1 staff member: 6 weeks	6	2 trips +1 week per project year +1 extra

			week in the first year.
Traffic management	1 staff member: 6 weeks	6	2 trips +1 week per project year +1 extra week in the first year.
Public consultation,	1 staff member: 2 weeks	2	1 trip + 2 weeks for the first year
Procurement	1 staff member: 5 weeks	5	2 trips +1 week per project year.
Financial management	1 staff member: 5 weeks	5	2 trip +1 week per project year.
Environment	1 staff member: 5 weeks	5	2 trip +1 week per project year.
Resettlement	1 staff member: 5 weeks	5	2 trip +1 week per project year.

Annex 5: Economic Analysis

CHINA: URUMQI URBAN TRANSPORT PROJECT II

A. ECONOMIC EVALUATION

Summary

1. A cost-benefit analysis was conducted for the proposed project. Project activities include construction of three BRT corridors and six terminals and depots, installation of supporting ITS equipment along the corridors, bus procurement, the development of a comprehensive transport information platform, and ICT and ITS equipment for the platform. Project costs include the cost of construction, operations, and maintenance over the assumed project life of 30 years. Economic benefits were calculated based on outputs from a traffic forecast model and compare the "with project" and "without project" scenarios. The project's estimated economic internal rate of return (EIRR) is 17 percent and its estimated net present value (NPV) is US$157 million. Sensitivity analyses conducted assume higher costs and lower benefits. The EIRR is 13.21 percent when costs increased and benefits decreased by 10 percent. The EIRR drops to 9.51 percent in the worst case scenario when costs increased and benefits decreased by 20 percent. The results of sensitivity analyses indicate that the project is economically robust.

Traffic Analysis and Forecast

2. *Population and Economic Growth.* Urumqi's 2014 population was 3.5 million. Based on the Urban Master Plan and Land Use Plan, the 2020 projected population for the whole city area is 5 million, with a projected 4 million people living in the urbanized area. GDP is forecast to grow 9.5 percent annually until 2020. Based on forecasted income growth, car ownership in Urumqi is expected to grow approximately 8 percent per year until 2020, and the percentage of households having at least one private car by 2020 is expected to reach 57 percent.

3. Forecasts predict that daily urban bus passenger volume will increase from 2.62 million in 2013 to 3.5 million in 2020 and to 4.15 million in 2030. Forecasted daily passenger volumes in the three project corridors are summarized in Table A4.1.

Table A4.1: Forecasted Traffic Volumes (Average Daily Ridership)

	2020	2025	2030	2035
BRT 4	175,000	212,914	255,000	295,615
BRT 6	104,000	119,399	135,000	149,051
BRT 6 branch	147,000	166,317	185,000	199,298

4. Traffic analysis and forecasts were conducted during project preparation using the conventional "four-step" method and Urumqi's traffic model (EMME2), which was updated in 2013 and calibrated with data from household and citywide vehicle travel origin-destination surveys and traffic counts at various locations. The model was used to simulate network traffic performance under the "with project" and "without project" scenarios. Table 4A.2 provides the

results of the simulation and shows how peak hour travel time and number of total trips would change over time with and without the project.

Table A4.2: Summary of Simulation Results (Urban area)

		2015	2020		2025		2030		2035	
			W/O Project	With Project	W/O Project	With Project	W/O Project	With Project	W/O Project	With Project
Average Peak Hour Travel Time (minutes)	Private Vehicles	21.40	21.03	20.55	24.16	23.45	25.47	25.17	28.57	27.49
	Public Transport	46.10	41.96	41.38	42.75	42.00	43.4	42.5	44.02	43.01
Total Trips (Peak Hour)	Private Vehicles	368,328	586,315	564,623	668,282	633,686	755,043	705,519	842,908	778,207
	Public Transport	403,669	459,242	484,819	536,265	575,751	615,371	668,764	701,720	773,045

5. The traffic model indicates that the project would have the following impacts by 2020:

- Mode share of public transport will increase by 1.58 percent, while the mode share of private vehicle will decrease by 1.34 percent;
- Journey time of private cars in the urban area will decrease by 2.3 percent, while that of public buses (including regular bus and BRT) will decrease by 1.4 percent; and
- The total number of bus trips will increase by 5.6 percent, while that of private cars will decrease 3.7 percent.

Economic Costs

6. The total investment cost of project activities is estimated at RMB2,919.53 million (US$478.61 million equivalent).[10] The annual maintenance cost of the project corridor is estimated at RMB200,000 per kilometer. Major maintenance is scheduled to be carried out in the tenth year of operation at a cost of RMB2 million per kilometer. The O&M for the BRT system (such as platform, vehicles, ITS) is estimated at RMB47 million per year. The maintenance expense of the information system and the maintenance cost for bus terminals and depots are estimated at RMB2.7 million per year and RMB20 million per year, respectively (2013 prices).

Economic Benefits

7. The project will generate direct and indirect benefits as a result of the improved BRT corridors, better buses, more public transport terminals and depots, and enhanced traffic management. The proposed integrated traffic information platform and supporting intelligent transport system (ITS) equipment will enhance traffic management and information sharing. This will reduce travel time for both private vehicles and public transport, as well as lower operating cost of the bus system because of improved scheduling.[11] Quantifiable economic

[10] The exchange rate of USD1.00 = RMB6.10 was applied in the analysis.

[11] This evaluation measures only the information platform's additional contributions to overall traffic system improvement. Additional social impacts such as improved efficiency in inter-agency communications have not been quantified.

benefits assumed in the evaluation include: (i) lower vehicle operating cost (VOC) of vehicles operating in the urban road network; (ii) vehicle travel time and bus passenger traveling time savings in the urban road network; (iii) lower bus operating costs due to increased operating efficiency and segregated right-of-way; (iv) reduction in traffic accidents, injuries and fatalities; and (v) emission reduction due to reduced congestion and mode shift.

8. The methodology for quantifying these economic benefits is as follows:

- **Benefits of lower vehicle operating cost in urban areas due to reduced congestion and lower vehicle-kilometers-travelled (VKT)**. VOC savings for private vehicles, taxis, and trucks are calculated based on reduced VKT and vehicle cost reduction because of increased speed of travel. VOC savings for buses are calculated based on reduced bus operation time because the proposed project will guarantee right-of-way for BRT and improve operational efficiency.
- **Benefits of traveling time savings due to increased transport accessibility**. The journey time of private vehicles and buses will decrease resulting in travel time savings for all passengers. Travel time cost savings are calculated by multiplying time savings by a gradually increasing forecasted value of time. Baseline data were obtained from household surveys conducted in 2010 and then converted to 2014 prices at RMB4.91 per person-hour.
- **Benefits of reduced accidents**. The total traffic accident cost is estimated based on average accident costs per VKT. The average accident cost per VKT was estimated based on the number of accidents in the past five years and the cost of different types of accidents (fatal, injury, property damage). The severity of road accidents in Urumqi has declined as measured by an annual average reduction of 23 percent in the fatality rate since 2010. The target for reducing accident costs in the urban area in the "with" project case is 10% by 2020 and 15% by 2030.
- **Benefits of greenhouse gas (GHG) emission reduction** is measured by the lower carbon dioxide (CO2) emission cost. Carbon emissions (CE) per kilometer for each car type is estimated using the equation (1) below.[12] The reduction in CO2 emissions is the difference between CE (with project) and CE (without project) for the urban road network. As the market price of carbon is not currently available in Urumqi, the baseline price used was RMB35/tCO2e in 2014 based on international market price fluctuations and domestic pilot carbon market prices. The forecasted prices used in this analysis are RMB52.5/tCO2e in 2020 and RMB70/tCO2e in 2030.

$$CE_i = (a_i+b_iV_i+c_iV_i^2+d_iV_i^3+e_iV_i^4 ++f_iV_i^5)*Vol_i* \quad (V_i>0) \qquad (1)$$

Where: CEi represents carbon emissions per kilometer for vehicle type i, unit: g;

Vi is the speed of vehicle type i (km/h);

Voli is the PCU of vehicle type i;

[12] This methodology was originally derived from experience of urban transport projects in the United Kingdom. It has been applied in several urban transport projects in China, including the Bank financed project in Xining. The parameters have been calibrated by Urumqi's fuel split and fuel efficiency.

a_i, b_i, c_i, d_i, e_i, $f_{i\ are}$ coefficients for vehicle type i[13];

9. Project activities will be completed in phases and will start to generate benefits from 2016 (with an estimated total benefits of RMB178 million). For 2020, the first full operational year of the project, benefits are estimated as follows:

Benefits	Value of Benefits (RMB million)	% of Total Benefits
VOC savings and bus operating cost savings	236.19	42
Travel time cost savings for passengers and vehicles	280.80 (at price of RMB5.25/h)	50
Reduced traffic accidents	33.90	6
Lower CO2 emission	5.94 (0.11 million tons CO2 reduction)	1

Results of Economic Evaluation and Sensitivity Analysis

10. The EIRR and NPV of the proposed project were calculated by comparing the economic costs and benefits during 2015–2044 (30 years, including five years construction and 25 years of operation). The EIRR was calculated to be 17.26 percent and the NPV was RMB960.59 million (US$157.47 million equivalent). Sensitivity analysis found that EIRRs for all tested cases were higher than the economic opportunity cost of capital. Even in the case of increasing capital and maintenance costs by 10 percent and decreasing benefits by 10 percent, the calculated EIRR was 13.21 percent and the NPV was RMB232.68 million. If benefits from traffic safety improvements are excluded, the EIRR goes down to 16.05 percent. In the worst case scenario, (increasing capital costs and maintenance costs by 20 percent and decreasing benefits by 20 percent), the EIRR drops to 9.51 percent. Table A4.3 summarizes the results of the economic analysis.

Table A4.3: Summary Results of Economic Evaluation

Scenario	**EIRR (%)**	**NPV (RMB million)**
Baseline	17.26	864.53
(a) High capital and operating costs (+10%)	15.27	644.66
(b) Lower Benefits (-10%)	15.06	548.60
Combine (a) and (b)	13.21	232.68
(c) Excluding traffic safety improvement benefits	16.05	738.77
Combine (a), (b), and (c)	12.17	33.04
(d) High capital and operating cost (+20%)	13.56	328.74

[13] In the traffic forecast model, all vehicle types have been converted into PCU of private vehicles using different factors. Due to this constraint, the estimation only applies to private vehicles. The coefficients are: a = 712.312; b = -49.998; c = 1.632; d = - 0.025; e = 0.0001; and f = -0.00000047.

(e) Lower Benefits (-20%)	12.78	136.62
(f) Combine (d) and (e)	9.51	-495.24

Note: EIRR = economic internal rate of return; NPV = net present value;

Annex 6: Financial and Fiscal Analysis

CHINA: URUMQI URBAN TRANSPORT PROJECT II

1. The annex includes the following sections: (a) local government infrastructure financing reform, (b) financing arrangements for the proposed project under the revised budget law; (c) financial analysis of the borrowing entity of the CDB loan; and (d) assessment of UMG's fiscal space to provide counterpart funds under the project and meet subsidy obligations.

A. Local Government Infrastructure Financing Reform

(i) Traditional Local Infrastructure Financing in China

2. Over the last three decades, subnational governments in China have developed large infrastructure assets that have contributed to economic growth, job creation, and poverty reduction. Much of the infrastructure was financed, developed and operated through off-budget special purpose vehicles, as local governments were not allowed to borrow on their budget after the 1994 Budget Law came into effect. Debt financing was done through Urban Development Investment Corporations (UDICs), local government-owned enterprises that serve, among other things, as financing platforms to circumvent the "no borrowing" rule. UDIC's use land concession fees and own-raised revenues to borrow from policy banks, commercial banks, and, more recently, nontraditional "shadow banking" sources such as trust companies and corporate bond markets. Financing through UDICs has helped build a massive infrastructure in China, but it has also increased local governments' debt, which many experts and the central government consider unsustainable. By June 2013, total outstanding UDIC loans reached RMB 9.7 trillion, and the repayment to be made in 2013 was RMB 1.85 trillion, leading to huge fiscal pressure on local governments. Moreover, loans were often made with little economic evaluation of the project's return or the borrowing entity's revenue and creditworthiness. Instead, loans repayment relied on local government's implicit guarantees.

(ii) New Local Infrastructure Financing Mechanism

3. The central government recently amended the 1994 Budget Law to improve local governments' debt management and reform infrastructure financing mechanisms. The amendment and subsequent State Council directives, including Directive No. 43 on "Strengthening Local Government Debt Management," call for new forms of local government borrowing, fund utilization, and loan repayment mechanisms. The new forms of borrowing and repayment mechanisms under the revised Budget Law include the following:

a. Local governments can issue general obligation bonds on their budget to support capital expenditure programs. The bonds will be issued by Province-level governments on behalf of municipalities or county governments under borrowing limits established by the central government. Repayments will come from the local general budget.
b. Local governments can issue specialized bonds based on specific revenue streams to support specific infrastructure development programs. Such bonds can also be issued by province-level governments on behalf of lower jurisdiction governments.
c. Local governments are encouraged to attract private sector/social capital for infrastructure development. This could be achieved through (i) PPP arrangements with

the private sector, and (ii) establishing a government-owned enterprise for service provision, or converting an existing UDIC with revenue from public service provision into a utility service/infrastructure company. The enterprises/special purpose companies (both private and public) can borrow from the market based on revenues from users and other operating revenues. If there are shortfalls in revenues, the sponsoring local government can provide a pre-determined subsidy from the budget. In this regard, local governments would enter into concession contracts or service agreements with the service providers and provide availability payment (or a similar form of operating subsidy) during the service operation period. The service provider would be responsible for raising the initial financing and would repay the loans from operating revenue and/or government subsidies. Projects are expected to be bankable with contract terms, tariffs, and subsidies agreed between the sponsoring government and service provider. The subsidy would be reflected in the annual local government budget, but there will be no government guarantee for loan repayment.

d. UDICs can no longer serve as financing platforms for local governments. The UDICs operating in competitive industries would become commercial entities, separate from the government, and local governments would not be allowed to guarantee their debts. UDICs with stable revenues involved in public service and infrastructure delivery would be converted to utility service providers and/or infrastructure companies.
e. The revised budget law also calls for proper formulation and consolidation of government budgets, mandatory disclosure, elimination of local government guarantees, and separation of government and corporate responsibilities.

4. In short, through the budget law amendment and directives, the central government ended an infrastructure financing system in place since 1994 and ushered in a new mechanism that allows the market to decide on the financial viability of projects through the reliance on market-based borrowing and PPPs. At the same time, the changes provide a clearer role for subnational governments to be the administrators and regulators of infrastructure service provision in their jurisdictions.

(iii) Revised Budget Law implications for counterpart financing for World Bank Projects

5. World Bank transport projects in China have been highly leveraged with counterpart funds. Most are financed with 50-50 percent share between IBRD loans and counterpart funds, and some go as low as 20 percent for the IBRD share. This has allowed the Bank to expand its development reach beyond what the loan amount would imply. Despite the low share of financing, the Bank's safeguards policies and project management practices apply to the entire project. Many counterparts appreciate the high leverage and the benefits that the Bank's policies bring to ensure that projects are properly managed. At the same time, World Bank involvement can increase the capacity of sector agencies and PMOs to manage projects and comply with safeguards policies.

6. However, the Revised Budget Law limits local governments' ability to raise counterpart funds to co-finance Bank projects. In the past, local governments would use their UDICs to borrow from commercial banks and use the proceeds to finance a large part of their counterpart fund obligations. Because this option is no longer available, a new form of co-financing needs to

be developed that supports fiscally prudent borrowing for infrastructure development. The main financing options under the revised budget law are discussed below.

7. *PPP Options.* Although many Bank urban transport projects may not lend to traditional PPP modes in which revenue is recouped from user fees alone, alternative PPP modes, such as availability payment concessions, may be considered. Under this arrangement, the payment to the concessionaire can come from the government budget in addition to any user fees generated from service provision. Under the availability payment concession, a private concessionaire would be engaged by the local government to develop and maintain urban transport infrastructure services over a long period of time. During the concession period, the local government would make availability payments based on the performance of the concessionaire.

8. *Revenue-based Borrowing***.** Some transport projects support revenue-earning companies such as metros and bus companies. These companies are eligible to borrow from commercial banks using their revenues and future cash flow. However, their fare box revenues are not generally adequate to cover operating expenses plus debt service obligations. In this case, the budget law allows local governments to provide subsidies and explicitly record it in their annual budgets. Therefore, with operating revenue and subsidies from the government, the revenue-earning company could borrow from commercial banks to finance their counterpart fund obligations under the project.

B. Project Financing Arrangements under the Revised Budget Law

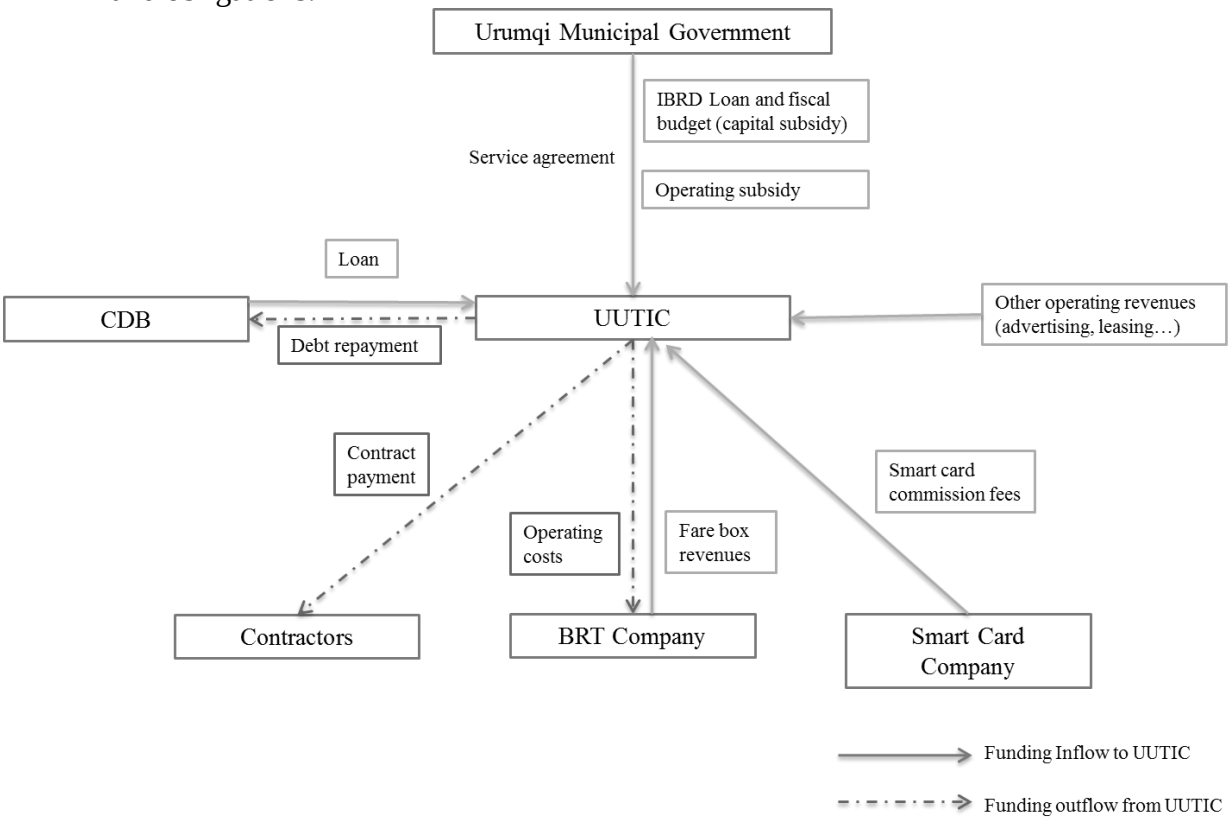
9. Based on an analysis of the new policy requirements under the revised Budget Law, and discussions with officials from UMG, Xinjiang Uygur Autonomous Region, and NDRC/MOF, UUTIC is eligible to borrow directly from the market in order to provide counterpart financing for the proposed project. UUTIC generates revenues from fare boxes, smart cards, and other operating revenue. It also receives capital grants from UMG to develop the BRT system and an operating subsidy to make up for losses in BRT operations. UUTIC maintains a separate financial statement as well as a consolidated financial statement (incorporating financial results of the BRT Company and the Smart Card Company). Given its cash flows, stable government subsidy, and financial performance, UUTIC has been able to secure a loan from the China Development Bank (CDB).

10. The financing arrangement for the proposed project is shown in figure 1 and is summarized below:

a. **IBRD loan (US$140 million)**. The loan will be on-lent to UMG based on established procedures. UMG will repay the IBRD loan based on established procedures for IBRD loans in China.
b. **CDB Loan (RMB1.385 billion)**. This loan will be made to UUTIC. UUTIC is the sole owner of the BRT operator and smart card revenue clearing company. UUTIC will use the revenues from BRT operations and commissions from smart cards to repay the CDB loan. Because the loan repayment obligation will reduce the revenues available to cover BRT service operating costs, UUTIC will receive an annual pre-determined subsidy from UMG. The subsidy will be recorded in UMG's annual budget. Both UMG and UUTIC

will sign a Service Agreement specifying their obligations and responsibilities. (See Section B below for details of the financial analysis of UUTIC.)

c. **UMG fiscal support (RMB 1.035 billion)** will be used to cover remaining counterpart fund obligations.



11. ***Summary of the Financial Analysis.*** The financial analysis of UUTIC (see Section c below for details) shows that, compared to the "without project" scenario, the operating deficit of UUTIC will increase by RMB932 million (in present value terms) during the 12-year period. As such, the government will need to provide an additional subsidy of about RMB78 million every year compared to the "without project" scenario. See table below for details.

Consolidated Annual UUTIC Operating Revenue and Expenditure (RMB million)

Item	**Without Project PV***	**With Project PV***
Revenues		
BRT Revenues	1,120	1,963
UUTIC Revenues	149	163
Smart Card Revenues	95	157
Other Revenues	13	13
Total Revenue	1,377	2,297
Expenses		
Operating Expenses	2,696	3,581
Debt Service	300	1,267

Total Expenses	2,996	4,848
Deficit/Operating Subsidy Required	**(1,619)**	**(2,551)**

*PV: present value in 2015, calculated for the period between 2015 to 2026 at 10% discount rate

C. Financial Analysis of UUTIC and its reporting companies

12. This section describes the financial analysis of UUTIC and its two subsidiary companies, the BRT Company and the Smart Card Company. The analysis is based on information provided by these two companies and UUTIC, as well as the project feasibility study. An excel-based financial model for each company was developed to analyze the current financial situation and forecast the financial situation for UUTIC and its subsidiaries for 2015 – 2028 under "with-project", "without-project" and "with project and higher BRT fares" scenarios.

Current Financial Situation

13. *Background*. UUTIC owns the sole BRT Company in Urumqi, the Smart Card Company in the city, as well as bus terminals and depots. ***The BRT Company*** currently operates four BRT lines in Urumqi. Established in 2011, the company operates 362 buses on routes covering a total of 52 km. The company is responsible only for operations; it does not own assets or have any debt obligations. Urumqi Transport Bureau sets bus fares and establishes service quality and standards. Bus fares have been fixed at RMB1 (USD0.16) for within-city travel and have not changed in the last decade. In addition, seniors are allowed to ride for free and students receive discounts. The features of the current BRT lines are shown below. ***The Smart Card Company*** was set up to issue smart bus cards and maintain the electronic payment and settlement system in Urumqi. The Smart Card Company does not own many assets and does not have any debt obligations. The cash element of bus fare revenue is collected directly by each bus operating company; however, smart card payments are processed by the smart card payment settlement center and fare revenue is then transferred to each bus company based on the bus lines travelled by passengers. Both BRT and Smart Card companies report to UUTIC.

Table 6A. Current BRT lines in Urumqi

	Length	Operated from	No of buses	No of Stops	No of Terminals	Daily passenger volume
BRT1: Jixiechang-South Rail Station	16.4km	08/28/2011	135	21	2	194,000
BRT2: North Gate-Yinchuan Road	12.6km	11/26/2011	91	17	2	74,000
BRT3: Renmin Square-Yinchaun Road	12.7km	08/28/2011	92	17	2	103,000
BRT5: Changheyuan-Nanhur Road East	10.2km	12/07/2012	44	12	2	14,800
Total	**51.9km**		**362**	**67**	**8**	**385,800**

14. *Revenues.* UUTIC generated consolidated revenue of RMB158 million in 2013, which was about 13 percent higher than the consolidated revenue of RMB140 million in 2012. The BRT Company is the main source of the consolidated revenue for UUTIC. In 2013, about 82 percent (RMB129 million) of the consolidated revenue was generated by the BRT Company from fare box revenues. UUTIC's own revenue from unused smart cards was about 11 percent (RMB18 million); the Smart Card Company's commission fees were about 6 percent (RMB9.5 million); and other revenues were about 1 percent (RMB1.6 million) of the total consolidated revenue in 2013.

15. The volume of passengers attracted to BRT buses has been increasing since the company started business in late 2011. In 2012, ridership was about 140.82 million, 4.5 times higher than in 2011. In 2013, ridership increased 14 percent to 161.22 million. However, smart card use in Urumqi is still low at only 35 percent of public bus riders.

16. *Subsidies.* UMG provides subsidies based on the Urumqi Bus Cost Standardization Scheme[14] to BRT Company to compensate for operating losses and to UUTIC to make capital investments to ensure that government-specified levels and quality of services are provided. The Smart Card Company does not receive any subsidy. In 2013, UMG provided total subsidies of RMB181 million, which was about 51 percent higher than total subsidies of RMB120 million provided in 2012, in part because of the new BRT lines. Of the total subsidy, 46 percent was for BRT operations and 54 percent supported UUTIC's investment program.

17. *Expenses.* In 2013, UUTIC incurred consolidated operating expenses of RMB244 million, which was about 27 percent higher than the consolidated expense of RMB243.6 million in 2012. The BRT Company is the main contributor of the consolidated expenses. Out of the consolidated expenses in 2013, the BRT Company contributed about 70 percent, UUTIC about 26 percent, and the Smart Card Company the remaining 4 percent. The largest component of the consolidated expenses in 2013 was staff, accounting for about 23 percent. The cost of sales and cost of fuel were the second and third largest components of total expenses, accounting for about 26 percent and 21 percent, respectively. In 2013, the depreciation expense was RMB20.2 million, which was more than twice the previous year (RMB 9.3 million).

18. *Profit.* UUTIC's overall profitability is less than favorable mainly because the BRT Company is newly established and has been expanding its business, and UUTIC made huge capital investments in its BRT operations in 2011 and 2012. As a result, the company incurred a total loss of RMB17.8 million in 2013 and RMB8.7 million in 2012. In 2013, UUTIC's share of loss was RMB 11.86 million, the BRT Company's loss was RMB5.6 million, and the Smart Card Company's loss was RMB 0.3 million. During this period, the companies had inadequate cash and liquid assets to cover their short-term obligations, and both UUTIC and BRT received government subsidies to remain in business.

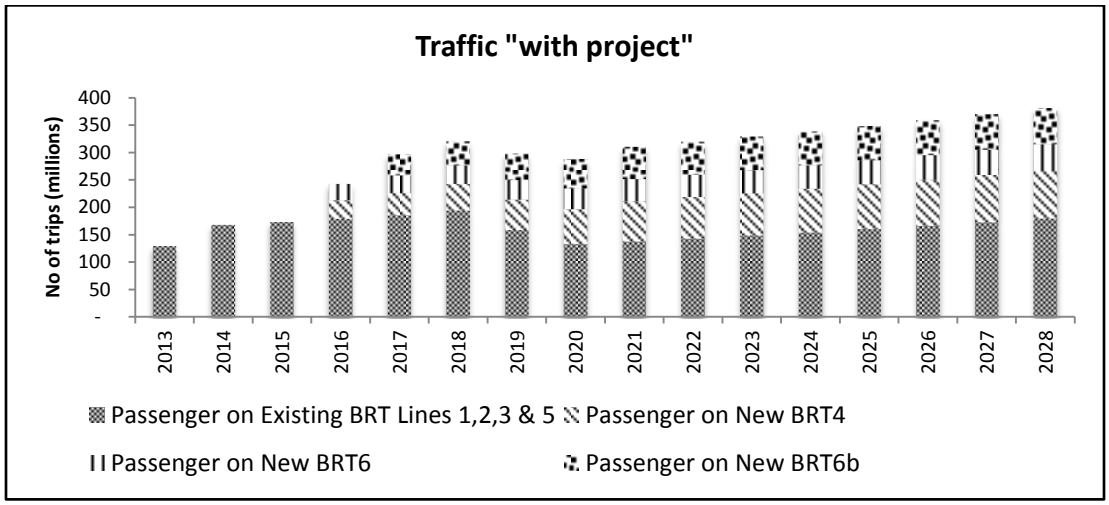
Financial Impact of the Project on UUTIC

19. *Future Financial Scenario (With Project).* With the project scenario, the government and UUTIC will be responsible for all investments under the proposed project related to BRT corridors, installation of comprehensive transport information platform, and public transport infrastructure facilities. UUTIC will own the new vehicles and facilities built under the project, while the BRT Company will be in charge of operations.

20. *Traffic Forecast.* New BRT lines BRT4 and BRT6 are expected to be operational from 2016 and BRT line 6b is expected to be operational from 2017. Annual ridership is expected to be 63.58 million (BRT4 and BRT6) in 2016 and 111.41 million (BRT4, BRT6 and BRT6b) in 2017. By 2020, all new lines will be fully operational and annual ridership is expected to reach

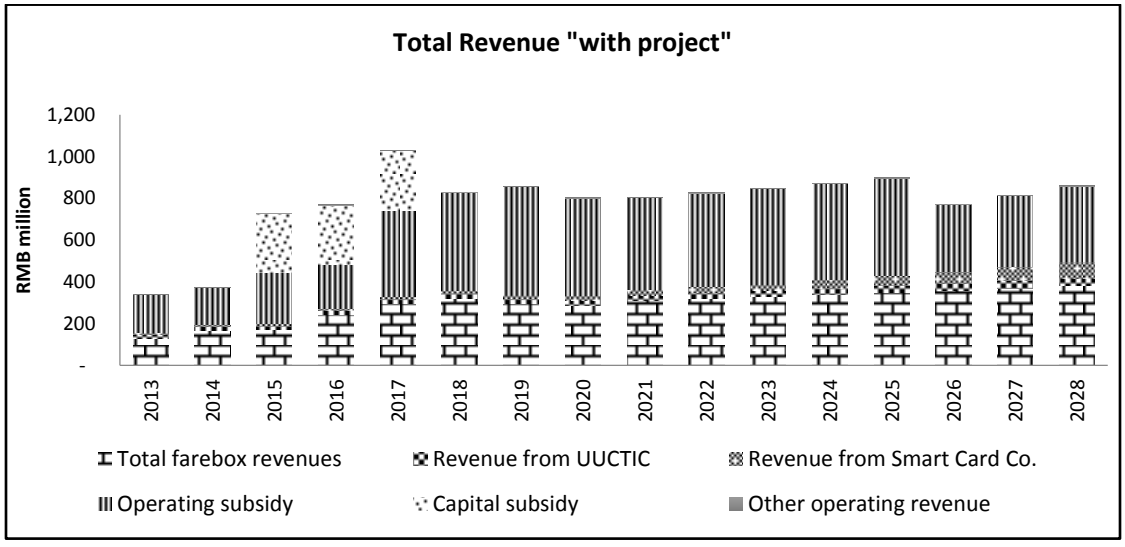
[14] China-GEF-World Bank Urban Transport Partnership Project, Public Transport System Integration Planning Study for Urumqi, Sub-Report 3

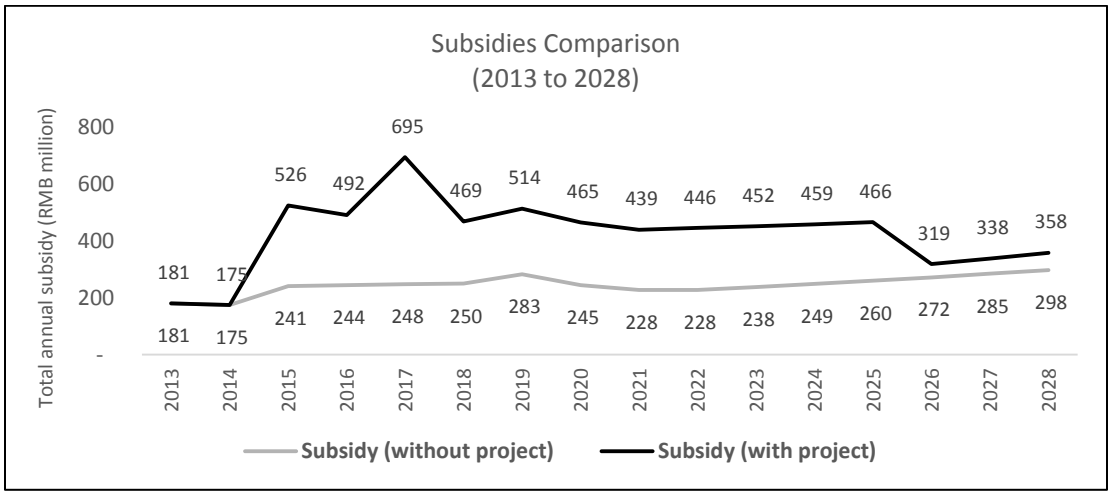
155.62 million. As traffic growth is expected to stabilize by 2020, annual ridership is expected to grow at 3.84 percent, 2.64 percent and 2.33 percent for BRT lines 4, 6, and 6b, respectively. In the case of existing BRT lines, annual ridership is expected to grow 3.7 percent from 2015 to 2018. The new metro line will be built in 2019 and is expected to draw ridership from BRT buses. As a result, existing BRT ridership is expected to decrease by an average 17.5 percent in 2019 and 2020. By 2021, the mode shift is expected to be completed and BRT passengers on existing lines are expected to grow at a stable rate of 2.94 percent. The graph below presents the traffic forecast on new and existing BRT lines:



Source: FSR

21. *Revenue and subsidy forecast*. The consolidated revenue of UUTIC is projected to increase by 19 percent from 2016 to 2020 to reach RMB 334 million when all three new BRT lines are fully operational. Total subsidies "with project" are projected to increase substantially during the construction period (2015 to 2017) to cover capital grants from the government budget and IBRD loan. After construction, UUTIC will only receive an operating subsidy to cover the revenue shortfall to meet debt service payments and BRT operating expenses. The following graph presents revenues and subsidies during the forecast period:

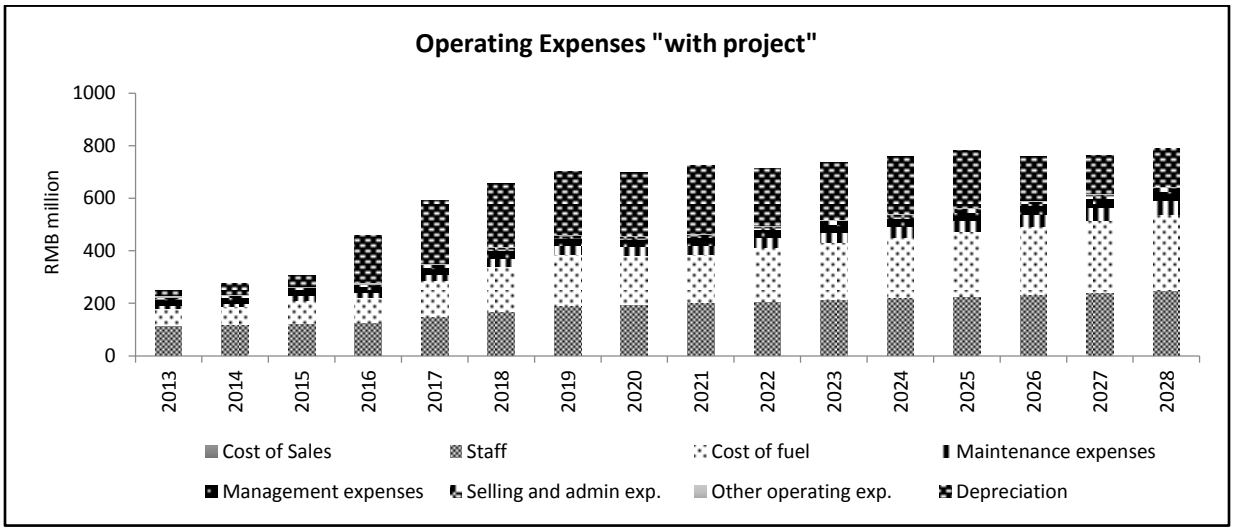




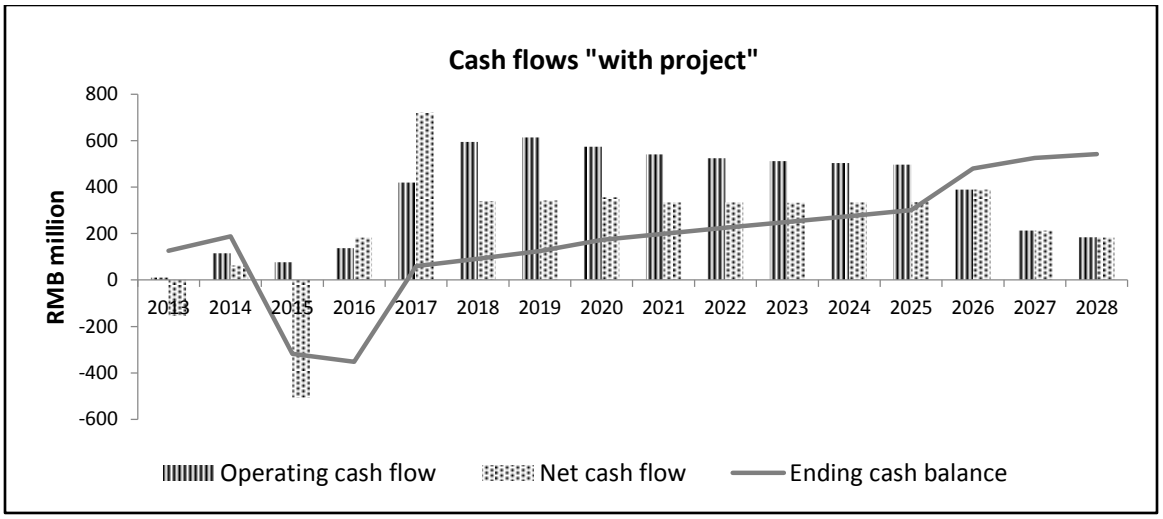
	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
Operating Subsidy (without project)	120	181	175	241	244	248	250	283	245	228	228	238	249	260	272	285	298

	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
Subsidy (with project)	**120**	**181**	**175**	**526**	**492**	**695**	**469**	**514**	**465**	**439**	**446**	**452**	**459**	**466**	**319**	**338**	**358**
Operating Subsidy	120	181	175	241	207	411	469	514	465	439	446	452	459	466	319	338	358
Capital Subsidy		-	-	285	285	285	-	-	-	-	-	-	-	-	-	-	-

22. *Expenses forecast*. Operating expenses will increase with the operation of the three new BRT lines. By 2019, 650 additional staff will be hired in accordance with the BRT Company staffing norms for operating the additional BRT vehicles. Staff salaries and benefits will continue to remain the largest component of BRT Company's expense, accounting for about 35 percent of total operating expenses. Fuel will account for 31 to 33 percent of total operating expenses each year. The graph below presents the components of operating expenses during the forecast period.



23. *Profit*. With UMG subsidies, the company will have positive cash flows and adequate liquid assets to cover its short-term obligations. The graph below shows the cash flows and return ratios during the forecast period. The company will enjoy positive cash flows in most years. The ending cash balance and return ratios will be positive each year except 2015 and 2017 because of new investment.



24. The table below presents the consolidated financial projections for UUTIC during the construction period and for selected operational years to 2028.

Consolidated Annual UUTIC Revenue and Expenditure ("With Project") (RMB million)

Item	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
Revenues																	
BRT Revenues	120	129	168	173	243	297	321	298	288	311	320	329	339	349	359	370	381
UUCTIC Revenues	15	18	19	19	20	21	22	23	24	26	27	28	30	31	33	34	36
Smart Card Revenues	3	10	10	10	11	13	16	18	22	26	30	36	42	50	59	69	82
Other Revenues	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Total Revenue	**140**	**158**	**198**	**204**	**276**	**333**	**360**	**342**	**336**	**364**	**379**	**395**	**413**	**432**	**453**	**476**	**501**
Total Operating Expenses	**244**	**310**	**316**	**352**	**369**	**450**	**521**	**571**	**569**	**578**	**614**	**640**	**667**	**696**	**726**	**757**	**791**
Repayment of loans		-	29	66	66	220	220	206	163	163	154	154	154	154	-	-	-
Interest paid		33	23	20	43	64	78	65	53	44	34	25	16	7	(0)	(0)	(0)
Debt Service		**33**	**51.6**	**86**	**109**	**284**	**298**	**270**	**216**	**206**	**188**	**179**	**170**	**161**	**(0)**	**(0)**	**(0)**
Total Expenses and Debt Service	**244**	**343**	**368**	**438**	**478**	**734**	**819**	**842**	**785**	**784**	**802**	**819**	**837**	**856**	**726**	**757**	**791**
Surplus/(Deficit=Operating Subsidy Required)		**(184)**	**(170)**	**(235)**	**(202)**	**(401)**	**(459)**	**(500)**	**(449)**	**(420)**	**(423)**	**(423)**	**(424)**	**(425)**	**(273)**	**(282)**	**(290)**

"With Project and Higher BRT Fare" Scenario

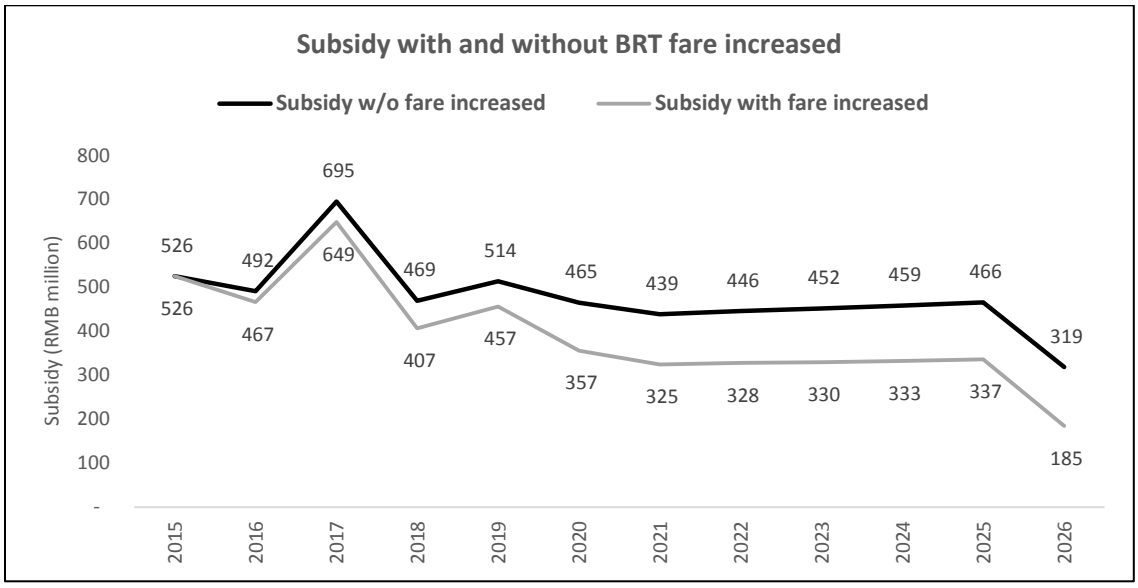
25. Additional analysis was conducted to see the impact of increasing BRT fares on revenue and subsidies. The recent Bus Fare Study for Urumqi carried out under the China-GEF-World

Bank Urban Transport Partnership Project in 2014[15] recommends increasing bus fares during peak hours as shown in the following table. The non-peak hours fare will remain RMB1.

Proposed BRT fare on existing and new BRT lines "With Project" scenario

	2015	2016	2020
Peak hours fare (RMB)	1.0	1.5	2.0
Non-peak hours fare (RMB)	1.0	1.0	1.0

26. With the new fare structure, the BRT revenues will increase, which in turn will reduce UMG subsidies for BRT operations. The following graph shows the difference between operating subsidies each year. With the new fare structure, the total operating subsidy between 2015 and 2026 will be RMB3.8 billion compared to RMB4.9 billion without increased fares. As such, UMG could save RMB1 billion during 2015-2026 by increasing fares only during peak hours.



Item	Without Project PV*	With Project PV* (w/o fare increased)	With Project PV* (with fare increased)
Deficit/Operating Subsidy Required	(1,619)	(2,551)	(2,041)

*PV: present value in 2015, calculated for the period between 2015 to 2026 at 10% discount rate

[15] China-GEF-World Bank Urban Transport Partnership Project, Public Transport System Integration Planning Study for Urumqi, Sub-Report 3, 2014/02

D. Fiscal Analysis

27. Revenue resources of Urumqi municipality include: (i) revenues generated through taxes and non-taxes, which are recorded under **Local Public Budget Revenue**; (ii) earmarked charges and special levies, as well as land concession fees, which are recorded under **Local Fund Budget Revenue; (iii**) Upper-level government **transfers and subsidies**; and (iv) lower-level government fiscal contribution and surplus from previous years which are recorded as **Other Revenue.** Urumqi's consolidated fiscal revenue increased from RMB20 billion in 2009 to RMB50 billion in 2013, an average growth rate of 26 percent. In 2013, the local public budget revenue accounted for 62 percent of total fiscal revenue and the local fund budget for 20 percent. From 2009 to 2013, Urumqi municipality received more than 20 percent of its fiscal revenue from the central and provincial governments. Most subsidies were earmarked for nationally significant projects. In 2013, 72 percent of the total upper-level government subsidy (RMB9 billion) was for earmarked projects. As in many Chinese cities, land concession revenue in Urumqi is one of the major sources of funding for urban development. Table A4.4 summarizes Urumqi's fiscal revenue and expenditure.

Table A4.4: Urumqi Fiscal Revenue and Expenditure

	Unit	2009	2010	2011	2012	2013	2014	Forecast Average Growth Rate % (2015-2020)
A. Total Fiscal Revenue	**RMB mil**	**20,188**	**25,930**	**34,114**	**41,892**	50,013		**5%**
Local fiscal revenue	**RMB mil**	**18,179**	**23,920**	**32,103**	**39,880**	**48,000**		**5%**
Annual growth rate of fiscal revenue	%		**32%**	**34%**	**24%**	**20%**		
Fiscal revenue	RMB mil	11,354	14,799	20,620	25,201	30,190		**5%**
Tax revenue	RMB mil	10,376	13,527	18,282	21,769	26,589		**5%**
Non-tax revenue	RMB mil	978	1,272	2,339	3,431	3,602		**5%**
Non-fiscal revenue	RMB mil	3,205	4,958	5,802	6,573	9,881		**5%**
Land use right	RMB mil	2,129	3,710	4,005	4,505	7,453		**5%**
Other non-fiscal revenue	RMB mil	1,076	1,248	1,797	2,068	2,428		**5%**
Upper government transfers/subsidies	RMB mil	**4,993**	**5,730**	**7,248**	**9,242**	8,780		**5%**
Annual growth rate of government transfers/subsidies	**%**		**15%**	**26%**	**28%**	**-5%**		
Other Revenue	RMB mil	636	443	443	877	1162		5%
B. Total Fiscal Expenditure	RMB mil	**16,360**	**20,823**	**29,971**	**36,389**	**45,610**		**5%**
Annual growth rate of total fiscal expenditure	%		**27%**	**44%**	**21%**	**25%**		
Infrastructure investment	RMB mil	1,227	1,652	6,333	7,080			**5%**
Transportation	RMB mil	473	681	1,011	1,197			**5%**
Other expenditures	RMB mil	16,360	20,823	29,971	36,389			**5%**

Source: Urumqi Finance Bureau, City Construction and Maintenance Statistic Yearbook (2009-2012)

E. Project Counterpart Fund Requirement

28. Urumqi government will provide RMB1.035 billion from its fiscal budget as counterpart funds for this project. The table below summarizes the impact of UMG's fiscal commitments to the project and governmental subsidies to UUTIC on UMG's fiscal revenue during 2015 – 2019. From 2015 to 2019, counterpart funds for the project will account for no more than 0.6 percent of total fiscal revenue, and no more than 2.5 percent of revenue for transport use in a single year. The impact of providing counterpart funds for the project is considered manageable and will not pose significant risk on UMG's fiscal sustainability.

Impact of UMG's Commitments to the Project and BRT Subsidies

(RMB million)

	2015	2016	2017	2018	2019
Total fiscal revenue	57542	60417	63439	66610	69939
Local public budget revenue	33285	34948	36695	3852900	4045600
Fund budget revenue	13297	13962	14660	15393	16162
Upper-government transfer and subsidy	9679	10162	10672	11206	11765
Revenue for transport use	13276	13940	14637	15369	16137
Government total commitment	564.1	634.2	581.9	641.8	685.5
Fiscal contribution as counterpart fund	330	243	152	153	157
Government subsidies to UUTIC *	234.1	391.2	429.9	488.8	528.5
Government total commitment as percentage of total fiscal revenue	0.98	1.05	0.92	0.96	0.98
Government total commitment as percentage of revenue for transport use	4.25	4.55	3.98	4.18	4.25

Annex 7: Project Map

CHINA: URUMQI URBAN TRANSPORT PROJECT II