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The World Bank

Report No: ICR00002509

IMPLEMENTATION COMPLETION AND RESULTS REPORT
(TF-92489)

ON A

GRANT

IN THE AMOUNT OF US$ 21.0 MILLION

TO THE

PEOPLE'S REPUBLIC OF CHINA

FOR A

CHINA-GEF-WORLD BANK URBAN TRANSPORT PARTNERSHIP PROGRAM

June 16, 2015

Transport and ICT Global Practice
East Asia and Pacific Region

CURRENCY EQUIVALENTS

(Exchange Rate Effective May 1, 2015)

Currency Unit = RMB
US$ 1.00 = RMB 6.22

FISCAL YEAR
January 1 – December 31

ABBREVIATIONS AND ACRONYMS

ASI	Avoid, Shift, Improve
BAU	Business As Usual
BRT	Bus Rapid Transit
CDM	Clean Development Mechanism
CNG	Compressed Natural Gas
CO_2	Carbon Dioxide
CPS	Country Partnership Strategy
CUTPP	China GEF World Bank Urban Transport Partnership Program
DRC	Development and Reform Commission
EA	Executing Agency
FY	Fiscal Year
GEF	Global Environmental Facility
GEO	Global Environment Objective
GHG	Greenhouse Gas
IBRD	International Bank for Reconstruction and Development
ICR	Implementation Completion and Results Report
ICT	Institute of Comprehensive Transportation
IPF	Investment Project Financing
ISR	Implementation Status and Results
MAC	Marginal Abatement Cost
M&E	Monitoring and Evaluation
MOF	Ministry of Finance
MOT	Ministry of Transportation
MTR	Mid-Term Review
NDRC	National Development and Reform Commission
NMT	Non-Motorized Transport
NPMO	National Project Management Office
PAD	Project Appraisal Document
PDO	Project Development Objective
PMO	Project Management Office
PO	Project Office
PSC	Project Steering Committee
SC	State Council
SIL	Specific Investment Loan
STAP	Scientific and Technical Advisory Panel
TA	Technical Assistance
TDM	Travel Demand Management
TOD	Transit Oriented Development
ToR	Terms of Reference
US$	United States Dollar
VKT	Vehicle Kilometers Traveled
WB	World Bank

Vice President:	Axel van Trotsenburg
Country Director:	Bert Hofman
Practice Manager:	Michel Kerf
Project Team Leader:	Binyam Reja
ICR Team Leader:	Yi Yang

PEOPLE'S REPUBLIC OF CHINA
CHINA-GEF-WORLD BANK URBAN TRANSPORT PARTNERSHIP PROGRAM

CONTENTS

A. Basic Information			
Country:	China	Project Name:	China-GEF-World Bank Urban Transport Partnership Program Project
Project ID:	P090335	L/C/TF Number(s):	TF-92489
ICR Date:	06/05/2015	ICR Type:	Core ICR
Lending Instrument:	IPF	Borrower:	PEOPLE'S REPUBLIC OF CHINA
Original Total Commitment:	USD 21.00M	Disbursed Amount:	USD 16.26M
Revised Amount:	USD 16.26M		
Environmental Category: C		**Global Focal Area: C**	
Implementing Agencies: Ministry of Finance National Development and Reform Commission			
Cofinanciers and Other External Partners: n/a			

B. Key Dates				
Process	**Date**	**Process**	**Original Date**	**Revised / Actual Date(s)**
Concept Review:	09/18/2006	Effectiveness:		01/15/2009
Appraisal:	11/12/2007	Restructuring(s):		12/31/2009 06/25/2013 06/27/2014
Approval:	06/24/2008	Mid-term Review:	06/30/2011	06/30/2011
		Closing:	06/30/2013	12/31/2014

C. Ratings Summary	
C.1 Performance Rating by ICR	
Outcomes:	Moderately Satisfactory
Risk to Global Environment Outcome	Moderate
Bank Performance:	Moderately Satisfactory
Borrower Performance:	Moderately Satisfactory

C.2 Detailed Ratings of Bank and Borrower Performance			
Bank	**Ratings**	**Borrower**	**Ratings**
Quality at Entry:	Moderately Unsatisfactory	Government:	Satisfactory

Quality of Supervision:	Moderately Satisfactory	Implementing Agency/Agencies:	Moderately Satisfactory
Overall Bank Performance:	**Moderately Satisfactory**	**Overall Borrower Performance:**	**Moderately Satisfactory**

C.3 Quality at Entry and Implementation Performance Indicators			
Implementation Performance	**Indicators**	**QAG Assessments (if any)**	**Rating**
Potential Problem Project at any time (Yes/No):	Yes	Quality at Entry (QEA):	None
Problem Project at any time (Yes/No):	Yes	Quality of Supervision (QSA):	None
GEO rating before Closing/Inactive status	Moderately Satisfactory		

D. Sector and Theme Codes		
	Original	**Actual**
Sector Code (as % of total Bank financing)		
Central government administration	20	20
Sub-national government administration	32	32
Urban Transport	48	48
Theme Code (as % of total Bank financing)		
City-wide Infrastructure and Service Delivery	25	25
Climate change	50	50
Urban planning and housing policy	25	25

E. Bank Staff		
Positions	**At ICR**	**At Approval**
Vice President:	Axel van Trotsenburg	James W. Adams
Country Director:	Bert Hofman	David R. Dollar
Practice Manager/Manager:	Michel Kerf	Ede Jorge Ijjasz-Vasquez
Project Team Leader:	Binyam Reja	Shomik Mehndiratta
ICR Team Leader:	Yi Yang	
ICR Primary Author:	Yi Yang	
	Philip Sayeg	

F. Results Framework Analysis

Global Environment Objectives (GEO) and Key Indicators(as approved)

Project development objective: Achieve a paradigm shift in China's urban transport policies and investments toward the promotion of public and non-motorized transport, modes that are less energy intensive and polluting than those fostered by current urban land-use planning and transport systems in China.

Global Environment objective: Slow the forecast growth of urban transport greenhouse gas emissions in China's cities.

Revised Global Environment Objectives (as approved by original approving authority) and Key Indicators and reasons/justifications

Not applicable.

(a) PDO/GEO Indicators

Indicator	Baseline Value	Original Target Values (from approval documents)	Formally Revised Target Values	Actual Value Achieved at Completion or Target Years
Indicator 1 :	Number of non-pilot cities that show demonstrable interest in implementing urban transport investments and plans that promote public and non-motorized transport; and number of these cities that demonstrate measurable progress toward doing so.			
Value (quantitative or Qualitative)	0/0	25/10		60/26
Date achieved	12/31/2008	12/31/2008		12/31/2014
Comments (incl. % achievement)	Target exceeded. 60 non-pilot cities demonstrated interest and 26 of them started implementation. Refer to Annex 4 for detailed activities and list of cities.			
Indicator 2 :	Reduction in transport CO_2 emissions over 10 years in the cities participating in the demonstration projects of Component 2 compared to their BAU forecasts.			
Value (quantitative or Qualitative)	0	1 megaton		3.93 megatons
Date achieved	12/31/2008	12/31/2008		12/31/2014
Comments (incl. % achievement)	Target exceeded. Refer to Annex 3 for CO_2 emission reduction estimation.			
Indicator 3 :	Increase in daily passenger trips made by public transport, walking, or cycling, over 10 years in the cities participating in the demonstration projects of Component 2 compared to their BAU forecasts.			
Value (quantitative or Qualitative)	0	5%		0.3% (Changzhi) 3.2% (Weihai)
Date achieved	12/31/2008	12/31/2008		12/31/2014

Comments (incl. % achievement)	Target not achieved. Estimation carried out for only two pilot cities where data is available. Refer to Annex 3 for detailed analysis.

(b) Intermediate Outcome Indicator(s)

Indicator	Baseline Value	Original Target Values (from approval documents)	Formally Revised Target Values	Actual Value Achieved at Completion or Target Years
Indicator 1 :	A national sustainable urban transport framework and associated technical guidelines are issued.			
Value (quantitative or Qualitative)	Non-existent	National framework adopted		National sustainable urban transport technical guidelines prepared
Date achieved	12/31/2008	12/31/2008		12/31/2014
Comments (incl. % achievement)	Target substantially achieved. A national public transport strategy was issued as SC Directive #64. The technical guidelines funded by GEF were prepared but not issued by project close.			
Indicator 2 :	A national sustainable urban transport training curriculum is prepared, tested and delivered.			
Value (quantitative or Qualitative)	Non-existent	At least 3 training courses offered with participation of at least 20 different cities each		13 training courses offered with participation of at least 20 different cities each
Date achieved	12/31/2008	12/31/2008		12/31/2014
Comments (incl. % achievement)	Target exceeded, with over 1500 people trained.			
Indicator 3 :	A national sustainable urban transport knowledge system is established.			
Value (quantitative or Qualitative)	Non-existent	Database finalized and publicized		Database finalized and publicized
Date achieved	12/31/2008	12/31/2008		12/31/2014
Comments (incl. % achievement)	Target achieved. An online database has been established. See: www.cutppkb.org			
Indicator 4 :	Number of cities that use the updated technical guidelines, manuals and standards in designing 12th 5 year plan, masterplan updates, other plans and transport projects.			
Value (quantitative or Qualitative)	0	30		10
Date achieved	12/31/2008	12/31/2008		12/31/2014

Comments (incl. % achievement)	Target partially achieved. 10 pilot cities updated their local urban transport plans using the GEF Grant. The GEF-funded guidelines were completed but were not issued by project close to guide local designs and plans.			
Indicator 5 :	Number of demonstration cities that implement transport development programs that include: 1) BRT; 2) integration of public and non-motorized transport facilities.			
Value (quantitative or Qualitative)	3	8		12
Date achieved	12/31/2008	12/31/2008		12/31/2014
Comments (incl. % achievement)	Target exceeded. 5 cities implemented BRTs and 7 cities implemented integration of public and non-motorized transport.			
Indicator 6 :	Number of demonstration cities that introduce automobile demand management			
Value (quantitative or Qualitative)	0	1		4
Date achieved	12/31/2008	12/31/2008		12/31/2014
Comments (incl. % achievement)	Target exceeded. 4 cities increased parking fee and/or introduced vehicle purchase/usage restriction.			
Indicator 7 :	Number of demonstration cities that commit to introducing transit-oriented land use development			
Value (quantitative or Qualitative)	0	1		3
Date achieved	12/31/2008	12/31/2008		12/31/2014
Comments (incl. % achievement)	Target exceeded. 3 cities started implementing TOD plans along the mass transit systems.			

G. Ratings of Project Performance in ISRs

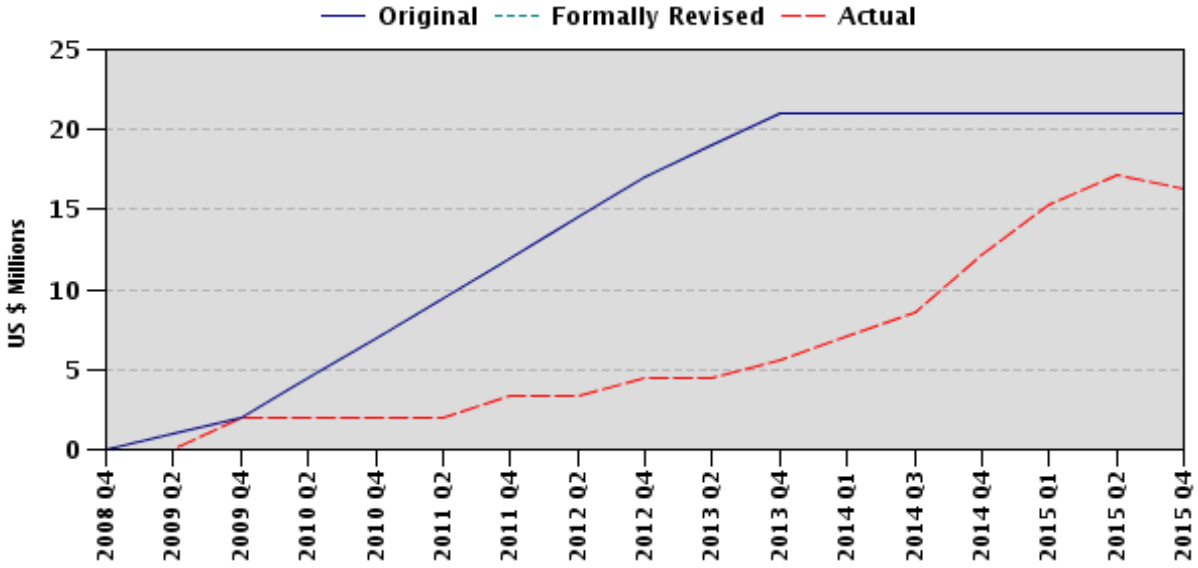
No.	Date ISR Archived	GEO	IP	Actual Disbursements (USD millions)
1	04/30/2009	Moderately Satisfactory	Moderately Unsatisfactory	2.00
2	10/08/2009	Moderately Satisfactory	Moderately Unsatisfactory	2.00
3	02/13/2010	Satisfactory	Satisfactory	2.00
4	06/28/2011	Moderately Satisfactory	Moderately Unsatisfactory	3.31
5	01/29/2012	Moderately Satisfactory	Unsatisfactory	3.31
6	11/11/2012	Moderately Satisfactory	Moderately Satisfactory	4.52
7	06/23/2013	Moderately Satisfactory	Moderately Satisfactory	5.60

8	12/18/2013	Moderately Satisfactory	Moderately Satisfactory	7.08
9	06/21/2014	Moderately Satisfactory	Moderately Satisfactory	10.24
10	11/25/2014	Moderately Satisfactory	Moderately Satisfactory	15.35

H. Restructuring (if any)

Restructuring Date(s)	Board Approved GEO Change	ISR Ratings at Restructuring		Amount Disbursed at Restructuring in USD millions	Reason for Restructuring & Key Changes Made
		GEO	IP		
12/31/2009	N	S	S	2.00	EA changed to NDRC
06/25/2013	N	MS	MS	5.60	Extension by 12 months
06/27/2014	N	MS	MS	12.22	Extension by 6 months and reallocation of loan proceeds

I. Disbursement Profile



1. Project Context, Global Environment Objectives and Design

1.1 Context at Appraisal

1. ***At the time of project design, China's urban transport sector was a major and fast-growing source of greenhouse gas (GHG) emissions***. The fast growth in motorization in urban areas was the driver of transport-related carbon dioxide (CO_2) emissions. Motorization was also causing severe urban road congestion and worsening urban air quality. Municipal leaders were under pressure to deliver sustainable solutions to these urban transport challenges. For the previous 20 years, most cities' response to rapid population, income and car ownership growth had been to invest massively in roads. But it was recognized, at both national and city levels, that this was not a sustainable urban transport and land use strategy.

2. ***China's leaders recognized that a nation-wide paradigm shift in urban transport strategies to promote public and non-motorized transport was urgently required.*** Prior steps had been taken to initiate this shift. For example, the State Council (SC) (Opinion #46 in October 2005), the then Ministry of Construction, as well as the highest levels of Chinese leadership, urged cities to give priority to public transport through official documents and public announcements. Vigorously promoted, a national pro-urban public transport development strategy was envisaged to slow the growth in transport-related CO_2 emissions, improve urban air quality and provide better transport services for the vast majority of urban dwellers who do not own a car. In so doing, it would also slow both automobile ownership, and more importantly, automobile use.

3. ***Concerted efforts at both the national (enabling environment) and local levels, as well as mechanisms to bridge the gaps between these levels, were identified as priorities*** *to* overcome structural and institutional barriers. While the overall policy objectives were clear, the Chinese leadership recognized that additional work was needed to identify which specific steps to take in order to help meet these objectives. The China–Global Environmental Facility–World Bank Urban Transport Partnership Program (GEF CUTPP) was therefore proposed. A *new strategic national urban transport initiative* to develop financial and other incentive mechanisms - to enable the national government to more effectively express its interests in sustainable urban transport solutions, *complemented by progressive city demonstrations* that provide high profile alternatives to the business-as-usual (BAU) scenario - was identified by the World Bank and GEF as needed to achieve the paradigm shift.

4. ***The project was designed to support the higher objectives of China, the World Bank and the GEF.*** The project supported the Government's efforts to promote public transport priority as articulated in various policy documents and the 11th Five-Year Plan (2006-2010). It was consistent with the World Bank's China Country Partnership Strategy (CPS) for 2006 – 10 and directly supported three of its five pillars (Pillar 2: Reducing poverty, inequality, social exclusion; Pillar 3: Managing resource scarcity and environmental challenges; and Pillar 5: Improving public and market institutions). The

project was also consistent with the programmatic goals of GEF Operational Policy 11 (OP 11) on promoting environmentally sustainable transport and the GEF Strategic Priority in Climate Change focal area (CC-7).

1.2 Original Global Environment Objectives and Key Indicators (*as approved*)

5. ***Project Development Objective (PDO):*** Achieve a paradigm shift in China's urban transport policies and investments toward the promotion of public and non-motorized transport, modes that are less energy intensive and polluting than those fostered by current urban land-use planning and transport systems in China. Achievement of the PDO is measured by PDO Indicator 1:

- At least 25 cities that did not participate in the demonstration program show demonstrable interest in implementing urban transport investments and plans that promote public transport and non-motorized transport, and at least 10 of these demonstrate measurable progress toward doing so.

6. ***Global Environment Objective (GEO):*** Slow the forecast growth of urban transport greenhouse gas emissions in China's cities. Achievement of the GEO is measured by GEO Indicators 2 and 3:

- Forecast transport CO_2 emissions over 10 years in the cities participating in the demonstration projects of Component 2 are at least 1 megaton lower than their BAU forecasts; and
- Forecast daily passenger trips made by public transport, walking, or cycling, in the cities participating in the demonstration projects of Component 2 are at least 5% larger than their BAU forecasts.

1.3 Revised GEO (*as approved by original approving authority*) and Key Indicators, and reasons/justification

7. The PDO, GEO and the three Key Indicators were not changed[1].

1.4 Main Beneficiaries

8. The primary target groups were the national and local policymakers and transport professionals, as well as transport users of the 14 pilot cities and one province and other non-pilot cities that the project aimed to influence. Policymakers and transport professionals were expected to have increased awareness of good practice in urban transport and strengthened capacity to develop sustainable transport solutions. The total population of the 14 pilot cities was 34.3 million at appraisal and approximately 65 million daily passenger trips were made by public transport, walking and cycling. Although no data were provided in the Project Appraisal Document (PAD), it would be expected that

[1] The three Key Indicators evaluated in the ICR are the same as those in the Legal Agreement, Annex 3 of the PAD and all ISRs, although the main text of the PAD lists the Key Indicators differently.

these direct beneficiaries were poorer than car users and were drawn from the more vulnerable groups in society.

1.5 Original Components

9. ***Component 1: Strategy Development and Capacity Building at the National Level.*** Component 1 targeted a set of activities to be carried out by the national government to help facilitate an enabling national environment within which sustainable urban transport initiatives can flourish. It consisted of the following tasks: (i) 1A: National Urban Transport Policies and Strategies; (ii) 1B: Technical Training and Capacity Building Program; (iii) 1C: Stakeholder Participation, Dissemination and Awareness Raising Program; and (iv) 1D: Monitoring and Evaluation (M&E).

10. ***Component 2***: ***Pilot Demonstration Projects in 14 Cities[2] and 1 Province***[3]**.** Component 2 targeted a set of activities for local governments to help foster demonstration of catalytic interventions for other Chinese cities to replicate. It provided technical assistance (TA) to the pilot cities and Liaoning Province on sustainable transport solutions, consisting of development of bus rapid transit (BRT) and bus priority corridors, improvement of public transport services and non-motorized transport (NMT) trips, developing travel demand management (TDM) schemes, and designing transit-oriented development (TOD) plans.

11. ***Component 3: Project Management.*** This component supported the national Project Office (PO)[4] to implement the national component, as well as to support and supervise the pilot cities component.

1.6 Revised Components

12. Project components remained unchanged during implementation.

1.7 Other significant changes

13. ***Change of Executing Agency[5] (EA).*** At the request of the Ministry of Finance (MOF), the project was restructured on December 29, 2009 to make the National Development and Reform Commission (NDRC) the EA for the project. NDRC's Department of Basic Industries was assigned the key responsibility as it was in charge of

[2] The 14 pilot cities were: (i) Guangzhou; (ii) Dongguan; (iii) Ji'nan; (iv) Chongqing; (v) Luoyang; (vi) Urumqi; (vii) Nanchang; (viiii) Jiaozuo; (ix) Weihai; (x) Changzhi; (xi) Linfen; (xii) Zhengzhou; (xiii) Xianyang; and (iv) Xi'an.

[3] Pilot demonstration in Liaoning Province involved five cities under the Liaoning Medium Cities Infrastructure Project (IBRD-48310): (i) Benxi; (ii) Fushun; (iii) Jinzhou; (iv) Liaoyang; and (v) Panjin.

[4] Referred to as the National Project Management Office (NPMO) in Bank's documents after transferring from the MOF to NDRC.

[5] The World Bank is the implementing agency of the GEF Grant. To distinguish the two, the counterpart to implement the project is therefore referred to as the executing agency in all project documents.

coordinating and harmonizing energy and transportation development with national economic and social development plans.

14. ***Extension of Grant closing date and reallocation of loan proceeds.*** In June 2013, due to delays in implementation, the Grant closing date was extended by twelve months to June 30, 2014. In June 2014 the Grant closing date was extended by a further six months to December 31, 2014 to allow the city-level Project Management Offices (PMOs) to complete the then ongoing TA activities. In addition, due to lack of progress in several national-level activities, the Grant balance of US$ 3.75 million under Part A of the Project (Component 1) was respectively reallocated to: (i) Part C (Component 3) to cover project management expenses incurred under the National Project Management Office (NPMO); and to (ii) Part B (Component 2) to support the newly-proposed TAs in three well-performing cities (refer to paragraph 27 in Section 2.2).

15. These changes above were approved by the Country Director.

2. Key Factors Affecting Implementation and Outcomes

2.1 Project Preparation, Design and Quality at Entry

16. ***Soundness of background analysis.*** The project concept was formulated based on a then recent World Bank working paper[6] which identified the institutional and policy challenges in China's urban transport sector and proposed a clear set of near-term strategic priorities to fill these gaps. The Bank had extensive experience with the development of institutional mechanisms and policies for sustainable urban transport and a long working relationship with the relevant authorities in China on urban transport issues, and was thus ideally positioned to support the project. Lessons learned from this prior experience were incorporated into the project design, including: (i) role of the national government is critical but needs to be well defined; (ii) institutional inertia is a key risk in the urban transport sector; and (iii) the Bank's value-added was highest upstream in the project cycle, through review and guidance in shaping the project *concept* early in the planning process.

17. ***Assessment of project design.*** Progressively refined from the time of the PCN Review (September 2006), through GEF endorsement (April 2008) and the Bank's subsequent appraisal, the project components adequately addressed the key barriers to achievement of the PDO/GEO, through: (i) supporting initiatives at the national level to provide policy and technical guidance to the cities; (ii) piloting innovative solutions and coordinating bodies at the city level for multi-agency collaboration in urban transport; and (iii) creating an overarching platform for enhanced policy dialogues between the Bank and the national and local governments.

18. At the time of project preparation, management of urban transport functions was dispersed in multiple agencies at the national level. MOF, as the GEF focal point for China

[6] Building Institutions for Sustainable Urban Transport in China, EASTR Working Paper No. 4, Z. Liu and G. Smith (2006).

and as the national body for budget allocation, was designated as the project EA and led the national PO in preparing the project. A competitive selection of pilot cities[7] was structured to enhance replicability and demonstration effects, but the complexity of inclusion of 14 pilot cities and one pilot province (19 cities in all, geographically dispersed over nine provinces throughout the country) was underestimated at the design stage[8].

19. ***Borrower commitment and participatory processes.*** At the national level, a Project Steering Committee (PSC)[9] was established to increase the level of coordination and transparency across national government agencies. Both the PO and the PSC demonstrated strong commitment through taking an active role in project preparation. At the local level, the competitive selection process ensured that GEF resources were allocated to cities with the highest commitment and alignment of interest with GEF objectives. To enhance the quality and relevance of project design, inputs were solicited from the national and local governments, as well as from the China Association of Mayors.

20. ***Assessment of project risks.*** The overall risk was assessed at appraisal as 'Modest'. Risks identified included: (i) ability to provide Bank implementation support in the 19 demonstration cities; and (ii) financial management/procurement capacity at the city level. The Minutes of the Decision Meeting of November 2007 noted that the risk posed by the decentralized nature of the project was to be countered by: (i) establishing a PSC and a national PO, both being project covenants; and (ii) additional supervision budget to be sought from the Bank and GEF, although this was not apparently realized[10], as well as using task teams managing other transport operations in pilot cities. In retrospect the risks of implementing the project in 19 pilot cities with numerous TA activities, and the fiduciary risk of all but three city-level PMOs being new to Bank operations were underestimated.

2.2 Implementation

21. ***Change of EA through initial restructuring.*** During the initial implementation period, it was found that the national PO under MOF lacked ownership of the urban transport agenda and did not have adequate staff to manage and coordinate project implementation. Project restructuring in December 2009 introduced NDRC as the EA and moved the national PO to NDRC. The NPMO Executive Director maintained active

[7] The competitive selection process (described in Annex 19 of the PAD) employed the following selection criteria: (i) quality of city organization and management; (ii) priority given to public transport infrastructure and assets in the city budget; (iii) range and depth of relevant laws and regulations; (iv) quality of urban and transport planning instruments; and (v) quality of relevant projects prepared previously and compatibility with GEF objectives.

[8] Annex 19 of the PAD indicates that excluding the Liaoning Province cities, 14 of the 18 cities that expressed interest were shortlisted and subsequently included in the project. This was much higher than the initial plan to include three to five cities. Annex 17 of the PAD indicates that it was not possible to reduce the number of cities without undermining the credibility of the selection process.

[9] Consisting of senior officials from the MOF, NDRC, Ministry of Construction, Ministry of Land and Resources, Ministry of Public Security, Ministry of Environmental Protection and the China's Association of Mayors. The Ministry of Transport was later invited to participate in the PSC after it was formed in 2008.

[10] Supervision budgets provided to the project were about the norm for a transport sector project.

involvement throughout the project and maintained direct linkage with the PSC, who provided technical and administrative leadership during implementation.

22. ***Procurement delays leading to reduced commitment at the city level.*** Due to the lack of familiarity with Bank procurement procedures, hiring of consultants was delayed throughout project implementation. NPMO's lack of experience, plus the large number of procurement packages, led to delays in approving Terms of Reference (ToRs) prepared by cities. In addition, many cities that had competent design institutes wished to engage them for the TA packages; as these institutes were not eligible for award of contracts under the Grant as per Bank Procurement Guidelines, consultant procurement was delayed until the cities accepted the constraint. (Cities that did not have their own design institutes quickly procured outside consultants, often international, and thus made faster progress.) These procurement related issues affected the commitment of cities to the project, especially after new mayors were appointed. These led to the extensions of the Grant closing date discussed above.

23. ***National urban transport strategic framework and guidelines[11].*** The project helped shape the new strategic framework for urban transport development in China through knowledge transfer and high-level policy dialogues between the government and the Bank. However, the national urban transport strategy planned to be financed by GEF was delayed and was subsequently not fully carried out as NPMO wished to use the affiliated Institute for Comprehensive Transportation (ICT) to prepare the strategy. Instead, NDRC entrusted the ICT, who had built up its capacity and gained access to international expertise on the new approach through the project, to prepare a national *public transport* strategy using counterpart funds; the national *public transport* strategy was adopted and issued by the State Council (SC) in December 2012 as *Directive #64 on Prioritizing Public Transport Development in Chinese Cities*. Discussions started in early 2013 to add ICT as an implementing unit of the project to prepare a more comprehensive strategy for urban transport[12]. However, the Borrower's request to do so through restructuring arrived in late 2013 and the restructuring did not materialize as there was too little time before Grant close to complete quality work on the strategy. Two other TAs at the national level, i.e., legislative changes to support the national urban transport strategy, and national sustainable urban transport planning guidelines, also suffered from delays in procurement and were prepared but not issued by project close.

24. ***Stretched supervision resources.*** The challenge of supporting 19 separate cities, although recognized at appraisal, was underestimated. The Bank mobilized all available resources, including task teams preparing or supervising other Bank transport operations

[11] TA studies at the national level comprised: (i) a national urban transport strategic framework (under Task 1A), including a national urban transport strategy and legislative changes to support the strategy; and (ii) sustainable urban transport planning guidelines (under Task 1B). These activities were to be carried out under three contract packages.

[12] In addition to the strategy for public transport development, the national urban transport strategy was expected to comprehensively cover: the action plan to promote NMT and integration of land use and transport planning; the institutional structures for urban transport; appropriate vehicle and fuel strategies for urban areas; and associated financial and administrative mechanisms.

in the pilot cities, and visited on average one-third to half of the project cities during each six-monthly implementation status reporting (ISR) period. NPMO participated in almost all of the Bank's supervision visits, and also visited cities on its own. The Bank and NPMO also supervised implementation through desk review of documents, telephone and email communications, and meetings with city representatives in Beijing by appointment and during workshops.

25. ***Mid-term review (MTR) and follow-up.*** By MTR in late 2011 Grant disbursement had reached only 16%. One city had completed its consultancy contract, some cities had on-going consultancies, and some others had commenced procurement. Because of the slow implementation at city-level, implementation progress at MTR was downgraded to 'Unsatisfactory'. Nevertheless, as some progress had been made in sustainable urban transport planning and on investments in pilot and non-pilot cities, the project was considered on-track to achieve the PDO/GEO.

26. Following MTR, a remedial action plan was agreed to speed up implementation. PMOs at the national and city levels expedited the preparation of ToRs and procurement of TAs and the Bank provided timely support to review and issue "no objections" to procurement packages. By early 2014, TAs in all but one of the 19 pilot cities were making progress; four out of the five originally planned TAs at the national level were under implementation. All TAs (except one in Liaoning) were scheduled to be completed by June 2014; however, some would require more time to be turned into quality and impactful policy documents.

27. ***Possible utilization of Grant savings.*** In June 2014 MOF requested an extension of 18 months to utilize Grant savings in selected well-performing cities[13]. However, given the age of the project, the Bank: (i) agreed to an initial six-month extension to allow committed activities to be completed; and (ii) required some prior actions before granting an additional twelve-month extension for new activities. These prior actions included: (i) advanced procurement of the new TAs by the selected three cities; and (ii) MOF establishing an EA to take over from NDRC to coordinate remaining project implementation (as NDRC had completed its activities and had closed the NPMO). The EA under MOF was not established, and the pilot cities made only moderate progress in the procurement of TA packages. It was therefore agreed not to extend the Grant closing date beyond December 31, 2014.

28. ***Grant balance and changes in project scope.*** At Grant closing US$ 4.74 million (22.6% of the original Grant) was undisbursed. As detailed in Annex 2, the following tasks under the project were not fully implemented:

- National Urban Transport Strategy (Task 1A). A national public transport strategy, which covers the core of the urban transport strategy, was prepared by the EA using counterpart funding. However, the more comprehensive national urban transport strategy (refer to footnote 11) was not prepared.

[13] The selected cities were Urumqi, Jinan and Dongguan.

- Monitoring and Evaluation (Task 1D). This task was not fully carried out (refer to Section 2.3 for details). Methodologies for deriving the results indicators for the pilot activities and guidelines for standardized data gathering and reporting were not developed.
- TA in Liaoning Province on Urban Road Safety Planning. The TA package on Urban Road Safety Planning for 3 cities in Liaoning Province was cancelled, as road safety was considered to be ineligible for financing by GEF.
- TA topics in some pilot cities. These were adjusted, but remained within the framework of sustainable urban transport solutions as defined in the PAD.

29. ***Capacity building and awareness raising.*** The Technical Training and Capacity Building Program (Task 1B) and Dissemination and Awareness Raising Program (Task 1C) had a significant positive influence. About 1500 people were trained and awareness among political leaders at both the national and local levels was raised. As a result, PSC members prepared national guidelines for sustainable transport development in parallel and many pilot and non-pilot cities implemented sustainable transport projects with their own funds. These tasks also facilitated city-to-city peer learning, which reinforced replicability and contributed to maintaining the enthusiasm of slow performing cities. The knowledge partnership and exchange with the national agencies and local cities provided the Bank with a platform to share international experience in sustainable urban transport development[14], and to partner China in the promotion of innovative urban transport solutions.

2.3 Monitoring and Evaluation (M&E) Design, Implementation and Utilization

30. ***M&E Design*****.** The PDO indicator (Indicator 1) on impacts of the outputs and pilots on non-pilot cities directly measured the achievement of the PDO. Intermediate outcome indicators on the completion of key policies, guidelines and capacity building at the national level, as well as follow-on investments in the pilot cities measured achievement towards the PDO. All intermediate outcome indicators and the PDO indicator were appropriate, simple and verifiable.

31. The two GEO indicators (Indicators 2 and 3) on reduction in CO_2 emissions and increase in daily passenger trips by walking, cycling and public transport measure the achievement of the GEO, but are not readily available in the local M&E system. Both indicators involve a comparison of ten year forecasts under a with-project scenario with the BAU scenario, and required extensive data collection and modeling efforts in all 19 pilot cities. As GHG emission reduction estimation is a mandatory GEF requirement, the Bank viewed this project as an opportunity to strengthen the evaluation methodology. A baseline analysis of CO_2 emission reduction was carried out at appraisal, applying the then state-of-the-practice estimation, with significant assumptions. The Grant included an

[14] Several visits of Bank staff or consultants working in other countries and regions (East Asia and the Pacific/South Asia/Latin America and the Caribbean) were arranged during project implementation to provide support on topics such as institutional coordination for urban transport, BRT development, and public transport reforms.

allocation of US$ 1.75 million to NPMO for: (i) developing the methodologies for indicator derivation and guidelines for standardized data gathering; and (ii) reporting on indicators based on data provided by the pilot cities.

32. The end-of-project target for the second GEO indicator (increase in daily passenger trips by walking, cycling and public transport over 10 years compared to BAU) was over-ambitious. Most interventions in the pilot cities (except for TDM measures which have city-wide impact) are targeted only on selected corridor(s), and increases in public transport and NMT trips on these corridors as a result of pilot interventions would be relatively small in percentage terms compared to those trips in the entire city.

33. ***M&E Implementation.*** NPMO carried out frequent visits to the pilot cities and updated the indicators (except the two GEO indicators) regularly in the semi-annual progress reports. NPMO did not carry out the activities required to measure the GEO indicators as designed at appraisal. No estimates of CO_2 emission reductions or the associated modal shares of public transport, walking and cycling were reported during project implementation. The Government's ICR has reported on CO_2 emission reductions in three pilot cities based on estimates provided by the cities; each city has used its own methodology and the values are not verifiable. The Bank estimated CO_2 emission reductions at MTR using a methodology that is not the same as the ones used by the cities. CO_2 emission reductions to derive the GEO indicators shown in the ICR are based on additional passenger data collected during the ICR stage and results from the TA studies of the pilot cities (see Annex 3 for details).

34. ***M&E Utilization.*** NPMO focused its efforts on addressing project implementation delays and did not make an effort to measure emission reductions. This issue was not raised as a concern during implementation by the Bank until almost the end of the project, and the Bank failed to adjust the GEO indicator on the percentage increase in trips by public transport and NMT.

2.4 Safeguard and Fiduciary Compliance

35. ***Safeguards.*** The project was classified as environmental category 'C' as it only supported consultancy services and capacity building. However, the ToRs for consultancy outputs from the strategic planning framework, city-level plans and follow-on investment studies required them to take into account environmental and social considerations.

36. ***Financial Management.*** Financial management during implementation was rated as 'Moderately Satisfactory' from ISR 5 to project close, due to the following reasons:

- Some internal control weaknesses were identified by the external auditor in the annual audit reports.
- Because of the change in the EA from MOF to NDRC, responsibility for consolidating financial statements prepared by city-level PMOs was not clear and Interim Financial Reports were delayed.
- Adequate counterpart funds were not allocated in a timely manner for project management at the national level.

- Project disbursement lagged expenditures throughout the project because of MOF's slow processing of withdrawal applications.

37. ***Procurement.*** Procurement under the project complied with Bank Procurement Guidelines. Three issues caused delays and required intervention of the Bank's procurement staff:

- Lack of familiarity with Bank procurement policies and procedures was a persistent bottleneck because of frequent substitution of procurement staff. Most city-level PMOs had only one or two consultancy contracts to manage under the project and were not motivated to become fully conversant with the Bank's procurement policies and procedures.
- There was extensive over-commitment of certain firms or individuals, given the similarity in the assignments in different pilot cities. This led to further delays in getting suitable replacements.
- NPMO's proposal to contract the ICT affiliated to NDRC, which was not acceptable under Bank Procurement Guidelines, led to Task 1A not being fully carried out.

2.5 Post-completion Operation/Next Phase

38. ***National level***. Several important policy, program and project-level initiatives are continuing post-project. SC Directive #64 requires all national agencies and local governments to give priority to the development of public transport, integrate land use and public transport development and explore innovative financing mechanisms for public transport. The Ministry of Transport (MOT) has set out the policy directions on sustainable urban transport development in the 12th Five-Year Plan for Comprehensive Transport. The Ministry of Housing and Urban-Rural Development, NDRC and MOF have jointly promulgated the Directive on Promoting the Development of Walking and Cycling System. NDRC has issued the Directive on Promoting the Development of Integrated Public Transport Hubs. New guidelines on TOD, TDM, etc., are also being prepared by relevant line ministries.

39. MOT, which assumed responsibility for oversight of urban public transport services in 2008, has launched its Transit Metropolis Program[15] and will continue innovations in public transport. In addition, GEF approved MOT's 2010 and 2011 applications (with World Bank assistance) for two new projects[16].

40. ***Local level***. In response to SC Directive #64, local governments are actively incorporating public transport priority as a core principle in their urban transport plans.

[15] The Transit Metropolis Program, initiated by MOT in 2010, sets out selection criteria for pilot cities, has issues policies and incentives to support public transport development in the selected pilot cities, and has establishes performance indicators for post evaluation. Two rounds of selection have been completed and 37 cities have enrolled in this program.

[16] GEF City Cluster Eco-Transport Project and GEF Large-City Congestion and Carbon Reduction Project.

Further to the collaboration under CUTPP, six of the pilot cities[17] (in addition to the three that had on-going World Bank projects at time of CUTPP appraisal) are working with the World Bank on new sustainable urban transport operations; five are under implementation and one is under preparation. In addition, pilot cities are investing substantial funds of their own to improve public transport and non-motorized transport and are implementing TDM measures and TOD activities (refer to Table A3.3 in Annex 3).

41. ***Systematization of knowledge dissemination through TransFORM.*** The initiative of city-to-city peer learning and knowledge dissemination through a nationwide platform has been taken on by TransFORM, an urban transport solution platform that was jointly established by China and the World Bank. A Memorandum of Understanding was signed between the Bank and MOT in early 2014 to continue to disseminate global knowledge on sustainable urban transport in China, as well as to systematically capture, present and disseminate solutions developed under various urban transport activities supported by the Bank and its partners.

3. Assessment of Outcomes

3.1 Relevance of Objectives, Design and Implementation

42. ***Relevance of objectives - High.*** Project objectives remained highly relevant and consistent with the government's priorities set out in the 12th Five Year Plan (2011-2015) that prioritizes resource saving and inclusive development by promoting low-carbon urban transport, pollution management and strengthening mechanisms for managing climate change. They are also aligned with the strategic directions set out in the China 2030 Report[18]. These priorities are supported by the Bank Group's current China CPS (2013-2016) and its two strategic themes: supporting greener growth and promoting more inclusive development. They are also supported by GEF-5 strategy in the climate change focal area and Objective 4: promoting energy efficient, low-carbon transport and urban systems. Project objectives are also aligned with GEF-6 strategy in the same focal area and Objectives 1 and 2 on promoting innovation, technology transfer and supportive policies and strategies, and on demonstrating mitigation options with systemic impacts.

43. ***Relevance of design and implementation - Modest.*** As indicated in Paragraph 17, project design focused on activities essential to the achievement of the PDO/GEO by: supporting initiatives at the national level to provide policy guidance to cities; and piloting innovative solutions at the city level. However, the inclusion of demonstration projects in 19 cities made the design complex; it would have been preferable to limit the number of cities closer to the original plan of three to five cities. In addition, the Results Framework,

[17] These cities and projects include: Xi'an Urban Transport Project (US$ 150 million); Changzhi Sustainable Urban Transport Project (US$ 100 million); Jiaozuo Green Transport and Safety Improvement Project (US$ 100 million); Nanchang Urban Rail Project (US$ 250 million); Zhengzhou Urban Rail Project (US$ 250 million); and Urumqi Urban Transport Project II (US$ 140 million).

[18] World Bank and the Development Research Center of the State Council, 2013. "China 2030: Building a Modern, Harmonious, and Creative Society". Washington, D.C., USA.

especially for the measurement of the achievement of GEO indicators, was not fully developed at appraisal. Further, the end-of-project target for the GEO indicator on percentage increase in daily passenger trips by public transport, walking or cycling did not take adequate account of the fact that project interventions in pilot cities would likely be focused on a limited number of corridors.

3.2 Achievement of Project Development Objective and Global Environmental Objective

Achievement of the PDO - Substantial

44. Achievement of the PDO (a paradigm shift in China's urban transport policies and investments toward the promotion of public and non-motorized transport) is measured by a combination of a PDO indicator and a number of intermediate indicators which reflect project achievements at national and city levels.

45. ***National level***. A national public transport strategy was formulated through the project and issued as Directive #64 by the State Council, which substantially achieved the purpose of the national urban transport strategy. The associated legislative changes and technical guidelines funded by GEF were prepared towards the end of the project and hence were not issued by project close. In parallel, under the influence of the capacity building and policy dialogues within the project framework, a number of technical guidelines have been issued on public transport and NMT. However, the failure to complete the comprehensive national urban transport strategy (for the reasons discussed earlier) is a shortcoming.

46. Other significant project achievements include:

(a) ***Capacity building and training***. A national sustainable urban transport training curriculum has been prepared, tested and delivered. The *Leaders in Urban Transport Planning* (LUTP) training program was localized for China and jointly delivered by China's Association of Mayors and the Bank. Thirteen technical training programs and capacity building events were conducted, benefiting over 1,500 participants.

(b) ***National sustainable urban transport knowledge system.*** A web-based knowledge base for sustainable urban transport has been established in both Chinese and English, and a two-year operation budget beyond the project closing date has been allocated. See: www.cutppkb.org

47. ***City level.*** As shown in Annex 4, over 60 non-pilot cities (target 25) showed "demonstrable interest" in the form of approaching NPMO and relevant transport institutes established around the project for technical assistance and policy guidance in implementing sustainable urban transport projects, among which 26 cities (target at least 10) have secured funding and have started implementing these projects. This is mainly an outcome of the demonstration effect of successful pilot projects at the local level, as well as the impact of SC Directive #64 and the influence of the project's capacity building and awareness raising activities. For example, on BRT planning and implementation, the project shared the lessons learned from Latin American countries and disseminated the successful experience

of the pilot cities through trainings, workshops and study tours; since then, 38 Chinese cities have approached the NPMO, its technical experts and the transport institutes that helped to implement the projects in the pilot cities for technical support on BRT planning and implementation, and 12 of them have started or completed constructing at least one BRT in their cities.

48. Other project achievements at the city level include:

(a) ***Implementation of public transport and NMT development programs by demonstration cities.*** Five demonstration cities (Urumqi, Zhengzhou, Nanchang, Jinan and Guangzhou) have implemented BRTs and seven demonstration cities (Changzhi, Jiaozuo, Weihai, Xianyang, Luoyang, Xi'an and Liaoning) have implemented integration of public and non-motorized transport facilities. These exceed the target of at least eight demonstration cities implementing transport development programs.

(b) ***Updating local urban transport plans.*** The GEF-funded technical guidelines were prepared and awaiting issuance. Ten pilot cities updated their local urban transport plans under the GEF Grant. Other pilot and non-pilot cities are also updating their local plans under the guidance of Directive #64 and are preparing transport projects based on the technical guidelines issued by PSC members. The target of 30 cities using updated technical guidelines, manuals and standards is likely to be achieved after project close.

(c) ***Automobile demand management***. Three cities (Weihai, Urumqi and Guangzhou) have increased parking fees and two cities (Guangzhou and Zhengzhou) have introduced car purchase/usage restrictions. The target of at least one demonstration city introducing automobile demand management has thus been exceeded.

(d) ***Commitment to introducing transit-oriented land use development***. Three cities (Dongguan, Nanchang and Urumqi) are implementing TOD plans along their mass transit systems, exceeding the target of one city.

Achievement of the GEO – Substantial

49. ***Reduction of CO_2 emissions***. The GEO indicator target of forecast transport CO_2 emissions over 10 years in cities participating in the demonstration projects being at least 1 megaton lower than their BAU forecasts – has been significantly exceeded, as shown in the table below. The selected seven pilot interventions[19] include: (i) BRT corridors as committed at appraisal and subsequently implemented by Urumqi, Jinan, Zhengzhou and Nanchang; (ii) integrated public and NMT improvements under implementation in

[19] The ICR analysis selected interventions in seven pilot cities where: (i) follow-on investments have already been completed or are under implementation; (ii) a strong causal linkage between the investments and the GEF project is evidenced; and (iii) relevant data is available and verifiable. The objective is to evaluate to what extend the GEO of the project has been achieved, through a simplified approach focusing on a few follow-on investments, rather than acquire a full account of accurate CO_2 emissions reduced under the project.

Changzhi and Weihai that were identified through project TAs; and (iii) the new car quota imposed by Guangzhou, which is one of the recommendations from the project TDM TA report. Details of the analysis are presented in Annex 3.

Table: CO_2 Emission Reduction and Marginal Abatement Cost in 7 Pilot Cities

City	CO2 Emission Reduction (megaton)	Investment (US$ million)	Marginal Abatement Cost (US$/ton)
BRT			
Urumqi	0.51	340.4	665
Zhengzhou	0.63	120.0	191
Jinan	0.21	220.7	1,068
Nanchang	0.15	50.0	336
Sub-total	**1.50**	**731.1**	**489**
Integrated Public and Non-motorized Improvements			
Changzhi	0.01	111.2	8461
Weihai	0.32	114.6	361
Sub-total	**0.33**	**225.8**	**682**
TDM			
Guangzhou	2.10	10.0	5
Sub-total	**2.10**	**10.0**	**5**
Total	**3.93**	**967**	**246**

50. ***Increased percentage of trips by public transport and NMT.*** The project is forecast to contribute to an increase in passenger trips by public transport, walking and cycling and decrease in passenger trips by private car and motorcycle. However, as explained in Section 2.3 and further analyzed in Section A3.4 of Annex 3, the target of at least a 5% increase in the cities participating in the demonstration projects compared to their BAU forecasts was unrealistic. While Weihai is forecast to achieve a 3.2% increase in public transport and NMT trips, Changzhi is forecast to achieve an increase of only 0.3%.

51. The project's achievement of the GEO is considered Substantial based on the critical target on reduction of CO_2 emissions being exceeded by a considerable margin.

3.3 Efficiency

Rating: **Modest**

52. Economic analysis was not carried out at appraisal as the project financed a series of TA activities. For the same reason, economic analysis was also not carried out at the ICR stage. The ICR assesses the project's efficiency based on: cost effectiveness of the GEF Grant for CO_2 emission reduction; marginal abatement cost of CO_2 emission reduction; leveraging follow-on investments; and administrative efficiency.

53. ***Cost Effectiveness of the GEF Grant for Emission Reduction.*** The GEF Grant of US$ 16.26 million has resulted in reducing CO_2 emissions by 3.93 megatons, i.e., the GEF contribution per ton of CO_2 emission mitigated was US$ 4.14. This is a conservative estimate, as the ICR only calculated the direct CO_2 emission reduction from seven selected pilot interventions where data is available and excludes emission reductions from the replication effect of the project. Despite this conservative estimation, the project compares well with similar GEF projects in the transport sector in China[20].

54. ***Marginal Abatement Cost (MAC).*** The seven pilot interventions used to quantify CO_2 emission reductions resulted in an estimated MAC of US$ 246 per ton (refer to the table in Section 3.2 for a summary and Section A3.3.4 of Annex 3 for details). Overall, the project's MAC of CO_2 reduction is good[21]; differences between individual interventions are largely explained by the nature of the projects. MAC would likely have been further improved for some of the individual projects if the national guidelines for sustainable urban transport had been available earlier to guide the design.

55. ***Leveraging follow-on investments.*** In addition to the CO_2 reductions as presented above, a direct PDO outcome was the follow-on investments in sustainable urban transport that the GEF Grant leveraged. In addition to the seven interventions listed above, the project generated six sustainable urban transport IBRD operations in China, with IBRD loans totaling US$ 990 million. Table A3.3 of Annex 3 indicates follow-on investments that the pilot cities have undertaken, including: eight cities constructing rapid mass transit systems, such as metros, trams or BRTs; seven cities implementing integrated improvements to public transport and NMT; six cities having implemented public bike sharing programs; 11 cities having renewed their old bus fleet with clean energy buses (such as CNG and electric-fuel hybrids); seven cities enrolled in MOT's Public Transit Metropolis Program with dedicated annual budgets to promote public transport; and three cities implementing TOD concepts in mass transit projects.

56. ***Administrative efficiency.*** As discussed earlier, the project required two extensions to the Grant closing date, adding up to 18 months. Despite these, 22.6% of the original Grant (US$ 4.74 million) was unspent at Grant closing, primarily because some activities were carried out using counterpart funds while some other activities were not carried out.

3.4 Justification of Overall Outcome Rating

Rating: **Moderately Satisfactory**

57. In summary, relevance of objectives is rated high, while relevance of design and implementation is rated modest. The PDO and GEO were substantially achieved. Overall efficiency is rated modest. The combination of project relevance, achievement of PDO/GEO and efficiency justify an overall outcome rating of Moderately Satisfactory.

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[20] GEF contribution per ton CO_2 directly reduced is US$ 24.5 for the GEF City Cluster Eco-Transport Project and US$ 3.5 for the GEF Guangdong Green Freight Demonstration Project.

[21] Transjakarta, the world's largest BRT system at 200km, was supported by GEF during 2006 and 2012, and exhibits a MAC of over US$ 600 per ton.

3.5 Overarching Themes, Other Outcomes and Impacts

(a) Poverty Impacts, Gender Aspects, and Social Development

58. Gender, poverty and ethnic minorities were not identified as specific concerns in the PAD as Grant focused on climate change. However, the project's contribution to improving access to public transport, walking and cycling is expected to be pro-poor and pro-women and other vulnerable groups who are more likely to travel by these modes.

59. The 2013 'China – Current Gender Action Plan' [22] identified appropriate participatory processes and disaggregation of survey results by gender and income to inform project design as the primary way of mainstreaming gender (and poverty and ethnic minority) elements into urban transport projects. This was a particular highlight in the public participation TA in Liaoning.

(b) Institutional Change/Strengthening

60. The project contributed significantly to strengthening institutional capacity for sustainable urban transport development at the national and local levels. Workshops, study tours and awareness raising activities under Tasks 1B and 1C trained more than 1500 managerial and technical staff directly, many of whom were (or later become) decision makers in the relevant agencies and institutes. The project also created a knowledge pool of individual experts and consulting firms with global experience, for cities in China to obtain further technical support on their urban transport initiatives.

61. Multi-agency collaboration and public participation processes for urban transport planning supported by the project TAs have been embraced by many cities and have been incorporated in local planning processes. PSCs established in each pilot city have brought together urban transport related agencies, including the municipal finance bureau, development and reform commission, planning bureau, transport bureau/commission, construction bureau, traffic police, bus company, etc., who continue to share data and information after the project.

(c) Other Unintended Outcomes and Impacts (*positive or negative, if any*)

62. In 2011, Shenyang approached the NPMO for technical support on BRT planning and implementation. After a careful review of the local urban transport system, NPMO suggested that Shenyang consider developing a modern tram system. The project provided resources to Shenyang on tram planning and design and supported a study tour to France. These efforts contributed to the first modern tram in China being successfully introduced in Shenyang in 2013. NPMO subsequently organized a workshop in Suzhou to share the experience of Shenyang and international cities. Over 30 Chinese cities visited Shenyang and more than 10 cities have implemented one or more tram routes. CUTPP is considered as one of the initiators of modern trams in China.

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[22] World Bank (2013), "China – Current Gender Action Plan" Update for Fiscal Years 2014-2016.

3.6 Summary of Findings of Beneficiary Survey and/or Stakeholder Workshops
Not applicable.

4. Assessment of Risk to Development Outcome
Rating: **Moderate**

63. There is little doubt that China will continue the development and implementation of urban transport policies and investments toward a sustainable urban transport system of reduced energy intensity and pollution levels. The promotion of public and non-motorized transport, as well as the integration of land use and transport development, have been widely endorsed by local governments as the effective approach to address urban transport challenges.

64. ***Impact of the new Budget Law.*** Under the new Budget Law that became effective on January 1, 2015, local governments can no longer raise off-budget infrastructure financing through their urban development investment companies (UDICs), which used to be a primary source of financing for urban transport infrastructure. Financing construction of new public transport infrastructure could thus become a particular concern for local governments. The Bank is pursuing this topic with the national and local governments as part of on-going discussions on Public-Private Partnership and revenue-based borrowing.

5. Assessment of Bank and Borrower Performance

5.1 Bank
(a) Bank Performance in Ensuring Quality at Entry
Rating: **Moderately Unsatisfactory**

65. The Bank developed the project concept jointly with Government based on sound background analysis (paragraph 16), ensured commitment of the Government and the pilot cities (paragraph 19) and assessed risks realistically (paragraph 20). The relevance of the PDO/GEO was high (paragraph 42). Project activities at the national and city levels supported the achievement of the PDO/GEO, although the design of inclusion of 19 pilot cities was complex (paragraph 43). M&E design included appropriate PDO and intermediate outcome indicators (paragraph 30); however, while the GEO indicators were mandatory, the target value for one of the indicators was ambitious and the methodology for measuring emission reduction was to be determined through a project TA (paragraphs 31 and 32). The assessment of procurement capacity and measures to augment it proved to be inadequate (paragraphs 22 and 23). The decision to select MOF as the EA reflected the absence of a line ministry with overall responsibility for urban transport functions and had to be changed to NDRC during implementation. On balance, Bank performance in ensuring quality at entry is rated Moderately Unsatisfactory.

(b) Quality of Supervision
Rating: **Moderately Satisfactory**

66. The Bank engaged in an on-going dialogue and provided implementation support to the EA, as well as national ministries/agencies and cities, in the achievement of the

PDO/GEO through the implementation of project activities. It addressed implementation problems relating to the EA and procurement delays at city level in a timely fashion through appropriate restructuring (paragraphs 21 and 22). The MTR was carried out on schedule in June 2011 and a remedial action plan was agreed with the EA to speed up implementation.

67. Shortcomings in the Bank's supervision included: inability to ensure that (i) the important TA package for M&E was carried out, as well as (ii) comprehensive national urban transport strategy was prepared; and not reaching agreement with Government to cancel US$ 4.74 million of the Grant.

68. Fiduciary aspects were supervised adequately through desk reviews and visits to the NPMO. All TA procurement documents were prior-reviewed, and potential procurement issues were duly identified and resolved. Financial management and disbursement were closely monitored, and the task team regularly reminded the NPMO to reconcile financial statements from the local PMOs and the MOF to speed up disbursement processing.

69. The need for higher than norm supervision resources was identified at the Decision Meeting, along with the need to avail of the visits of other Bank transport task teams to the project cities. While the latter was implemented as planned, supervision resources utilized were, on average, about the norm (Annex 5). Some of the implementation problems encountered could have been addressed more effectively, if more resources had been provided.

70. Most ISRs were prepared on a six-monthly basis and the ratings were candid and appropriate, except for ISR3, in which the PDO/GEO and Implementation Progress ratings were both upgraded to Satisfactory immediately after the restructuring, in spite of a lack of progress in procurement or disbursement. Consequently the ratings were downgraded back to Moderately Satisfactory and Moderately Unsatisfactory respectively in ISR4. Besides, there was a 16 month lag between ISR3 (February 2010) and ISR4 (June 2011), which was the period of transition from MOF to NDRC as EA for the project.

71. The Bank's engagement with central ministries/agencies (MOF, NDRC, MOT) as well as project (and other) cities contributed to the mainstreaming of the policies and investments in support of the PDO/GEO (paragraphs 38 to 41).

(c) Justification of Rating for Overall Bank Performance
Rating: **Moderately Satisfactory**

72. The Bank's overall performance is considered Moderately Satisfactory, considering the Moderately Satisfactory outcome that the project achieved.

5.2 Borrower
(a) Government Performance
Rating: **Satisfactory**

73. The Government: (i) demonstrated sustained commitment to the PDO/GEO during project preparation and implementation; (ii) initiated and completed the selection of pilot cities in a timely manner; (iii) set up a PSC to ensure high-level inter-agency coordination and guidance on urban transport; and (iv) facilitated the preparation and adoption of policies and guidelines that support sustainable urban transport development.

74. Areas where Government actions affected project implementation and achievement of the PDO/GEO include: (i) inadequate allocation of counterpart funds for project management; and (ii) delayed processing of restructuring requests, which resulted in the Grant not being fully utilized.

(b) Implementing Agency or Agencies Performance
Rating: **Moderately Satisfactory**

75. Performance of the national implementing agency was Moderately Unsatisfactory and performance of the local implementation agencies were Satisfactory. Considering the Moderately Satisfactory outcome that the project achieved, the overall implementing agencies performance was Moderately Satisfactory.

76. ***Performance of the National Implementing Agencies.*** Performance of the national implementing agency (NPMO) is rated as Moderately Unsatisfactory.

77. NPMO demonstrated strong commitment and overcame many challenges to revive the momentum in pilot cities. The EA prepared the national public transport strategy with counterpart funding, which was later issued by the SC as Directive #64 and had a nationwide impact on promoting public transport and contributed significantly to the PDO/GEO. NPMO organized training, study tours, and dissemination workshops, which strengthened institutional capacity and promoted demonstration of project achievements. NPMO also provided substantial support to pilot and non-pilot cities on the planning, design and implementation of sustainable urban transport projects. It also initiated one of the first modern tramways in China which is now spreading throughout the country.

78. On the other hand, NPMO was unable to hire consultants for some of the national TAs, which led to the comprehensive national urban transport strategy not being prepared, and the TA for M&E of the two GEO indicators not being carried out. NPMO's delay in completing two other TAs (see paragraph 23) also resulted in the absence of national guidelines for guiding pilot city projects during implementation. At project close, activities not being carried out by NPMO represented 49.5% of the original national components (totaling US$ 3.96 million).

79. ***Performance of the Local Implementing Agencies.*** Performance of the local implementing agencies (local PMOs) is rated as Satisfactory.

80. Local PMOs were committed to the project and made persistent efforts to catch up with implementation progress despite experiencing delays in procuring consultants. They participated actively in capacity building and dissemination activities. Most pilot cities

have adopted sustainable urban transport approaches to update their local urban transport plans and have implemented investments using their own resources.

(c) Justification of Rating for Overall Borrower Performance
Rating: **Moderately Satisfactory**

81. The Borrower's overall performance is considered Moderately Satisfactory, given the Moderately Satisfactory performance of both the government and the implementing agencies.

6. Lessons Learned

82. ***Bank's added value is highest upstream in the project cycle.*** The platform created by the project was successful in shaping early concepts, which subsequently leveraged follow-on actions at the city level and created an avenue for demonstration and replication. Adequate resources should be allocated for such upstream knowledge support and to mobilize experts with practical experience to provide guidance to the client.

83. ***Fewer demonstration cities should be included to reduce project complexity***. The inclusion of 19 pilot cities made the project too complex, despite all cities being motivated initially. With fewer cities, issues faced by cities lagging behind could have been addressed more quickly. If it is desired to involve more cities for demonstration purposes, separate projects of 3 to 5 cities each could be packaged appropriately.

84. ***Capacity for consultant procurement should be strengthened in TA projects.*** Delays in appointing consultants in CUTPP, a TA project, significantly affected project M&E and timely project completion. In the case of such TA projects, the Bank should provide enhanced training on consultant procurement (in particular on the appointment of affiliated consulting firms/design institutes) both prior to appraisal as well as during the initial project implementation period. The Bank should also provide guidance on the preparation of ToRs.

7. Comments on Issues Raised by Borrower/Implementing Agencies/Partners
(a) Borrower/implementing agencies

85. Several comments were made in the Borrower's ICR on directions for the future as follows. The first two comments coincide with the Bank's lessons learned from the project. The third comment is also a general lesson for all Bank-financed projects.

- While the inclusion of 19 cities at design were intended to cover the east, central and western regions, in retrospective, focusing on fewer cities may be more effective and may maximize the demonstration role;
- Familiarizing with the Bank's procedures for procurement and disbursement, and coordinating them with domestic procedures will be beneficiary; and
- Overcoming staff turnover in national and local PMOs through a more permanent arrangement will strengthen project management.

(b) Cofinanciers

Not applicable

(c) Other partners and stakeholders

Not applicable

Annex 1. Project Costs and Financing

(a) Project Cost by Component[23] (in USD Million equivalent)

Components	Appraisal Estimate	Actual	Percentage of Appraisal
1. National Strategy Development and Capacity Building	7.75	3.23	42%
1A: National Urban Transport Policies and Strategies	*1.00*	*0.33*	*33 %*
1B: Technical Training and Capacity Building	*3.00*	*2.38*	*79 %*
1C: Stakeholder participation, Dissemination and Awareness Raising Program	*2.00*	*0.34*	*17%*
1D: Monitoring and Evaluation	*1.75*	*0.18*	*10%*
2. GEF-financed catalytic activities in pilot cities	13.00	12.22	94 %
Liaoning	*0.75*	*0.36*	*49%*
Xi'an	*2.00*	*1.87*	*94%*
Urumqi	*1.00*	*1.01*	*101%*
Guangzhou	*0.75*	*0.74*	*99%*
Changzhi	*0.75*	*0.75*	*100%*
Dongguan	*0.75*	*0.73*	*97%*
Xianyang	*0.50*	*0.50*	*100%*
Zhengzhou	*0.80*	*0.78*	*97%*
Jiaozuo	*0.60*	*0.56*	*93%*
Luoyang	*0.60*	*0.62*	*104%*
Nanchang	*1.00*	*0.97*	*97%*
Linfen	*0.75*	*0.75*	*100%*
Chongqing	*1.00*	*0.91*	*91%*
Weihai	*0.75*	*0.70*	*93%*
Jinan	*1.00*	*0.97*	*97%*
3. Project management cost	0.25	0.81	324%
Total Project Costs	**21.00**	**16.26**	**77%**
Project Preparation Facility (PPF)	0.35	0.35	100%
Total Financing Required	**21.35**	**18.71**	**68.41%**

(b) Financing

Source of Funds	Type of Cofinancing	Appraisal Estimate (USD millions)	Actual/Latest Estimate (USD millions)	Percentage of Appraisal
Borrower[24]		6.00	1.00	20%
Global Environment Facility (GEF)		21.00	16.26	77%

[23] Due to lack of information on in-kind contribution which is a major form of counterpart funding, the cost table only presented component costs by GEF financing.
[24] Only in-cash counterpart funding is presented here in the financing table.

Annex 2. Outputs by Component

Component 1: Strategy Development and Capacity Building at the National Level
Task 1A – National Urban Transport Strategy
Task 1A was designed to: (i) develop a comprehensive national stragety for urban transport for promoting public transport, promoting better integration of land-use and transport planning, and identification of appropriate financing mechanisms to bridge the gap between the national and local governments; and (ii) identify and prepare key legislative changes that are necessary to harmonize current institutions with the identified urban transport framework. The planned activities were partially completed. A national strategy to promote the development and use of public transport was developed using counterpart funding. The more comprehensive national urban transport strategy was not carried out due to procurement delays. Key outputs include the following: - A National Public Transport Strategy was prepared, adopted, and issued nationwide by the SC as the National Guidance on Prioritizing Urban Transport Development in Chinese Cities (*Directive #64, December 2012*). - Legislative Changes for Sustainable Urban Transport were proposed, with a review of the urban transport legislative and institutional framework at both the national and the local levels. - Guided high-level conferences and workshops were carried out with the participation of relevant ministries (MOF, NDRC, Ministry of Public Security, Ministry of Environmental Protection, Ministry of Housing and Urban-Rural Development, Ministry of Transport, etc.), city governments and stakeholders to solicit inputs on the national public transport strategy and the proposed legislative changes. - High-level dialogue between the Bank and the relevant ministries and municipal governments was facilitated through the CUTPP platform.
Task 1B – Training and Capacity Building
Task 1B was designed to: (i) develop a set of manuals, guidelines and standards for Chinese cities to foster planning for sustainable urban transport; (ii) develop and implement a sustainable urban transport technical training program; and (iii) develop a knowledge base for sustainable urban transport. All planned activities were substantially carried out and the expected outputs were largely achieved. Key outputs include the following: - A set of National Guidelines of Sustainable Urban Transport Planning and Development was prepared, including planning guidelines and design manuals for: (i) urban transport planning; (ii) urban road design; (iii) urban public transport development; (iv) parking management; (v) traffic management; (vi) travel demand management; (vii) urban intelligent transport system; (viii) road safety; (ix) urban transport evaluation. - Key recommendations on public transport priority and TOD incorporated into the 12th Five-Year Plan for Comprehensive Transport Development, in particular: (i) prioritize the development of public transport and increase its mode share; and (ii) apply synergized planning and construction for urban development and transport infrastructure development, and enhance the leading role of mass transit in functional layout and land use planning.

- Leaders in Urban Transport Planning (LUTP) Program localized for China and three LUTP training courses were delivered jointly by China's Association of Mayors and the World Bank from 2012 to 2014 to over 80 participants.
- 10 technical training and capacity building workshops held with over 1500 participants, including government officials, transit company staff, transport practitioners and scholars:
    - Workshop on sustainable urban transport policy and experience (October 2010, Xi'an).
    - International conference on BRT planning and lessons learned (February 2011, Guangzhou).
    - Training on public transport and integrated transport hub (September 2011, Nanjing).
    - Shared transport forum (October 2011, Changzhi).
    - Training on urban comprehensive transport planning (April 2012, Nanchang);
    - Shared transport forum (September 2012, Jiaozuo).
    - Workshop on modern tramway development (May 2013, Suzhou).
    - Workshop on transit oriented development and land value capture (November 2013, Beijing).
    - Sino-France symposium on sustainable urban transport system (November 2013, Shanghai).
    - Transport forum for 2013 China-EU urbanization partnership forum (November 2013, Beijing).
- 10 international training and study tours with 125 participants, including government decision makers, senior management and professional staff at both national and local levels:
    - Shared green transport training and study tour (September 2010, Taipei).
    - Public transport planning, management and operations experience study tour (December 2010, US and Canada).
    - Mayors' study tour for BRT planning, operation and management (January 2011, Brazil and Columbia);
    - Urban public transport hub planning study tour (August 2012, US).
    - Survey tour for university training course development for graduate programs (December 2011, US and Canada).
    - Urban transport planning theory and practice study tour (December 2012, US).
    - Urban public transport and hub planning and operation study tour (December 2012, France).
    - Integrated urban transport planning study tour (January 2013, Germany).
    - Multi-modal transport hub planning study tour (March 2014, England).
- A web-based knowledge base (in both Chinese and English) developed and in operation for sustainable urban transport, with CUTPP project outputs, international and domestic case studies, policy documents, academic researches, training information, etc., and a two-year operation budget beyond project close date allocated (www. cutppkb.org).
- Three procurement and financial management training programs held with over 500 participants:
    - GEF CUTPP financial and procurement training (October 2010, Changsha).
    - Procurement and financial management training (October 2011, Changzhi).
    - Financial management training (April 2012, Beijing).

In addition, influenced by the discussions and capacity building activities that took place during project preparation and implementation, PSC members issued several national policy or

technical guidance on promoting the development of public transport and non-motorized transport. These documents include:

- Guidance on Enhancing the Development of Urban Walking and Cycling System, jointly issued by MOHURD, NDRC and MOF in September 2012.
- Guidance on Promoting the Development of Integrated Transport Hubs, issued by NDRC in March 2013.

Task 1C – Dissemination and Awareness-Raising Activities

Task 1C was designed to: (i) establish a web-based sustainable urban transport information dissemination platform; and (ii) develop and implement public awareness campaigns for sustainable urban transport.

All planned activities were substantially carried out and the expected outputs were largely achieved. Key outputs include the following:

- A web-based platform was developed and the first phase was in operation from 2010 to 2012. It reported the on-going activities at the national and local level, and facilitated knowledge and experience transfer from the pilot cities to the potential replication cities. The key information was merged into the web-based knowledge base under Task 1B and therefore the second phase was cancelled and the website was shut down (www.cutpp.org);
- Public awareness campaigns carried out in conjunction with the capacity building activities:
    - Cycling promotion campaigns in Jiaozuo, Changzhi and Beijing.
    - "Car free day" campaigns in Guangzhou, Xi'an, Jinan, Changzhi, etc.
- Project dissemination workshops during mid-term and at completion.

Task 1D – Monitoring and Evaluation

Task 1D was designed to (i) develop methodologies and standardized data gathering guidelines for the results indicators; (ii) track and monitor pilot project output and resource use; and (iii) evaluate project outcomes after completion.

The planned activities were partially completed. Methodologies and standardized data gathering guidelines for GHG emission reduction monitoring were not developed, therefore at project completion, only a few of the pilot cities managed to produce estimates of GHG emission reduction from the project, based on their own methodologies.

Key outputs include the following:

- Semi-annual project progress reports, consolidating the progress at the national level, as well as in the 14 cities and 1 province.
- Project mid-term report.
- Project completion report (client).
- Individual consultants from international and domestic consulting firms, universities and agencies were hired to provide technical support to TOR preparation, TA output review, progress monitoring and results evaluation.
- A procurement agent was engaged to assist the national PMO with procurement activities at the national level.

Component 2: Pilot Demonstration Projects in 14 Cities and 1 Province

14 pilot cities and one pilot province were selected through an extensive competitive process. The GEF component was designed to cover technical assistance (TA) related to the pilot projects to create models of sustainable transport solutions for other Chinese cities to replicate.

The topics were meant to cover: (i) development of BRT systems; (ii) development of strategic plans to prioritize public transport and non-motorized transport; (iii) development of demand management measures; and (iv) transit oriented development. Cities were meant to finance the physical activities with their own funds, or in some cases, World Bank projects under preparation or implementation then.

The pilot cities and province were unchanged, and comprise: Xi'an, Urumqi, Guangzhou, Changzhi, Dongguan, Xianyang, Zhengzhou, Jiaozuo, Luoyang, Nanchang, Linfen, Chongqing, Weihai, Jinan, and Liaoning Province. All planned TA activities in the 14 cities and in one province have been completed, except for a TA activity in Liaoning on road safety, which was considered ineligible for GEF financing.

Changzhi

Activities in Changzhi focused on improved urban transport planning and promotion of public transport and non-motorized transport. Key outputs include the following:

- Proposed amendments to Changzhi's master plan and urban transport development plan, based on extensive local data collection, international experience review, and public consultation;
- A comprehensive urban transport model for Changzhi;
- Changzhi Public Transport Development Plan and Public Transport Priority Plan, covering technical as well as policy measures;
- Changzhi Road Safety Action Plan, with a focus to promote the usage of public transport, walking and cycling on five high-risk urban passenger corridors;
- Trainings and study tours to strengthen Changzhi's capacity in transport planning, design and management.

Based on the strategies proposed by and priority corridors identified through the TA, Changzhi entered into the World Bank lending pipeline in 2011 and got a loan in the amount of US$100 million to support the improvement of public transport and non-motorized transport on four urban corridors. The project management unit, which was established as a temporary unit to prepare the GEF project, has become a permanent government unit for implementing urban transport projects; and the project has facilitated the close collaboration among all relevant municipal agencies including the finance bureau, the development and reform commission, the construction bureau, the transport bureau, the land resources bureau, the environmental protection bureau, etc. As a successful model, it also shared its knowledge on public transport improvement as well as its experience in GEF project implementation and World Bank loan project preparation to other Chinese cities.

Liaoning

Activities in Liaoning focused on incremental support to the then ongoing Liaoning Medium Cities Infrastructure Project (Ln 4831-CN), including public participation mainstreaming and comprehensive corridor improvement to support public transport. Key outputs include the following:

- Third public participation survey for Liaoning Medium Cities Infrastructure Projec, to collect feedback from the public at project mid-term, which was used to evaluate project performance for the first half of implementation as well as to inform project implementation for the second half;
- Template and guidelines for mainstreaming public participation in urban transport project, so that concerns of the public, especially concerns on public transport and non-motorized transport from the vulnerable group, could be addressed;

- Public transport plan for Panjin and Jinzhou, which laid out a mid-term development plan consisting of urban rail system and bus priority corridors for the cities.

Jiaozuo

Activities in Jiaozuo focused on sustainable urban transport planning in the context of green tourism development. Key outputs include the following:

- Strategy and Planning for Jiaozuo green tourism oriented sustainable urban transport development;
- Revised urban comprehensive transport plan in the context of green transport for tourism development in Jiaozuo;
- Urban ITS system development plan for Jiaozuo's city center and tourism area;
- Trainings and study tours to strengthen Jiaozuo's capacity for urban transport management.

The TA laid out a sustainable urban transport roadmap for Jiaozuo during its transition period, during which it will transform itself from a coal-mining industrial city to a green tourism city. In 2014, Jiaozuo got a World Bank loan in the amount of US$100 million to support the improvement of four public transport corridors in the city core, and the development of a green path for pedestrians and cyclists linking the city center to one tourist destination in the mountains.

Xi'an

Activities in Xi'an focused on public transport improvement, TOD and TDM. Key outputs include the following:

- Strategic public transport planning for Xi'an, including infrastructure planning, route planning, bus fleet planning, bus priority, etc.;
- Design of two dedicated bus lanes in Xi'an, totaling 28 km;
- Bus operation improvement plan for Xi'an, covering operation and management, financing, and fare policy;
- Xi'an TOD study, which proposed planning principles and control parameters for TOD sites in different locations;
- Xi'an TDM study, which proposed an implementation plan for demand management measures with a focus on the downtown area within the Ming City Wall;
- Trainings and study tours on sustainable transport development.

The GEF project in Xi'an has leveraged significant elements of the Xi'an Sustainable Urban Transport Project, which was approved by the Bank in 2008. The dedicated bus lanes designed under the GEF project will be implemented through the Bank loan project. Several bus routes have been optimized in accordance with the project outputs and on average 100 clean energy vehicles (such as CNG and pure electric buses) have been added to the bus fleet annually.

Guangzhou

Activities in Guangzhou focused on travel demand management. Key outputs include the following:

- TDM study for Guangzhou city center, which established the TDM policy framework as well as the near-, mid-, and long-term TDM action plan for Guangzhou.

The study conducted many rounds of survey and public consultation to incorporate their view into the report. In July 2012, Guangzhou introduced an annual car quota of 120,000, which allows 10,000 new car registration licenses to be issued per month. In 2014, Guangzhou

further indicated that banning of non-local cars in the downtown area may be adopted within the next few years if traffic continue to worsen.
Jinan
Activities in Jinan focused on public transport improvement. Key outputs include the following: - Jinan bus route optimization study based on the BRT network; - A comprehensive urban transport model for Jinan, based on household travel survey of 25,360 households; - Schemes to promote public transport mode share in Jinan. - Trainings and study tours to strengthen Jinan's capacity in public transport planning and operation. Owing to the concrete data collected through and strategies proposed by the TA studies, Jinan was selected as one of the pilot cities of MOT's Transit Metropolis Program in 2011 and secured earmarked funding for public transport improvement. It has implemented several route changes and public transport promotion schemes in accordance with the TA outputs. In 2014, it promulgated the Jinan Public Transport Regulations, which is the first legislative document to promote public transport development and to bring public transport investments into municipal budget in Jinan.
Weihai
Activities in Weihai focused on public transport and non-motorized transport improvement. Key outputs include the following: - Weihai public transport plan, which proposed a public transport network based on the demand modelling; - Feasibility study for Weihai green transit corridor project, which helped Weihai entered into the Bank's lending pipeline in 2009 (but was later dropped due to domestic institutional arrangements issues); - Study on Weihai advanced public transport system. According to the outputs, Weihai has allocated 50 million RMB from the municipal budget every year since 2012 to renew its bus fleet with clean energy vehicles (such as CNG and hybrid vehicles); Weihai bus company has introduced over 30 new routes including rapid lines, local lines and feeder lines. The public transport infrastructure proposed in the public transport plan were later incorporated into the city's detailed control plan, through which the land use was secured.
Luoyang
Activities in Luoyang focused on BRT. Key outputs include the following: - Luoyang BRT network planning and ITS design; - A comprehensive urban transport model for Luoyang; - Trainings and capacity building to strengthen Luoyang's capacity in transport modelling.
Nanchang
Activities in Nanchang focused on public transport development. Key outputs include the following: - Nanchang BRT planning, comprising two horizontal and three vertical routes as the complementary mass transit system to its planned urban rail network;

- A comprehensive urban transport model for Nanchang;
- Trainings and capacity building to strengthen Nanchang's capacity in sustainable urban transport development.

During project preparation, Nanchang planned to establish a BRT networks as its mass transit backbone of the city; however the city decided to build its first urban rail line in 2009. Facilitated by the GEF platform, Nanchang got a Bank loan of US$250 million in 2013 to support the construction of its second urban rail line. It also introduced a public bicycle program in its new development area with 80 rental sites and 7500 bicycles. It then continued to plan a BRT network to complement the existing urban rail network and to nurture ridership for future urban rail. After TA completion in 2014, Nanchang started to construct its first BRT route in accordance with the BRT plan.

Chongqing

Activities in Chongqing focused on public transport improvement. Key outputs include the following:

- Service-oriented network planning for public transport system in Chongqing, which set out the near-term targets for public transport development as well as near- and long-term implementation plans;
- Trainings and capacity building to strengthen Chongqing's capacity in public transport planning and operation.

The TA has accelerated public transport investment in Chongqing, including construction of urban rail and dedicated bus lanes, renewal and upgrade of bus fleet, construction of bus depots and development of advanced public transport system. By project completion, 100% of the bus fleet are clean energy vehicles (CNG, hybrid, electric).

Urumqi

Activities in Urumqi focused on public transport improvement. Key outputs include the following:

- Urumqi public transport service integration plan, which integrates the infrastructure, operation, fare and ticketing, information, and institutional structure among urban rail, BRT and regular bus services;
- Trainings and capacity building to strengthen Urumqi's capacity in sustainable urban transport.

Discussions during project preparation helped Urumqi to formulate the concept of a BRT system. By project completion, Urumqi has opened 4 BRT lines totaling 46.9 km; it has also entered into the Bank lending pipeline for a loan of $140 million to support the development of 2 new BRT lines and related public transport infrastructure.

Zhengzhou

Activities in Zhengzhou focused on public transport improvement. Key outputs include the following:

- Study on service-oriented transfer system for Zhengzhou's urban public transport system, which proposed physical, information, service and institutional integration schemes for urban rail, BRT, regular buses and non-motorized transport;
- Multi-modal integration design for 6 stations along the urban rail line 3 (financed by the Bank);

- Capacity building to strengthen Zhengzhou's capacity in multi-modal interchange planning and implementation.

The project accelerated the construction of urban mass transit systems in Zhengzhou including urban rail and BRT. With the technical support of the national PMO, Zhengzhou completed its first BRT route totaling 35 km in 2009. By project completion, Zhengzhou has completed 2 BRT routes and 1 urban rail line; 1 BRT route and 1 urban rail line is under construction. It has also got a Bank loan in the amount of US$250 million to support the construction of its third urban rail. In addition, as was proposed by the TA and introduced during the study tour to Tokyo, Zhengzhou is planning a few TOD sites along its urban rail line 3 to promote compact development and public transport usage.

Xianyang

Activities in Xianyang focused on public transport improvement. Key outputs include the following:

- Xianyang sustainable urban public transport planning.

Dongguan

Activities in Dongguan focused on public transport integration and TOD along one of its urban rail lines. Key outputs include the following:

- Transport optimization plan along R2 line in Dongguan, which includes bus route reorganization, transfer facilities between urban rail and bus, bicycle, taxi and cars, etc., ;
- Land use and transport integration plan for key interchanges along R2 line in Dongguan, which proposed concept design, development typology and principles for four potential TOD stations;
- Trainings and study tours to strengthen Dongguan's capacity in urban rail development and TOD implementation.

Urban rail line R2 in Dongguan started construction in 2011 and is expected to be completed in 2015. The TA carried out quantitative analysis of traffic performance before and after R2 opening, as well as with- or without- integration scenarios, which raised the awareness and gained the support from both the public and government leaders. The Dongguan urban rail company is following up actively on the TOD site plans proposed in the TA output.

Linfen

Activities in Linfen focused on sustainable urban transport development. Key outputs include the following:

- Revision to Linfen comprehensive urban transport plan, based on extensive data collection and a sound urban transport model;
- Strategies for public transport priority development in Linfen;
- Trainings and study tours to strengthen Linfen's capacity in urban transport planning.

Annex 3. Analysis of GEO Indicators

A3.1 Objective and Approach

1. Since the methodologies for indicator derivation and guidelines for data gathering were not developed during project implementation, the following two GEO indicators were not reported by the NPMO at project completion:

- Forecast transport CO_2 emissions over 10 years in the cities participating in the demonstration projects of Component 2 are at least 1 megaton lower than their BAU forecasts;
- Forecast daily passenger trips made by public transport, walking or cycling, over 10 years in the cities participating in the demonstration projects of Component 2 are at least 5% larger than their BAU forecasts.

2. The ICR team carried out an estimation of CO_2 emissions reduction for a few selective pilot cities where (i) follow-on investments have already been completed or are under implementation; (ii) a strong causal linkage between the investments and the GEF project is evidenced; and (iii) relevant data is available and verifiable. The objective is to evaluate to what extend the GEO of the project has been achieved, through a simplified approach focusing on a few follow-on investments, rather than acquire a full account of accurate CO_2 emissions reduced under the project.

3. The methodologies for estimation of CO_2 emissions reduction follow the Avoid-Shift-Improve framework presented in the PAD. Some default assumptions used in the PAD are applied in the calculation where actual data is not available. The 10-year period for CO_2 emissions reduction calculation is from 2015 (after project close) to 2024.

A3.2 Overview of Follow-On Investments at City Level

4. Follow-on investments proposed by the pilot cities at appraisal consisted of four primary types: (i) BRT/bus priority; (ii) integrated public transport/NMT improvement; (iii) demand management; and (iv) TOD.

5. At project completion, each pilot city reported a list of initiatives (as detailed in Table A3.3) they consider as a direct outcome of the GEF intervention which are taking place in the city, consisting of (i) mass transit systems such as BRTs and urban rail (including metros and trams); (ii) integrated public transport/NMT improvements, and bike sharing programs; (iii) increased parking fee and restriction on car purchase/usage; (iv) TOD plans; and etc. These initiatives, broadly consistent with the four primary types at appraisal, are considered to have the following linkages to the project by these cities:

- TA studies of specific interventions have directly led to the identification, design and implementation of the follow-on investments (e.g. integrated corridor improvement in Changzhi, Weihai and Jiaozuo, TOD stations in Dongguan, BRT in Nanchang, car licensing control in Guangzhou)

- Follow-on investments proposed to be supported by the GEF TA study during preparation were designed and implemented with the cities' own funds, but using the ToRs prepared during preparation and with substantial technical support from the Bank team and the Technical Expert Panel (e.g. BRTs in Jinan, Urumqi and Zhengzhou);
- City-to-city peer learning and awareness raising activities have led to the formulation of the project concept and subsequently implemented by the city (e.g. bike sharing programs in Changzhi, Jiaozuo, and Xi'an, tram in Luoyang, car restriction in Zhengzhou);
- TA studies on urban transport have accelerated the city's investment in sustainable transport (e.g. clean energy bus in numerous cities, public transport priority corridor in Xianyang);
- TA studies and capacity building programs have contributed to improved integration of the mass transit systems that the city is operating (e.g. BRTs in Urumqi, urban rails in Zhengzhou, Chongqing, and Xi'an);
- Capacity building programs have contributed to pro-public transport and NMT planning at the city level (e.g. cycle and walk plan being prepared in numerous cities in accordance with HoHURD's guideline).

A3.3 Estimation of CO_2 Emission Reductions

6. Based on the criteria mentioned in Section A3.1, seven projects are selected for the estimation of CO_2 emission reductions over 10 years, including: (i) BRTs in Urumqi, Zhengzhou, Jinan and Nanchang; (ii) integrated transit/NMT improvement in Changzhi and Weihai; and (iii) car licensing control in Guangzhou. The BAU scenario is that without GEF, these interventions will not be initiated and eventually implemented by the cities.

A3.3.1 BRT Analysis

7. 17 BRT corridors were implemented in Urumqi, Zhengzhou and Jinan from 2008 to project close and one BRT corridor in Nanchang started construction soon after the TA on BRT network plan for Nanchang was completed.

8. ***Ridership on BRT.*** Actual daily ridership on BRTs collected by the BRT Company are used in the calculation for Urumqi, Zhengzhou and Jinan. Forecast daily ridership produced from the TA report on BRT plan is used in the calculation for Nanchang. Except for one corridor in Urumqi with 168,000 trips per day, BRT ridership per corridor in four cities varies from 20,000 to 97,500 trips per day, all being lower than the 120,000 trips per day assumption in the PAD.

9. ***Composition of BRT Ridership.*** At appraisal, mode switch from other motorized modes such as motorcycles, taxis and private automobiles on BRT was assumed to be 20%. The assumption is quite consistent with the results from a BRT user survey conducted in Jinan (19%). Therefore 20% is used for cities that mode switch data is not collected.

10. ***Calculating vehicle kilometers of travel avoided.*** Average distance per trip on BRT reported by the cities varies from 7 to 13 kilometers, reflecting the urban spatial characteristics of the four cities. Average vehicle occupancy by mode uses the default assumptions in the PAD.

11. ***CO_2 emissions avoided.*** Emission factors uses the default assumptions in the PAD that taxis, conventional buses and BRT buses are all diesel based, and that motorcycles and private cars use gasoline. It is noted that some of the newer BRT bus fleet in Urumqi and Zhengzhou use CNG with lower emission factor, but to simply calculation, fuel switching benefits were not accounted for.

12. ***BRT analysis results.*** The analysis assumes an annual increase of 5% in CO_2 emission reduction over the 10 years period. Based on this assumption, total CO_2 emission reduced by the BRT projects in the 4 pilot cities compared to the BAU scenario would be about 1.50 megatons over 10 years.

Table: BRT Analysis Results

		Urumqi	**Nanchang**	**Zhengzhou**	**Jinan**
BRT routes		4	1	8	5
Length	km	60.9	16.8	31.8	68.4
Daily ridership	trip	373,500	84,000	257,745	146,000
Motorcycle	v-km	5,304			-
Conventional bus	v-km	70,716	16,621	89,352	26,708
Private car	v-km	224,387	95,262	368,207	67,940
Taxi	v-km	103,663			58,453
BRT	v-km	(33,148)	(8,400)	(41,884)	(12,365)
CO_2 reduced per day	kg	117,747	32,454	136,752	45,017
CO_2 reduced over 10 years	**mt**	**0.541**	**0.149**	**0.628**	**0.207**

A3.3.2 Integrated Public Transport/NMT Improvement

13. The public transport priority plans completed in Weihai and Changzhi identified seven integrated corridors in two cities for public transport and NMT improvements, and these corridors are being implemented by the city's own funds and the Bank loan. Since no trip data by mode on these corridors are yet available, the estimation uses the results from the urban transport model that was produced as part of the TA. Both models have been checked by the Bank task team who worked on the lending operations[25] in these two cities and the results are considered to be reliable.

14. ***Baseline data.*** Baseline data in 2010 were collected through household trip surveys, including mode split, average number of trips per day and average trip distance by mode, etc.

[25] Weihai also entered into the Bank lending pipeline but the project was later dropped because of the institutional arrangement issue. The proposed corridors are now being implemented by the city itself.

15. ***BAU vs. GEF scenario.*** The BAU scenario assumes the cities would experience rapid motorization in the next ten years with moderate increase in bus services. The GEF scenario is that the identified corridors are improved in an integrated manner so that travel speeds and reliability are increased, waiting time are reduced, and passenger experience is improved for bus and NMT users. In Weihai, GEF scenario includes the increase in parking fee, which led to a much higher citywide mode shift from cars to public transport than Changzhi. The mode split results for Changzhi and Weihai in 2015 and 2020 under two scenarios are presented in the table below.

Table: Mode Share in Changzhi

Mode Share	**2010**	**2015**		**2020**	
	Baseline	BAU	GEF	BAU	GEF
Walk	38.8%	32.9%	32.7%	31.7%	31.7%
Bicycle	27.3%	27.4%	26.9%	24.5%	24.2%
Motorcycle	8.3%	8.1%	8.0%	7.2%	7.2%
Private car	10.5%	16.8%	16.5%	20.2%	20.0%
Taxi	1.3%	1.3%	1.3%	0.9%	0.9%
Public Transport	13.9%	13.5%	14.7%	15.5%	16.0%
Total Trips	1,462,000	1,875,000	1,875,000	2,108,000	2,108,000

Table: Mode Share in Weihai

Mode Share	**2010**	**2015**		**2020**	
	Baseline	BAU	GEF	BAU	GEF
Walk	46.0%	31.9%	31.0%	27.6%	27.0%
Bicycle	4.2%	8.4%	8.0%	8.0%	8.0%
Motorcycle	3.9%	3.8%	3.5%	1.2%	1.0%
Private car	18.4%	27.2%	25.0%	28.6%	27.0%
Taxi	4.4%	5.1%	5.0%	4.8%	4.5%
Public Transport	23.1%	23.6%	27.5%	29.8%	32.5%
Total Trips	1,360,000	2,430,000	2,430,000	3,750,000	3,750,000

16. ***Integrated PT/NMT improvement results.*** Travel distance by mode uses the results from the household trip survey, and vehicle occupancy and emission factors use the default assumptions in the PAD. CO_2 emission reduction over 10 years (2015-2024) assumes it is 10 times the annual reduction of year 2020. Based on these assumptions, total CO_2 emission reduced by the PT/NMT interventions in 2 pilot cities compared to the BAU scenario would be about 0.33 megatons over 10 years.

Table: Integrated PT/NMT Analysis Results

		Changzhi	**Weihai**
Integrated corridors		4	3
Length	km	26	31
CO_2 reduced in 2015	ton	1,443	24,746

CO_2 reduced in 2020	ton	1,314	31,773
CO_2 reduced over 10 yrs	**mt**	**0.013**	**0.318**

A3.3.3 Demand Management

17. The TDM study in Guangzhou proposed a number of demand management measures including increase of parking fee, car licensing control, restriction of car usage, and congestion charging, etc. In July 2012, Guangzhou introduced the licensing control measure, imposing a quota of 120,000 new cars per year. In addition, the TDM study proposed a stricter quota of 60,000 new cars per year.

18. ***Car ownership.*** Before the licensing control measure was introduced, private car ownership reached 1,365,000 in Guangzhou by the end of 2011, a 20% increase over the previous year. Without the quota, car ownership was expected to reach 3,600,000 by 2020. With the per annum quota of 120,000, car ownership would be approximately 2,500,000 by 2020; with the per annum quota of 60,000, car ownership would be approximately 2,050,000 by 2020.

19. Empirical data shows that CO_2 emission from one car is between 3 to 5 tons per annum. On the conservative side (assuming 3 tons CO_2/year/car), car quota of 120,000 per annum would reduce over 27 megatons of CO_2 emissions from new cars during 2013 to 2022. Of course, these trips if taken by other motorized modes or on other cars would also produce CO_2 emissions, so the net CO_2 emissions reduction is much less.

20. ***BAU Scenario vs. GEF/GEF+ Scenarios.*** The consultant for the TDM study tested the BAU scenario (without car quota), the GEF scenario (with car quota of 120,000 per annum), and the GEF+ scenario (with car quota of 60,000 per annum) in the transport model. Mode split of motorized trips under different scenarios are listed in the table below.

Mode Share	**2010**	**2020**		
	Baseline	BAU	GEF	GEF++
Private car	40.00%	40%	37%	30%
Bus	31.70%	25.00%	26%	30%
Metro	13.80%	20%	21%	23%
Taxi	11.20%	8%	9%	10%
other	3.30%	7%	7%	7%
No. of Trips	19,470,000	27,750,000	27,750,000	27,750,000

21. ***Demand management results.*** Average travel distance in Guangzhou is expected to increase to 22 kilometer in 2020 from 18 kilometer of today. CO_2 emission reduction over 10 years (2015-2024) assumes it is 5 times the annual reduction of in year 2020. Based on this assumptions, total CO_2 emission reduced by the current quota of 120,000 new cars per annum compared to the BAU scenario would be about 2.10 megatons over 10 years.

		2020

		BAU	GEF	GEF++
CO_2 emission per day	ton	33,736	53,848	52,697
CO_2 emission reduction in 2020	ton		420,153	2,040,467
Emission reduction over 10 yrs	**mt**		**2.10**	**10.20**

A3.3.4 CO_s Emission Reduction and Marginal Abatement Cost

22. The CO_2 emission reduction by project over 10 years compared to the BAU scenario and its associated capital investment are summarized in Table A3.1. An approximate estimate of the marginal abatement cost (MAC) or cost-effectiveness (US$) of the capital investment[26] against per ton of CO_2 avoided over 10 years was made.

23. The MAC for BRT varied from US$ 191 to 1,068 per ton with the higher cost-effectiveness where patronage demand was well established and capital cost per kilometer was low. Integrated public transport and NMT corridor improvements have induced low switch from private modes and therefore show lower cost-effectiveness. As for the MAC for Integrated PT/NMT improvements, Weihai also introduced higher parking fee which is taken into account during the CO_2 emission estimation, resulting in a much lower MAC compared to Changzhi. As the Guangzhou new vehicle quota had a low implementation cost with high estimated CO_2 reductions, the MAC is US$ 5 per ton thus demonstrating very high cost-effectiveness.

Table A3.1: Estimated CO2 emissions over 10 years and Marginal Abatement Cost

City	Details	Investment (USD million)	CO2 Emission Reduction (million ton)	Marginal Abatement Cost (USD/ton)
BRT				
Urumqi	4 corridors	340.4	0.51	665
Zhengzhou	8 corridors	120.0	0.63	191
Jinan	5 corridors	220.7	0.21	1,068
Nanchang	1 corridor	50.0	0.15	336
Sub-total		731.1	1.50	489
Integrated PT/NMT Improvement				
Changzhi	4 corridors	111.2	0.01	8461
Weihai	3 corridors*	114.6	0.32	361
Sub-total		**225.8**	**0.55**	**682**
Travel Demand Management				
Guangzhou		10.0	2.10	5

[26] While the operating and maintenance costs of the follow-on investments are not taken into account, revenues from users offset these to some extent. Further, 10 years is a short period to assume for the life of an infrastructure investment, and in addition, the network effects would indicate that CO_2 reductions may be underestimated.

City	Details	Investment (USD million)	CO2 Emission Reduction (million ton)	Marginal Abatement Cost (USD/ton)
Sub-total		**10.0**	**2.10**	**5**
Total		**967**	**3.93**	**246**

A3.4 Estimation of Increase in Passenger Trips by Public Transport, Walking and Cycling

24. The mode split and trip forecast data in Changzhi and Weihai can also be used to assess the GEO indicator on increase in passenger trips by public transport, walking and cycling.

25. In Changzhi, public transport, walking and cycling represent about 80% of the total passenger trips in 2010, and is expected to drop to 71.7% in 2020 under the BAU scenario. With the implementation of the four integrated corridors, share of these three modes will be maintained at 71.9%, which represent 4,200 more daily trips on public transport, walking and cycling, or a 1% decrease in total car trips in Changzhi. But in terms of percentage of passenger trips increased compared to the BAU scenario (GEO Indicator 3), the actual value achieved is less than 0.3%.

26. In Weihai, baseline mode share of public transport, walking and cycling in 2010 is lower than Changzhi (73.3%), and is expected to drop to 65.4% in 2020 under the BAU scenario. With the implementation of the three integrated corridors, share of these three modes will be maintained at 67.5%, which represent over 78,000 more daily trips on public transport, walking and cycling, or a 7.3% decrease in trips by cars, motorcycles and taxis in Weihai. In terms of the GEO Indicator 3, the actual value achieved in Weihai is 3.2%, also lower than the target value of 5%.

27. Analysis in Changzhi and Weihai shows that the target of 5% was not achieved. This is mainly due to the fact that improvements to public and non-motorized transport were focused on a few selected corridors only, so the trips by public transport, walking and cycling increased on these corridors are relatively small compared to the total number of trips by these three modes in the entire city. The results in Weihai being much higher than Changzhi further supports the above conclusion, because results from Weihai also took into consideration the effect of parking fee increase, which is city-wide.

Table A3.3: Follow-on Investments in Pilot Cities

		Changzhi	Weihai	Linfen	Jiaozuo	Xianyang	Dongguan	Luoyang	Urumqi	Nanchang	Zhengzhou	Jinan	Xi'an	Guangzhou	Chongqing	Liaoning	TOTAL
Appraisal	BRT/bus priority		Y				Y	Y	Y	Y	Y	Y	Y		Y		9
	PT+NMT	Y	Y	Y	Y	Y				Y			Y			Y	8
	TDM												Y	Y			2
	TOD								Y	Y		Y					3
Completion	PT/NMT prioritization in urban transport plan	Y	Y	Y				Y	Y	Y	Y	Y		Y	Y		10
	urban rail						Y		Y	Y	Y	Y	Y	Y	Y		8
	BRT								Y	Y	Y	Y		Y			5
	PT+NMT improvement	Y	Y		Y	Y		Y					Y			Y	7
	bike sharing	Y		Y				Y		Y			Y	Y			6
	cycle + walk plan			Y					Y		Y	Y		Y			5
	clean energy bus	Y	Y	Y					Y	Y	Y	Y	Y	Y	Y	Y	11
	increasing parking fee		Y						Y					Y			3
	car restriction										Y			Y			2
	TOD						Y		Y	Y							3
	Public Transit Metropolis								Y	Y	Y	Y	Y	Y	Y		7
	World Bank loan	Y			Y				Y	Y	Y		Y				6

Annex 4. Information on Non-Pilot Cities for Assessment of PDO Indicator

Activity	List of cities	# cities	Note
Approach the NPMO, its technical experts and transport institutes around the project for technical assistance on **BRT planning and implementation**	Hangzhou, Changzhou, Suzhou, Xiamen, Dalian, Hefei, Kunming, Yancheng, Zhangzhou, Wuhan, Changsha, Shenzhen, Shenyang, Lanzhou, Yichang, Nanning, Huaian, Changde, Chengdu, Jinhua, Jining, Nanjing, Guiyang, Ningbo, Zhuhai, Taizhou, Yiwu, Shijiangzhuang, Haikou, Kunshan, Qiqihar, Harbin, Anqing, Kaifeng, Pingdingshan, Anyang, Xinxiang, Zhumadian	38	
	Hangzhou, Changzhou, Xiamen, Dalian, Hefei, Kunming, Yancheng, Lanzhou, Huaian, Changde, Jinhua, Nanjing	12	in operation or under construction
Seek technical assistance and policy guidance from NPMO for applying for **sustainable urban transport projects** from international financing institutions	Baoding, Dengfeng, Tangshan, Jining, Dezhou, Zhanjiang, Nanning, Liuzhou, Anyang, Donge, Shenyang, Changzhou, Kunming, Wuhan, Anlu, Mudanjiang, Harbin, Xiangyang, Huainan, Tianjin, Guiyang	21	
	Kunming, Wuhan, Anlu, Mudanjiang, Harbin, Xiangyang, Huainan, Tianjin, Guiyang	9	WB loan approved or pipeline entry
Develop **tram plans*** under the influence of the project and the successful case in Shenyang	Shenyang, Beijing, Suzhou, Nanjing, Zhuhai, Chengdu, Shenzhen, Foshan, Wuhan, Huaian, Qingdao, Ningbo, Xuzhou, Changchun, Shanghai, Taizhou, Harbin, Tianjin, Dalian, Quanzhou, Kunshan, Hefei, Taiyuan, Datong, Yantai	25	
	Shenyang, Shanghai, Suzhou, Changchun, Nanjing, Zhuhai, Shenzhen	7	in operation or under construction
Approach the NPMO and transport institutes around the project for technical assistance on **bike sharing**	Taiyuan, Jincheng, Guiyang, Xiangyang, Anlu, Shenyang	6	
	Taiyuan, Xiangyang, Shenyang	3	in operation

Annex 5. Bank Lending and Implementation Support/Supervision Processes

(a) Task Team members

Names	Title	Unit	Responsibility/ Specialty
Lending			
Shomik Raj Mehndiratta	Lead Urban Transport Specialis	LCSTR	
Syed Ahmed	Lead Counsel	LEGES	
Junxue Chu	Finance Officer	WFALN	
Haiyan Wang	Finance Officer	WFALN	
Wenling Chen	Junior Professional Associate	EASCS	
Zhi Liu	Lead Infrastructure Specialist	EASTS	
Yi Dong	Sr Financial Management Specialaist	EASFM	
Dawei Yang	Consultant	EASTS	
Jun Zeng	Social Specialist	EASCS	
Peishen Wang	Environmental Specialist	EASCS	
Samuel L. Zimmerman	Consultant	EASCS	
Ke Fang	Lead Transport Specialist	GTIDR	
Roger Gorham	Consultant	EASCS	
Yan Zong	Transport Specialist	EASCS	
Mariana Torres	Junior Professional Associate	EASCS	
Supervision/ICR			
Shomik Raj Mehndiratta	Lead Urban Transport Specialis	LCSTR	
Zhi Liu	Lead Infrastructure Specialist	EASTS	
Binyam Reja	Lead Transport Specialist	GTIDR	
Ke Fang	Lead Transport Specialist	GTIDR	
Om Prakash Agarwal	Sr Urban Transport Specialist	TWITR	
Arturo Ardila-Gomez	Sr Urban Transport Specialist	LCSTR	
Mauricio Cuellar	Sr Transport Specialist	LCSTR	
Reindert Westra	Sr Urban Transport Specialist	EASIN	
Luquan Tian	Sr Transport Specialist	SASDT	
Wenjing Pu	Transport Specialist	EASIN	
Weimin Zhou	Transport Specialist	GTIDR	
Yi Yang	Transport Analyst	GTIDR	
Holly Krambeck	Sr Transport Specialist	GTIDR	
Gerald Ollivier	Sr Infrastructure Specialist	GTIDR	
Rajagopal S. Iyer	Consultant	GTIDR	
Shuai Ren	E T Consultant	GTIDR	
Samuel L. Zimmerman	Consultant	EASCS	
Gladys Frame	Consultant	EASCS	
Xi Zhao	Consultant	EASCS	
Jing Xiong	Consultant	EASCS	
Emmanuel Py	Infrastructure Specialist	EASWE	
Xuan Peng	Program Assistant	EACCF	

Ruifeng Yuan	Program Assistant	EACCF	
Yunqing Tian	Team Assistant	EACCF	
Dawei Yang	Consultant	EASTS	
Zheng Liu	Procurement Specialist	EAPPR	
Yi Dong	Sr Financial Management Specialist	EASFM	
Haiyan Wang	Finance Officer	WFALN	
Kishor Uprety	Senior Counsel	LEGAM	
Alejandro Alcala Gerez	Senior Counsel	LEGAM	

(b) Staff Time and Cost

Stage of Project Cycle	Staff Time and Cost (Bank Budget Only)	
	No. of staff weeks	USD Thousands (including travel and consultant costs)
Lending		
FY05	2.98	19.70
FY06	0.00	0.00
FY07	17.38	116.84
FY08	19.76	112.15
FY09		0.98
Total:		**249.67**
Supervision/ICR		
FY09	9.90	50.33
FY10	6.40	46.48
FY11	6.60	59.81
FY12	10.73	84.14
FY13	5.83	50.89
FY14	9.42	47.29
FY15	5.00	20.00
Total:		**358.94**

Annex 6. Summary of Borrower's ICR

1. The borrower's ICR was prepared by the National Project Management Office in June 2014 following the final project workshop. The ICR consists of 74 pages and contains the following content: (i) project background; (ii) description of how the project was implemented and use of funds; (iii) description of key components at national and city-levels (Components 1 and 2 respectively); (iv) description of outputs; (v) description of project outcomes; (vi) project impacts and evaluation; and (vii) experience gained and lessons learned. The main text is supported by five annexes with two being of particular interest: (i) Annex IV – status in project cities; and (ii) Annex V – evaluation table that reports in general details on the end of project status of Intermediate Outcome Indicators and the PDO, with a preliminary attempt at measuring the GEO indicators.

2. While much of the text is descriptive and contains similar information on project background and outputs that can be found elsewhere in this GEF/World Bank it is a valuable summary from the borrower's perspective. Several sections provide some useful analysis and observations that are summarized below.

A6.1 Use of Funds (from Section 2)

3. As of the end of July, 2014, through withdrawals and reimbursement, the cumulative use of GEF grant funds amounted to US$ 12.5 million, accounting for 60% of the grant total (US$ 21 million), of which the PMO withdrew and reimbursed US$ 3.2 million and the local project offices' cumulative use of GEF grant funding added up to US$ 9.3 million. It is estimated that by the time of the project account closure, the PMO will be able to withdraw and reimburse another US$ 900,000 while the local project offices are able to withdraw and reimburse US$ 3.6 million. The accumulated withdrawals and reimbursements is expected to be US$ 17 million in total, accounting for 80% of the grant total.

4. Generally speaking, three main reasons have led to a low utilization of the grant. First, some demonstration cities lagged behind in the course of bidding and procurement and were rather slow in the withdrawal and reimbursement procedures. Secondly, a certain number of activities of the Component 1 at the national level were canceled. Thirdly, some international study tours and training sessions were cancelled due to stricter restriction on the number of delegates and delegations going abroad since last year.

A6.2 Experience Gained and Lessons Learned (From Section 7)

A6.2.1 Experience Gained

5. ***Successful Implementation Based on Efficient Management of the Project.*** Urban transport development involves many government departments, including the development and reform commissions as well as departments of finance, construction, planning, transport, public security, etc.

At the start of the project, a Project Steering Committee composed of the National Development and Reform Commission, Ministry of Finance, Ministry of Housing and Urban-Rural Development, Ministry of Transport; Ministry of Environmental Protection, Ministry of Land and Resources, Ministry of Public Security, and China's Association of Mayors was set up and convened seven sessions.

6. In the course of the project implementation, responsible officials of relevant bureaus and departments of the National Development and Reform Commission and the Ministry of Finance as well as members of the Project Executing Team of the World Bank participated in the project training sessions and inspected project sites in the pilot demonstration cities for checking up project work and directing the local project staff in their work. The Project Management Office not only worked out a general work plan for project implementation, but also the training plans including the plans for study tours. All those plans have been carried out in great earnest. In addition, the Project Management Office held meetings for exchange of experience and organized specialists for offering technical guidance to the participating cities.

7. In the course of the project implementation, most of the pilot cities set up a leading group with the mayor or a vice mayor as the group leader for the project implementation. As a result, the project activities have been carried out smoothly. Through the project implementation, the decision makers in the urban transport sector absorbed the advanced transport development concepts and put more emphasis upon urban transport development and enhanced their capacity of directing the team in the work of urban transportation development. And what is more, capable project management agencies are established at the local level and highly efficient mechanism for project coordination was formed. That is of great importance to successful project implementation.

8. ***Project Progress and Efficiency Based on the Understanding of World Bank Policies and Operational Process.*** As a rule, all World Bank projects should be implemented in accordance with the World Bank policies and procedures as well as the rules and regulations and the requirements of recipient countries. From 2008 to 2012, the PMO organized six training sessions in World Bank procurement and financial management for the purpose of making the local project managers better understand the Bank's procedures and relevant domestic policies so as to act accordingly to guarantee the smooth implementation of the project and achieve better results.

9. ***Sound Technical Foundation for Success of Program Based on Close Cooperation with WB Team and Technical Service and Guidance Provided by Members of the Core Expert Team.*** In order to guarantee the smooth implementation of the program, the PMO not only kept close contact and strengthened cooperation with the WB team, but also traveled to all the demonstration cities with WB teammates for project site inspection and provision of technical guidance. Besides, the PMO had experienced foreign and domestic experts on urban transport well organized to provide technical guidance and monitoring service to all the demonstration cities. Those experts made on-the-site investigation in the pilot cities and checked the quality of every aspect of the project at all

levels in terms of concept, contents, and achievements. Their efforts laid a sound technical foundation for the success of the project.

10. ***Sustainability Based on Local Technical Teams' Participation.*** The local technical teams are encouraged to participate in the project activities. Their participation is advantageous to data collection and analysis so as to ensure that the proposed measures tally with the actual local conditions. In the course of the project implementation, the local technical teams absorbed new concepts and advanced expertise and enhanced their capacity. That is of great importance to the follow-up project activities for promotion of sustainable urban development.

A6.2.2 Suggestions and Recommendations

11. ***On Selection of Demonstration Cities.*** The program designing and the selection of the pilot demonstration cities were completed at the initial state of the project preparations in 2005. When the program was originally designed, it aimed to cover the Eastern, Central, and Western part of China to involve large, medium-sized and small cities, and especially incorporate the Central and West China Development Strategy, focusing on the central and western underdeveloped regions. The program intended to use the experience of selected cities to promote work in the entire region for the promotion of sustainable development of transportation in large, medium-sized and small cities. It is suggested that future cooperation of this nature with the World Bank could focus on fewer cities so as to make the program play a better demonstrative *role*.

12. ***On Procurement and Reimbursement Process.*** On the one hand, the program is restricted in the World Bank procurement procedure and in project restructuring agreement; on the other hand, the implementation is affected by the institutional capacity of the local project offices and technical capacity of the local project teams and influenced by the conflicts of the change of plans and time and task constraints. As a result, some pilot cities are slow in terms of procurement and bidding process. Although some of the demonstration cities have proceeded well with their work and achieved satisfactory outcomes, the obstacles in the mechanism of withdrawal and reimbursement, especially the communication and coordination problems between local project offices and the local finance departments in the withdrawal and reimbursement process have resulted in slower program progress.

13. Therefore, it is suggested that in the forthcoming cooperation with the World Bank, PMO should strengthen its training of the managerial staff and make them become familiar with the WB procurement procedure and project management process in a shortest possible time. And that, local project offices should strengthen communication and coordination with relevant departments with a view to speeding up the withdrawal and reimbursement process. In addition, it is hoped that the World Bank procedures and the domestic management procedures would be simplified and coordinated with each other for the purpose of acceleration of the payment process.

14. ***On Team Management Enhancement.*** Due to the fact that both the Project Management Office and the local project offices are deemed as temporary organizations

and that the program implementation requires a long time, there has been some mobility of the managerial staff, and the technical team composed of specialists is not quite stable. In some participating cities, there is some change in the project management organizations. Besides, a certain number of the project managerial staff are not quite familiar with the World Bank process. The above facts have, in a sense, exerted influence upon the effectiveness and efficiency of project management in few specific activities.

15. Therefore, it is suggested that in the forthcoming cooperation with the World Bank: (i) the managerial staff of the project office and the technical team composed of specialists should be made relatively stable (ii) capacity of the managerial staff should be enhanced; and (iii) project management and guidance should be further strengthened.

16. ***On Utilization of Project Funds.*** In the course of the project implementation, especially for the capacity building component at the national level, some project activities concerning international study tours were negatively influenced on account of some restrictions imposed by the state concerning the number of international study tour and the mission members. As a result, the original plans for the training sessions to be conducted abroad were not fully carried out, resulting in unsatisfactory utilization of the project funds.

17. Therefore, it is suggested that in future cooperation with the World Bank, especially for the implementation of the budgetary activities, project plans should be appropriately adjusted in a timely manner according to the changes of domestic policies and relevant rules and regulations. At the same time, the availability of domestic matching funds should be further guaranteed for the smoother implementation of the project.

Annex 7. List of Supporting Documents

1. Project Appraisal Document, May 2008
2. Aide-Memoires and ISRs
3. Borrower's ICR in English, December 2014

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0 300 Kilometers

0 100 200 300 Miles

CHINA
GEF-WORLD BANK URBAN TRANSPORT PARTNERSHIP PROGRAM

- PROJECT CITIES
- PROJECT PROVINCE
- SELECTED CITIES AND TOWNS
- PROVINCE CAPITALS
- NATIONAL CAPITAL
- RIVERS
- MAIN ROADS
- RAILROADS
- PROVINCE BOUNDARIES
- INTERNATIONAL BOUNDARIES

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