PROJECT IDENTIFICATION FORM (PIF) [1]

PROJECT TYPE: Full-sized Project
TYPE OF TRUST FUND:GEF Trust Fund

PART I: PROJECT IDENTIFICATION

Project Title:	GEF Large-City Congestion and Carbon Reduction Project		
Country(ies):	People's Republic of China	GEF Project ID:[2]	4500
GEF Agency(ies):	WB (select) (select)	GEF Agency Project ID:	
Other Executing Partner(s):	Ministry of Tranport, Municipal Governments of Suzhou, Chengdu and Harbin	Submission Date:	2011-04-07
GEF Focal Area (s):	Climate Change	Project Duration (Months)	48
Name of parent program (if applicable): ➢ For SFM/REDD+ ☐		Agency Fee ($):	1,818,000

A. FOCAL AREA STRATEGY FRAMEWORK[3]:

Focal Area Objectives	Expected FA Outcomes	Expected FA Outputs	Trust Fund	Indicative Grant Amount ($)	Indicative Co-financing ($)
CCM-4 (select)	Outcome 4.1: Sustainable transport and urban policy and regulatory frameworks adopted and implemented	Output 4.1: Cities adopting in low-carbon programs	GEFTF	17,180,000	84,830,000
CCM-4 (select)	Outcome 4.3: GHG emissions avoided	Output 4.3: Energy savings achieved	GEFTF		
(select) (select)			(select)		
(select) (select)			(select)		
(select) (select)			(select)		
(select) (select)			(select)		
(select) (select)			(select)		
(select) (select)			(select)		
(select) (select)			(select)		
(select) (select)			(select)		
(select) (select)	Others		(select)		
		Sub-Total		17,180,000	84,830,000
		Project Management Cost[4]	GEFTF	**1,000,000**	3,500,000
		Total Project Cost		18,180,000	88,330,000

B. PROJECT FRAMEWORK

Project Objective: The objective of the project is to alleviate traffic congestion in large cities to achieve GHG emission reduction through policy formulation and development and demonstration of National Public Transit Metropolis Action Plan.

Project Component	Grant Type	Expected Outcomes	Expected Outputs	Trust Fund	Indicative Grant Amount ($)	Indicative Cofinancing ($)
Technical Assistance on Development of National Public Transit Metropolis	TA	(a) National Action Plan for Public Transit Metropolis developed. (b) Policy framework and implementation	(a) Public Transit Metropolis Action Plan, including a range of supporting TAs and consultantion workshops	GEFTF	4,500,000	2,380,000

[1] It is very important to consult the PIF preparation guidelines when completing this template.
[2] Project ID number will be assigned by GEFSEC.
[3] Refer to the reference attached on the Focal Area Results Framework when filling up the table in item A.
[4] GEF will finance management cost that is solely linked to GEF financing of the project.

Action Plan and Transport Demand Management (TDM) Policy		measures established for TDM.	for policies, institional reform, development standards, investment modalities, and benchmarking and evaluation system. (b) TDM policy framework, specific TDM measures (such as differential parking pricing policy and urban congestion charging) and action plan; (c) Technical guidelines and standards for intelligent bus dispatching, public transport operation monitoring and traffic information services;			
Pilot Demonstration in Three Cities: Suzhou, Chengdu and Harbin	Inv	(a) Traffic congestion alleviated in three cities; (b) Lower transport tCO2e emissions; (c) Higher share of public transit and lower dependence on private cars; (d) Higher user satisfaction with public transit services.	Suzhou: (a) Public Transit Metropolis Implementation Plan; (b) TDM implementation plan; (c) Congestion charging policy and pilot implementation in the historic district; (d) Advanced Public Transport System upgrade, including transit management center, traffic signal optimisation, transport guidance system and information service system; (d) Construction and operations of bus dedicated lanes and BRT lines.	GEFTF	4,000,000	35,000,000
	(select)		Chengdu: (a) Public Transit Metropolis Implementation Plan (b) TDM plan and implementation; (c) Construction and operations of bus dedicated lanes; (d) Intelligent Traffic Management System;	GEFTF	3,000,000	23,000,000
	(select)		Harbin: (a) Transit oriented development, transit priority policies and transit development plan; (b) TDM implementation plan; (c) Intelligent transit	GEFTF	3,000,000	23,000,000

			dispatching center and taxi monitoring and service platform; (d) Fuel consumption analysis system based on driver behaviors			
Capcity Building	TA	(a) Capacity for transport tCO2e emission monitoring enhanced at the national level; (b) Capacity for designing, implementing and managing congestion charging system acquired at city level; (c) Low carbon mobility concept enhanced and driving behavior improved among the public.	(a) National database of city public transit, including tranist operation capacity, congestion condition and transport tCO2e emissions; (b) Workshops and training on Public Transit Metropolis and TDM development.	GEFTF	2,000,000	1,050,000
Monitoring & Evaluation	TA	Project implemented as planned.	(a) Mid-term evaluation; (b) Project monitoring and evaluation	GEFTF	680,000	400,000
	(select)			(select)		
	(select)			(select)		
	(select)			(select)		
	(select)			(select)		
			Sub-Total		17,180,000	84,830,000
			Project Management Cost[5]	GEFTF	1,000,000	3,500,000
			Total Project Costs		18,180,000	88,330,000

C. INDICATIVE CO-FINANCING FOR THE PROJECT BY SOURCE AND BY NAME IF AVAILABLE, ($)

Sources of Cofinancing	Name of Cofinancier	Type of Cofinancing	Amount ($)
National Government	Ministry of Transport	Unknown at this stage	5,330,000
Local Government	Municipal Government of Suzhou	Unknown at this stage	36,000,000
Local Government	Municipal Government of Chengdu	Unknown at this stage	23,500,000
Local Government	Municipal Government of Harbin	Unknown at this stage	23,500,000
(select)		(select)	
(select)		(select)	
(select)		(select)	
(select)		(select)	
(select)		(select)	
(select)		(select)	
Total Cofinancing			88,330,000

D. GEF/LDCF/SCCF RESOURCES REQUESTED BY AGENCY, FOCAL AREA AND COUNTRY[1]

GEF Agency	Type of Trust Fund	Focal Area	Country Name/Global	Grant Amount (a)	Agency Fee (b)[2]	Total c=a+b
(select)	(select)	(select)				0

[5] Same as footnote #3.

(select)	(select)	(select)				0
(select)	(select)	(select)				0
(select)	(select)	(select)				0
(select)	(select)	(select)				0
(select)	(select)	(select)				0
(select)	(select)	(select)				0
(select)	(select)	(select)				0
(select)	(select)	(select)				0
(select)	(select)	(select)				0
Total Grant Resources				0	0	0

[1] In case of a single focal area, single country, single GEF Agency project, and single trust fund project, no need to provide information for this table

[2] Please indicate fees related to this project.

PART II: PROJECT JUSTIFICATION

A. DESCRIPTION OF THE CONSISTENCY OF THE PROJECT WITH:

A.1.1 the GEF focal area/LDCF/SCCF strategies:

The proposed project is fully consistent with the GEF 5 Climate Change Mitigation Focal Area strategies to support developing countries and economies in transition toward a low-carbon development path. It specifically fits into Objective 4: promote energy efficient, low carbon transport and urban systems.

A.1.2. For projects funded from LDCF/SCCF: the LDCF/SCCF eligibility criteria and priorities:

A.2. national strategies and plans or reports and assessments under relevant conventions, if applicable, i.e. NAPAS, NAPs, NBSAPs, national communications, TNAs, NIPs, PRSPs, NPFE, etc.:

The Government of China (GoC) adopted a National Strategy for the development of "Resource-Saving and Environment-Friendly Society" in 2004. In August 2009, GoC identified combating climate change as a fundamental national development strategy in the 11th National People's Congress. In 2010 GoC announced the national target of reducing carbon intensity by 40-45% from the level of 2005 by 2020. GoC requires the government at every level and in each sector to integrate "climate change" into the respective long- and mid-term development plans, and encourages efforts to support these policies and the planning and demonstrations of "low-carbon" transport. In the 12th Five-Year Plan of National Economic and Social Development (2011-2015) approved by the GoC in March 2011, GoC calls for cities to give priority to public transport development, non-motorized transport development, and private car transport demand management.

B. PROJECT OVERVIEW:

B.1. Describe the baseline project and the problem that it seeks to address:

Today, transport sector accounts for one third of the total gasoline consumption in China. It is estimated that this figure will increase to 57% by 2020. In large cities where motorization grows rapidly, 60% of air pollution comes from motor vehicle emissions. Traffic congestion increases the vehicle operating time significantly for the same distance travelled, thus further increasing the level of air pollution and CO2 emissions. According to the statistics of IRU (2001), fuel consumption and CO2 emissions under congestion could be three times higher than the normal circumstances.[6] Moreover, congestion reduces transport mobility and causes significant economic loses. It is estimated that average travel speeds of motor vehicles will drop from 25 km/h today to below 15 km/h by 2015 in many large cities in China. Experiences around the world and in China have long proved that constructing new road infrastructure to cope with the sharply increasing demand of private vehicles will not effectively solve the problem of traffic congestion. On the contratry, it often attracts more automobile traffic, worsening congestion and increasing total CO2 emissions. It is clearly recognized that the one and only way to reduce congestion in a sustainable manner is to encourage people to shift to public transport modes with higher occupancies, higher efficiency, less fuel consumption and less emissions.

The baseline project comes out from a recent plan of the Ministry of Transport (MOT) to help a number of large cities to develop their cities into Public Transit Metropolises. By international best practice experience, a Public Transit Metropolis is one with a public transport modal share among all motorized person trips reaching 60%. MOT is the central government's line agency for urban transport operations, and has mandates to promote sustainable urban transport and support transport CO2 emission reduction. Facing the growing challenges in large cities, MOT calls for the transformation of large cities towards Public Transit Metropolis, through planning,

[6] International Road Transport Union (IRU), "Traffic congestion increases CO2 emissions by 300%", 2001.

public transport infrastruture and service improvements, policy framework and measures for TDM implementation, and increased application of intelligent transport information system. MOT recognizes that reducing congestion and CO2 emissions in urban transport requires comprehensive approach. Developing Public Transit Metropolis is not possible without effective TDM as an enabling condition. Moreover, many TDM measures (such as parking space control, parking pricing, congestion pricing, traffic calming, ramp metering, driving permit by day, etc) are recognized as a cost-effective means to alleviate traffic congestion even before a Public Transit Metropolis takes shape. In order exercise its leadership role in policy, strategy, and technical guidelines effectively, MOT intends to develop a National Public Transit Action Plan as well as policy framework and measures for TDM to guide large cities effectively for the implementation of congestion and carbon reduction. MOT has allocated over 16 million RMB (equivalent to US$2.4 million) for such an effort in the next 5 years.

Three large cities are selected for pilot demonstration under this project: Suzhou (Jiangsu Province), Chengdu (Sichuan Province), and Harbin (Heilongjiang Province). All are among the Chinese large cities, each with a population over 10 million that is still growing. The number of motor vehicles in Suzhou, Chengdu and Harbin has reached 1.9 million, 2.4 million and 0.71 million, respectively, by the end of 2010. Fuel consumption (gasoline and diesel) by buses and taxis amounted to 192 million litre/year in Suzhou and 25 million litre/year in Chengdu. Although investments in urban public transport in these cities have increased significantly in recent years, overall level of public transport services remains inadequate. Far from being attractive, public transport suffers from poor coverage, poor accessibility, slow speeds, low punctuality, poor comfort level, and inconvenient transfer. Public transport has not yet become the prefered mode of transport for urban residents. Moreover, the quality of public transport services declines as a result of growing traffic congestion, which in turn increases the relative attractiveness of private cars.

Although congestion levels in these cities are not as serious as that in Beijing, they learn the hard lesson from Beijing's recent experience of hyper congestion and are determined to prevent congestion from out of control. They desire to develop Public Transit Metropolis as one of the key long-term solutions to traffic congestion and CO2 emissions. They have planned physical investments in a magnitude of billions USD equvalent for public transport infrastructure (such as BRT and urban rails) and intelligent transport information and management systems in their local 12th Five-Year Plans. Suzhou plans to construct a number of bus priority infrastructure facilities, including two new BRT lines with a total length of 50 km, bus dedicated lanes of 100 km and advanced public transport IT systems that serve them. Chengdu plans to construct a number of bus dedicated lanes and develop ITS systems including Information Service System, Signal Control System and Traffic Guidance System. Harbin plans to develop an intelligent public transport dispatching centre cum taxi monitoring and service platform, and install on-board units in buses and taxis to record the data. Budget commitment has been made in each of these cities for public transport development. All three cities also plan to introduce TDM to alleviate congestion and to create a favorable condition for the development of Public Transit Metropolis. However, knowledge and experience of TDM and its integration with ITS and public transport development are largely lacking in these cities.

The GEF project is proposed to support MOT and the three cities to address congestion and carbon problems through investment (mostly in ITS) and technical assistance. It is also expected that the institutional capacities developed under the project will contribute to the institutional sustainability of the project outcomes. This expectation is drawn from past experience of Bank funded urban transport projects in China where the international best or good practices in public transport priority and traffic management were learned, tested and institutionalized to become a formal government supported function. MOT is committed to help cities create a favorable policy environment for the development of Public Transit Metropolis and implementation of TDM measures through ministerial directives, regulations, and technical guidelines that would be developed and adopted on the basis of the activities

supported by this GEF project.

B. 2. incremental /Additional cost reasoning: describe the incremental (GEF Trust Fund) or additional (LDCF/SCCF) activities requested for GEF/LDCF/SCCF financing and the associated global environmental benefits (GEF Trust Fund) or associated adaptation benefits (LDCF/SCCF) to be delivered by the project:

The goal of this project is to develop and demonstrate a comprehensive package of measures including infrastructure, policies, economic incentives and capacity building, to discourage private car use while supporting high-capacity, low-carbon transport modes. MOT and the pilot cities realize the importance of implementing TDM measures to complement and support public transport development, but they lack experience and institutional capacity to develop a comprehensive demand management policy framework and plans. With this constraint, the local governments of Suzhou, Chengdu and Harbin would have to limit their actions to the provision of better public transport infrastructure and services, and to conducting a broad study on TDM.

Similar to the three cities, many Chinese cities are promoting public transport priority. But the outcomes turn out to be less satisfactory as these cities simply provide more public transport infrastructure without effectively controling the private vehicle usage. The target of 60% public transport mode share of total motorized transport could hardly be fulfilled in Suzhou, Chengdu and Harbin, based on the past experience in large cities such as Beijing and Guangzhou. Before the TDM measure of banning vehicle usage on every weekday by the match of last digit of license plate numbers was initiated in 2008, Beijing had invested substantially in urban rails, BRT lines and bus dedicated lanes, but public transport mode share hardly reached 50% in total motorized trips. Similarly in Guangzhou, despite the huge investment allocated for urban rails, BRT and ITS sytems, the public transport mode share is still below 60% by 2010.

The key added value of the proposed GEF financing lies in the relevant international experience and expertise that could be mobilized to provide technical assistance and investment to the congestion and carbon reduction effort. The TA would support the design and implementation of TDM as a key element of a comprehensive package of interventions in Public Transit Metropolis development. Investments would support crucial investment in ITS systems and other advanced facilities.

In the proposed project, the incremental activities under GEF financing will include:

(a) Technical Assistance on the development of National Public Transit Metropolis Action Plan and TDM policy framework at the national level;

(b) Technical Assistance on the design of the proposed public transport infrastructure in the demonstration cities, including BRT lines and bus dedicated lanes

(c) Development and upgrading of related ITS systems for TDM and public transport in the demonstration cities. In Harbin, a driver behavior-based fuel consumption analysis will also be developed based on the data collected via the on-board units eqipped with buses and taxis.

(d) Development and implementation of TDM implementation plan for each city respectively. The potential measures to be implemented include vehicle ownership controls (vehicle taxation, vehicle quotas, garaging requirements, vehicle standards and etc.) and vehicle usage controls (non-pricing access control, basic pricing, parking controls, area pricing, etc). Policy and technical solution of congestion charging will also be developed and implemented in the historic district of Suzhou.

(e) Capacity building of TDM and Public Transit Metropolis development, including workshops and training on public transport service improvement and TDM policy and measures development and implementation.

GEF financing is expected to generate significant global benefits in CO2 emission reduction, as alleviation of traffic congestion is expected to directly result in significant reduction in vehicle

fuel consumption and CO2 emissions. Take Chengdu as an example. According to the city's person trip survey conducted in 2010, the total number of person trips was 4.96 billion a year, of which non-motorized transport modes accounted for 46.8% and motor vehicles 51.1%. Among the motor vehicle trips, 43.4% were private cars and 44.8% public transport. The average travel length by motorized vehicle in the city is 8 kilometres. According to IEA, the CO2 emissions per passenger-km from private car are 0.353kg and from bus 0.038kg. Without GEF intervention, public transport mode share of total motorized person trips is expected to reach, at best, the level of Guangzhou in 2009 which is 55%. Under the conservative assumption, with the GEF intervention, public transport share would reach 60% in 4 years' time and private vehicle usage is controlled to remain at the current level. The potential of CO2 emission reduction (through modal shifting) in Chengdu alone over the next four years would be roughly 0.80 million tons. As 3 million USD of GEF financing is allocated to Chengdu, this equates to US$3.75 in GEF grant investment per ton of CO2e mitigated - a rather high benefit-to-cost ratio. This compares to the estimate of US$15.5 per ton for the proposed GEF City Cluster Eco-Transport Project (to be approved by World Bank Board) and the estimate of US$3.5 per ton for the proposed GEF Guangdong Green Freight Demonstration Project (to be approved by the World Bank Board). Similar and more detailed calculations could also be done for Suzhou and Harbin, when up-to-date survey data become available at a later stage and before before CEO endorsement. Many developing cities around the world are experiencing similar patterns of population growth, motorization, and traffic congestion. The success of this project will provide an important reference for other developing countries.

B.3. Describe the socioeconomic benefits to be delivered by the Project at the national and local levels, including consideration of gender dimensions, and how these will support the achievement of global environment benefits (GEF Trust Fund) or adaptation benefits (LDCF/SCCF). As a background information, read Mainstreaming Gender at the GEF.":

Traffic congestion costs large cities an annual loss of GDP by 3%. About 5-10% of personal incomes is lost due to traffic congestion in China. In Beijing, one third of the commuting time to and from work is wasted in congestion.[7] The project will bring significant socioecomomic benefits in terms of daily commuting time savings and avoided GDP loss. Moreover, there will be considerable social benefits as traffic congestion seriously damages the urban environment through local air pollution and noise, and add to the stress level of the daily life of urban residents. Savings in fuel consumption resulted from the alleviation of traffic congestion by the project lead to reduction of vehicle CO2 emissions, generating global environment benefits.

B.4 Indicate risks, including climate change risks that might prevent the project objectives from being achieved, and if possible, propose measures that address these risks to be further developed during the project design:

Implementation of integrated congestion reduction policies and actions at the city level requires a strong learning and adoption of the international best practices and strong support from the central and municipal governments. Innovation is also important in this learning process because cities in China are changing fast in terms of population size and motorization rate in comparison to most developed countries. The risk of the project lies in the learning without innovation. However, successfully managed, this risk is worth taking and the potential payoff will be highly rewarding. Once the large-city congestion reduction model is created and shared through innovative learning, the risk for implementing the similar policies and measures in other cities would be significantly reduced, providing a foundation for impact scale-up.

The other risk is that the experiences in the pilot cities will not be replicated in other cities and therefore the impact is limited. The risk is believed to be mitigatable through close involvement of the key central government agencies and implementation of a communication strategy through the entire project cycle.

[7] “2009 福田指数——中国居民生活机动性指数研究报告”.

B.5. Identify key stakeholders involved in the project including the private sector, civil society organizations, local and indigenous communities, and their respective roles, as applicable:

The key stakeholders involved in the project are:

- Ministry of Transport: policy and guideline development at the national level

- Transport Bureau of Suzhou/Chengdu/Harbin: pilot demonstration at the city level

- Local public transit companies: improving transit operation, management and services

- Local parking management companies: implementing parking pricing policies

- Domestic universities and transport planning and design research institutes: technical participation in design and implementation of the project

- Local communities: public consultation and public participation

B.6. Outline the coordination with other related initiatives:

China-GEF-World Bank Urban Transport Partnership Program (CUTPP) was launched in 2008 with an objective to achieve a nation-wide paradigm shift in city transport and land use strategies to promote public transport within cities. The project has a main focus on transport and land use planning. The project supports "upstream" planning TA activities both as the central government level and in 19 pilot cities. TDM is supported under the project as part of the comprehensive transport strategies and plans in two pilot cities, and as a main feasibility study in one pilot city.

The proposed Large-City Congestion and Carbon Reduction Project will focus on the Action Plan for Public Transit Metropolis and introduction of TDM measures in three large cities where significant CO2 emission reduction benefits could be achieved through congestion reduction. Back in 2006 when CUTPP was proposed, the main objective of TDM study was to provide a scientific basis to convince the cities that TDM should be considered in the planning process. With the rapid motorization that has taken place over the past few years, the cities have actually come to the stage when congestion is getting so bad that certain TDM measures must be implemented.

The three pilot cities of Suzhou, Chengdu and Harbin were not included in CUTPP, but they are facing severe traffic congestion problems. Remarkable outcomes in congestion and carbon reduction could be achieved in these cities if the project is well-designed and implemented. Their experiences could be more widely shared among other cities in China.

C. DESCRIBE THE GEF AGENCY'S COMPARATIVE ADVANTAGE TO IMPLEMENT THIS PROJECT:

C.1 Indicate the co-financing amount the GEF agency is bringing to the project:

C.2 How does the project fit into the GEF agency's program (reflected in documents such as UNDAF, CAS, etc.) and staff capacity in the country to follow up project implementation:

The project is consistent with the pillars of the 2006-10 Country Partnership Strategy for 2006-2010 (Report No. 35435-CN), approved by the Board on May 23, 2006. Specifically, the project supports the third pillar—managing resource scarcity and environment challenges. The new Country Partnership Strategy for 2011-2015 is being developed, and climate change and urban transport is very likely to remain the focus.

The World Bank is well positioned to assist China in implementing this project given its close

working relationship with the Government of China during the last two decades, its successful experience in integrating technical assistance and lending operations into the country's own policy agenda in urban, transport and energy sectors and its global knowledge and experience on climate change policy development and financing in these sectors.

PART III: APPROVAL/ENDORSEMENT BY GEF OPERATIONAL FOCAL POINT(S) AND GEF AGENCY(IES)

A. RECORD OF ENDORSEMENT OF GEF OPERATIONAL FOCAL POINT (S) ON BEHALF OF THE GOVERNMENT(S): (Please attach the Operational Focal Point endorsement letter(s) with this template. For SGP, use this OFP endorsement letter).

NAME	POSITION	MINISTRY	DATE *(MM/dd/yyyy)*

B. GEF AGENCY(IES) CERTIFICATION

This request has been prepared in accordance with GEF/LDCF/SCCF policies and procedures and meets the GEF/LDCF/SCCF criteria for project identification and preparation.					
Agency Coordinator, Agency name	**Signature**	**DATE** *(MM/dd/yyyy)*	**Project Contact Person**	**Telephone**	**Email Address**
Karin Shepardson Program Manager ENVGC World Bank		3/18/2011	Jiang Ru	202 473-8677	jru@worldbank.org