I. Introduction and Context

Country Context

1. Accompanied with rapid industrialization and urbanization, China is confronted with severe challenges in combating climate change and reducing greenhouse gas (GHG) emissions. In November 2009, the Government of China (GoC) announced the national target of reducing carbon intensity (the amount of GHG emitted per unit GDP) by 40-45% by 2020, compared to the level of 2005. This calls for the government at every level and agency in each sector to set up the institutional mechanism and policy framework, as well as to develop and implement the energy efficiency and fuel switching plans, to achieve the ambitious goal.

2. In the 12th Five-Year Plan (FYP) of National Economic and Social Development (2011-2015) issued in March 2011, GoC further adopted the development of “Resource-Saving and Environmentally-Friendly Society” as one of the guiding principles during the next five years. The 12th FYP requires all sectors, including industry, building, transport, agriculture and etc., to establish their respective monitoring and evaluation systems for GHG emissions and specify their respective targets for GHG emission reduction.

Sectoral and Institutional Context

3. The transport sector accounts for 35% of total crude oil consumption in China in 2005, and this figure is estimated to increase to 55% by 2030, contributing to more than two-thirds of overall increase in Chinese oil demand. The energy-related CO2 emission from the transport sector is estimated to increase from 337 million tons to 1,255 million tons during the same period. The foreseen growth in oil demand and CO2 emission is mainly due to rapid vehicle stock expansion, accompanied with rising economic activity and household incomes. This has resulted in a severe challenge as well as a great potential for the road transport sector to achieve CO2 emission reduction.

4. China surpassed Germany in 2004 and Japan in 2006 to become the second-largest car market in the world. Motorization has been unprecedentedly rapid in large Chinese cities with faster economic growth and higher disposable income during the past few years. Unfortunately, this has resulted in urban transport problems represented by traffic congestion and air pollution, which are commonly seen in many large cities around the world. The intensive usage of private cars in city areas has brought extremely high air pollution and CO2 emission, and this is intensified by the worsening traffic congestion. According to the statistics of the International Road Transport Union (IRU), fuel consumption and CO2 emission under congestion could be up to 4 times higher than normal circumstances. In addition, congestion reduces transport mobility, causing significant economic losses.

5. International and domestic experience has long proved that constructing new road infrastructure to cope with the increasing demand of motorized vehicles would not solve the problem of traffic congestion. On the contrary, the newly-built roads will immediately be filled with traffic, creating more congestion and CO2 emission. China has gradually recognized that the one and only way to reduce congestion in a sustainable manner is to encourage people to shift towards public transport, a mode with higher occupancy, higher fuel efficiency, and less carbon intensity.

6. The project concept comes out from a recent plan of the Ministry of Transport (MOT) to help a number of Chinese large cities to transform into Public Transit Metropolis (PTM). By international best practice, a PTM 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 achieve CO2 emission reduction in the transport sector. Facing the growing challenges in large cities, MOT calls for the transformation of large cities towards PTM, through comprehensive planning, public transport infrastructure and service improvements, policy framework and measures for travel demand management (TDM) implementation, and broader application of Intelligent Transport System (ITS). MOT recognizes that the successful transformation would not be possible without effective TDM as an enabling condition. In fact, many TDM measures (such as parking space control, parking pricing, congestion pricing, traffic calming, ramp metering, driving permit by day, etc) could be cost-effective means to alleviate traffic congestion even before a PTM takes shape.

7. Three large cities are selected for pilot demonstration under this project: Suzhou (Jiangsu Province), Chengdu (Sichuan Province), and Harbin (Heilongjiang Province). All are among 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 2.1 million, 2.4 million and 0.71 million, respectively, by the end of 2010. Despite the significant investments in urban public transport in these cities in recent years, overall level of public transport services remains inadequate. Public transport modal share among all person trips of Suzhou, Chengdu and Harbin only reached 15%, 22.1% and 23.4%, respectively. Far from being attractive, public transport suffers from poor coverage, poor accessibility, slow speeds, low punctuality, poor comfort level, and inconvenient transfer. It has not yet become the preferred mode of transport for urban residents in any of these cities. 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.

8. 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 PTM 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 equivalent for public transport infrastructure (such as BRT and urban rails) and intelligent transport information and management systems in their local 12th FYPs. All three cities also plan to introduce TDM to alleviate congestion and to create a favorable condition for the development of TPM. However, knowledge and experience of TDM and its integration with ITS and public transport development are largely lacking in these cities.

9. The project is proposed to support MOT and the three cities to address congestion and GHG emission problems through investment and technical assistance. It is also expected that the institutional capacities developed under the project will contribute to the 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 PTM 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 project.

Relationship to CAS

10. The project is consistent with the pillars of the Bank’s Country Partnership Strategy (CPS) 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 CPS for 2011-2015 is being developed, and climate change and urban transport is very likely to remain the focus.

II. Proposed Global Environmental Objective(s)

Proposed Global Environmental Objective(s) (From PCN)

The development objective of the project is to alleviate traffic congestion and to achieve GHG emission reduction in selected large cities in China, through demonstration of options for public transport improvement and travel demand management.

Key Results (From PCN)

13. The achievement of the PDO will be measured through the following key performance indicators, which are subject to refinement during project preparation:

a) adoption of the national policy framework by MoT;
b) endorsement of the policy framework by a certain number of large cities;
c) increase in bus capacity and bus speed during the peak hour in project affected areas in pilot cities; and
d) reduction in GHG emissions on project affected areas in pilot cities.

III. Preliminary Description

Concept Description

13. In response to the congestion issues and accompanying GHG emissions that Chinese large cities are facing, MOT is determined to develop policy framework and action plans that would stimulate public transport development and discourage private car usage throughout China. Three pilot cities, i.e., Suzhou, Harbin and Chengdu, are selected to demonstrate the implementation of these policies and measures. Therefore, the project is designed to include technical assistance at the national level, as well as specific pilot programs at the local level.

14. Component 1: Technical Assistance at the National Level. This component would provide technical assistance to MOT on
developing a package of policies, guidelines and action plan to tackle congestion issues, and to establish a monitoring and evaluation (M&E) system for urban transport CO2 emissions. It would include the following 3 sub-components.

a) Development of TDM policy framework and implementation guideline. This would include: (i) performance indicator and evaluation standard for urban traffic congestion; (ii) TDM manual for Chinese cities (including performance evaluation method); and (iii) proposal for congestion pricing scheme.

b) Development of Public Transit Metropolis Action Plan. This would include: (i) policy framework and evaluation system for the implementation of PTM; and (ii) technical and operational guideline for Advanced Public Transport System (APTS).

c) Establishment of urban transport CO2 emission reduction system. This would include: (i) urban transport CO2 emission modeling; (ii) M&E mechanism; and (iii) urban transport CO2 emission database for selected cities.

15. Component 2: Pilot Demonstration in three large cities. This component would introduce international best practices to the pilot cities, focusing on various aspects of public transport improvement and travel demand management, to demonstrate the impact and global environment benefits, as well as to provide referential experience for improving the works at the national level.

Pilot Demonstration in Suzhou

a) Public Transport Improvement. This aims to improve public transport services to attract more people to use it, through: (i) optimization of Suzhou’s public transport information service system; (ii) construction of 2 BRT lines; and (iii) clean energy bus procurement.

b) Travel Demand Management. This aims to establish and launch a policy framework and an implementation plan that would discourage private vehicle usage, through: (i) Suzhou urban TDM study and parking system planning; (ii) formulation and pilot implementation of a differentiated parking tariff policy; and (iii) development of an implementation plan for congestion charging in Suzhou’s Old Town.

c) Capacity Building. This would ensure the long-term sustainability of the project, through: (i) urban transport M&E system based on data integration; (ii) TOD study in Suzhou; (iii) establishment of a CO2 emission M&E database for Suzhou; and (iv) project management, including daily operation of the Suzhou PMO and establishment of project website.

Pilot Demonstration in Harbin

a) Public Transport Improvement. This component aims to improve public transport services and accessibility through (i) bus dedicated lanes along selected corridors; (ii) public transport accessibility improvement; (iii) park and ride (P+R) scheme at suitable locations, (iv) bus integration with new urban rail line; and (v) public transport dispatch center.

b) Travel Demand Management. This component aims to introduce the TDM practices to restrain private car usage in the central city, through: (i) parking management policy study and implementation; and (ii) junction channelization and traffic management.

c) Capacity Building. This would develop the city’s capacity in dealing with urban transport issues, through: (i) technical assistance on the integration of various APTSs and taxi management system; (ii) domestic and international training; (iii) M&E of project outcomes.

Pilot Demonstration in Chengdu

a) Public Transport Improvement. This component aims to enhance public transport operation and services, through: (i) bus priority at the junctions, including bus signal priority and junction channelization, to further maximize the benefits of the city’s extensive dedicated bus lanes; and (ii) bus stop improvement, including bus platform upgrading and pedestrian access improvement.

b) Travel Demand Management. This component aims to introduce TDM measures to achieve a balance between demand and supply as well as a balance among different modes of transport, through: (i) congestion hotspot mitigation using real-time traffic data; and (ii) parking management and differential pricing.

c) Capacity Building. This component would support Chengdu’s capacity development for urban transport planning and development, through: (i) Comprehensive Sustainable Urban Mobility Plan; (ii) technical assistance on integrated urban transport database and modeling; (iii) domestic and international training; and (iv) M&E of project outcomes.

16. Component 3: Capacity Building. This would include: (i) construction of the project website; (ii) technical assistance on TDM, congestion pricing and public transport service improvement and transport CO2 emission M&E; and (iii) workshops and knowledge dissemination; and (iv) training for national and local officials and technical staff.

17. Component 4: Monitoring & Evaluation. This would include: (i) project progress monitoring and evaluation; and (ii) regular...
review and dissemination of project intermediate outcomes.

18. Component 5: Project Management. This would include staffing for National PMO, project management, project website maintenance, implementation advisory to pilot cities, organization of workshops and conferences, etc.

### IV. Safeguard Policies that might apply

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### V. Tentative financing

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