I. Introduction and Context

Country Context

Thirty years of rapid economic growth have supported unprecedented urbanization in China. China’s urban population reached 690 million in 2011, accounting for 51 percent of the total population according to the National Statistics Bureau. The United Nations projects that the number of Chinese urban dwellers would grow to over 1 billion by 2030.

An equally rapid motorization has followed. From 1990 through 2010, the number of private vehicles in Chinese cities has increased at an average of 25 percent annually. While motorization has supported economic development and enhanced mobility at an individual level, it has also brought about a range of adverse economic, environmental and social impacts, including increases in traffic congestion, air pollution, fossil fuel consumption, greenhouse gas emissions and road accidents.

To mitigate these growing challenges, Chinese cities are increasingly investing in public transport networks and services, particularly in urban rail, and progressively seeking to integrate these with long term land use and spatial planning frameworks. As of June 2012, 14 Chinese cities were operating urban rail system with over 1,700 kilometers of track and 31 cities had urban rail plans approved with a total track length of approximately 5,000 km (including those in operation and under construction).
Sectoral and Institutional Context

Nanchang is the capital city of Jiangxi Province and a renowned historic and cultural city in China with over 2,200 years of history. In 2010, the city of Nanchang covered an area of 618 square km with an urban population of 3.31 million. Nanchang’s GDP represented 23 percent of the GDP of Jiangxi Province in 2010 and reached 268.9 billion RMB (US$42.0 billion equivalent) in 2011, increasing by 21.8 percent over the previous year, with an average GDP per capita of 53,000 RMB (US$8,280 equivalent).

Rapid urbanization in recent years has resulted in urban sprawl and rapid motorization. By the end of 2011, total auto vehicle ownership in Nanchang exceeded 470,000. Traffic surveys indicated that the share of all motorized trips grew rapidly from 22 percent in 2002 to 31 percent of trips in 2010, although 67 percent of trips are still by bicycle or walking. The average distance travelled every day was 9.36 km. Public transport accounted only for 13.5 percent of total daily trips – relatively low compared to cities with similar sizes and GDP such as Changsha (24.5 percent) or Wuhan (23.4 percent), where the share of walking and biking is lower.

The city of Nanchang is split in two by the Gan River. The older part of the city, located on the eastern side of the river, has dense residential areas, commercial centers and public facilities. It is experiencing increasing traffic congestion as a result of rapid motorization compared to the network capacity. The development of the western side of the river started a decade ago with the construction of high density buildings, a stadium and a network of large avenues. Further development is planned including residential areas, a central business district, a high-tech zone, a high-speed rail (HSR) station (under construction) and a large provincial government compound (under planning). According to Nanchang’s Master Plan, total development in the western area will reach 95 square km by 2020, with a population of 950,000. Car traffic within the western area is likely to grow rapidly, since the design of the western area with wide roads and ample parking is amenable to car traffic. The level of cross-river traffic is also likely to increase dramatically leading to congestion on the four bridges crossing the river as well as in the eastern part of the city.

In response to these challenges, the Nanchang Municipal Government (NMG) is determined to plan and implement attractive alternatives to car transport as part of an efficient and sustainable urban transport system. This approach emphasizes integrated and efficient public transport services. The NMG has adopted the following specific targets to be achieved by 2020: (i) reduced travel time within the city core of less than 30 minutes; (ii) safe transport with less than 5 fatalities per 10,000 vehicles; (iii) efficient transport with a public transport mode share over 30 percent and private car mode share below 25 percent; (iv) comfortable transport with public transport load factor below 4 person per square meter during peak hours; and (v) eco-friendly transport with noise at junctions below 60 db and emission per vehicle cut by half compared to today.

NMG sees urban rail as the backbone of such an integrated public transport system, able to attract passengers with growing expectations in terms of quality and comfort. In 2008, it developed an urban rail network plan consisting of 5 lines, totaling 168 km and 128 stations. The first stage, as set forth in the Nanchang Urban Rail Construction Plan (2009-2016) approved by the National Development and Reform Commission (NDRC), includes the construction of Line 1 and Line 2 from 2009 to 2016. The construction of Line 1, totaling 28.7 km with 22 stations, one depot and one train parking yard started in February 2012 and is expected to enter operation in December 2015. Line 2, from Western HSR Station to Yudaihe Station, will have 23.3 km with 21 stations and one
deport according to its latest feasibility study report. The city expects to start the construction of Line 2 at the end of 2012, and start operations at the end of 2016.

Relationship to CAS
The objectives of the Project are expected to be consistent with the new Country Partnership Strategy (CPS) as well as with the 2006-2010 CPS (Report No. 35435-CN), approved by the Board on May 23, 2006. The Bank’s CPS 2011-2015 is about to be approved. The Government of China has requested that the new CPS for 2011-2015 be co-terminus with and aligned to its 12th Five-Year Plan, covering 2011-2015. The 2006-2010 CPS seeks among other objectives, to improve the competitiveness of the various regions of China and the overall investment climate, and to address the needs of disadvantaged groups and underdeveloped areas by financing infrastructure. Specifically, the project supports the objectives of: (a) promoting balanced urbanization; (b) reducing poverty, inequality, and social exclusion; (c) financing sustainable and efficient growth; and (d) improving public and market institutions.

In line with the new CPS, this project would contribute to accelerating a shift to public transport, through a direct investment in one of China’s central provinces. The project would build on priority areas of value-added identified under the on-going Kunming Urban Rail project and parallel sector work. It would provide an opportunity to strengthen public transport integration focused on users and to support transit oriented development while deepening institutional cooperation among municipal agencies. It would help the city in articulating a long term sustainable approach to its financing of public transport. The project is also expected to generate a number of good practices with broader applicability in other Chinese cities and support the ongoing transformation of urban transport systems in China.

II. Proposed Development Objective(s)

Proposed Development Objective(s) (From PCN)
The proposed Project Development Objective (PDO) is to improve sustainable mobility in Nanchang by providing integrated and accessible rail-based public transport of suitable capacity and quality along the Line 2 corridor from Western HSR Station to Yudaihe Station.

Key Results (From PCN)
Measurement of PDO achievements may be recorded through the following proposed key indicators:

a) Improved sustainable mobility: Proportion and number of Line 2 passengers who have switched from car transport, or who would have opted for car transport without Line 2 (percentage established based on surveys);

b) Accessibility: Percentage of stations that are accessible to people of reduced mobility (percentage for all stations on the line) (target 100%); Provision of bike parking space compared to projected access by bikes.

c) Suitable capacity: Occupancy rate at peak hour on trains;

d) Quality: Percentage of users that rated the service “satisfactory” or above in user satisfactory survey (in comparison with existing bus passengers on the corridor).
III. Preliminary Description

Concept Description

The project would support the development of Line 2 of the Nanchang urban rail system from Western HSR Station to Yudaihe Station. The line will connect the two railway stations in the city (the existing railway station as well as the new HSR station) and connect the eastern and western parts of the city. The project includes the construction of 23.3 km of urban rail, 21 stations and 1 depot; systems for power supply, signaling, communications, train control, fare collection, drainage, fire fighting, ventilation, air conditioning and monitoring; rolling stock; integration with other transport modes; all other ancillary activities required to complete construction and support operations including technical services; and resettlement. The initial cost estimate is US$2.30 billion, or US$99 million per km, in line with other recent similar investment costs for urban rail in China.

The proposed project components to be financed by the Bank loan are:

a) Construction of Stations (US$178 million): This would include the civil works for the construction of five stations and some tunnels in between. These proposed stations include a range of typical stations with different density levels and functions: one regular station in the city center, one station with a single connecting line between two tracks, one multi-modal interchange station with railway, long-distance bus, city bus, etc., and two transfer stations with other lines, of which one has a connecting line with Line 3. The construction of stations would include the provision of the necessary facilities for integration with other transport modes where appropriate.

b) Equipment Installation (US$70 million): Procurement and installation of critical systems to support operations, including (but not necessarily limited to): elevator/escalators, train traction system and substation equipment.

c) Capacity Building (US$2 million): Provision of workshops, study tours and technical assistance on urban rail topics, tentatively including: (i) accessibility modeling for station location and catchment analysis; (ii) travel demand surveys; (iii) parking management and policy planning; and (iv) land use planning and urban design along Line 2.

IV. Safeguard Policies that might apply

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