1. Key development issues and rationale for Bank involvement

China’s 11th Five-Year Plan (FYP) identified the national goal of “coordinated and harmonized” development between eastern, central and western regions. To achieve this, the Government of China initiated the strategies of promoting the “Development and Exploitation of Western Regions” and the “Rise of Central China”. Investments to facilitate the growth of the non-coastal regional hubs, such as Sichuan, Hubei and Shaanxi, are an important element of the strategy. These investments provide key links between the poorer western regions and the prosperous coastal areas and disproportionately contribute to regional growth.1

Hubei is a central province surrounded by the provinces of Henan, Anhui, Jiangxi, Hunan, Sichuan, Chongqing (Municipality), and Shaanxi. At the crossroad of China, the completion of its expressway network is vital to the next stage of China’s National Expressway Network (NEN) development. Hubei will provide key transport infrastructure to facilitate the development of central China as well as the interactions and integrations between the east, central and western regions.

Home to over 60 million inhabitants, Hubei has historically lagged behind the coastal regions in economic development. However, by leveraging its central geographical position to attract industries, Hubei has begun to enjoy rapid development as industries: in 2004, Hubei enjoyed the 7th highest GDP among all Chinese provinces, with a 10.5% average annual GDP growth over the past decade.

However, the benefits of Hubei’s recent developments have not been well distributed to its western areas, particularly around the border with Chongqing. The mountainous terrain has restricted transport development, limiting the exploitation of land, hydro-power, mineral and

tourism resources. As a result, the west area of Hubei has remained hill-locked, developmentally backwards, with its resources under-utilized.

To secure the development of the west of the province, to contribute towards Wuhan becoming a transport centre for China, and to contribute towards the national goal of western development, the Government of Hubei has planned a network of high standard highways. These will link Wuhan to the rest of the province, making it a transportation hub for the province, and hopefully the country. The planned network would see Beijing, Guangzhou, Shanghai, Chengdu, and Xi’an within 10 hour drive of Wuhan by 2020.

One critical link of Hubei’s planned network is a 172 km expressway running east west from Yichang City to Badong County at the Hubei and Chongqing border. Specifically, the strategic importance of the Yichang Badong Expressway (Yiba) lies in its support for:

- **China Central and West Region Development**: Yiba is one section of the 1970 km Shanghai to Chengdu expressway (SCE), which, by connecting Shanghai, Nanjing, Hefei, Wuhan, Chongqing and Chengdu, will facilitate the integration of the east, central and western regions. Almost all of the other sections are either complete (47%) or under construction (40%). Yiba is one of the two missing links (274 km - all in Hubei) required for the development benefits of the SCE to be fully attained.

- **National Expressway Network Development**: Yiba, as part of the SCE, is one of the 18 horizontal highways in the east-west direction under the NEN plan.

- **Yangtze River Economic Belt Development**: Since Hubei is one of the seven Chinese provinces that are located along the Yangtze River, the development of Hubei’s economy depends on the development of “Yangtze River Economic Belt”\(^2\). Yiba, positioned immediately north of the Yangtze, will support the development of the economic belt through facilitating the interaction and cooperation among regions.

- **Development of the Lagging Region in West Hubei**: Running through the hill-locked western region of Hubei, the Yiba project is expected to support Hubei’s western regional development through the creation of an enabling environment for economic resource exploitation and utilization. The Hubei Provincial Communications Department (HPCD) is already investing in the local roads in the area, as part of their local road development program\(^3\). Yiba will complement these investments.

**Rational for Bank Involvement**

The Government of China has requested the World Bank to support the Yiba project. Under the current proposal, the Bank will provide US$150 million financing towards the project, the total cost of which is estimated at US$1.6 billion. In addition, the Government of Hubei has expressed

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\(^2\) One of China’s major economic pillars involving Shanghai, Chongqing, and the provinces of Jiangsu, Anhui, Jiangxi, Hubei, Hunan, Sichuan, and Yunnan. Economic growth is expected through improved access to Shanghai – an international metropolitan area with huge economic strength, Wuhan – a transportation hub, and Chongqing – the economic and navigation center at upstream Yangtze river.

\(^3\) During the recent 10th FYP RMB 3.92 billion (US$0.5 billion) was invested in rural roads for access and smoothing. This resulted in improvements to 300 km inter-county roads and 7,592 km roads between counties and towns, as well as 24,960 km of asphalt and cement concrete roads to link villages. A further 5,052 km of heavy repairs and 4,864 km of moderate repairs were undertaken. In the current 11th FYP there is a plan for RMB 22.9 billion (US$2.8 billion) in local road investments.
interest in receiving the Bank’s support to properly manage the major challenges of this investment: (i) technical difficulties expected from the very mountainous terrain; and (ii) the need to take special care during planning and construction due to the environmental and ecological sensitivity of the project area.

The Bank has been Hubei’s development partner for over ten years and has provided financing for one inland waterway and four expressway projects. The Bank has added value through supporting the design, preparation, implementation, operation, and management of Hubei’s expressways in an environmentally, socially and safety conscious manner. The Bank has supported the HPCD through a range of institutional strengthening and policy activities, which have enhanced the HPCD’s abilities in areas of environmental management, traffic safety, road management and operations. Building upon past experiences in Hubei and elsewhere, the Bank is technically and financially in good position to contribute to this challenging investment, especially to support Hubei with preparing and implementing the project in an environmentally benign manner.

The Bank has an important role to play in the Yiba project by bringing its skills and experience in environmental mitigation. Because of the fixed start and end points, the Yiba alignment must cross the mountainous Yangtze River Three Gorges Geological Park. Given the mountainous terrain with precipitous hills and very steep side slopes, some 65% of the 172 km length are bridges, viaducts and tunnels; the construction of which will present enormous challenges. The HPCD has requested the Bank helping them to introduce innovations in the area of the environmental management so that this can be an example of how an expressway can be constructed through a sensitive area in an environmentally appropriate manner.

To help Hubei achieve this vision, the preparation team is currently working with the HPCD on: (i) undertaking a ‘Strategic Environmental Assessment’ (SEA) in parallel with the project preparation; (ii) investigating the opportunity for piloting the new ‘Environmental and Socially Responsible Procurement’ (ESRP) concept on the project; and (iii) exploring opportunities to introduce innovations on how the environment is considered on construction projects in China, examples of which include potential use of an independent supervision consultant focusing solely on compliance with the environment, rather than have the environmental supervision done by the construction supervision consultant, and more clearly defining penalties for EMP non-compliance in the contracts, along with when and how these would be invoked.

2. Proposed objective(s)

The proposed Project Development Objective (PDO) is to improve east-west passenger and freight flows in the Yichang-Badong corridor by investing in the construction of an expressway and strengthening highway and environmental management.

The PDO is in line with the Bank’s FY06-10 Country Partnership Strategy (CPS) for China, in particular in its recommendations to: (i) reduce internal and external barriers to trade and investment; (ii) reduce poverty, inequality and social exclusion through expanding affordable access to basic social and infrastructure services; and (iii) manage resource scarcity and environmental challenges.
3. Preliminary description

To achieve the above mentioned objectives, the project will include:

(i) **Expressway Component**: The construction of a 172 km expressway connecting Yichang City and Badong County at the border of Hubei and Chongqing Municipality including the relevant electrical and mechanical (E&M) facilities, annex areas, toll plazas and buildings, six interchanges, and some interconnecting roads. The expressway will be built with four lanes, 80 km/hour design vehicle speeds and 24m integral subgrade width.

With an estimated total cost of US$1.6 billion, averaging over US$9 million/km, this is one of the most demanding expressway sections in China—approximately 30% of the length will be tunnels; 35% bridges and viaducts. Whilst on previous projects it was possible to avoid many of the most difficult areas, it is not possible here since the entire area is mountainous. The environmental sensitivity of the area makes it important to ensure that the expressway is constructed in the most environmentally benign manner possible; this further increases the costs and technical challenges.

In spite of the high cost, the project is economically viable. The Economic Analysis (October, 2006) estimated the EIRR at 16.0%, with an increase in costs by 10% accompanied by a decrease in benefits by 10% reducing the EIRR to 13.9%.

(ii) **Institutional Strengthening Component**: It is currently envisaged that there will be two principal institutional strengthening activities:

- **Strategic Environmental Assessment (SEA)**: During project preparation it is planned to undertake an SEA of Hubei’s road transport sector, with grant financing. The TOR has been agreed upon with the HPCD. This SEA will identify significant environmental and social impacts from transport investments beyond the project level focus on our projects to date. The SEA will also identify and recommend the mitigation policies and institutional adjustments required in Hubei to address the key environmental and social impacts. The institutional strengthening component will focus on the implementation of the SEA’s recommendations in Hubei through new and improved policies and business practices.

- **Hubei Comprehensive Transport Centre Study**: The Central Government has recently released a document "Comments on Promoting Central area Grow-up." With its geographically central position, and rapidly expanding expressway network, Hubei is seen as having opportunities to become a centre for transport in China. The HPCD has requested the Bank’s assistance in identifying policies, infrastructure and institutional constraints which need to be addressed in order for Hubei to fill its role as the “Comprehensive Transport Complex”.

4. Safeguard policies that might apply

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<th>Risk Description</th>
<th>Rating</th>
<th>Mitigation</th>
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| Changes in work quantities, delays in construction, and increased costs | H      | • Improve technical design based on sufficient topographical, geological and sub-surface investigation  
• Cross review of design by other institutes  
• Supervision by specialists when needed |
| Environmental impacts to environmental and ecological sensitive locations | H      | • Provide increased resources during preparation to ensure that the environmental issues are properly considered  
• Implement more detailed EMP than usual, with explicit penalties for non-compliance included in contracts  
• Independent environmental supervision consultant |
| Traffic volume too low                                              | M      | • Independent validation of the assumptions used in the traffic modeling for the feasibility study.  
• Ensure appropriate toll rate  
• Integrating local government development plans with the expressway planning to ensure adequate access  
• Improving interconnecting road conditions |
| Insufficient attention to safeguards                                 | L      | • Project will have the EIA, EMP, RAP and RPF completed in a timely manner and fully disclosed  
• Cultural relics report will be available by time of preparation mission  
• In the unlikely event ethnic minorities are encountered, an EMDP will be prepared and submitted to the Bank |
| Limited impacts from Institutional Strengthening                     | L      | • Work closely with HPCD to ensure that the institutional strengthening activities are of value to the HPCD  
• Assistance by Bank technical specialists to ensure activities reach their full potential |

5. Tentative financing

Source: ($m.)
BORROWER 850
INTERNATIONAL BANK FOR RECONSTRUCTION AND DEVELOPMENT 150
Total 1000

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