1. Country and Sector Background

Introduction

Guiyang Municipality is the capital of Guizhou Province, an extremely poor province which ranks the lowest in GDP per capita within China\(^1\). “Historically Guizhou has developed on the basis of its natural resources, adding some processing over time. Its development has been assisted by the State which has established a number of major enterprises in the Province. Guizhou’s resources and State interventions have come together in large resource-based industries. The potential of this development model is now coming to an end and Guizhou will have to find new sources of economic growth and diversification. The development of its major urban center, Guiyang, will be one such strength. Within Guizhou Province, Guiyang City is

\(^1\) The per capita gross regional product for Guizhou Province in 2005 was 5,509 yuan per person (up from 2,475 yuan per person in 1999), the lowest of all provinces in China.
clearly the political, economic, cultural, and transport center. However, among cities in south center China\textsuperscript{2}, Guiyang is last on many economic measures.”\textsuperscript{3}

Guiyang Municipality encompasses three primarily rural counties, Xiuwen, Xifeng, and Kaiyang; one county level city Qingzhen; four generally peri-urban districts (Wudang, Baiyan, Huaxi, and Xiaohe), and the two districts, Nanming and Yunyan, that make up the urban core of Guiyang City. The Municipality has a total area of 8,034 km\textsuperscript{2} and a population of approximately 3.4 million persons. The Municipality is located within a hilly and sometimes mountainous terrain with elevations ranging from 500 to 1,760 meters above sea level. The Municipality’s regional context is characterized by a poor hinterland, distance from major markets, and dependence on small local markets.

\textit{Urban Context}

Guiyang City’s urban development has accelerated in recent years as a result of increasing incomes, real estate development and encouraging growth of a few major emerging markets. The urban development is guided by the ‘Greater Guiyang’ development strategy, approved in December 2003. This strategy aims to build a ‘greater’ Guiyang in three phases: by 2013 achieve an urban built area of 170 square km, and urbanization rate of 60% (of total municipal population); by 2020 an urban built area of 200 square km, and urbanization rate of 65%; and by 2050, Guiyang plans to achieve its modernization goal. The impact of the “Greater Guiyang” strategy on spatial planning is significant, emphasizing the role of transport in urban expansion and laying out an ambitious plan for inter- and intra-city highway and road networks connecting a terrain-constrained core with eight outlying urban clusters.

In support for its urban plan, the Guiyang Urban Road Network Plan, recently updated and approved on January 12, 2007, includes several radial connector roads, of which five out of seven have been constructed. This project proposes to construct, from the southeast corner of the urban core to the Longdongbao area, still further to the southeast, one of the two remaining radial connectors, namely Youxiao Rd. Longdongbao, which includes the Municipal Airport, has been identified in the Municipality’s Urban Master Plan as one of eight outlying urban clusters. Longdongbao will eventually include a relocated Nanming District government center (planned for 2008), residential areas, a university, as well as logistics and trade areas linked by the ring road to the airport and the other urban clusters.

Traffic on Guiyang’s road network is projected to rise dramatically in the coming years as urbanization and economic growth continue. The Municipality forecasts that Youxiao Road will have an ADT of approximately 15,000 vpd in 2010 and increasing to 31,000 vpd in 2020.

\textit{Rural Context}

Major disparities between the urban core and the rural counties exist and are increasing. Rural incomes in the Municipality are much lower than the incomes of urban households. The net per

\textsuperscript{2} Cities of South Central China - Kunming, Changsha, Nanchang, Nanning, and Guiyang
capita incomes of rural households in the three Guiyang counties and in the county level city of Qinzhao are between 12% and 32% below the national average.

Key to reducing poverty in the rural areas is the stimulation of growth through the provision of an effective transportation system linking the urban core to the hinterland and connecting the municipality to other cities. While Guiyang’s transport links to other cities are improving and its urban transport network is under development, the rural transport network and its connection to the urban core are underdeveloped. Today many of the rural roads are unclassified and inaccessible during bad weather, leaving many villages isolated and economically languishing, particularly in the more mountainous areas. Guiyang has established and is implementing a progressive rural transport development program to address these issues. The Guiyang Municipal Road Network Plan (2002-2020) identified a total of 8,280 kms for rehabilitation with 5,200 kms being improved in the period 2002-2010 and the remaining 3,084 Km during 2010-2020. However, due to a lack of funding, progress has been slow and only 1260 kms have been improved to date. This project will contribute to the achievement of these targets.

There have also been problems with maintenance resulting from poor construction quality, inappropriate design, poor axle load control and chronic under funding of maintenance activities. Guiyang municipality is aware of these issues and has recently approved a reform plan for the management and maintenance of rural roads. The reform measures include substantially higher cost norms for maintenance activities, details of funding sources and the earmarking of the vehicle maintenance fee for maintenance (in the past it has predominantly been used for construction), giving the townships responsibility and resources to undertake maintenance of township roads and pushing for increased commercialization of maintenance activities. This reform plan is a very positive development, and if resourced as proposed, will improve the sustainability of the rural roads program. This project includes a technical assistance program to support the implementation of this reform program.

The government is aware that to complement the construction of rural roads, measures are required to improve rural mobility. To enhance rural transport services, MOC, beginning in 2004, brought township bus terminals into its infrastructure construction program. To promote the construction of these terminals a special fund has been established to provide a CNY 200,000 subsidy for each bus terminal built in the western region. In the case of Guiyang municipality, the bus terminals will be managed and operated by the townships Communications Bureaus and revenues will be generated from bus parking fees and various other activities such as bus maintenance facilities, advertising and renting out retail space. Both private and public operators will be permitted to use the facilities provided they are licensed to operate on the route and their vehicles are road worthy. In Guiyang roughly 70 percent of operators are private sector.

China benefits from a well structured hierarchy of formal bus services that serve county centers and less commonly to townships and villages. The investments outlined above will help to bring services to a greater number of rural people. However, to maximize the effectiveness of the rural bus terminals and rural roads the government will have to address some of the rigidities in the existing regulatory arrangements that constrain the flexibility of both bus and terminal operators in providing services tailored to rural areas. The Asian Development Bank is currently working
with the Ministry of Communications to address these issues and it is hoped that many of the
recommendations will be adopted by Guiyang\(^4\).

**Institutional Context – Planning and the Environment**
While Guiyang has clearly established priorities in its planning process, the methodology,
primarily qualitative, is not transparent. It is unclear from the plans and strategies how decisions
are made as to what should be built and what not. The project will take a long term view
towards developing a robust quantitative approach to planning, while building a basis for
effective management and operation.

Interestingly, Guiyang has established itself within China as a strong proponent and leader in the
implementation of bold environmental protection initiatives such as establishing itself as the first
city in China to implement a circular economy approach. Reflecting this boldness, the project
proposes to develop a process whereby strategic urban planning decisions would be made within
an environmental context in participation with academia, the private sector, and civil society. A
first step towards achieving this goal would be the preparation of a strategic environmental
assessment (SEA).

2. Objectives
The objective of the Project is to assist the Borrower to increase the access and mobility of
Guiyang Municipality’s transport users through priority infrastructure investments and enhanced
institutional development of Guiyang Municipality.

The assessment of the achievement of the project development objective will be carried out
through the measurement of outcome indicators, consisting of the reduction in travel times and
increased traffic volumes on Youxiao Road, the number of villages connected to Project rural
roads and the number of villages served by a rural bus service along these Project rural roads.

3. Rationale for Bank Involvement
The Government of China has requested the continued support of the World Bank in assisting
cities and municipalities to develop essential transport infrastructure while strengthening relevant
institutions. In addition, the Municipality of Guiyang has expressed desire to secure a World
Bank loan, its first, to compliment municipal budget, provincial and national financial support,
and domestic bank loans for critical elements of its transport development plan. The primary
issue the Project addresses is the need to provide and upgrade Guiyang Municipality’s rural and
peri-urban infrastructure while establishing more rational and transparent planning methods and
more sustainable mechanisms for maintenance; all while keeping municipal debt under control.

The Bank has the technical and financial resources and the expressed willingness to contribute to
the development of Guiyang’s transport development plans. The Bank has been assisting
China’s cities on the development of their urban, peri-urban, and rural transport since the 1990s

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\(^4\) “People’s Republic of China: Sustainable Rural Transport Services” China academy of transportation sciences, for
and, as such, its comparative advantage among international agencies and other financial and technical stakeholders is unmatched.

4. Description

A. Lending instrument

The Bank will finance the project through a specific investment loan. The Borrower has selected the variable-spread loan (VSL) option in which the spread over LIBOR is reset every semester. The Borrower’s main reason for selecting a VSL rather than a fixed-spread loan (FSL) is because FSL charges are slightly higher than VSL charges and the Borrower does not foresee using the conversion options of the FSL. VSL repayment terms are governed by standard country terms.

B. Project components

**Component 1. Youxiao Road** (estimated cost US$126.05 million – 43% of the total project cost – of which US$44.61 million would be financed by the Bank)

The physical output of the Youxiao Road component will be the construction of a 7 km four to six-lane divided urban arterial road that connects the southeast corner of the Guiyang urban core, Youzhajie, to Xiaobi in Longdongbao. This proposed road serves a primary function as a connector from the urban core to the Longdongbao area. Separated by mountains, Longdongbao is in need of a direct connector in order to serve commercial, commuting, and schooling traffic to and from the urban core.

**Component 2. Rural Transport** (estimated cost US$133.24 million – 46% of the total project cost – of which US$47.53 million would be financed by the Bank)

The physical output of the rural transport component consists of the construction or rehabilitation of rural roads and rural bus stations. There are 44 road segments totaling approximately 661 kms to be constructed or rehabilitated as Class III or Class IV rural roads together with approximately 270 kms of access roads (low volume roads constructed or rehabilitated as less than Class IV roads). There are also 46 township level rural bus stations, one of which will also include a freight depot, to be constructed. The proposed bus stations are fairly simple; category IV and V, which according to national standards, are the lowest categories.

**Component 3. Institutional Development** (estimated cost US$1.20 million – 0.4% of the total project cost – of which US$1.20 million would be financed by the Bank)

The project will develop the institutions of Guiyang municipality through studies, improvement of systems and training. These specific technical assistance activities were selected during the preparation process in order address specific areas requiring capacity building and well suited to Bank assistance.

(a) Rural road maintenance system
(b) Strategic Transport Studies
(c) Training
(d) Debt Management System
C. Alternatives considered and reasons for rejection

**Project Components.** The original project proposed by Government consisted of five components, the three described in this document, together with an arterial roads component and a component of transport terminals. It was agreed during the identification mission to drop the arterial roads component as an initial assessment identified the proposed upgrading, based upon existing conditions and traffic volumes, not to be needed within the next ten years. The Project Concept review included a component for transport terminals which consisted of the substantial upgrading of a container terminal and a freight terminal owned by two major transport state-owned enterprises (SOEs) and the construction of a maintenance material depot owned by GCB. The Bank proposed, as a condition of lending, and the Government initially accepted a restructuring scheme to be developed under the project that would provide for the separation of public infrastructure ownership from operation whereupon allowing the commercialization of operations. During preparation it was mutually agreed that such restructuring was premature and could not be practically achieved during the expected life of the Project and the component was dropped.

**Project Complexity.** During identification and preparation many options, reflecting Guiyang’s needs, for infrastructure development, institutional strengthening, and monitoring and evaluation were proposed. Commensurate with the strengths of Guiyang as a first-time borrower, a concerted effort was made to simplify design while stressing achievement of the development objective.

**Youxiao Road - Alternative Alignment Analysis.** A comparative analysis of alternative alignments was carried out during the feasibility study stage. Eight potential alignment combinations, including full or partial use of existing roads, and the “no build” option were developed and studied in order to identify the most cost-effective alignment that met the functional objectives. Initial comparison was conducted with consideration of engineering, financial, environmental and social aspects. Three options, i.e. tunnel option A, B, and tunnel option K were selected for further analysis. The selected alignment, described above and labeled Alignment A, was selected after a final round of screening based on consideration of technical, environmental and social aspects, i.e. avoidance of environmentally sensitive areas, less social interference and resettlement, shorter length, less land occupation, and compatibility with local master planning.

Further alternative analysis focused on the Longdongbao urban arterial section of Alignment A in order to better serve the Longdongbao area and be consistent with the approved Guiyang Urban Road Network Plan.

**Rural Transport Component – Traditional vs. program lending.** The rural transport component, upon initial review, appeared that it could be effectively delivered through a programmatic approach. After examination, it was apparent the Guiyang’s rural transport development institutions were not sufficiently robust to support a programmatic approach. It was therefore decided to identify specific rural transport investments and work to develop the institutions
during project implementation. The same is true of the institutional development component of the Project where a limited number of select and immediate activities were identified.

**Rural Roads – Prioritization Process.** The rural road segments were selected from candidate segments identified in Guiyang’s rural road development program as requiring upgrading through a prioritization process using agreed criteria. These criteria included likely impacts on poverty alleviation, social and economic benefits, and network connectivity considerations. The rural bus stations were selected on similar criteria but all have been located in townships to improve service delivery to rural areas.

5. Financing

<table>
<thead>
<tr>
<th>Source</th>
<th>($m.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>BORROWER</td>
<td>192</td>
</tr>
<tr>
<td>INTERNATIONAL BANK FOR RECONSTRUCTION AND DEVELOPMENT</td>
<td>100</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>292</strong></td>
</tr>
</tbody>
</table>

6. Implementation

A. Institutional and implementation arrangements

The Guiyang Municipal Communications Bureau (GCB) is the executing counterpart agency for the Project and reports directly to the Guiyang Municipal Government represented by a Project Leading Group which consists of the Vice Mayor and other municipal government representatives (see Annex 6 for further discussion). It is the leading group’s responsibility to ensure that coordination and cooperation is maintained among the various municipal government entities involved in the delivery of the Project.

The Communications Bureau has established a project management office, Guiyang Transport Project Office of the World Bank Loan (GPMO), to manage the Project. Guiyang Tongyuan Road Construction Development Co., Ltd. will supervise and contract on the behalf of the Municipality the implementation of the Project components. GPMO will provide oversight of Tongyuan Company’s implementation of the Project.

Subsequent operations and maintenance will be the responsibility of the respective Communications Bureaus at the municipal, county and township levels depending on the hierarchy of infrastructure. The rural bus stations will also be managed and operated by the township Communications Bureaus but the facilities will be open to both private and public operators. Approximately 70 percent of bus services in Guiyang are provided by the private sector.

B. Monitoring and evaluation of outcomes/results

The achievement of the Project objective will be measured based on a combination of output and outcome indicators, as demonstrated in the Results Framework (Annex 3). These indicators will
track final and intermediate project outcomes. The indicators have been selected in order to best measure the achievement of the development objectives while working within municipal processes in order to avoid creating project specific and unsustainable scope. The indicators are based upon relatively available or obtainable information for travel time and volume though; in general, there is much room for improvement in the collection and management of transport data within the municipality. Therefore, mechanisms are being established through this Project and others to institutionalize the measurement of important data.

A French Development Agency project, separate but in parallel to this Project, will develop Guiyang’s first comprehensive travel demand model and strengthen the link between urban planning, environmental strategies, and transport planning. This Project will finance the data collection, travel survey and processing that is required to develop and sustain that model under the institutional development component.

**Rural Database**
The Provincial Communications Department is in the process of completing the input of 2005 baseline data into a rural roads GIS database (road surface smoothness and accessibility database) that has been developed by MOC and is proposed to be rolled out country wide. This database will provide a comprehensive rural roads inventory, including village roads, together with information on villages and townships not yet connected to the network. The database will be available to the Guiyang municipality by mid 2007 and updates including 2006 data will be available by end of 2007. Counties will be responsible for updating the database in future but through the municipal offices. The data developed as part of this project will be merged with the new provincial database and used for ongoing planning, monitoring and maintenance management. The Project data currently being accumulated includes:

- A summary table for the 44 rural roads details: road number, name, location (county, district, city), villages or towns, road class, estimated cost, length of the road, length of access roads, start date and completion date; and
- For each of the roads selected for implementation: expected construction year, villages along the road, current and forecast AADT (traffic volumes in pcu), current per capita annual income along the road, population of minority nationalities along the road, engineering and geological conditions, land acquisition (cultivated and non-cultivated land) and house demolition in m².

GPMO will, utilizing their own resources, further expand the data base to include the data listed below:
- For each road: location county, city or district, the number of villages, the names of villages, whether these villages are classified as poverty villages, from where to where, length in km, estimated cost;
- At the village level: average annual income, population, minority population for each village and aggregated to each road;
- Students attending middle school or high school in a village other than their own and an estimate of visits to hospitals in other villages or towns (to be collected at the village level) and aggregated to each road;
- ADT, current and future, for each road;
• Environmentally sensitive sites such as schools, hospitals, natural protected areas, tourism areas, cultural property and environmentally sensitive terrains (required for EIA and EAP) at the village level and aggregated for each road.

It is intended that the project data, linked to the provincial GIS database, will provide the basis for a more robust and user-friendly system in the future that will assist in transport planning, maintenance management, and monitoring and evaluation activities.

C. Critical risks and possible controversial aspects

The project has been designed to focus interventions and reduce the tax on the developing institutions. The following table summarizes the various risks associated with the project. Overall the project risk has been rated as modest.

<table>
<thead>
<tr>
<th>Risk</th>
<th>Mitigation</th>
<th>Rating/w Mitigation</th>
</tr>
</thead>
</table>
| The Communications Bureau lacks the capacity to coordinate effectively with other institutions and the Bank. | - The project is designed to limit cross agency responsibilities for implementation by focusing all investment with the Communications Bureau.  
- A leading group has been appointed by the Vice Mayor that consists of representatives from the municipal Finance Bureau, Construction Bureau, Communications Bureau, Development and Reform Commission, Planning Bureau, and the Environmental Bureau. The leading group is in turn answerable to the Provincial Development and Reform Commission and the Provincial Finance Bureau. | Modest              |
| The municipal financial resources may not be able to absorb the additional debt. | - A fiscal sustainability review has been completed by the Bank task team indicating that though Guiyang’s indebtedness is close to worrisome it is manageable.  
- Guiyang’s finance bureau has agreed to develop and implement a debt management plan with assistance from the Bank and partially financed through the loan. | Modest              |
| Youxiao Road does not attract or generate the expected traffic levels. | - Additional traffic studies were provided in the feasibility study to ensure reasonable traffic forecasts were provided.  
- Emphasis was placed on ensuring that all stakeholders in the development of Longdongbao support the construction Youxiao Road. | Low                 |
| Youxiao Road attracts too much traffic from the Airport Expressway reducing its traffic to levels that threaten financial sustainability of the tollway concession and underutilization of the asset. | - Additional traffic studies were provided in the feasibility study to ensure reasonable traffic forecasts were provided.  
- Confirmation in writing was provided by the municipal government that the construction of Youxiao Road does not violate the airport tollway concession agreement between the provincial government and a private operator.  
- A stakeholders meeting to disseminate the findings of the feasibility study was held during the appraisal on January 30, 2007. Positive responses were presented by all participants with the exception of the Airport Expressway concessionaire (Guizhou Yunguan Expressway Co. Ltd, a subsidiary of the China Merchants Holdings-Pacific) who questioned the traffic projections on Youxiao Road and the traffic counts which was used as the one of the critical input. It was their contention that the traffic counts performed by the FSR design institute for the airport expressway were too high by about a third. As it was not possible to confirm the validity of either, the more conservative number, which is the lower of the two, was used in the Bank’s economic analysis. | Modest               |
<table>
<thead>
<tr>
<th>Risk</th>
<th>Mitigation</th>
<th>Rating/w Mitigation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Youxiao Road, as proposed by the Project, is not appropriately represented in the Municipal Planning documents.</td>
<td>• The Guiyang Road Transport Network Plan was just recently updated, approved on January 12, 2007, which has incorporated the Youxiao alignment as recommended in the FSR.</td>
<td>Modest</td>
</tr>
<tr>
<td>Cost estimates lack accuracy and lead to cost overruns.</td>
<td>• The cost estimates in the feasibility study report will be refined to replace gross unit rates measures with quantity calculations based upon appropriate level of design.</td>
<td>Modest</td>
</tr>
<tr>
<td>Poor construction and maintenance reduce the sustainability of the rural transport component.</td>
<td>• GPMO will hold sustainability reviews, in conjunction with Bank specialists, to ensure appropriate design and construction techniques are utilized. The Project will finance under the institutional development component a review and improvement to Guiyang rural road maintenance system. Engineering supervision of contractors will be provided as part of the project.</td>
<td>Modest</td>
</tr>
<tr>
<td>Financial Management</td>
<td>• See Annex 7 for details.</td>
<td>Modest</td>
</tr>
<tr>
<td>Procurement</td>
<td>• See Annex 8 for details</td>
<td>Average</td>
</tr>
<tr>
<td>Deficient application of social and environmental safeguards</td>
<td>• The GPMO has agreed to implement the environmental management and resettlement action plan for the Youxiao Road. The rural transport component consists of works largely limited to the existing right-of-way and hence social or environmental risks are expected to be small. • The final alignment of the Youxiao Road was selected to avoid major adverse impacts on the environment. The EIA of the Youxiao Road singles out environmentally sensitive forest park, and emphasizes the need to mitigate impact. • Environmental and social development specialists have participated since the early stages of project identification to evaluate the safeguard requirements. These specialists will be part of the implementation team to closely monitor the application of the agreed safeguards.</td>
<td>Low</td>
</tr>
</tbody>
</table>

D. Loan conditions and covenants

**Conditions:**
None.

**Covenants:**
1. Guiyang shall:

   (a) take, or cause to taken, all necessary actions to minimize to the extent possible any involuntary loss by persons of shelter, productive assets or access to productive assets or of income or means of livelihood, temporarily or permanently;

   (b) carry out, or cause to be carried out, the EMP, the RAP and the RAP Arrangements, in a manner satisfactory to the Bank; and

   (c) furnish, or cause to be furnished, any proposed revision to the EMP, the RAPs and the RAP Arrangements to the Bank for its prior approval.

2. Guiyang shall:

   (a) prepare and furnish, within 45 days after the end of the first half year after the loan becomes effective and at 6-monthly intervals thereafter, twice-yearly financial
monitoring reports that document the sources and uses of funds for the Project during the previous six months; describe physical progress in Project implementation; and record the status of procurement;

(b) furnish to the Bank, on or about February 15 and August 15 in each year, starting August 15, 2008 and until completion of the Project, a report integrating the results of its monitoring and evaluation activities, on the progress achieved in carrying out the Project during the period preceding the date of each such report and setting out the measures recommended to ensure the efficient carrying out of the Project and the achievement of its objectives during the following period; and

(c) review with the Bank, by April 1 and October 1 in each year, starting October 1, 2008 and until completion of the Project, each of the above reports and thereafter take all measures required to ensure the efficient completion of the Project and the achievement of its objectives, based on the conclusions and recommendations of each report and the Bank’s views on the matter.

7. Sustainability
Sustainability in transport systems has financial, economic, operational, environmental and social dimensions.

In financial terms, the project does not itself directly generate financial returns but the investment does impact the fiscal sustainability of Guiyang municipality. While the indebtedness of Guiyang is nearing worrisome levels (see Annex 9 of this document), it is manageable and Guiyang has demonstrated a willingness to improve it fiscal management. With appropriate due diligence, there is little risk that after services have been implemented, Guiyang will not be able to afford to keep them going. Finally, the construction of Youxiao Road, by being able to attract traffic, may impact the financial sustainability of the nearby tolled airport expressway, though the feasibility study report traffic projections do not support this concern.

The threats to operational sustainability are manageable. The technical requirements for constructing roads, including the tunnel and bridges of Youxiao Road are well known. Of particular concern, particularly for the rural roads, is tailoring the technological options to the accessibility of sites and the capacity of the local contractors. Appropriate maintenance of the infrastructure improvements financed by this Project is a primary determinant of the operational sustainability. As such, the Project will finance, under the institutional development component, an activity to improve Guiyang Communication Bureau’s maintenance practices.

The sustainability of the bus stations will depend on the capacity of the operating entities to raise revenue to cover operating costs. Revenues will predominantly come from bus station fees but it is also expected that commercial parking, bus maintenance and retail rental will raise additional revenue. The existing bus stations in the municipality are self sustaining although the profitability of individual sites varies and some are more successful than others. The proposed bus stations are designed for relatively low volume traffic and as such have low operating costs. Although it is likely that there will be some short term support to the terminals, it is not expected that these facilities will become a financial burden on the townships in the medium to long term.
The new and upgraded roads will impact Guiyang’s environmental and social sustainability and, as such, emphasis has been given to the analysis of alternatives and specific impacts. The Project will, through the financing of required surveys, support work⁵ to develop a strategic environmental analysis of Guiyang’s transportation plan.

8. Lessons Learned from Past Operations in the Country/Sector
The Bank experience in delivering roads has repeatedly pointed to the need to ensure that investments are protected by the proper funding and provision of road maintenance. Under the Project a technical assistance program has been developed to support the implementation of the new provincial rural road maintenance reform plan. Key elements of this program include support to township administrations in their new maintenance responsibilities, the “marketization” or private contracting of road maintenance activities and the development of simple maintenance management systems.

Given the extensive Bank experience in the construction of expressways and roads in China, several lessons learned with regard to project design have been incorporated under the proposed project. Among the most relevant are:

(i) Given the fact that major variations occurred due to insufficient soil testing in a number of Bank financed projects, supplemental geological investigation will be carried out during the detailed design stage, especially in the tunnel and bridge portions of Youxiaox Road.

(ii) There is a move away from the use of concrete pavements in this project because of the problems caused by poorly prepared sub-base and the resulting premature cracking and degradation of the pavement. This project will use more flexible bitumen based pavements for the Class III and IV roads. Concrete will only be used on the access roads where traffic volumes and loads are low.

9. Safeguard Policies (including public consultation)

<table>
<thead>
<tr>
<th>Safeguard Policies Triggered by the Project</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Environmental Assessment (OP/BP 4.01)</td>
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<td>☐</td>
</tr>
<tr>
<td>Natural Habitats (OP/BP 4.04)</td>
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<tr>
<td>Pest Management (OP 4.09)</td>
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<td>Cultural Property (OPN 11.03, being revised as OP 4.11)</td>
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<tr>
<td>Involuntary Resettlement (OP/BP 4.12)</td>
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<td>Indigenous Peoples (OP/BP 4.10)</td>
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<td>☐</td>
</tr>
<tr>
<td>Forests (OP/BP 4.36)</td>
<td>☐</td>
<td>☒</td>
</tr>
<tr>
<td>Safety of Dams (OP/BP 4.37)</td>
<td>☐</td>
<td>☒</td>
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</table>

⁵ The French Development Agency (AFD) has financed studies to support the development of a strategic environmental study of Guiyang’s urban and transportation planning. Though the AFD project is separate, the Bank has worked closely with AFD in developing the concept and implementing the studies. One of the institutional development tasks under this Project will finance surveys required to develop the travel demand models needed to substantiate the transportation planning.
10. List of Factual Technical Documents

- Feasibility Study Report for Youxiao Road, The First Highway Survey & Design Institute of China, October, 2006
- Procurement Capacity Assessment Report, World Bank, August 29, 2006
- Environmental Impact Assessment for Youxiao Road, Guizhou Environmental Institute, December, 2006
- Environmental Impact Assessment for Rural Transport, Guizhou Environmental Institute, December, 2006
- Environmental Management Plan, Guizhou Environmental Institute, December, 2006
- Resettlement Action Plan, Guiyang Project Management Office, October, 2006
- Social Assessment Report, Chinese Cross-Culture Consulting Center (CCCCC), Sun Yat-sen University, June 30, 2006
- The Indigenous People Plan, Chinese Cross-Culture Consulting Center (CCCCC), Sun Yat-sen University, October 30, 2006

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*By supporting the proposed project, the Bank does not intend to prejudice the final determination of the parties' claims on the disputed areas*