1. Country and Sector Background

Several important pieces of sector work were carried out by the Bank in the recent past: (i) A Strategy for the Transport Sector (Forward with One Spirit, 1997/98); (ii) Review of Highway Technical Assistance (1998/99); (iii) OED Report on China Transport (1998/99); and (iv) Highway Sector Strategy Review (2001). The latter, which was discussed with the Government in late 2001, has identified five main challenges facing China in its attempt to cope with the rapid expansion of its highway network:

1. Sector management. Transforming the Government into a market-supporting institution is one of the largest transition issues facing China today. In the highway sector, the Government role in the provision of infrastructure (construction and maintenance) and of transport services, is to shift gradually from that of owner, investor and manager to one of regulator, overseeing and encouraging the development of more independent (in some cases, non-state) enterprises, able to provide cost effective civil works and services. The pace of such transformation varies with the level of development of provinces. There is a big difference between the coastal provinces and interior regions such as Xinjiang which are lagging in the pace of reform.

2. Managing road expenditures. As custodian of the road system, the sector should strive to increase efficiency and minimize the costs of infrastructure provision. These efforts, to constantly improve, rationalize and minimize the costs of operations of the Provincial Communications Departments (PCD), should cover all activities of a road administration, from planning to design, construction and maintenance of all level roads. Starting with planning, there is a need for more discriminating investment analysis. It will be necessary for the country to be more selective when planning its road expenditures, even though there is still a strong demand for additional investments in the road...
network. The allocation of funds between maintenance and new construction remains a major problem. Based on an estimate that about one third of the road maintenance fee revenues (30 billion Yuan) actually goes to maintenance, this would mean that maintenance expenditures are about Yuan 10 billion a year, or less than 4% of the total road annual expenditures of 216 billion Yuan in the last two years. Should the situation be allowed to continue, China is likely to face major reconstruction costs in the future. A related issue is the balance of expenditures between various classes of roads. At present, the NTHS consumes 30% of the resources in the sector, with another 30% for other high-grade highways. With near completion of the priority links, this proportion should be seriously reviewed to see if it continues to be an efficient use of resources to support economic development. The need for careful analysis of future investments will be especially important in the case of projects proposed in the western provinces, where the types and scale of investments are likely to differ from that in the eastern provinces. Highway construction quality remains a serious concern of the sector. Incidences of bridge and road failings or premature wear and tear of highway pavements have raised awareness of the issue to high-level Government officials. As a result, quality control has been strengthened through increased authority assigned to the construction supervision agency by the owner vis-à-vis contractors. While the central government appreciates Bank involvement in the sector leading generally to improved design reviews, supervision and resulting construction quality, there is still a definite need to reinforce rigid construction quality standards, control and enforcement in Bank highway projects.

3. Managing road revenues and financing. Traditional resources are inadequate to meet the increasing demands placed on road infrastructure by a growing economy. At present, the main road user charge is the road maintenance fee, which brings revenues around Yuan 30 billion a year. Other charges, including the vehicle tax, probably contribute half as much as the maintenance fee. So road users have covered about one quarter of annual road expenditures in the last two years. This is clearly insufficient to limit the fiscal burden of the road sector. In addition, the road maintenance fee is inefficient. It is expensive to administer, easy to evade and currently generates less than 40% of its potential revenues. China has been discussing the introduction of a fuel tax for some years, but no implementation has been decided yet because of the difficult technical and political issues associated with (i) the level of such a tax and the amount of revenues desired, (ii) what proportion of these revenues would go back to the road system and how these revenues would be allocated between MOC and the provinces, and (iii) whether the fuel tax would be accompanied by an axle-load charge to ensure that heavy vehicles pay for the additional damage they cause to roads and which cannot normally be covered by the fuel tax. Securitization i.e. the sale of highway equity through IPOs and private placements have been an innovative feature of mobilizing private resources for the highway sector. Unlike BOTs, securitization of highways already opened to traffic greatly reduces the risk of the investors. The question is how should securitization of existing road assets be continued and developed given the proliferation of road companies in all provinces. An undeveloped domestic financial sector is also placing severe constraints on borrowings, specifically in the international markets while the potential for private financing remains limited under the current economic and regulatory environment. The number of highway projects that can be marketed (those with strong traffic revenue potential) to private sector
investors are insignificant compared to the sector’s resource requirements. Under these conditions the focus should be on building a reliable and stable road user fee based financing framework as described above. In parallel, regulatory reforms are necessary to open opportunities for different modes of public-private partnerships, to mobilize domestic savings through the issuance of bonds and to broaden the investor base.4. Enhancing accessibility to remote/low income areas. The geography of China poses heavy demand and difficulty on the provision of basic road access in various parts of the country, particularly in inner and low income provinces. Although the role of transport access to integrate the national economy, to stimulate growth in remote areas and insure basic mobility needs of the poor has been emphasized, the task is enormous and requires significant public resources. The Bank’s provincial highway program in China aims to favorably impact poverty levels, through targeted interventions in low income areas. But provincial and central government agencies often refrain from borrowing for this purpose since no dedicated revenue source for loan repayment is easily identified (unlike for toll roads). A renewed effort has been recommended to support road development in low income areas as part of the Bank’s future lending and non-lending services for the sector.5. Social and environmental impacts. Traffic safety remains a major issue when sector externalities are considered. Although death rate from traffic accidents has decreased from 100 per 10,000 vehicles in the late seventies to about 75 deaths per 10,000 vehicles in 1994, the rate remains one of the highest in the world. In 1999, 83,500 people were killed and 286,000 injured in over 400,000 accidents. Besides deaths and injuries accidents cause property damages and their overall economic and social costs are high. To improve road safety requires coordinated actions on "Engineering, Education and Enforcement". However the current diffusion of responsibilities in these different areas makes it difficult to address the problem of road safety in a comprehensive manner. At the level of MOC and the PCDs, there is a need to continue working on the "Engineering" aspects of road safety, which are within their area of responsibility. MOC is planning the systematic use of safety audits as part of project design and a manual is under preparation, which is to be circulated to the provinces soon. ADB has recently sponsored the preparation of "Road Safety Guidelines for the Asia Pacific Region" and a Chinese translation should be available soon. PCDs should also continue and improve the collection and analysis of accident data and extend the programs of "black spot" correction. The role of the Bank so far has largely been confined to matters under the jurisdiction of its project executing agencies, namely the engineering aspects of road safety. For the situation to change dramatically, the matter needs to be elevated to the highest levels of Government. Social and environmental assessments are regularly carried out in the context of Bank financed highway projects. The process is now well established and will continue. It is necessary to further develop the sensitivities of all highway personal to these matters, so that they become routine practice, not only on Bank financed projects, but overall in the sector. In particular, environment and resettlement considerations should be introduced in earlier stages of project planning and consideration of alternatives. Government Strategy. The main concerns of the central and provincial highway authorities are to ensure that the highway system helps integrate China’s national economy and facilitates mobility of goods and services. This corresponds to the comparative economic and technological advantages of highways vis-a-vis other modes of transport and to available
financial resources. Under such strategy, the investment priority for the highway sub-sector during the Ninth Five-Year Plan (9FYP, 1996-2000) were identified as follows: 1. High priority was given to developing the National Trunk Highway System. The Ministry of Communication (MOC) identified about 35,000 km of highways throughout the country that would constitute a network of modern inter-provincial highways under the NTHS. The first phase of the NTHS investment (totaling 17,000 km) should be completed by 2003. The construction of the second phase will continue until 2010 when the entire system is expected to be completed. 2. The development of some 130,000 km of provincial and rural roads that feed into the NTHS was planned and undertaken simultaneously to maximize the benefit of NTHS investment. 3. High priority was also given to providing all-weather access roads to remote/low income areas in the poor counties. 4. Policy and regulatory reforms were to be intensified, with priority attention given to financing issues and ensuring the efficient utilization of funds. This strategy has succeeded in several respects. Of the identified 17,000 km of NTHS Phase I, construction of about 13,000 km has been completed. Many provinces have provided all weather road access to nearly all villages. However, institutional and policy reforms have lagged behind. Under the Tenth Five-Year Plan (10FYP, 2001-2005), highway sector institutional reforms are expected to intensify in the context of the country’s move towards a more open and competitive economy, along the following lines: Change in the role of Government with growing role for the market in providing both infrastructure and transport services; Decentralization and reorganization of the sector to maximize the use of scarce resources through planning and programming (including greater use of RDB, PMS, BMS), to increase reliance on contract work and services, to improve supervision and quality control, and to introduce appropriate technologies and standards, etc.; Mobilizing new sources of user charge based revenues and promoting public/private financing mechanisms including asset securitization and revised BOT law, mobilization of national savings (bond issues), etc.; Improving rural accessibility in all provinces and links to and within Western provinces and; Improving traffic safety while minimizing environmental and social impacts on people affected by highway development. Special mention needs to be made of the Government’s Western Development Program. The 12 provinces making up the Western Region cover 6 million square kilometers, about 60% of the country’s total land area and accounts for 25% of the population. Since the adoption of economic reforms in 1978, development accelerated greatly in the east. In 1995, 66% of the industrial output came from the east but only 10% from the west, the remainder being from central China. By 1998, per capita income in the east was three times that in the western region. The west has been a primary supplier of raw material. There is great potential for processing primary material and agriculture products in the west. A major objective of the 10th FYP is therefore to develop Western Provinces. For the road sector, the Government is developing a long-term plan, which involves actions at three levels: East-West connections: MOC plans to develop 8 corridors totaling about 15,000 km to link the Western Region and East China; Network improvements within the Western Region: This will include rehabilitation and upgrading of technical standards of about 180,000 km of the road network in the western areas; and Rural access: To alleviate poverty in the rural towns and villages, about 150,000 km of rural roads have been identified for improvement. The above plan involves different types of works over 300,000 km of roads of various standards and classes and would require large
funding. The new western initiative is expected to require US$84 billion over 10 years. The Government is exploring opportunities for mobilizing funds for this plan, including ways to channel eastern region contributions and related budget transfer mechanisms. Because of low population densities, low incomes and generally difficult topographic and climatic conditions, costs of road development in the west will be high and the potential for cost recovery would remain limited for some time. To efficiently service the greatest number of people, standards will need to be in tune with traffic demand, rather than determined politically. This requirement was well understood in the case of this project, where the proposed trunk road is at expressway standards on 6% of its length, at Class I standards on 74%, and at Class II on 20%.

2. Objectives
The project aims to improve transport infrastructure and sector governance in support of social and economic development in Xinjiang Uygur Autonomous Region (XUAR), a remote province in Western China. To meet the above development objective, the project will produce the following outputs:

A. Traffic congestion relieved and mobility increased along the regional and international trade corridor between Kuitun and Sailimu close to the Kazakhstan Border, part of the main east-west section of China's National Trunk Highway System (NTHS);

B. Accessibility to selected poor areas in the Region improved through a Local Roads Rehabilitation Program (LRRP);

C. Efficiency and effectiveness in public sector management of the road network enhanced.

3. Rationale for Bank's Involvement
The Bank has financed several high priority sections of the NH312 corridor through its previous or ongoing operations which have shown good results so far. The continued involvement of the Bank would result in removal of highway bottlenecks and an increase in traffic capacity along this high priority transport corridor. Bank involvement would also accelerate policy, institutional and manpower development in highway planning, design, supervision, construction, operation, maintenance and finance at the provincial level in a remote region. Bank involvement would also be expected to benefit the design (in particular through the introduction of the social assessment process) and the quality of construction of the roads to be undertaken. Finally, in view of the important regional dimension of the corridor, the joint involvement of the ECA and EAP regions in the Bank would contribute to ensuring that, on each side of the border, this important international communication line since ancient times (it was part of the northern section of the Silk Road) will maintain its strategic function.

4. Description
Kuitun-SailimuHu Highway1. The main project component is the Kuitun-SailimuHu Highway (KSH), an important section of the National Trunk Highway System (NTHS) and the remaining gap on the 1430 km stretch of the National Highway 312 in Xinjiang. Various design alternatives were considered, including: i) the construction of a four-lane expressway; ii) the construction of additional two lanes (Class 1 standard); iii) upgrading of the existing two lane roads to Class 1 and/or Class 2 standard; and iv) combining new and existing alignments. The preferred alternative was a combination in tune with the traffic needs of the 311.5 km highway section: (i) Kuitun to Wusu: new construction of a 18 km
expressway; (ii) Wusu to Bole Fork: upgrading to a 229 km Class 1 highway; and (iii) Bole Fork to SailimuHu: rehabilitation of a 55.6 km Class 2 highway. About 80% of the KuíSài highway will use the existing alignment; the new alignments mostly serve as bypasses to the urbanized areas in Wusu and Jinghe. Local Roads Rehabilitation Program. The primary objective of the local roads component is to assure that in poor counties villages have primary road access and townships are well connected to the provincial and national highway system. Taking into account the progress already made in providing basic access to almost all the villages in the poor counties as well as the expenditures proposed during the 10th FYP to complete this basic accessibility, the proposed component would focus on road links between the major townships and the provincial and national highways in the rural areas of Xinjiang. The eligibility criteria (economic/social/environmental) have been defined for the LRRP. A tentative list of 12 links has been proposed by the Region, totaling about 600 km. This will be a four-year rehabilitation program, to be implemented under a programmatic approach. The links selected for the first year program were evaluated during project preparation. Strengthening Sector Institutions.

5. Financing

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<td><strong>Total Project Cost</strong></td>
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6. Implementation

XCD has the overall responsibility for project preparation and implementation. Under XCD, the Xinjiang High-grade Highway Construction Authority, the executing agency for the previous Bank-financed highway projects in the Region, will also be the executing agency for the proposed KSH. Other project components such as the local road program, the TA and training components and the procurement of equipment will be executed by the Highway Administration Bureau (HAB) and the PEO under XCD. The project will be implemented during 2002-2007. Overall direction of the project at the central level will rest with the Ministry of Communication (MOC). MOC will assume an oversight role and provide some technical support. The Bank loan will be granted to the Borrower, the Republic of China, which in turn will onlend the loan proceeds to XUAR on the same conditions. Close cooperation between PEO and the Financial Bureau of XUAR is expected for a smooth project implementation.

7. Sustainability

The past trend suggests that traffic levels on highways would continue to grow in tune with regional economic growth. Experience from completed and ongoing Bank-financed highway projects in China show that commitment towards implementation of the physical components of the project has been
strong but the pace of institutional reform has been slow. The level of tolls and its periodic adjustment are important for the financial viability of the project including repayment of the Bank loan and timely maintenance. Project sustainability is enhanced by the gradual approach taken towards the reform process, tailored to the Xinjiang context in that it is recognized that the pace of reform here is slower than in a coastal province.

8. Lessons learned from past operations in the country/sector
While the overall performance of the Bank highway portfolio in China is in general satisfactory, a number of issues have been identified for due consideration in the design of the proposed project. These include: inadequate engineering designs and bid documents including costing of civil works; quality control of construction; late commencement of electrical and mechanical facilities component (which delayed completion of some projects and necessitated the extension of the closing date of several Bank loans), and slow pace of policy and institutional reforms, specifically relating to road maintenance, improved high-grade highway management and operation, and traffic safety. An OED assessment of the China portfolio completed in 1999 determined that the policy dialogue between China and the Bank in the highway sector needs to be elevated and maintained. During preparation of the proposed project, XCD was engaged on the policy matters which were started under XHP1 and XHP2. It was important to map what institutional reforms were truly supported by XCD and within its governance, and what reforms would first require building consensus among critical stakeholders. The outcome of these efforts has been integrated in the project design.

9. Program of Targeted Intervention (PTI) N

10. Environment Aspects (including any public consultation)

   Issues: The results of EA work indicate that there exist no protected areas, critical natural habitats, or cultural relics along the proposed alignment. The expected major potential impacts are noise, dust, and damage to fragile vegetation, which are common in most highway projects in China. A local ecological expert conducted field-surveys and identified two sections as ecologically sensitive spots and developed mitigation measures. One section belongs to a desert area with fragile vegetation. The other is the western section near Sailimu, where the lake, mountains, and grasslands compose beautiful scenery. As a result of the analysis and extensive consultations with local people, a wide range of mitigation measures were developed in the EIA including rehabilitation of vegetation, resettlement, noise barriers, water-spray and material covers for dust control. In order to protect vegetation in the arid western area, the existing alignment has been used as much as possible. Hence more than 80% of the 311.5 km proposed main highway will be simply upgraded from the existing highway.

   Social Aspects: The XUAR is an ethnically diverse region, with uneven patterns of ethnic population dispersement throughout the region. Some areas are relatively homogeneous while others are more mixed in ethnic representation. Such circumstances, combined with periods of ethnic sensitivity in recent history, present potentially significant social issues. The preparation teams were fully aware that inadequate consultation and understanding of ethnic group patterns might hamper project effectiveness and implementation activities, and took the following approaches: a) Social assessment was the key
instrument to obtain views and preferences of all potentially affected nationalities. The process relied heavily on participatory rapid appraisal techniques in areas potentially affected by improvements to the main highway as well as the local roads. Additional consultation activities were associated with environmental assessment and resettlement planning. In addition to obtaining information for the project design, the social assessment process aimed to engage potentially affected communities as active project participants, so as to enhance ownership of the project objectives and design among various ethnic groups and to minimize the project associated risks. b) As a result of the above consultations, it was agreed that preparation of an Ethnic Communities Action Plan was necessary to respond to issues and concerns raised by members of minority nationality communities. Categorically, these issues and concerns relate to: Protection of ecologically fragile pasture areas Maintenance of access for migrating livestock Roadway and traffic safety (including multilingual road signage) Maintenance of access for pedestrians and non-motorized traffic Cultural sensitivity during construction, especially in the vicinity of mosques Culturally appropriate treatment in relocation of tombs. c) Because the Kui-Sai Highway area is sparsely populated, there was ample scope to minimize land acquisition and structural demolition. The scale of land acquisition and resettlement is low in comparison to other highway construction projects in China. Most of the land to be utilized for highway construction is state-owned open grasslands. Only about 130 hectares of agricultural land will be acquired from collectives. Housing demolition is expected to affect 145 households (about 580 persons).

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Note: This is information on an evolving project. Certain components may not be necessarily included in the final project.

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