

**PROGRAM-FOR-RESULTS INFORMATION DOCUMENT (PID)
CONCEPT STAGE**

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| Program Name | <i>Anhui Rural Road Improvement and Upgrading</i> |
| Region | <i>East Asia and Pacific</i> |
| Country | <i>China</i> |
| Sector | <i>Transportation</i> |
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| Borrower(s) | <i>People's Republic of China</i> |
| Implementing Agency | <i>Anhui Provincial Transport Department</i> |
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| Concept Review Decision | |
| Other Decision | |

I. Introduction and Context

A. Country Context

1. For the past three decades, the Chinese economy has grown at a remarkable pace. However, this growth has not been spread evenly throughout the country. There are growing wealth disparities between coastal and inland regions, as well as between urban and rural areas, and today, more than 150 million Chinese people live below the USD1.90 per day international poverty line. In support of shared prosperity for all Chinese people, the Government of China has given priority to economic development in the lagging western and central regions under the 13th Five-Year Plan (disclosed in March 2016), which aims to eliminate extreme poverty by 2020. One tenet of the 13th Five-Year Plan (FYP) is the improvement of rural road networks. According to a recent study, for every RMB10,000 invested in rural roads, approximately 3.7 villagers may be lifted from poverty, and for every RMB invested, an approximately six-fold in rural GDP may be produced.¹

2. Anhui Province, while located in eastern China, has not been an equal beneficiary in the growth of the last three decades. Compared to its neighbors to the east, Zhejiang and Jiangsu Provinces, Anhui has lagged behind in economic development. Anhui's Gross Domestic Product

¹ Shenggen Fan, Linxiu Zhang and Xiaobo Zhang, *Reforms, Investment, and Poverty in Rural China*, Economic Development and Cultural Change, pp 395-421, 2002. Data adjusted to 2014 values based on Fixed Assets Investment Price Index and Consumer Price Index published by National Statistics Bureau of People's Republic of China.

(GDP) reached US\$5,500 per capita in 2014², which was about 47 percent (US\$11,600) and 42 percent (US\$13,000) of the levels of the more prosperous Zhejiang and Jiangsu provinces respectively. There is significant disparity within the Province as well, with most of the wealth concentrated in industrial regions close to the Yangtze River Delta, such as Hefei, Wuhu, and Ma'anshan.

B. Sectoral and Institutional Context of the Program

3. In line with an ambitious national program to improve rural road connectivity, the Governments of the Anhui Province and eight participating municipalities have prioritized rural road improvements in 10 counties³ with high levels of residual rural poverty and/or vulnerability to climate related disasters. These counties straddle the flat and densely populated Huai River watershed and the North China Plain in the north of the Province, and the rugged Dabie Shan (mountains) along the Yangtze River in the southwest. Eight of the 10 counties are designated as national poverty counties, one a provincial poverty county, and the tenth has high climate vulnerability resulting in recurring loss of rural livelihoods. These counties with a combined population of about 12 million (88 percent rural), had about 905,000 rural poor in 2015 (i.e. about nine percent of rural population below the poverty line). The Anhui rural roads program under the 13th Five-Year Plan (2016-2020) builds on the achievements of the past two Five-Year Plans and specifically targets the remaining pockets of rural poverty in the province. The program aims at improving maintenance, all-weather mobility, safety and climate resilience of rural roads in the province, especially in the most poor and vulnerable counties, while providing engineered road access to hundreds of poor and isolated villages.

4. China has built a massive transport infrastructure, including rural roads, over the past three decades, and added over one million kilometer (km) of rural roads to its road network between 2001-2010 responding to mobility needs emerging from the surge in motorization. By the end of 2015, the total length of rural roads had reached about 3.98 million km⁴, enabling paved road access to 98.6 percent of towns/townships and 94.5 percent of administrative villages in China. While the paved roads have greatly facilitated mobility in rural areas, many of the rural roads were built with low technical and safety standards. In addition, many 'natural' villages⁵ are not yet accessible by all-weather paved roads. To address these challenges, the national 13th FYP calls for the upgrading and maintenance of millions of kilometers of rural roads, strengthening of road safety infrastructure, and improvement of rural bridges. The policy framework and technical guidance is provided by the national Ministry of Transport, in the form of policies, directives and technical standards such as the '*13th Five Year Transport Plan for Poverty Reduction*', '*Guidance on Rural Roads Development*', '*Safe Road Program*', '*Technical Standards for Class I to IV roads*'.

5. Following the national trends, Anhui Province increased its stock of rural roads

² National Statistics Bureau

³ Anhui Province has 16 municipalities, sub-divided into 56 rural counties; and 43 urban districts (China Statistical Yearbook 2015 - <http://www.stats.gov.cn>)

⁴ www.jttj.gov.cn/shownews.asp?id=3021. By classification, rural roads in China include county-level, township-level, and village-level roads.

⁵ Natural village means a small village formed naturally over time

(comprising county, township and village roads) from 34,000 km in 2000 to 172,109 km in 2015. About 168,057 km have a Class IV or above technical standard and another 4,052 km are sub-standard roads (mostly earth roads with a few drainage structures). Of these, village roads comprise some 11,000 km. About 68.2 percent of the rural road network is paved⁶. Except for the roads constructed or improved within the last 5 years, Anhui's rural road network is mostly in fair to poor condition owing to the uneven quality of maintenance and perennial damage from flooding and landslides. The expansion in rural road connectivity, while critical for the poverty alleviation, has not been matched with a commensurate improvement in asset quality and maintenance, safety, and climate resilience. Meanwhile, reliable road access to poor and disaster-prone areas remain a challenge. As a result, some 75,000 km of rural roads require rehabilitation, upgrading and safety improvements.

6. The Anhui Province 13th FYP (APFYP) for Rural Road Development aims to address these challenges through (i) climate resilient rehabilitation and upgrading of county and township roads; (ii) road safety improvements; (iii) a comprehensive road maintenance program; (iv) overhaul of unsafe bridges; (iv) improved protection and control of road assets; and (v) training of technical staff). '*The Anhui Provincial Road Smooth Traffic Program – Implementation Guide (March 2016)*' provides a comprehensive planning and operational manual for program implementation.

7. County governments are responsible for rural roads construction, improvements, upgrading and maintenance with policies, financial support and technical oversight rendered by the central and provincial governments. In addition to the APFYP, each county has its own Five-Year program for rural road improvement and maintenance to respond to development needs that may fall outside the scope of the provincial program, such as village roads.

C. Relationship to CAS/CPF

8. The proposed Program is aligned with the 2013-2016 World Bank Group Country Partnership Strategy (CPS) for China, discussed by the Board on November 6, 2012. The 2013-2016 CPS focuses on three main pillars: support greener growth, promote more inclusive development, and advance mutually beneficial relations with the world. The proposed Program for Results supports the first two CPS pillars for green and inclusive development by reducing transport costs for rural road users and increasing accessibility for the rural people of Anhui Province.

9. As the Program counties are among the poorest in Anhui Province; some also measured on a national scale, the Program supports the World Bank's twin development goals of shared prosperity and poverty alleviation by providing these low income populations with more efficient transport access to markets and public services and by strengthening the integration between rural and urban markets, creating growth opportunities for both populations.

D. Rationale for Bank Engagement and Choice of Financing Instrument

⁶ Source: Anhui Department of Transportation

10. **Rationale for Bank engagement.** The People’s Republic of China has requested World Bank Program for Results (PforR) financing for improvement of the rural road network of selected counties in Anhui Province. Although this will be the first PforR Program in Anhui Province, the Bank and Anhui Province has a long record of corporation, and the Bank has financed several *transport projects* in Anhui, most recently: Anhui Road Maintenance Innovation and Demonstration Project (P153173), currently under preparation; Anhui Medium Cities Urban Transport Project (P111421), under implementation; and Anhui Highway Rehabilitation and Improvement Project (P099112), which closed in 2012.

11. The Bank has decades of experience in the Chinese rural roads sector and has been instrumental in introducing important technical and institutional innovations drawing upon its global knowledge and experience. For this Program, the Bank will focus on the institutional improvements, including among others within:

- **Rural Road Maintenance.** Anhui’s focus on maintenance is recent, and the capacity for road maintenance is much lower than for road development. Rural road maintenance is mostly reactive in response to emergencies and weather-related events, and a culture of regular, programmed routine and periodic maintenance is yet to be established. The Program aims to support a technical basis for maintenance planning and programming, institutional and technological modernization; a performance culture and accountability for results, and budgetary priority and adequate allocations for rural road maintenance.
- **Climate Resilience.** Aspects of climate change prevalent in Anhui include increasing seasonal temperatures and rainfall becoming more concentrated, with higher storm intensity and frequency, especially during winter months. It is estimated that return periods for extreme rainfall events could increase by a factor of four. To enable Anhui to meet the current and future challenges of climate change, the Program will adopt the concept of ‘build back better’, with focus on (i) raising the roadbed in floodplains; (ii) constructing /retrofitting drainage structures to handle more intense and frequent storms; (iii) protecting road cuts, embankments and drainage structures from erosion and scour with appropriate geotechnical and soil bioengineering technologies; and (v) dust control on unpaved roads through built-up areas.

12. **Choice of financing instrument.** The PforR financing instrument is *applicable* for the proposed Program, because: (a) the Bank will finance components of a government program that are not anticipated to have substantive adverse environmental or social impacts; (b) the components of the Program are relatively uniform and interchangeable; (c) based upon preliminary discussions, the Program fiduciary, environment, and social safeguards systems may be broadly adequate to meet the requirements of a PforR (pending further assessment); and (d) the results-based disbursement mechanism was deemed acceptable by the Government and Program agencies.

13. In addition to being applicable, the PforR instrument is also a *preferable* instrument for financing the Program, because: (a) The focus on institutional capacity building for the broader government program will have longer term, more sustainable impacts than an IPF alone; (b) The PforR is a more efficient instrument than IPF in this context – since country systems may already

be adequate, additional resources need not be devoted to similar but different parallel systems (especially in terms of fiduciary systems); (c) The PforR supports more flexibility in Program component selection and implementation than traditional IPF engagements, enabling the counterparts to easily adjust implementation timing and components as the need arises (e.g., need to re-prioritize Program implementation due to external events such as weather damage or parallel capital works activities); and (d) PforR mitigates counterpart funding risk in this high-poverty area (relative to an IPF), since the “rolling advance” feature ensures sufficient working capital is always available up front.

II. Program Development Objective(s)

14. The Program Development Objective (PDO) is to improve the rural road network connectivity, safety and quality in selected counties in Anhui Province.

B. Key Program Results

15. The proposed Program is expected to contribute to three Results Areas:

- Results Area 1: Improve Safe Rural road connectivity
- Results Area 2: Improve rural road quality
- Results Area 3: Strengthen institutional capacity

16. Proposed key results that will be used to measure the achievement of the PDO are:

- % of villagers who can access key public services within a certain timeframe (outcome indicator for connectivity)
- Length of roads constructed or rehabilitated (output indicator for connectivity)
- Length of roads with implemented road safety improvements (output indicator for road safety)
- Length of roads maintained (output indicator for quality)

17. The proposed Intermediate Results Indicators, also proposed as candidates for Disbursement-Linked Indicators are:

- Length of roads constructed or improved (Core Indicator) (km)
- Length of roads with road safety upgrades (km)
- Number of poor villages connected by paved rural roads (#)
- Length of roads that received periodic maintained (km)
- Length of roads that received routine maintenance (km)
- Number of training participants (#)
- Number of studies completed (#)

18. PDO indicators, intermediate indicators and DLIs are tentative only and is expected to be further developed and revised once the Program details are better known. This is especially the case for the institutional strengthening result area, where the assessments will guide to where reforms are most needed and appropriate, and hence indicate where the Program can best support this agenda.

III. Program Description

A. PforR Program Boundary

19. **Government Program:** The government program for rural road development in Anhui Province is based on:

- **Anhui Province 13th Five-Year Plan for Rural Road Development (APFYP).** To be implemented over the 2016-2020 period, APFYP has the following objectives: (i) implement the Smooth Traffic Program, involving upgrading, improvement and rehabilitation of county, township and village-level rural roads; (ii) implement rural roads safety improvement measures; (iii) improve unsafe bridges; (iv) improve the management oversight and maintenance of rural roads; (v) strengthen the training of technical staff; and (vi) improve protection of rural roads (i.e., control of vehicle overloading, prevention of Right-of-way (ROW) encroachments, enforcement of environmental safeguards) by involving towns, villages and their residents living along the roads.
- **Local County Programs (CFYP).** Beyond the rural programs embedded in the Provincial FYP, each county has a Program (2017-2021) for county-level rural road upgrading, improvement and rehabilitation, with a primary focus on village roads

20. The APFYP for the most part is a continuation of the following on-going national and provincial level programs, some launched during the 12th FYP period.

a) Anhui Provincial Government unveiled the *Smooth Traffic Program (STP)* on December 31, 2015. The Provincial Government is responsible for setting technical standards, coordinating central and provincial funding for STP and approving implementation plans. County governments retain responsibility for implementing STP. This program will cover some 75,000 km of rural roads at a cost of RMB 31.2 billion. ‘*The Anhui Provincial Road Smooth Traffic Program – Implementation Guide (March 2016)*’ provides a comprehensive planning and operational manual for STP implementation

b) Government of China launched a national *Safe Road Program (SRP)* on November 3, 2014, which aims to improve the safety of township and higher level roads substantially, complete the treatment of potential safety hazards, significantly increase the safety of road infrastructures, and comprehensively enhance the capacity of road safety governance by 2020. Provincial governments have the overall responsibility for SRP implementation in their jurisdictions. In addition to funding from the central and provincial governments, the county governments allocate funds to support SRP from their fiscal budgets.

c) Anhui Provincial Government initiated the *Unsafe Bridge Improvement Program* as a public welfare program in 2011 that aimed to avoid bridge collapses caused by technical failures. During the 12th FYP, about 6,000 endangered bridges were reconstructed or retrofitted. The Provincial Government will continue the program in the 13th FYP to eliminate hazardous bridges.

21. Following the promulgation of ‘*Regulations of Anhui Province on Rural Highways*’ in March 2013, Anhui Provincial Government launched a three-year rural highway management program throughout the province with the intention of building up management and technical capacity for road maintenance at county government and village committee levels. This program has been mainstreamed as part of the APFYP and will complement the maintenance program for national and provincial highways under the proposed Anhui Road Maintenance Innovation and Demonstration Project (P153173). In parallel, APFYP places renewed emphasis on: institutional capacity building, encompassing technical inspection and audits, monitoring and evaluation systems; protection of road assets (especially vehicle overloading control, prevention of ROW encroachments, and application of environmental safeguards); and staff training, especially for front-line technicians in improved road and bridge improvement and upgrading, and maintenance technologies, program management, and quality assurance and quality control (QA/QC).

22. **Program for Results.** The proposed PforR Program (“Program”) will finance a *geographical slice* (10 counties in eight municipalities)⁷ of the government program described above. Specifically, the Program will support the implementation of the following sub-programs:

(a) Under APFYP

- Smooth traffic program (Total length: 2,358 km, Total cost: US\$188 million)
- Safe road program (Total length: 2,489 km, Total cost: US\$44 million)
- Bridge improvement program (Total number: 186, Total cost: US\$24 million)
- Rural roads maintenance program (Total length: 5,066 km, Total cost: US\$48 million)
- Capacity building program (Total cost: US\$0.08 million); and

b) Under CFYP (2017-2021)

- Rural roads upgrading program (Total length: 640 km, Total cost: US\$95 million)

23. It is intended that the Program will comprise the entire government program in the 10 counties which is to be implemented within the Program period. However, based on the findings of the assessments activities not suited for PforR Programs as well as activities not relevant to the PDO may be excluded during preparations.

24. The Program will be implemented over five years. The tentative details of the Program, broken down between participating counties, are provided in Annex 3.

25. **Prior Results.** The STP is on-going and will be implemented over the period 2016-2018. As the proposed Program will not take effect until 2018, the Borrower intends to apply for “prior results” for parts of the Program implemented in 2017.

26. **PDO Outcome and Disbursement Linked Indicators.** The PDO Outcome Indicators

⁷ The ten counties - Lixin (Bozhou Municipality); Xiaoxian, Sixian (Suzhou); Linquan, Funan (Fuyang); Shouxian (Huainan); Dingyuan (Chuzhou); Shucheng (Lu’an); Hanshan (Ma’anshan); and Yuexi (Anqing) - have been selected by Anhui Province based on levels of poverty, socio-economic development, past performance, and counties’ interest.

and Disbursement Linked Indicators (DLIs) have been discussed with the Program agencies (see Table below). The baseline and target values for each indicator will be confirmed during Program preparation.

| Key Results Area | PDO/Outcome Indicators | Intermediate Results Indicators/DLIs |
|-------------------------------|--|---|
| Safe rural roads connectivity | % of villagers who can access key public service within a certain time frame Km of roads constructed or rehabilitated | DLI1.1: Roads constructed or improved to higher standard (km) DLI1.2: Roads with road safety upgrades (km) DLI1.3: Poor villages connected by paved rural roads (#) |
| Rural roads quality | Km of roads with implemented road safety improvements | DLI2.1: Roads received periodic maintained (km) DLI2.2: Roads received routine maintenance (km) |
| Institutional strengthening | | DLI3.1: Training participation (#) DLI3.2: Studies completed (#) |

27. The PDO outcome and Disbursement Linked Indicators will be dynamically updated during the preparation of the Program.

IV. Initial Environmental and Social Screening

28. **Social.** Improvement of rural roads will bring local communities safer and more convenient access for to basic services, enhance social connectivity, create more opportunities for remote households, and provide better connection to markets for farmers. In the Program counties, among total benefitted villages, a large portion are poverty villages. Rural road improvement will play an important role in poverty reduction in the Program areas.

29. Some negative social impacts/risks are expected during capital works and operation of road (including associated bridges) rehabilitation, improvement and upgrading. During road rehabilitation and upgrading, particularly from Class IV to Class III, some widening will take place, which may lead to a limited amount of land acquisition in villages along the alignment.

30. Initial discussions with government agencies indicate that the legal framework and local practice for limited land acquisition for road improvements are generally acceptable. While most counties followed provincial regulations in offering cash compensation, in some counties the compensation offered was based on negotiation with affected villages. These aspects will be reviewed and evaluated during the environmental and social assessment.

31. **Environment.** Positive environmental and social benefits are expected as major results; see discussion under Social. Low to moderate negative environmental and social impacts/risks are expected during capital works and operation. Rural roads to be improved/upgraded that are located in environmental sensitive areas (e.g., nature reserve, protected areas, reservoirs, nature habitats, physical cultural resources etc.) may lead to environmental degradation as a result of

increased accessibility to these protected areas. The activities typically limit works to the existing right-of-way (RoW) and footprint, without creating new lanes or involving large amount of slope cutting/filling. Roads within sensitive areas which involves works outside current RoW (e.g. slope protection, road widening) will be excluded.

32. Initial discussion with government agencies indicates that the legal EA framework and operational procedures for environmental safeguards management are generally acceptable. However, civil works site management and road maintenance after operation may need some improvement. These aspects will be assessed during the environmental and social assessment.

33. An environmental and social systems assessment (ESSA) will be conducted during Program preparation to assess the environment and social systems. Measures to address gaps or demand for improvements identified in the ESSA will be incorporated into the Program Action Plan.

V. Tentative financing

| | |
|--------------------|--------------|
| Source: | (\$m.) |
| Borrower/Recipient | 198.70 |
| IBRD | 200.00 |
| IDA | |
| Others (specify) | |
| | Total 398.70 |

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