Report and Recommendation of the President to the Board of Directors

Project Number: 42019-014
May 2019

Proposed Loan
People's Republic of China: Multimodal Passenger Hub and Railway Maintenance Project

Asian Development Bank

CURRENCY EQUIVALENTS
(as of 30 April 2019)

Currency unit	–	yuan (CNY)
CNY1.00	=	$0.1485
$1.00	=	CNY6.7337

ABBREVIATIONS

ADB	–	Asian Development Bank
CKRC	–	Chengdu–Kunming Railway Company Limited
CKRL	–	Chengdu–Kunming railway line
CRB	–	Chengdu Railway Bureau
CRC	–	China Railway Corporation
FMA	–	financial management assessment
IEE	–	initial environmental examination
km	–	kilometer
PAM	–	project administration manual
PRC	–	People's Republic of China

NOTE

In this report, "$" refers to United States dollars.

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CONTENTS

PROJECT AT A GLANCE

1. Basic Data — **Project Number:** 42019-014

Project Name	Multimodal Passenger Hub and Railway Maintenance Project
Country	China, People's Republic of
Borrower	China, People's Republic of
Department /Division	EARD/EATC
Executing Agency	China Railway Corporation (Formerly Ministry of Railways)

2. Sector

	Sector	Subsector(s)	ADB Financing ($ million)
✓	**Transport**	Rail transport (non-urban)	120.00
		Total	**120.00**

3. Strategic Agenda

	Strategic Agenda	Subcomponents
	Inclusive economic growth (IEG)	Pillar 1: Economic opportunities, including jobs, created and expanded
	Environmentally sustainable growth (ESG)	Eco-efficiency
		Global and regional transboundary environmental concerns

Climate Change Information

Climate Change impact on the Project	Medium
ADB Financing	
Adaptation ($ million)	0.32
Mitigation ($ million)	119.68

4. Drivers of Change

	Drivers of Change	Components
	Governance and capacity development (GCD)	Organizational development

Gender Equity and Mainstreaming

Some gender elements (SGE)	✓

5. Poverty and SDG Targeting

Geographic Targeting	No
Household Targeting	No
SDG Targeting	Yes
SDG Goals	SDG9, SDG13

Location Impact

Rural	Medium
Urban	Medium

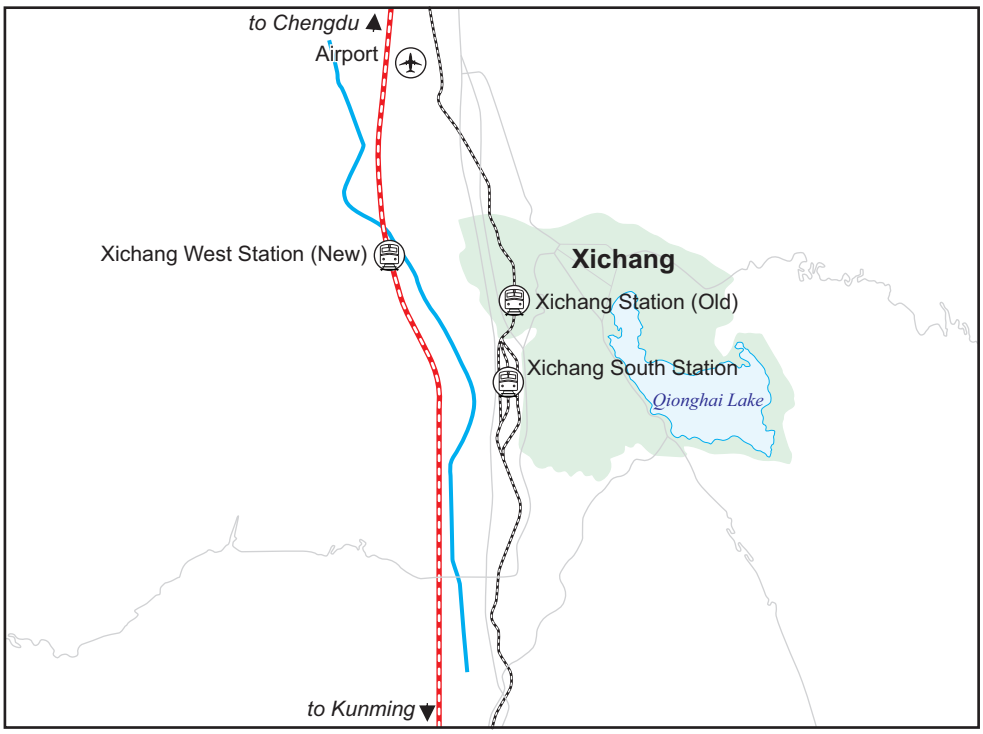
6. Risk Categorization: Low

7. Safeguard Categorization **Environment:** B **Involuntary Resettlement:** B **Indigenous Peoples:** C

8. Financing

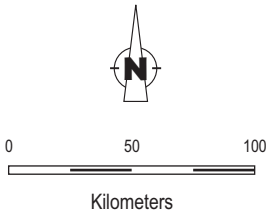
Modality and Sources	Amount ($ million)
ADB	**120.00**
Sovereign Project (Regular Loan): Ordinary capital resources	120.00
Cofinancing	**0.00**
None	0.00
Counterpart	**305.81**
Government	305.81
Total	**425.81**

Source: Asian Development Bank



MULTIMODAL PASSENGER HUB AND RAILWAY MAINTENANCE PROJECT

IN THE
PEOPLE'S REPUBLIC OF CHINA



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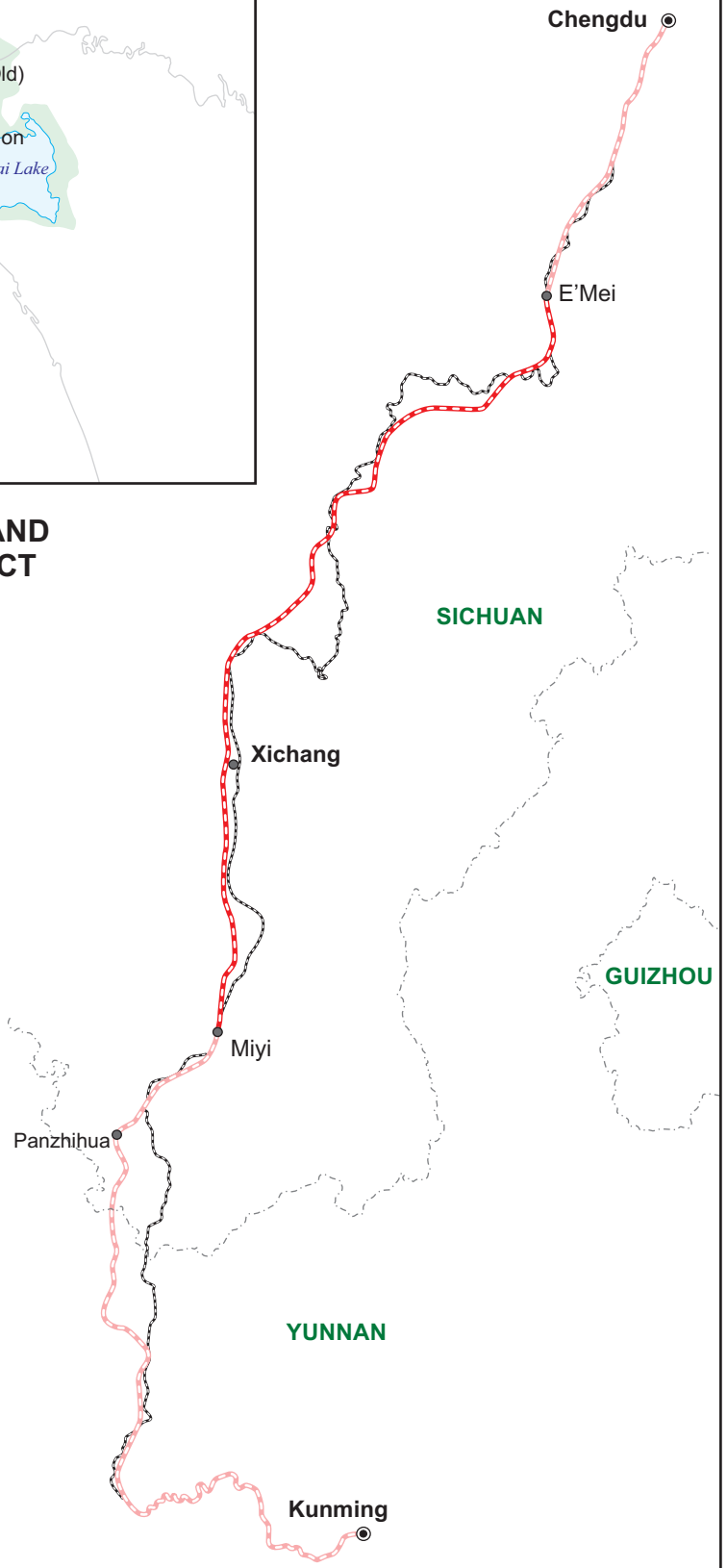

I. THE PROPOSAL

1. I submit for your approval the following report and recommendation on a proposed loan to the People's Republic of China (PRC) for the Multimodal Passenger Hub and Railway Maintenance Project.

2. The project will assist China Railway Corporation (CRC) in developing modern, energy-efficient, and sustainable transport solutions in the southwestern region of the PRC.[1] The government of the PRC is developing a new railway line connecting the provincial capitals of Sichuan and Yunnan provinces. The development of this railway line is a major initiative for this region, and the Asian Development Bank (ADB) is already providing assistance for developing the safety aspects on this line.[2] The project will construct a demonstration multimodal hub[3] on this line in Xichang city in Sichuan province, improve maintenance systems by introducing modern maintenance equipment, and enhance institutional capacity for railway maintenance.[4]

II. THE PROJECT

A. Rationale

3. **Lagging railway development in the southwestern region of the People's Republic of China.** The rail transport subsector is vital to the economic and social development in this region, and its expansion is needed to extend the benefits of development to people living in the region. Railway development has lagged in the southwestern region owing to the highly mountainous terrain, which makes railway construction difficult. This constrains economic growth, particularly in landlocked provinces like Yunnan and Sichuan. This region has also lagged in economic development, and gross domestic product per capita remains low, especially compared with the more prosperous eastern provinces: out of the 31 administrative divisions in the PRC, Sichuan province is ranked 23rd and Yunnan province 30th. The government recognizes the virtues of the railway as a cheaper, safer, and more fuel-efficient mode compared to other transport modes. It has the potential for greater speed and the capacity to provide demand-responsive sustainable development along core economic corridors without taking much land area, if properly planned and developed. In the Thirteenth Five-Year Plan, 2016–2020, the government has placed special emphasis on expanding the railway network to promote sustainable development in poorer and undeveloped provinces.[5] The plan envisages removing existing constraints in railway capacity and enhancing railway development in the western region by developing intercity rail networks to support inclusive development and reduce inequality and poverty.

4. **Chengdu–Kunming railway line.** The existing line connecting the capital cities of Yunnan and Sichuan provinces was constructed in 1970, is a single-track line with operating speeds of 40–60 kilometers (km) per hour, and has been operating at near full capacity for more than 10 years. To expand capacity across the southwestern region of the PRC, a new railway line is being developed. The new Chengdu–Kunming railway line (CKRL) involves the construction of

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[1] The project is included as a firm project for 2019 in ADB. 2018. *Country Operations Business Plan: People's Republic of China, 2018–2020*. Manila.

[2] ADB. 2017. *Report and Recommendation of the President to the Board of Directors: Proposed Loan to the People's Republic of China for the Mountain Railway Safety Enhancement Project.* Manila.

[3] The term multimodal hub generally refers to any facility that caters to more than one mode of transport.

[4] The project was prepared with funds from ADB. 2017. *Technical Assistance to the People's Republic of China for Supporting Project Preparation*. Manila.

[5] Government of the PRC, National Development and Reform Commission. 2015. *Outline of the Thirteenth Five-Year Plan for National Economic and Social Development of the People's Republic of China, 2016–2020*. Beijing (adopted in 2016).

860 km (645 km in Sichuan and 215 km in Yunnan) of railway line for passenger and freight transportation. The new CKRL is 22% shorter (236 km) than the existing single-track line (1,096 km). Trains on the new railway line will be able to run at 160 km per hour compared with the existing speed of only 60 km per hour. The capacity for passenger trains per day would increase from 24 to 70. The shorter alignment and faster train speeds will shorten the travel time to less than 8 hours for passenger trains. Presently, it takes 18–22 hours for people to travel from Chengdu to Kunming via rail. The shorter travel time is likely to make the railway a more attractive travel option, and it is estimated that there will be a modal shift of 3.2 million passengers from road to railway after the new line becomes operational, which will reduce energy consumption and lower carbon emissions.

5. **Need for integrated and energy-efficient multimodal hubs.** In the PRC, new railway stations often do not meet the needs of passengers, as they are often located far from city centers and are not well integrated with cities' transport systems. Thus, while the new railway lines will facilitate faster intercity travel, the stations also need to be efficiently linked to city centers with well-designed multimodal transport infrastructure and high-quality integrated public transport services. This will enhance the quality of the journey experience for passengers and will encourage increased use of public transport. This will reduce transport costs, increase travel opportunities and regional accessibility to jobs and services, and promote economic development and poverty reduction. One of most important multimodal hubs on the CKRL will be developed in Xichang city in Sichuan province, which has a population of about 775,000. It is rich in agriculture and food processing industries, is one of the centers of the PRC's space satellite program, and is a popular tourist destination. It is estimated that 2.8 million passengers will use the Xichang multimodal hub in 2025. Developing Xichang into a well-designed multimodal hub could have a major demonstration impact for the region. One of the most important strategic objectives of all development initiatives in the PRC is the reduction of energy consumption and carbon emissions across sectors. In the PRC, buildings alone consume over 20% of the total energy produced, and a shift toward green buildings is of great importance. The rail transport subsector in the PRC has developed rapidly, with the number of stations now exceeding 5,000, so the subsector should pay sufficient attention to the use of energy in the stations. Railway stations can be developed as a model to demonstrate best practices in energy efficiency.

6. **Ensuring sustainability through improved maintenance.** Good maintenance practices are an integral part of providing competitive, high-quality, and reliable railway transportation. The PRC railway network is managed and maintained by 18 bureaus that are wholly owned and controlled by CRC. The new CKRL line will be managed and maintained by Chengdu Railway Bureau (CRB). By the end of 2016, the network size under CRB had reached 9,100 km. Of this, about 2,100 km of track had an operating speed of 200 km per hour and above, and the remaining 7,000 km was ordinary railway track. The volume of traffic carried was 210 million passengers, and 190 million tons of freight. The railway lines managed by CRB are typically in mountainous areas. The geological situation is complex, and the topography and landscape are hazardous. The difficult terrain poses major challenges for conventional maintenance systems. Over 1,500 km of the network has curves with a radius of fewer than 600 meters, which causes rapid track wear and deformation and requires careful monitoring. CRB's current maintenance and inspection equipment are insufficient. The maintenance staff have limited capacity and often struggle to keep up with the demands of the rapidly growing network, which is increasingly difficult to maintain owing to the surge in operating speeds.

7. **Regional cooperation.** The southwestern PRC has good economic complementarities with South Asian and Southeast Asian countries, and bilateral trade is growing rapidly. Bordering the Lao People's Democratic Republic, Myanmar, and Viet Nam, the provinces of the southwestern PRC form a regional cooperation link between the PRC and Association of

Southeast Asian Nations. The new CKRL will, together with the pan-Asia railway, constitute an international railway channel (i) connecting the PRC with the Lao People's Democratic Republic Myanmar, and Viet Nam; (ii) playing a key role in strengthening communication and trade between the PRC and Southeast Asia and South Asia; and (iii) promoting the development of the PRC–Association of Southeast Asian Nations free trade area.[6] The PRC further needs assistance in ensuring that the line is (i) properly integrated with other transport modes through well-designed multimodal hubs, and (ii) made sustainable by having an improved maintenance system in place.

8. **Strategic priorities.** The project supports a number of the operational priorities of Strategy 2030.[7] By improving maintenance and thus reliability of railway operations, the project, which is located in a less-developed area of Sichuan province in the southwestern PRC, will address poverty by improving access to markets and nonfarm employment opportunities. The project incorporates distinct gender-sensitive design features to enhance women's inclusion and participation, and ensure that women benefit from the railway line and station. The project will support climate change mitigation by maximizing the passenger hub's (i) capacity to facilitate efficient intermodal connectivity and (ii) incorporation of energy efficiency features. The project contributes to climate change mitigation by enabling a modal shift to railways, which are less carbon intensive compared with other modes of transportation. The location of the new passenger hub on an important railway line will strengthen its demonstration effect on the development of railway stations in cities of similar size in the PRC. By improving railway maintenance on an international railway corridor linking the PRC and Southeast Asia, the project will (i) strengthen service delivery and improve institutional capacity, and (ii) facilitate regional cooperation. Through its support for climate change mitigation and regional cooperation, the project supports regional public goods. Overall the project improves access to market and jobs thereby directly impacting livelihoods of the people in the region.

9. The project is aligned with the strategic priorities of ADB's country partnership strategy for the PRC, 2016–2020 in supporting inclusive economic growth, as the project is in a less-developed region (Sichuan province in the southwestern PRC).[8] The project will help the PRC address the challenges highlighted above, and deepen the cooperation between the government and ADB by helping to develop the rail transport mode into a sustainable transport system for freight and passengers. The project is in line with ADB's Sustainable Transport Initiative, which highlights railway development as an important opportunity for sustainable transport operations.[9] The project is consistent with the PRC Thirteenth Five-Year Plan's objectives of balanced development of rural and urban areas, better transport connectivity, and inclusive urbanization (footnote 5). The CKRL is also part of the PRC's medium- and long-term railway network plan, which seeks to improve the railway system, especially in the central and western PRC.[10]

10. **Value added by ADB assistance.** ADB will add value to the project through the incorporation of design features to enhance the sustainability and efficiency of the multimodal hub, procurement of advanced technology railway maintenance equipment, and incorporation of gender-sensitive features. ADB has played a significant role in supporting CRC's development of multimodal passenger hubs in the PRC, including through the provision of technical assistance.[11]

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[6] The Pan-Asia railway (also known as the Kunming–Singapore railway) refers to a network of railway lines, planned or under construction, that would connect the PRC to Singapore and the countries of mainland Southeast Asia.

[7] ADB. 2018. *Strategy 2030: Achieving a Prosperous, Inclusive, Resilient, and Sustainable Asia and the Pacific*. Manila.

[8] ADB. 2016. *Country Partnership Strategy: People's Republic of China—Transforming Partnership: People's Republic of China and Asian Development Bank, 2016–2020*. Manila.

[9] ADB. 2010. *Sustainable Transport Initiative Operational Plan.* Manila.

[10] Government of the PRC. 2016. *Medium- and Long-Term Railway Network Plan.* Beijing.

[11] ADB. 2011. *Technical Assistance to the People's Republic of China for Developing Multimodal Passenger Transport Hubs*. Manila.

ADB's support for the development of the multimodal hub in Xichang city will add value through (i) an emphasis on the use of recycled materials to ensure sustainable construction, (ii) the extensive use of renewable energy sources and energy efficiency features in building design, and (iii) a design to maximize connectivity between different transport modes to facilitate intermodal transfers for passengers. ADB will also add value by financing procurement of modern track maintenance equipment using international advertising. Investing in high-quality, state-of-the-art maintenance equipment will yield substantial benefits by improving the reliability and operational efficiency of train operations and facilitating sustainability. The capacity building activities will assist in the development of an integrated approach to maintenance systems, which is needed to maintain the intensively used railway infrastructure. ADB's involvement will also prioritize maintenance, which in the past in the PRC has been given lower priority than the construction of new railway lines. The concentration of passengers arising from connecting transport modes will facilitate the development of private-sector market opportunities. ADB will also ensure the project incorporates distinctive gender-sensitive design to enhance the level of satisfaction, comfort, and safety of women using public transportation. These features include improved safety features, universal design to facilitate accessibility of people, and improved signage. The project has also set targets to contribute to women's economic empowerment through project-related employment and to ensure that women railway staff strengthen their knowledge and skills to improve their employment and career prospects.

B. Impact and Outcome

11. The project is aligned with the following impact: sustainable railway system in the southwestern PRC developed (footnotes 5 and 10). The project will have the following outcome: integrated, energy-efficient, and sustainable railway corridor in Sichuan province developed.[12]

C. Outputs

12. **Output 1: Multimodal passenger hub developed.** The project will construct a multimodal passenger hub in Xichang (Xichang west station), which is a growing tourist destination in Sichuan province.[13] Xichang city is the capital of Liangshan prefecture in Sichuan province, located in the middle of the CKRL.[14] The hub will include good intermodal connectivity and energy efficiency features in the form of improved insulation and enhanced air ventilation systems, and conform to PRC's standard for green buildings.[15] It will have improved drainage systems to adapt to the risk of flooding and will generate renewable energy generation through solar power. The hub will incorporate inclusive and gender-sensitive features for a bus station for long-distance, local, and tourist buses; ticketing and support facilities; parking for cars, motorcycles, and bicycles; and pedestrian walkways linking the railway station to other transport modes to facilitate intermodal transfers.

13. **Output 2: Railway maintenance improved.** Track-renewal and track-laying operations require high expenditure for personnel and machines. With the help of mechanized work methods, these costs can be significantly reduced and a higher quality can be achieved. This output will procure modern railway track maintenance machines. The equipment will cover track inspection and repair, as well as rescue and restoration. This output will also include capacity building for

[12] The design and monitoring framework is in Appendix 1.
[13] About 18.20 million tourists visited in Xichang in 2013, which was 18.69% higher than the 15.33 million in 2012, with tourism revenue of CNY10.52 billion in 2013 compared with CNY8.06 billion in 2012.
[14] Xichang west station will be built in Xichang's newly urbanized area, 10 km northwest of the existing city and 9 km southwest of Xichang Qingshan Airport.
[15] Government of the PRC, Ministry of Housing and Urban-Rural Development. 2014. *Assessment Standard for Green Buildings – GB/T 50378-2014.* Beijing.

railway maintenance measures and training on railway maintenance systems. Staff from executing and implementing agencies will be trained, and technical exchanges on maintenance technologies and new maintenance techniques will be organized to familiarize staff in these areas. Training on the operations of the new railway maintenance machines will be included in the procurement contracts. ADB will also provide railway asset management training through its knowledge and support technical assistance on sustainable transport.[16]

D. Summary Cost Estimates and Financing Plan

14. Detailed cost estimates by expenditure category and by financier are included in the project administration manual (PAM).[17] The major expenditure items are equipment and civil works.

Table 1: Summary Cost Estimates

($ million)

Item			Amount[a]
A.	**Base Cost**[b]		
	1.	Multimodal passenger hub developed	126.01
	2.	Railway maintenance improved	240.69
		Subtotal (A)	**366.70**
B.	**Contingencies**[c]		**41.49**
C.	**Financial Charges During Implementation**[d]		**17.62**
		Total (A+B+C)	**425.81**

[a] Includes taxes and duties of $42.24 million to be financed from government resources as counterpart funds through cash contributions.

[b] In mid-2018 prices as of May 2018.

[c] Physical contingencies computed at 5% for civil works and equipment. Price contingencies computed at average of (i) 1.5% for the first and second years, and 1.6% thereafter on foreign exchange costs; and (ii) 2.3% for the first and second years, and 2.2% annually thereafter on local currency costs. Includes provision for potential exchange rate fluctuation under the assumption of a purchasing power parity exchange rate.

[d] Includes interest and commitment charges. Interest during construction for the ordinary capital resources loan has been computed at the 7-year United States dollar fixed swap rate plus an effective contractual spread of 0.5% and maturity premium of 0.2%. Commitment charges for the ordinary capital resources loan are 0.15% per year, to be charged on the undisbursed loan amount.

Source: Asian Development Bank estimates.

15. The government has requested a regular loan of $120 million from ADB's ordinary capital resources to help finance the project. The loan will have a 25-year term, including a grace period of 7 years; an annual interest rate determined in accordance with ADB's London interbank offered rate (LIBOR)-based lending facility; a commitment charge of 0.15% per year; and such other terms and conditions set forth in the draft loan and project agreements. Based on the loan terms and government's choice of 10% annuity repayment option, the average maturity is 18.76 years, and the maturity premium payable to ADB is 0.20% per year. The interest charges will not be capitalized.

16. The summary financing plan is in Table 2. ADB will finance 28.20% of the project cost, including equipment and civil works. The government will finance the remaining $305.81 million through counterpart funds provided by CRC.

17. The Government of the PRC is the borrower of the loan and will relend the loan to CRC on the same terms and conditions as those of the ADB loan. CRC will assume the foreign exchange and interest variation risks of the ADB loan, including contingencies. The Government of the PRC, CRC, and Chengdu–Kunming Railway Company Limited (CKRC) have assured ADB

[16] ADB. 2017. *Technical Assistance for Implementation of Sustainable Transport for All.* Manila.

[17] Project Administration Manual (accessible from the list of linked documents in Appendix 2).

that counterpart funding will be provided in a timely manner, including any additional counterpart funding required for any shortfall of funds or cost overruns. The indicative flow of funds and the onlending arrangements are specified in the PAM (footnote 17).

Table 2: Summary Financing Plan

Source	Amount ($ million)	Share of Total (%)
Asian Development Bank		
Ordinary capital resources	120.00	28.20
Government of the People's Republic of China	305.81	71.80
Total	**425.81**	**100.00**

Source: Asian Development Bank estimates.

18. Climate mitigation is estimated to cost $365.43 million and climate adaptation is estimated to cost $1.26 million. ADB will finance 32.75% of mitigation costs and 25% of adaptation costs.[18]

E. Implementation Arrangements

19. The executing agency will be CRC, a state-owned enterprise, which will be responsible for the overall project preparation and implementation. It will also coordinate the operations management and maintenance of infrastructure assets. The implementing agency will be CKRC, a joint venture shareholding company established under PRC company law. The shareholders are China Railway Development Fund Company Limited (under CRC) and Sichuan Provincial Railway Industry Investment Group Limited (under the Sichuan Provincial Government). CKRC is responsible for project construction. The executing agency has engaged a tendering company to assist in procurement.

20. The project will be implemented over 7 years from September 2019 to September 2026. Procurement to be financed by ADB will follow the ADB Procurement Policy (2017, as amended from time to time) and Procurement Regulations for ADB Borrowers (2017, as amended from time to time). The implementation arrangements are summarized in Table 3 and described in detail in the PAM (footnote 17).

Table 3: Implementation Arrangements

Aspects	Arrangements		
Implementation period	September 2019–September 2026		
Estimated completion date	30 September 2026		
Estimated loan closing date	31 March 2027		
Management			
(i) Executing agency	China Railway Corporation		
(ii) Key implementing agency	Chengdu–Kunming Railway Company Limited		
Procurement	Open competitive bidding International Advertising	6 contracts	$91.2 million
	Open competitive bidding National Advertising	1 contract	$28.8 million
Advance contracting	Advance contracting and retroactive financing will apply to the procurement of the civil works contract. Retroactive financing will finance up to $24 million of eligible expenditures (20% of the ADB loan incurred prior to loan effectiveness, but not earlier than 12 months before the loan is signed).		
Disbursement	The loan proceeds will be disbursed following ADB's *Loan Disbursement Handbook* (2017, as amended from time to time) and detailed arrangements agreed upon between the government and ADB.		

ADB = Asian Development Bank.
Source: ADB.

[18] Details of the adaptation and mitigation finance are in Climate Change Assessment (accessible from the list of linked documents in Appendix 2).

III. DUE DILIGENCE

A. Technical

21. The project will finance railway maintenance equipment and a multimodal passenger hub in Xichang. Some of the specific equipment to be procured under the project includes track replacement and ballast compacting machines, tunnel inspection vehicles, and accident relief vehicles. The preliminary technical specifications of the equipment have been reviewed, and it has been confirmed that the equipment is compatible with and suitable for the maintenance requirements of the railway network in the region.

B. Economic and Financial

22. The ADB-financed multimodal passenger hub and mechanized maintenance equipment components were assessed individually. The economic benefits of the multimodal passenger hub include reduced travel time and vehicle operating costs, reduced greenhouse gas emissions, and benefits from improved safety. The economic benefits from the maintenance equipment include labor cost savings and reduced consumption of railway materials (rail, ballast, and sleepers) because of the higher productivity and work quality of mechanized maintenance machines compared with CRB's existing equipment. The project will result in large positive net economic benefits. The economic internal rate of return for the project is 22.23% and the net present value at a 9% discount rate is CNY1.75 billion. Sensitivity analysis demonstrates that the results are robust and that the project would maintain its economic viability under most plausible scenarios.

23. A financial analysis was undertaken to assess the financial sustainability of the project based on the fiscal impact of (i) counterpart funds during the project, (ii) operation and maintenance costs, and (iii) the loan repayment obligation. CRC will be responsible for all financial obligations. The total project cost to be financed by the government represents up to 0.19% of the 2017 total revenue of CRC. After project implementation, ADB's loan repayment, financing charges, and recurrent costs will be about 0.84% of the projected annual revenue of the railway line. The project is financially sustainable based on the financial sustainability analysis of CRC's financial health and the projected revenues and expenditures of the railway line.

C. Governance

24. **Financial management.** The financial management assessment (FMA) was conducted in accordance with ADB's *Financial Management and Analysis of Projects*[19] and *Financial Due Diligence: a Methodology Note* and related technical guidance notes.[20] The FMA concluded that the capacity of both CRC and CKRC is adequate, and the overall financial management risk is *moderate*. CRC has prior and ongoing experience in implementing ADB projects and has an understanding of ADB procurement, disbursement, and financial management procedures. The FMA recommended that CKRC further strengthen its financial management capability by undertaking training, particularly on ADB policy and its procedural requirements for financial management, including financial reporting and disbursement.[21]

25. **Procurement and anticorruption measures.** All procurement to be financed under the ADB loan will be done in accordance with the ADB Procurement Policy and Procurement Regulations for ADB Borrowers. The relevant sections of ADB's Anticorruption Policy (1998, as amended to date) will be included in all procurement documents and contracts. ADB's

[19] ADB. 2005. *Financial Management and Analysis of Projects*. Manila.
[20] ADB. 2009. *Financial Due Diligence: A Methodology Note*. Manila.
[21] Financial Management Assessment (accessible from the list of linked documents in Appendix 2).

Anticorruption Policy was explained to and discussed with the government and CRC. The specific policy requirements and supplementary measures are described in the PAM (footnote 17).

D. Poverty, Social, and Gender

26. **Poverty and social.** The causes of poverty include (i) low profits from local products because of lack of market access and local processing of agricultural products, (ii) lack of local nonfarm employment opportunities, (iii) insufficient access to health care, (iv) vulnerability to climate change and other environmental degradation; and (v) lack of access to credit and other social services. The project will improve maintenance and reliability of higher-speed railway operations that provide access to regional markets, thereby increasing profit margins and raising rural incomes and improving livelihoods.

27. **Project beneficiaries.** The project has the potential to benefit people in the project area through (i) employment during project construction and operation; (ii) improved access to markets, transport, and other services through the larger railway line development; and (iii) integration of the project area with regional trade and commerce. Rural households will increase and diversify their agricultural production to include more market-oriented agriculture because of expanded access to markets and the ability to move bulk goods, improving their quality of life thanks to better access to goods, services, and social infrastructure at less cost. Improved access to markets will facilitate investment in local processing industry and value addition to agricultural produce and generation of nonfarm employment. Travel time to destinations along the Chengdu–Kunming railway line will be reduced significantly.

28. **Gender.** The project is categorized as having some gender elements.[22] Women in the project area have differentiated transport needs arising from their combined engagement in productive activities and in caring roles such as travelling with children and the elderly. These gender roles result in specific mobility patterns and accessibility issues. Women also tend to have higher concerns for personal safety when using public transportation. To address women's specific transportation needs, the project incorporates distinctive gender-sensitive design, including improved safety features such as lighting and CCTV in waiting areas and around hubs; universal design to facilitate accessibility of people using mobility aids, strollers, and those helping others; and improved signage in and around hubs for the easy location of reserved seating, baby care rooms, toilets, and lockers. These measures will enhance the level of satisfaction, comfort, and safety of women when using public transportation. The project has also set targets to contribute to women's economic empowerment through employment during construction and operation of the hub. Targets have also been set to ensure women railway staff actively participate in technical training and update their knowledge and skills on new railway maintenance approaches, increasing their employability and chances for career progression.

E. Safeguards

29. In compliance with ADB's Safeguard Policy Statement (2009), the project's safeguard categories are as follows.[23]

30. **Environment (category B).** The project's categorization mainly reflects the environmental impact associated with the construction of Xichang multimodal passenger station. The initial environmental examination (IEE) complies with ADB's policies and requirements, including ADB's Safeguard Policy Statement, and identifies potential adverse impacts. During construction, such risks would include (i) soil erosion, (ii) construction noise and dust affecting

[22] Gender Action Plan (accessible from the list of linked documents in Appendix 2).
[23] ADB. Safeguard Categories. https://www.adb.org/site/safeguards/safeguard-categories.

local residents, (iii) inappropriate storage of construction materials and wastes, and (iv) safety of construction workers. During operation, limited adverse impacts are anticipated, except for noise because of increased travelers. The IEE concludes that those impacts can be mitigated through the implementation of the environmental management plan, which specifies mitigation measures, monitoring requirements, and institutional responsibilities for ensuring proper environmental management throughout the project's construction and operation. The executing agency has considerable experience with previous ADB and World Bank projects. Both the executing and implementing agencies are committed to managing the identified environmental risks and have agreed on a comprehensive set of mitigation measures and a training program with a strong emphasis on environment safeguards. The IEE was posted on the ADB website. Environment safeguard documents were disclosed to the affected people. Potential environmental complaints or disputes will be handled in accordance with the grievance redress mechanism established for the project. A rapid climate risk assessment concludes that climate risk is *medium*, and the most significant risk to the project area and its vicinities relates to flooding. During the detailed engineering design of the station, flood risk will be addressed by incorporating a sufficient drainage system at the Xichang multimodal hub.

31. **Involuntary resettlement (category B).** For output 1, a total of 530 *mu* of collective land was acquired for the construction of the Xichang multimodal hub, affecting 45 households with 187 persons.[24] The total cost of land acquisition and resettlement was CNY38.7 million. Land acquisition and house demolition were completed by December 2017. A social compliance audit report was prepared in accordance with ADB's Safeguard Policy Statement and posted on the ADB website.[25] Furthermore, a Resettlement Due Diligence Report for associated facilities (the E'mei–Miyi Main Rail Line from E'meishan City to Miyi County) was prepared and posted on the ADB website.[26] The two reports include a corrective actions plan with time-bound actions to address the remaining resettlement issues. The implementing agency is committed to monitor and work closely with the relevant government agencies to manage resettlement issues. The executing agency will engage an external monitor for semiannual monitoring and reporting. Public consultations were undertaken during project preparation and will continue throughout the project cycle. A grievance redress mechanism has been established to address affected people's concerns and suggestions. Output 2 involves the procurement of maintenance equipment and therefore has no land acquisition and resettlement issues.

32. **Indigenous peoples (category C).** There are no ethnic minority communities that will be adversely affected by the project.

F. Summary of Risk Assessment and Risk Management Plan

33. The overall risk is assessed to be *low*. The integrated benefits and impacts are expected to outweigh the costs. The project is formulated to minimize potential risks. Sensitivity tests indicate that economic circumstances would have to worsen substantially for the investment program to lose its economic viability. CRC has successfully implemented ADB-financed projects in the past.

34. Risks associated with potential changes in government policy are minimal. An analysis of the demand for railway transport shows that the southwestern PRC needs additional railway maintenance capacity to sustain its transport development. The equipment to be procured and included in this project is based on proven and suitable international designs. CRC has

[24] A *mu* is a Chinese unit of measurement (1 *mu* = 0.067 square meters).
[25] Social Compliance Audit Report (accessible from the list of linked documents in Appendix 2).
[26] Resettlement Due Diligence Report (accessible from the list of linked documents in Appendix 2).

experience in procuring and implementing new technologies successfully, and these can be commissioned within a relatively short time. Significant risks and mitigating measures are summarized in Table 4 and described in detail in the risk assessment and risk management plan.[27]

Table 4: Summary of Risks and Mitigating Measures

Risks	Mitigation Measures
Limited integration of the hub with existing and planned urban transport infrastructure	Careful attention has been paid during the preliminary design stage to ensuring that the multimodal hub is well integrated with the city's transport network; ADB will continue to engage with the Xichang city government to ensure good integration with the planned city infrastructure
Delay in construction of the Chengdu–Kunming railway line could lead to delays in the construction of the multimodal hub	Close coordination with CRC and Chengdu–Kunming Railway Company Limited to ensure that the multimodal hub is constructed in a timely manner
CRC is responsible for debt obligations, is a highly leveraged entity, and has low debt service coverage ratio	ADB will closely monitor CRC's debt and discuss related issues with the Ministry of Finance and CRC

ADB = Asian Development Bank, CRC = China Railway Corporation.
Source: Asian Development Bank.

IV. ASSURANCES

35. The government and CRC have assured ADB that implementation of the project shall conform to all applicable ADB policies, including those concerning anticorruption measures, safeguards, gender, procurement, consulting services, and disbursement as described in detail in the PAM and loan documents.

36. The government and CRC have agreed with ADB on certain covenants for the project, which are set forth in the loan agreement and project agreement.

V. RECOMMENDATION

37. I am satisfied that the proposed loan would comply with the Articles of Agreement of the Asian Development Bank (ADB) and recommend that the Board approve the loan of $120,000,000 to the People's Republic of China for the Multimodal Passenger Hub and Railway Maintenance Project, from ADB's ordinary capital resources, in regular terms, with interest to be determined in accordance with ADB's London interbank offered rate (LIBOR)-based lending facility; for a term of 25 years, including a grace period of 7 years; and such other terms and conditions as are substantially in accordance with those set forth in the draft loan and project agreements presented to the Board.

Takehiko Nakao
President

31 May 2019

[27] Risk Assessment and Risk Management Plan (accessible from the list of linked documents in Appendix 2).

DESIGN AND MONITORING FRAMEWORK

Impact the Project is Aligned with Sustainable railway system in the southwestern PRC developed (Railway Development Plan; Thirteenth Five-Year Plan, 2016–2020)[a]			
Results Chain	**Performance Indicators with Targets and Baselines**	**Data Sources and Reporting Mechanisms**	**Risks**
Outcome Integrated, energy-efficient, and sustainable railway corridor in Sichuan province developed	By 2027: a. Passenger volume through Xichang increased to 2.85 million per year (2017 baseline:1.77 million per year) b. Number of passenger trains stopping in Xichang increased to 70 (2017 baseline: 20) c. Maintenance manpower requirement per kilometer of track reduced by 50% (2017 baseline: track tamping requires 1 person per hour for every 50 meters of track) d. Response time for rescue operations reduced by 20% (2017 baseline: Average response time is 30 minutes)	CRC and CKRC statistics	Limited integration of the hub with existing and planned urban transport infrastructure
Outputs 1. Multimodal passenger hub developed	By 2026: 1a. New Xichang railway station with bus terminal and other facilities constructed (2017 baseline: 0) 1b. Enhanced personal safety features such as appropriate lighting, CCTV cameras and monitoring in the multimodal hub including waiting areas applied (2017 baseline: 0) 1c. Disability- and elderly-friendly access features (e.g., ramps, escalators, and elevators) constructed (2017 baseline 0) 1d. Facilities addressing the needs of women traveling with babies such as appropriate	1a–1d. Project progress reports, Consultant Reports, and review missions	Delay in construction of the Chengdu–Kunming railway line could lead to delays in the construction of the multimodal hub

Results Chain	Performance Indicators with Targets and Baselines	Data Sources and Reporting Mechanisms	Risks
	access to childcare or nursery or baby changing facilities, reserved seating and waiting areas constructed (2017 baseline: 0)		
2. Railway maintenance improved	2a. Railway maintenance equipment procured (2017 baseline: 0) 2b. 100 staff (out of which women staff - 30) of CRC including from CRB trained in railway maintenance (2017 baseline: 0)	2a–2b. Project progress reports, Consultant Reports, and review missions	

Key Activities with Milestones

1. Multimodal hub developed
1.1. Develop detailed design (Oct 2018–Oct 2019)
1.2. Monitor the implementation of corrective actions related to land acquisition and resettlement (ongoing up to December 2024)
1.3. Procurement of civil works for the multimodal hub (Jul 2019–Dec 2019)
1.4. Construction of hub (Jan 2020–Dec 2023)

2. Railway maintenance improved
2.1. Analyze requirements to enhance railway maintenance (Apr 2019–Mar 2020)
2.2. Develop technical specifications (Jan 2020–Dec 2020)
2.3. Procure and install equipment and related systems (Apr 2020–Sep 2025)
2.4. Commissioning and usage of equipment (Apr 2021–Sep 2026)
2.5. Provide training (Oct 2020–Jul 2025)

Project Management Activities

Annual review missions
Project completion

Inputs

Asian Development Bank (ordinary capital resources):	$120,000,000
Government of the PRC:	$305,810,000

Assumptions for Partner Financing

Not applicable

CCTV = closed-circuit television, CKRC = Chengdu–Kunming Railway Company Limited, CRB = Chengdu Railway Bureau, CRC = China Railway Corporation, PRC = People's Republic of China.

[a] Government of the PRC, National Development and Reform Commission. 2015. *Outline of the Thirteenth Five-Year Plan for National Economic and Social Development of the People's Republic of China, 2016–2020*. Beijing (adopted in 2016); and Government of the PRC. 2016. *Medium- and Long-Term Railway Network Plan*. Beijing.

Source: Asian Development Bank.

LIST OF LINKED DOCUMENTS
http://www.adb.org/Documents/RRPs/?id=42019-014-3

1. Loan Agreement
2. Project Agreement
3. Sector Assessment (Summary): Transport (Rail Transport [Nonurban])
4. Project Administration Manual
5. Contribution to the ADB Results Framework
6. Development Coordination
7. Financial Analysis
8. Economic Analysis
9. Country Economic Indicators
10. Summary Poverty Reduction and Social Strategy
11. Risk Assessment and Risk Management Plan
12. Climate Change Assessment
13. Gender Action Plan
14. Initial Environmental Examination

Supplementary Documents

15. Social Compliance Audit Report
16. Resettlement Due Diligence Report
17. Project Procurement Capacity Assessment
18. Financial Management Assessment