

RISK ASSESSMENT AND RISK MANAGEMENT PLAN

Risk Description	Rating	Mitigation Measures	Responsibility
1. Inexperience of the executing agency	S	<p>While the NCRTC was established only in 2013, the majority of its officers come from the Indian Railways as well as metro corporations across India, including the DMRC, and therefore have sufficient experience in implementing railway and metro projects at their previous organizations.</p> <p>In addition, the NCRTC has hired the joint venture of Ayesa (a leading multinational engineering firm) and Italferr (a consulting firm under a state-owned railway company of Italy) as the general consultant responsible for design, construction supervision, and commissioning of the investment project. The general consultant will assist the NCRTC in ensuring high-quality project management.</p>	NCRTC
2. Procurement delays	S	<p>All the contracts to be financed by ADB will be procured following the ADB Procurement Policy (2017, as amended from time to time) and Procurement Regulations for ADB Borrowers (2017, as amended from time to time), with major packages subject to prior review by ADB at key steps in the procurement process.</p> <p>Many of the NCRTC officers involved in procurement activities come from the Indian Railways and other metro corporations across India. While working in these organizations, they have been involved in procurement of packages under other development partners like JICA which are very similar to the procurement packages for this investment project. They are, therefore, familiar with procurement guidelines, which are similar to those of ADB.</p> <p>ADB conducted a procurement workshop for the NCRTC officers during the processing stage to increase their understanding of ADB procurement policy, guidelines, and standard bidding documents. ADB will provide additional procurement and contract management trainings during the implementation period as necessary.</p> <p>The NCRTC and ADB have also conducted a series of extensive consultation discussions on major procurement issues as part of the procurement review process for the advance contracting packages. This has facilitated the NCRTC's understanding of the ADB procurement guidelines and standard bidding documents.</p>	NCRTC and ADB
3. Lack of familiarity of the executing agency with ADB project financial management requirements	L	<p>A financial management assessment was carried out, which indicates that the NCRTC has an accounting system that allows for the proper recording of project financial transactions in accordance with international principles generally accepted in India, and has sufficient financial management capacity to administer the investment project.</p> <p>The agreed fund-flow arrangements for the project will require the NCRTC to (i) maintain separate project records and accounts to identify the financing resources received and expenditure made for the project, while ensuring an adequate record enabling audit; and (ii) have the annual financial statements audited by an auditor acceptable to ADB, in accordance with auditing standards acceptable to ADB.</p>	NCRTC
4. Financial sustainability	S	<p>The financial sustainability assessment was done using conservative assumptions and rigorous efforts are underway to maximize revenue through TOD and VCF. The government has</p>	NCRTC and MOHUA

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		<p>also provided assurances to ensure the financial sustainability of operating the RRTS. In case of any shortfall in revenue and if the NCRTC is not able to service debt and operation and maintenance obligations of the project, then sufficient budget and timely releases of funds for operating the RRTS will be provided to the NCRTC by the participating state governments—NCT-Delhi and Uttar Pradesh—in accordance with the presidential sanction order. Any financial contributions by the two participating states will be released through the regular budgetary process.</p> <p>The MOHUA and the participating states have committed to ensure timely contributions.</p>	
5. Feeder connectivity issues impact ridership	M	<p>The project will be connected with other modes of public transport such as the Indian Railways, Delhi Metro, and intercity bus services at several of its stations. It will also be integrated with the Meerut Metro. In addition, all the stations are designed to accommodate smooth transfer with paratransit services. This will ensure multimodal connection and good last-mile connectivity, and contribute to the attractiveness of the project.</p> <p>ADB is also supporting further enhancement of the multimodal design at the stations using a mobile application for passengers developed to provide information on multimodal transfer, last-mile connectivity, and universal accessibility facilities.</p>	NCRTC
6. Delay in statutory approvals because of prolonged government processes	L	<p>The NCRTC will ensure continuous dialogue with concerned government counterparts and close monitoring of activities for making the services operational so that necessary government approvals are granted in a timely manner.</p>	NCRTC
7. Unpredicted ground conditions may delay tunnel boring works in the underground sections	L	<p>The NCRTC started the detailed geotechnical surveys for the underground sections through counterpart funds in August 2019, and so far no serious issues related to ground conditions have been found. Also, the construction schedule for the underground sections has also taken into consideration the contingency period for the unpredictability of the ground conditions.</p>	NCRTC
8. Mobilization of target beneficiaries takes longer because of social behavior and perceptions	L	<p>The NCRTC will hire full-time gender specialists for implementing the women's mobility components of the project through effective engagement of potential beneficiaries.</p> <p>Adequate time has been allocated to account for mobilization of women. The skills development training is also provided free of cost to encourage greater participation.</p>	NCRTC
9. COVID-19 pandemic	S	<p>The NCRTC has developed a standard operating procedure based on central government guidelines for resuming work safely after the COVID-19 lockdown. Preparatory works have resumed and the overall delay has been limited to less than 1 month.</p>	NCRTC

H = high, S = substantial, M = moderate, L = low.

ADB = Asian Development Bank, COVID-19 = coronavirus disease, DMRC = Delhi Metro Rail Corporation, JICA = Japan International Cooperation Agency, MDB = multilateral development bank, MOHUA = Ministry of Housing and Urban Affairs, NCRTC = National Capital Region Transport Corporation, NCT = National Capital Territory, RRTS = regional rapid transit system, TOD = transit-oriented development, VCF = value capture financing.

Source: Asian Development Bank.