

RISK ASSESSMENT AND RISK MANAGEMENT PLAN

Risk Description	Rating	Mitigation Measures	Responsibility
1. Delay in procurement and disbursement due to lack of experience of the executing agency—the BMRCL—with ADB-financed projects	L	<p>While BMRCL has experience carrying out metro projects financed by multilateral development banks and international financing institutions, the project will be its first under ADB financing.</p> <p>Advance contracting has started in December 2019.</p> <p>ADB has conducted a procurement workshop for the BMRCL officers during the processing stage to enhance their understanding of the ADB Procurement Policy (2017, as amended from time to time), guidelines, and standard bidding documents. Workshops on disbursement and contract management will be conducted as needed before the first disbursement from ADB loan accounts.</p>	BMRCL and ADB
2. Lack of familiarity of the implementing agency—the project implementation unit in BMRCL—with ADB's project financial management requirements.	L	<p>A financial management assessment was carried out, which indicates that BMRCL 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 project.</p> <p>BMRCL will maintain separate project records and accounts to identify the financing resources received and expenditures made for the project. BMRCL will keep adequate accounting records for audit purposes. BMRCL will cause the annual financial statements to be audited by an independent auditor appointed by the Comptroller and Auditor General of India in accordance with auditing standards acceptable to ADB.</p>	BMRCL
3. Delay in approval and implementation of proposed TOD measures	L	<p>Materialization of TOD-based urban development will require approval and implementation of TOD-related measures by GOK, following proposals under the attached TA.</p> <p>A multiagency forum including concerned agencies of the state of Karnataka has been set up to formulate comprehensive TOD measures to ensure their ownership.</p>	BMRCL and GOK
4. Delay in release of counterpart funds	L	<p>BMRCL has been established as a special purpose vehicle jointly funded by the Government of India and GOK. Both national and state governments have provided assurances that there will be sufficient budget and timely release of funds to ensure the financial sustainability of BMRCL.</p>	BMRCL and MOHUA

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		MOHUA and GOK have committed to ensure timely contributions.	
5. Delay in delivery of rolling stock and other equipment to be financed by a cofinancier	S	BMRCL has committed to ensure timely delivery of the equipment. Close coordination and monitoring of progress of the components are required.	BMRCL
6. External factors lead to lower than projected ridership growth	L	<p>The project will be connected with other modes of public transport such as the Indian Railways, city buses, and intercity bus services at several junction stations.</p> <p>A multiagency forum has been set up to collaborate on improving last-mile connectivity and multimodal integration, which will facilitate the use of the metro.</p>	BMRCL and concerned GOK agencies
7. Unforeseen ground conditions may delay construction	L	BMRCL has carried out detailed geotechnical surveys on the alignment, including the cut-and-cover section through the counterpart funds. No serious issues related to ground conditions have been found.	BMRCL
8. COVID-19 pandemic adversely impacts construction and operation	S	<p>Standard operating procedures in line with national and state government guidelines are being implemented by BMRCL to ensure that maximum precautions are taken to protect workers at construction sites.</p> <p>With support from ADB under the attached technical assistance, the state government is also planning to develop guidelines for different modes of public transport, including metro rail, to ensure commuters' safety and to contain the spread of future outbreaks of COVID-19.</p>	BMRCL
9. Interface risk between different civil works packages, and between civil works and equipment (signals, etc.)	L	BMRCL has completed construction of the 42.3-km phase 1 of the Bengaluru Metro, and is implementing the 74-km phase 2 under similar contract packaging. BMRCL is managing multiple contractors with sufficient capacity and rich experience. Furthermore, technical standards and specifications for the new lines are well established and broadly used, including on previous phases of the metro.	BMRCL
10. BMRCL's financial sustainability is dependent on support from the state government to backstop operational losses and	S	The state government has provided assurances for sufficient budget, timely release of funds, and provision of credit enhancement support to ensure the financial sustainability of BMRCL's metro operations, in accordance with government orders. Financial covenants for limiting BMRCL's exposure to external debt and for periodic fare reviews and revisions to minimize losses are included in loan agreements.	GOK and BMRCL

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provide credit enhancement support, including debt servicing			

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

ADB = Asian Development Bank, BMRCL = Bangalore Metro Rail Corporation Limited, COVID-19 = coronavirus disease 2019, GOK = Government of Karnataka, km = kilometer, MOHUA = Ministry of Housing and Urban Affairs, TA = technical assistance, TOD = transit-oriented development.

Source: Asian Development Bank.