

Facility Administration Manual

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July 2020

India: Delhi–Meerut Regional Rapid Transit System
Investment Project

ABBREVIATIONS

ADB	–	Asian Development Bank
AEFS	–	audited entity financial statement
AIB	–	Asian Infrastructure Investment Bank
APFS	–	audited project financial statement
CPM	–	chief project manager
CRVA	–	climate risk vulnerability assessment
EARF	–	environmental assessment and review framework
EIA	–	environmental impact assessment
EMOP	–	environmental monitoring plan
EMP	–	environmental management plan
EWCD	–	elderly, women, children, and differently abled
FAM	–	facility administration manual
FIDIC	–	International Federation of Consulting Engineers
FY	–	fiscal year
GESI	–	gender equality and social inclusion
GNCT	–	Government of the National Capital Territory of Delhi
GOI	–	Government of India
GOUP	–	Government of Uttar Pradesh
GRC	–	grievance redress committee
GRM	–	grievance redress mechanism
JFPR	–	Japan Fund for Poverty Reduction
km	–	kilometer
LFIS	–	Loan Financial Information Services
LIBOR	–	London interbank offered rate
MFF	–	multitranche financing facility
MOHUA	–	Ministry of Housing and Urban Affairs
NCR	–	National Capital Region
NCRTC	–	National Capital Region Transport Corporation
OAI	–	Office of Anticorruption and Integrity
PIU	–	project implementation unit
PMO	–	project management office
R&R	–	resettlement and rehabilitation
RISA	–	resettlement implementation support agency
RRTS	–	regional rapid transit system
SEMU	–	social and environment management unit
SHE	–	safety, health, and environment
SOE	–	statement of expenditures
SPS	–	Safeguard Policy Statement
TA	–	technical assistance
TOD	–	transit-oriented development
TOR	–	terms of reference
VCF	–	value capture financing

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Facility Administration Manual

The facility administration manual (FAM) describes the essential administrative and management requirements to implement the investment project on time, within budget, and in accordance with the policies and procedures of the government and Asian Development Bank (ADB). The FAM includes references to all available templates and instructions either through linkages to relevant URLs or directly incorporated in the FAM.

The Ministry of Housing and Urban Affairs (MOHUA) acting through the National Capital Region Transport Corporation (NCRTC) is the executing agency that is wholly responsible for the execution and implementation of the investment project, as agreed jointly between the borrower and ADB, and in accordance with the policies and procedures of the government and ADB. ADB staff is responsible for supporting implementation including compliance by the executing agency of its obligations and responsibilities for implementation of the investment project in accordance with ADB's policies and procedures.

At loan negotiations, India, the executing agency, and ADB have agreed to the FAM and ensured consistency with the loan documents, including the Framework Financing Agreement and legal agreements for Project 1. Such agreements are reflected in the minutes of the negotiations. In the event of any discrepancy or contradiction between the FAM and the loan agreement for the related project, the provisions of the loan agreement shall prevail.

After ADB Board approval of the facility's report and recommendations of the President (RRP), changes in implementation arrangements are subject to agreement and approval pursuant to the government's and ADB's relevant administrative procedures (including the Project Administration Instructions), and upon such approval, they will be subsequently incorporated in the FAM.

I. INVESTMENT PROJECT DESCRIPTION

1. The Delhi–Meerut Regional Rapid Transit System Investment Project will finance the first of three prioritized rail corridors of the planned regional rapid transit system (RRTS) network in the National Capital Region (NCR) of India. The Delhi–Meerut RRTS will pass through the densely populated sections of the NCR, connecting Delhi to Meerut via Ghaziabad and providing safe, reliable, and high-capacity commuter transit services. With a design speed of 180 kilometers (km) per hour and high frequency operations of 5 to 10 minutes, this 82-km corridor is expected to substantially reduce journey time from 3–4 hours to about 1 hour. The investment project will finance rail tracks, station buildings, multimodal hubs, maintenance depots, and traction and power supply.¹ About 20 km of the RRTS line from Partapur to Modipuram will be used to run the proposed Meerut Metro, originally planned as a parallel line to the RRTS. This section will have six dedicated stations exclusively for Meerut Metro operations. It will also support capacity and institutional development of the National Capital Region Transport Corporation (NCRTC), a joint venture company of the Government of India and the states of Delhi, Haryana, Rajasthan, and Uttar Pradesh, which is mandated to implement the RRTS project across the NCR.² The investment project is included in the country operations business plan, 2020–2022 of the Asian Development Bank (ADB) for India.³

2. **Impact and outcome.** The investment project is aligned with the following impact: urban mobility in the NCR improved.⁴ The investment project will have the following outcome: efficiency, safety, social inclusiveness, and environmental sustainability of transport in the Delhi–Meerut RRTS corridor improved.⁵

3. **Output 1: Delhi–Meerut RRTS corridor commissioned.** The investment project will help finance the construction of the 82-km Delhi–Meerut RRTS corridor, including civil works, railway tracks, station buildings, multimodal hubs, maintenance depots, and traction and power supply (footnote 1). The corridor will be built on elevated viaducts and will go underground (14 km) in heavily populated areas. It will connect Sarai Kale Khan in Delhi to Modipuram in Meerut.⁶ The viaduct will be built along the central median of the national highway connecting Delhi to Meerut, wherever feasible. The investment project also includes (i) construction of depots at Duhai and Modipuram for the maintenance of rolling stock and fixed assets, and an operation control center and stabling yard at Jangpura; (ii) 24 stations integrating design features that are friendly to the elderly, women, children, and differently abled (EWCD), at least five of which are to be developed as major multimodal hubs;⁷ and (iii) closed-circuit television (CCTV) cameras installed to monitor coaches and public areas of all stations, and pick-up and drop-off areas.

4. **Output 2: Institutional capacity of the National Capital Region Transport Corporation strengthened.** Although the NCRTC's scope as a special purpose vehicle is limited to implementing the RRTS, the large-scale nature of the investment project requires a high level of capacity in managing projects, contracts, and document flow, including financial reporting and auditing. The project will (i) develop an institutional strategy including an organizational, financial,

¹ ADB financing will not include rolling stock or the signaling and telecommunications system.

² The National Capital Region Transport Corporation was incorporated on 1 August 2013.

³ ADB. 2019. [Country Operations Business Plan: India, 2020–2022](#). Manila.

⁴ Government of India, Ministry of Housing and Urban Affairs. 2006. *National Urban Transport Policy*. New Delhi.

⁵ The design and monitoring framework is in Appendix A.

⁶ About 20 km of the RRTS line from Partapur to Modipuram will be used to run the proposed Meerut Metro, originally planned as a parallel line to the RRTS. This section will have six stations dedicated for Meerut Metro.

⁷ Two stations are at-grade catering to depots. Major multimodal hubs are RRTS stations that will include easy interchange to rail, metro, and bus stations for passengers.

and technology plan; (ii) develop training programs in project and contract management, financial management, procurement, and safeguards; (iii) adopt a gender-friendly workplace policy; (iv) support the NCRTC in developing a transit-oriented development (TOD) action plan and value capture financing (VCF) instruments for enhancing financial sustainability; and (v) strengthen the capacity of the NCRTC to undertake public–private partnership (PPP) initiatives.

5. **Output 3: Mobility and economic opportunities of women and the differently abled improved.** The investment project will ensure that the RRTS improves urban mobility, and its economic impacts will benefit women and the differently abled. The project will include (i) training; (ii) provision of mobility aids; (iii) safe mobility for EWCD; (iv) increased awareness on safe mobility, self-defense, and improved employability skills for selected female students along the RRTS corridor; and (v) provision of gender-inclusive, socially-inclusive, and environmentally sustainable public toilets around RRTS stations. The project will also maximize the spillover effects of developing the RRTS and multimodal hubs, encouraging more women and differently abled people to engage in employment and other economic activities.

6. **Finance-plus and value added by ADB assistance.** The investment project provides a new type of rail-based regional urban transport system in India, combining high speeds, widely spaced stations, and metro-like operations. ADB will assist the NCRTC in developing the first of three prioritized corridors, which will have a substantial demonstration effect for future corridor development. ADB assistance will help develop innovative elements that require international expertise, which will enhance and supplement the available skills of the executing agency. ADB support will also ensure that special attention is given to the following important areas:

- (i) **High-level technology.** ADB will help develop the specifications for a modern signaling technology based on the European Train Control System Level II with automatic train operation functionality and platform screen door integration for the first time in India. It will also help implement the latest international best practice for mitigating noise and vibration on the corridor.
- (ii) **Station design.** ADB will assist in designing stations using building information modeling. This follows an intelligent three-dimensional model-based process that will help to more efficiently plan, design, construct, and manage stations.⁸ The station designs will incorporate EWCD-inclusive features to provide universal accessibility.
- (iii) **Multimodal hubs and last-mile connectivity.** The investment project will develop multimodal hubs for smooth interchange with other transport modes. Multimodal integration will be provided through elevators, walkways, escalators, and underpasses, depending on the location, to ensure seamless connectivity to metro lines, bus terminals, or other transport modes. The project will also ensure last-mile connectivity through nonmotorized transport options as well as electric feeder buses.
- (iv) **Transit-oriented development and value capture financing.** ADB will support the NCRTC to develop an action plan for TOD in areas around the RRTS stations. The ADB TA will provide for a dedicated unit of experts to provide knowledge support in this area and help identify and apply VCF instruments (footnote 8).

⁸ ADB. 2019. *Technical Assistance to India for Strengthening Climate Change Resilience in Urban India Subproject 3: Strengthening Smart Urban Mass Rapid Transit and Climate Change Resilience in the National Capital Region*. Manila. Building information modeling, universal access design features, TOD, and VCF instruments are being supported by the cluster TA funded by the Urban Climate Change Resilience Trust Fund under the ADB-administered Urban Financing Partnership Facility. Financing partners are the Rockefeller Foundation and the Governments of Switzerland and the United Kingdom.

- (v) **Minimizing operational risks.** ADB has engaged a shadow operator to review plans and designs to support decision-making, and to ensure efficiency and cost effectiveness.⁹ Appraisals by the shadow operator will help ensure that the designs integrate long-term operations and maintenance requirements.

7. **One ADB (Office of Public–Private Partnership and Private Sector Operations Department).** ADB's South Asia Department is working with ADB's Public–Private Partnership Thematic Group in the Office of Public–Private Partnership to support the NCRTC in identifying the most appropriate PPP opportunities.¹⁰ It is also coordinating with ADB's Private Sector Operations Department to engage with the NCRTC in exploring additional nonsovereign lending, coinciding with the timing for the third tranche of the investment project.

8. **Public–private partnership initiatives.** Capital-intensive projects, such as the RRTS, are implemented as public services and full cost recovery through user charges is not expected. The NCRTC is not operated as a commercial undertaking and is completely dependent on government funding. Hence, it is proposed that a model will be followed whereby the government finances the assets using its own funds and development assistance, and then outsources service contracts. This is the practice in most metros and new railway lines worldwide. The project will explore PPP in three major areas: (i) development of an operations contract through which the operations of the corridors are expected to be undertaken by a private sector operator engaged by NCRTC; (ii) provision of logistics services to accommodate freight traffic, especially perishable commodities during the off-peak hours of passenger services (the service is likely to enhance supply chain operations in the catchment area and unlock additional revenue potential for the RRTS); and (iii) procurement of a rolling stock contract that will include 15-year performance-based maintenance obligations to improve asset quality and service levels. The payment to the rolling stock provider will be based on specified key performance indicators like availability obligations, and reliability. At least 30 train sets of six coaches each will be provided for the RRTS and 10 train sets of three coaches each for the Meerut Metro.

⁹ ADB. 2019. [Technical Assistance to India for Preparing the Delhi–Meerut Regional Rapid Transit System Investment Project](#). Manila. Seoul Metro has been selected as the shadow operator for the project. It will provide operational expertise during the design and construction phases of the project.

¹⁰ Public–Private Partnership Initiatives (accessible from the list of linked documents in Appendix 2).

II. IMPLEMENTATION PLANS

A. Project Readiness Activities

Table 1: Project Readiness Activities

Year	Month	Indicative Milestones	Responsibility
2018	November	Advance contracting actions	NCRTC, ADB
2019	February	Budget inclusion	MOHUA
	May	Retroactive financing actions	NCRTC
		Establish project implementation arrangements	NCRTC
	July	Advertisement of the first ADB-financed contracts	NCRTC, ADB
2020	February	Award of the first ADB-financed contracts	NCRTC
	June	Loan negotiations	GOI, MOHUA, NCRTC, ADB
	August	ADB Board consideration	ADB
	August	Loan signing	GOI, MOHUA, NCRTC, ADB
	September	Legal opinion provided	GOI, MOHUA, NCRTC, ADB
	October	Loan effectiveness	GOI, MOHUA, NCRTC, ADB

ADB = Asian Development Bank, GOI = Government of India, MOHUA = Ministry of Housing and Urban Affairs, NCRTC = National Capital Region Transport Corporation.

Source: Asian Development Bank.

B. Overall Project Implementation Plan

Table 2: Implementation Activities

Activities	2019				2020				2021				2022				2023				2024				2025			
	Q1	Q2	Q3	Q4																								
Output 1: Delhi–Meerut RRTS corridor commissioned																												
1.1. Award and mobilize general consultants and detailed design consultants	■																											
1.2. Commence advance contracting		■																										
1.3. Award contracts			■																									
Output 2: Institutional capacity of the NCRTC strengthened																												
2.1. Complete initial capacity-building plan and structuring	■																											
2.2. Award BIM platform support consultants					■																							
2.3. Award and mobilize consultants for TOD and VCF					■																							
2.4. Establish BIM platform for the project design, implementation, and management				■																								
2.5. Establish institutional capacity for project implementation and management using smart technologies						■																						
2.6. Develop gender-friendly workplace policy									■																			
2.7. Award training and capacity-building contracts										■																		
Output 3: Mobility and economic opportunities of women and differently abled improved																												
3.1. Establish GESI Implementation unit										■																		
3.2. Award and mobilize national (nongovernment or consulting) organizations										■																		
Project Management Activities																												
Procurement plan key activities to procure contract packages	■																											
Consultant selection procedures	■																											
Environment management plan key activities		■																										

BIM = building information modeling, GESI = gender equality and social inclusion, NCRTC = National Capital Region Transport Corporation, Q = quarter, RRTS = regional rapid transit system, TOD = transit-oriented development, VCF = value capture financing.
 Sources: Asian Development Bank and National Capital Region Transport Corporation.

III. INVESTMENT PROJECT MANAGEMENT ARRANGEMENTS

A. Investment Project Implementation Organizations: Roles and Responsibilities

Table 3: Investment Project Implementation Roles and Responsibilities

Investment Project Implementation Organizations	Management Roles and Responsibilities
<p>Executing agency India's MOHUA acting through the NCRTC</p>	<ul style="list-style-type: none"> (i) Facilitating loan disbursement (ii) Ensuring timely release of counterpart funding (iii) Ensuring overall compliance with national and/or state-level environmental policies and ADB's Safeguard Policy Statement, including an executing agency-level GRM (iv) Overall coordination of facility implementation (v) Interagency coordination (vi) Compliance with all loan covenants (vii) Providing funds and staffing as per the commitments and assurances on the institutional development component (viii) Timely provision of agreed counterpart funds for project activities (ix) Establishing a strong financial management system and conducting timely financial audits based on the agreed timeframe, and taking recommended actions (x) Recruiting consultants for project management, nongovernment organization, monitoring and evaluation, safety, gender equality and social inclusion, and institutional development support (xi) Procuring contractors and vendors (xii) Overseeing the performance of the PMO and the project implementing units (xiii) Ensuring project sustainability during the post-implementation period and reporting to ADB on the assessed development impacts (xiv) Providing funds for operational sustainability during operation (xv) Interstate coordination (xvi) Timely submission of withdrawal applications to ADB (xvii) Preparing regular periodic progress reports, and project completion reports and their timely submission to ADB
<p>PMO, PIU Office of the Chief Project Manager (Delhi, Ghaziabad, Meerut, Modinagar offices for civil works packages) Concerned units in NCRTC Headquarters (systems)</p>	<ul style="list-style-type: none"> (i) Responsible for all aspects of the project including civil works (ii) Conducting preconstruction activities (iii) Monitoring and evaluation of project activities and outputs, including periodic review, preparation of review reports reflecting issues and time-bound actions taken (or to be taken) (iv) Involving beneficiaries and/or representatives in all stages of project development and implementation (v) Public disclosure of project outputs (vi) Quality assurance of works and services of consultants and counterpart staff
<p>ADB</p>	<ul style="list-style-type: none"> (i) Providing timely support at each stage of the investment project for smooth implementation according to agreed implementation arrangements

Investment Project Implementation Organizations	Management Roles and Responsibilities
	(ii) Reviewing all documents that require ADB approval (iii) Conducting periodic loan review missions, a midterm review, and a completion mission (iv) Monitoring compliance with all loan covenants

ADB = Asian Development Bank, GRM = grievance redress mechanism, MOHUA = Ministry of Housing and Urban Affairs, NCRTC = National Capital Region Transport Corporation, PIU = project implementation unit, PMO = project management office.

Sources: Asian Development Bank and National Capital Region Transport Corporation.

B. Key Persons Involved in Implementation

Executing Agency

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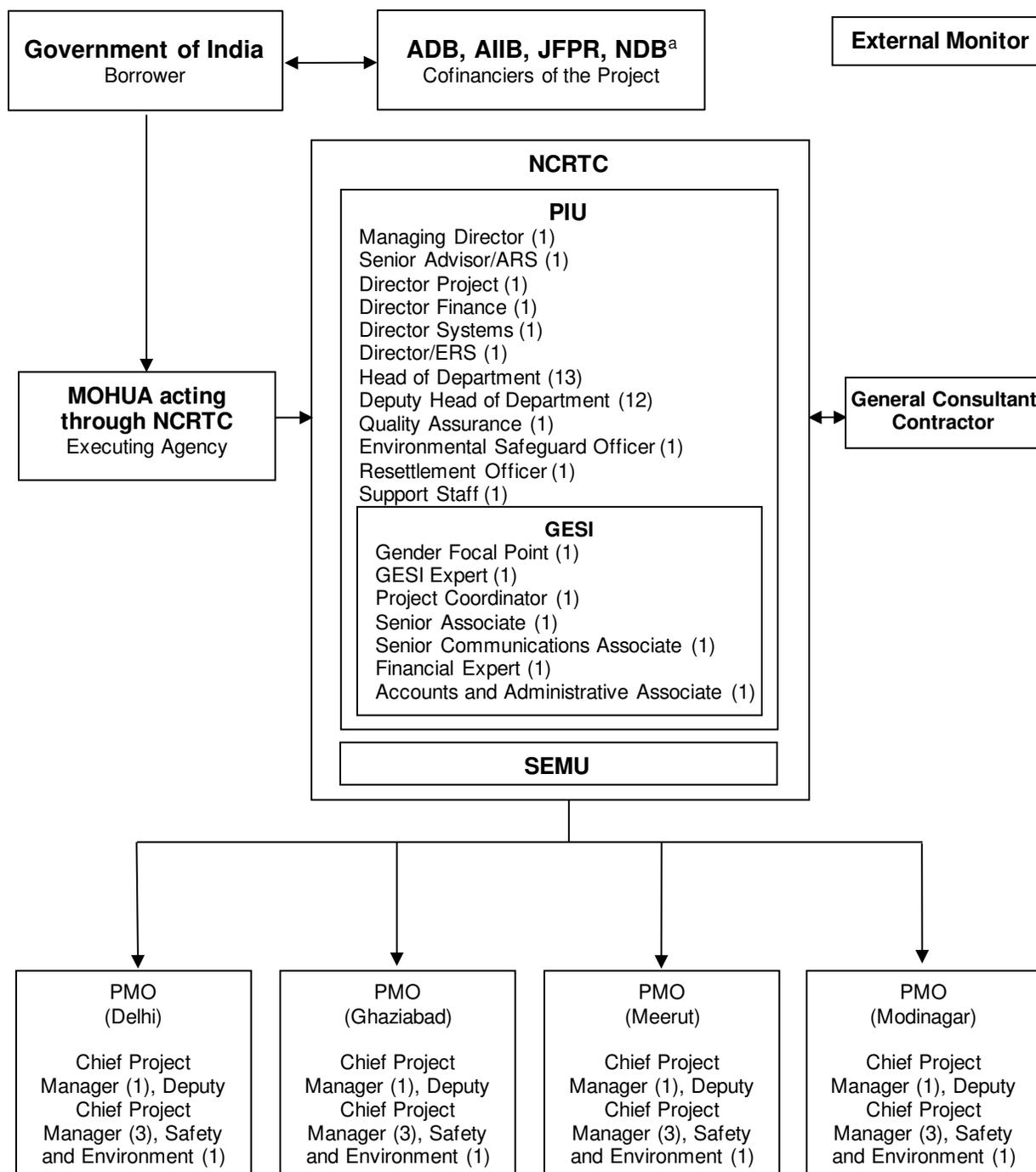
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C. Investment Project Organization Structure

Figure 1: Investment Project Organization Structure



ADB = Asian Development Bank, AIIB = Asian Infrastructure Investment Bank, ARS = alternative revenue sources, ERS = electrical and rolling stock, GESI = gender equality and social inclusion, JFPR = Japan Fund for Poverty Reduction, MOHUA = Ministry of Housing and Urban Affairs, NCRTC = National Capital Region Transport Corporation, NDB = New Development Bank, PIU = project implementation unit, PMO = project management office, SEMU = social and environmental safeguard management unit.

^a NDB loan will not be administered by ADB.

Source: National Capital Region Transport Corporation.

9. The NCRTC is a joint venture institution between the central government and the participating states of Haryana, Rajasthan, Uttar Pradesh, and the National Capital Territory of Delhi. Agreeing to this partnership, the Memorandum of Understanding between participating stakeholders was signed on 29 June 2011 and an equity share in the NCRTC was agreed upon for setting up an initial seed capital of ₹1 billion. The contributions for this equity share from the stakeholders were received by 1 August 2013 together with the signing of the Memorandum of Association and Association of Agreement of the NCRTC.

10. The NCRTC was formally incorporated on 21 August 2013 under the Company Act, 1956. As a joint venture project between the central government and the states, the NCRTC has one nominated director from each of the participating states, and four nominee directors from the Government of India. The Secretary (Urban Development) is the ex-officio Chairperson of the Board of Directors and the Managing Director is a nominee of the Ministry of Urban Development. The NCRTC also has the flexibility of forming separate subsidiary companies for implementing specific projects.

11. The NCRTC Board of Directors is fully authorized to make technical decisions and depends on the government principally for funding and land acquisition. This arrangement has proven very effective in reducing political interference in other infrastructure projects in India.

IV. COSTS AND FINANCING

12. The investment project is estimated to cost \$3,449.7 million, including taxes and duties, physical and price contingencies, interest, and other charges during implementation (Table 4).

Table 4: Summary Cost Estimates
(\$ million)

Item	Amount ^{a,b}
A. Base Cost^c	
1. Output 1: Delhi–Meerut RRTS corridor commissioned	2,526.5
2. Output 2: Institutional capacity of the NCRTC strengthened	14.8
3. Output 3: Mobility and economic opportunities of women and differently abled improved	2.7
Subtotal (A)	2,544.0
B. Contingencies^d	760.5
C. Financial Charges During Implementation^e	145.2
Total (A+B+C)	3,449.7

NCRTC = National Capital Region Transport Corporation, RRTS = regional rapid transit system.

Note: Numbers may not sum precisely due to rounding.

^a Includes taxes and duties of \$197.6 million. With the exception of output 3, the government will finance taxes and duties through cash contribution.

^b The New Development Bank will provide an additional \$500 million in parallel cofinancing.

^c In mid-2019 prices as of 2 January 2020, and excludes the contributions toward state taxes and government-owned land.

^d Physical contingencies computed at 17% for civil works and goods. Price contingencies computed at an average of 4.0% on local currency and 1.6% for foreign currency costs.

^e Includes interest and commitment charges. Interest during construction for the ordinary capital resources loan has been computed at the 5-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 Asian Development Bank ordinary capital resources loan is 0.15% per year to be charged on the undisbursed loan amount.

Sources: Asian Development Bank and Asian Infrastructure Investment Bank estimates.

13. **Financing plan.** The government has requested an MFF in an amount of up to \$1,049 million from ADB's ordinary capital resources to finance part of the investment project. The MFF will consist of four tranches, subject to the government's submission of related periodic financing

requests, execution of the related loan agreement for each tranche, and fulfillment of terms, conditions, and undertakings set forth in the framework financing agreement. The government has also requested (i) a loan not exceeding about \$500 million from the AIIB, and (ii) a grant not exceeding \$3 million from the JFPR. The summary financing plan is in Table 5.

Table 5: Summary Financing Plan
(\$ million)

Source	Tranche				Amount ^a	Share of Total (%)
	(Estimated Year of PFR submission)					
	1 (2020)	2 (2021)	3 (2023)	4 (2025)		
Asian Development Bank						
OCR (regular loan)	500.0	0.0	250.0	299.0	1,049.0	30.4
Asian Infrastructure Investment Bank (loan) ^b	0.0	500.0	0.0	0.0	500.0	14.5
Japan Fund for Poverty Reduction (grant) ^c	3.0	0.0	0.0	0.0	3.0	0.1
Government ^d	799.6	799.6	206.0	92.5	1,897.7	55.0
Total	1,302.6	1,299.6	456.0	391.5	3,449.7	100.0

OCR = ordinary capital resources, PFR = periodic financing request.

Note: Numbers may not sum precisely due to rounding.

^a The New Development Bank will provide an additional \$500 million in parallel cofinancing.

^b Partially administered by ADB.

^c Fully administered by ADB.

^d The government will provide contributions to cover (i) part of civil works, (ii) part of signaling and telecommunications system and track works, (iii) procurement of rolling stock, (iv) taxes and duties, (v) land acquisition and resettlement, and (vi) part of contingencies.

Sources: Asian Development Bank and Asian Infrastructure Investment Bank estimates.

14. ADB will finance the expenditures for civil works, traction, and consulting services. The AIIB will provide joint cofinancing and the loan will be partially administered by ADB.¹¹ The New Development Bank will also provide \$500 million in parallel financing for specific packages. These will be under separate contracts and will not be administered by ADB. The JFPR grant, fully administered by ADB, will finance a range of pilot activities including toilet blocks outside station areas, assistive aids for the differently abled, training for women and the differently abled on safe mobility and employment opportunities, and sensitization and behavioral change training of public transport providers. Counterpart funding will be provided by the government to finance taxes and duties, and other in-kind contributions. Universal procurement applies to the components cofinanced by ADB and AIIB.

15. **Project 1.** The first tranche of the MFF will comprise a regular loan of \$500 million, have a 25-year term, including a grace period of 8 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 annuity type repayment method with 10% discount rate, the average maturity is 19 years, and the maturity premium payable to ADB is 0.20% per year.

16. Climate mitigation is estimated to cost \$3,439.6 million and climate adaptation is estimated to cost about \$10.1 million under the investment project. ADB will finance 30.4% of mitigation and adaptation costs while AIIB will finance 14.5%. Details are in the climate change assessment.

¹¹ Under joint cofinancing, ADB and its financing partners finance a common list of goods, works, and services required for the project. Under partial administration, the funds provided by the financing partner are not transferred to ADB. ADB will provide a range of services, including procurement and disbursement supervision.

A. Cost Estimates Preparation and Revisions

17. The NCRTC prepared the cost estimates. Costs are based on recent tenders floated for metro rail projects in India, updated to July 2019 prices. The NCRTC will be responsible for (i) preparing disbursement projections, (ii) requesting budgetary allocations for counterpart funds, (iii) collecting supporting documents, and (iv) preparing and sending withdrawal applications to ADB.

B. Key Assumptions

18. The following key assumptions underpin the cost estimates and financing plan:

- (i) Exchange rate: ₹71.36 = \$1.00 (as of 2 January 2020).
- (ii) Price contingencies based on expected cumulative inflation over the implementation period are as follows:

Table 6: Escalation Rates for Price Contingency Calculation
(%)

Item	2020	2021	2022	2023	2024	2025	Average
Foreign rate of price inflation	1.5	1.6	1.6	1.6	1.6	1.6	1.6
Domestic rate of price inflation	4.0	4.0	4.0	4.0	4.0	4.0	4.0

Source: Asian Development Bank.

C. Detailed Cost Estimates by Financier

Table 7: Detailed Cost Estimates by Financier
(\$ million)

Item	ADB		AIIB		JFPR		Government		Total Cost
	Amount	% of Cost Category	Amount	% of Cost Category	Amount	% of Cost Category	Amount	% of Cost Category	Amount
	{A}	{A/E}	{B}	{B/E}	{C}	{C/E}	{D}	{D/E}	{E}
A. Investment Costs									
1. Civil works	806.2	43.6	374.5	20.3	0.3	0.0	667.3	36.1	1,848.3
2. Rolling stock	-	-	-	-	-	-	170.8	100.0	170.8
3. Land (except government land)	-	-	-	-	-	-	188.0	100.0	188.0
4. General charges	-	-	-	-	-	0.9	73.1	99.1	73.1
5. Consulting services	2.8	4.3	-	-	2.4	1.9	60.9	93.8	66.1
6. Taxes (except state taxes)	-	-	-	-	-	-	197.6	100.0	197.6
Subtotal (A)	809.0	31.8	374.5	14.7	2.7	0.1	1,357.7	53.4	2,543.9
Total Base Cost	809.0	31.8	374.5	14.7	2.7	0.1	1,357.7	53.4	2,543.9
B. Contingencies									
1. Contingencies	141.3	31.6	73.9	16.5	0.3	0.1	232.4	51.9	447.9
2. Escalation	98.7	31.6	51.6	16.5	-	-	162.4	51.9	312.7
Subtotal (B)	240.0	31.6	125.5	16.5	0.3	0.0	394.8	51.9	760.6
C. Financial Charges During Implementation		0.0		0.0		0.0		0.0	-
1. Interest during construction	-	-	-	-	-	-	143.7	100.0	143.7
2. Commitment charges	-	-	-	-	-	-	1.5	100.0	1.5
Subtotal (C)	-	-	-	-	-	-	145.2	100.0	145.2
Total Project Cost (A+B+C)	1,049.0	30.4	500.0	14.5	3.0	0.1	1,897.7	55.0	3,449.7

ADB = Asian Development Bank, AIIB = Asian Infrastructure Investment Bank, JFPR = Japan Fund for Poverty Reduction.

Notes:

- Numbers may not sum precisely because of rounding.
 - The New Development Bank will provide an additional \$500 million in parallel cofinancing.
- Sources: National Capital Region Transport Corporation and Asian Development Bank.

Table 8: Detailed Cost Estimates by Financier for Tranche 1
(\$ million)

Item	ADB		JFPR		Government		Total Cost
	Amount	% of Cost Category	Amount	% of Cost Category	Amount	% of Cost Category	Amount
	{A}	{A/E}	{C}	{C/E}	{D}	{D/E}	{E}
A. Investment Costs							
1. Civil works	384.3	57.7	0.3	0.1	281.2	42.2	665.7
2. Rolling stock	-	-	-	-	72.0	100.0	72.0
3. Land (except government land)	-	-	-	-	79.2	100.0	79.2
4. General charges	-	-	-	2.1	30.8	97.9	30.8
5. Consulting services	1.3	4.7	2.4	4.3	25.7	91.0	29.4
6. Taxes (except state taxes)	-	-	-	-	83.3	100.0	83.3
Subtotal (A)	385.6	40.2	2.7	0.3	572.0	59.6	960.4
Total Base Cost	385.6	40.2	2.7	0.3	572.0	59.6	960.4
B. Contingencies							
1. Contingencies	67.4	39.4	0.3	0.2	103.3	60.4	171.0
2. Escalation	47.0	40.7	-	-	68.4	59.3	115.5
Subtotal (B)	114.4	39.9	0.3	0.1	171.8	60.0	286.5
C. Financial Charges During Implementation							
1. Interest during construction	-	-	-	-	54.7	100.0	54.7
2. Commitment charges	-	-	-	-	1.1	100.0	1.1
Subtotal (C)	-	-	-	-	55.8	100.0	55.8
Total Project Cost (A+B+C)	500.0	38.4	3.0	0.2	799.60	61.4	1,302.6

ADB = Asian Development Bank, JFPR = Japan Fund for Poverty Reduction.

Notes: Numbers may not sum precisely because of rounding.

Sources: National Capital Region Transport Corporation and Asian Development Bank.

D. Detailed Cost Estimates by Year

Table 9: Detailed Cost Estimates by Year
(\$ million)

Item	Total Cost	2019	2020	2021	2022	2023	2024	2025
A. Investment Costs								
1. Civil works	1,848.3	50.5	212.3	490.8	381.6	153.8	200.7	358.4
2. Rolling stock	170.8	-	70.1	70.1	30.5	-	-	-
3. Land (except government land)	188.0	18.8	59.5	59.5	50.1	-	-	-
4. General charges	73.1	6.7	14.0	17.3	11.3	13.0	8.3	2.4
5. Consulting services	66.1	7.9	11.4	11.4	12.7	8.9	6.9	6.9
6. Taxes (except state taxes)	197.6	5.8	27.4	47.8	38.7	19.5	30.8	27.5
Subtotal (A)	2,543.9	89.7	394.8	697.0	525.0	195.3	246.7	395.2
Total Base Cost	2,543.9	89.7	394.8	697.0	525.0	195.3	246.7	395.2
B. Contingencies								
1. Contingencies	447.9	10.8	51.4	101.1	79.7	70.1	120.4	14.4
2. Escalation	312.7	0.8	16.1	53.8	63.1	45.2	80.5	53.3
Subtotal (B)	760.6	11.6	67.5	154.9	142.8	115.3	200.9	67.7
C. Financial Charges During Implementation								
1. Interest during construction	143.7	-	1.4	8.9	18.9	25.5	38.4	50.6
2. Commitment charges	1.5	-	0.4	0.2	0.4	0.1	0.1	0.3
Subtotal (C)	145.2	-	1.8	9.1	19.3	25.6	38.5	50.9
Total Project Cost (A+B+C)	3,449.7	101.3	464.1	861.0	687.1	336.2	486.1	513.8
% Total Project Cost	100.0	2.9	13.5	25.0	19.9	9.7	14.1	14.9

Notes:

- Numbers may not sum precisely because of rounding.
 - The New Development Bank will provide an additional \$500 million in parallel cofinancing.
- Sources: National Capital Regional Transport Corporation and Asian Development Bank.

Table 10: Detailed Cost Estimates by Year for Tranche 1
(\$ million)

Item	Total Cost	2019	2020	2021	2022	2023
A. Investment Costs						
1. Civil works	665.7	50.5	212.3	116.3	143.3	143.3
2. Rolling stock	72.0	-	70.1	1.8	-	-
3. Land (except government land)	79.2	18.8	59.5	0.9	-	-
4. General charges	30.8	6.7	14.0	10.1	-	-
5. Consulting services	29.4	7.9	11.4	10.1	-	-
6. Taxes (except state taxes)	83.3	5.8	27.4	47.8	2.2	-
Subtotal (A)	960.4	89.7	394.8	187.0	145.5	143.3
Total Base Cost	960.4	89.7	394.8	187.0	145.5	143.3
B. Contingencies						
1. Contingencies	171.0	10.8	51.4	27.2	81.6	-
2. Escalation	115.5	0.8	16.1	2.2	63.1	33.3
Subtotal (B)	286.5	11.6	67.5	29.4	144.7	33.3
C. Financial Charges During Implementation						
1. Interest during construction	54.7	-	1.4	8.9	18.9	25.5
2. Commitment charges	1.1	-	0.4	0.2	0.5	-
Subtotal (C)	55.8	-	1.8	9.1	19.4	25.5
Total Project Cost (A+B+C)	1,302.6	101.3	464.1	225.5	309.6	202.1
% Total Project Cost	100.0	7.8	35.6	17.3	23.8	15.5

Notes: Numbers may not sum precisely because of rounding.

Sources: National Capital Regional Transport Corporation and Asian Development Bank.

E. Contract and Disbursement S-Curve

Table 11: Contract Awards and Disbursement Projections for the Investment Project

Quarter	Quarterly Contract Award	Cumulative Contract Award	Quarterly Disbursement	Cumulative Disbursement
Q4 2020	178.7	178.7	0.0	0.0
Q1 2021	160.5	339.2	0.0	0.0
Q2 2021	434.1	773.3	23.7	23.7
Q3 2021	240.6	1,013.9	37.2	60.9
Q4 2021	17.4	1,031.3	57.6	118.5
Q1 2022	0.0	1,031.3	74.5	193.0
Q2 2022	17.7	1,049.0	57.6	250.6
Q3 2022			77.9	328.5
Q4 2022			71.1	399.6
Q1 2023			71.1	470.7
Q2 2023			54.2	524.9
Q3 2023			44.0	568.9
Q4 2023			33.9	602.8
Q1 2024			30.5	633.3
Q2 2024			20.3	653.6
Q3 2024			20.3	673.9
Q4 2024			67.7	741.6
Q1 2025			67.7	809.3
Q2 2025			37.2	846.5
Q3 2025			33.9	880.4
Q4 2025			54.2	934.6
Q1 2026			54.2	988.8
Q2 2026			30.5	1,019.3
Q3 2026			29.7	1,049.0
Total	1,049.0	1,049.0	1,049.0	1,049.0

Q = quarter.

Sources: Asian Development Bank and National Capital Region Transport Corporation.

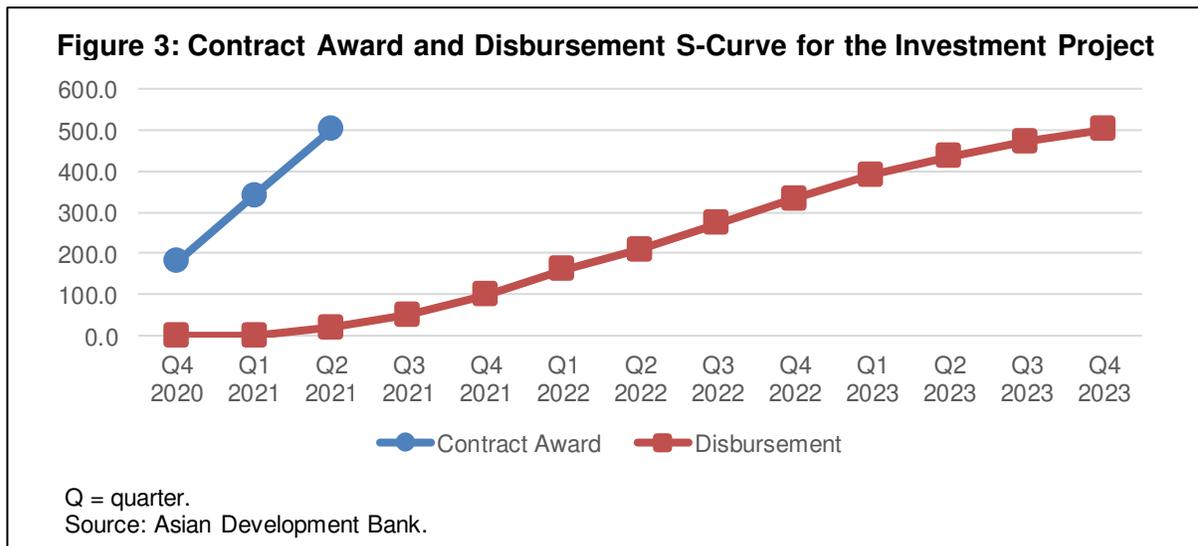
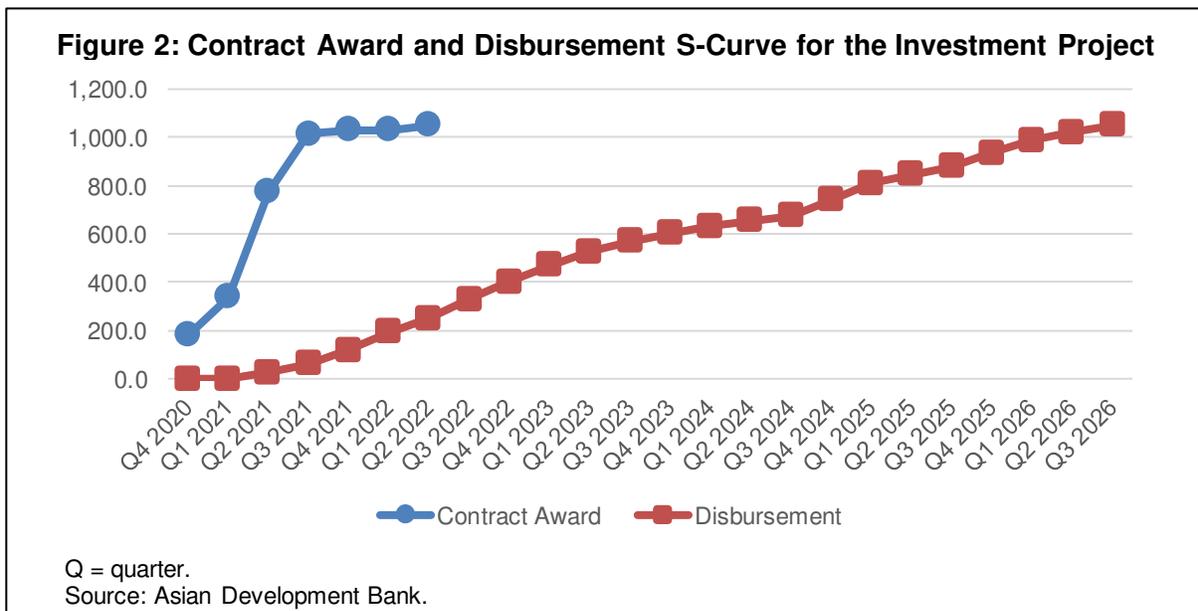
Table 12: Contract Awards and Disbursement Projections for Project 1

Quarter	Quarterly Contract Award	Cumulative Contract Award	Quarterly Disbursement	Cumulative Disbursement
Q4 2020	178.7	178.7	0.0	0.0
Q1 2021	160.5	339.2	0.0	0.0
Q2 2021	160.8	500.0	19.7	19.7
Q3 2021			30.9	50.5
Q4 2021			47.8	98.3
Q1 2022			61.8	160.1
Q2 2022			47.8	207.9

Quarter	Quarterly Contract Award	Cumulative Contract Award	Quarterly Disbursement	Cumulative Disbursement
Q3 2022			64.6	272.5
Q4 2022			59.0	331.5
Q1 2023			59.0	390.4
Q2 2023			45.0	435.4
Q3 2023			36.5	471.9
Q4 2023			28.1	500.0
Total	500.0	500.0	500.0	500.0

Q = quarter.

Sources: Asian Development Bank and National Capital Region Transport Corporation.



F. Allocation and Withdrawal of Loan and Grant Proceeds

Table 13: Allocation and Withdrawal of ADB Loan Proceeds—Project 1

Sl. No.	Item	Total Amount Allocated for ADB Financing (\$)	Basis for Withdrawal from the Loan Account
1	Project Cost	500,000,000	100% of total expenditure claimed ^a
Total		500,000,000	

ADB = Asian Development Bank.

^a Exclusive of all duties and taxes imposed within the territory of the borrower.

Source: Asian Development Bank.

Table 14: Allocation and Withdrawal of Grant Proceeds—Project 1

Sl. No.	Item	Total Amount Allocated for JFPR Financing (\$)	Basis for Withdrawal from the Loan Account
1	Grant Cost	3,000,000	100% of total expenditure claimed ^a
Total		3,000,000	

JFPR = Japan Fund for Poverty Reduction.

^a Inclusive of all duties and taxes imposed within the territory of the borrower.

Source: Asian Development Bank.

Table 15: Allocation and Withdrawal of AIIB Loan Proceeds—Project 2

Sl. No.	Item	Total Amount Allocated for AIIB Financing (\$)	Basis for Withdrawal from the Loan Account
1	Project Cost	500,000,000	100% of total expenditure claimed ^a
Total		500,000,000	

AIIB = Asian Infrastructure Investment Bank.

^a Exclusive of all duties and taxes imposed within the territory of the borrower.

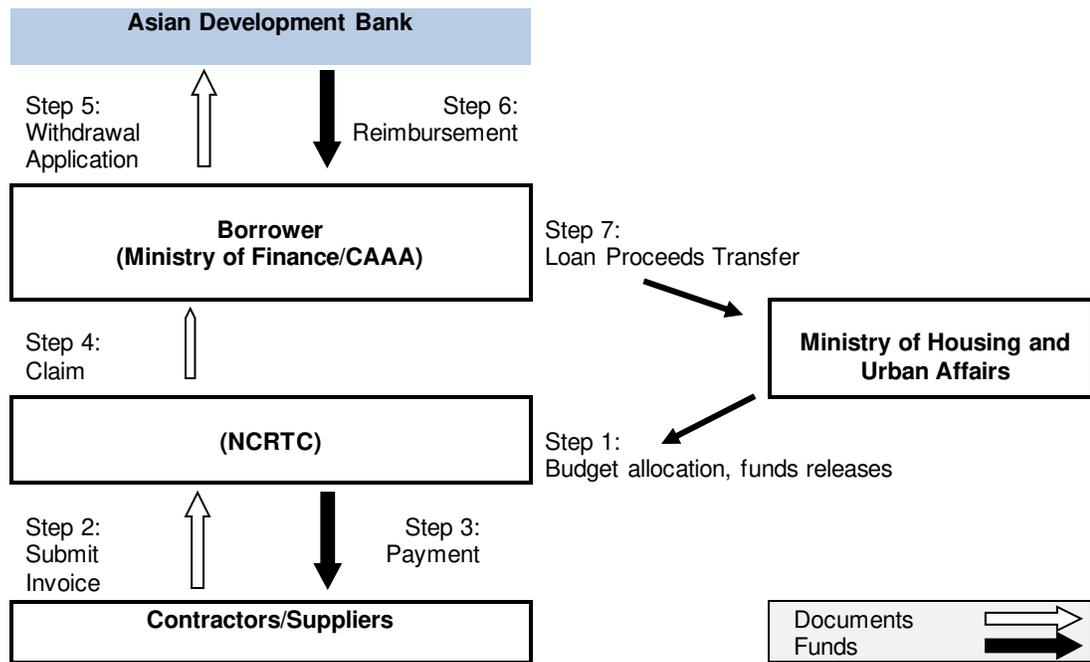
Source: Asian Infrastructure Investment Bank.

G. Fund Flow Diagrams

19. MOHUA will provide the ADB loan funds to the NRCTC for project implementation, whereas MOHUA, the Government of Uttar Pradesh (GOUP), and the Government of the National Capital Territory of Delhi (GNCT) will provide counterpart funds in their respective proportions in accordance with the Presidential Sanction Order for the Delhi–Ghaziabad–Meerut RRTS. MOHUA, GOUP, and GNCT will be responsible for meeting the financial responsibilities and obligations of the NRCTC for the project.

20. The project will be budgeted through a single line item in the MOHUA budget for the ADB loan component and capital grant from the government. After the budget is approved, fund allocation will be made by MOHUA to the NRCTC. The ADB portion will be prefinanced and released by the MOHUA based on estimation of expenditure. Eligible project expenditures will be submitted to the Controller of Aid Accounts and Audit, the Ministry of Finance, and the Department of Economic Affairs through the statement of expenditure (SOE) procedure for reimbursement by ADB. The proposed fund-flow mechanism for the project is detailed in Figures Figure 4Figure 5.

Figure 4: Fund Flow Diagram on Reimbursement Basis



CAAA = Controller of Aid Accounts and Audit, NCRTC = National Capital Region Transport Corporation.
 Source: National Capital Region Transport Corporation.

Figure 5: Detailed Fund Flow Diagram on Reimbursement Basis

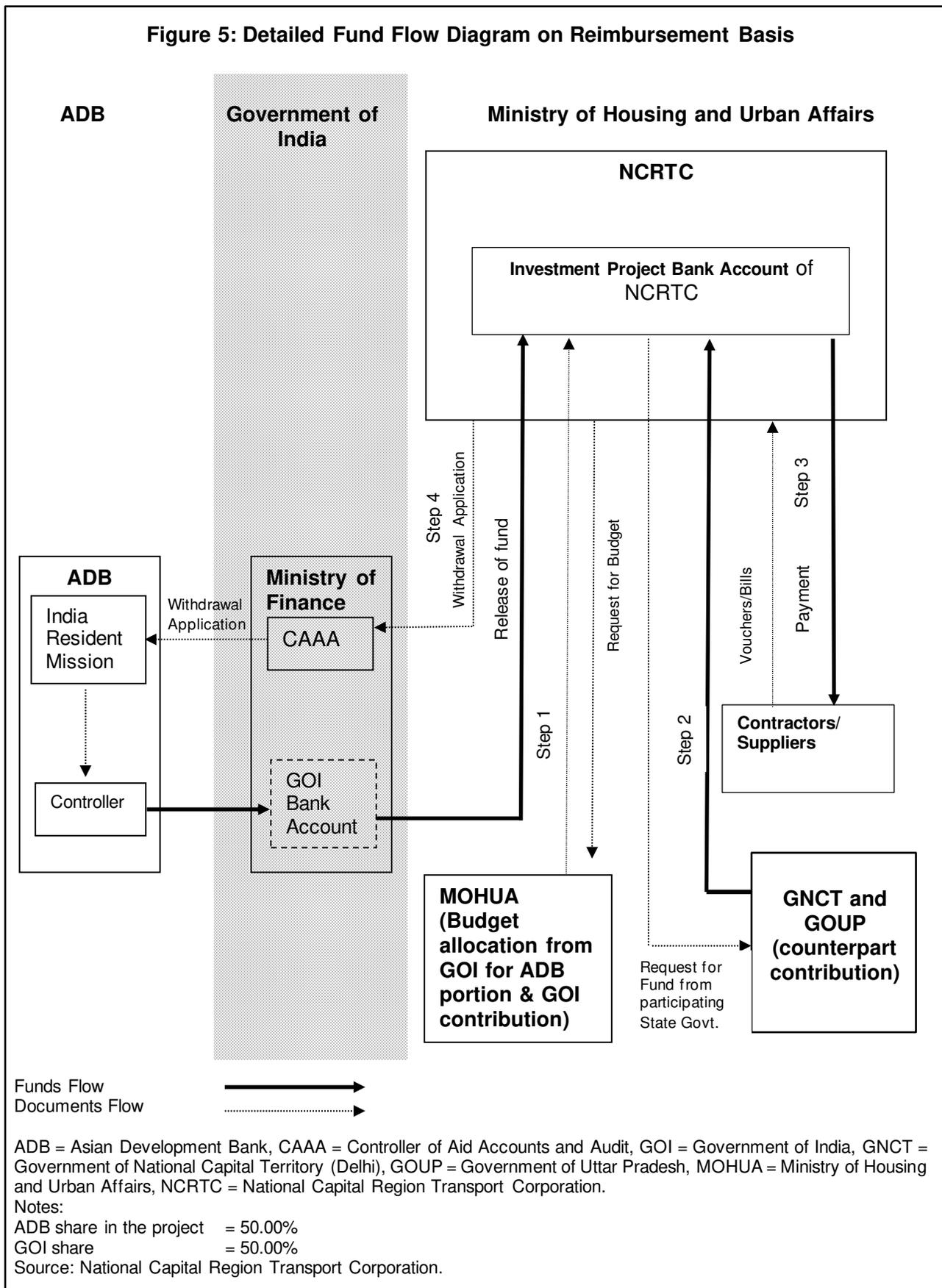
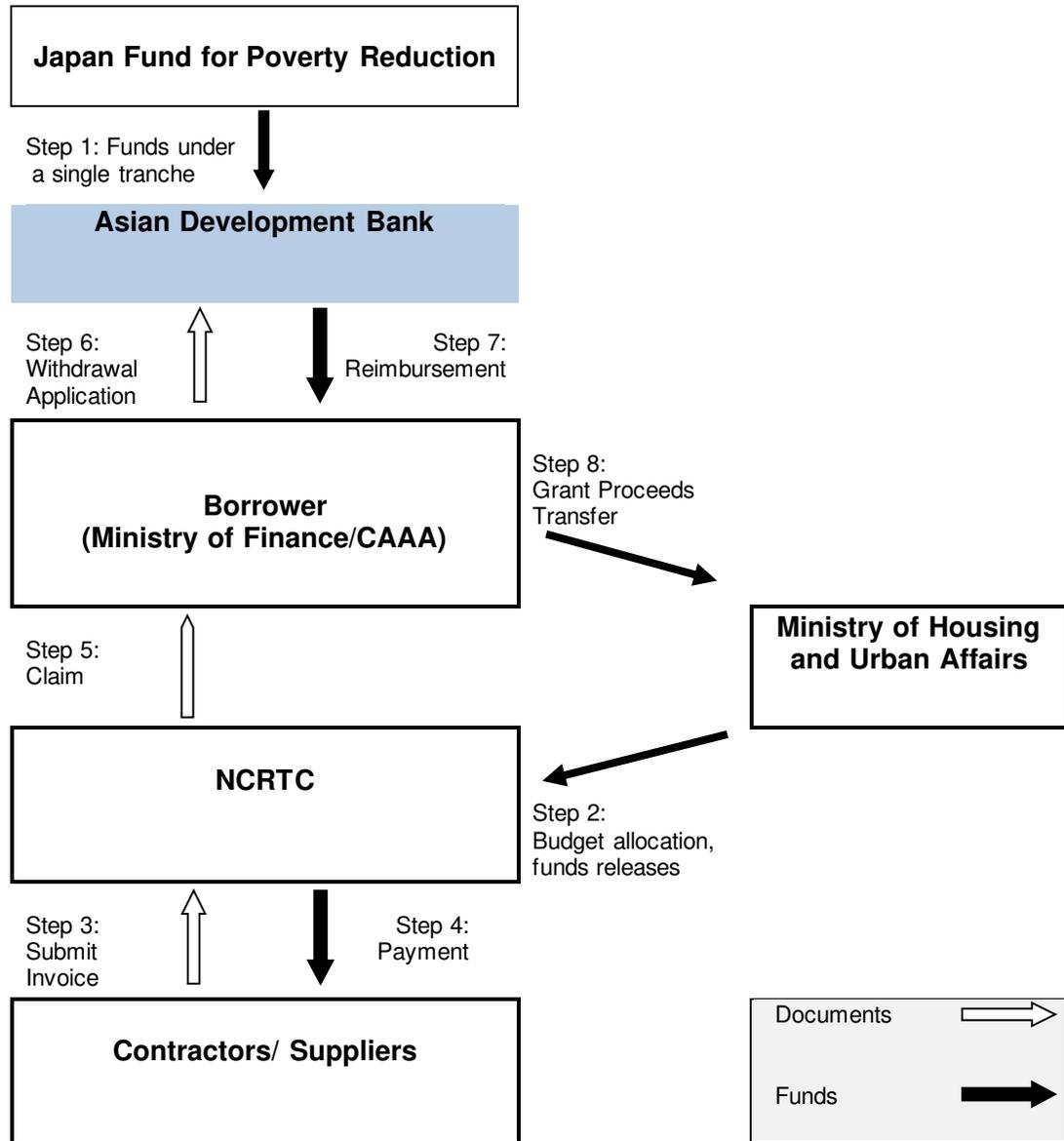
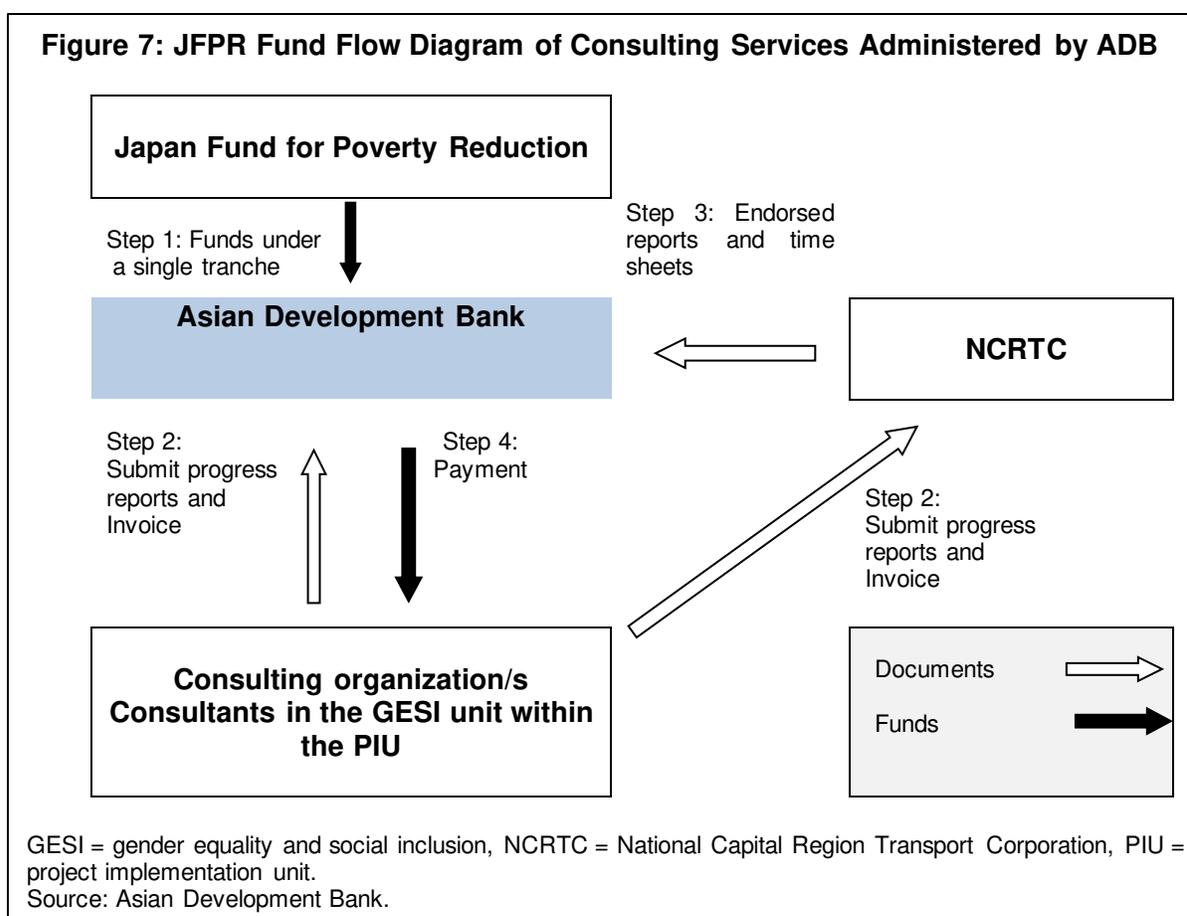


Figure 6: JFPR Fund Flow Diagram on Reimbursement Basis for Goods and Works



ADB = Asian Development Bank, CAAA = Controller of Aid Accounts and Audit, NCRTC = National Capital Region Transport Corporation.
 Source: Asian Development Bank.



V. FINANCIAL MANAGEMENT

A. Financial Management Assessment

21. The financial management assessment (FMA) was conducted in September 2019 in accordance with ADB's Guidelines for Financial Analysis and Evaluation, Financial Management Assessment, and related technical guidance notes.¹² The FMA considered the capacity of the NCRTC, including fund-flow arrangements, staffing, budgeting, accounting and financial reporting systems, financial information systems, and internal and external auditing arrangements. Based on the assessment, the NCRTC was assessed to have reasonable capacity to handle the proposed investment project. The statutory audit of the NCRTC at entity level is carried out by a chartered accountant firm and is also subject to audit by the Comptroller and Auditor General of India (CAG). The statutory auditors have given unmodified audit opinions on financial statements of the NCRTC, and internal controls over financial reporting and corporate governance compliance for fiscal year (FY) 2019. As part of the risk analysis for the NCRTC, inherent risk was assessed as *low*, and control risk was assessed as *moderate*. This resulted in the recommendation for the NCRTC to (i) closely follow up with MOHUA, GNCT, and GOUP for the release of funds for the ADB portion (under reimbursement mechanism) and counterpart contributions; (ii) strengthen the reporting system by incorporating the physical and financial report with variance analysis and disbursement report quarterly to ADB; (iii) prepare the accounting procedure manual; and (iv) receive training on ADB policies and procedures for the

¹² ADB. 2019. [Financial Analysis and Evaluation](#). Manila; and ADB. 2015. [Financial Management Assessment](#). Manila.

finance and accounts staff. The overall financial management risk was assessed as *moderate*, with appropriate risk mitigation measures identified. The FMA also concluded that the NCRTC has the capacity to administer the SOE procedure. Details of risks and key mitigating measures are in Table 16.

Table 16: Financial Management and Internal Control Risk Assessment

Risk	Risk Assessment	Risk Description	Mitigation Measures or Action Plans
Inherent Risk			
Country-specific risks	L	<p>Strong public financial management is one of the key elements of the Government of India's strategy for strengthening governance, optimizing outputs from public resources, and ensuring inclusive and broad-based development. The 2010 Public Financial Management Performance Assessment Report for India identified that the public financial management system is well structured but unevenly implemented.</p> <p>ADB's 2018–2022 country partnership strategy for India notes that public financial management at the state level needs to be improved to facilitate the strategic pillar of providing inclusive network infrastructure and services.</p>	<p>There is no significant weakness in the budgetary process or in the public sector accounting and reporting system that is expected to directly impact the NCRTC (to the extent that entity and project financial management are at risk). Public and private sector auditing standards and capacity are generally adequate. The NCRTC is registered as a company and contributions from MOHUA and participating states are guaranteed through a Presidential Sanction Order and appropriate budgetary allocations.</p> <p>Adequate budget allocations have been made by MOHUA and participating states and no specific material risks were identified for the NCRTC.</p>
Entity-specific Risks	M	The executing agency is implementing an ADB-funded investment project for the first time.	Most of the finance and accounting staff of the NCRTC come from the Indian Railways as well as metro corporations across India, including the DMRC, and have sufficient experience in implementing railway and metro projects. Finance and accounting staff have experience in implementing externally aided projects, particularly the senior staff members. Most of those staff are permanent staff. Training in ADB policies and procedures will be given to strengthen the experience of the NCRTC in handling the project.
Overall Inherent Risk	L		

Risk	Risk Assessment	Risk Description	Mitigation Measures or Action Plans
Control Risk			
Executing entity	M	The NCRTC is implementing an ADB-funded investment project for the first time.	<p>The NCRTC is a government company registered under the Indian Companies Act, 1956. The RRTS is being implemented by the NCRTC formed by GOI with the participating state governments of Delhi, Haryana, Rajasthan, and Uttar Pradesh. The overall share contribution between GOI and state governments is kept at 50:50. The authorized capital of the NCRTC is ₹1 billion, which is fully paid by GOI and participating states as of FY2019. Most finance and accounts staff in the NCRTC are permanent staff. The staff also have experience in implementing externally aided projects. The financial management arrangements of the NCRTC will be further strengthened as described in the financial management action plan.</p> <p>The NCRTC has also floated a tender for consultancy services for the establishment of the PMSSU. Bids have been opened on 17 June 2020. As per the TORs for the consultancy services, the PMSSU will work as strategic partners to the management of the NCRTC. The scope of work of the PMSSU will comprise (i) development of a project dashboard; (ii) establishing an effective governance structure including development of organization and roadmap; (iii) development of passenger business strategy; (iv) development of technology road map to leverage technology and become a digitally enabled organization; (v) identification and leveraging innovative funding sources; and (vi) development of a financial sustainability strategy.</p>
Budgeting and fund flow	M	The timely release of ADB funds by MOHUA to NCRTC may not take place.	ADB disbursement will follow the reimbursement procedure. Fund flows will be through the annual budgetary process, through contributions by MOHUA and the state governments of Delhi and Uttar Pradesh in their respective proportions.

Risk	Risk Assessment	Risk Description	Mitigation Measures or Action Plans
		The timely release of counterpart fund to the investment project may not take place.	As per the sanction order for Delhi-Meerut RRTS, the central government of India, GNCT, and GOUP are to make contributions in the form of equity and subordinated debt. MOHUA and the NCRTC are to ensure timely contributions by the central government and participating states of Delhi and Uttar Pradesh. For FY2020, budget provisions have been made: GOI, ₹9.74 billion; GOUP, ₹4 billion; and GNCT, ₹0.5 billion. For FY2021, budget allocations proposed to the respective governments are GOI, ₹16.85 billion for counterpart contribution; GOI, ₹15 billion for ADB portion under reimbursement mechanism; GOUP, ₹14.68 billion; and GNCT ₹2.17 billion.
Staffing	M	The financial management staff lack experience in implementing ADB projects.	<p>Most finance and accounts staff in the NCRTC are permanent staff. The NCRTC currently has a strength of 12 full-time finance and accounting staff. Most of these are chartered and/or cost and management accountants, while the rest have finance qualifications like MBA (Finance). All of them are well experienced in the transport sector in India and other countries, and have worked on various externally funded projects. Currently, most of the staff at the corporate office are working for the investment project. Six staff members are dedicated for the project in CPM offices located in Delhi, Ghaziabad, Meerut, and Modi Nagar.</p> <p>Since the NCRTC is handling an ADB-funded investment project for the first time, training will be imparted to the staff on ADB policies and procedures.</p>
Accounting policies and procedures	M	The accounting policies and procedures manual is being updated.	The NCRTC follows accrual basis double entry accounting system at the corporate level. Since the NCRTC is a government company formed under the Companies Act, 1956, it is following all the guidelines issued by the ICAI. The NCRTC is developing an accounting procedure manual for day-to-day activities. The task has

Risk	Risk Assessment	Risk Description	Mitigation Measures or Action Plans
			been bid out and is expected to be completed by December 2020.
Internal audit	L	Arrangements for internal audit function need strengthening.	Currently, the internal audit function is outsourced to a chartered accountant firm. Internal audits are conducted quarterly and findings are reported to the audit committee of the NCRTC.
External audit	M	The timely submission of APFS and resolution of audit findings need to be ensured.	The financial statements are prepared based on Indian Accounting Standards, which are in line with International Financial Reporting Standards. The statutory audit is carried out by the chartered accountant firm appointed by the CAG of India. Audited accounts are placed before the board of the NCRTC. The statutory auditors will also be engaged for performing audits of the separate project-level financial statements for the ADB-funded project. Template of financial statements provided in the standard terms of reference for the audit of ADB-assisted projects, agreed between CAG, DEA, and ADB, shall be referred to as a guide.
Reporting and monitoring	S	Frequency, timeliness, and format of periodic financial reporting require strengthening.	Since the NCRTC is implementing an ADB-funded project for the first time, specific requirements of ADB for continuous monitoring and reporting need to be clarified. Quarterly and annual progress reports will be required from the NCRTC for the proposed project, containing physical and financial reports with variance analysis, and disbursement reports. Amounts in quarterly reporting and annual project financial statements need to be reconciled with the ADB disbursement amount that can be found in ADB's LFIS webpage (suggested form attached).
Information systems	L	The information system is not used optimally.	The NCRTC uses Tally-ERP software to record the accounting transactions, which is acceptable given the relatively less complex nature of financial transactions. In addition, the NCRTC is planning to further strengthen its system of accounting by using the integrated ERP system, which is likely to be implemented in 2021.
Overall Control Risk	M		

Risk	Risk Assessment	Risk Description	Mitigation Measures or Action Plans
Overall Pre-Mitigation Risk	M		

H – High, S-substantial, M – Moderate, L – Low.

ADB = Asian Development Bank, APFS = audited project financial statement, CAG = Comptroller and Auditor General, CPD = Client Portal for Disbursement, CPM = chief project manager, DEA = Department of External Affairs, DMRC = Delhi Metro Rail Corporation, ERP = enterprise resource planning, FY = fiscal year, GOI = Government of India, GNCT = Government of National Capital Territory of Delhi, GOUP = Government of Uttar Pradesh, ICAI = Institute of Chartered Accountants of India, LFIS = Loan Financial Information Services, MBA = master of business administration, MOHUA = Ministry of Housing and Urban Affairs, NCRTC = National Capital Region Transport Corporation, PMSSU = project monitoring and strategic support unit, RRTS = regional rapid transport system, TOR = terms of reference. Sources: Asian Development Bank and National Capital Region Transport Corporation.

22. The NCRTC has agreed to implement an action plan as key measures to address the deficiencies. The financial management action plan, which should be reviewed and updated throughout the life of the investment project, is provided in Table 16.

Table 17: Financial Management Action Plan

Key Risks	Agreed Actions	Responsible	Agreed Completion Date
Lack of accounting procedure manual	An accounting procedure manual is being developed, including a separate chapter on ADB financial management and reporting requirements and chart of accounts for ADB project accounting. The NCRTC financial management staff will be provided detailed training for effective implementation of the manual. TORs of internal auditors will include monitoring compliance with requirements of the manual.	NCRTC	Q4 2020
Appropriate and timely budgetary release and counterpart fund may not take place	Timely budgetary release and provision of the ADB portion and counterpart funds to be ensured. As per the sanction order for Delhi–Meerut RRTS, equity contributions and subordinated debts are to be contributed by the central government and the participating state governments. Appropriate budget allocations in the respective governments' budgets and timely release of funds need to be ensured. All tranches will follow the reimbursement method for disbursement of funds from ADB. Appropriate budget allocations to ensure sufficient and timely funds available to the NCRTC shall be	NCRTC, MOHUA, GNCT, GOUP	Throughout the project period

Key Risks	Agreed Actions	Responsible	Agreed Completion Date
	made in the budgets of participating states.		
Effectiveness of PMSSU	Hiring of consultants completed for establishment of PMSSU Progress update on scope of work of PMSSU consultants to be included in quarterly progress reports to be submitted to ADB, including but not limited to updates on (i) development of project dashboard; (ii) development of organization roadmap; (iii) development of business strategy (including comprehensive financial road map); (iv) development of technology roadmap; (v) identification and leveraging innovative funding sources; and (vi) development of financial sustainability strategy	NCRTC NCRTC	Q4 2020 Quarterly basis starting from hiring of PMSSU consultants
Delays in ERP implementation	Hiring of consultants completed for design and implementation of ERP Workplan submitted by consultants for ERP implementation Progress update on scope of work of ERP consultants included in quarterly progress reports to be submitted to ADB	NCRTC NCRTC	Q2 2021 Q4 2021 Quarterly basis starting from hiring of ERP consultants
Lack of experience on ADB policies and procedures	Training to be imparted for ADB policies and procedure for finance and accounting staff	ADB	Within 6 months of project start date
Timeliness and quality of APFS and AEFS may not be appropriate	Timely submission of APFS and resolution of audit findings to be ensured Timely submission of AEFS to be ensured	NCRTC NCRTC	Within 6 months after fiscal year end Within 1 month from approval by the Board, but not later than 1 year from end of fiscal year
Internal audit may not be conducted for the investment project	Internal audit of project by chartered accountant firm on quarterly basis and submission of	NCRTC	Quarterly basis throughout the project period

Key Risks	Agreed Actions	Responsible	Agreed Completion Date
	reports to audit committee of NCRTC		
Progress reports may not be submitted on timely basis	Submission of quarterly progress reports with physical and financial progress with variance analysis and disbursement reports to ADB	NCRTC	Throughout entire duration of the project

ADB = Asian Development Bank, AEFS = audited entity financial statement, APFS = audited project financial statement, ERP = enterprise resource planning, GNCT = Government of National Capital Territory of Delhi, GOUP = Government of Uttar Pradesh, MOHUA = Ministry of Housing and Urban Affairs, NCRTC = National Capital Region Transport Corporation, PMSSU = project monitoring and strategic support unit, RRTS = regional rapid transit system, TOR = terms of reference.

Sources: Asian Development Bank and National Capital Region Transport Corporation.

B. Disbursement

1. Disbursement Arrangements for ADB Funds and ADB-administered AIIB and JFPR Funds

23. The ADB loan proceeds including ADB-administered cofinanced funds will be disbursed in accordance with ADB's *Loan Disbursement Handbook* (2017, as amended from time to time), and detailed arrangements agreed upon between the government and ADB.¹³ Online training for project staff on disbursement policies and procedures is available.¹⁴ The NCRTC project staff are encouraged to avail of this training to help ensure efficient disbursement and fiduciary control.

24. ADB's reimbursement procedure will be adopted in the disbursement of loan proceeds. The NCRTC is responsible for collecting and retaining supporting documents, and preparing and sending withdrawal applications to ADB. The JFPR grant will be administered by ADB for consulting services. For goods and works under the JFPR grant, the reimbursement procedure similar to the loan will be applied.

25. **Statement of expenditure procedure.** The SOE procedure will be used for reimbursement of eligible expenditures.¹⁵ Supporting documents and records for the expenditures claimed under the SOE should be maintained and made readily available for review by ADB's disbursement and review missions, upon ADB's request for submission of supporting documents on a sampling basis, and for independent audit.

26. Under the individual projects, before the submission of the first withdrawal application, the borrower under each project should submit to ADB sufficient evidence of the authority of the person(s) who will sign the withdrawal applications on behalf of the government, together with the authenticated specimen signatures of each authorized person. The minimum value per withdrawal application is stipulated in ADB's *Loan Disbursement Handbook* (2017, as amended from time to time). Individual payments below such amount should be paid by the executing agency and subsequently claimed to ADB through reimbursement, unless otherwise accepted by ADB. Withdrawal applications and supporting documents will demonstrate, among other things, that the goods and/or services are eligible for ADB financing. The borrower should ensure sufficient

¹³ The handbook is available electronically from the ADB website (<https://www.adb.org/sites/default/files/adb-loan-disbursement-handbook-2017.pdf>).

¹⁴ Disbursement eLearning. <https://elearn.adb.org/enrol/index.php?id=235>.

¹⁵ SOE forms are available in Appendix 7B and 7D of ADB's *Loan Disbursement Handbook* (2017, as amended from time to time) and may also be downloaded from <https://ifis.adb.org/gfis/headerServlet?action=download>.

category and contract balances before requesting disbursements. Use of ADB's Client Portal for Disbursements system is mandatory for submission of withdrawal applications to ADB for the ADB loan and the fully administered grant.¹⁶

27. For ADB-administered cofinancier funds, the borrower should submit one original of the withdrawal application and copies of supporting documents to the AIIB, and one original of the withdrawal application and copies of supporting documents to ADB. ADB will review each withdrawal application and advise the AIIB to make the necessary payment, if any.

2. Disbursement Arrangements for Counterpart Funds

28. All disbursements of government counterpart financing will be carried out on a timely basis in accordance with the regulations of the Government of India and accounting principles acceptable to ADB.

C. Accounting

29. The NCRTC will maintain, or cause to be maintained, separate books and records by funding source for all expenditures incurred on the individual projects under the investment project following accrual-based double entry accounting system and guidelines issued by the Institute of Chartered Accountants of India, it being a government company formed under the Companies Act, 1956. The NCRTC will prepare project financial statements in accordance with the government's accounting laws and regulations, which are consistent with international accounting principles and practices and acceptable to ADB.

D. Auditing and Public Disclosure

30. The NCRTC will cause the detailed project financial statements prepared separately for each tranche, for all sources of financing, to be audited in accordance with the government's audit regulations by an independent auditor appointed on behalf of the Comptroller and Auditor General of India (CAG) and acceptable to ADB. The audited project financial statements, together with the auditor's opinion, will be presented in the English language to ADB within 6 months from the end of the fiscal year by the NCRTC. The annual project financial statements should include the withdrawal application-wise reconciliation between amounts reported in the project financial statements and disbursed amounts appearing in the loan financial information services (LFIS) webpage of ADB. The LFIS can be accessed online and ADB will provide LFIS access to project staff on request.

31. The audited entity financial statements, together with the auditor's report and management letter, if any, will be submitted in the English language to ADB within 1 month after their approval by the relevant authority.

32. The audit report for the project financial statements will include a management letter (or a written confirmation from auditors that no management letter was issued) and auditor's opinions, which cover whether the: (i) project financial statements present an accurate and fair view or are presented fairly, in all material respects, in accordance with the applicable financial reporting standards; and (ii) proceeds of the loan(s) and grant were used only for the purpose(s) of the

¹⁶ The CPD facilitates online submission of withdrawal applications to ADB, resulting in faster disbursement. The forms to be completed by the Borrower are available online at <https://www.adb.org/documents/client-portal-disbursements-guide>.

related project. The NCRTC shall prepare the computations demonstrating compliance with the financial ratios as defined in the legal agreements (where applicable) every year, as part of its entity financial reporting. The auditors will provide an additional opinion on achievement of the financial ratios (where applicable) under relevant auditing standards as applicable in India.

33. Compliance with financial reporting and auditing requirements will be monitored by review missions and during normal MFF supervision, and followed up regularly with all concerned, including the external auditor.

34. The government and the executing agency have been made aware of ADB's approach to delayed submission, and the requirements for satisfactory and acceptable quality of the audited project financial statements.¹⁷ ADB reserves the right to require an additional auditor or change in auditor (in a manner consistent with the constitution of the borrower), or for supplemental support to be provided to the auditor, if the audits required are not conducted in a manner satisfactory to ADB, or if the audits are substantially delayed. ADB reserves the right to verify the individual project's financial accounts to confirm that ADB's financing is used in accordance with ADB's policies and procedures.

35. Public disclosure of the audited project financial statements, including the auditor's opinion on the project financial statements, will be guided by ADB's Access to Information Policy.¹⁸ After the review, ADB will disclose the audited project financial statements and the opinion of the auditors on the project financial statements no later than 14 days of ADB's confirmation of their acceptability by posting them on ADB's website. The management letter, if any, additional auditor's opinions, and audited entity financial statements will not be disclosed.¹⁹

VI. PROCUREMENT AND CONSULTING SERVICES

A. Advance Contracting and Retroactive Financing

36. All advance contracting and retroactive financing will be undertaken in conformity with ADB's Procurement Policy (2017, as amended from time to time) and ADB's Procurement Regulations (2017, as amended from time to time). The issuance of invitations to bids under advance contracting and retroactive financing will be subject to ADB approval. However, application of the post-review procedure may be considered for suitable contract packages. The borrower and executing agency have been advised that approval of advance contracting and retroactive financing does not commit ADB to finance the projects under the investment project.

¹⁷ ADB's approach and procedures regarding delayed submission of audited project financial statements:

- (i) When audited project financial statements are not received by the due date, ADB will write to the executing agency advising that (a) the audit documents are overdue; and (b) if they are not received within the next 6 months, requests for new contract awards and disbursement such as new replenishment of advance accounts, processing of new reimbursement, and issuance of new commitment letters will not be processed.
- (ii) When audited project financial statements are not received within 6 months after the due date, ADB will withhold processing of requests for new contract awards and disbursement such as new replenishment of advance accounts, processing of new reimbursement, and issuance of new commitment letters. ADB will (a) inform the executing agency of ADB's actions; and (b) advise that the loan may be suspended if the audit documents are not received within the next 6 months.
- (iii) When audited project financial statements are not received within 12 months after the due date, ADB may suspend the loan.

¹⁸ ADB. 2018. [Access to Information Policy](#). Manila.

¹⁹ This type of information would generally fall under exceptions to disclosure of the Access to Information Policy (paragraph 16 and/or 17).

37. **Advance contracting.** The executing agency has requested advance action to expedite procurement of works and goods. Activities to be concluded in advance include (i) preparation of bidding documents for item-rate and design–build civil works contract packages, and goods contract packages, (ii) tendering, (iii) bid evaluation, and (iv) contract award.

38. **Retroactive financing.** The executing agency has requested approval for retroactive financing. If approved by the Board, the reimbursement of eligible expenditures under the investment project up to a maximum equivalent of 20% of the related ADB loan amount under individual projects may be made before loan effectiveness but not more than 12 months before the signing of the related loan agreement.

B. Procurement of Goods, Works, and Consulting Services

39. All procurement of goods and works to be financed by ADB and ADB-administered cofinancier funds will be undertaken in accordance with ADB's Procurement Policy (2017, as amended from time to time) and ADB's Procurement Regulations (2017, as amended from time to time).²⁰ Open competitive bidding for goods, works, and plant supply and installations will be used.

40. **Value for money.** Optimizing value for money is explored through the active implementation of strategic procurement planning, and incorporating various risk mitigation measures: (i) cofinancing; (ii) universal procurement; (iii) e-procurement; (iv) executing agency's capacity building on strategic procurement planning and contract management; (v) strategic packaging of works, goods, and services contracts considering robust market analysis and applying fit-for-purpose contract forms including ADB's goods contracts, International Federation of Consulting Engineers (FIDIC) MDB Harmonised Construction Contract 2010, and FIDIC Conditions of Contract for Plant and Design-Build (Yellow Book 2017); (vi) prior review of major contract packages; (vii) due attention to advance actions for site acquisitions, utility relocations, and statutory clearances and/or permits; and (viii) provision of prompt cash flow mechanism in the contract during contract execution, etc.

41. Before the start of any procurement under open competitive bidding with national advertisement, ADB and the government will review the public procurement laws of the central and state governments to ensure consistency with ADB's Procurement Regulations (2017, as amended from time to time).

42. All consultants will be recruited according to the ADB Procurement Policy (2017, as amended from time to time) and the Procurement Regulations for ADB Borrowers (2017, as amended from time to time).

C. Procurement Plan

43. An 18-month procurement plan indicating thresholds and review procedures, goods and works, and consulting contract packages for the investment project is in Appendix B.

²⁰ Checklists for actions required to contract consultants by method available in e-Handbook on Project Implementation at <https://www.adb.org/documents/handbook-project-implementation>.

D. Consultant's Terms of Reference

44. The terms of reference (TOR) of the consultants to be engaged under the investment project are provided in the following appendices:

- (i) Appendix C: TOR for GESI Project Implementation Unit
- (ii) Appendix D: TOR for National Organization for Output 1 of the Grant
- (iii) Appendix E: TOR for National Organization for Output 2 of the Grant
- (iv) Appendix F: TOR for Grant Implementation Officer
- (v) Appendix G: TOR for External Monitor
- (vi) Appendix H: TOR for Public-Private Partnership Consultant

VII. SAFEGUARDS

45. The NCRTC will have a social and environment management unit (SEMU) for the overall management of social and environmental safeguards under the investment project. At the site level, there are four NCRTC project management offices (PMO) headed by a chief project manager (CPM) to manage different sections of the rail alignment. The CPM will be supported by deputy CPMs who will serve as the site-level social and environmental focal persons. The general consultants that will be responsible for supervision and monitoring of construction works will include environmental specialists, social safeguard specialists, and health and safety experts. These experts will periodically monitor the project site-level activities. External monitoring experts both for environment and resettlement will be recruited by the NCRTC to (i) conduct third party monitoring, (ii) verify the reports submitted by the general consultants, and (iii) advise on safeguard compliance issues and corrective measures. These resources required to implement the actions identified in the relevant safeguard plans are discussed in detail below.

A. Environmental Safeguards

46. **Environmental Safeguards (Category A).** An environmental impact assessment (EIA), including an environmental management plan (EMP) to mitigate the environmental risks identified, has been prepared in accordance with ADB's Safeguard Policy Statement (SPS). Since the investment project will be financed through an MFF, an environmental assessment and review framework (EARF) has also been prepared to comply with environmental safeguard requirements for MFFs.

47. **Environmental management plan.** MOHUA through the NCRTC will ensure that all environmental safeguard requirements under the investment project will be implemented as required by the EIA, EMP, and the safety, health, and environmental (SHE) guidelines. The EMP with detailed budget estimates is given in the EIA report. The EMP is a plan for mitigating all anticipated environmental impacts during project construction and operation and will thus apply to all tranches under the investment project. Specific mitigation measures with details on location, time, and responsible agency for implementation are given in the EMP. Mitigation measures for implementation during the construction stage are implemented by the contractor, and during operation stage by the NCRTC. The EMP also includes an environmental monitoring plan (EMOP) on testing the quality of air, water, noise, and vibration through laboratory tests and physical monitoring of problems of soil erosion, tree plantations, occupational health and safety issues, and damage to structures. Quality testing of air, water, noise, and vibration may be outsourced by the contractor to recognized and approved laboratories, while physical monitoring activities will be carried out by the general consultants and external monitor.

48. The SHE manual includes a set of requirements and guidelines on occupational health and safety, including human resource requirements, on-site safety protocols, awareness, and training requirements. The NCRTC with the support of the general consultants will ensure that both the EMP and SHE guidelines are included in (i) the bidding documents for each contract package before starting the bidding process, and (ii) the final contract agreement with the contractor.

49. **Implementation of environmental safeguards.** Environmental safeguard requirements will be implemented by various stakeholders under the project as per the following.

- (i) **The executing agency.** MOHUA acting through the NCRTC will be responsible for overall compliance of the investment project with national- or state-level environmental policies and ADB's SPS. They will be responsible for making key decisions on the investment project including on environmental safeguard matters. The NCRTC through their SEMU will be responsible for ensuring that all environmental safeguard requirements under the investment project are complied with in accordance with the ADB SPS and national environmental regulations and the related EIA as agreed. If any new components are added in the investment project during implementation, the NCRTC will ensure that environmental assessment will be carried out for those new components as required by the EARF. The SEMU and site-level PMOs will be responsible for timely processing of all national- or local-level clearances and permits for the project such as tree-cutting permits, etc. They will monitor construction activities on-site on a regular basis and facilitate resolution of complaints through the project grievance redress mechanism (GRM). The SEMU will review all periodic monitoring reports submitted by the general consultants and contractors, including semiannual environmental monitoring reports that will be submitted to ADB for disclosure on the ADB website. The NCRTC will be responsible for recruiting an external monitor to conduct third-party monitoring of environmental safeguards and managing and reviewing the monitor's inputs and outputs for individual projects throughout the duration of the facility. During preparation of follow-on tranches, the NCRTC will ensure that environmental due diligence of ongoing tranches will be conducted. In case any new components are added to the investment project in later tranches, the SEMU will ensure that the new components will be appraised for environmental safeguards in accordance with the requirements of the EARF.
- (ii) **General consultants.** The general consultant, engaged by the NCRTC using counterpart funds, is the design and supervision authority that will conduct day-to-day supervision and monitoring of construction activities and coordination between the executing agency and the contractors. They will support the NCRTC to secure relevant environmental safeguards-related clearances and permits prior to commencement of civil works of the respective contract package. They will conduct regular on-site monitoring and ensure that the contractor is implementing the EMP, EMOP, and SHE plan as required and provide technical guidance and training to the contractor as needed. They will prepare regular progress and monitoring reports, including quarterly and semiannual environmental monitoring reports for submission to the NCRTC. During preparation of the follow-on tranches, they will conduct environmental due diligence of ongoing tranches. They will guide the contractor on the type of monitoring checklists and reports to be maintained. They will review and approve all environmental safeguards-related subplans (muck disposal plan, traffic management plan, emergency response plan, etc.) to

be prepared by the contractor and ensure that subplans are prepared on a timely basis. In case of unanticipated environmental impacts or change in detailed designs, they will immediately provide recommendations on whether the EIA and EMP need to be updated, and accordingly advise the NCRTC for further confirmation and coordination with ADB. In case new components are added during investment project implementation, the general consultants will support the NCRTC in conducting environmental assessments for the new components in accordance with the requirements of the EARF. They will facilitate the conduct of regular consultations with project stakeholders, including communities affected by the relevant project, and enable smooth resolution of complaints through the project GRM as provided in the EIA.

- (iii) **Contractors.** The project contractors will be responsible for implementing the EMP and EMOP and abiding by the SHE plan. Based on the EMP, EMOP, and SHE plan included in their contract agreement, they will prepare a site-specific EMP, EMOP, and SHE plan. They will undertake project-specific preconstruction studies such as building condition and/or stability surveys and others as included in the contract agreement. They will prepare subplans such as traffic management plan, muck disposal plan, emergency response plan, construction camp layout, etc., on a timely basis for the review and approval by the general consultants and the NCRTC. They will recruit an environmental officer and a health and safety officer, and ensure that they are available on-site on a full-time basis for every construction site. They will maintain proper records of all environmental safeguard measures on-site such as incidents of injuries; accidents; health issues; issuance of health and safety items; quantities of domestic and/or construction waste generated, etc. They will prepare monthly and/or quarterly progress reports on the implementation of environmental safeguards and submit these to the general consultants for their approval.
- (iv) **External monitor.** The external monitor is responsible for third-party monitoring of environmental safeguards implementation for all projects under the MFF. They will review the progress and environmental monitoring reports prepared by the contractors and general consultants, and verify whether the contents of the reports are consistent with project site conditions. They will visit the project sites at least once a quarter and prepare semiannual external monitoring reports. They will provide technical guidance and advise the NCRTC on ways to improve implementation of environmental safeguards under the project.

50. **Climate change.** The climate change impact to the project is categorized *medium*. Climate risk vulnerability assessment (CRVA) has been conducted and the results of the CRVA have been incorporated into the project design. In addition, the projects under the facility contribute to climate mitigation by shifting people from carbon-intensive modes of transport to a low-carbon railway system. The climate adaptation is from using various protective measures to prevent flooding in tunnels and underground sections. Details are in the CRVA and climate change assessment.

B. Social Safeguards

51. **Involuntary resettlement (Category A).** The investment project minimizes involuntary resettlement impacts by using elevated tracks on the carriageway of existing roads. Nevertheless, about 138 hectares (ha) of private land and 32 ha of government land will be required for the 17

stations and two depots along the Delhi–Meerut section. It is estimated that 813 households (5,453 persons) will be affected by physical displacement (81 households) and economic displacement (732 households) due to land acquisition or restrictions on land use. Out of the total affected households, 571 households (3,997 persons) will experience significant impacts. The executing agency has drafted a resettlement plan for the Delhi–Meerut section and consulted affected communities on proposed mitigation measures to address involuntary resettlement impacts on titled and nontitled households. The resettlement plan has been prepared based on resettlement surveys, social assessments, and consultations. The resettlement plan is in accordance with the direct purchase policies of the Delhi Development Authority (2014) and Uttar Pradesh (2015), the Right to Fair Compensation and Transparency in Land Acquisition, Rehabilitation and Resettlement Act (2013), and the ADB SPS. The executing agency has prepared a resettlement framework to guide the assessment and mitigation of unanticipated impacts of the MFF.

52. **Implementation of involuntary resettlement.** Involuntary resettlement safeguard requirements will be implemented by various stakeholders under the project as per the following.

53. **Project implementation unit.** The overall project will be managed by the NCRTC headquarters headed by the group general manager (project) who will have the overall responsibility to supervise the resettlement plan implementation work with the help of the general consultants. The group general manager (project) will be assisted by a designated environmental and social (E&S) officer (with the rank of deputy general manager) at the headquarters to coordinate with ADB, the project management offices (PMO), and the state-level land acquisition and resettlement implementation support agency (RISA).

54. **Project management office.** The chief project managers appointed for the Delhi–Meerut RRTS project will head the PMOs. A PMO-level E&S officer at the rank of deputy project manager will be appointed and/or designated to manage the individual project-level resettlement activities and to coordinate with the land acquisition officer, general consultants, and RISA.

55. The NCRTC will be responsible for overall coordination, planning, implementation, and ensuring that adequate finances for costs related to land acquisition and resettlement for the investment project are allocated on time. The general consultants will support the executing agency and ensure timely and effective implementation of the resettlement plan. A qualified and experienced RISA in the form of a consulting firm or nongovernment organization will be engaged by the executing agency to assist in the implementation of the resettlement plan. The executing agency shall ensure that adequate resources are allocated to the RISA for effective implementation of resettlement and rehabilitation (R&R) activities.

56. The specific functions of the PMO on resettlement management will include:

- (i) overall responsibility of implementation and monitoring of R&R activities in the investment project;
- (ii) ensuring availability of budget for R&R activities;
- (iii) liaising with line agencies for support for land acquisition and resettlement plan implementation;
- (iv) selection and appointment of the RISA;
- (v) coordinating with line departments, PIU, RISA, and general consultants;
- (vi) monitoring the physical and financial progress on land acquisition and R&R activities;
- (vii) participating in regular meetings in the grievance redress committee (GRC); and

- (viii) organizing monthly meetings with RISA to review the progress on R&R.

57. **Resettlement implementation support agency.** A RISA will be engaged to assist the PMO in the implementation of the resettlement plan. The RISA would play the role of a facilitator and will work as a link between the PMO and the affected community. The RISA will assist displaced persons in income restoration by (i) preparing a micro plan, and (ii) guiding access into various ongoing government development schemes and agencies providing financial assistance and loans.

58. **External monitor.** The external monitoring of the resettlement plan will be undertaken by an independent external monitor or consultant not involved in the day-to-day supervision of the project. The main objectives are to (i) supervise overall monitoring of the project; (ii) submit a biannual report to determine whether resettlement goals have been achieved, more importantly whether livelihoods and living standards have been restored and/or enhanced; and (iii) suggest suitable recommendations for improvement. The external monitoring consultant will be mobilized within 3 months of loan approval and the monitoring will be carried out intermittently during the resettlement plan implementation. The external monitor will assess (i) resettlement outcomes, (ii) their impacts on the standards of living of displaced persons, and (iii) whether the objectives of the resettlement plan have been achieved by considering the baseline conditions and the results of resettlement monitoring. The external monitor will undertake a post-resettlement evaluation of the effectiveness of resettlement plan implementation with comparison to baseline information.

59. **Indigenous peoples (Category C).** The investment project alignment is generally in urban and peri-urban areas where scheduled tribes do not have cultural attachment to land, customary territories, and distinct livelihood systems. Hence, it will not affect indigenous peoples' communities within the meaning of the ADB SPS.

C. Grievance Redress Mechanisms

60. **Environment.** A GRM has been proposed for the procedures to address grievances: (i) first at the PMO level, (ii) second at the executing agency level, and (iii) third at the GRC level. The most serious complaints that cannot be addressed at the executing agency level will be forwarded to the GRC. The GRC will comprise members from the executing agency, contractor/s, and representatives from the local community. Environment complaints will be received through the grievance focal point who will be designated personnel from within the community and appointed by the community. The contractor will record the complaint in the on-site environmental complaints register in the presence of the grievance focal point for further resolution.

61. **Resettlement.** A two-tier GRC will be established at the headquarters- and PMO-levels of the NCRTC with the primary objective of providing a mechanism to mediate and resolve conflicts on-site and avoid adverse litigation that is disruptive and time-consuming. It will also provide affected people, who might have objections or concerns about the project, a public forum to raise their objections and through conflict resolution, address these issues adequately and efficiently. The GRC at the headquarters of the NCRTC will be headed by the group general manager (project), or their designated representative; it will be headed by the CPM at the PMO level. The GRC will have representatives from the (i) PMO; (ii) displaced persons, including vulnerable displaced persons; (iii) local government representative; and (iv) other interest groups as necessary. The RISA will act as an inbuilt grievance redress body. The proposed procedure for grievance redress is detailed in the resettlement plan. Under the proposed procedure, grievances will be redressed within 2 to 4 weeks from the date of lodging of complaints, depending on severity of the problem. However, while an aggrieved person will have a choice to access the

country's judiciary, taking grievances to the judiciary will be avoided as far as possible and the RISA will make utmost efforts for reconciliation at the GRC level.

62. **Prohibited investment activities.** Pursuant to ADB's Safeguard Policy Statement (2009), ADB funds may not be applied to the activities described on the ADB Prohibited Investment Activities List set forth at Appendix 5 of the Safeguard Policy Statement (2009).

VIII. GENDER AND SOCIAL DIMENSIONS

63. The investment project is classified *effective gender mainstreaming*. The gender equality and social inclusion (GESI) action plan prepared in this regard includes the following key measures: (i) collect sex-disaggregated data and ensure effective consultation of women and differently abled groups during investment project design and implementation; (ii) integrate gender-responsive and universal accessibility features in the design of coaches and RRTS stations; (iii) address gender-related aspects of last-mile connectivity; (iv) strengthen capacity for gender mainstreaming within the NCRTC; and (v) pilot-test modalities for improved urban mobility of vulnerable women and differently abled women, and gender-related behavior change among public transport providers. The GESI action plan is in Appendix I.

64. The investment project will improve women's safe mobility and access to entrepreneurial and employment opportunities along the RRTS corridor and, specifically, in major urban centers. By 2027, it is estimated that 20% women commuters will travel along the Delhi–Meerut corridor, compared to an estimated 17% (2019 baseline). The reduced travel times will alleviate disparity among urban, peri-urban, and rural areas of India's national capital region. The explicit emphasis of the investment project on promoting physical and economic mobility of vulnerable women and differently abled persons along the RRTS corridor will help address discriminations faced by these excluded groups.

65. **HIV/AIDS and human trafficking.** HIV infection and human trafficking are risks in the investment project area. The influx of workers in the investment project area during construction could create additional HIV transmission risks. The investment project will mitigate these risks by providing HIV awareness and prevention programs to construction workers as set out in the EMP that will form part of the contractor's obligations. Livelihood disruptions resulting from land acquisition and relocation will create additional human trafficking risks, which will be addressed by a detailed livelihood restoration and improvement program set out in the resettlement plan.

IX. PERFORMANCE MONITORING, EVALUATION, REPORTING, AND COMMUNICATION

A. Investment Project Design and Monitoring Framework

66. The design and monitoring framework is in Appendix A.

B. Monitoring

67. **Investment project performance monitoring.** The achievement of the investment project performance targets will be assessed following the design and monitoring framework. The executing agency will establish an investment project performance monitoring system, in form and substance, which is acceptable to ADB for use throughout the life of the investment project.

68. **Compliance monitoring.** Compliance with covenants will be monitored through ADB's (i) investment project administration missions, including the inception missions, to discuss and confirm the timetable for compliance with the loan covenants; (ii) review missions to examine the borrower's and executing agency's compliance with particular loan covenants; and, where there is any noncompliance or delay, to discuss proposed remedial measures with the borrower and the executing agency; and (iii) the midterm review, if necessary, to review covenants to assess whether they are still relevant or need to be changed or waived due to changing circumstances.

69. **Environment safeguards monitoring.** Monthly and quarterly environmental monitoring reports will be submitted by the contractor to the general consultants for their review and approval. Based on the reports prepared by the contractor and regular site inspections, the general consultant will prepare semiannual environmental monitoring reports for submission to the NCRTC and further submission to ADB for disclosure on the ADB website. An external monitor will (i) conduct third-party monitoring of implementation and monitoring of the environmental safeguards by the contractor and general consultant, and (ii) submit semiannual monitoring reports to the NCRTC and ADB on a semiannual basis. The preliminary estimated cost of the EMP for the Delhi–Ghaziabad–Meerut RRTS, including implementation and monitoring, is \$4.4 million (₹306.7 million). This cost estimate is exclusive of land acquisition and resettlement.

70. **Social safeguards monitoring.** Resettlement plan implementation for the investment project by the RISA will be closely monitored by the executing agency. Keeping in view the significance of resettlement impacts of the investment project, the monitoring mechanism for the same will have both internal monitoring by the PMO and external monitoring by an independent external monitoring agency and/or consultant. The PMO responsible for supervision and implementation of the resettlement plan will prepare monthly progress reports on resettlement activities and submit to the CPM. The CPM will submit semiannual resettlement plan monitoring reports to ADB. The external monitoring expert responsible for monitoring of the resettlement plan implementation will (i) submit a semiannual review report to the executing agency and ADB to determine whether resettlement goals have been achieved, more importantly whether livelihoods and living standards have been restored and/or enhanced; and (ii) suggest suitable recommendations for improvement, if any.

71. **Gender and social dimensions monitoring.** A gender focal point (GFP) will be appointed by the NCRTC to facilitate the implementation of the GESI action plan. The GFP will be supported by a full-time GESI consultant (84 person-months). Additionally, organizations (consulting firms or nongovernment organizations) will be recruited under ADB's Procurement Policy to implement activities under output 3. Progress in the achievement of the indicators set out in the GESI action plan will be reflected in the quarterly progress reports to be submitted to ADB by the NCRTC, using the GESI action plan reporting template provided in Appendix J.

C. Evaluation

72. The investment project inception mission will be fielded by ADB soon after the MFF is approved by ADB. Regular reviews will follow at least annually. As necessary, special loan administration missions and a midterm review mission will be fielded, under which any changes in scope or implementation arrangement may be required to ensure the achievement of investment project objectives. The NCRTC will monitor the MFF and tranche implementation according to the schedule and timebound milestones, and keep ADB informed of any significant deviations that may result in the milestones not being met. A facility completion report will be submitted by the NCRTC within 6 months of physical completion of the MFF and projects thereunder, providing detailed evaluation of the progress of implementation, costs, social and

economic impacts, and other details requested by ADB.

D. Reporting

73. The executing agency will provide ADB with (i) quarterly progress reports in a format consistent with ADB's project performance reporting system, no later than 45 days after the end of each quarter, and should include the (a) financial and disbursement report, (b) variance analysis of physical and financial progress, (c) details of utilization of funds, and (d) reconciliation with ADB's LFIS; (ii) consolidated annual reports including (a) progress achieved by output as measured through the indicator's performance targets, (b) key implementation issues and solutions, (c) updated procurement plan, and (d) updated implementation plan for the next 12 months; and (iii) a facility completion report within 6 months of physical completion of the projects and the facility. To ensure that individual projects will continue to be both viable and sustainable, project accounts and the executing agency audited financial statement, together with the associated auditor's report, should be adequately and regularly reviewed with ADB.

E. Stakeholder Communication Strategy

74. The investment project will follow ADB's standard consultation and disclosure requirements and provide relevant information, including information from the above documents, in a timely manner, in an accessible place, and in a form and languages understandable to all affected people and other stakeholders. Other appropriate communication methods shall be used, such as direct verbal communication through one-on-one or other meetings, and grievance redress meetings.

75. Salient information regarding the investment project, including scope, general progress status, beneficiaries, invitations for bid, and consultant recruitment notices, will be provided to the public. The information will be made available and updated through the NCRTC's website (<https://ncrtc.in/>). The safeguards documents, including EIA reports, due diligence reports, and corrective action plan, if any, will be posted on the ADB website.

X. ANTICORRUPTION POLICY

76. The Government of India, MOHUA, and the NCRTC are advised of ADB's Anticorruption Policy (1998, as amended from time to time).²¹ Consistent with its commitment to good governance, accountability, and transparency, the implementation of the investment project shall adhere to this policy. ADB reserves the right to review and examine, directly or through its agents, any alleged corrupt, fraudulent, collusive, or coercive practices relating to the individual projects under the facility. In this regard, investigation of government officials, if any, would be requested by ADB to be undertaken by the government.

77. To support these efforts, relevant provisions of ADB's Anticorruption Policy are included in the loan agreement, regulations, and the bidding documents for the related projects under the facility. Individuals and/or entities on ADB's anticorruption debarment list are ineligible to participate in ADB-financed activity and may not be awarded any contracts under the individual projects under the facility.²² ADB's Anticorruption Policy designates the Office of Anticorruption and Integrity (OAI) as the point of contact to report allegations of fraud or corruption among ADB-financed projects or its staff. The OAI is responsible for all matters related to allegations of fraud

²¹ Anticorruption Policy: <http://www.adb.org/Documents/Policies/Anticorruption-Integrity/Policies-Strategies.pdf>.

²² ADB's Integrity Office website: <http://www.adb.org/integrity/unit.asp>.

and corruption. For a more detailed explanation, refer to the Anticorruption Policy and Procedures. Anyone coming across evidence of corruption associated with the projects and the facility may contact the OAI by telephone, facsimile, mail or email at the following numbers and/ or addresses:

- By email at integrity@adb.org or anticorruption@adb.org
- By phone at +63 2 8632 5004
- By fax to +63 2 8636 2152
- By mail at the following address (**please mark correspondence Strictly Confidential**)
Office of Anticorruption and Integrity
Asian Development Bank
6 ADB Avenue
Mandaluyong City 1550
Metro Manila, Philippines

78. The website of the NCRTC will provide updated and detailed information on the implementation of the investment project. For example, it will include procurement-related information such as ongoing tenders, lists of participating bidders, names of winning bidders, basic details on bidding procedures adopted, amount of contracts awarded, and the list of goods and/or services procured.

XI. ACCOUNTABILITY MECHANISM

79. People who are, or may in the future be, adversely affected by the project(s) under the facility may submit complaints to ADB's Accountability Mechanism. The Accountability Mechanism provides an independent forum and process whereby people adversely affected by ADB-assisted projects can voice and seek a resolution of their problems, as well as report alleged violations of ADB's operational policies and procedures. Before submitting a complaint to the Accountability Mechanism, affected people should make an effort in good faith to solve their problems by working with the concerned ADB operations department. Only after doing that, and if they are still dissatisfied, should they approach the Accountability Mechanism.²³

XII. RECORD OF CHANGES TO THE FACILITY ADMINISTRATION MANUAL

80. All revisions and/or updates during the course of implementation are retained in this section to provide a chronological history of changes to implementation arrangements recorded in the FAM, including revision to contract awards and disbursement s-curves.

Table 18: Revisions to the Facility Administration Manual

Revision No.	Revision Date	FAM Section Revised	Description of Revision

²³ Accountability Mechanism: <http://www.adb.org/Accountability-Mechanism/default.asp>.

DESIGN AND MONITORING FRAMEWORK FOR THE INVESTMENT PROJECT

Impact the Project is Aligned with Urban mobility in the National Capital Region improved (National Urban Transport Policy, 2006) ^a			
Results Chain	Performance Indicators with Targets and Baselines	Data Sources and Reporting Mechanisms	Risks
<p>Outcome Efficiency, safety, social inclusiveness, and environmental sustainability of transport in the Delhi–Meerut RRTS corridor improved</p>	<p>By 2028:</p> <p>a. Travel time between Delhi and Meerut by train reduced to 1 hour (2020 baseline: 3–4 hours) (OP 2.4.1)</p> <p>b. 258,035 tons of CO₂ reduced per annum (2020 baseline: 0) (OP 3.1, OP 3.1.3)</p> <p>c. At least 70% of riders, including EWCD, perceive the RRTS to be accessible, safe, and reliable^b (2020 baseline: Not applicable) (OP 2.1.4)</p>	<p>a–b. NCRTC statistics</p> <p>c. RRTS user survey by NCRTC</p>	<p>Feeder connectivity issues impact ridership.</p>
<p>Outputs 1. Delhi–Meerut RRTS corridor commissioned</p>	<p>By 2027:</p> <p>1a. 82 route–km of standard gauge electrified rail track installed, with systems and signaling (2020 baseline: 0) (RFI 1.3.1, OP 3.2.5, OP 4.1.2)</p> <p>1b. 24 EWCD-friendly stations with climate- and disaster-resilient features constructed and operational (2020 baseline: 0) (RFI 1.3.1, OP 3.2.5, OP 4.1.2)</p> <p>1c. At least five RRTS stations developed as major multimodal hubs^c (2020 baseline: 0) (RFI 1.3.1, OP 3.2.5, OP 4.1.2)</p> <p>1d. At least one carriage in every RRTS train reserved for women only (2020 baseline: Not applicable) (OP 2.2.3)</p> <p>1e. CCTV cameras installed in all stations to monitor coaches, pick-up, drop-off, and in all public areas (2020 baseline: Not applicable) (OP 2.2.3, OP 2.4.1, OP 4.1.2)</p>	<p>1a–e. Progress reports</p>	<p>Unpredicted ground conditions, such as mixed strata, may delay tunnel boring works in the underground sections.</p>
<p>2. Institutional capacity of the NCRTC strengthened^d</p>	<p>By 2026:</p> <p>2a. Recommendations and action plan on TOD, VCF instruments, and PPP initiatives finalized and approved by NCRTC (2020 baseline: Not applicable)</p> <p>2b. A smart-technology-based platform (BIM) established and adopted for project design, implementation, and management (2020 baseline: Not applicable)</p> <p>2c. Gender-friendly workplace policy developed and institutionalized within the NCRTC (2020 baseline: Not applicable) (OP 2.3.2)</p>	<p>2a–c. Progress reports</p>	

Results Chain	Performance Indicators with Targets and Baselines	Data Sources and Reporting Mechanisms	Risks
	2d. At least 50 NCRTC staff reported increased knowledge in project and contract management, financial management, procurement, and safeguards (2020 baseline: Not applicable) (OP 6.1.1)	2d. Post-training program reports and surveys of NCRTC staff	
3. Mobility and economic opportunities of women and differently abled improved ^e	By 2025: 3a. At least 1,400 women received training for employment and/or entrepreneurial opportunities arising from improved RRTS corridors (2020 baseline: 0) (OP 2.1.1) 3b. At least 1,000 differently abled people received hearing, visual, and/or physical mobility assistive aids (2020 baseline: 0) (RFI 1.3)	3a–3b. Progress and completion reports submitted to ADB and NCRTC by the contracted organization, including certificates issued on completion of training and/or receipt of assistive aids	Mobilization of target beneficiaries takes longer because of social behavior and perceptions.
Key Activities with Milestones 1. Delhi–Meerut RRTS corridor commissioned 1.1 Award and mobilize general consultants and detailed design consultants by Q2 2019. 1.2 Commence advance contracting by Q3 2019. 1.3 Award contracts by Q4 2020. 2. Institutional capacity of the NCRTC strengthened 2.1 Complete initial capacity-building plan and structuring by Q4 2020. 2.2 Award BIM platform support consultants by Q4 2020. 2.3 Award and mobilize consultants for TOD and VCF by Q4 2020. 2.4 Establish BIM platform for the project design, implementation, and management by Q2 2021. 2.5 Establish institutional capacity for project implementation and management using smart technologies by Q3 2021. 2.6 Develop gender-friendly workplace policy by Q4 2021. 2.7 Award training and capacity-building contracts by Q2 2022. 3. Mobility and economic opportunities of women and the differently abled improved 3.1 Establish GESI implementation unit by Q1 2021. 3.2 Award and mobilize national (nongovernment or consulting) organizations by Q2 2021.			
Inputs ADB: \$1,049,000,000 (loan) Government: \$1,897,700,000 AIIB: \$500,000,000 (loan) JFPR: \$3,000,000 (grant)			
Assumptions for Partner Financing Outputs not administered by ADB that are necessary to reach the outcome include: Part of rolling stock, S&T systems, construction of multistoried staff quarters, and connectivity from Mathura road to Jangpura stabling yard complex (NDB: \$500,000,000)			

ADB = Asian Development Bank, AIIB = Asian Infrastructure Investment Bank, BIM = building information modelling, CCTV = closed-circuit television, CO₂ = carbon dioxide, EWCD = elderly, women, children, differently abled, GESI = gender equality and social inclusion, JFPR = Japan Fund for Poverty Reduction, km = kilometer, NCRTC = National Capital Region Transport Corporation, NDB = New Development Bank, PPP = public–private partnership, Q = quarter, RFI = results framework indicator, RRTS = regional rapid transit system, S&T = signaling train control and telecommunication, TOD = transit-oriented development, VCF = value capture financing.

^a Government of India, Ministry of Housing and Urban Affairs. 2006. *National Urban Transport Policy*. New Delhi.

- b The indicator follows the approach of another (and only) recently approved project from India, the Mumbai Metro Rail Systems Project, where the target is 60%. The target is based on extensive discussions with the NCRTC and reflects ADB's experience in the design of the Mumbai Metro Rail Systems Project.
- c Major multimodal hubs are RRTS stations that will include easy interchange to rail, metro, and bus stations for passengers.
- d Output 2 to be supported by technical assistance funded by the Urban Climate Change Resilience Trust Fund. ADB. 2019. [Technical Assistance to India for Strengthening Climate Change Resilience in Urban India Subproject 3: Strengthening Smart Urban Mass Rapid Transit and Climate Change Resilience in the National Capital Region.](#) Manila.
- e Output 3 to be supported by the attached grant funded by the Japan Fund for Poverty Reduction.

Contribution to the ADB Results Framework:

- RFI 1.3 Poor and vulnerable people with improved standards of living. Expected: 700,000 passengers daily.
- RFI 1.3.1 Infrastructure assets established or improved. Expected: three assets (RRTS corridor, stations, smart-technology-based platform).
- OP 2.1.1 Women enrolled in technical and vocational education and training and other job training. Expected: 1,400 women.
- OP 2.1.4 Women and girls benefiting from new or improved infrastructure. Expected: 150,000 (20% of estimated ridership of 750,000).
- OP 2.2.3 Solutions to prevent or address gender-based violence implemented. Expected: two solutions.
- OP 2.3.2 Measures on gender equality supported in implementation. Expected: two measures.
- OP 2.4.1 Time-saving or gender-responsive infrastructure assets and/or services established or improved. Expected: three assets (RRTS corridor, stations, smart-technology-based platform).
- OP 3.1 Total annual greenhouse gas emissions reduction. Expected: 250,000 tons of carbon dioxide per year.
- OP 3.1.3 Low-carbon infrastructure assets established or improved. Expected: two assets (RRTS corridor, stations).
- OP 3.2.5 New and existing infrastructure assets made climate and disaster resilient. Expected: two assets (RRTS corridor, stations).
- OP 4.1.2 Urban infrastructure assets established or improved. Expected: three assets (RRTS corridor, stations, smart-technology-based platform).
- OP 6.1.1 Government officials with increased capacity to design, implement, monitor, and evaluate relevant measures. Expected: at least 50 NCRTC staff.

Source: Asian Development Bank.

PROCUREMENT PLAN

Basic Data

Project Name: Delhi-Meerut Regional Rapid Transit System Investment Project - Tranche 1		
Project Number: 51073-003	Approval Number:	
Country: India	Executing Agency:	Ministry of Housing and Urban Affairs, National Capital Region Transport Corporation
Project Procurement Risk: High	Implementing Agency: N/A	
Project Financing Amount: US\$ 1,299,600,000 ADB Financing: US\$ 500,000,000 Cofinancing (ADB Administered): Non-ADB Financing: US\$ 799,600,000	Project Closing Date: 30 August 2025	
Date of First Procurement Plan: 8 May 2020	Date of this Procurement Plan: 8 May 2020	
Procurement Plan Duration (in months): 18	Advance Contracting: Yes	e-GP: Yes https://etenders.gov.in/e procure/app

A. Methods, Review and Procurement Plan

Except as the Asian Development Bank (ADB) may otherwise agree, the following methods shall apply to procurement of goods, works, and consulting services.

Procurement of Goods and Works	
Method	Comments
Open Competitive Bidding (OCB) for Goods	International advertisement is considered for increased competitiveness. Note on post review (sampling) methodology: For the packages that are subject to post review (sampling), the post review will be done (i) to about 30%-50% of total post review contract value, and (ii) to about 20% of the total number of contracts identified for post review (sampling). To the extent possible, all types of contracts will be included in the sample.
Open Competitive Bidding (OCB) for Works	International advertisement is considered for increased competitiveness. Note on post review (sampling) methodology: For the packages that are subject to post review (sampling), the post review will be done (i) to about 30%-50% of total post review contract value, and (ii) to about 20% of the total number of contracts identified for post review (sampling). To the extent possible, all types of contracts will be included in the sample.

Consulting Services	
Method	Comments
Quality- and Cost-Based Selection for Consulting Firm	International advertisement is considered for increased competitiveness except for small-value contracts; national advertisement for JFPR-funded contracts
Competitive for Individual Consultant	For JFPR-funded project implementation unit team members within NCRTC

B. Lists of Active Procurement Packages (Contracts)

The following table lists goods, works, non-consulting and consulting services contracts for which the procurement activity is either ongoing or expected to commence within the procurement plan duration.

Goods and Works							
Package Number	General Description	Estimated Value (in US\$)	Procurement Method	Review	Bidding Procedure	Advertisement Date (quarter/year)	Comments
P03	Construction of elevated viaducts including stations excluding finishes and pre-engineered buildings (PEB)	244,760,000.00	OCB	Prior	1S2E	Q3 / 2019	Non-Consulting Services: No Advertising: International No. Of Contracts: 2 Prequalification of Bidders: No Domestic Preference Applicable: No Advance Contracting: Yes Bidding Document: Large Works High Risk Contract: No e-GP: Yes e-GP Type: e-Bidding Comments: FIDIC MDB 2010; awarded 19 Mar 2020
	Lot 1: Construction of elevated viaduct incl. 2 stations from Duhai Eastern Peripheral Expressway (EPE) to start of Modi Nagar North excl. finishes and PEB	114,720,000.00					
	Lot 2:	130,040,000.00					

Package Number	General Description	Estimated Value (in US\$)	Procurement Method	Review	Bidding Procedure	Advertisement Date (quarter/year)	Comments
	Construction of elevated viaduct incl. 5 stations from Modi Nagar North to Shatabadi Nagar excl. finishes and PEB						
P04	Design and construction of tunnels by tunnel boring machine (TBM) from New Ashok Nagar Ramp to Sahibabad Ramp incl. finishes, E&M and 1 underground (UG) station	198,400,000.00	OCB	Prior	1S2E	Q4 / 2019	Non-Consulting Services: No Advertising: International No. Of Contracts: 1 Prequalification of Bidders: No Domestic Preference Applicable: No Advance Contracting: Yes Bidding Document: Large Works High Risk Contract: No e-GP: Yes e-GP Type: e-Bidding Comments: FIDIC Yellow Book 2017; universal procurement applied
P05A	Construction of Duhai depot	17,940,000.00	OCB	Prior	1S2E	Q1 / 2020	Non-Consulting

Package Number	General Description	Estimated Value (in US\$)	Procurement Method	Review	Bidding Procedure	Advertisement Date (quarter/year)	Comments
	and 1 at-grade station incl. finishes, PEB, E&M (incl. training center)						Services: No Advertising: International No. Of Contracts: 1 Prequalification of Bidders: No Domestic Preference Applicable: No Advance Contracting: Yes Bidding Document: Large Works High Risk Contract: No e-GP: Yes e-GP Type: e-Bidding Comments: FIDIC MDB 2010; universal procurement applied
P05B	Construction of Modipuram depot and 1 at-grade station incl. finishes, PEB, and E&M	12,700,000.00	OCB	Post (Sampling)	1S2E	Q3 / 2020	Non-Consulting Services: No Advertising: International No. Of Contracts: 1 Prequalification of Bidders: No

Package Number	General Description	Estimated Value (in US\$)	Procurement Method	Review	Bidding Procedure	Advertisement Date (quarter/year)	Comments
							Domestic Preference Applicable: No Advance Contracting: Yes Bidding Document: Large Works High Risk Contract: No e-GP: Yes e-GP Type: e-Bidding Comments: FIDIC MDB 2010; universal procurement applied
P06	Construction of elevated viaducts incl. 2 stations from Sarai Khale Khan (SKK) to New Ashok Nagar incl. PEB and excl. finishes	99,920,000.00	OCB	Prior	1S2E	Q1 / 2020	Non-Consulting Services: No Advertising: International No. Of Contracts: 1 Prequalification of Bidders: No Domestic Preference Applicable: No Advance Contracting: Yes Bidding Document: Large Works High Risk

Package Number	General Description	Estimated Value (in US\$)	Procurement Method	Review	Bidding Procedure	Advertisement Date (quarter/year)	Comments
							Contract: No e-GP: Yes e-GP Type: e-Bidding Comments: FIDIC MDB 2010; universal procurement applied
P07	Construction of elevated viaduct from Shatabdi Nagar Station to Brahmpuri Down Ramp & Begumpul Up Ramp to Modipuram incl. 5 elevated stations (Brahmpuri, MES Colony, Dauri, Meerut North, & Modipuram) excluding PEB and finishes	103,720,000.00	OCB	Prior	1S2E	Q2 / 2020	Non-Consulting Services: No Advertising: International No. Of Contracts: 1 Prequalification of Bidders: No Domestic Preference Applicable: No Advance Contracting: Yes Bidding Document: Large Works High Risk Contract: No e-GP: Yes e-GP Type: e-Bidding Comments: FIDIC MDB 2010; universal procurement applied

Package Number	General Description	Estimated Value (in US\$)	Procurement Method	Review	Bidding Procedure	Advertisement Date (quarter/year)	Comments
P08	Design and construction of tunnels by tunnel boring machine (TBM) from Brahampuri DN ramp to Begumpul UP ramp and 3 underground (UG) stations at Meerut Central, Bhaisali & Begumpul incl. finishes, E&M, and 3 underground (UG) stations at Meerut Centra	279,470,000.00	OCB	Prior	1S2E	Q1 / 2020	Non-Consulting Services: No Advertising: International No. Of Contracts: 1 Prequalification of Bidders: No Domestic Preference Applicable: No Advance Contracting: Yes Bidding Document: Design-Build High Risk Contract: No e-GP: Yes e-GP Type: e-Bidding Comments: FIDIC Yellow Book 2017; universal procurement applied
P09B	Construction of Jangpura stabling yard, Operation control center (OCC) and associated buildings incl.	11,130,000.00	OCB	Post (Sampling)	1S2E	Q3 / 2020	Non-Consulting Services: No Advertising: International

Package Number	General Description	Estimated Value (in US\$)	Procurement Method	Review	Bidding Procedure	Advertisement Date (quarter/year)	Comments
	finishes, PEB and E&M (inc. training center)						<p>No. Of Contracts: 1</p> <p>Prequalification of Bidders: No</p> <p>Domestic Preference Applicable: No</p> <p>Advance Contracting: Yes</p> <p>Bidding Document: Large Works</p> <p>High Risk Contract: No</p> <p>e-GP: Yes</p> <p>e-GP Type: e-Bidding</p> <p>Comments: FIDIC MDB 2010; universal procurement applied</p>
P10	Architectural finishes for 7 elevated stations (Sahibabad, Ghaziabad, Guldhar, Duhai, Partapur, Rithani, Shatabdi Nagar) and E&M systems	13,750,000.00	OCB	Prior	1S2E	Q2 / 2020	<p>Non-Consulting Services: No</p> <p>Advertising: International</p> <p>No. Of Contracts: 1</p> <p>Prequalification of Bidders: No</p> <p>Domestic Preference Applicable: No</p> <p>Advance Contracting:</p>

Package Number	General Description	Estimated Value (in US\$)	Procurement Method	Review	Bidding Procedure	Advertisement Date (quarter/year)	Comments
							<p>Yes</p> <p>Bidding Document: Large Works</p> <p>High Risk Contract: No</p> <p>e-GP: Yes</p> <p>e-GP Type: e-Bidding</p> <p>Comments: FIDIC MDB2010; universal procurement applied; bidding documents subject to parallel review and amended through an addendum during the bidding process based on feedback from ADB.</p>
P11	Architectural finishes for elevated stations and E&M systems	24,880,000.00	OCB	Post (Sampling)	1S2E	Q2 / 2020	<p>Non-Consulting Services: No</p> <p>Advertising: International</p> <p>No. Of Contracts: 2</p> <p>Prequalification of Bidders: No</p> <p>Domestic Preference Applicable: No</p> <p>Advance Contracting: Yes</p>

Package Number	General Description	Estimated Value (in US\$)	Procurement Method	Review	Bidding Procedure	Advertisement Date (quarter/year)	Comments
	<p>Lot 1: Architectural finishes for 2 elevated stations from Sarai Kale Khan (SKK) to New Ashok Nagar station & E&M Systems</p> <p>Lot 2: Architectural finishes for 9 elevated stations (viz Murad Nagar, Modi Nagar South, Modi Nagar North, Meerut South Stations, Brahmpuri, MES Colony, Dauri, Meerut North, Modipuram) and E&M Systems</p>	<p>10,610,000.00</p> <p>14,270,000.00</p>					<p>Bidding Document: Large Works</p> <p>High Risk Contract: No</p> <p>e-GP: Yes</p> <p>e-GP Type: e-Bidding</p> <p>Comments: FIDIC MDB 2010; universal procurement applied</p>
P12A	PEB works for 4 elevated stations (Sahibabad, Ghaziabad, Guldhar, Duhai)	3,670,000.00	OCB	Prior	1S2E	Q1 / 2020	<p>Non-Consulting Services: No</p> <p>Advertising: International</p> <p>No. Of Contracts: 1</p> <p>Prequalification of Bidders: No</p>

Package Number	General Description	Estimated Value (in US\$)	Procurement Method	Review	Bidding Procedure	Advertisement Date (quarter/year)	Comments
							<p>Domestic Preference Applicable: No</p> <p>Advance Contracting: Yes</p> <p>Bidding Document: Large Works</p> <p>High Risk Contract: No</p> <p>e-GP: Yes</p> <p>e-GP Type: e-Bidding</p> <p>Comments: FIDIC MDB 2010; universal procurement applied</p>
P12B	PEB works for elevated stations	8,710,000.00	OCB	Post (Sampling)	1S2E	Q2 / 2020	<p>Non-Consulting Services: No</p> <p>Advertising: International</p> <p>No. Of Contracts: 2</p> <p>Prequalification of Bidders: No</p> <p>Domestic Preference Applicable: No</p> <p>Advance Contracting: Yes</p> <p>Bidding Document: Large Works</p>

Package Number	General Description	Estimated Value (in US\$)	Procurement Method	Review	Bidding Procedure	Advertisement Date (quarter/year)	Comments
	<p>Lot 1: PEB works for 6 elevated stations Murad Nagar, Modi Nagar South, Modi Nagar North, Meerut South, MES Colony and Daurli</p> <p>Lot 2: PEB works for 6 elevated stations-Partapur, Rithani, Shatbdi Nagar, Brahmpuri, Meerut North and Modipuram</p>	<p>4,580,000.00</p> <p>4,130,000.00</p>					<p>High Risk Contract: No</p> <p>e-GP: Yes</p> <p>e-GP Type: e-Bidding</p> <p>Comments: FIDIC MDB2010; universal procurement applied</p>
P13	Supply of head hardened rails	21,350,000.00	OCB	Prior	1S2E	Q4 / 2019	<p>Non-Consulting Services: No</p> <p>Advertising: International</p> <p>No. Of Contracts: 1</p> <p>Prequalification of Bidders: No</p> <p>Domestic Preference Applicable: No</p> <p>Advance Contracting: Yes</p> <p>Bidding Document:</p>

Package Number	General Description	Estimated Value (in US\$)	Procurement Method	Review	Bidding Procedure	Advertisement Date (quarter/year)	Comments
							<p>Goods</p> <p>High Risk Contract: No</p> <p>e-GP: Yes</p> <p>e-GP Type: e-Bidding</p> <p>Comments: ADB SBD Goods; universal procurement applied</p>
P14	Supply of fastening systems for ballastless track	29,200,000.00	OCB	Prior	1S2E	Q1 / 2020	<p>Non-Consulting Services: No</p> <p>Advertising: International</p> <p>No. Of Contracts: 1</p> <p>Prequalification of Bidders: No</p> <p>Domestic Preference Applicable: No</p> <p>Advance Contracting: Yes</p> <p>Bidding Document: Goods</p> <p>High Risk Contract: No</p> <p>e-GP: Yes</p> <p>e-GP Type: e-Bidding</p> <p>Comments: ADB SBD</p>

Package Number	General Description	Estimated Value (in US\$)	Procurement Method	Review	Bidding Procedure	Advertisement Date (quarter/year)	Comments
							Goods; universal procurement applied; bidding documents will be subject to parallel review, and amended through an addendum during the bidding process based on feedback from ADB
P15	Supply of turnout and scissor cross over	24,620,000.00	OCB	Prior	1S2E	Q2 / 2020	<p>Non-Consulting Services: No</p> <p>Advertising: International</p> <p>No. Of Contracts: 1</p> <p>Prequalification of Bidders: No</p> <p>Domestic Preference Applicable: No</p> <p>Advance Contracting: Yes</p> <p>Bidding Document: Goods</p> <p>High Risk Contract: No</p> <p>e-GP: Yes</p> <p>e-GP Type: e-Bidding</p> <p>Comments: ADB SDB Goods; universal</p>

Package Number	General Description	Estimated Value (in US\$)	Procurement Method	Review	Bidding Procedure	Advertisement Date (quarter/year)	Comments
							procurement applied
P16	Supply of rails for Duhai and Modipuram depots and Jangpura Stabling Yard incl. 2 at-grade stations	4,320,000.00	OCB	Post (Sampling)	1S2E	Q2 / 2020	<p>Non-Consulting Services: No</p> <p>Advertising: International</p> <p>No. Of Contracts: 1</p> <p>Prequalification of Bidders: No</p> <p>Domestic Preference Applicable: No</p> <p>Advance Contracting: Yes</p> <p>Bidding Document: Goods</p> <p>High Risk Contract: No</p> <p>e-GP: Yes</p> <p>e-GP Type: e-Bidding</p> <p>Comments: ADB SBD Goods; universal procurement applied</p>
P17	Trackwork installation from SKK (Delhi) to	57,360,000.00	OCB	Prior	1S2E	Q2 / 2020	Non-Consulting Services: No

Package Number	General Description	Estimated Value (in US\$)	Procurement Method	Review	Bidding Procedure	Advertisement Date (quarter/year)	Comments
	Modipuram (UP) including Jangpura stabling yard, Duhai and Modipuram depots						Advertising: International No. Of Contracts: 1 Prequalification of Bidders: No Domestic Preference Applicable: No Advance Contracting: Yes Bidding Document: Large Works High Risk Contract: No e-GP: Yes e-GP Type: e-Bidding Comments: FIDIC MDB 2010; universal procurement applied
P18	Rail grinding machine	3,930,000.00	OCB	Post (Sampling)	1S2E	Q2 / 2020	Non-Consulting Services: No Advertising: International No. Of Contracts: 1 Prequalification of Bidders: No Domestic Preference Applicable: No

Package Number	General Description	Estimated Value (in US\$)	Procurement Method	Review	Bidding Procedure	Advertisement Date (quarter/year)	Comments
							<p>Advance Contracting: Yes</p> <p>Bidding Document: Goods</p> <p>High Risk Contract: No</p> <p>e-GP: Yes</p> <p>e-GP Type: e-Bidding</p> <p>Comments: ADB SBD Goods; universal procurement applied</p>
P19	Design, supply, installation, testing and commissioning of receiving substations (RSS) and traction overhead equipment (OHE)	154,350,000.00	OCB	Prior	1S2E	Q1 / 2020	<p>Non-Consulting Services: No</p> <p>Advertising: International</p> <p>No. Of Contracts: 2</p> <p>Prequalification of Bidders: No</p> <p>Domestic Preference Applicable: No</p> <p>Advance Contracting: Yes</p> <p>Bidding Document: Design-Build</p> <p>High Risk Contract: No</p>

Package Number	General Description	Estimated Value (in US\$)	Procurement Method	Review	Bidding Procedure	Advertisement Date (quarter/year)	Comments
	<p>Lot 1: Design, supply, installation, testing and commissioning of receiving substations (RSS) and traction overhead equipment (OHE) from SKK to Duhai (EPE) includ. Jangpura Yard and Duhai Depot</p> <p>Lot 2: Design, supply, installation, testing and commissioning of receiving substations (RSS) from Duhai (EPE) to Modipuram includ. Modipuram Depot</p>	<p>68,660,000.00</p> <p>85,690,000.00</p>					<p>e-GP: Yes</p> <p>e-GP Type: e-Bidding</p> <p>Comments: FIDIC Yellow Book 2017; universal procurement applied</p>
P21	Design, supply, installation, testing and commissioning of escalators	23,730,000.00	OCB	Prior	1S2E	Q2 / 2020	<p>Non-Consulting Services: No</p> <p>Advertising: International</p> <p>No. Of Contracts: 1</p> <p>Prequalification of Bidders: No</p> <p>Domestic Preference Applicable: No</p> <p>Advance Contracting:</p>

Package Number	General Description	Estimated Value (in US\$)	Procurement Method	Review	Bidding Procedure	Advertisement Date (quarter/year)	Comments
							Yes Bidding Document: Design-Build High Risk Contract: No e-GP: Yes e-GP Type: e-Bidding Comments: FIDIC Yellow Book 2017; universal procurement applied
P22	Design, supply, installation, testing and commissioning of elevators	8,750,000.00	OCB	Prior	1S2E	Q2 / 2020	Non-Consulting Services: No Advertising: International No. Of Contracts: 1 Prequalification of Bidders: No Domestic Preference Applicable: No Advance Contracting: Yes Bidding Document: Design-Build High Risk Contract: No e-GP: Yes e-GP Type: e-

Package Number	General Description	Estimated Value (in US\$)	Procurement Method	Review	Bidding Procedure	Advertisement Date (quarter/year)	Comments
							Bidding Comments: FIDIC Yellow Book 2017; universal procurement applied
P23	Design, supply, installation, testing and commissioning of tunnel ventilation system (TVS) and ECS (environment control system) for 4 UG stations	33,830,000.00	OCB	Prior	1S2E	Q2 / 2020	Non-Consulting Services: No Advertising: International No. Of Contracts: 1 Prequalification of Bidders: No Domestic Preference Applicable: No Advance Contracting: Yes Bidding Document: Design-Build High Risk Contract: No e-GP: Yes e-GP Type: e-Bidding Comments: FIDIC Yellow Book 2017; universal procurement applied; bidding documents will be subject to parallel review and amended

Package Number	General Description	Estimated Value (in US\$)	Procurement Method	Review	Bidding Procedure	Advertisement Date (quarter/year)	Comments
							through addendum during the bidding process, based on feedback from ADB
P25	Other minor works	10,870,000.00	OCB	Prior	1S2E	Q2 / 2020	<p>Non-Consulting Services: No</p> <p>Advertising: International</p> <p>No. Of Contracts: 3</p> <p>Prequalification of Bidders: No</p> <p>Domestic Preference Applicable: No</p> <p>Advance Contracting: No</p> <p>Bidding Document: Large Works</p> <p>High Risk Contract: No</p> <p>e-GP: Yes</p> <p>e-GP Type: e-Bidding</p> <p>Comments: Q4 2020; to be finalized at a later stage; may include spares, baggage screening equipment, etc.; universal procurement applied</p>

Package Number	General Description	Estimated Value (in US\$)	Procurement Method	Review	Bidding Procedure	Advertisement Date (quarter/year)	Comments
	Lot 1: Lot 1	3,623,000.00					
	Lot 2: Lot 2	3,623,000.00					
	Lot 3: Lot 3	3,624,000.00					
P27	Design, supply, installation, testing and commissioning of platform screen doors	22,000,000.00	OCB	Prior	1S2E	Q2 / 2020	<p>Non-Consulting Services: No</p> <p>Advertising: International</p> <p>No. Of Contracts: 1</p> <p>Prequalification of Bidders: No</p> <p>Domestic Preference Applicable: No</p> <p>Advance Contracting: Yes</p> <p>Bidding Document: Design-Build</p> <p>High Risk Contract: No</p> <p>e-GP: Yes</p> <p>e-GP Type: e-Bidding</p> <p>Comments: FIDIC Yellow Book 2017; universal procurement applied; bidding documents subject to</p>

Package Number	General Description	Estimated Value (in US\$)	Procurement Method	Review	Bidding Procedure	Advertisement Date (quarter/year)	Comments
	spherical bearings for elevated viaduct from SKK to Sahibabad and Shatabdi Nagar to Modiupram Lot 2: Design, manufacture, supply and supervision of installation of spherical bearings for elevated viaduct from Duhai to Shatabdi Nagar	5,540,000.00					

Consulting Services							
Package Number	General Description	Estimated Value (in US\$)	Selection Method	Review	Type of Proposal	Advertisement Date (quarter/year)	Comments
JFPR1	Consultancy services for safe mobility of women, elderly, differently abled provided in Ghaziabad, Modinagar, and Meerut	1,384,368.00	QCBS	Prior	FTP	Q3 / 2020	Non-Consulting Services: No Type: Firm Assignment: National Quality-Cost Ratio: 90:10 Advance Contracting: Yes e-GP: Yes e-GP Type: e-Publication Comments: JFPR-funded; recruitment delegated to ADB, administration of contract by EA
JFPR2	Consultancy services for increased awareness on safe mobility, self-defense	408,619.00	QCBS	Prior	BTP	Q3 / 2020	Non-Consulting Services: No Type: Firm

Package Number	General Description	Estimated Value (in US\$)	Selection Method	Review	Type of Proposal	Advertisement Date (quarter/year)	Comments
	and improved employability skills for 900 female students in selected technical institutes along the RRTS corridor						Assignment: National Quality-Cost Ratio: 90:10 Advance Contracting: Yes e-GP: Yes e-GP Type: e-Publication Comments: JFPR-funded; recruitment delegated to ADB, administration of contract by EA
JFPR3	Project coordinator for PIU	75,000.00	Competitive	Prior		Q4 / 2020	Non-Consulting Services: No Type: Individual Assignment: National Expertise: Project coordination and management Advance Contracting: Yes e-GP: Yes e-GP Type: e-Publication Comments: JFPR-funded; recruitment delegated to ADB, administration of contract by

Package Number	General Description	Estimated Value (in US\$)	Selection Method	Review	Type of Proposal	Advertisement Date (quarter/year)	Comments
							EA
JFPR4	Senior associate for PIU	59,000.00	Competitive	Prior		Q4 / 2020	<p>Non-Consulting Services: No</p> <p>Type: Individual</p> <p>Assignment: National</p> <p>Expertise: Project monitoring, data collection</p> <p>Advance Contracting: Yes</p> <p>e-GP: Yes</p> <p>e-GP Type: e-Publication</p> <p>Comments: JFPR-funded; recruitment delegated to ADB, administration of contract by EA</p>
JFPR5	Senior communications associate for PIU	27,000.00	Competitive	Prior		Q4 / 2020	<p>Non-Consulting Services: No</p> <p>Type: Individual</p> <p>Assignment: National</p> <p>Expertise: Communication and documentation</p> <p>Advance Contracting: Yes</p> <p>e-GP: Yes</p> <p>e-GP Type: e-Publication</p> <p>Comments:</p>

Package Number	General Description	Estimated Value (in US\$)	Selection Method	Review	Type of Proposal	Advertisement Date (quarter/year)	Comments
							JFPR-funded; recruitment delegated to ADB, administration of contract by EA
JFPR6	Administrative/accounts associate for PIU	27,000.00	Competitive	Prior		Q4 / 2020	<p>Non-Consulting Services: No</p> <p>Type: Individual</p> <p>Assignment: National</p> <p>Expertise: Administrative and accounting support</p> <p>Advance Contracting: Yes</p> <p>e-GP: Yes</p> <p>e-GP Type: e-Publication</p> <p>Comments: JFPR-funded; recruitment delegated to ADB, administration of contract by EA</p>
JFPR7	Gender equality and social inclusion expert	75,000.00	Competitive	Prior		Q4 / 2020	<p>Non-Consulting Services: No</p> <p>Type: Individual</p> <p>Assignment: National</p> <p>Expertise: Gender equality and social inclusion</p> <p>Advance Contracting: Yes</p> <p>e-GP: Yes</p> <p>e-GP Type: e-Publication</p> <p>Comments:</p>

Package Number	General Description	Estimated Value (in US\$)	Selection Method	Review	Type of Proposal	Advertisement Date (quarter/year)	Comments
							Administration of contract by EA

C. List of Indicative Packages (Contracts) Required Under the Project

The following table lists goods, works, non-consulting and consulting services contracts for which procurement activity is expected to commence beyond the procurement plan duration and over the life of the project (i.e., those expected beyond the current procurement plan duration).

Goods and Works						
Package Number	General Description	Estimated Value (in US\$)	Procurement Method	Review	Bidding Procedure	Comments
P30	Feeder system enhancement/last mile connectivity	10,470,000.00	OCB	Prior	1S2E	Non-Consulting Services: No Advertising Type: International No. Of Contracts: 1 Prequalification of Bidders: No Domestic Preference Applicable: No Bidding Document: Goods e-GP: Yes Comments: Q4 2022; universal procurement applied
P31	Civil works for the construction of toilets	309,860.00	OCB	Prior	1S2E	Non-Consulting Services: No Advertising Type: International No. Of Contracts: 1 Prequalification of Bidders: No

Package Number	General Description	Estimated Value (in US\$)	Procurement Method	Review	Bidding Procedure	Comments
						<p>Domestic Preference Applicable: No</p> <p>Bidding Document: Small Works</p> <p>e-GP: Yes</p> <p>Comments: Q1 2022; under JFPR funding</p>
P32	Procurement of assistive aids	387,324.00	OCB	Prior	1S2E	<p>Non-Consulting Services: No</p> <p>Advertising Type: International</p> <p>No. Of Contracts: 1</p> <p>Prequalification of Bidders: No</p> <p>Domestic Preference Applicable: No</p> <p>Bidding Document: Goods</p> <p>e-GP: Yes</p> <p>Comments: Q1 2022; under JFPR funding</p>
P33	Procurement of e-rickshaws, service tools, taxis, electronic equipment, and uniforms	189,200.00	OCB	Prior	1S2E	<p>Non-Consulting Services: No</p> <p>Advertising Type: International</p> <p>No. Of Contracts: 1</p>

Package Number	General Description	Estimated Value (in US\$)	Procurement Method	Review	Bidding Procedure	Comments
						Prequalification of Bidders: No Domestic Preference Applicable: No Bidding Document: Goods e-GP: Yes Comments: Q3 2020; under JFPR funding

Consulting Services						
Package Number	General Description	Estimated Value (in US\$)	Selection Method	Review	Type of Proposal	Comments
C1	Training consultancy for capacity building	430,000.00	QCBS	Prior	STP	Non-Consulting Services: No Type: Firm Advertising: National Quality-Cost Ratio: 70:30 e-GP: No Comments: Q2 2020
C2	Training consultancy for operations	1,300,000.00	QCBS	Prior	FTP	Non-Consulting Services: No Type: Firm Advertising: International

Package Number	General Description	Estimated Value (in US\$)	Selection Method	Review	Type of Proposal	Comments
						Quality-Cost Ratio: 70:30 e-GP: No Comments: Q2 2022; universal procurement applied
C3	Training consultancy for asset management	860,000.00	QCBS	Prior	FTP	Non-Consulting Services: No Type: Firm Advertising: International Quality-Cost Ratio: 70:30 e-GP: No Comments: Q3 2022; universal procurement applied

D. Non-ADB Financing

The following table lists goods, works, non-consulting and consulting services contracts over the life of the project, financed by Non-ADB sources.

Goods and Works				
General Description	Estimated Value (cumulative)	Estimated Number of Contracts	Procurement Method	Comments
Widening of roads from CH. 23700 to 29000	970,000.00	1	OCB	Government funding; OCB national; awarded 18 Apr 2018
Widening of roads from CH. 29000 to 33000	870,000.00	1	OCB	Government funding; awarded 18 Apr 2018

General Description	Estimated Value (cumulative)	Estimated Number of Contracts	Procurement Method	Comments
Carrying out of initial pile load test on piles for viaduct in the section fm Vaishali to Duhai section	440,000.00	1	OCB	Government funding; OCB national; awarded 18 Dec 2018
Construction of office complex near SKK, New Delhi	410,000.00	1	OCB	Government funding; OCB national; awarded 7 Mar 2019
P2: Construction of elevated viaduct incl. 2 stations from end-Ghaziabad station to EPE crossing excl finishes and PEB	79,300,000.00	1	OCB	Government funding; OCB international; awarded 26 Apr 2019
P1: Construction of elevated viaduct incl. 2 stations from start of elevated ramp near Sahibabad station to end of Ghaziabad station excl finished and PEB	75,930,000.00	1	OCB	Government funding; OCB international; awarded 8 Aug 2019
Carryong out initial pile load test in the section from SKK to Anand Vihar and connecting line from SKK to Stabling Yard at Jangpura for Delhi-Ghaziabad-Meerut RRTS Corridor	830,000.00	1	OCB	Government funding; OCB national; awarded 12 Feb 2020
Initial pile load testing work in Shatabdi Nagar-Modipuram section of Delhi-Meerut RRTS Corridor	750,000.00	1	OCB	Government funding; OCB national; awarded 24 Dec 2019
Construction of buildings/structures for CPRI, SVPDAT & IIFSR in Meerut for implementation of Delhi-Ghaziabad-Meerut RRTS Corridor	1,190,000.00	1	OCB	Government funding; OCB national; awarded 20 Jan 2020
Construction of RCC stom water drain and laying of cross drainage pipe from EPE to Shatabdi Nagar ch-33100 m to 64100 m, section of Delhi-Ghaziabad-Meerut RRTS Corridor	870,000.00	1	OCB	Government funding; OCB national; advertised 7 Mar 2020

General Description	Estimated Value (cumulative)	Estimated Number of Contracts	Procurement Method	Comments
Shifting of electric lines of UPPTCL (CH. 15000-23000 m)	460,000.00	1	OCB	Government funding; OCB national; awarded 15 May 2018
Shifting of electric lines of UPPTCL (ch 23000-33000 m)	480,000.00	1	OCB	Government funding; OCB national; awarded 27 Apr 2018
Cloud-based common data environment supporting BIM for NCRTC projects	480,000.00	1	OCB	Government funding; OCB international; awarded 24 May 2019
Miscellaneous works from Sahibabad to Duhai	990,000.00	1	OCB	Government funding; OCB national; awarded 8 Mar 2019
Road widening from Duhai to Meerut bypass, 33100-49300 m	3,130,000.00	1	OCB	Government funding; OCB national; awarded 27 May 2019
Road widening fm Modinagar to Meerut bypass, CH 49300-58300 m	1,940,000.00	1	OCB	Government funding; OCB national; awarded 18 Jun 2019
Procurement of bearings for elevated corridor for Delhi-Ghaziabad-Meerut RRTS Corridor of NCRTC	2,360,000.00	1	OCB	Government funding; OCB international; awarded 14 Sep 2019
Widening of Delhi-Meerut Road fm Meerut Bypass to Shatabdi Nagar (ch 59050 to 63600 m)	1,080,000.00	1	OCB	Government funding; OCB national; awarded 6 Sep 2019

General Description	Estimated Value (cumulative)	Estimated Number of Contracts	Procurement Method	Comments
Execution of civil and electrical works required at preconstruction stage along RRTS alignment from Shatabdi Nagar ramp (ch. 64100) to Modipuram (incl. depot [ch. 82500]) for Delhi-Meerut RRTS Corridor	640,000.00	1	OCB	Government funding; OCB national; awarded 28 Oct 2019
Widening of existing NH-119 from Gandhi Bagh Chauraha, Meerut to Modipuram flyover, Meerut (RRTS ch. 71200 to 7580 m) for Delhi-Ghaziabad-Meerut RRTS Corridor	1,370,000.00	1	OCB	Government funding; OCB national; advertised 18 Jul 2019
Construction of foot-over bridge (FOB) at various locations from Ghaziabad (Meerut Tiraha) to Meerut Bypass along the alignment of Delhi-Ghaziabad-Meerut RRTS Corridor	950,000.00	1	OCB	Government funding; OCB national; awarded 24 Jan 2020
Execution of enabling works (civil and E&M) from end of EPE to end of Shatabdi Nagar station (ch 33100 to 63450 m) section of Delhi-Meerut RRTS Corridor	1,240,000.00	1	OCB	Government funding; OCB national; awarded 27 Feb 2020
Miscellaneous works in the section from SKK to Sahibabad	470,000.00	1	OCB	Government funding; OCB national; awarded 8 Jul 2019
Design, manufacture, supply, installation, testing and commissioning of rolling stock for Delhi-Meerut Corridor	344,290,000.00	1	OCB	Government and NDB funding; OCB international; advertised 24 Aug 2019
Utility shifting of PVVNL infringing Duhai to Murad Nagar (CH. 33000 to 40200)	1,090,000.00	1	OCB	Government funding; OCB national; awarded 7 Mar 2019
Utility shifting of PVVNL infringing Murad Nagar to Modinagar CH 40200-540000	1,120,000.00	1	OCB	Government funding; OCB national; awarded 24 May 2019
Shifting/diversion of existing	2,210,000.00	1	OCB	Government funding; OCB

General Description	Estimated Value (cumulative)	Estimated Number of Contracts	Procurement Method	Comments
water supply pipelines, sewer and storm water drains at SKK for the proposed Delhi-Ghaziabad-Meerut RRTS Corridor				national; advertised 19 Aug 2019
Shifting/modification of electrical utilities of 33kV, 11kV, LT lines, transformers, etc., of PVVNL and MES, infringing Delhi-Ghaziabad-Meerut RRTS Corridor of NCRTC (ch. 64500-75700 [Shatabdi Nagar to Modipuram flyover, Meerut])	2,240,000.00	1	OCB	Government funding; OCB national; advertised 24 Sep 2019
Shifting/modification of electrical utilities of 33kV, 11kV, LT lines, transformers, etc., of PVVNL, infringing Delhi-Ghaziabad-Meerut RRTS Corridor (ch 54000 to 64500) (Mohiuddinpur Modinagar)-Shatabdi Nagar	1,780,000.00	1	OCB	Government funding; OCB national; advertised 5 Nov 2019
Shifting/modification of electrical utilities of 33kV, 11kV, LT lines, transformers, etc., of PVVNL, infringing Delhi-Ghaziabad-Meerut RRTS Corridor of NCRTC (ch 75700 to 82800) (Meerut bypass) (near Modipuram flyover) to Modipuram depot	1,570,000.00	1	OCB	Government funding; OCB national; advertised 5 Nov 2019
Design, engineering, manufacture, supply, installation, testing and commissioning incl. any civil works of solar power systems, incl. comprehensive operation and maintenance for Delhi-Ghaziabad-Meerut RRTS Corridor of NCRTC	1.00	1	OCB	Q2 2020; government funding; OCB international; RESCO contract type
Design, supply, installation, testing and commissioning of signaling train control system and telecommunication system	139,990,000.00	1	OCB	Q2 2020; government and NDB funding; OCB international
Design, manufacture, supply, installation, testing and commissioning of automatic fare collection system for Delhi-Ghaziabad-Meerut RRTS Corridor of NCRTC	1.00	1	OCB	Q3 2020; government funding; PPP contract type
Construction of multistoried staff quarters (incl architectural finishing, E&M, external development and related facilities) and connectivity from Mathura	39,810,000.00	1	OCB	Q2 2020; government and NDB funding; OCB international

General Description	Estimated Value (cumulative)	Estimated Number of Contracts	Procurement Method	Comments
Road to Jangpura stabling yard complex				

Consulting Services				
General Description	Estimated Value (cumulative)	Estimated Number of Contracts	Recruitment Method	Comments
Engagement of DDC for detailed design of 2 RRTS elevated stations (SKK and New Ashok Nagar) incl. multimodal integration scheme, approx 11 km of elevated viaduct (fm SKK to elevated RRTS ramp near Khichripur and SKK to Jangpura stabling yard), stabli	2,200,000.00	1	QCBS	International advertisement; awarded 8 Jul 2019 to M/s Tandon Consultants Pvt. Ltd.- Fountainhead JV
Engagement of detailed design consultant for design of track structure	520,000.00	1	QCBS	International advertisement; awarded 7 May 2019 to JV M/s Korea Railroad Technical Corp. & M/s Primerail
Engagement of track system provider	7,940,000.00	1	QCBS	International advertisement; awarded 12 Dec 2019 to M/s PORR Bau GmbH
Engagement of general consultant (GC) for Delhi-Ghaziabad-Meerut RRTS Corridor	39,410,000.00	1	QCBS	International advertisement; awarded 25 Apr 2019 to Consortium M/s Ayesa Ingenieria, ITALFERR
Provision of consultancy services for assistance in planning and implementation of RRTS in NCR	390,000.00	1	QCBS	International advertisement; awarded 17 Jul 2019 to M/s EY-M/s Ernst & Young LLP
Consultancy services for establishment of project	1.00	1	QCBS	International advertisement; advertised 31 Oct 2019

General Description	Estimated Value (cumulative)	Estimated Number of Contracts	Recruitment Method	Comments
monitoring and strategic support unit (PMSSU) for implementation of RRTS in NCR				
Independent safety assessment of systems of NCRTC for Delhi-Meerut RRTS Corridor	1.00	1	QCBS	International advertisement; advertised 7 Apr 2020
Engagement of DDC for detailed design and drawings of 4 nos. of elevated RRTS stations (Sahibabad, Ghaziabad, Guldhar, Duhai) in the section fm. Sahibabad ramp to EPE crossing and maintenance depots at Duhai and Modipuram for Delhi-Meerut RRTS corrid	1,030,000.00	1	QCBS	International advertisement; awarded 27 Feb 2019 to M/s Ayesa India Pvt. Ltd.
Engagement of DDC for civil, architectural and E&M works for the design of 5 elevated RRTS stations (Murad Nagar and Modinagar [south], Modi Nagar [north], Meerut South, Shatabdi Nagar) and 2 MRTS stations (Partapur and Rithani) and elevated viaduct	2,480,000.00	1	QCBS	International advertisement; awarded 5 Mar 2019 to M/s Systra MVA Consulting (India) Pvt. Ltd. in consortium with Systra
Engagement of DDC for civil, architectural and E&M works for the design of 1 RRTS station (Modipuram) and 4 MRTS stations (Brahmpuri, MES Colony, Daurli, Meerut North) and approx 9.76 km viaduct after Shatabdi Nagar to Modipuram depot	620,000.00	1	QCBS	International advertisement; awarded 19 Nov 2019 to M/s Systra MVA Consulting (India) Pvt. Ltd. in consortium with Systra
Provision of interim DDC services for a part of Delhi-Ghaziabad-Meerut RRTS in NCR	930,000.00	1	QCBS	International advertisement; awarded 3 Aug 2017 to consortium of M/s Egis Rail, SA, M/s Ingenieriyay Economica del Transport SA (INECO), M/s Egis India Consulting Engineers Pvt. Ltd.

General Description	Estimated Value (cumulative)	Estimated Number of Contracts	Recruitment Method	Comments
Provision of expert consultancy services for the implementation of RRTS in NCR	920,000.00	1	QCBS	National advertisement; awarded 23 Nov 2016 to M/s Delhi Metro Rail Corp. Ltd.
Technical advisory for procurement of rolling stock of Delhi-Ghaziabad-Meerut RRTS	600,000.00	1	QCBS	National advertisement; awarded 17 Oct 2018 to M/s Delhi Metro Rail Corporation Ltd.

TERMS OF REFERENCE FOR THE GESI PROJECT IMPLEMENTATION UNIT

A. Background

1. A project implementation unit (PIU) will be set up within the National Capital Region Transport Corporation (NCRTC) to coordinate the implementation of activities under the proposed grant. Procurement (including consulting services) will follow the Asian Development Bank (ADB) Procurement Policy (2017, as amended from time to time) and Procurement Regulations for ADB Borrowers (2017, as amended from time to time). The core members of the PIU will be hired as individual consultants.

B. Scope of Work

2. The scope of work and qualifications of the core members of the PIU is described in this section.¹ The GESI Expert will prepare a progress report on the implementation of the GESI action plan. The other members of the PIU will work under the guidance of the Project Coordinator and submit a combined report.

Table 1: Scope of Work of the Gender Equality and Social Inclusion Expert

Estimated Assignment Period	Up to 84 person-months
Financing Sources	Through ADB loan
Detailed Tasks	<p>The scope of services will include but not be limited to the following:</p> <ul style="list-style-type: none"> (i) GESI action plan implementation. Responsible for overall implementation of GESI action plan activities, annual planning with timelines and deliverables to be endorsed by the PIU, coordination with different stakeholders for effective implementation. (ii) GESI action plan monitoring and reporting. Collating and maintaining monthly progress reports across each GESI action plan indicator, finalizing biannual GESI action plan reports as per the prescribed format, identifying and maintaining requisite means for data verification and triangulation. (iii) GESI action plan guidelines, checklists, and manuals. These will involve the following: <ul style="list-style-type: none"> (a) Producing a manual on EWCD-responsive emergency planning, complaints reporting system, and standard operating procedures in consultation with the NCRTC and the Delhi and Uttar Pradesh Police (b) Conducting research and maintaining a database on national and international good practices within the transport sector (iv) GFWP preparation. Prepare a GFWP in consultation with the NCRTC and provide support for NCRTC Board approval. (v) Support to the GESI-C. Apprise the GESI-C, provide support to organize the GESI-C meetings, prepare progress reports, agenda, and minutes of meetings. (vi) Capacity development. Prepare and deliver GESI sensitization training modules. Prepare and administer pre- and post-questionnaires to assess effectiveness of the trainings. Prepare and share training reports and maintain sex-disaggregated database for each training. (vii) Coordination of grant activities. Support the NCRTC and coordinate with multiple stakeholders to facilitate implementation of the grant activities, review quarterly progress reports.
Output and/or Report Requirements	<p>The required outputs and/or reports will be as follows:</p> <ul style="list-style-type: none"> (i) Inception report with work plan (ii) Quarterly progress reports and time sheets with biannual updates on the GESI action plan (iii) Draft final report and final report

¹ Excluding the financial expert.

Qualifications	The consultant must possess the following: (i) Master's degree in social sciences, social work, gender and development, development studies or related field (ii) Minimum relevant professional experience of 8 years (iii) Excellent oral and written English and Hindi communication skills and ability to write clear and concise reports in English. (iv) Prior project experience in working with multilateral development banks is desirable.
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ADB = Asian Development Bank, EWCD = elderly, women, children, differently abled, GESI = gender equality and social inclusion, GESI-C = Gender Equality and Social Inclusion Committee, GFWP = gender-friendly workplace policy, NCRTC = National Capital Region Transport Corporation, PIU = project implementation unit.
 Source: Asian Development Bank.

Table 2: Scope of Work of the Project Coordinator

Estimated Assignment Period	54 person-months
Financing Sources	Through grant
Detailed Tasks	The scope of services will include but not be limited to the following: (i) Project coordination. Responsible for coordinating with the NCRTC and multiple stakeholders for overall implementation of the grant activities, and annual planning with timelines and deliverables. (ii) Project monitoring and reporting. Collate and maintain quarterly progress reports for each output and activity, finalize biannual reports, identify and maintain requisite means for data verification and triangulation. (iii) Procurement of goods. Support the NCRTC in the selection and procurement of goods for different outputs. (iv) Communications and outreach. Oversee preparation of communication materials and ensure that the grant activities are publicized in appropriate formats and in events as per ADB norms and guidelines.
Output and/or Report Requirements	The required outputs and/or reports will be as follows: (i) Project monitoring framework and formats, milestones, and timelines (ii) Quarterly progress reports and time sheets with biannual updates (iii) Communications and outreach plan and outputs (iv) Draft final report and final report
Qualifications	The Project Coordinator must possess the following: (i) Master's degree in social sciences, social work, gender and development, development studies or related field (ii) Minimum relevant professional experience of 8 years (iii) Prior experience in managing projects funded by multilateral development banks (iv) Excellent oral and written English communication skills and ability to write clear and concise reports in English

ADB = Asian Development Bank, NCRTC = National Capital Region Transport Corporation.
 Source: Asian Development Bank.

Table 3: Scope of Work of the Senior Associate

Estimated Assignment Period	54 person-months
Financing Sources	Through grant
Detailed Tasks	The scope of services will include supporting the Project Coordinator in the following activities: (i) Prepare and update quarterly and annual progress reports and timesheets, and update annual plans, milestones, and deliverables. (ii) Update the project monitoring framework and formats, milestones, and timelines. (iii) Collect and maintain means of data verification and triangulation to monitor progress. (iv) Coordinate with national consulting organizations on a regular basis to facilitate implementation of grant activities.

	<ul style="list-style-type: none"> (v) Conduct market research and due diligence to ensure quality and value for money in the procurement of goods. (vi) Perform any other task assigned by the Project Coordinator.
Output and/or Report Requirements	<p>The required outputs and/or reports will be as follows:</p> <ul style="list-style-type: none"> (i) Project monitoring framework and formats (ii) Quarterly and annual progress reports (iii) Draft final report and final report
Qualifications	<p>The Senior Associate must possess the following:</p> <ul style="list-style-type: none"> (i) Master's degree in social sciences, social work, gender and development, development studies or related field (ii) Minimum relevant professional experience of 5 years (iii) Excellent oral and written English communication skills and ability to write clear and concise reports in English (iv) Prior experience in managing projects funded by multilateral agencies is a plus.

ADB = Asian Development Bank.
Source: Asian Development Bank.

Table 4: Scope of Work of the Senior Communications Associate

Estimated Assignment Period	27 person-months
Financing Sources	Through grant
Detailed Tasks	<p>The scope of services will include supporting the Project Coordinator in the following activities:</p> <ul style="list-style-type: none"> (i) Communications and outreach plan. Create a communications and outreach plan, format and ensure consistent branding in all outputs by the PIU and consulting organizations as per ADB guidelines and norms. (ii) Documentation and outreach. Ensure that each event is documented with photographs, and any other relevant media such as blog posts, articles, and/or videos to ensure adequate coverage of grant activities and outputs. (iii) Outreach impact. Maintain and update the reporting format on the impact of the outreach activities. (iv) Any other task as assigned by the Project Coordinator.
Output and/or Report Requirements	<p>The required outputs and/or reports will be as follows:</p> <ul style="list-style-type: none"> (v) Communications and outreach plan (vi) Communication and outreach updates in the quarterly and biannual progress reports (vii) Draft final report and final report
Qualifications	<p>The senior communications associate must possess the following:</p> <ul style="list-style-type: none"> (i) Master's degree in communications, media studies, journalism or related field. (ii) Minimum relevant professional experience of 5 years (iii) Excellent oral and written English communication skills and ability to write clear and concise reports in English (iv) Knowledge of graphic design software such as Adobe Creative Suite, digital outreach platforms, ability to shoot and record photos and videos including their editing (v) Prior experience in supporting communications for projects funded by multilateral agencies is a plus.

ADB = Asian Development Bank, PIU = Project Implementation Unit.
Source: Asian Development Bank.

TERMS OF REFERENCE FOR NATIONAL ORGANIZATION FOR OUTPUT 1 OF THE GRANT

A. Introduction

1. A national organization (consulting firm or nongovernment organization) will be recruited to support the implementation of activities under output 1 over a period of 4.5 years. The organization shall implement the activities as per the Asian Development Bank (ADB) Procurement Policy (2017, as amended from time to time) and Procurement Regulations for ADB Borrowers (2017, as amended from time to time). The qualifications of the core team and their roles and responsibilities are in Table 2.

B. Approach and Methodology

2. The project proposal should include the approach, methodology for the implementation of output 1, phasing of each pilot (based on the milestones from the contract signing), highlight innovative coordination strategies, and demonstrate value for money.

3. **Output 1: Safe mobility for women, elderly, and differently abled provided in Ghaziabad, Meerut, and Modinagar.** Key activities are indicated in Table 1 with deliverables from contract signing.

Table 1: Key Activities with Milestones

No.	Main	Key Activities and Deliverables
1	Overall	(i) Inception report with the rapid baseline assessment, methodology, implementation plan, and financial plan for each pilot and its activities submitted within 3 months of mobilization (ii) Sex-segregated travel surveys conducted along the RRTS corridor within 9 months of mobilization
2	Pilot 1	(i) At least 50 women learn how to drive e-rickshaws and apply for loans to purchase e-rickshaws within 21 months (ii) At least 150 women learn how to drive e-rickshaws and apply for loans to purchase e-rickshaws within 40 months
3	Pilot 2	(i) 1,000 differently abled receive assistive aids in Ghaziabad, Meerut, and Modinagar within 19 months (ii) 100 differently abled receive employability training within 53 months
4	Pilot 3	(i) At least 130 women receive light motor vehicle driving licenses within 22 months (ii) At least 350 women receive light motor vehicle driving licenses within 53 months
5	Pilot 4	(i) Two training videos on sexual harassment in public transport and prevention created (ii) 200 bus drivers and conductors of feeder buses to RRTS stations receive four gender-related behavior change trainings
6	Progress Reporting	(i) Quarterly, biannual, and annual interim reports on the pilot activities and milestones (ii) Final project completion report by August 2025

RRTS = regional rapid transit system.

Source: Asian Development Bank.

Table 2: Suggested Key Team Members

Designation	Education	Professional Experience	Experience with Multilateral Development Banks	Key Responsibilities	Identity	Time (Person-Months)
1. Project coordinator	Post-graduate degree in gender, social development, social work, social sciences, or development studies	At least 8 years of experience in coordinating projects on gender, skill development and training, and social inclusion for the differently abled	Required	(i) Create output performance indicators and monitoring system (ii) Coordinate with partners for effective implementation (iii) Create quarterly progress reports and apprise NCRTC and ADB	National	Up to 54
2. Financial expert	Graduate degree in business management, finance, accounting	At least 8 years of experience in financial management and accounting for projects funded by multilateral development banks	Required	Manage finances and procurement of services as per ADB norms and guidelines	National	Up to 6

ADB = Asian Development Bank, NCRTC = National Capital Region Transport Corporation.
Source: Asian Development Bank.

TERMS OF REFERENCE FOR NATIONAL ORGANIZATION FOR OUTPUT 2 OF THE GRANT

A. Introduction

1. A national organization (consulting firm or nongovernment organization) will be recruited to support the implementation of activities under output 2 over 4.5 years as per the Asian Development Bank (ADB) Procurement Policy (2017, as amended from time to time) and Procurement Regulations for ADB Borrowers (2017, as amended from time to time). The qualifications of the key team members and their roles and responsibilities are in Table 2.

B. Approach and Methodology

2. The project proposal should include the approach, methodology, and phasing of activities (based on the milestones below), highlight innovative coordination strategies, and demonstrate value for money.

3. **Output 2: Increased awareness on safe mobility, self-defense, and improved employability skills for 900 female students in selected technical institutes along the regional rapid transit system (RRTS) corridor.** Key activities and milestones are indicated below, with deliverables from contract signing:

- (i) Inception report including a rapid baseline assessment, implementation plan, and financial plan submitted within 1 month of mobilization
- (ii) At least 400 female students in government or government-aided colleges along the corridor sensitized on safe mobility and self-defense strategies, and acquire improved employability and/or entrepreneurship skills within 21 months
- (iii) At least 900 female students in government or government-aided colleges along the corridor sensitized on safe mobility and self-defense strategies, and acquire improved employability and/or entrepreneurship skills within 45 months

4. Progress reports will include the following:

- (i) Quarterly, biannual, and annual interim reports and the milestones
- (ii) Final project completion report by August 2025

Table 2: Suggested Key Team Members

Designation	Education	Professional Experience	Experience with Multilateral Development Banks	Key Responsibilities	Identity	Time (Person-Months)
1. Project coordinator	Post-graduate degree in gender, social development, social work, social sciences, development studies	At least 8 years of experience in coordinating projects on skill development and training	Required	(i) Create output performance indicators, and monitoring system (ii) Coordinate with partners for effective implementation (iii) Create quarterly progress reports and	National	Up to 47

Designation	Education	Professional Experience	Experience with Multilateral Development Banks	Key Responsibilities	Identity	Time (Person-Months)
				apprise NCRTC and ADB		
2. Financial expert	Graduate degree in business management, finance, accounting	At least 8 years of experience in financial management and accounting for projects funded by multilateral development banks	Required	Manage finances and procurement of services as per ADB norms and guidelines	National	Up to 5

ADB = Asian Development Bank, NCRTC = National Capital Region Transport Corporation.
Source: Asian Development Bank.

TERMS OF REFERENCE FOR GRANT IMPLEMENTATION OFFICER

A. Background

1. A grant implementation officer within the Asian Development Bank (ADB) will oversee the implementation of activities and facilitate coordination between the project implementation unit in the National Capital Region Transport Corporation (NCRTC), consulting organizations, and ADB. Procurement (including consulting services) will follow ADB Procurement Policy (2017, as amended from time to time) and Procurement Regulations for ADB Borrowers (2017, as amended from time to time).

B. Scope of Work

2. The scope of work and qualifications of the grant implementation officer are described below.

Scope of Work of Grant Implementation Officer

Estimated Assignment Period	Up to 54 person-months
Financing Sources	Through grant
Detailed Tasks	The scope of services will include but not be limited to the following: (i) Project review, monitoring, and reporting. Review the progress reports submitted by consulting organizations and verify implementation of grant activities, time sheets by consultants, identify and rectify bottlenecks in consultation with the supervisor in ADB. (ii) Coordination of grant activities. Coordinate with the PIU within the NCRTC, consulting organizations, Embassy of Japan, and ADB to ensure timely implementation of grant activities.
Output and/or Report Requirements	The required outputs and/or reports will be as follows: (i) Review of quarterly progress reports and time sheets with biannual updates. (ii) Draft final report and final report.
Qualifications	The consultant must possess the following: (i) Master's degree in project management, business administration, and relevant fields (ii) Minimum relevant professional experience of 5 years (iii) Excellent oral and written English and Hindi communication skills and ability to write clear and concise reports in English (iv) Prior project experience in working with multilateral agencies is required.

ADB = Asian Development Bank, NCRTC = National Capital Region Transport Corporation, PIU = project implementation unit.

Source: Asian Development Bank.

TERMS OF REFERENCE FOR EXTERNAL MONITOR

A. Introduction

1. Monitoring and evaluation will include, but will not be limited to (i) the progress and effectiveness of the implementation of the resettlement plan; and (ii) the evaluation of income restoration and post-resettlement conditions of the displaced persons and affected communities, including host communities.

B. Objectives and Requirements of Monitoring and Evaluation

2. The objectives of monitoring and evaluation are to assess whether the land acquisition and resettlement plan (LARP) is implemented on schedule and within budget and whether the goals and principles of the LARP are achieved. Specifically, monitoring and evaluation will focus on the following aspects of the displaced persons' situation and the resettlement process:

- (i) Social and economic situation prior to and after land acquisition and/or resettlement
- (ii) Timely disbursement of funds
- (iii) Functioning of the grievance redress mechanism
- (iv) Environmental conditions
- (v) Social adaptability after resettlement
- (vi) Rehabilitation of vulnerable groups
- (vii) Special items related to the vulnerable groups
- (viii) Condition and quality of land temporarily acquired when it is returned to the original land users
- (ix) Measures taken to restore affected livelihoods
- (x) Living conditions and economic status of displaced persons following resettlement in comparison to the "without project" scenario.

3. Monitoring and evaluation will include (i) the verification or establishment of a socioeconomic baseline of the displaced persons prior to actual land acquisition, physical displacement and/or relocation, loss of assets or disruption of businesses (as relevant); (ii) the verification of internal monitoring data and reports; (iii) the regular monitoring of their resettlement, displacement and/or relocation (as relevant) and adjustment during project implementation; and (iv) the evaluation of their situation for 1 or 2 years after land acquisition, displacement or relocation (as relevant). In addition, qualitative and quantitative evaluation will be made on the sustainability of living conditions of displaced persons. Investigation will include consultations and observations with displaced persons, implementing agencies, local officials, village leaders, as well as a quantitative sample survey of at least 20% of displaced households. Focus group discussions will be conducted with male and female displaced persons, and vulnerable groups.

4. If the findings of the external monitor indicate significant compliance gaps, the external monitor will work with the executing agency and project implementation unit to prepare a separate corrective action plan in cooperation with the relevant stakeholders to address pending or new land acquisition and resettlement impacts. The external monitor will monitor and report on the implementation of the corrective action plan.

C. Monitoring Indicators

5. Monitoring will include process, output, and outcome indicators. The monitoring framework and formats stipulated in the resettlement framework and resettlement plan will be adopted. The following general indicators will be covered.

- (i) **Disbursement of entitlements to displaced persons, enterprises, and/or businesses.** Compensation, relocation, housing, cultivated farmland, and employment as specified in the LARP.
- (ii) **Provision of relocation options.** The affected persons must move into the chosen resettlement or housing option at least 1 month before physical displacement or relocation; for those opting for self-construction, payment of compensation and provision of housing sites should be completed at least 3 months before physical displacement or relocation; the compensation for construction of houses should be equivalent to the replacement cost; the displaced persons must receive their entitlements and allowances on time.
- (iii) **Development of economic productivity.** Reallocation of cultivated land, land restoration, job opportunities available to displaced persons, number of displaced persons employed or unemployed.
- (iv) **Standard of living.** Throughout the implementation process, the trends in standards of living will be observed and the potential problems in the way of restoration of standards of living will be identified and reported. The external monitor will carry out a comprehensive socioeconomic survey after the completion of resettlement implementation to document the standards of living and the conditions of the displaced persons after resettlement. The survey will be updated annually.
- (v) **Restoration of civic infrastructure.** All necessary infrastructure should be restored at the resettlement sites at least up to a standard equal to that at the original location; the compensation for all infrastructure should be sufficient to reconstruct it to the same quality.
- (vi) **Effectiveness of resettlement planning.** Adequacy of assets measurement, entitlements, sufficiency of budget, and timeliness of mitigation measures.
- (vii) **Level of satisfaction of displaced persons.** Level of satisfaction of displaced persons with various aspects of the resettlement program; the operation of the mechanisms for grievance redress will be reviewed and the speed and results of grievance redress measures will be monitored.
- (viii) **Social adaptability and cohesion.** Impacts on children, indigenous peoples and/or ethnic minorities and other vulnerable groups, public participation, displaced persons' attitudes and reaction to post resettlement situation, number of complaints and appeal procedures, implementation of preferential policies, income restoration measures, and improvements in women's status in villages.
- (ix) **Other impacts.** The external monitor will verify if there are unintended environmental impacts and impacts on employment and incomes.

D. Special Considerations

6. Special attention will be paid to women, indigenous peoples, ethnic minorities and/or groups, as well as the poor and vulnerable groups during monitoring. These special considerations include the following:

- (i) **Status and roles of women.** Closely monitor any change in women's status, function, and situations. At least 40% of displaced persons surveyed will be women.
- (ii) **Differential impacts on indigenous peoples and/or ethnic minority groups.** Closely monitor the socioeconomic status of indigenous peoples to ensure that they have not been further marginalized. Monitoring indicators should to the extent possible be disaggregated by gender and ethnicity.
- (iii) **Care and attention to vulnerable groups.** Closely monitor living conditions of the poor, the elderly, the handicapped, female-headed households, and other vulnerable groups after resettlement to ensure that their livelihood is improved.
- (iv) **Monitoring and evaluation.** Information will be provided on the utilization and adequacy of resettlement funds.

TERMS OF REFERENCE FOR PUBLIC-PRIVATE PARTNERSHIP CONSULTANT

1. The scope of work of the consultant shall include the following:
 - (i) review all existing studies, reports, designs, and other materials relevant to the regional rapid transit system (RRTS);
 - (ii) prepare and conduct market sounding and/or market study with all relevant, qualified, and experienced international rail operators to sufficiently create awareness and interest in the RRTS, identify such market players' concerns with regard to participation in the procurement process for rail operations for the RRTS, and advise the Asian Development Bank (ADB) and the National Capital Region Transport Corporation (NCRTC) in evaluating how to address identified concerns to realize optimal value and risk allocation for the NCRTC and an optimal level of competition;
 - (iii) at the request of the NCRTC, help deliver road shows at no more than two international locations for the train operations contract;
 - (iv) develop and recommend various options for rail operations (i.e., whether it should be exclusively rail operations or include other elements of the RRTS such as station maintenance; track and system maintenance; and any other aspect of the RRTS operations, except the long-term maintenance of the rolling stock);
 - (v) identify all key interface risks in train operations, rolling stock operations, and maintenance of the entire system; and develop a robust risk management plan (reflected in a risk matrix). The risk matrix should be sufficiently detailed to enable the drafting of the contract for rail operations;
 - (vi) assist the NCRTC in the development of a strategic approach and appropriate structuring of the rail operations contract for the RRTS, taking into consideration the RRTS's distinct infrastructure and operational features and requirements, and drawing from all relevant and applicable international best practices, and commercially accepted terms;
 - (vii) develop the overall procurement strategy for rail operations, including elements of what should go into the request for prequalification documents and the request for proposal document; and deliver an outline heads of terms for the rail operations contract;
 - (viii) develop the outline performance standards for the operations of the RRTS in close consultation with the NCRTC, which shall provide the necessary technical inputs for the performance standards;
 - (ix) develop the overall payment mechanism as well as abatement structure in line with the performance standards developed; and
 - (x) assist NCRTC in the following aspects related to the rolling stock procurement cum maintenance contract based on best global practices:
 - (a) performance monitoring of rolling stock maintenance based on availability, reliability, maintainability, etc.;
 - (b) interface management between rolling stock maintainer and operations and maintenance contractor; and
 - (c) transition management in the event of default or termination.

GENDER EQUALITY AND SOCIAL INCLUSION ACTION PLAN

Activity	Indicator and/or Targets	Responsibility	Timeline (Year)
OUTPUT 1: DELHI-MEERUT RRTS CORRIDOR COMMISSIONED			
1.1 Incorporate international standards, EWCD-friendly and gender-specific safety and public health features in the design of the RRTS corridor	1. Survey conducted with at least 45% women respondents, and at least four consultations held (two with women's groups, one with young adults, and one with the elderly and differently abled) in each of the urban areas of East Delhi, Ghaziabad, Meerut, and South Delhi districts	NCRTC GFP and GESI expert	1-2
	2. Guidelines on EWCD-responsive planning, design, operations, maintenance and checklist for stations, multimodal integration, and last-mile connectivity developed by the NCRTC ^a		1-2
	3. Manual on EWCD-responsive emergency, complaints reporting system, and standard operating procedures developed by the NCRTC, in consultation with the Delhi and Uttar Pradesh police		1-2
	4. Dedicated coach and four seats in each coach reserved for women, with additional seats reserved for pregnant women, caregivers, elderly, differently abled, and indicated with signage ^b		1-7
	5. Stations, pick-up and drop-off areas are lit, and with tactile paving		
	6. CCTV cameras installed to monitor coaches and public areas of all stations, pick-up and drop-off areas		
	7. Information on helpline numbers, emergency button, intercom in each coach, and gender-specific audio, video, and/or visual bilingual messages disseminated in all coaches and stations		
	8. At least one access route and one emergency route step-free for a person on a wheelchair to travel from the road to each station, concourse, platform, and train		
	9. Separate toilets for men, women, and differently abled in all stations and one nursing room in three multimodal stations constructed		
	10. 48 security personnel patrol the concourse, platform, pick-up and drop-off areas of all operational stations under the NCRTC's jurisdiction		
	11. All NCRTC-operated feeder buses have reserved seats for women, elderly, and differently abled; EWCD-responsive service standards; emergency and complaints reporting; and standard operating procedures developed in consultation with the Delhi and Uttar Pradesh Police		
	12. Feasibility study conducted on opportunities for women to operate stalls at RRTS stations as concessionaires ^c		1-2

Activity	Indicator/Targets	Responsibility	Timeline (Year)
OUTPUT 2: INSTITUTIONAL CAPACITY OF THE NCRTC IMPROVED			
2.1 Develop the NCRTC as a gender- and socially inclusive agency.	13. Senior advisor or staff nominated as the GFP, with one full-time GESI expert in the NCRTC ^d	Director, NCRTC PIU	1–2
	14. TOR for the GESI Committee created and GESI Committee established ^e	NCRTC GFP, GESI expert	1–2
	15. Gender-friendly workplace policy developed and approved by the NCRTC Board		1–2
	16. At least 4% of NCRTC and operations and maintenance personnel in the RRTS are differently abled, as per Rights of Persons with Disabilities Act, 2016		1–7
2.2 Develop and implement GESI training modules. ^f	17. Annual gender sensitization trainings (seven) conducted for at least 50% of NCRTC staff ^g		1–7
	18. Annual training conducted (Year 3 onward) for frontline personnel of the RRTS on EWCD sensitization, complaints redressal system, standard operating processes (Target: 75% eligible frontline personnel)		3–7
	19. Technical capacity development trainings conducted (Year 1 onward) for technical personnel in the NCRTC and consultants on EWCD mainstreaming in planning, operations and maintenance of the RRTS, multimodal integration, and last-mile connectivity (Target: 75% eligible technical personnel and consultants)	NCRTC GFP, GESI expert and consultant	1–3
OUTPUT 3: MOBILITY AND ECONOMIC OPPORTUNITIES OF WOMEN AND DIFFERENTLY ABLED IMPROVED^h			
3.1 Pilot-test gender- and socially inclusive elements in the project area.	20. 1,400 women receive training for employability and/or entrepreneurship opportunities	NCRTC GFP GESI expert and national organization	1–5
	21. 1,000 differently abled receive hearing, visual, and physical mobility assistive aids		
	22. Gender- and socially inclusive public toilet blocks constructed around at least five major RRTS stations		

CCTV = closed-circuit television, EWCD = elderly, women, children, and differently abled, GESI = gender equality and social inclusion, GFP = gender focal point, NCRTC = National Capital Region Transport Corporation, PIU = project implementation unit, RRTS = regional rapid transit system, TOR = terms of reference.

^a This will be used as a technical capacity development (Indicator 19) and monitoring tool.

^b Excluding the business class coach and the reserved coach for ladies.

^c The number of stalls will be based on an assessment of women entrepreneurs and self-help groups in the districts of East Delhi, Ghaziabad, Meerut, and South Delhi.

^d Strategies may be initiated to explore the transition of the unit into a social development and gender cell within the NCRTC.

^e The GESI Committee will oversee the implementation of the GESI Action Plan. The GESI Committee will include representatives from the NCRTC, GESI experts, women's groups, academic institutes, and differently abled organizations. It is recommended that the GESI Committee meets at least biannually.

^f To be decided in consultation with the GESI expert.

^g As part of the annual training plan.

^h This output will be financed through a grant by the Japan Fund for Poverty Reduction and implemented over a period of 4.5 years.

Source: Asian Development Bank.

GENDER EQUALITY AND SOCIAL INCLUSION ACTION PLAN REPORTING TEMPLATE

Activity	Indicator and/or Targets	Progress for the Reporting Period (MM/YYYY to MM/YYYY) (This should include information on progress for the current quarter—qualitative and quantitative updates, including sex-disaggregated data)	Cumulative Progress (MM/YYYY to MM/YYYY) (This should include information on progress—qualitative and quantitative updates, including sex-disaggregated data, from the start of the implementation of the GESI action plan to the previous quarter's progress report.)	Issues and Challenges (Please include reasons why an activity was not fully implemented, or if targets fall short, or reasons for delay, etc.)
OUTPUT 1: DELHI-MEERUT RRTS CORRIDOR COMMISSIONED				
1.1 Incorporate international standards, EWCD-friendly and gender-specific safety and public health features in the design of the RRTS corridor	1. Survey conducted with at least 45% women respondents, and at least four consultations held (two with women's groups, one with young adults, and one with the elderly and differently abled) in each of the urban areas of East Delhi, Ghaziabad, Meerut, and South Delhi districts			
	2. Guidelines on EWCD-responsive planning, design, operations, maintenance and checklist for stations, multimodal integration, and last-mile connectivity developed by the NCRTC ^a			
	3. Manual on EWCD-responsive emergency, complaints reporting system, and standard operating procedures developed by the NCRTC, in consultation with the Delhi and Uttar Pradesh police			
	4. Dedicated coach and four seats in each coach reserved for women, with additional seats reserved for pregnant women, caregivers, elderly,			

Activity	Indicator and/or Targets	Progress for the Reporting Period (MM/YYYY to MM/YYYY) (This should include information on progress for the current quarter—qualitative and quantitative updates, including sex-disaggregated data)	Cumulative Progress (MM/YYYY to MM/YYYY) (This should include information on progress—qualitative and quantitative updates, including sex-disaggregated data, from the start of the implementation of the GESI action plan to the previous quarter's progress report.)	Issues and Challenges (Please include reasons why an activity was not fully implemented, or if targets fall short, or reasons for delay, etc.)
	differently abled, indicated with signage ^b			
	5. Stations, pick-up and drop-off areas are lit, and with tactile paving			
	6. CCTV cameras installed to monitor coaches and public areas of all stations, pick-up and drop-off areas			
	7. Information on helpline numbers, emergency button, intercom in each coach, and gender-specific audio, video, and/or visual bilingual messages disseminated in all coaches and stations			
	8. At least one access route and one emergency route step-free for a person on a wheelchair to travel from the road to each station, concourse, platform, and train			
	9. Separate toilets for men, women, and differently abled in all stations and one nursing room in three multimodal stations constructed			
	10. 48 security personnel patrol the concourse, platform, pick-up and drop-off areas of			

Activity	Indicator and/or Targets	Progress for the Reporting Period (MM/YYYY to MM/YYYY) (This should include information on progress for the current quarter—qualitative and quantitative updates, including sex-disaggregated data)	Cumulative Progress (MM/YYYY to MM/YYYY) (This should include information on progress—qualitative and quantitative updates, including sex-disaggregated data, from the start of the implementation of the GESI action plan to the previous quarter's progress report.)	Issues and Challenges (Please include reasons why an activity was not fully implemented, or if targets fall short, or reasons for delay, etc.)
	all operational stations under the NCRTC's jurisdiction 11. All NCRTC-operated feeder buses have reserved seats for women, elderly, and differently abled; EWCD-responsive service standards; emergency and complaints reporting; and standard operating procedures developed in consultation with the Delhi and Uttar Pradesh Police 12. Feasibility study conducted on opportunities for women to operate stalls at RRTS stations as concessionaires ^c			
OUTPUT 2: INSTITUTIONAL CAPACITY OF THE NCRTC IMPROVED				
2.1 Develop the NCRTC as a gender- and socially inclusive agency.	13. Senior advisor or staff nominated as the GFP, with one full-time GESI expert in the NCRTC ^d 14. TOR for the GESI Committee created and GESI Committee established ^e 15. Gender-friendly workplace policy developed and approved by the NCRTC Board 16. At least 4% of NCRTC and operations and maintenance personnel in the RRTS are differently abled, as per			

Activity	Indicator and/or Targets	Progress for the Reporting Period (MM/YYYY to MM/YYYY) (This should include information on progress for the current quarter—qualitative and quantitative updates, including sex-disaggregated data)	Cumulative Progress (MM/YYYY to MM/YYYY) (This should include information on progress—qualitative and quantitative updates, including sex-disaggregated data, from the start of the implementation of the GESI action plan to the previous quarter's progress report.)	Issues and Challenges (Please include reasons why an activity was not fully implemented, or if targets fall short, or reasons for delay, etc.)
	Rights of Persons with Disabilities Act, 2016			
2.2 Develop and implement GESI training modules. ^f	17. Annual gender sensitization trainings (seven) conducted for at least 50% of NCRTC staff ^g			
	18. Annual training conducted (Year 3 onward) for frontline personnel of the RRTS on EWCD sensitization, complaints redressal system, standard operating processes (Target: 75% eligible frontline personnel)			
	19. Technical capacity development trainings conducted (Year 1 onward) for technical personnel in NCRTC and consultants on EWCD mainstreaming in planning, operations and maintenance of the RRTS, multimodal integration, and last-mile connectivity (Target: 75% eligible technical personnel and consultants)			
OUTPUT 3: MOBILITY AND ECONOMIC OPPORTUNITIES OF WOMEN AND DIFFERENTLY ABLED IMPROVED^h				
3.1 Pilot-test gender- and socially inclusive elements in the project area.	20. 1,400 women receive training for employability and/or entrepreneurship opportunities			
	21. 1,000 differently abled receive hearing, visual, and			

Activity	Indicator and/or Targets	Progress for the Reporting Period (MM/YYYY to MM/YYYY) (This should include information on progress for the current quarter—qualitative and quantitative updates, including sex-disaggregated data)	Cumulative Progress (MM/YYYY to MM/YYYY) (This should include information on progress—qualitative and quantitative updates, including sex-disaggregated data, from the start of the implementation of the GESI action plan to the previous quarter's progress report.)	Issues and Challenges (Please include reasons why an activity was not fully implemented, or if targets fall short, or reasons for delay, etc.)
	physical mobility assistive aids			
	22. Gender- and socially inclusive public toilet blocks constructed around at least five major RRTS stations			

CCTV = closed-circuit television, EWCD = elderly, women, children, and differently abled, GESI = gender equality and social inclusion, GFP = gender focal point, NCRTC = National Capital Region Transport Corporation, PIU = project implementation unit, RRTS = regional rapid transit system, TOR = terms of reference.

^a This will be used as a technical capacity development (Indicator 19) and monitoring tool.

^b Excluding the business class coach and the reserved coach for ladies.

^c The number of stalls will be based on an assessment of women entrepreneurs and self-help groups in the districts of East Delhi, Ghaziabad, Meerut, and South Delhi.

^d Strategies may be initiated to explore the transition of the unit into a social development and gender cell within the NCRTC.

^e The GESI Committee will oversee the implementation of the GESI Action Plan. The GESI Committee will include representatives from the NCRTC, GESI experts, women's groups, academic institutes, and differently abled organizations. It is recommended that the GESI Committee meets at least biannually.

^f To be decided in consultation with the GESI expert.

^g As part of the annual training plan.

^h This output will be financed through a grant by the Japan Fund for Poverty Reduction and implemented over a period of 4.5 years.

Source: Asian Development Bank.