



Technical Assistance Report

PUBLIC

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Transaction Technical Assistance (TRTA)
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India: Enhancing Urban Mobility, Resource Mobilization, and Sustainable Economic Development along the Delhi–SNB Regional Rapid Transit System Corridor

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Asian Development Bank

CURRENCY EQUIVALENTS

(as of 3 October 2022)

Currency unit	–	Indian rupee (₹)
₹1.00	=	\$0.012
\$1.00	=	₹81.63

ABBREVIATIONS

ADB	–	Asian Development Bank
AIIB	--	Asia Infrastructure Investment Bank
NCR	–	National Capital Region
NCRTC	--	National Capital Region Transport Corporation
NDB	--	New Development Bank
km	–	kilometer
RRTS	--	regional rapid transit system
SNB	–	Shahjahanpur–Neemrana–Behror
TA	–	technical assistance

NOTES

- (i) The fiscal year (FY) of the Government of India and its agencies ends on 31 March. “FY” before a calendar year denotes the year in which the fiscal year ends, e.g., FY2022 ends on 31 March 2022.
- (i) In this report, “\$” refers to United States dollars.

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TRANSACTION TECHNICAL ASSISTANCE AT A GLANCE

1. Basic Data		Project Number: 56015-005	
Project Name	Enhancing Urban Mobility, Resource Mobilization, and Sustainable Economic Development along the Delhi–SNB Regional Rapid Transit System Corridor	Department/Division	SARD/SATC
Nature of Activity Modality	Project Preparation, Policy Advice Regular	Executing Agency	Ministry of Housing and Urban Affairs, National Capital Region Transport Corporation
Country	India		
2. Sector		ADB Financing (\$ million)	
✓ Transport	Transport policies and institutional development		1.000
		Total	1.000
3. Operational Priorities		Climate Change Information	
✓ OP2: Accelerating progress in gender equality		GHG Reductions (tons per annum)	0
✓ OP3: Tackling climate change, building climate and disaster resilience, and enhancing environmental sustainability		Climate Change impact on the Project	Low
✓ OP4: Making cities more livable		ADB Financing	
		Adaptation (\$ million)	0.154
		Mitigation (\$ million)	0.000
		Cofinancing	
		Adaptation (\$ million)	0.000
		Mitigation (\$ million)	0.000
Sustainable Development Goals		Gender Equity and Mainstreaming	
SDG 9.1		Some gender elements (SGE)	✓
SDG 11.2			
SDG 13.a		Poverty Targeting	
		General Intervention on Poverty	✓
4. Risk Categorization Complex			
5. Safeguard Categorization Safeguard Policy Statement does not apply			
6. Financing			
Modality and Sources		Amount (\$ million)	
ADB		1.000	
Transaction technical assistance: Technical Assistance Special Fund		1.000	
Cofinancing		0.000	
None		0.000	
Counterpart		0.000	
None		0.000	
Total		1.000	
Currency of ADB Financing: US Dollar			

I. THE ENSUING PROJECT

1. The Government of India requested the assistance of the Asian Development Bank (ADB) to support the development of its regional rapid transit system (RRTS) network, particularly in the National Capital Region (NCR). The government has identified eight RRTS corridors to enhance regional connectivity, and, by reducing energy consumption and pollution, offer an environmentally sustainable means of transport to over 60 million people in the NCR.

2. Three of the eight RRTS corridors are prioritized under phase 1 (Delhi–Meerut, Delhi–SNB, and Delhi–Panipat). On 18 August 2020, ADB approved a multitranche financing facility (MFF) in an aggregate principal amount of \$1,552 million for the Delhi–Meerut line.¹ The Government of India is seeking financial assistance for development of the second corridor, Delhi–SNB. The project is designed to ease traffic congestion and promote socioeconomic development to support the NCR's growing urban population. Strengthening of urban mass transit systems and increasing environmental sustainability of cities through the development of railways, is recognized in the country partnership strategy of ADB.²

3. The project will finance a new, dedicated, high-capacity, rail-based commuter transit corridor with a design speed of 180 kilometer (km) per hour and maximum operating speed of 160 km per hour. The RRTS system will have high-frequency operations and RRTS trains will be available at each station with headway of 5 to 10 minutes. It will be a double-line standard gauge rapid railway system. The proposed 107-km corridor will have 11 elevated stations and five underground stations that will pass through the densely populated sections of Delhi and Gurugram, and connect Dharuhera, Rewari, and the Shahjahanpur–Neemrana–Behror (SNB) urban complex. Once operational, it will be the fastest, most comfortable, and safest mode of commuter transport in the NCR. Such seamless connectivity will reduce pollution and congestion in the NCR, thus driving balanced and sustainable urban development in the region.

4. ADB financing will support civil works, alignment, station buildings, multimodal hubs, depot and workshop, permanent way, traction, and power supply.³ The corridor will be developed in five overlapping stages: (i) construction of viaducts including stations for elevated sections; (ii) design and construction of tunnels for the underground sections; (iii) trackwork installation and traction overhead electrification; (iv) electrical and mechanical works and architectural finishing work of stations; and (v) signaling and telecom works. Following a time-sliced component approach, ADB tranches will fund the first four stages of the construction.

II. THE TECHNICAL ASSISTANCE

A. Justification

5. The transaction technical assistance (TA) will support the design, formulation, and implementation of the project by placing focus on: (i) improved mobility of elderly, women, children, and differently abled through various mobility solutions within and beyond the catchment area of the Delhi–SNB RRTS corridor; (ii) strengthened urban finance and domestic resource mobilization for sustainable RRTS operations; and (iii) climate change adaptation and mitigation

¹ The MFF comprises (i) \$1,049 million from ADB's ordinary capital resources; (ii) \$500 million from the Asian Infrastructure Investment Bank (AIIB), partially administered by ADB; and (iii) \$3 million grant from the Japan Fund for Prosperous and Resilient Asia and the Pacific, fully administered by ADB.

² ADB. 2017. [Country Partnership Strategy: India, 2018–2022—Accelerating Inclusive Economic Transformation](#). Manila.

³ ADB financing will not include rolling stock.

measures. The TA will also help the government develop the capacity of the executing agency, the National Capital Region Transport Corporation (NCRTC), which has gained experience on ADB procurement processes and safeguard requirements during the implementation of the first Delhi–Meerut RRTS corridor.

6. Considering ADB’s alternative procurement arrangement for cofinancing with the World Bank, additional procurement support is required for advance contracting of high-value procurement packages under the ensuing project. Due diligence for procurement and financial analyses are necessary to design and implement the project based on ADB’s applicable policies and requirements. Capacity building activities for NCRTC under this TA are also essential for institutional strengthening in project implementation with the stated objective of enhancing urban mobility, urban financing, and sustainable economic development along the Delhi–SNB RRTS corridor.

7. The TA will help in developing urban growth poles along the Delhi–SNB RRTS corridor to spur economic development in the NCR, particularly in the state of Haryana. The TA will also support knowledge sharing activities to develop capacity in planning and policy interventions of urban transport and cross-sectoral areas, including livable cities, access to services, climate resilience, and affordable housing.

B. Outputs and Activities

8. The major outputs and activities are summarized in Table A3.1.

Table A3.1: Summary of Major Outputs and Activities

Major Outputs	Delivery Dates	Key Activities with Milestones
Output 1: Application-based study on MMI, EWCD access and inclusive design, and last mile connectivity within and beyond RRTS catchment area completed and included in the project design	June 2023	<ul style="list-style-type: none"> 1.1. Survey and analysis of the past studies on MMI and inclusivity in the NCR region of Haryana State completed by Q1 2023 1.2. Gender disaggregated ridership data collection on the existing public transport modes for base case analysis 1.3. Study of the mode choice, trip time and purpose, affordability (including last mile), for female commuters especially from the cities and satellite towns along the alignment 1.4. Feasibility study of adopting commuter passes for daily commuters, especially targeted groups and students, to improve mobility and access to health care, education, and work-related trips in the NCR 1.5. Feasibility study and action plan for a viable and reliable last mile connectivity system for the RRTS within and beyond RRTS catchment in the state of Haryana
Output 2: TOD-VCF and financing plans for sustainable operations of the Delhi–SNB RRTS corridor developed	June 2024	<ul style="list-style-type: none"> 2.1. Review of TOD-VCF studies on NCR in the state of Haryana 2.2. Design concept, feasibility, and transaction structure of identified TOD nodes along the Delhi–SNB RRTS corridor in the state of Haryana 2.3. Feasibility study of adopting a land value capture policy as a way for generating non-farebox revenue and to sustain development efforts by June 2024

Major Outputs	Delivery Dates	Key Activities with Milestones
Output 3: Detailed scope, design, and arrangements for implementing the ensuing project finalized	May 2023	3.1. Economic and financial analyses by March 2023 3.2. Review of advance contract packages using alternative procurement arrangement
Output 4: Capacity of the NCRTC on climate change and cross-sectoral areas of urban mobility improved	May 2024	4.1. Capacity development plan for alignment with ADB Operational Priorities and Paris Agreement on climate change by March 2023 4.2. Study and action plan for climate change mitigation and adaptation measures by May 2023 4.3. Training or capacity development activities, including Urban Mobility India conferences, for cross-sectoral knowledge sharing by May 2024
Output 5: Study on sustainable economic development and economic competitiveness of NCR in the state of Haryana completed	June 2025	5.1. Identification of growth nodes or centers in the state of Haryana based on state government priority, location and industry perspective, and factors of production 5.2. Identification of industrial infrastructure and transport connectivity and logistics requirements to augment these growth nodes or centers 5.3. Analysis of skill requirements and gaps for NCR in the state of Haryana 5.4. Identification of industrial promotion policies, land use planning, logistics plans with emphasis of identified growth nodes or centers

EWCD = elderly, women, children, differently abled, MMI = multimodal integration, NCR = national capital region, NCRTC = National Capital Region Transport Corporation, RRTS = regional rapid transit system, TOD = transit-oriented development, VCF = value capture financing.

Source: Asian Development Bank.

9. **Support for executing agency’s flagship knowledge transfer conference.** The TA has provisioned \$200,000 for the Urban Mobility India (UMI) conference to facilitate the dissemination of knowledge and initiatives of the executing agency. The UMI forum will provide a platform for dissemination of information by TOD experts on the project. The support to the UMI conference would build the capacity of the executing agency and project implementation unit participants from the transfer of knowledge on sustainable zero-emission, inclusive mobility, and future mobility—safe, affordable, accessible, and efficient. Government participation in the annual conference is expected to develop government capacity in the cross-sectoral areas of urban transport, including safe access to services such as education, health care, workplaces, and employment, along the transport corridor; TOD and VCF; land use planning and management; logistics requirements; climate change mitigation measures; and growth node or center development along the transport infrastructure.

C. Cost and Financing

10. The TA financing amount is \$1.0 million, which will be financed on a grant basis by ADB’s Technical Assistance Special Fund (TASF-other sources). The key expenditure items are listed in Appendix 1. The government will provide counterpart support in the form of reports and studies, counterpart staff, office accommodation, office supplies, communication facilities, and other in-kind contributions. The government was informed that approval of the TA does not commit ADB to finance any ensuing project.

D. Implementation Arrangements

11. ADB will administer the TA and be responsible for the selection, supervision, and evaluation of consultants. The consultants will work directly with the NCRTC to prepare the ensuing project.

12. The implementation arrangements are summarized in Table A3.2.

Table A3.2: Indicative Implementation Arrangements

Aspects	Arrangements		
Indicative implementation period	December 2022–March 2027		
Executing agency	Ministry of Housing and Urban Affairs through National Capital Region Transport Corporation		
Consultants	To be selected and engaged by ADB		
	Individual: Individual selection	9 international person-months and 47 national person-months	\$524,700
Procurement ^a	To be procured by consultants		
	Request for quotations	5 contracts	\$20,000
Advance contracting	To expedite the conduct of the TA, consultant selection will commence through advance contracting following the Procurement Staff Instructions.		
Disbursement	Disbursement of TA resources will follow ADB's <i>Technical Assistance Disbursement Handbook (2020, as amended from time to time)</i> .		
Asset turnover or disposal arrangement upon TA completion	All assets and equipment procured under the TA will be handed over to the executing agency after completion of TA activities.		

ADB = Asian Development Bank; TA = technical assistance.

^a Procurement Plan is accessible from the list of linked documents.

Source: Asian Development Bank.

13. **Consulting services.** Individual consultants will be engaged to undertake this TA. As may be assessed during implementation, additional experts may be recruited. ADB will engage the consultants following the ADB Procurement Policy (2017, as amended from time to time), procurement regulations, and its associated project administration instructions and/or staff instructions. The Terms of Reference for Consulting Services is accessible from the list of linked documents.

Table A3.3: Summary of Consulting Services Requirement

Positions	Person-months required	
	International	National
Individual		
Economist	2	6
Procurement expert	3	8
Financial analysis and management expert	0	5
Transit-oriented development expert	2	6
Climate change expert	0	6
Logistics and infrastructure expert	2	8
Gender expert	0	6
Communications expert	0	2
Total	9	47

Source: Asian Development Bank.

14. **ADB's procurement.** Procurement will follow ADB Procurement Policy (2017, as amended from time to time) and the Procurement Regulations for ADB Borrowers (2017, as amended from time to time).

COST ESTIMATES AND FINANCING PLAN
(\$'000)

Item	Amount
Asian Development Bank^a	
1. Consultants	
a. Remuneration and per diem	
i. International consultants	158.4
ii. National consultants	465.3
b. Out-of-pocket expenditures	
i. International and local travel	74.0
ii. Goods (rental and/or purchase)	8.3
iii. Surveys	30.0
iv. Training, seminars, and conferences ^b	200.0
v. Reports and communications	12.0
vi. Miscellaneous administration and support costs ^c	20.0
2. Goods (rental or purchase)	10.0
3. Miscellaneous administration and support costs ^d	2.0
4. Contingencies	20.0
Total	1,000.0

Note: The technical assistance (TA) is estimated to cost \$1.5 million, of which contributions from the Asian Development Bank are presented in the table. The government will provide counterpart support in the form of reports and studies, counterpart staff, office accommodation, office supplies, communication facilities, other in-kind contributions, and recruitment of PPP experts. The value of government contribution is estimated to account for 33% of the total TA cost.

^a Financed by the Asian Development Bank's Technical Assistance Special Fund (TASF-other sources).

^b Conferences including Urban Mobility India Conference organized by Ministry of Housing and Urban Affairs, Government of India.

^c Goods (equipment) to be purchased under the TA include computers, printer/scanner, wireless router and modem, drones, and software. All purchased goods (equipment) will be turned over to the executing agency upon completion of the TA project.

^d Miscellaneous administration and support costs include general operating costs, office supplies, translation, and interpretation costs, as well as secretarial support.

Source: Asian Development Bank estimates.

LIST OF LINKED DOCUMENTS

<http://www.adb.org/Documents/LinkedDocs/?id=56015-005-TARreport>

1. Terms of Reference for Consultants
2. Procurement Plan