



# Project Information Document (PID)

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Concept Stage | Date Prepared/Updated: 27-Apr-2022 | Report No: PIDC33935

**BASIC INFORMATION****A. Basic Project Data**

Country India	Project ID P177666	Parent Project ID (if any)	Project Name Delhi-Gurugram-SNB Regional Rapid Transport System (RRTS) Corridor (P177666)
Region SOUTH ASIA	Estimated Appraisal Date Dec 01, 2022	Estimated Board Date Mar 30, 2023	Practice Area (Lead) Transport
Financing Instrument Investment Project Financing	Borrower(s) Government of India	Implementing Agency National Capital Region Transport Corporation	

**Proposed Development Objective(s)**

The proposed Program's Development Objective is to provide safe, green, and sustainable accessibility along the Delhi-Gurugram-SNB corridor.

**PROJECT FINANCING DATA (US\$, Millions)****SUMMARY**

<b>Total Project Cost</b>	5,278.00
<b>Total Financing</b>	4,628.00
<b>of which IBRD/IDA</b>	125.00
<b>Financing Gap</b>	650.00

**DETAILS****World Bank Group Financing**

International Bank for Reconstruction and Development (IBRD)	125.00
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**Non-World Bank Group Financing**

Counterpart Funding	2,219.00
Borrower/Recipient	909.00



Local Govts. (Prov., District, City) of Borrowing Country	1,310.00
Commercial Financing	12.00
Unguaranteed Commercial Financing	12.00
Other Sources	2,272.00
Asian Development Bank	1,382.00
JAPAN: Japan International Cooperation Agency (JICA)	890.00

Environmental and Social Risk Classification

High

Concept Review Decision

Track II-The review did authorize the preparation to continue

## B. Introduction and Context

### Country Context

1. **Growth rebound in FY22 has been quick, pulled up by investment, recovering consumer demand and, more importantly, a low base.** Real GDP growth moderated from an average of 7.4 percent during FY15/16-FY18/19 to an estimated 3.7 percent in FY19/20<sup>1</sup>, mostly due to (i) shocks to the financial sector, and (ii) decline in private consumption growth<sup>2</sup>. Against this backdrop, the outbreak of COVID-19 had a significant impact, with real GDP contracting by 6.6 percent in FY20/21<sup>3</sup>. On the fiscal side, the general government deficit widened significantly in FY20/21, owing to higher spending and low revenues<sup>4</sup>. However, with the easing of Covid-19 restrictions, Goods and Services Tax (GST) collections have crossed INR 1.1 trillion mark every month since July 2021. The robust GST revenues are expected to continue as the economic recovery gathers momentum. The real GDP growth<sup>5</sup> for FY21/22 is likely to be in the range of 7.5 to 12.5 percent, on the back of increased capital expenditure by the government and recovering consumer demand. The real GDP in FY21/22 is expected to reach the FY19/20 level. Given the global concerns on significant uncertainty around the pandemic, elevated inflation, geo-political tensions and extended supply disruptions, growth in FY22/23 is expected to be 8 percent<sup>6</sup>. Nonetheless, the expected recovery will put India among the world’s fastest-growing economies over the next two years.

2. **Although India has made remarkable progress in reducing absolute poverty in recent years, the COVID-19 outbreak has delayed the course of poverty reduction<sup>7</sup>.** Between 2011-12 and 2020-21, India’s poverty rate is estimated to have declined from 22.5 percent<sup>8</sup> to values estimated to range between 9 to 12.3 percent.<sup>9</sup> However, recent projections of GDP per capita growth, taking into account the impact of the pandemic, suggest that poverty rates in 2020 have likely reverted to estimated levels in 2016.<sup>10</sup> Labor market indicators from high frequency surveys -including from the Centre

<sup>1</sup> National Accounts Data, National Statistical Office, Ministry of Statistics and Program Implementation (MOSPI).

<sup>2</sup> National Accounts Data, National Statistical Office, MOSPI.

<sup>3</sup> National Accounts Data, National Statistical Office, MOSPI.

<sup>4</sup> Union budget 2021, 2022, Ministry of Finance.

<sup>5</sup> World Bank Global Economic Prospects, January 2022.

<sup>6</sup> World Bank real GDP forecasts for FY22/23 published in April 2022.

<sup>7</sup> World Bank projections. The Government of India has deployed significant resources for social assistance, including towards urban poor households and migrants.

<sup>8</sup> Consumption Expenditure Survey 2011-12, National Sample Survey Office (NSSO), Government of India;

<sup>9</sup> World Bank estimates. Macro Poverty Outlook, October 2021.

<sup>10</sup> World Bank estimates. Source: Macro Poverty Outlook, 2020.



for Monitoring Indian Economy (CMIE)- suggest that vulnerability has increased, particularly for urban households. Overall, the pandemic and its economic impacts are estimated to have raised urban poverty, creating a set of “new poor” that are relatively more likely to be engaged in the non-farm sector and to have received at least secondary education.

3. **Transport accessibility is considered one of the most critical factors to escaping poverty, but urban transport in India is marred with challenges.** India 2011 census data show high levels of immobility and short commute distances in non-rural commuting (58 percent of workers travel to jobs up to 5km from their homes), a result of the lack of affordable and safe public transport options that allow for better access to job opportunities at longer distances. Despite advances in provision of metro services and bus systems in some of the main urban centers, these systems are still vastly insufficient, and individual motorization rates have soared leading to productivity loss, air pollution and road crashes that cost around USD 10 billion per year in Delhi alone.<sup>11</sup>

4. **The urgency of climate change and high volatility of oil prices require India to accelerate its withdrawal with fossil-fuel transport.** Although India only imports 1% oil from Russia, surging crude oil prices and disruptions to the global supply chains due to the war in Ukraine could have adverse effects on India’s fuel prices, which will likely affect the provision of oil dependent systems, such as 2 and 3 wheelers, cars, and buses. Together with India’s ambitious goals for a carbon neutral transport sector to counter climate change, a reduced dependence on fossil-fuel is an objective that the sector needs to achieve at scale.

#### Sectoral and Institutional Context

5. **India’s Transport sector needs to undergo a complete transformation in the next 30 years to support the climate and development goals, and the urbanization process is a major opportunity.** India’s major urbanization process offers a unique opportunity to lock-in low-carbon, resilient, and equitable urban forms<sup>12</sup>, but this will only be achieved if urban transport policies and investments that shape urban form are able to support the same environmental and social goals. Both the role of transport in climate goals, set at India’s Nationally determined contributions<sup>13</sup> and the urban transport policies, set at the National Urban Transport Policy (NUTP, 2021)<sup>14</sup> are aligned with this vision and support measures that increase productivity and accessibility to jobs, realizing agglomeration economies, and reducing poverty.

6. **Delhi region epitomizes the potential to realize the agglomeration economies, but accessibility constraints make the region operate sub-optimally.** The National Capital Region (NCR) agglomeration, which includes the National Capital Territory (NCT) of Delhi, is projected to become the most populous city in the world by 2028 with a projected 28 million people.<sup>15</sup> Lack of infrastructure, both for public transport services as well for non-motorized (NMT) infrastructure to provide access to stations, unaffordability, and inadequate safety focus are some of the many factors constraining accessibility in the region. Delhi is ranked as the 11<sup>th</sup> most congested city in the world<sup>16</sup>, with rapidly growing private motorization (four-fold growth from 2000 to 2018)<sup>17</sup> and a public transport share that is far below government targets (~30% of trips)<sup>18</sup>. The connection between Delhi and the furthest cities in the corridor is limited to private modes on road, long travel times (up to 4.5hrs of travel), multiple transfers, and bus fares that are unaffordable to the poor. These mobility constraints generate pockets of labor markets accessible to only a fraction of the residents, lowering overall urban dividends. Delhi was also considered in 2020 the most polluted capital city in the world<sup>19</sup>, with transport responsible for

<sup>11</sup> <https://publications.iitm.ac.in/publication/cost-estimates-for-road-congestion-in-delhi-projections>

<sup>12</sup> Khosla, R., & Bhardwaj, A. (2019-11-21). Urban India and Climate Change. In India in a Warming World: Integrating Climate Change and Development: Oxford University Press.

<sup>13</sup> India NDCs <https://www4.unfccc.int/sites/ndcstaging/PublishedDocuments/India%20First/INDIA%20INDC%20TO%20UNFCCC.pdf>

<sup>14</sup> <http://www.urbantransport.kar.gov.in/national%20urban%20transportpolicy.pdf>

<sup>15</sup> 2018 Revision of World Urbanization Prospects, United Nations, Department of Economic and Social Affairs.

<sup>16</sup> TomTom Traffic Index, 2021. Weblink: [https://www.tomtom.com/en\\_gb/traffic-index/](https://www.tomtom.com/en_gb/traffic-index/) (accessed on 23 March 2022).

<sup>17</sup> Anumita Roychowdhury et al 2021. “Capital Gains: Clean Air Action in Delhi-NCR: What next?” Centre for Science and Environment, New Delhi.

<sup>18</sup> Deloitte City Mobility Index estimates a public transport mode share in the NCR of 31% with walking trips accounting for 35% (source: Deloitte City Mobility Index, 2019, weblink: [https://www2.deloitte.com/content/dam/insights/us/articles/4331\\_Deloitte-City-Mobility-Index/Delhi\\_GlobalCityMobility\\_WEB.pdf](https://www2.deloitte.com/content/dam/insights/us/articles/4331_Deloitte-City-Mobility-Index/Delhi_GlobalCityMobility_WEB.pdf), accessed 23 March 2022). Another study estimates a mode share of 28% (source: Anumita Roychowdhury and Anannya Das 2021. “How Accessible Are Low-Income Neighbourhoods? The Case of Delhi.” Centre for Science and Environment, New Delhi.). Both these figures are far below the Masterplan for Delhi (2021) target of 80:20 mode share in favor of public transport, excluding all walking trips.

<sup>19</sup> <https://www.brookings.edu/blog/future-development/2020/11/25/delhi-the-worlds-most-air-polluted-capital-fights-back/>



39 percent of PM2.5 emission<sup>20</sup>, which lead to further reduction in livability.

7. **The lack of accessibility affects particularly vulnerable groups.** Constraints in accessibility also impose significant costs on human capital attainment and affect labor market outcomes. India has one of the worst female labor market participation rates at 18.6% in 2020, compared to an average of 33% in lower middle-income countries,<sup>21</sup> and lack of adequate transport explains part of this. For instance, a study in Delhi found that women choose inferior colleges in order to feel safer traveling, which reinforces gender inequality in both education and lifetime earnings<sup>22</sup>. Lack of adaptation in transport systems (sidewalks, pathways, stations, vehicles) also challenge access to health, education, and employment for persons with disability. With much higher illiteracy rates (52% against 35% in the general population), persons with disability tend to be mostly out of the labor force (73.6% and 78% of persons with disabilities are unemployed in India and in the project area respectively)<sup>23</sup>.

8. **Tackling the sustainability and accessibility challenges in the NCR will require a coordinated effort in integrated governance, combining spatial planning, aligned infrastructure implementation, operational and payment integration.** Integrated transport and land use planning has fully become part of policy making in India, but there are very few examples of successful implementation of Transit-Oriented Development (TOD) that relies on multimodal transport and at a meaningful scale. The incorporation of TOD principles allows the creation of commercially attractive areas, that can leverage accessibility to support sustainable urban growth. Fully integrated multimodal transport, through integrated infrastructure, operations and payments, has the potential to lower transportation costs by allowing each mode to be used for the portions of the trip for which it is best suited, increase economic productivity and efficiency, and reduce congestion and emissions from transport. These strategies increase the competitiveness of transit for city and intercity travel by facilitating the connection of transit modes, preventing the shift of trips to other less sustainable transport modes, and providing the backbone demand necessary to sustain public transport systems. Research has supported such strategy, estimating that investments in multimodal transport would yield superior outcomes compared to isolated investments in a single mode, result in greener outcomes and require lower investment requirement for the same outcomes<sup>24</sup>. However, multimodal trips in India today remain plagued by limited integration across modes.

9. **The NCRTC was established to implement a regional transport system that will enhance regional connectivity and offer an environmentally sustainable mode of transport to over 60 million people in the NCR.** The National Capital Region Transport Corporation (NCRTC) is a joint venture between the GoI and the states of Delhi, Haryana, Rajasthan, and Uttar Pradesh (UP), under the administrative control of Ministry of Housing and Urban Affairs (MoHUA). NCRTC has an innovative institutional structure with financial and managerial independence, allowing it to handle projects involving different stakeholders with varying degree of financial commitments. NCRTC is well-staffed and has been so far effective in the ongoing implementation of the first corridor of the Regional Rapid Transport System (RRTS), the Delhi-Meerut corridor. While NCRTC is well-positioned to implement the multi-regional RRTS, building a sustainable transport system requires a multi-jurisdictional effort that can only be achieved through a programmatic approach.

10. **To fully realize the delivery of a green, efficient, safe, and inclusive transport network that shapes urban form into achieving the climate and development goals, NCRTC must tackle transport problems informed by urban development, inclusion, and sustainability angles.** First, NCRTC will need to incorporate a Transit-Oriented Development (TOD) framework into the project, which will create opportunities for urban densities that rely on the RRTS complemented by well-connected and green last-mile transport modes to access efficiently jobs and other opportunities, which will in turn catalyze ridership. This will require navigating a complex institutional structure that distributes urban transport responsibilities across multiple ministries and local authorities. Second, it must establish a new standard of quality of service that includes the use of innovative technologies that will bring access to job markets, but which will also allow

<sup>20</sup> Anon 2018. *High Resolution Emission Inventory of Mega City Delhi*, SAFAR-India, Indian Institute of Tropical Meteorology, Ministry of Earth Sciences

<sup>21</sup> Labor force participation rate, female. International Labour Organization, ILOSTAT database.

<sup>22</sup> Borker, G. (2020). Safety first: Perceived risk of street harassment and educational choices of women. Working Paper. Job Market Paper, Department of Economics, Brown University.

<sup>23</sup> [https://www.ilo.org/wcmsp5/groups/public/---asia/---ro-bangkok/---sro-new\\_delhi/documents/publication/wcms\\_229259.pdf](https://www.ilo.org/wcmsp5/groups/public/---asia/---ro-bangkok/---sro-new_delhi/documents/publication/wcms_229259.pdf)

<sup>24</sup> World Bank, OECD ITF, TERI 2018. India Urban Mobility Model.



women and persons with disabilities to fully utilize the system to achieve economic empowerment. Third, it will need to maximize the leveraging of public funds into creating opportunities for scalability. This will mean maximizing non-operational revenues, exploring private operations, and accessing capital markets. Together, these components will allow NCRTC to assert itself as a lighthouse of India transport projects.

11. **The complexity of providing metropolitan accessibility requires a multidimensional engagement to make meaningful progress.** A Multiphase Programmatic Approach (MPA) is the most appropriate mechanism to support the Governments’ goals of increasing accessibility in the NCR and promoting sustainable transport solutions through an adaptive and continuous engagement. The MPA has several advantages compared to several standalone projects – allowing to accommodate different priorities, timelines and learnings. An MPA is able to addresses the complex and multidimensional nature of the program, while also giving flexibility to accommodate for the different timeframes; anchoring the RRTS in broader holistic program to take advantage of its great transformational potential.

Relationship to CPF

12. **The Program is fully aligned to the India Country Partnership Framework (CPF) FY18–22 9** report No. 126667-IN, July 25, 2018. It contributes to Focus Area 1: Resource Efficient Growth and Focus Area, objective 1.2, which is “improve living conditions and sustainable cities” through the establishment of a green and in inclusive transport mode integrated with collaborative and comprehensive land use planning in form of TOD, and Focus Area 2: Enhancing Competitiveness and Enabling Job Creation, objectives 2.1, 2.3, and 2.5, namely “improving business environment” through the increase in accessibility of employees to firms, “improving connectivity and logistics” through the provision of a high speed service, “enabling more quality jobs for women”, through the provision of a safe and high accessibility service. Further it is aligned with the World Bank’s Green, Resilient and Inclusive Development (GRID) strategy to accelerate climate change mitigation and adaptation and lay the foundations for a strong, durable, and inclusive recovery.<sup>25</sup>

C. Proposed Development Objective(s)

13. **Proposed MPA Program Development Objective (PrDO):** The proposed Program's Development Objective is to provide safe, green, and sustainable accessibility along the Delhi-Gurugram-SNB corridor.

Key Results (From PCN)

14. A preliminary list of PrDO-level results indicators has been identified to measure the achievement of the PrDO (Error! Reference source not found.).

Table 1: PrDO level indicators (notional list of potential indicators)

PrDO	PrDO level indicators
<b>Accessibility</b> along the Delhi-Gurugram-SNB corridor	- percentage of jobs accessible within 90 minutes in the area of influence.
<b>Safe</b> accessibility along the Delhi-Gurugram-SNB corridor	- number of persons with disabilities satisfied with the service; - number of women satisfied with the service.
<b>Green</b> accessibility along the Delhi-Gurugram-SNB corridor	- net GHG emissions reductions.
<b>Sustainable</b> accessibility along the Delhi-	- Number of cities with appropriate regulations for TOD;

<sup>25</sup> WB (2021) From COVID-19 Crisis Response to Resilient Recovery: Saving Lives and Livelihoods while supporting Green, Resilient and Inclusive Development. Paper for the Development Committee.



Gurugram-SNB corridor	<ul style="list-style-type: none"> <li>- Number of cities of the RRTS with feeder systems implemented;</li> <li>- Open-loop or integrated payment mechanism implemented;</li> <li>- Private capital incorporated into NCTRC’s financial plans.</li> </ul>
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**D. Concept Description**

15. **The Rapid Rail Transit System (RRTS) - Delhi – Gurugram - Shahjahanpur-Neemrana-Behror (SNB) Program will provide a reliable, fast, comfortable, and high-frequency rail service** that will connect with feeder services in the participating cities in Rajasthan, Rewari, Dharuhera, Gurugram in Haryana, and Delhi and the Meerut Corridor at Sarai Kale Khan Station through seamless passenger movement. The program has three components:

**Component 1 – Accessibility.** *This component will support the construction and operation of the Regional Rapid Transport System (RRTS), as well as the development of first and last mile connectivity infrastructure that will support the multimodal integration. It includes:*

**1.1 RRTS Infrastructure.** Civil works, tracks, systems and rolling stock for the implementation of a 106.5km electrified railway with 71km of elevated and 35.5km of tunneling structures, 16 stations passing through the states of Delhi, Haryana and Rajasthan. The railway will be designed following state-of-the-art disability and gender standards, developed under component 2.

**1.2 Feeder and Last Mile Connectivity.** Civil works for the implementation of sidewalks, pedestrian bridges, bicycle paths, pedestrianized areas, and bus infrastructure to improve physical and service connectivity with the stations.

**1.3 Support to Infrastructure.** Project management, designs, supervision, social and environment management, and quality and safety auditing.

**1.4 Resiliency.** Climate-informed designs to increase resilience and disaster preparedness of the RRTS.

**Component 2 – Inclusive.** *This component will support the implementation of the gender actions to improve personal security and convenience and increase women and persons with disabilities’ participation as beneficiaries of the Program. It includes:*

**2.1 Diagnosis on Inclusion.** Detailed diagnosis of the gender and disability inclusion, including assessment of gaps in response systems and infrastructures.

**2.2 Implementation of Inclusion Plan.** Implementation of a gender and disability inclusive approach in the phases of design, construction, and operations of the RRTS, including developing guidelines, informed designs, capacity building, corporate recruitment, surveillance systems, marketing campaigns, and emergency response systems.

**Component 3 – Sustainability & scalability.** *This component will support the development of components to support the long term sustainability of the transport networks – encouraging integrated land use and transport planning, institutional coordination, multimodal integration and mobilization of private capital. It includes:*

**3.1 TOD.** Development of TOD corridor vision and resulting regulations that support multimodal integration and last mile connectivity, as well as transport demand management policies such as parking policies.

**3.2 Integration.** Studies to maximize multimodal integration of RRTS into the transportation network of the NCR through infrastructure (stations), operations, and integrated electronic payments.

**3.3 Asset Monetization.** Strategies to develop asset monetization and maximization of non-fare revenues such as land value capture, commercial exploration of station areas, parking, and parcel delivery in off-peak hours.

**3.4 Commercial Financing.** Capacity building and provision of innovative commercial financing to increase scalability of the program.



Legal Operational Policies	Triggered?
Projects on International Waterways OP 7.50	No
Projects in Disputed Areas OP 7.60	No

Summary of Screening of Environmental and Social Risks and Impacts

16. **Environmental Risk is “High”** given the high-risk investments to be implemented in the complex and dense urban /peri-urban and rural settings of NCR, involving significant and sensitive environmental components. Environmental risks to the biophysical environment include pollution and disturbances to habitats/landscape and pedestrian-vehicular conflicts and OCHS risks to communities, workers, and staff. In addition, the Program will result in land-use changes; pollution impacts to air, water, land, fauna, flora, communities, and existing buildings (including nearby structures of importance if any, such as heritage structures, barrages) due to dust, heat, light, noise, and vibration; generation of wastes - solid wastes including plastics, construction/demolition wastes, hazardous and e-waste; micro-climatic impacts and higher risks in case of disasters (such as earthquakes, manmade disasters etc.). The Program provides opportunities to improve resource use and efficiency and better planning and management.

17. **The Social Risk is “High”** as the Program will lead to impacts on land, structures, livelihoods, labor, and labor influx issues, SEA/SH. Even though design features such as elevated and underground tracks and stations have helped to minimize impacts, it is estimated that the Program shall impact approximately 153 ha of land including 33 ha of private land, impact structures, and involve physical and economic displacement of a few shops/street-side vendors, particularly at stations locations. Prolonged construction stage civil works are likely to result in impacts on livelihoods, access to communities, and adjoining structures. Significant labor influx is anticipated that could lead to SEA/SH and labor issues. Engaging with multitude of stakeholders, across three states – Delhi, Haryana, and Rajasthan particularly institutional stakeholders shall add to the complexity of the effective engagement. Preliminary surveys have confirmed that no tribal groups would be affected. Based on the Risk assessment tool, the SEA/SH rating is 10.5 i.e. moderate. The World Bank’s ESF will apply to the works and TA under the MPA and each of its IPFs. At the concept stage, 8 of the 10 ESSs (refer to C-ESRS for details) are relevant for this MPA and these will be further verified and confirmed by appraisal. There may be some adverse impacts due to the already undertaken pre-construction/enabling works and these, if any, would be ascertained by the E&S Audit. By appraisal, an ESIA (with CIA) currently underway following an approved TOR, would be made ready to support Component 1, also informed by corrective actions for the already initiated pre-construction activities. ESIA would cover potential actions towards addressing issues relating to gender and disadvantaged and vulnerable persons including those physically challenged. Since the project is co-financed with ADB, a common approach to the management of E&S aspects is under discussion and would be confirmed by appraisal.

**CONTACT POINT**

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Government of India

**Implementing Agencies**

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**APPROVAL**

Task Team Leader(s):	Tatiana Peralta Quiros, Bianca Bianchi Alves
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**Approved By**

Country Director:	Anne-Katrin Arnold	27-Apr-2022
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