I. Project Context

Country Context

India’s economy experienced a high rate of growth between 2000 and 2010. However since 2011, the annual growth rate has slowed from over 8 percent to below 6 percent. The slowdown may be partly attributed to the global economic downturn and heightened risk aversion of financial markets. Nonetheless, some of the economic challenges are rooted in the domestic economy and a significant slow-down in India’s fixed investment rate. The Government of India (GOI) is seeking creative ways to respond to global economic problems, but also recognizes the need to confront domestic impediments to growth. A key GOI policy response is through expanding and improving India’s infrastructure. In the Twelfth Five Year Plan (2013-2018), the Government has set a high infrastructure investment target of US$1 trillion; an important part of the Plan is to modernize critical parts of the ageing and congested transport infrastructure, including its railway network. Improving critical transport infrastructure will lay the foundation for sustained future economic growth.
Sectoral and institutional Context

India’s railways are governed by the Railways Act (1989). The railway sector is supervised by the Ministry of Railways (MOR). The Indian Railway Board (IRB) assists MOR in the discharge of ministerial responsibilities, and exercises the policy powers of the central government in relation to Indian Railways and executes the administration, supervision and direction of the entities that provide the great majority of rail services in India. The term Indian Railways (IR) is typically used to refer collectively to the IRB and the railway infrastructure and services that are delivered by the 16 geographically-based Zonal Railways (ZR). IRB is responsible for the establishment (or merger/abolition) of these ZRs, appoints ZR General Managers, oversees their compliance with MOR policies, determines staffing and remuneration policies, allocates rolling stock, fixes tariffs, approves ZR operating and capital budgets, approves specific capital expenditures over certain limits, and reallocates cash deficits or surpluses of individual ZRs to maintain adequate financial balance in each. There are a few separate railways which are special purpose joint ventures between MOR and other entities (such as the Kutch Railway Company Ltd and the Konkan Railway Corporation Ltd), but in practice IR carries over 99 percent of railway traffic in India.

IR operates a national rail network of about 64,600 route-kilometers; which is one of the most densely-used rail networks in the world. In 2011-2012, it carried over 8 billion passengers and about 1 billion tons of freight. Its total traffic task (measured by total traffic units carried) has increased by nearly 110 percent in the last ten years. Despite strong growth in its freight business, IR has been losing market share to road haulage. This situation is the result of insufficient physical capacity and service quality, exacerbated by the need to fit freight trains into a busy passenger service schedule. Yet if an annual economic growth rate of 7 percent were again to be attained, the underlying freight traffic demand would grow at around 8.75 percent. Without additional rail network capacity, much of the traffic for which rail should have competitive advantage would be forced to use road haulage or be suppressed. In both cases this would be at a cost to the economy and in the former case, at a cost to the environment as well. Over the last decade, IR has successfully adopted many management measures to: (i) squeeze more capacity from existing assets; (ii) increase average trainload; (iii) utilize equipment more efficiently; and (iv) improve railway labor productivity. Today, physical capacity on key corridors is the most pressing constraint.

The main corridors in India are part of a Golden Quadrilateral connecting New Delhi, Mumbai, Chennai and Kolkata. They account for 16 percent of the railway network’s route length but carry more than 60 percent of its freight task. The rail sector urgently needs to add capacity to these routes. The GoI has therefore approved a long-term plan to build dedicated freight-only lines, paralleling the existing Golden Quadrilateral mixed traffic routes. The new freight network will allow trains to carry more freight, faster, more reliably and at lower cost. The relief on the existing lines will allow improvements in passenger services. At completion, total corridor railway capacity will double, thereby unleashing a new platform for supporting economic growth.

The first dedicated freight corridors (DFC) to be built are the Western and Eastern Corridors. The Western Corridor (Delhi-Mumbai) is 1534km. Construction of the Western dedicated Freight Corridor is funded by the Japanese International Cooperation Agency (JICA) and is in the early stages of implementation. The Eastern Corridor is 1839km and extends from Ludhiana to Kolkata. World Bank support for the Eastern Dedicated Freight Corridor (EDFC) was conceived as a series of projects in which the three sections would be delivered sequentially, but with considerable
overlap in their construction schedules. The first loan in EDFC Program was approved by the Bank in May 2011 and EDFC1 is already under implementation. This Project relates to the EDFC2 section (Kanpur- Mughal Sarai). The remaining 706 km of the EDFC will be funded by GOI. Table 1 presents the sections included in the World Bank support.

Table 1: World Bank Funded Eastern Dedicated Freight Corridor (EDFC)

<table>
<thead>
<tr>
<th>Projects</th>
<th>Section Length (km)</th>
<th>Number of Tracks</th>
<th>Cost (US$ m)</th>
</tr>
</thead>
<tbody>
<tr>
<td>EDFC1</td>
<td>Khurja- Kanpur 343</td>
<td>Double</td>
<td>1,453</td>
</tr>
<tr>
<td>EDFC2</td>
<td>Kanpur- Mughal Sarai</td>
<td>393 Double</td>
<td>1,670</td>
</tr>
<tr>
<td>EDFC3</td>
<td>Ludhiana- Khurja</td>
<td>397 Single</td>
<td>1,439</td>
</tr>
<tr>
<td>Program</td>
<td>1133</td>
<td></td>
<td>4,562</td>
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</table>

The GOI has adopted a new institutional framework to deliver and operate the DFC network. The Dedicated Freight Corridor Corporation of India Ltd. (DFCCIL) has been set up as a special purpose company under the Companies Act (1956) to deliver and manage the freight corridor. Its shares are owned by the MOR, which has subscribed to its capital, but the company charter allows for minority divestment. DFCCIL is essentially an infrastructure owner and provider. It will not operate freight train services but will offer non-discriminatory access to IR trains and other qualified train operators. An arm’s length relationship between DFCCIL and MOR is to be governed by a concession agreement. MOR will pay DFCCIL track access charges for use of the entire DFC network. The concession agreement is based on commercial principles and includes utilization incentives which will apply to the whole DFC network (including both Western and Eastern Corridors).

Higher Level Objectives to which the Program and Project contribute

The World Bank’s support for the Eastern DFC Program will contribute to attainment of economic growth, poverty reduction and shared prosperity. The program is aligned with the three important areas of engagement set out in the World Bank’s Country Program Strategy for India (CPS 2013-2017): integration; transformation; and inclusion. First, the projects will improve transport connectivity and domestic market integration for freight-consigning industries in India and will contribute significantly to the integration objectives of the CPS. Second, the project will have transformational value in reducing greenhouse gas emissions and other environmental costs of transport by promoting transfer of freight from road haulage to rail transport. Moreover, the project will be a catalyst for accelerated economic development in the relatively poorer states in the country such as Uttar Pradesh and Bihar. These poorer states will benefit more from the new rail infrastructure. Third, the project’s contribution to inclusion will follow from the release of passenger transport capacity on existing rail lines. This will lead to communities along the corridor better access to employment opportunities, health, education and other social services.

Lessons Learned and Reflected in Program and Project Design

The overall program design for the series of projects responds to the challenges face by previous IR projects in meeting project cost and time expectations. Project design for EDFC2 reflects the lessons learned from EDFC1 on implementation requirements.

The new institutional framework for the Program as a whole represents a more commercially focused way of delivering freight railway infrastructure in India through a Special Purpose Company (DFCCIL) established under Company Law rather than using traditional engineering departments of MOR. DFCCIL’s contract strategy is to award Lump Sum Design and Build contracts instead of traditional ‘time and materials’ contracts, combating the historic tendency of railway construction projects to run seriously over time and budget. Moreover, the availability of worksites and the release of mobilization and equipment advances have been planned by DFCCIL to allow contractors to commence work in a timely manner.
II. Proposed Development Objectives
The development objectives of APL2 are to: (a) provide additional rail transport capacity, improved service quality and higher freight throughput on the 393 kms Kanpur- Mughal Sarai section of the Eastern rail corridor; and (b) develop the institutional capacity of DFCCIL to build, operate and maintain the entire DFC infrastructure network.

III. Project Description
Component Name
Design, construction and commissioning of the Kanpur-Mughal Sarai section of the Eastern DFC Program consisting of 393 km of double-track electrified railway designed for freight train operations.
Comments (optional)

Component Name
Continuing institutional support to assist DFCCIL develop its capability to best utilize heavy-haul freight rail systems.
Comments (optional)

IV. Financing (in USD Million)

<table>
<thead>
<tr>
<th>Total Project Cost:</th>
<th>Total Bank Financing:</th>
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</thead>
<tbody>
<tr>
<td>1670.00</td>
<td>1100.00</td>
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Financing Gap: 0.00

<table>
<thead>
<tr>
<th>For Loans/Credits/Others</th>
<th>Amount</th>
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<tr>
<td>Borrower</td>
<td>570.00</td>
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<tr>
<td>International Bank for Reconstruction and Development</td>
<td>1100.00</td>
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<tr>
<td>Total</td>
<td>1670.00</td>
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V. Implementation
DFCCIL is responsible for Project implementation. Its Managing Director reports to the DFCCIL Board comprising the Chairman, four full time Directors, four independent directors, and two government nominees. DFCCIL has its headquarters in New Delhi, with field-based offices for the Eastern and Western Corridors. Each section of the Eastern Corridor is the responsibility of a Chief Project Manager (CPM); for the Kanpur-Mughal Sarai section the CPM and associated staff will work from offices already established at Kanpur. The Quality and Safety Audit Consultant (QSAC) will provide oversight and monitor compliance. DFCCIL’s Social and Environment Management Unit (SEMU) headed by a General Manager will oversee the environmental management plan (EMP) and the resettlement action plan (RAP). These activities will be undertaken by operational staff at headquarters and by field staff, supported as necessary by consultants. A two-stage public grievance redress mechanism will be established with two grievance committees operating at the field and DFCCIL levels, and with an Ombudsman. Safeguard quality monitoring will be carried out by third party consultants (Social and Environmental Safeguards Monitoring Review Consultants – SESMRC).

VI. Safeguard Policies (including public consultation)
<table>
<thead>
<tr>
<th>Safeguard Policies Triggered by the Project</th>
<th>Yes</th>
<th>No</th>
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<tbody>
<tr>
<td>Environmental Assessment OP/BP 4.01</td>
<td>☒</td>
<td></td>
</tr>
<tr>
<td>Natural Habitats OP/BP 4.04</td>
<td></td>
<td>☒</td>
</tr>
<tr>
<td>Forests OP/BP 4.36</td>
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<td>☒</td>
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<tr>
<td>Pest Management OP 4.09</td>
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<td></td>
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<tr>
<td>Physical Cultural Resources OP/BP 4.11</td>
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<td>Indigenous Peoples OP/BP 4.10</td>
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<tr>
<td>Involuntary Resettlement OP/BP 4.12</td>
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<td>Safety of Dams OP/BP 4.37</td>
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<td>Projects on International Waterways OP/BP 7.50</td>
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<tr>
<td>Projects in Disputed Areas OP/BP 7.60</td>
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</table>

Comments (optional)
The project involves major construction activities such as earthen embankments for the rail track, number of major and minor bridges, rail fly overs and ancillary buildings. These activities are expected to cause significant environmental impacts comprising acquisition of forest land, cutting of trees, impact on community and cultural resources, and land acquisition and involuntary resettlement. Considering the above, the Project has been categorized as ‘Category A’ and triggers three safeguards policies- Environmental Assessment (OP/BP 4.01), Physical Cultural Resources (OP/BP 4.11) and Involuntary Resettlement (OP/BP 4.12).

Project has been categorized as ‘Category A’, and an ‘Environmental Assessment’ was carried out to identify key environmental issues. An Environmental Management Plan has also been prepared and will be integrated with the contract documents for implementation.

Impacts on 70 physical and cultural properties have been identified in the EA and suitable mitigation measures (avoidance, restoration or relocation) have been formulated for implementation during the construction phase of the project.

The SIA has been carried out and Draft RAP prepared.

Environmental Impacts: Complying with the safeguard policies of the Bank and also the ‘Environmental Management Framework’ developed during the preparation of EDFC1, the project has carried out an ‘Environmental Assessment (EA)’ for the Kanpur to Mughal Sarai section (EDFC 2) and prepared an Environmental Management Plan (EMP) to mitigate environmental impacts of the project. Based on detailed analysis carried out in EDFC1, the project has developed strategies for Silicosis Reduction and Green House Gas Emission Reduction.

To implement these initiatives, DFCIL has set up a Social and Environmental Management Unit (SEMU) headed by a General Manager. SEMU implements all the safeguard activities at DFCIL, and is supported by an AGM and one environmental and social specialist each. This unit has successfully carried out the safeguard due diligence activities such as (i) Carrying out Environmental Assessment for EDFC2 (Kanpur – Mughal Sarai) Section (ii) carrying out an Environmental Assessment of EDFC1 (Khurja – Kanpur Section) (iii) Environmental Assessment of Tundla Detour of EDFC1 (iv) Environmental Assessment of Rail Over Bridges in EDFC1 (iv)
Secured clearances from Taj Trapezium Authority, Archaeological Department for Tundla Detourn in EDFC1 (v) permissions for majority of forest land diversion and tree cutting clearances, etc in EDFC1 and (v) initiated forest land diversion clearances for EDFC2. In addition to the above the Environmental Assessment of Ludhiana – Khurja Section (EDFC3) is also in the advanced stage of preparation.

Social Impacts: The key social impacts associated with this Project include the loss of land, shelter/business, farming livelihoods, incomes and community properties and temporary construction related impacts. As per the Social Impact Assessment, the Project requires acquisition of 1400 ha of land, including 1250 ha (89 percent) private land and 150 ha government land. About 13,034 families (some 64,000 people) are being affected.

The safeguards policy arrangements for EDFC2 are a continuation of those agreed for the EDFC1. The World Bank Operational Policy 4.12 (Involuntary Resettlement) and OP 4.11 (Physical and Cultural Resources) are triggered and appropriate safeguard measures proposed. OP 4.10 has not been triggered as no tribal people are affected. The land acquisition (LA) for EDFC will continue to be carried out applying the Railway Amendment Act (2008), with adopting the National Rehabilitation and Resettlement Policy (NRRP) 2007 for giving resettlement and rehabilitation (R&R) assistance, as was done for EDFC-1. DFCCIL has carried out a Social Impact Assessment and prepared a Resettlement Action Plan (RAP) for EDFC2. The RAP for EDFC2 is in line with the RPF agreed or EDFC1.

New Land Acquisition Bill. The Government of India has enacted a new Right to Fair Compensation and Transparency in Land Acquisition Bill in September 2013, which is awaiting Presidential signature. The Railway Act (2008) is exempt from the purview of this new legislation. Nonetheless the Entitlement Matrix adopted for the DFC project provides for paying compensation as per the Railway Act (2008) or any other policy or legislation applicable in the State in which the land is acquired, whichever is higher. This provision will enable any additional compensation to be paid in line with any new laws enacted by the State governments. Moreover, the independent safeguards quality review framework in the RAP allows updating of entitlements and implementation process if required. The land acquisition for EDFC2 is at an advanced stage of implementation with award declared for 98% of the 1400 Ha required.

The institutional arrangements for EDFC2 will be a continuation of the system established for EDFC1. The Social and Environment Management Unit (SEMU) of DFCCIL, led a General Manager, assisted by an AGM and a Social Development Specialist, plays a coordinating role with NGOs for providing field-level implementation support. The Chief Project Managers (CPM) will continue to operate as Chief Resettlement Officers, assisted by a number of Assistant Project Managers (Social).

A multi-stage Grievance Redress Mechanism will handle grievances of Project-affected persons. The Competent Authority appointed for carrying out LA will hear and resolve preliminary objections/grievances, whereas Revenue Commissioners appointed as Arbitrators will hear Project-affected persons’ claims seeking higher compensation. DFCCIL has established a multi-level independent Grievance Redress Mechanism (GRM).

VII. Contact point

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