

**Credit Rating Report**  
**Dedicated Freight Corridor Corporation of India Limited**

**Corporate Credit Rating**

**CCR AAA(Reaffirmed)**

**Rating Drivers**

**Strengths**

- Strategic and economic importance of project for enhancing economic growth
- Technical, managerial, and financial support from parent, Ministry of Railways (MoR)

**Weakness**

- Exposure to project implementation risk, including time and cost overruns

**Rating sensitivity factors**

- Extent and timeliness of support from MoR
- Extent of delays in execution and cost overruns
- Issues in acquisition of remaining land

**Rationale**

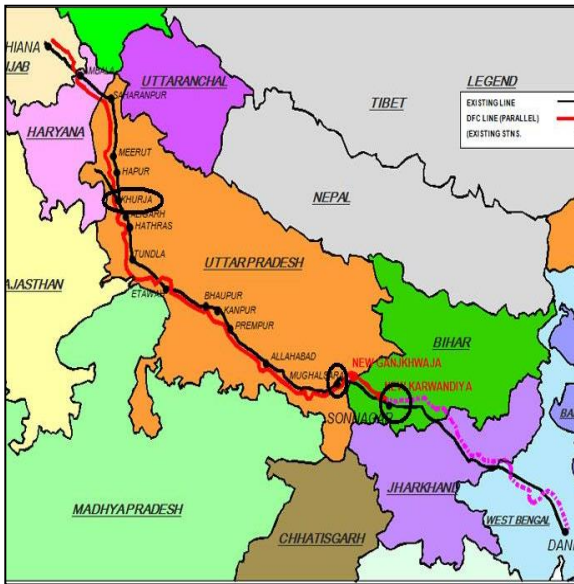
Dedicated Freight Corridor Corporation of India Ltd (DFCCIL), a special purpose vehicle (SPV) of MoR, Government of India (GoI), was established in October 2006 to channel resources to key and strategic sectors. DFCCIL was set up with the mandate to build, operate, and maintain the dedicated freight railway lines along the Golden Quadrilateral rail routes and its diagonals. It is constructing high-capacity and high-speed dedicated freight corridors (DFCs). GoI, through MoR, wholly owns DFCCIL.

The first phase (*see Table 1*) comprises construction of two DFCs spanning the Mumbai-Delhi (Western DFC) and the Delhi-Kolkata (Eastern DFC) rail routes (*see maps below*), covering a total length of 3300 kilometres (km). The corridors are expected to be fully operational over their entire lengths by December 2019.

**Table 1: Project Phasing**

<b>Western Corridor</b>	<b>Region</b>	<b>Completion Date</b>
Phase 1	Rewari-Vadodara	Jun-18
Phase 2	Vadodara-JNPT & Rewari-Dadri	Dec-18
<b>Eastern Corridor</b>		
Phase 1	Khurja-Kanpur	Mar-17
Phase 2	Kanpur-Mughalsarai	Dec-18
Phase 3	Khurja-Ludhiana & Khurja-Dadri	Dec-19
Phase 1A (Funding by MoR)	Sonnagar-Mughalsarai	Dec-16
Phase 4 (Funding through PPP)	Sonnagar-Dankuni	Not finalized yet

### Dedicated Freight Corridor (Eastern)



### Dedicated Freight Corridor (Western)



Source: [www.dfccil.org](http://www.dfccil.org)

### DFCCIL's project cost

DFCCIL's DFC project was initiated in 2008-09 (refers to financial year, April 1 to March 31). Its estimated total cost is Rs.734 billion (excluding soft costs for the Sonnagar-Dankuni stretch). This includes cost escalation, interest during construction, and other soft costs (see Table 2), funded in a debt-to-equity ratio of 2:1. The cost of the project involves the cost of laying tracks as well as developing electrical and mechanical systems such as signalling and communications, civil structures, and stations and buildings. It also factors in all soft costs, including interest during construction, contingencies, and cost escalation by way of inflation and cost overruns.

**Table 2: Project Cost**

Figures in Rs. Billion	EDFC	WDFC	Total
Civil Works	140	232	372
S & T	20	31	51
Electricals	30	43	73
Mechanical	2	2	3
ROB/RUBs	20	21	42
<b>Total Construction Costs (A)</b>	<b>211</b>	<b>329</b>	<b>540</b>
Cost Escalation	42	70	111
Insurance, Taxes	3	4	7
Contingency	8	12	20
Interest During Construction	3	53	56
<b>Total Soft Costs (B)</b>	<b>55</b>	<b>139</b>	<b>194</b>
<b>Total Project Cost (A+B)</b>	<b>267</b>	<b>467</b>	<b>734</b>

# Land to be provided by Indian Railways (IR) on lease. Part of the new track will be adjacent to the existing network and hence, not much of additional land will be required.

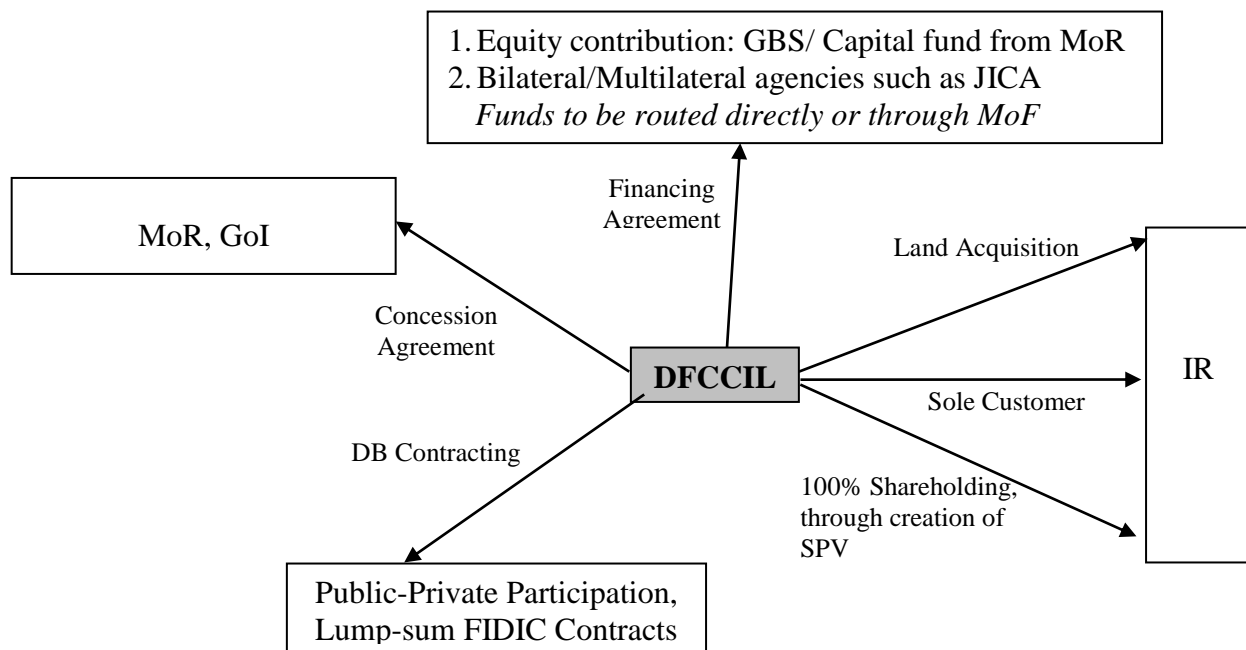
Soft cost for Sonnagar-Dankuni section in EDFC are not included as the financing for the project is yet to be decided.

The funding sources are bilateral/ multilateral debt: Rs.523 billion; equity in the form of General Budgetary Support (GBS) or capital funds from MoR: Rs.210 billion, with any shortfall being met through commercial borrowings. The debt is being primarily raised by the Ministry of Finance (MoF), GoI, through bilateral/multilateral agencies such as the World Bank, Asian Development Bank, and Japanese International Cooperation Agency (JICA; see Diagram 1). These funds will be extended to DFCCIL in the form of a loan from MoR for the construction of the DFCs. The additional funding will be by way of equity from MoR and commercial borrowings that DFCCIL may raise from the market, if required.

### Contractual arrangement

DFCCIL proposes to implement the project through a combination of lumpsum Fédération Internationale Des Ingénieurs-Conseils (FIDIC) contracts and public-private participation (PPP) modes.

**Chart 1: SPV structure and contractual arrangement**



### Project risk analysis

#### a) Funding risk

The project is being funded through a debt-to-equity ratio of 2:1 with the debt being raised through bilateral/multilateral agencies by MoF. The funds are being provided to DFCCIL as loans from MoR. Any funds routed directly to DFCCIL and external borrowings, if any, are expected to have a GoI guarantee. The funding also includes the cost of inflation as the project will take around seven to eight years for completion. Loan agreements have been signed with the World Bank and Japanese International Cooperation Agency (JICA) for the first and second tranches of USD975 million and USD1100 million for the EDFC, and Japanese yen (JPY) 107 billion for the WDFC, respectively.

**b) Implementation risk**

For timely implementation, DFCCIL is adopting strategies that provide adequate incentives and deterrents for contractors to complete the work within the deadlines and budgets. It will award both lumpsum FIDIC design build and PPP mode contracts to reputed contractors with proven experience in implementation of similar works. IR has carefully selected and deployed personnel with extensive experience in managing large projects from within its resource pool to ensure smooth implementation. On the technology front, DFCCIL is implementing state-of-the-art information technology (IT) systems, including geo-referencing technology. These are being funded by World Bank and loan approval has been received ahead of schedule due to quick implementation. However, the DFCs are a large project even for IR, and DFCCIL may face implementation challenges.

**c) Land acquisition risk**

The DFCs being constructed by DFCCIL will cover around 3300 km across multiple states in the country. However, a part of the DFCs will run along the existing railway tracks of Indian Railways (IR), for which, not much land is to be acquired. For the balance requirement, MoR (under powers vested in it through The Railways Act, 1989) will acquire land and give it on long-term lease to DFCCIL. DFCCIL has completed acquisition of 90 per cent of the required land as on March 31, 2014.

**d) Environmental risk**

Execution of such a large project may result in environmental damage as well as significant resettlement. DFCCIL is therefore undertaking a detailed environmental impact assessment of the project. All relevant clearances are being taken from various government agencies such as the Ministry of Environment and Forests (MoEF). Projects are being managed through categorisation of their impact on the environment and are being dealt with accordingly. The loan covenants with bilateral/multilateral agencies also require detailed environmental and social impact assessment to be undertaken along with preparation of appropriate rehabilitation and resettlement matrix.

**e) Demand risk**

IR's existing network is completely saturated; the Golden Quadrilateral accounts for just 16 per cent of the route length but carry more than 50 per cent of the Railway's traffic. The capacity utilisation here varies from 115 to 150 per cent. The demand is, therefore, expected to exist for utilisation of substantial capacities of both the networks – existing and DFC, which will run parallel to the existing tracks. Moreover, the DFCs will be assigned all existing freight traffic for which DFCCIL will provide the most logical (shortest and/or fastest) route, provided it covers two or more consecutive junction stations over the DFC (two-junction principle). IR will have an incentive to transfer its existing traffic to the DFC network as it will provide substantive savings in the form of fuel consumption and rapid rolling stock turnaround because of efficient operations. IR is also upgrading its own feeder routes connecting to the DFCs to ensure that the traffic originating from non-DFC routes, but passing through it is routed through DFCs. Also, the release of capacity on IR's existing network can then be used for running additional passenger services.

**f) Revenue risk**

DFCCIL will generate its revenues through a Track Access Charge (TAC) mechanism from its sole customer, IR. IR will have monopoly in running trains on DFCCIL's network. The freight booking will be done through IR, which will then assign traffic to the DFCs.

**TAC:** TAC is the charge that IR will pay to access DFCCIL's network. TAC consists of fixed and variable components, which cover the costs associated with providing and maintaining infrastructure for running freight trains on the network. The structuring has been done such that DFCCIL is able to meet its expenses relating to fixed components such as financing cost, staff, materials, and depreciation. The variable components include traction power, staff, and materials. The fixed component also includes the financing cost of loans from MoR and commercial borrowings, if used.

**g) Debt repayment coverage risk**

Though commercial debt is not envisaged by DFCCIL currently, the payment of interest applicable on any commercial debt raised during the construction phase will start before commencement of operations and revenue generation. However, DFCCIL is fully covered through the fixed components of TAC to fund its fixed cost of maintaining the network as well as its financing costs.

**The rating reflects DFCCIL's following strengths:**

**Strategic and economic importance of project for enhancing economic growth**

The DFC is one of the biggest infrastructure projects being undertaken by MoR and has received increased focus in the recent past, with close monitoring directly from the prime minister's office. DFCCIL's mission is to support GoI's initiatives towards ecological sustainability by encouraging users to adopt railways as the most environment-friendly mode for their transport requirements. The project is of national importance as it will serve GoI's infrastructure requirements for enhancing economic growth. Through this project, MoR intends to bridge the gap between road and rail as a means of transporting freight across the country. DFCCIL's project is likely to bring about enhanced rail transport capacity and operational efficiency, contributing to the national economy, both directly and indirectly.

The DFCs are being constructed on the Mumbai-Delhi (Western) and Delhi-Kolkata (Eastern) segment of the Golden Quadrilateral. IR's Golden Quadrilateral, which accounts for about 16 per cent of the route length, carries more than 50 per cent of Railway's traffic (around 70 per cent of this is on the eastern and western corridors). The line capacity in this area is saturated—the capacity utilisation varies from 115 to 150 per cent. DFCCIL is adopting improved design features to optimise productive use of infrastructure. It is expected to attract freight traffic because of its efficient operations and lower cost structure. It will also release capacities on IR's existing network as the freight traffic will get diverted to the DFCs. Reduced congestion will result in more passenger trains and fuel cost savings because of reduced congestion and turnaround time.

Over the past few decades, the market share of rail transport in freight has declined sharply to 30 per cent from 80 per cent in 1950. This is mainly because of a high-cost structure for railways compared with road transport, as well as capacity constraints that have resulted in

longer delivery times. Moreover, congestion in network has affected the movement of passenger trains and led to faster wear and tear of assets.

With the economy showing a robust growth in the past decade and likely to grow at a healthy rate over the medium term, upgrading of transport infrastructure is vital. With the existing infrastructure already constrained, the plan to construct DFCs is critical to maintaining the existing growth rate over the medium term. IR is a majority contributor in carrying bulk freight traffic and has a healthy share of non-bulk freight traffic; hence, its ability to handle increased traffic is of utmost importance for the economy.

#### DFCCIL's project's benefits to IR

- Value of capacity released on IR's existing network can be used for running additional passenger services
- Savings in fuel cost on the existing system due to reduced congestion. Savings in rolling stock replenishment costs due to lower requirements on account of reduction in turnaround time
- Environmental benefits and potential carbon credits earned by the project
- Reduction in cost of operation owing to fuel savings on account of speedier and heavier trains, increase in rail share in overall freight, and improvement in quality of service

CRISIL believes that the project is important for India's economic growth and will serve the strategic infrastructure requirements for the next level of growth in the country's gross domestic product (GDP). The project will continue to figure on the high priority list of all the government agencies associated with it.

#### **Technical, managerial, and financial support from parent, MoR**

DFCCIL has been created as an SPV to ensure rapid, focused, and economical implementation and operation of a large project. MoR is lending its complete support to the project to ensure timely completion of the project with desired efficiency. GoI is expected to continue providing railway services and the sector is unlikely to be passed on to the private sector in the foreseeable future. DFCCIL, being a 100 per cent subsidiary of MoR, plans to fulfil functions that the government views as its obligation. It is also exemplified through the objectives of DFCCIL, which are in line with the MoR charter, as evident from Table 3.

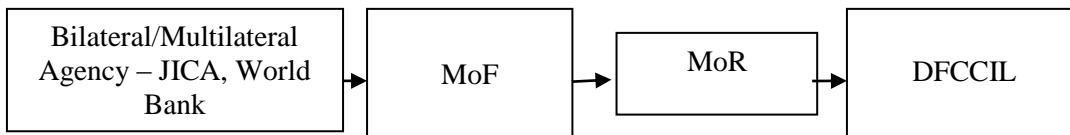
MoR understands that a project of such magnitude will have very different implementation challenges and has ensured that the leadership has the capability of managing the challenges. The project is being monitored by the prime minister's office and the chairman of the Railway Board operating as the chairman of DFCCIL, and MoR has selectively deputed its senior and experienced personnel on DFCCIL's board. Moreover, governance planning through a concession agreement between a public sector enterprise and a government entity that share a parent-subsidiary relationship will ensure that no ambiguity arises regarding the scope and implementation of the project. The agreement also includes reference to commercial rates and adjustments for inflation and increases in maintenance, repairs, and insurance costs.

**Table 3: DFCCIL’s objectives and MoR’s charter**

<b>DFCCIL Objectives</b>	<b>MoR’s Charter</b>
<ol style="list-style-type: none"> <li>1. Reduce unit cost of transportation by speeding up freight train operations and achieving higher productivity.</li> <li>2. Increase rail share in freight market by providing customised logistic services.</li> <li>3. Create additional rail infrastructure to cater to high levels of transport demand.</li> <li>4. Introduce time-tabled freight services and guaranteed transit time.</li> <li>5. Introduce high-end technology and IT packing of freight services.</li> <li>6. Segregate freight infrastructure for focused approach on both passenger and freight business of IR.</li> </ol>	<p>The Charter is a commitment of the IR administration to:</p> <ol style="list-style-type: none"> <li>1. Provide safe and dependable train services</li> <li>2. Set notified standards for various services wherever possible</li> <li>3. Provide courteous and efficient counter services</li> <li>4. Ensure adequate passenger amenities in trains and at railway stations</li> <li>5. Set up responsive and effective grievance redressing machinery at various levels for time-bound resolution of complaints and grievances as far as possible.</li> </ol>

IR, which will be the sole user of DFCCIL’s network, has worked out a plan to ensure that the traffic is diverted to the DFCs whenever there is a traffic movement between two consecutive junctions of the proposed corridor. Therefore, being a monopoly customer of DFCCIL, IR has ensured that there is enough demand to justify the construction of the project. Interlinked operations and strengthening of the feeder routes by IR will ensure integration of DFCCIL’s track with the existing rail network.

The funding has been arranged by MoR; the project will be funded through a combination of loans from multilateral and bilateral agencies and equity. Debt from bilateral/multilateral agencies will be directly contracted by MoF and will be routed through MoR as debt from parent. MoR will contribute nearly Rs.210 billion of equity.



Moreover, as DFCCIL is an SPV set up to fulfil a strategic goal, GoI is likely to guarantee the commercial loans that DFCCIL may raise for the eastern corridor to reflect its commitment. MoR has also structured the revenue generation of DFCCIL through TAC in a manner that ensures timely servicing of DFCCIL’s debt. The fixed component of TAC will be sufficient for DFCCIL to cover its costs as well as debt obligations.

CRISIL believes that DFCCIL receives strong business and financial support from its parent MoR, which will continue to facilitate DFCCIL for sourcing funds for the project as well as

for meeting its debt obligations. CRISIL's rating on DFCCIL is, therefore, based on a strong assumption of explicit government support.

**The above-mentioned strengths are partially offset by DFCCIL's following weakness:**

**Exposure to project implementation risk including time and cost overruns**

The DFC project is one of the largest undertaken by MoR, which has a track record in implementing large projects. However, a project as large as this has never been attempted. Also, for the first time, MoR is opted for the PPP route to implement a large project. The project is therefore likely to pose implementation challenges. Besides, there will be some human relocation too. All these factors could result in time and cost overruns for the project. Although inflation has already been factored into the project cost, there will be a lot of cost that will not have been envisaged because of lack of clarity as well as depth of planning.

CRISIL believes that DFCCIL will face time and cost overruns in its project as there will be many contingencies that cannot be envisaged at this point of time; these could be mitigated only by strong government support.

**Financial Policy**

The DFC project is being funded in a debt-to-equity ratio of 2:1 with the debt being raised through a combination of bilateral/multilateral agencies. DFCCIL is likely to maintain this gearing despite cost overruns as IR will infuse additional funds as per requirements. DFCCIL will receive revenue from IR in the form of TAC for the purpose of providing facilities. The company will not own any rolling stock or crew, nor will it have any role in fixing tariffs or collection of revenue. The IR will also be the final authority for deciding what and how much traffic has to be routed through the DFCs. However, the payments to DFCCIL are ensured through a TAC mechanism wherein the company will receive funds from IR to cover the fixed costs incurred, including debt obligations. The TAC mechanism is designed in a manner so as to cover all the costs of DFCCIL, including its debt obligations. This is irrespective of the traffic on the DFCs, and therefore mitigates all risks related to debt repayment by DFCCIL.