

# Rating Methodology - Toll Road Projects



[Issued in October 2022]

## Background

CARE Ratings' rating methodology for debt issues of road projects is designed to facilitate appropriate credit risk assessment, keeping in view the characteristics of the Indian road sector.

CARE Ratings examines the following critical areas while rating the road projects:

1. Revenue risk
2. Operations & Maintenance (O&M) risk
3. Financial risk
4. Project risk
5. Sponsor risk
6. Regulatory risk
7. Evaluation of Concession Agreement (CA)

### 1. Revenue risk

Revenue of the toll projects is the function of the traffic and toll rates. Furthermore, viability of the road project is critically dependent on the extent and nature of benefits enjoyed by the users of the facility and their willingness to pay for the same.

#### **Demand analysis, Competition and Toll pricing**

CARE Ratings' analysis focuses on traffic demand and potential variation of demand due to economic changes and competition. The linkage of demand to toll pricing and the users' willingness to pay is also examined based on a traffic study report by reputed traffic consultant.

#### **Track Record of Toll Collection**

CARE Ratings gives more importance to the track record of actual toll collection of operational projects and connecting stretches. The absence of track record of toll collection constrains the rating for the under-construction and newly built toll roads as it leads to challenges in estimating the traffic and possibilities of large variations in traffic. However, long track record of stable toll collection assures the cash flow for operational projects while making its operations self-sustainable. Hence, it is a credit positive for operational toll roads. Furthermore, the extent of achievement of projected traffic in passenger car units (PCUs) and consequent toll collection based on traffic study shall also be analysed.

#### **Demand Analysis and Location of Stretch**

Demand analysis involves analysis of the toll road region in terms of economic strength, demographic trend, diversity and historical vulnerability to negative shocks and trends of recovery for such period. For this, regional wealth indicators such as level of industrialisation, availability of facilitating infrastructure, etc., are examined. A sound and growing local economy assure a high level of commercial and business travel, the mainstay for revenue generation. Demand analysis is crucial as wrong estimation of demand or deterioration in the economic base would adversely affect viability and debt servicing capability of a project.

### **Traffic Study**

CARE Ratings' traffic demand analysis is based on studies carried out by traffic consultants who are reputed and have adequate experience. Origin-Destination survey, number of alternate routes and their probable impact on the traffic of the project stretch and assumption of traffic growth rates on base traffic due to likely developmental traffic and seasonal variations are important aspects of the study.

The nature and composition of traffic as well as volatility of traffic due to business cycles, natural factors (floods, landslides, etc.), social unrest and escalation in fuel prices are studied critically.

### **Traffic Mix**

While commercial traffic tends to serve as a stabilising force, CARE Ratings would favourably consider a balance between commercial and private vehicle traffic. Commercial traffic is less sensitive to toll increases than private traffic since additional cost (tax-deductible) can be passed on to the customers. However, commercial traffic increases susceptibility of revenue to slowdown in economic downturn **as well change** in load carrying regulations (axle norms) and disproportionately impacts the revenue in case of large variations due to its higher toll rates.

As a general rule, a diverse traffic mix cushions the impact of a decline in any one segment.

### **Competition**

Toll road projects are exposed to traffic diversion to alternate routes and competitive facilities. The development of toll-free roads can divert traffic away from a toll facility and disturb the projected traffic growth and subsequent revenues. Covenants in the Concession Agreement (CA) which explicitly prohibit the government from setting up competing facilities up to a stipulated period will mitigate 'diversion risk' of the project to an extent.

### **Quality of Connecting Roads**

Traffic density and construction quality of connecting roads also impact the traffic of the project stretch. Project stretch with good connectivity to high traffic and good quality connecting roads offer good prospects of origin destination traffic unlike project stretch with inferior connecting roads.

### **Toll Pricing**

Appropriate toll pricing, which is based on user's 'willingness to pay' is crucial for the success of any road project. Typically, a toll road project would result in benefits in the form of (i) savings in vehicle operating costs (VOC), (ii) savings in time and (iii) savings in distance covered.

A Concession Agreement which provides for 'automatic' revision with pre-defined formula for revision in toll rates, e.g., linkage to inflation index along with requisite authority to the project directors to implement toll rate revisions is considered as a credit strength for the project.

## **2. O&M Risk**

O&M risk is the major risk in operational toll road projects as heavy traffic, especially of commercial vehicles results in relatively higher wear and tear on the road surfaces. Inadequate maintenance on the project stretch can also lead to penalties from authorities and closure of toll collection. Furthermore, higher-than-envisaged O&M and major maintenance reduce cash-flow cushion while impacting Debt Service Coverage Ratio (DSCR).

CARE Ratings evaluates the O&M risk considering the following factors:

- Terrain, traffic mix and actual traffic vis-à-vis design capacity to access O&M cost and major maintenance cost. For example, O&M cost and major maintenance cost can be lower for relatively lower-traffic state highway projects and can be substantially higher for projects carrying heavy vehicles.
- Comparison of O&M cost and major maintenance cost of projects with the industry aggregates.
- Presence of fixed-price O&M contract and credential of O&M contractor.
- Provision for major maintenance reserve and its adequacy to fund actual major maintenance expenditure.
- Number of major maintenance cycles completed and their actual cost.

### 3. Financial Analysis

An in-depth analysis of the projected operations is undertaken to get a clear indication of the SPV's ability to service debt. The analysis would include critical examination of the underlying assumptions, location of possible stress points and the extent of flexibility to tide over difficulties. A sensitivity analysis is carried out to evaluate the impact on debt servicing ability due to changes in assumptions.

The financial analysis takes into account the following factors:

- Financial structure and leverage measured by debt/cash flow available for debt (CFAD) servicing.
- Debt service coverage ratio (DSCR) and interest coverage ratio.
- Debt/toll collection in comparison to balance loan tenor.
- Financial flexibility and tail period. Longer the tail period, better the financial flexibility.
- Since road projects generate revenue in Indian Rupees, any foreign exchange debt by the project results in exchange risk.
- Adequacy of debt service reserve account (DSRA). If DSRA is created in the form of bank guarantee, renewal clauses of such bank guarantee before its expiry mitigates rollover risk. However, in absence of such clauses, rollover risk of DSRA bank guarantee generally lies with the sponsor. Stronger credit profile of the sponsor mitigates the rollover risk to an extent while a moderate to weak credit profile of sponsor increases rollover risk associated with such bank guarantee and dilutes the liquidity support feature of DSRA. Presence of DSRA or cash trap mechanism lends higher cash flow resilience to operational toll roads in case of exigencies.
- Provision of cash sweep, if any.
- Restricted payment covenant and clauses in case actual DSCR is lower than threshold DSCR assumed at the time of funding.

### 4. Project Implementation Risk

The risk associated with implementation of a toll road project can be quite high considering the long gestation period and large investments required. CARE Ratings analyses the following factors to estimate the risks associated with the completion of the project.

- The extent of tie-up for finance.
- The capability of the sponsor/SPV to raise additional resources in case of cost over-runs.
- The capability of the Engineering, Procurement and Construction (EPC) contractor, based on technical and financial strengths as well as experience and terms of EPC contract.
- Status of land acquisition both in terms of available area (3G and 3H basis) and length at the time of declaration of appointed date.

- Status of de-linking of unavailable land, if any.
- Availability of resources in the vicinity of project area.
- Extent of structural work in total EPC cost and complexity associated with such work.
- Status of clearances mainly forest, tree cutting and rail over bridge.
- Environmental, social and political issues.
- Comparison of project progress with schedule progress
- Status of approval of extension of time (EOT) from NHA in case of delay in project execution and corresponding approval from lender for the shifting of repayments in line with EOT, if any.
- Appointment of reputed contractors increases the chances of successful and timely implementation of the project.
- Other tools to mitigate construction risks include Fixed-price contracts with suitable clauses to motivate the contractor to complete the project ahead of time; liquidated damages upon delay; performance bonds; a favorable contractor payment schedule, including partial withholding or subordination of contract repayment during construction, etc.
- During project implementation, CARE Ratings would monitor the progress vis-à-vis the initial cost and time estimates to determine the effect of variations from schedule on the ability to meet debt servicing obligations.

## 5. Sponsor Evaluation

CARE Ratings evaluates the management from different perspectives such as financial capabilities and track record in implementing and operating projects of similar nature and size. Despite the non-recourse nature of the debt of the SPV, financial flexibility and execution track record of sponsor are important in pre-COD phase. Furthermore, sponsor is required to fund cost overrun, if any as per sponsor support agreement entered with lenders. In a road project, management's ability to accurately assess traffic and operating and maintenance expenses are important to protect future revenue streams for debt servicing.

## 6. Regulatory Risk

CARE Ratings has observed that ratings assigned to the debt of state highways projects are exposed to regulatory risk in case toll exemption of cars announced by state governments. Although government is required to pay the concessionaire loss of revenue due to toll exemption, delay in finalization of modalities for release of compensation and release of funds from state government exposes projects to cash flow risk. CARE Ratings evaluates track record of release of compensation payment and its adequacy in these cases.

## 7. Evaluation of Concession Agreement

The right to implement the project and to levy and collect tolls emanates from the Concession Agreement (CA). Hence, the terms of the CA are carefully examined, especially those relating to:

- Tenor of concession and provision of extension of concession period in case of shortfall in revenues.
- Clauses for de-scoping of unavailable land and issue commercial operations date (COD)
- Levy of tolls and their periodic revision
- Termination of CA.
- Issues relating to land acquisition.
- It is essential that the CA contains sufficient safeguards to provide disincentive to any of the contracting parties to default.

**Qualified Investments**

Pending redemption of debt obligations, surplus funds would have to be appropriately invested by the SPV. CARE Ratings examines the proposed investment policies to ensure the safety of such investments. Liquidity aspects of the proposed investments are also considered. CARE Ratings analyses each of the above factors and their linkages to arrive at the overall assessment of credit quality.

**Conclusion:**

The rating outcome is ultimately an assessment of the fundamentals and the probabilities of change in the fundamentals. CARE Ratings analyses each of the above factors and their linkages to arrive at the overall assessment of credit quality of an issuer. While the methodology encompasses comprehensive technical, financial, commercial, economic and management analysis, credit rating is an overall assessment of all aspects of the issuer.

[For the previous version please refer to 'Rating Methodology – Toll Roads Projects' issued in [August 2020](#)]

## CARE Ratings Limited

Corporate Office: 4th Floor, Godrej Coliseum, Somaiya Hospital Road, Off Eastern Express Highway, Sion (East), Mumbai - 400 022  
Phone : +91 - 22 - 6754 3456 | CIN: L67190MH1993PLC071691

Connect :



Locations: Ahmedabad | Andheri-Mumbai | Bengaluru | Chennai | Coimbatore | Hyderabad | Kolkata | New Delhi | Pune

### About:

CareEdge is a knowledge-based analytical group that aims to provide superior insights based on technology, data analytics and detailed research. CARE Ratings Ltd, the parent company in the group, is one of the leading credit rating agencies in India. Established in 1993, it has a credible track record of rating companies across multiple sectors and has played a pivotal role in developing the corporate debt market in India. The wholly-owned subsidiaries of CARE Ratings are (I) CARE Advisory, Research & Training Ltd, which offers customised advisory services, credible business research and analytical services (II) CARE Risk Solutions Private Ltd, which provides risk management solutions.

### Disclaimer:

The ratings issued by CARE Ratings Limited are opinions on the likelihood of timely payment of the obligations under the rated instrument and are not recommendations to sanction, renew, disburse or recall the concerned bank facilities or to buy, sell or hold any security. These ratings do not convey suitability or price for the investor. The agency does not constitute an audit on the rated entity. CARE Ratings Limited has based its ratings/outlooks based on information obtained from reliable and credible sources. CARE Ratings does not, however, guarantee the accuracy, adequacy or completeness of any information and is not responsible for any errors or omissions and the results obtained from the use of such information. Most entities whose bank facilities/instruments are rated by CARE Ratings Limited have paid a credit rating fee, based on the amount and type of bank facilities/instruments. CARE Ratings Ltd. or its subsidiaries/associates may also be involved with other commercial transactions with the entity. In case of partnership/proprietary concerns, the rating /outlook assigned by CARE Ratings Limited is, inter-alia, based on the capital deployed by the partners/proprietor and the current financial strength of the firm. The rating/outlook may undergo a change in case of withdrawal of capital or the unsecured loans brought in by the partners/proprietor in addition to the financial performance and other relevant factors. CARE Ratings Limited is not responsible for any errors and states that it has no financial liability whatsoever to the users of CARE Ratings.

Our ratings do not factor in any rating related trigger clauses as per the terms of the facility/instrument, which may involve acceleration of payments in case of rating downgrades. However, if any such clauses are introduced and if triggered, the ratings may see volatility and sharp downgrades