

CRISIL's criteria for rating annuity and HAM road projects

October 2020



Criteria contacts

Somasekhar Vemuri

Senior Director, Rating Criteria and Product Development
somasekhar.vemuri@crisil.com

Chaitali Nehulkar

Associate Director, Rating Criteria and Product Development
chaitali.nehulkar@crisil.com

Venkata Sumanth Devarapalli

Analyst, Rating Criteria and Product Development
venkatasumanth.devarapalli@crisil.com

Ramesh Karunakaran

Director, Rating Criteria and Product Development
ramesh.karunakaran@crisil.com

Venkatesh Balakrishnan

Manager, Rating Criteria and Product Development
venkatesh.balakrishnan@crisil.com

Radhika Uday Patankar

Analyst, Rating Criteria and Product Development
radhika.patankar@crisil.com

For feedback and queries, write to us at criteria.feedback@crisil.com

Executive summary

The Government of India invites private participation in the road construction segment by awarding projects under different models such as cash contracts (engineering, procurement and construction [EPC]), toll, annuity, and hybrid annuity. The fundamental differences in these models are the method of compensation and the obligations during the construction and operational phases. This criteria document outlines CRISIL's approach and methodology for rating annuity and hybrid annuity model (HAM) road projects.

In annuity road projects, a special purpose vehicle (SPV) constructs the road and receives fixed payments from the National Highways Authority of India (NHAI) or state government authorities throughout the concession period, with an obligation to maintain the quality of the road. Unlike toll road projects, demand risk here is mitigated by a steady stream of assured payments.

HAM is a variant which combines the features of annuity and EPC projects. In HAM projects, the concessionaire receives inflation-adjusted payments during the project implementation phase to fund a certain percentage of the project cost. During the operational phase, these projects receive annuity payments and maintenance compensation, which are adjusted for interest rate and inflation, respectively.

Both annuity and HAM projects face construction and funding risks in the project phase. Construction risk depends on the availability of right of way (ROW) and environment and forest clearances. Funding risk mainly involves the ease of tying up financing. These risks are mitigated in HAM projects by certain features such as presence of 80% ROW before the work begins and funding support from the concessioning authority during the construction phase.

During the operational phase, annuity road projects are insulated from fluctuations in revenue as cash flow to the concessionaire is fixed and semi-annual as per the concession agreement. So, the major residual risk pertains to the costs — operations and maintenance (O&M), and major maintenance and repair (MMR) — to maintain the road. CRISIL's analysis of annuity road projects considers adequacy of these costs and potential increases therein due to inflation. CRISIL sensitises these costs to inflation when assessing whether cash inflow can absorb the impact of any unanticipated increase in cost.

Operational HAM projects, in addition to the annuities, have inflows comprising interest on the residual annuities and inflation-linked maintenance compensation. Such a project resembles a financial asset with almost a pass through cash flow structure, if bid appropriately. The major residual risk, therefore, is the extent of adverse co-movements in the interest rate and inflation. CRISIL's analysis of HAM projects centrally factors in structural cushion in terms of leverage along with any liquidity buffer to manage these residual risks.

CRISIL's analysis also looks at the counterparty risks and adequacy of the liquidity cushion to counter any delay in payment of annuity by the counterparty.

Scope

The scope of the criteria¹ applies to projects that receive annuity payments from counterparties such as NHAI and state governments.

Rating annuity and HAM roads

An annuity or HAM road project has two main stages:

¹ For accessing the previous published document, kindly refer to the following link:
https://www.crisil.com/content/dam/crisil/criteria_methodology/infrastructure/archive/crisil-criteria-for-rating-annuity-road-projects-june-2018.pdf

1. Construction (project) stage
2. Operational stage

The methodology for rating in each of these stages is explained below.

Rating construction (project) stage annuity and HAM road projects

For annuity and HAM road projects that are under implementation, the rating factors in construction/project stage risks. Key such risks are listed below.

Table 1: Key risks in annuity and HAM road projects in the construction stage

Key project risks	Explanation – annuity roads	Explanation – HAM roads
Implementation risk	<p>Road projects span several kilometres. Hence, factors such as land acquisition, environmental clearances and delay in contracts may hamper timely implementation. Most clearances and permits are to be sought on an ongoing basis.</p> <p>Terrain complexity such as hills, forests and proximity to rivers makes execution more complicated.</p>	<p>HAM projects fare better in implementation risk front due to the presence of certain specific features.</p> <p>Firstly, there is an 80% ROW before the work begins. Also, in the event of delays in handing over required ROW by NHAI within the stipulated time, there is an option to descope or delink.</p> <p>In such instances, the PCOD is given for the completed stretch and annuity payments are received. This feature minimises the risk of delay in project completion which in road projects arises primarily due to land acquisition issues.</p>
Funding risk	<p>Availability of funding, both debt and equity, is critical for timely project completion.</p>	<p>The concessioning authority’s support for 40% of the construction cost in HAM projects reduces this risk to some extent.</p>
Technology risk	<p>The technology for construction of roads is well established.</p>	

CRISIL also factors in the track record of the sponsor with regard to timely completion of projects, post-implementation debt-servicing ability, and liquidity, when rating annuity and HAM projects in the construction stage.

Rating operational annuity and HAM road projects

Major risk factors in operational annuity and HAM road projects are highlighted below:

Table 2: Key risks in operational annuity and HAM road projects

	Annuity roads	HAM roads
Demand	<p>No demand risk (fixed semi-annual payments from NHAI or the state government without linkage to traffic on the road)</p>	<p>No demand risk (annuity payments from NHAI or the state government along with interest on residual annuities, and inflation-linked maintenance charges without linkage to traffic on the road)</p>
Price	<p>No price risk</p>	
Cost	<p>Risk due to inadequacy of maintenance estimates of the road to account for actual maintenance cost</p>	<p>Risk due to aggressive bidding leading to inadequate maintenance compensation compared to actual cost</p>
Inflation and interest rate risk	<p>Fixed inflow leads to inflation risk on maintenance cost front and interest rate risk on debt servicing front.</p>	<p>Both interest rate and inflation risks are minimised as the inflow is linked to benchmark interest and inflation rates.</p>

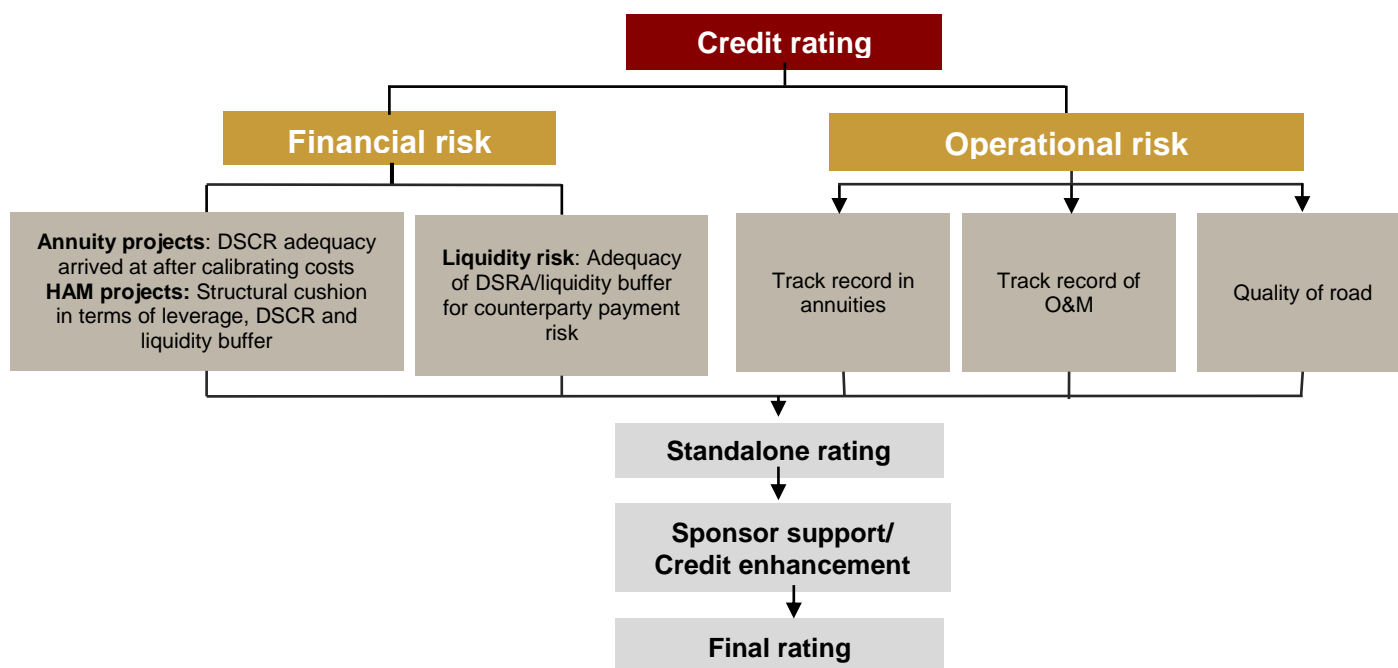
Annuity roads	HAM roads
----------------------	------------------

However, residual risks remain due to possible adverse co-movement of these rates vis-à-vis cost indices.

Counterparty	Risk due to delay in payment of annuities that could lead to liquidity mismatches, thereby affecting ability to service debt on time.
---------------------	---

Methodology to assess operational annuity and HAM projects

Overview of CRISIL methodology for assessment of operational annuity and HAM road projects



Financial risk

CRISIL's analysis of the financial risk profiles of operational annuity and HAM projects involves analysis of the cash inflow against maintenance and debt servicing requirements, and presence and adequacy of liquidity buffers.

In annuity projects, with inflow being stable and known, the financial risk profile is highly sensitive to the adequacy of the provisions for maintenance expenses. CRISIL looks at debt service coverage ratios (DSCRs) of annuity projects after factoring in adequate stress inflation on maintenance cost, to understand their ability to meet financial obligations.

In HAM projects, annuity is received adjusted for interest rate (in the form of interest on residual annuities). Also compensation for maintenance is adjusted for inflation. Such adjustments help mitigate risks arising due to inflation or interest rate movements. However, residual risks remain, arising from adverse co-movements in the indices, and receipt of inadequate compensation against outflow could lead to cash flow mismatches. CRISIL, therefore, centrally looks at leverage and liquidity in HAM projects, to maintain a healthy credit risk profile.

Calibrating maintenance cost and calculating DSCR in operational annuity and HAM projects

CRISIL's framework primarily focuses on the following key aspects while calibrating the costs to arrive at cash flow for computation of DSCR:

- a. Adequacy of MMR and O&M costs
- b. Ability to withstand fluctuations in inflation rate
- c. Ability to withstand fluctuations in interest rate

These aspects are covered in detail below.

a) Adequacy of MMR and O&M costs

CRISIL evaluates various factors to assess the quality of the road in order to determine the adequacy of MMR and O&M costs. State road projects, which see lesser traffic than national highways, usually entail lower MMR and O&M costs as the wear and tear of roads is lower. CRISIL also factors that high-quality roads may be able to reduce the frequency of MMR or use emerging technologies to carry out MMR at a later stage. Other project-specific factors that may affect the MMR and O&M costs, such as presence of freight intensive zones, difficult terrain, and the developer's track record in maintaining operational road stretches, are also factored in.

b) Ability to withstand fluctuations in inflation

Once CRISIL evaluates provisions for maintenance cost, adequacy of inflow to support these costs despite inflation spikes is gauged. This assessment is important as timely maintenance of the road stretch is critical. Non-maintenance could lead to delay in receipt of annuities or in the worst case, suspension of payments from the concessioning authority till the quality of road is restored to the stipulated condition.

Assessment of the SPV's ability to carry out maintenance without seeking support from the sponsor is important. This helps in delinking the credit risk profile of the SPV from that of the sponsor.

In annuity projects, CRISIL stresses the cash flow for a possible increase in inflation. As a higher rating signifies greater stability and ability to absorb shocks, it is expected to withstand higher stress.

In HAM road projects, benchmark inflation-linked inflows offset the cost-side inflation. Hence, sensitivity analysis is carried out to account for the extent of adverse co-movements possible in these indices.

c) Ability to withstand fluctuations in interest rates

For traditional annuity projects, CRISIL analyses the adequacy of the cash flow to withstand any fluctuation in interest outgo over the concession period.

HAM road projects receive interest on annuity, linked to the bank rate. The SPVs generally borrow debt linked to the marginal cost of funds-based lending rate (MCLR) of a bank. While interest received on annuity offsets interest rate risks, the two indices—bank rate and MCLR (or the index with which the borrowings are linked) —need not exactly move in tandem. This leads to residual risk, wherein the inflow may not exactly offset the outflow. CRISIL carries out sensitivity analysis on the interest rate movements to account for the residual risk arising from the movements of these indices.

If the SPV has raised debt at a fixed interest rate, CRISIL's analysis of the cash flow factors in the fixed obligations against fluctuating inflow.

Liquidity assessment: Creation of adequate DSRA/ liquidity buffer

In an operational annuity or HAM project, as the concessioning authority is generally a government or a government-controlled entity, the risk of incomplete payments is low and solvency is rarely an issue. However, there could be delays in annuity payments, which could adversely affect the borrower's ability to service debt on time. Hence, it is critical that the borrower maintain a liquidity cushion. Besides, if the debt obligation is structured close to the annuity payment, then the debt repayment becomes highly sensitive to even a small delay in receipt of annuity, and this increases the debt service reserve account (DSRA) requirement.

CRISIL also considers the strength of the counterparty in deciding adequate liquidity. Having a counterparty with higher payment risk would require a larger DSRA to support the project's credit risk profile vis-à-vis a counterparty with low risk.

For HAM projects in particular, a liquidity buffer may be required to take care of cash flow mismatches arising from differential movement in indices.

CRISIL also evaluates whether liquidity/DSRA is maintained in the form of cash or bank guarantee or if there is a counter guarantee from the sponsor.

Operational risk

Track record of receipt of annuities

Typically, SPVs have to obtain certifications from various authorities to achieve the project commercial operations date (PCOD). Delays resulting from these procedural aspects can push back annuity payments by the concessioning authority. Even after receipt of PCOD, it is important to look at the track record of timely receipt of annuities to establish the stability of the process. Hence, a track record of timely receipt of annuities becomes a critical factor in evaluating operational annuity and HAM road projects.

Track record of maintenance

CRISIL looks at whether the required maintenance (both O&M and MMR) expenses have been incurred. Any shortfall in this can lead to additional wear and tear, thereby affecting road quality. This may lead to a breach of the terms of the concession agreement, leading to non-receipt of annuity. A sustained track record of maintenance is, therefore, critical.

Sponsor track record in managing operational road stretches

CRISIL looks at the history of the sponsor in managing operational stretches. A consistent track record indicates ability to maintain the road as per the agreed requirements. This also highlights the sponsor's ability and willingness to absorb any unforeseen expenses/losses and keep the project operational. Furthermore, CRISIL looks at the creditworthiness of the sponsor managing the operational road projects. Weak credit risk profile of the sponsor may form a critical factor in evaluating the credit risk profiles of operational road projects, especially in higher rating categories.

Management risk

CRISIL's evaluation involves assessment of the management in three broad categories: integrity, risk appetite and competency. For details please refer to CRISIL's article titled 'Rating criteria for manufacturing companies' available on www.crisil.com. However, CRISIL also notes that compared to a typical manufacturing company, management intervention will be limited for passive infrastructure projects such as annuity and HAM.

Credit enhancement

Credit enhancement in the form of guarantee or other tools may be factored appropriately in the rating.

Sponsor support

Sponsor support refers to financial support from a creditworthy sponsor to account for any delay in annuity or liquidity crunch. CRISIL analyses the possibility of sponsor support based on the stated intent and track record of supporting projects, credit profile of the sponsor, whether it is economically beneficial for the sponsor to support the SPV and to what extent, and the status of other projects of the sponsor.

Conclusion

CRISIL's rating methodology for annuity and HAM projects involves extensive analysis of all the risk factors pertaining to these projects. The analysis focuses on the assessment of leverage and adequacy of cash flow for debt servicing after factoring in the required maintenance costs. The rating methodology also takes into account the liquidity cushion maintained to mitigate the risks arising from cash flow mismatches and delayed annuity payments. In addition, CRISIL may factor in parent/group support or external credit enhancements in the form of guarantees (partial or full) while assigning ratings to the debt instruments.

About CRISIL Limited

CRISIL is a leading, agile and innovative global analytics company driven by its mission of making markets function better.

It is India's foremost provider of ratings, data, research, analytics and solutions with a strong track record of growth, culture of innovation, and global footprint.

It has delivered independent opinions, actionable insights, and efficient solutions to over 100,000 customers through businesses that operate from India, the US, the UK, Argentina, Poland, China, Hong Kong and Singapore.

It is majority owned by S&P Global Inc, a leading provider of transparent and independent ratings, benchmarks, analytics and data to the capital and commodity markets worldwide.

About CRISIL Ratings

CRISIL Ratings is part of CRISIL Ltd ("CRISIL"). We pioneered the concept of credit rating in India in 1987. CRISIL is registered in India as a credit rating agency with the Securities and Exchange Board of India ("SEBI"). With a tradition of independence, analytical rigour and innovation, CRISIL sets the standards in the credit rating business. We rate the entire range of debt instruments, such as, bank loans, certificates of deposit, commercial paper, non-convertible / convertible / partially convertible bonds and debentures, perpetual bonds, bank hybrid capital instruments, asset-backed and mortgage-backed securities, partial guarantees, other structured debt instruments and also the resolution plans for stressed assets. We have rated over 27,180 large and mid-scale corporates and financial institutions. CRISIL has also instituted several innovations in India in the rating business, including rating municipal bonds, partially guaranteed instruments and microfinance institutions. We also pioneered the unique rating service for Micro, Small and Medium Enterprises (MSMEs) and significantly extended the accessibility of rating services to a wider market. Over 150,000 MSMEs have been graded by us.

CRISIL Privacy

CRISIL respects your privacy. We may use your contact information, such as your name, address, and email id to fulfil your request and service your account and to provide you with additional information from CRISIL. For further information on CRISIL's privacy policy please visit www.crisil.com/privacy.