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Roads and Highways: TOT 3 - an attractive investment opportunity

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The NHAI has been inviting bids for various bundles of toll-operate-transfer (TOT) auctions as part of the asset monetisation programme of the Indian government. The recent announcement is the third auction in the overall scheme.

The revenue mix of bundle 3 offered under Toll-operate-Transfer (TOT) model is geographically well diversified with underlying projects situated in 4 states. The highest toll collection is expected from four contiguous stretches located in Tamil Nadu and would be around 44% of overall expected toll collections. Of the balance portfolio, three road stretches are located in Uttar Pradesh and one each in Bihar and Jharkhand respectively.

The four annuity projects namely Jhansi-Lalitpur Package 1 & 2, Lucknow-Rae Bareli and Hazaribagh Ranchi have their operation and maintenance (O&M) handover dates in March 2027, March 2029 and March 2028 respectively. Contractual obligations/O&M activities for these stretches are subsumed under the existing annuity agreements. Thus initial O&M expenses for TOT 3 shall be low till 2027-2029, thereby providing higher surplus cash-flows for debt servicing during the initial years. This is in contrast to the earlier auctioned TOT 1 which was marred by inadequate toll collections during the initial years which came in the way to service debt obligations where debt equity ratio was 70:30/60:40.

Table 1 Major Maintenance Schedule and O&M Handover dates

Section	First Major Maintenance *	O&M handover date
Jhansi Lalitpur 1	*2033*	*March, 2027*
Jhansi Lalitpur 2	*2033*	*March, 2027*
Lucknow-Rae Bareli	*2034*	*March, 2029*
Hazaribagh-Ranchi	*2034*	*March, 2028*
Kotwa-Muzzaffarpur	*2026*	*Appointed date*
Madurai Kanyakumari (1-4)	*2026*	*Appointed date*

*Source: NHAI, Concession agreement, * Major Maintenance once in 7 years*

TOT Bundle 3 can be funded with a debt-equity ratio of 70:30 for 15 years tenor while TOT 1 has been funded under 5/25 structure at 45:55. The current mix of annuity projects with residual concession period of 7 to 9 years and EPC projects ensure lower expenses during initial years thus providing higher surplus cash flows for debt servicing and thereby headroom for debt equity ratio of 70:30 for 15 years tenor, thus mitigating funding and refinancing risks.

CARE expects the internal rate of return (IRR) for investors of Bundle 3 to be in the range of 11.5-12.5% with an estimated growth in toll collection of 8-9% over the concession period financed with a debt to equity ratio of 70:30.

Introduction and Characteristics of Toll-Operate-Transfer 3

In June 2019, National Highways Authority of India (NHAI) invited bids for Toll Operate Transfer Bundle 3 (*TOT 3*). The bundle consists of nine stretches of road projects across 4 states with a total length of 566.27 km. The reserve price for TOT Bundle 3 has been fixed at ₹ 4,996 cr, lower than TOT 1 Bundle (₹ 6,258 crore). TOT 2 was cancelled owing to lack of interest from private operators which was reflected in the lower price bids relative to the reserve price set by NHAI.

Out of the nine projects forming part of TOT-3, four are under existing annuity concession agreements with their concession period extending upto 2027-2029 and the balance five stretches were completed under Engineering Procurement Contract (EPC) model. The nine road stretches included in the third bundle of TOT are spread across - Uttar Pradesh (3), Bihar (1), Jharkhand (1) and Tamil Nadu (4). Road stretches in Tamil Nadu account for 43% of the roads offered by length, followed by 30% in UP, ~14% in Bihar and the remaining in Jharkhand.

Toll collection share:

In terms of toll collection Madurai-Kanyakumari stretch contributes ~44% of the total followed by ~25% from stretches in UP, 13.5% and 17.5% from Bihar and Jharkhand road stretches respectively as reported last in FY18.

- Madurai-Kanyakumari stretch consists of four stretches as a part of NH 7 with a cumulative length of 243.47 km. These stretches are a part of the National Highways falling under the key Chennai Kanyakumari Industrial corridor, which is funded by Asian Development Bank and Government of Tamil Nadu. Three major ports namely Chennai, Kamarajar (Ennore) and VO Chidambaranar (Tuticorin) are also a part of this Corridor and are expected to be key drivers of traffic and business activities for Madurai-Kanyakumari Stretch.
- Lucknow-Rae Bareli stretch falls on the key highway connecting the capital city of Uttar Pradesh with Prayagraj. This stretch falls on NH 24B.
- Jhansi-Lalitpur stretch falls under NH25 & 26 and connects Kanpur (UP) to Madhya Pradesh via Jhansi-Lalitpur.
- Kotwa-Muzzaffarpur falls on NH28 and connects traffic originating from North-Eastern part of Uttar Pradesh to Eastern India. Kanpur is hub of trade and is a key business centre in Uttar Pradesh
- Hazaribagh-Ranchi including Ramgarh bypass falls on NH33 and is key route connecting Patna in Bihar and Ranchi in Jharkhand. The route is also incidental on the highway connecting Paradip Port to Jharkhand and Bihar.

Table 2 Details of toll collection of respective stretches of bundle 3

		Toll Collection (in ₹)		
Name (Total stretches:8)	**Length (km)**	**2015-2016**	**2016-17**	**2017-18**
Jhansi- Lalitpur I (1)	49.7 km	20.68	20.74	25.36
Jhansi-Lalitpur II(2)	49.3 km	12.97	12.24	17.97
Lucknow-Rae Bareli (3)	70 km	27.62	26.52	41.23
Kotwa-Muzaffarpur (4)	80 km	32.79	35.08	45.70
Hazaribagh-Ranchi (5)	73.79 km	53.08	48.48	58.86
Madurai-Kanyakumari P1-4 (6-9)	243.47 km	101.56*	134.69	148.49
Total	**566.27 km**	**248.7**	**277.75**	**337.61**

*Source: NHAI *OMT contract*

Benefits of TOT Bundle 3 over earlier offered bundle under TOT 1

Under TOT-3, four out of the nine road stretches are under an annuity agreement. The Investor of TOT Bundle 3 will assume the operations and maintenance cost on the two Lalitpur-Jhansi Stretches in March 2027 while in case of Lucknow Rae Bareli and Hazaribah-Ranchi stretches, these costs would kick-in post March 2028 and March 2029 respectively. This leaves higher surplus cash flows from the toll collected by the concessionaire of TOT for debt servicing.

Table 3 Comparison of TOT 1 and TOT 3

	Toll Operate Transfer 1	Toll Operate Transfer 3
Total Length	~680.6 KM	566.27
No. of States	2 (Gujarat, Andhra Pradesh)	4 (UP, Bihar, Jharkhand & TN)
Initial Estimated Concession Value (IECV)	₹ 6,258 crore	₹ 4,996 crore
Auction Price	₹ 9,681 crore	Estimated ~ ₹ 5,500-6000 crore
Target fee 1	₹ 1801 crore	₹ 1153.32 crore*
Target fee 2	₹ 4620 crore	₹ 2530.56 crore*
NHAI Estimated growth rate	~10%	~8%
Engineering and Safety improvement overlay	₹ 855 crore(₹1.26 crore per km)	₹ 552 crore (₹ 0.97 crore per km)
IECV per Km	₹ 9.19 crore	₹ 8.82 crore

*Source: NHAI, CARE Ratings *to be updated at the time of signing concession agreement*

Major maintenance costs

O&M and major maintenance of stretches (refer table 4) till O&M handover date are subsisting under existing concession agreements. Hence, the investor would have to assume first major maintenance cost of only five stretches -namely 4 stretches of Madurai-Kanyakumari and Kotwa-Muzaffarpur stretch till FY2027-FY2028 period. For the remaining four stretches, the investor would incur the first major maintenance cost beginning

- 2033 for the Jhansi-Lalitpur stretch and
- 2034 for Lucknow-Rae Bareli and Hazaribagh-Ranchi stretches.

Table 4 Operation & Maintenance Schedule of Projects with Existing Annuity Agreements

Section	State	Length (km)	O&M Handover
Jhansi-Lalitpur 1	Uttar Pradesh	49.7	03/2027
Jhansi-Lalitpur 2	Uttar Pradesh	49.3	03/2027
Lucknow Rae Bareli	Uttar Pradesh	70.0	03/2029
Hazaribagh-Ranchi	Jharkhand	73.4	03/2028

Source: NHAI, Concession Agreement of TOT 3

- Routine O&M and major maintenance costs are in line with CARE rated peers

- The stretches with existing annuity concessions provide the investor with necessary headroom to avail additional debt funding for the acquisition of TOT 3. The reduced operations and maintenance costs across 4 projects for the first 7-9 years and additional reduced burden of first major maintenance costs during 2027-2028 for the same stretches positions/entails TOT-3 bundle as a favourable proposition for the investors.

Our view

We expect aggressive bidding to return in TOT 3 similar to TOT 1 on account of ~13% revenue growth rate over the period of FY16 to FY18, lower upfront engineering and safety improvement overlay of ₹ 552 crore (₹ 0.97 crore per km) and moderate revenue growth rate of 8% from Target fee 1 to Target fee 2 for modification of concession period. As per the concession agreement, in the event that the actual Fee 1 shall have fallen short of or exceeded the target fee 1 by more than 20%, then every 1% shortfall or increase as compared to the target fee 1, the concession period shall be increased by 1.5% or decreased by 0.75%.

We expect equity IRR would be in the range of 11.5 to 12.5% (refer to appendix) for an estimated growth rate of 8-9%.

Appendix: Equity IRR based on estimated growth rate and assumed cost of debt

- **Scenario 1 (Growth rate of 7%)**

	Equity IRR						
Cost of debt	**10.00%**	**10.50%**	**11.00%**	**11.50%**	**12.00%**	**12.50%**	**13.00%**
8.50%	5,057	4,819	4,601	4,402	4,219	4,051	3,896
8.75%	5,033	4,795	4,578	4,379	4,197	4,029	3,875
9.00%	5,009	4,772	4,555	4,357	4,175	4,008	3,854
9.25%	4,986	4,749	4,533	4,335	4,153	3,986	3,833
9.50%	4,962	4,726	4,510	4,313	4,132	3,965	3,812

Source: CARE Ratings

- **Scenario 2 (Growth rate of 8%)**

	Equity IRR						
Cost of debt	**10.00%**	**10.50%**	**11.00%**	**11.50%**	**12.00%**	**12.50%**	**13.00%**
8.50%	5,780	5,484	5,215	4,969	4,744	4,538	4,349
8.75%	5,755	5,460	5,191	4,946	4,721	4,516	4,327
9.00%	5,731	5,436	5,168	4,923	4,699	4,493	4,305
9.25%	5,707	5,412	5,144	4,900	4,676	4,471	4,284
9.50%	5,682	5,389	5,121	4,877	4,654	4,450	4,262

Source: CARE Ratings

- **Scenario 3 (Growth rate of 9%)**

	Equity IRR						
Cost of debt	**10.00%**	**10.50%**	**11.00%**	**11.50%**	**12.00%**	**12.50%**	**13.00%**
8.50%	6,659	6,296	5,965	5,664	5,390	5,139	4,910
8.75%	6,632	6,269	5,939	5,639	5,365	5,115	4,886
9.00%	6,606	6,243	5,914	5,614	5,341	5,091	4,862
9.25%	6,579	6,217	5,889	5,589	5,316	5,067	4,839
9.50%	6,553	6,192	5,863	5,565	5,292	5,043	4,816

Source: CARE Ratings