

F. No. 2/9/2026-PIU
Government of India
Ministry of Finance
Department of Economic Affairs
Infrastructure Finance Secretariat
ISD Division
(PIU)

4th Floor, STC Building,
Janpath New Delhi
Dated: 12th May 2026

Record of Discussion

Subject: Record of Discussion of the 140th meeting of the PPPAC for considering two road project proposals of Ministry of Road, Transport & Highways (MoRTH) on PPP mode.

Reference: (i) 140th meeting of the PPPAC held on 09th March 2026.

Sir/Madam,

The undersigned is directed to forward the Record of Discussion of the 140th meeting of the PPPAC held on 09th March 2026 under the chairmanship of Secretary (EA) for information and necessary action.

2. This issues with the approval of the Competent Authority.


(Arya Balan Kumari)
Joint Director (PIU)
011-2370 1219

To,

- 1. Secretary, Department of Expenditure, New Delhi-01**
- 2. CEO, NITI Aayog, Yojana Bhawan, New Delhi-01**
- 3. Secretary, Ministry of Road, Transport & Highways, Transport Bhawan, New Delhi.**
- 4. Secretary, Department of Legal Affairs, Shastri Bhawan, New Delhi.**

Copy to:

- 1. Sr. PPS to Secretary (EA)**
- 2. PPS to JS (IFS)**

Subject: Record of Discussion of the 140th meeting of the PPPAC for considering the following two road proposals :

- I. **Guwahati to Tezpur proposal:** - Construction of 4-Lane Highway from Baihata Chariali (Km 0+000), near Guwahati to Tezpur (Km 135+000) & excluding Mangaldoi Bypass (from Km 28+500 to 42+590) along NH-15 in the State of Assam in HAM mode.
- II. **Thiruvananthapuram Outer Ring Road (ORR):-** Construction of 4-Lane Thiruvananthapuram Outer Ring Road (ORR) from Navaikulam (Ch. 0+00) to Vizhinjam (Ch. 62+70) section of NH-866 in Kerala on BOT Mode.

1. The 140th meeting of the PPPAC was held on 09th March 2026 at 12:30 hours to consider the above-mentioned two road proposals of MoRTH. The RoD of the projects were on hold on account of MCC being declared in these States.

2. List of attendees is placed at **Annexure-I**.

3. With the permission of Secretary (EA), Joint Secretary (IFS) welcomed all the attendees to the meeting. MD, NHIDCL made a detailed presentation on the Guwahati-Tezpur road project proposal and Chairman, NHAI made a detailed presentation on Thiruvananthapuram Outer Ring Road project.

I. Construction of 4-Lane Highway from Baihata Chariali, near Guwahati to Tezpur & excluding Mangaldoi Bypass along NH-15 in the State of Assam in HAM mode.

1. The details of the project are given in the table below:

Table 1: Details of the project as per the PPPAC Memo

Project Description	Construction of 4-Lane Highway from Baihata Chariali (Km 0+000), near Guwahati to Tezpur (Km 135+000) & excluding Mangaldoi Bypass (from Km 28+500 to 42+590) along NH-15 in the State of Assam in HAM mode.
PPP Model	Hybrid Annuity Mode
Sponsoring Authority	Ministry of Road Transport and Highways, Government of India
Implementing Agency	National Highways and Infrastructure Development Corporation Limited (NHIDCL)
Location	State: Assam Districts of Assam: Kamrup, Darrang, Udalguri and Sonitpur
Type of Pavement	Flexible
Lane configuration	4 lanes + Paved Shoulder

Details of Structures	Sl. No.	Description	Existing	Proposed
	1	Length	121.430 Km (Excluding under Construction Mangaldoi Bypass)	135.871 Km (excluding under-construction Mangaldoi Bypass) Greenfield Length: 64.88 km (Bypass Length – 58.701 km, Realignment 6.180 km) Brownfield Length: 70.991 km
	2	Design Speed	40–50 kmph (with deficient curves having <30 kmph speed)	100 kmph
	3	Bypass	–	Total 5 bypasses – 58.701 km (i) Balhata Chariall – 8100 m (ii) Sipajhar – 9960 m (iii) Kharupetla – 7580 m (iv) Deklajull – 5340 m (v) Mission Chariall – 27721m
	4	Bridges	ROB: Nil Major Bridges: 15 Nos. Minor Bridges: 30 Nos.	New ROB: 1 No. at Ch. 133+743 (77.28 m, span 1×20 m + 1×37.28 m + 1×20 m) Major Bridges: 15 Nos. (Total 2780 m; Longest 47m×4 = 188m) New construction: 6 Nos. Retained & Added: 9 Nos. Minor Bridges: 30 Nos. New: 21 Nos. Retained & Additional: 9 Nos.
	5	Culverts	117 Nos.	Revised Total: 277 Nos. (67 Reconstruction, 210 New)
	6	Underpasses	–	13 Vehicular Underpasses (VUP) 26 Light Vehicular Underpasses (LVUP) 7 Small Vehicular Underpasses (SVUP) 19 Flyovers 1 Elephant Underpass (EUP), 35 m span × 7 m height; Total Length: 1152 m

	7	Protection Work	-	Metal Beam Crash Barrier – 161142 m 20000 rm Bamboo Crash Barrier Embankment Protection – 35757 sqm (turfing + geocell)
	8	Drains	-	Covered drain – 60000 Rmt Unlined drain – 120000 Rmt
	9	Right of Way (RoW)	Varies from 15–20 m	Rural/Built-up: 45 m Bypass Location: 60 m ELF: 110 m
	10	Major & Minor Intersection	Major – 38 Minor – 141	Major Intersection – Nil (grade separated structure like VUP, flyover interchange etc. provided at 35 intersections points) Minor Intersection – Nil (All intersections through service road)
	11	Bus Bays & Shelters / Truck Lay Bys	-	56 Nos. / 02 Nos.
	12	Service Road	-	209.16 km (BHS)
	13	Toll Plaza	-	2 Nos. (Ch: 43+000 & Ch: 120+500)
	14	Emergency Landing Facility (ELF)	-	4.9 km, from Ch: 125+900 to 130+800
Concession Period	18 years (3 years construction period + 15 years Maintenance Period) ¹			
Estimated Capital Cost with Break-up under major heads of expenditure	Sl. No.	Description		Revised Cost (Rs. Crore)
	1.	Civil Construction Cost		5414.92
	2.	Utility Shifting Cost		300.00
	3.	Total Cost including Utility Shifting		5714.92
	4.	Civil Construction Cost + 18% GST		6389.61
	5.	IC / Pre-operative Expenses		557.15
	6.	Financing Cost		15

¹ Revised concession period as per BoT (Toll) mode is 25 years including 3 years of construction period.

	7.	Interest During Construction	321.76
	8.	Estimated Project Cost (EPC)	6108.83²
	9.	Bid Project Cost (BPC)	6698.54
	10.	Contingencies	54.15
	11.	Price Escalation during construction period	514.34
	12.	Maintenance charges including price escalation	916.33
	13.	NPV of Maintenance charges including price escalation	315.62
	14.	Interest on Annuity	3054.42
	15.	NPV of Interest on Annuity	1036.33
	16.	Supervision Charges	61.09
	17.	Agency Charges	57.15
	18.	GST	2044.08
	19.	LA and Other Pre-construction Charges	1328
	20.	Total Capital Cost	13811.77³
	21.	NPV of Total Capital Cost	11627.63
Land Acquisition Status & other clearances	Particular	Status	
	Total Land Required (Ha)	845 Ha.	
	Existing ROW (Ha)	170 Ha. (RoW of NH-15)	
	Land to be acquired (Ha)	675 Ha. (Private – 608 Ha+ Govt- 67 Ha)	
	3(A) Status	Submitted to CALA, expected to be published by 25.03.2026.	
	Forest clearance	Not Required	
	GAD Approval	GAD approval for ROB: - Joint Verification with Railway officials conducted and accordingly, the proposal has been uploaded on RORACS portal with Proposal No. NFRRNY0019 dated 23.08.2025 for approval of Railways.	
	CRZ Clearance	Not Required	
	Wildlife Clearance	Not Required	
	Environment Clearance	Not Required	
Financial Viability	Equity IRR	12.00%	
	Project IRR	12.92%	
Concession Agreement	The project is proposed to be implemented as per latest Model Concession Agreement of MoRT&H.		

² The revised EPC of the project as per BoT (Toll) mode is Rs. 6530.94 crore. Details provided at Annexure-II

³ The revised TCC of the project as per BoT (Toll) mode is Rs. 8970.20 crore. Details provided at Annexure-II

Bidding parameter	Lowest Bid Project Cost ⁴
Bidding process	Single Stage Two-part system of bidding

2. The MD, NHIDCL stated that instant proposal is for the development of NH-15 corridor from Baihata Chariali, Near Guwahati to Tezpur of length 135.87 km to be developed as 4 lane access-controlled brownfield highway project with service road. The alignment includes the provision of 05 bypasses of total length 58.7 Km out of total length of project 135.87 km. The alignment also passes through Mangaldoi bypass (15.1 Km.) which is already under construction by Ministry of Road Transport and Highways and hence is not part of the instant proposal.
3. The MD, NHIDCL highlighted that the primary purpose of proposed project is to provide a direct and seamless 4 lane connectivity between Guwahati- (NH-27 -Old NH-31) to Tezpur (NH-15 old NH 52) and, thereby bridging a critical bottleneck in Assam's national highway network. The project is envisaged to enhance interstate connectivity by linking the key economic centres of central and northern Assam & Arunachal Pradesh. It will decongest major towns at proposed bypasses. Additionally, the service road is proposed on both sides of brownfield alignment to facilitate local traffic. The proposal shall also facilitate smooth movement of defence logistics and civilian traffic owing to its strategic proximity to sensitive defence establishments in and around Tezpur. The proposal includes an Emergency Landing Facility (ELF) which is of 4.9 km from Ch:125+900 to 130+800. The traffic surveys were carried out at three locations which indicates a consistent growth in traffic volumes, from 26,180 to 31,587 PCUs at Baihata Charali, from 19,840 to 24,467 PCUs at Rowta, and from 25,614 to 31,004 PCUs at Sirajuli.
4. The MD, NHIDCL stated that project is proposed to be executed under the HAM⁵ model with a Total Capital Cost of Rs. 13811.77 crore³ and an Estimated project cost (EPC) of Rs. 6108.83 crore². The project is included under the NH(O) scheme. The financial assessment indicates the project IRR as 10.24% and the equity IRR as 12%⁶.
5. After the detailed presentation, the Chair asked the PPPAC members for their observations. DoLA supported the proposal and stated that no further comments to offer.
6. **US, Department of Expenditure** raised the following observations and the response of MoRTH is given below:

- a) *Price escalation is generally considered at 5% per annum. However, in the proposed project, escalation has been taken at 9% per annum. The 9% escalation on the total project cost may result in overestimation. What is the rationale for adopting the escalation rate for the project?*

⁴ The revised bidding parameter as per BOT model shall be "Lowest Grant" or Highest Premium"

⁵ The PPPAC recommended to execute the project on BOT (Toll). Therefore, the same is proposed on BOT(Toll) instead of HAM

⁶ EIRR has been revised as per BOT (Toll) which is 14%

Response by MoRTH : The base price escalation during the construction period has been considered at 5% per annum, consistent with standard practice. However, since the project cost is incurred in a phased manner over the three-year construction period, escalation has been applied on a year-wise cash flow basis rather than on the entire project cost for the full duration. Accordingly, the weighted average impact of escalation works out to approximately 9% of the total project cost.

- b) *MoRTH should ensure that per km per lane estimated civil construction cost of the project is justified as compared to the awarded cost of similar projects in and around the region. The comparison of per lane km cost of instant project viz-a-viz similar projects should be provided.*

Response by MoRTH : The cost of the instant proposal has been benchmarked with Shillong-Silchar corridor project where the Per Km Cost was Rs. 58.53 Cr. In the instant project, the per km cost is Rs.40.46 Cr only.

7. **PD, NITI Aayog** raised the following observations and the response of MoRTH are given below:

- a) *MoRTH may confirm if the proposed construction period of three years is required? What is the basis and justification for adopting this construction timeline?*

Response by MoRTH: A construction period of three years has been proposed due to several project-specific constraints. For instance, the shifting of 400 KV transmission lines alone is expected to require 8–9 months, in addition to the development of structures such as bridges, underpasses, etc.

- b) *The proposed project has substantial traffic, approximately 38,000 PCUs at the start of the project, and includes end-to-end service roads. What is the requirement of end-to-end service road? Further, traffic projections indicate that the requirement for six-laning may be triggered by 2029. In this context, why is a 4-lane configuration being proposed?*

Response by MoRTH: The provision of service roads has been rationalized, reducing their total length from 250 km to 209 km, and restricting them to locations where they are operationally required. A 4-lane access-controlled corridor has a capacity of approximately 60,000 PCUs, and with service roads expected to absorb around 20% to 25% of local traffic, the main carriageway will operate efficiently. Accordingly, the traffic demand is not expected to trigger till 2035 for six-laning and hence the proposed 4-lane configuration is adequate for the proposed section.

- c) *Considering the substantial traffic on the corridor, the project appears viable for development under BOT mode with a 25-year concession period and 38% VGF. Additionally, for the Emergency Landing Facility (ELF), an SOP-based compensation mechanism can be incorporated to address periods when traffic is halted during emergency operations.*

Response by MoRTH: The adoption of HAM itself in the Northeast region is relatively recent, therefore the feasibility and market response to a large BOT project in this geography remain highly uncertain; However, the project may be examined under BOT mode first to assess market appetite.

- d) *The interchanges at Km 0.000 and Km 4.700 are designed at multiple levels, making them complex and cost-intensive. These interchanges need to be reviewed and optimized. Whether any alternative configurations examined, and what is the rationale for adopting different levels?*

Response by MoRTH: The interchanges have been designed at different levels mainly due to land acquisition constraints. Given the high land costs in the area, the project has adopted an approach of minimizing land acquisition and accommodating movements through structures. Accordingly, the multi-level configuration has been adopted as the most practical solution to meet traffic and functional requirements while keeping land acquisition to a minimum.

8. **JS, IFS** raised the following observations and the response of MoRTH is given below:

- a) *Is the annuity being treated as a part of revenue expenditure and booked under capital cost?*

Response by MoRTH: The annuity is not classified as capital cost, but as part of the overall project cost. When the Ministry issues the project note, approval is sought for the entire investment, which represents a composite set of expenditures required for project implementation, and not merely the construction cost. Furthermore, annuity payments form part of the capital investment recovery, as they represent repayment of the capital outlay over a 15-year period. Accordingly, annuity has been considered as a capital expenditure

9. **IFD** raised the following observations and the response of MoRTH is given below:

- a) *In the proposed project, the greenfield section has ROW of 60m whereas the brownfield section has ROW of only 45m. what is the rationale for considering different ROWs for both the greenfield and brownfield sections?*

Response of MoRTH : The greenfield sections require a 60 m ROW primarily due to the proposed 3m embankment height, which necessitates additional width for stable side slopes and associated safety clearances. For the brownfield sections, although a 60 m ROW would be ideal, achieving this width is not feasible due to the presence of dense roadside development, existing structures, etc. As a result, the available ROW has been restricted to 45 m, in the brownfield section.

10. IDHQ / IAF suggested the following points and the response of MoRTH is given below :

- a) *The Provision of an access road is required at the Emergency Landing Facility (ELF) location, and the central portion of the ELF must remain free of barriers to ensure smooth operation.*

Response of MoRTH : An access road has already been proposed at the ELF location, and it may be noted that the central stretch of the ELF will remain barrier-free to facilitate uninterrupted emergency operations. Additionally, IDHQ/IAF is required to formally communicate to MoRTH, the specific technical and operational requirements for developing Emergency Landing Facilities, including all applicable norms, restrictions, and safety provisions governing the surrounding area.

11. The Chair made the following observations and the response of MoRTH are given below :

- a) *Who is responsible for developing the 15.1 km Mangaldoi Bypass, and why has it been excluded from the proposed project?*

Response of MoRTH : The Mangaldoi Bypass (15.1 km) is already under construction and is being implemented by the NH Wing of the State PWD. As a result, the Mangaldoi Bypass has been kept outside the scope of the present proposal.

- b) *The project comprises both brownfield and greenfield sections. Which sections of the project are proposed to be developed as greenfield alignment?*

Response of MoRTH : The five proposed bypasses along with certain geometric improvement locations constitute the greenfield portions of the project. All remaining sections of the corridor fall under the brownfield category.

- c) *What is the lane configuration proposed for the bridges? Are the existing 2-lane bridges being retained, or being augmented?*

Response of MoRTH : In the brownfield sections, existing bridges that are assessed to be in good structural condition are being retained as 2-lane structures, with an additional parallel 2-lane bridge constructed to achieve the required 4-lane configuration. In the greenfield sections, entirely new bridges are being developed as part of the project.

- d) *Is MoRTH planning to hand over the existing road to the concessionaire as a sweetener? It is noted that Mangaldoi Bypass (from Km 28+500 to 42+590) is excluded from the scope of work and its currently under construction. Whether the Mangaldoi Bypass, upon completion, will be handed over to the concessionaire for toll collection and operation & maintenance activities.*

Response of MoRTH : The Mangaldoi Bypass upon completion will be handed over to the Concessionaire for toll collection. The maintenance part, after defect liability period would also be handed over to the concessionaire for smooth maintenance and operation of the entire corridor.

Recommendations

12. After detailed deliberations, the PPPAC unanimously recommended the proposal for "Construction of 4-Lane Highway from Baihata Chariali (Km 0+000), near Guwahati to Tezpur (Km 135+000) & excluding Mangaldoi Bypass (from Km 28+500 to 42+590) along NH-15 in the State of Assam on BOT mode" subject to following recommendations, for consideration of the Competent Authority for giving Administrative Approval.
- The appraised Total Capital Cost of the proposed project is Rs. 8,970.20 crore with a total estimated project cost (excluding GST) of Rs. 6530.94 crore (*revised TCC & EPC as per BOT (Toll) is attached at Annexure-II*)
 - The project should be taken up on BOT (Toll) mode and MoRTH shall fund the grant requirement under NH(O) scheme.
 - The VGF grant is capped at a maximum of 40% for a concession period of 25 years including 3 years construction period.
 - Land acquisition and necessary clearances to be obtained in a time bound manner before the bid due date so as to avoid any delay in the project.
13. Revalidation of its recommendation by the PPPAC is not required for following post recommendation changes in the project costs/bid documents: -
- Any change in the date/time period for any time-bound actions like appointed date, financial close, construction period etc.
 - Non-substantial change in risk-allocation.
 - Any other changes/modification in the project proposal with the overall objective of making project successful.
 - Further, MoRTH/ NHIDCL may decide whether the changes proposed post recommendations of the project proposal by the PPPAC fall within the threshold criteria as stated above. All such changes falling within the threshold criteria shall be appraised at the level of Secretary (RTH)/BoD of NHA as the case may be, without any further need of revalidation by the PPPAC and shall proceed with the approval process accordingly.

Construction of 4-Lane Thiruvananthapuram Outer Ring Road (ORR) from Navaikulam (Ch. 0+00) to Vizhinjam (Ch. 62+70) section of NH-866, Design length 62.7 Km in Kerala on BOT mode.

1. The details of the project are given in the table below:

Table 2: Details of the project

Project Description	Construction of 4-Lane Thiruvananthapuram Outer Ring Road (ORR) from Navaikulam (Ch. 0+00) to Vizhinjam (Ch. 62+70) section of NH-866, Design length 62.7 Km in Kerala on BOT mode.		
PPP Model	Built Operate Transfer (BOT)		
Sponsoring Authority	Ministry of Road Transport and Highways, Government of India		
Implementing Agency	National Highways Authority of India (NHAI)		
Location	State: Kerala District: Thiruvananthapuram		
Type of Pavement	Flexible – Main Carriageway and Service Road		
Lane configuration	4 lanes		
Details of Structures	Sl. No.	Description	Proposed
	1	Design Length	62.70 Km (4-lane) Green Field
	2	Approval of LAC/AAC	LAC II approved on 16.02.2022 Alignment Approval Committee approved on 09.09.2024
	3	Type of Pavement	Flexible – Main Carriageway and Service Road
	4	ROW	45m/ Entry-Exit (7) – 60m/ Additional Land for cut slopes (360 Ha)
	5	Major Bridges	2 Nos. (80m & 90 m)
	6	Minor Bridges	17 Nos.
	7	VUP / VOP / LVUP / SVUP	01 No. /35 Nos. / 13 Nos./ 01 No. VUP (20X5.5); VOP(2X10.5); LVUP (12X4); SVUP (7X4)
8	Flyover / Viaducts	Flyover cum Viaduct – 06 Nos. (1355 m) : 4 x 35m at Km 0+00, 13+80, Km 28+45, 1 x 60m at Km 0+40, 6 x 35m at Km 35+46 and 19 x 35 at Km 56+65);	

		Viaducts - 50 Nos. (10,534 m)	
9	Tunnels	17 Nos. (4,625 m)	
10	ROB	1 No. at Ch- 55+440 [1X 106 m + 2X20m]	
11	Culverts	144 Nos. (Box Culvert), 128 nos. Cross Road Culverts	
12	Toll Plaza	Closed Tolling. 2 Nos. Main carriageway (Km 1+000 and Km 60+960), Exit-Entry Ramp 7 Nos. (Km 8+925, 13+800, 21+550, 28+450, 35+465, 48+035 and 56+650)	
13	Service/Slip Roads	Service Road = 103 Km (LHS = 51.5 km; RHS=51.5 km) Slip Road of 7.5m Width = 9.2 Km (LHS =4.6Km; RHS = 4.6 km)	
Concession Period	20 years (3 years construction period + 17 years Maintenance Period)		
Estimated Capital Cost with Break-up under major heads of expenditure	Sl. No.	Description	Revised Cost (Rs. Crore)
	1.	Base Civil Construction Cost (including Utility Shifting Cost)	5957.4 (Rs. 95.0 Cr./km)
	2.	Estimated Project Cost	Rs 6,857.2 Cr
	3.	Other pre-construction cost (Env. Cost+ EMP + Utility Shifting Supervision cost + Contingencies) and GST on civil work	Rs. 1267.5 Cr. (29.8 + 6.0 + 59.6 + 1154.8 + 17.3)
	4.	Land Acquisition (land, structure, trees etc.)	Rs. 4,449.4 Cr.
	5.	Pre-construction and other cost (3+4)	Rs. 5,716.9 Cr.
	6.	Total Capital Cost (2+5)	Rs. 12549.5 Cr. (Rs. 200.2 Cr./km)
Land Acquisition Status & other clearances	Particular	Status	
	Total Land Required	360	
	Available Land (Existing ROW)	Nil	
	Add. Land Required	360	
	3A Status	291.8 (81%)	
	3D Status	100.86 (28%)	
	Environmental clearance	ToR approved on 14.01.2026, EC by end of May, 2026	
	CRZ Clearance	NA	
	Wildlife Clearance	Not required	
	Forest land diversion	Not required	
	Tree cutting permission	To be obtained	
	GAD of ROB	Approval of GAD for ROB from Southern Railways is in progress	
Utility shifting estimate	Estimates received from Utility Owning Departments. (400 KV: 2 crossings; 220 KV: 5		

		crossings; 132 KV: 5 crossings; 11 KV: 133 crossings and 13.4 Km along NH; LT: 235 crossings and 24.6 Km along NH and water supply lines)
Contribution by State Government	<ul style="list-style-type: none"> o Government of Kerala shall bear 50% LA cost i.e. Rs. 2,225 Cr. o Exempt State GST and Royalty on Aggregates & Earth o Cost of Service Road (approx. Rs. 434 Cr.) to be paid in 5 years 	
Financial Viability	Equity IRR	14%
	Project IRR	10.9%
Concession Agreement	The project is proposed to be implemented as per latest draft Model Concession Agreement.	
Bidding parameter	Lowest financial grant or Highest premium	
Bidding process	Single Stage Two-part system of bidding	

2. Chairman, NHAI stated that the proposal is to construct four-lane Thiruvananthapuram Outer Ring Road connecting Navaikulam to Vizhinjam on BOT (toll) mode. The primary purpose of the proposed project is to provide seamless connectivity to the transshipment hub at Vizhinjam along with the other industrial hubs which are planned along the proposed corridor by the state government. The proposed project, Navaikulam to Vizhinjam corridor in the state of Kerala is one of the inter corridor routes proposed under Bharatmala Pariyojana having total length of 62.70 Km. The highway is proposed as entirely Greenfield corridor which starts from Navaikulam, located in the southern part of Thiruvananthapuram, close to the NH 66 and ends at Vizhinjam, which is a coastal area famous for the ongoing Vizhinjam port project, designed to boost the maritime and commercial infrastructure of the region. The projected traffic for the year 2025-26 is 26,059 PCUs.
3. This project represents one of the most technically and socially challenging proposals. The corridor was initially conceptualized with extensive deep cutting sections, involving cut depths of up to 30 metres. However, during detailed project review at Secretary (MoRTH) level, it was advised that such large-scale cuttings posed significant geotechnical, safety, and social risks. Accordingly, alternative options including realignment along the foothill circumference and the adoption of tunnel sections were examined. Given the presence of dense settlements along the foothills, realignment options were also not feasible. Consequently, tunnelling was adopted as the most viable and sustainable solution, balancing safety, constructability, land acquisition constraints, and long-term operational considerations. The project therefore adopts a tunnel-viaduct combination, comprising 17 tunnels with a combined length of 4.6 km and 50 viaducts, which together constitute major cost components.
4. The proposed connectivity will spur the creation of between 6.4 lakh and 14.1 lakh new jobs, will reduce the travel time and congestion. The proposed alignment, designed for a speed range of 100 km/h. The proposed highway will also enhance the freight movement and will ensure,

smooth and safe traffic flow and will result in substantial gain in terms of reduced Vehicle Operating Cost (VOC) and reduced delays.

5. The project will be executed under the BOT (Toll) model with a Total Capital Cost of Rs. 12549.5 crore and an Estimated project cost (EPC) of Rs. 6857.2 crore. The project is included under the NH(O) scheme. The financial assessment indicates the project IRR as 10.9% and the equity IRR as 14%.
6. After the detailed presentation, the Chair asked the PPPAC members for their observations. DoE and DoLA supported the proposal and stated that no further comments to offer.
7. **PD, NITI Aayog** raised the following observations and the response of MoRTH are given below:

- a) *The existing corridor is 6-lane, while the proposed facility is a 4-lane access-controlled corridor, resulting in a combined 10-lane configuration. However, the current traffic is only around 35,000 PCUs, which does not even warrant augmentation of the existing 6-lane stretch. What is the rationale for proposing a new 4-lane corridor?*

Response of MoRTH: The project proposal for a 4-lane access-controlled corridor is driven primarily by the development of a major transshipment port at Vizhinjam. The commissioning of this port is expected to catalyse the establishment of additional port-based facilities and logistics hubs, thereby generating substantial freight movement that will necessitate a dedicated high-capacity corridor. Further, the State Government has expressed strong intent to develop industrial and economic zones along the proposed alignment, for which the proposed 4-lane corridor will play a critical enabling role. The proposal is therefore based on strategic and economic demand, rather than current traffic volumes alone.

- b) *The toll charges may be kept higher than that of the existing corridor, as the proposed corridor will still attract traffic owing to its superior connectivity, higher speed and improved quality.*

Response of MoRTH: The toll rates on the proposed corridor are inherently higher than that on the existing NH-66. This is primarily due to the major cost-intensive structures such as viaducts and tunnels, which significantly increase the base toll rate.

- c) *The proposed project includes a VGF component. Whether any additional support such as construction support is being provided to the concessionaire over and above the VGF?*

Response of MoRTH: No additional support is being provided beyond the VGF component by the Central Government (MoRTH).

- d) *The Kadambattukonam–Mukkola section of NH-66 is proposed to be given to the BOT concessionaire for toll collection after completion of the Outer Ring Road (ORR). In that case, who will be responsible for O&M of this section? Further, it has been suggested that this*

section may be handed over to the concessionaire at the beginning of the concession period instead of at COD of the ORR, as the current approach may lead to disputes.

Response of MoRTH: The Kadambattukonam–Mukkola section of NH-66 cannot be handed over at the beginning of the concession period, as the Authority must first undertake significant improvement works on this stretch, estimated at approximately Rs. 500 crore. Only after completion of these works and subsequent commissioning of the Outer Ring Road, the section shall be handed over to the BOT concessionaire for toll collection and O&M. Until then, O&M responsibility will remain with the Authority

8. **JS (IFS)** raised the following observations and the response of MoRTH are given below:

- a) *It may be noted that the rates of basic items have been taken from Delhi SOR rates for the year 2018. Then applied cost index of 35.59% for the Thiruvananthapuram District. Why is the SOR of Delhi being considered for arriving at the rates of basic items? It is suggested that the latest SOR of Kerala may be considered for arriving at the cost estimates.*

Response of MoRTH: Delhi Schedule of Rates (DSR) has been adopted as Kerala does not publish a dedicated SOR for NH works. The estimates have been prepared using DSR rates with regional cost index adjustments applicable to Thiruvananthapuram district. Additionally, the SOR for the year 2021 is used.

- b) *The proposed project includes high number of structures such as Minor Bridges (17 Nos.), Tunnels (17 Nos., totalling 4366 m in length), and grade-separated structures (VUP: 1 No., VOP: 34 Nos., LVUP: 13 Nos., SVUP: 1 No.). Whether the project is optimally designed? MoRTH may ensure that the project is not over-designed.*

Response of MoRTH: Structural provisions including Bridges, Tunnels, Viaduct and Grade-separated crossings have been proposed strictly based on topography, drainage requirements, terrain constraints, and IRC guidelines. The design has been optimized, and structures are proposed only where technically required.

9. **The Chair** made the following observations and the response of MoRTH is given below:

- a) *Whether the port traffic is also expected to use the proposed corridor?*

Response of MoRTH: Yes, the port-generated traffic is expected to utilize the proposed corridor.

- b) *The existing corridor already carries heavy traffic and additionally sustained port traffic is also expected to be shifted to the proposed corridor. In such a scenario, why has the project not been structured with a 25-year concession period and no VGF?*

Response of MoRTH: The project has been structured under BOT mode with a 20-year concession period and a VGF of 12.8%, though it is expected that the project may still be awarded at zero VGF, depending on the L1 bidder's quote. While extending the concession period to 25 years would reduce the VGF requirement to 0.9%, the design life of the road is 20 years, beyond which the concessionaire would incur significant major maintenance and reinstatement costs. To avoid imposing disproportionate long-term maintenance liabilities and to maintain a balanced risk-return framework, a 20-year concession period is therefore considered the most appropriate structure for the project

- c) *What is the land acquisition (LA) and other contributions being provided by the State Government?*

Response of MoRTH: The proposed project was submitted by the State Government under the Bharatmala Pariyojana Challenge Mechanism, under which the State is contributing significantly to project development. The State Government has committed to sharing 50% of the land acquisition cost, amounting to Rs. 2,225 crore, exempting State GST and royalty on aggregates and earth; and bearing the entire cost of service roads, estimated at Rs 434 crore, to be released over five years. With these components combined, the total contribution from the State Government is approximately Rs. 6,000 crore.

- d) *The proposed project contains a substantial number of tunnels and viaducts. Whether the option to optimize the same were explored?*

Response of MoRTH: Yes, alternatives were examined; however, the tunnel sections have been proposed in place of deep cutting due to the adverse experience in past projects, where poor soil conditions, densely built-up stretches, and steep hill profiles resulted in frequent slope failures and safety risks. During the project review at Secretary (RTH) level, options involving 30-m deep cuttings and foothill circumferential alignments were assessed, but these were found unfeasible due to settlements located along the foothills and the significantly higher risks associated with large-scale excavation. Consequently, tunnelling emerged as the safer and more sustainable solution. The project therefore adopts a tunnel-viaduct combination, comprising 17 tunnels totalling approximately 4.6 km and 50 viaducts, which together constitute major cost components.

- e) *The per km cost of the proposed project is substantially high. What is the normative cost for the corridor, and what factors explain the deviation from normative benchmarks?*

Response of MoRTH: The project cost exceeds normative benchmarks primarily due to the high proportion of tunnels, major structures, and terrain-driven engineering interventions. The height and depth of bridges in this corridor average around 15 metre, significantly above the levels assumed in normative costing, extensive protection works such as retaining walls, toe walls, and boulder pitching are also not a part of the normative cost calculations. Additionally, the pile depths required in this terrain are considerably higher than normative assumptions. The project also incorporates Stainless Steel and Fusion Bonded

Epoxy-Coated (FBEC) steel, which further increases structural costs. These elements, combined with complex geotechnical conditions, collectively result in a higher per-km cost than the normative standard.

Recommendations

10. After detailed deliberations, the PPPAC unanimously recommended the proposal for "Construction of 4-Lane Thiruvananthapuram Outer Ring Road (ORR) from Navaikulam (Ch. 0+00) to Vizhinjam (Ch. 62+70) section of NH-866, Design length 62.7 Km in Kerala on BOT mode" subject to following recommendations, for consideration of the Competent Authority for giving Administrative Approval.
 - a) The appraised Total Capital Cost of the proposed project is Rs. 12549.5 crore with a total estimated project cost (excluding GST) of Rs. 6857.2 crore.
 - b) The project should be taken up on BOT (Toll) under the NH(O) scheme and MoRTH shall fund the grant requirement under NH(O) scheme.
 - c) The VGF grant is capped at a maximum of 40% for a concession period of the project is 20 years including 3 years construction period.
 - d) Land acquisition and necessary clearances to be obtained in a time bound manner before the bid due date so as to avoid any delay in the project.
11. Revalidation of its recommendation by the PPPAC is not required for following post recommendation changes in the project costs/bid documents: -
 - a) Any change in the date/time period for any time-bound actions like appointed date, financial close, construction period etc.
 - b) Non-substantial change in risk-allocation.
 - c) Any other changes/modification in the project proposal with the overall objective of making project successful.
 - d) Further, MoRTH/NHAI may decide whether the changes proposed post recommendations of the project proposal by the PPPAC fall within the threshold criteria as stated above. All such changes falling within the threshold criteria shall be appraised at the level of Secretary (RTH)/BoD of NHAI as the case may be, without any further need of revalidation by the PPPAC and shall proceed with the approval process accordingly.

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List of the participants of the 140th meeting of the PPPAC

1. Department of Economic Affairs, Ministry of Finance

- i. Ms. Anuradha Thakur, Secretary (EA)
- ii. Shri Alok Tiwari, JS (IFS)
- iii. Ms. Arya Balan Kumari, Joint Director (PIU)
- iv. Shri Rajender Singh, SO (PIU)
- v. Shri Manjeet Yadav, ASO (PIU)

2. Department of Expenditure

- i. Shri, Bharat Singh, Under Secretary

3. NITI Aayog

- i. Shri. Partha Reddy, Programme Director

4. Department of Legal Affairs

- i. Shri Jagat Prakash, Assistant Legal Adviser

5. Ministry of Road Transport and Highway

- i. Shri. V Umashankar, Secretary, MoRTH
- ii. Shri. Puneet Agarwal, AS&FA, MoRTH
- iii. Shri. Manoj Kumar, CE, BP&SP.

6. NHIDCL

- i. Dr. Krishan Kumar, Managing Director
- ii. Shri. Amarender Kumar, Director (Technical)
- iii. Shri. S.B. Singh, Executive Director (Technical)
- iv. Shri. Saurav Deo, Deputy General Manager (Technical)

7. Indian Air Force

- i. Representing Officer of HQ, EAC
- ii. Shri. A.N. Karulkar, AOC, Airforce Station, Tezpur

8. Govt. of Assam

- i. Shri. Raj Chakraborty, Special Secretary PWD.

9. NHAI

- i. Sh Santosh Kumar Yadav, Chairman NHAI
- ii. Shri K. Venkata Ramana, Member(PPP)
- iii. Shri Prashant N. Gawasane, GM(T)
- iv. Shri Dinesh Fageria, Manager(T)
- v. Shri Shantanu, Manager(T)

Table 3: Revised Cost of Guwahati to Tezpur (Assam) proposal on BOT (TOLL)

	Cost excl. GST	GST@ 18%	Cost including GST
1) Base Civil Construction Cost Plus Utility Shifting (Excluding GST)	5714.52	1028.61	6743.13
2) Escalation during Construction Period	380.209	68.43	448.64
3) Civil Construction Cost on Bid Date (1+2)	6094.72	1097.05	7191.78
4) Contingencies @ NIL% (Not Considered as per MoRTH's Circular dated 9.05.2018)	-	-	-
5) Total Civil Cost (3+4)	6094.72	1097.05	7191.78
6) IC/Pre-Operative Expenses @ 1% of Total EPC Cost mentioned in (5) above	57.14	10.28	67.43
7) O&M during Construction Period	-	-	-
8) Total Cost (5+6+7)	6151.87	1107.33	7259.22
9) Financing Expenses	21.78	3.92	25.71
10) Project Cost without IDC (8+9)	6173.63	1111.25	7284.92
11) Interest During Construction (IDC) @ 10.97% p.a.	357.28	-	357.28
12) Estimated Project Cost as on Bid Date (10+11)	6530.94	1111.25	7642.205
13) Land Acquisition Cost & Affected Structures Cost	1328	-	1328
14) Total capital Cost (12) +(13)	7858.94	-	8970.20