F. No. 2/5/2026 – PIU
Government of India
Ministry of Finance
Department of Economic Affairs
Infrastructure Finance Secretariat
ISD Division
(PIU)
*****

4th Floor, STCs Building,
Janpath New Delhi
Dated: 23rd April 2026

Record of Discussion

Subject: Record of Discussion of the 141st meeting of the PPPAC for considering "Construction of Road Tunnel with its approaches from Shiv Murti Interchange on NH-248BB/NH-48 to Nelson Mandela Marg (NH-148AE) in the state of Delhi on HAM mode (Ch. 0+000 to 4+974)" by Ministry of Road, Transport & Highways (MoRTH) on PPP mode.

Reference: 141st meeting of the PPPAC held on 16th March 2026.

Sir/Madam,

The undersigned is directed to forward the Record of Discussion of the 141st meeting of the PPPAC held on 16th 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 141st meeting of the PPPAC for considering the proposal of MoRTH, "Construction of Road Tunnel with its approaches from Shiv Murti Interchange on NH-248BB/NH-48 to Nelson Mandela Marg (NH-148AE) in the State of Delhi on HAM mode".

1. The 141st meeting of the PPPAC was held on 16th March 2026 at 10:30 hours to consider the proposal, "Construction of Road Tunnel with its approaches from Shiv Murti Interchange on NH-248BB/NH-48 to Nelson Mandela Marg (NH-148AE) in the State of Delhi on HAM mode (Ch. 0+000 to 4+974)" on PPP mode."
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. NHAI made a detailed presentation on the project.
4. The details of the proposal are as given below:

Table 1: Details of the project

<table>
<tr><td>Project Description</td><td colspan="3">Construction of Road Tunnel with its approaches from Shiv Murti Interchange on NH-248BB/NH-48 to Nelson Mandela Marg (NH-148AE) in the state of Delhi on HAM mode (Ch. 0+000 to 4+974)</td></tr>
<tr><td>PPP Model</td><td colspan="3">Hybrid Annuity Mode (HAM)</td></tr>
<tr><td>Sponsoring Authority</td><td colspan="3">Ministry of Road Transport and Highways, Government of India</td></tr>
<tr><td>Implementing Agency</td><td colspan="3">National Highways Authority of India (NHAI)</td></tr>
<tr><td>Location</td><td colspan="3">New Delhi</td></tr>
<tr><td>Type of Pavement</td><td colspan="3">Rigid Pavement along Tunnel and at Grade Portion of Main Carriageway. Flexible on the Approaches of elevated corridor</td></tr>
<tr><td>Lane configuration</td><td colspan="3">Six-lane</td></tr>
<tr><td>Details of Structures</td><td colspan="3"><table><tr><th>S.No</th><th>Particulars</th><th>Details</th></tr><tr><td>1.</td><td>Length</td><td>8.100 Km</td></tr><tr><td>2.</td><td>Flyovers</td><td>5 No.</td></tr><tr><td>3.</td><td>Tunnel</td><td>2 x 3140 m + 980 m of Approach Length (twin tube), 3 lane each</td></tr><tr><td>4.</td><td>Service Road</td><td>7.345 km</td></tr><tr><td>5.</td><td>Toll Plaza</td><td>Gantry Based MLFF Tolling</td></tr><tr><td>6.</td><td>Proposed ROW</td><td>For Tunnel Section 45 m, For at grade and elevated section - 55 m</td></tr></table></td></tr>
<tr><td>Concession Period</td><td colspan="3">20 years (05 years of construction period + 15 years of Maintenance Period)</td></tr>
<tr><td>Total Project Cost with Break-up under major heads of expenditure</td><td colspan="3"><table><tr><th>S.No</th><th>Description</th><th>Amount (Rs in crore)</th></tr><tr><td>i.</td><td>Civil Construction cost</td><td>3194.07</td></tr><tr><td>ii.</td><td>Utility shifting cost</td><td>40.00</td></tr><tr><td>iii.</td><td>Total cost Including Utility (i+ii)</td><td>3234.07</td></tr></table></td></tr>
</table>

iv.	IC/Pre-operative expenses (1% of iii)	32.34
v.	Financing cost (0.75% of Debt)	8.31
vi.	Interest During construction (As per Financial Model)	274.62
vii.	**Estimated Project Cost (iii+iv+v+vi)**	**3549.34**
viii.	GST@18% of EPC	638.22
ix.	Estimated Project Cost (with GST)	4188.92
x.	**Bid Project Cost (BPC)**	**4555.58**
xi.	Bid Project Cost (with GST@18%)	5375.58
xii.	Contingencies (1% of construction cost)	31.94
xiii.	Price Escalation during construction period Note: For 5 years construction (exceptional case) 13% escalation is considered on proportionate basis. As per MoRTH Circular 7% for 2 years construction period and 9% for 3 years construction	420.43
xiv.	Maintenance charges including price escalation (in terms of NPV)	123.74
xv.	Interest on Annuity (in terms of NPV)	407.30
xvi.	GST@18% (18% of x+xii+xiii+xiv+xv)	997.02
xvii.	Agency Charges (Nil as per IFD suggestions)	0.00
xviii.	Supervision charges including GST (1% of EPC)	35.49
xix.	LA and other pre-construction charges	398.17
xx.	**Total Capital cost** (x+xii+xiii+xiv+xv+xvi+xvii+xviii+xix)	**6969.67**

Land Acquisition Status & other clearances

S.no	Description	Project Corridor
1.	Total Land Required (Ha)	8.8 Ha.
2.	Private Land Required (Ha)	8.8 Ha.
3.	3(A) Status	6.26 Ha (Draft 3A is submitted to CALA Joint Field Visit is being done on 16th March 2026)
4.	3(D) Status	NIL
5.	3(G) Status	NIL
6.	3(H) Status	NIL
7.	LA Cost	Rs. 36 Crore

Forest Clearance

- Total no of trees getting affected are 1500 Approximately.
- Felling permission of 417 no of trees has been obtained.
- For Balance trees, additional proposal is under preparation (for Private Land).

Environmental Clearance

- EC has been obtained for Tunnel Portion.

	• EC has been obtained for Partial Portion. • EC Amendment application is under submission (for Balance portion)
Financial Viability	**Equity IRR** 12.00% **Project IRR** 11.92%
Concession Agreement	The project is proposed to be implemented as per latest Model Concession Agreement of MoRTH.
Bidding parameter	Lowest Bid Project Cost
Bidding process	Single Stage Bidding Process

5. The Chairman, NHAI presented that the proposal is to construct 6-lane tunnel for NH-148E connecting Dwarka Expressway (NH-248 BB) with Nelson Mandela Marg in the State of Delhi on HAM mode. The proposed road tunnel would provide faster connectivity between West and South Delhi as it connects UER 2/ Dwarka Expressway in West Delhi with Vasant Kunj in South Delhi. It will further benefit traffic from Gurugram, Dwarka, IGI Airport, and West Delhi towards South Delhi. This tunnel will provide a signal-free alternative to the heavily congested Mahipalpur stretch, improving traffic flow and reducing travel time. The total length of the tunnel is 8.100 km with along with the design of a twin tube tunnel of 3.140 km which minimizes surface disruption preserving Southern Ridge Forest.
6. The Chairman, NHAI highlighted that the current traffic of the proposed stretch is about 38,015 PCUs/day (2023) and it is projected to reach nearly 1.29 lakh PCUs/day by 2053. The project will be executed under the HAM model with a Total Capital Cost of Rs. 6,969.67 crore and an Estimated project cost (EPC) of Rs. 3549.34 crore. The project is included under the NH(O) scheme. The financial assessment indicates the project IRR as 11.92% and the equity IRR as 12%.
7. 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.
8. US, DoE raised the following observation and response of MoRTH are given below:

a. ***Though the overall estimated cost is lower than the normative cost, certain components exceed normative values, and some items are not covered under the normative cost circular. The justification for the high cost to be clarified.***

Response of MoRTH: The overall estimated cost of the project remains below the applicable normative cost. Certain components such as 6-lane at-grade flexible pavement, service road with 7 m flexible pavement etc., show higher values due to variations in design and configuration, while still remaining within acceptable limits. Items not covered under the normative cost framework have been costed based on prevailing market rates.

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

a. ***The proposed project already has existing parallel roads. Whether the PSA***

has assessed the details of available ROW, and the feasibility of widening or proposing an elevated corridor on the existing road?

Response of MoRTH: The feasibility of widening the existing stretches was examined. It was observed that the sections of NH-48 between Mahipalpur–Dhaula Kuan and Mahipalpur–Vasant Kunj cannot be widened or upgraded due to dense habitation, limited right of way, and surrounding development constraints, rendering brownfield expansion unfeasible. Therefore, a greenfield alignment through a tunnel has been proposed.

b. ***What junction arrangements are proposed at both sides of the project corridor to ensure efficient traffic evacuation?***

Response of MoRTH: The proposed project commences at Shivmurti on NH-48 and terminates at Nelson Mandela Marg, Vasant Kunj. On the Shivmurti side, a full interchange has already been developed as part of the Dwarka Expressway. While on the Nelson Mandela Marg side, a six-lane elevated corridor is proposed beyond the tunnel exit. This corridor will cross above the Mahipalpur–Chhatarpur Road intersection, pass over the intersections of B and C Blocks of Vasant Kunj, and terminate near Ambience Mall. Additionally, a two-lane flyover is proposed for traffic movement from Chhatarpur to Mahipalpur, complementing the existing flyover in the opposite direction. An elevated U-turn facility is also provided to enable traffic exiting the tunnel to turn right towards Chhatarpur. Additionally, a Left-in and left-out ramps are planned to facilitate smooth entry and exit between the elevated corridor and the surface road network.

c. ***The project involves a 3.140 km twin-tube tunnel. If the construction commences from both the ends simultaneously, the project can be completed with less than five years. Considering this, the PSA may be clarified whether the five-year construction period required for the construction of the tunnel?***

***Response of MoRTH*:** The project requires a customized TBM of approximately 13 m × 6 m dimension. Since the concessionaire can place the TBM order only after issuance of the LoA, it takes about 18 months for manufacturing and delivery. Additionally, tunnel construction itself is estimated to take around 3.5 years. Therefore, the overall five-year construction period for the proposed project is justified.

d. ***Where are TBMs current customized / manufactured?***

Response of MoRTH: At present, Herrenknecht has established a TBM manufacturing facility in Indian which is located at Chennai.

e. ***MoRTH may explore the option of deploying four TBMs in order to reduce the construction duration of the proposed project.***

Response to MoRTH: At present, only one TBM is proposed to be deployed in the proposed project. As the cost of one TBM itself is approximately Rs. 600 crore. Deploying four TBMs would excessively increase the project cost. Moreover, TBMs have limited reuse value after project completion, with buyback value estimated at 15–20% of the total TBM cost. However, if feasible would try to deploy at least two TBMs.

10. Secretary (MoRTH) highlighted the following observations and response of Chief Engineer, MoRTH are given below:

a. ***Why has the existing Dwarka Expressway not significantly contributed to traffic decongestion on NH-48?***

Response of MoRTH: There is a railway line which divides the Dwarka Expressway from major commercial hubs such as DLF Cyber City which are located on the opposite side. With limited cross-connectivity across the railway line (only three railway crossings) traffic destined for these commercial areas continues to use NH-48 instead of diverting to the Dwarka Expressway. Consequently, the expressway primarily supports development on the southern side and other growth areas rather than easing congestion on NH-48.

b. ***The project is expected to involve a high muck disposal cost.***

Response of MoRTH: Approximately 25–30% of the excavated muck will be utilized within the project. Further, the rest of the muck is planned to be utilized in nearby projects of NHAI which are in pipeline.

Response of MoHUA: In addition to reuse within the project, MoRTH may explore the option of utilizing the excavated muck for flood protection works in Yamuna Flood plains. Similar approach was adopted for the utilization of muck generated from the Central Vista project.

11. AS, MoHUA made the following observations and response of MoRTH are given below:

a. ***MoRTH may explore whether land available with MoHUA at Chhatarpur location can be utilized for the proposed project?***

Response of MoRTH: Chhatarpur is located at least 5 km away from the proposed project alignment; therefore, the available land cannot be utilized for the project implementation.

b. ***MoRTH may undertake a contour planning exercise for flood protection in Rajgarh, Badarpur, and nearby villages. As the excess muck could be utilized for the flood protection works in these region.***

Response of MoRTH: The option of utilizing the muck for the flood protection works in these region shall be explored.

c. ***MoRTH / NHAI may undertake a detailed study of all feeder routes within a 1–2 km influence area around their projects. Based on the study, MoRTH / NHAI may suggest urban design and traffic decongestion measures. The recommendations may be shared with the concerned agencies (State PWD / MCD) for incorporation in their respective mandates.***

Response of MoRTH: For the proposed project, alignment and junction arrangements were finalized in consultation with DDA through multiple meetings. Following extensive design revisions, the alignment and junctions at both the entry and exit points were finalized, taking into account connectivity with surrounding road networks. Going forward, a study of feeder roads with suggestions shall be shared with the concerned state departments.

d. ***Can TBMs used for metro projects be utilized in the proposed road project? Further, since the metro TBM diameter is comparatively smaller size, can two TBMs be used together?***

Response of MoRTH: TBMs used for metro projects are designed for smaller tunnel diameters and different functional requirements (e.g., single-track or twin-track rail systems) and are therefore not suitable for road tunnel projects, which require significantly larger diameters to accommodate vehicular traffic, safety clearances, ventilation systems, and emergency provisions. Additionally, the use of two smaller TBMs in parallel to create a single road tunnel is not feasible due to structural, operational, and safety constraints. Road tunnels require a unified cross-section, and combining two bores would involve complex structural integration, higher costs, and safety challenges, making it impractical compared to using a single appropriately sized TBM.

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

a. ***Are there any similar tunnel projects developed in Delhi?***

Response of MoRTH: Yes, the Dwarka Tunnel is a comparable project; however, it was constructed using the cut-and-cover method, whereas the proposed tunnel will be executed using a Tunnel Boring Machine (TBM).

b. ***Why is the construction period proposed as five years for an 8 km project length?***

Response of MoRTH: The extended construction period is primarily due to the inclusion of tunnel works. In a Tunnel construction using a TBM, all excavated material to be removed through the same portal from which the TBM operates, unless multiple TBMs are deployed. Additionally, TBMs are custom-designed for specific project requirements, contributing to longer manufacturing and execution timelines.

e. ***What is the rationale behind the five-times tolling formula in the proposed project?***

Response of MoRTH: The rationale for having a higher toll charges are due to the significantly higher construction, operation, and maintenance costs associated with bridges and tunnels compared to at-grade road sections. Earlier tolling for bridge and tunnel sections was fixed at ten times the normal toll rate. However, this has been optimized and revised to five times the applicable toll rate.

f. ***Why does the project require a customized TBM?***

Response of MoRTH: TBMs are customized to suit the specific requirements of each project. This includes the required tunnel diameter, ground and soil conditions, groundwater pressure, alignment, and excavation method. Different geological conditions (e.g., soft soil, hard rock, or mixed ground) require different cutterheads, support systems, and pressure control mechanisms. Therefore, a customized TBM ensures safe, efficient, and accurate and minimizes risks such as ground settlement or water ingress.

Recommendations

13. After detailed deliberations, the PPPAC unanimously recommended the proposal for the "Construction of Road Tunnel with its approaches from Shiv Murti Interchange on NH-248BB/NH-48 to Nelson Mandela Marg (NH-148AE) in the state of Delhi on HAM mode (Ch. 0+000 to 4+974)" 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. 6969.67crore with a total estimated project cost (excluding GST) of Rs. 3549.34 crore.
b. The project should be taken up on HAM under the NH(O) scheme.
c. The PPPAC assess that the proposed project is highly unusual in nature, involving significant technical complexity, multi-level structures, and constrained urban conditions, and therefore requires careful planning and execution.
d. The concession period of the project is 20 years including 5 years of construction period and15 years of maintenance period.
e. 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.

f. MoRTH may also explore the option of utilizing the excessive muck in the Yamuna flood plains through a contour planning exercise for flood protection within overall plan of Delhi Government.

14. 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.

***

Annexure-I

List of the participants of the 141st meeting of the PPPAC

1. **Department of Economic Affairs, MoF**

i. Ms Anuradha Thakur, Secy (EA)
ii. Shri Alok Tiwari, JS(ISD)
iii. Ms Arya BK, Joint Director (PIU)
iv. Ms Shraddha Narwade, AD (PIU)
v. Shri Rajender Singh, SO (PIU)
vi. Shri Manjeet Yadav, ASO (PIU)

2. **NITI Aayog**

i. Shri Partha Sarathi Reddy, Programme Director, NITI Aayog

3. **DoE, MoF**

i. Shri Bharat,Singh, US

4. **DoLA**

i. Shri Jagat Prakash, Assistant Legal Adviser

5. **MoRTH**

i. Sh. V Umashankar, Secretary MoRTH
ii. Sh. Puneet Aggarwal, AS&FA
iii. Sh. Manoj Kumar, CE(BP&SP)
iv. Sh. Akash Singh, AT Kearney
v. Sh. Saurabh, AT Kearney

6. **NHAI**

i. Shri Santosh Kumar Yadav, Chairman, NHAI
ii. Sh. MOHD. Safi, RO DELHI
iii. Sh. Akash Padhi, PD DWARKA
iv. Sh. Dhruv Gupta, Manager (T), PIU DWARKA
v. Sh. gaurav rohira, Manager (T) DELHI DIVISION
vi. Sh. Vishal Nain, GT
vii. Sh. Sarabpreet Singh, smec

7. **MoHUA**

i. Ms. D. Thara, Additional Secretary