

F.No.2/9/2025-PIU
Government of India
Ministry of Finance
Department of Economic Affairs
Infrastructure Finance Secretariat
ISD Division
(PIU)

STC Building, Janpath New Delhi
Dated: 27th June 2025

Record of Discussion

Subject: Record of Discussion of the 129th meeting of the PPPAC for considering the project proposal of " Construction of 4 laning of Sahebganj Areraj Bettiah of NH-139W with Spur connectivity to Maker of (96.726 km) in the State of Bihar on HAM Mode comprising of (i) Package1: - Sahebganj to Areraj (38.362 km) and (ii) Package 2: - Areraj to Bettiah (40.580 km) and (iii) Construction of Spur Connectivity from NH-139w to NH-722 (From Darihara to Maker (17.784 km)) in the state of Bihar."

Reference: 129th meeting of the PPPAC held on 20th June 2025.

Sir/Madam,

The undersigned is directed to forward the Record of Discussion of the 129th meeting of the PPPAC held on 20th June 2025 under the chairmanship of Finance Secretary and 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, North block, New Delhi-01
2. CEO, NITI Aayog, Yojana Bhawan, New Delhi-01
3. Secretary, Ministry of Road, Transport & Highways, Transport Bhawan, New Dehi.
4. Secretary, Department of Legal Affairs, Shastri Bhawan, New Delhi.

Copy to:

1. Sr. PPS to Finance Secretary & Secretary (EA)
2. Sr. PPS to OSD (DEA)
3. Sr. PPS to JS (ISD)

Subject: Record of Discussion of the 129th meeting of the PPPAC for considering the “Construction of 4 laning of Sahebganj Areraj Bettiah of NH-139W with Spur connectivity to Maker of (96.726 km) in the State of Bihar on HAM Mode comprising of (i) Package1: - Sahebganj to Areraj (38.362 km), (ii) Package 2: - Areraj to Bettiah (40.580 km) & (iii) Construction of Spur Connectivity from NH-139w to NH-722 (From Darihara to Maker 17.784 km) in the state of Bihar”.

1. The 129th meeting of the PPPAC was held on 20th June 2025 at 12:30 hours to consider the above proposals of MoRTH.
2. List of attendees is placed at **Annexure-I**.
3. With the permission of Finance Secretary cum Secretary (EA), Joint Secretary (ISD) welcomed all the attendees to the meeting. NHAI made a detailed presentation on the proposed road project.
4. The details of the project are given in the table below:

Table: Details of the project

| | | | | | |
|------------------------------|--|--------------------|----------------------------|----------------------------|----------------------------|
| Project Description | Construction of 4-laning of Sahebganj-Areraj-Bettiah of NH-139W with Spur connectivity to Maker of 96.726 km in the State of Bihar on HAM Mode comprising of (i) Package I: Sahebganj to Areraj (38.362 km) (ii) Package II: Areraj to Bettiah (40.580 km) (iii) Spur connectivity: Construction of Spur Connectivity from NH-139W to NH-722 (from Darihara to Maker 17.784 km) | | | | |
| PPP Model | Hybrid Annuity Mode | | | | |
| Sponsoring Authority | Ministry of Road Transport and Highways, Government of India | | | | |
| Implementing Agency | National Highways Authority of India (NHAI) | | | | |
| Location | State: Bihar District: Purbi, Champaran Town: Muzaffarpur, Paschim Champaran | | | | |
| Type of Pavement | Flexible | | | | |
| Lane configuration | 4-lanes | | | | |
| Details of Structures | S.N. | Description | Sahebganj Areraj | Areraj Bettiah | Spur Connectivity |
| | 1 | Length (km) | 38.362 km | 40.580 km | 17.784 km |
| | 2 | Type of Pavement | Flexible Pavement (4L +PS) | Flexible Pavement (4L +PS) | Flexible Pavement (4L +PS) |

| | | | | | |
|--|--------------|---|--|---|--|
| | 3 | Major Bridges (Nos.) | Nil | Bridge across Tirhut Canal: 01 Nos (250 m.;5 X50) At Ch.29+998 | Bridge across Canal: 01 Nos Span-2x40 |
| | 4 | Minor Bridges over river/ channels | 05 Nos. | 06 nos | -- |
| | 5 | Minor Bridges over canals | 07 nos. | 04 Nos | 04 Nos |
| | 6 | Flyovers/ grade separator (nos.) | 02 Nos. | 03 Nos. | 03 Nos |
| | 7 | Cloverleaf/ Trumpet | 1 no. | 1 no. | 01 Nos |
| | 8 | ROB | Nil | Nil | 01 Nos (On proposed railway line) |
| | 9 | VUP (Nos.) LVUP (Nos.) SVUP (Nos.) | 3 Nos. 5 Nos. 4 Nos. | 3 Nos. 5 Nos. 30 Nos. | 2 Nos 16 Nos Nil |
| | 11 | Box Culverts (Nos.) | 85 Nos. | 124 Nos. | 31 Nos |
| | 12 | Length of Service Roads/Slip Roads (in Km) | Service Road - 6.286 km (including both hand side) Slip Road 10.162 km (including both hand side) | Service Road - 6.20 km (including both hand side) Slip Road -3.80 km (including both hand side) & Connecting link road 2.278 km (including both hand side) | Slip Road 5.950 Km (including both hand sides) |
| | 13 | Total construction period | 24 months | 24 months | 18 Months |
| Concession Period | | 17 years (Including 2 years Construction Period) | | | |
| Estimated Capital Cost with Break-up under major heads of expenditure | S. No | Description of Work | Sahebganj Areraj (Rs. in crore) | Areraj Bettiah (Rs. in crore) | Spur Connectivity (Rs. in crore) |
| | 1 | Civil Construction Cost (including Utility Shifting, Labor cess & | 888.43 | 998.66 | 370.10 |

| | | | | | |
|--------------------------------|---------------|---|---|--|--|
| | | Seigniorage Charges excluding GST) | | | |
| | 2 | Estimated Project Cost without GST | 934.73 | 1050.13 | 489.94 |
| | 3 | Estimated land and other preconstruction cost | 350 | 471.33 | 113.4 |
| | 4 | Estimated Total Capital Cost (including GST) | 1765.11 | 2057.20 | 709.50 |
| | 5 | Total Combined Capital Cost | 4531.81 | | |
| | 6 | Estimated Bid Project Cost | 1169.54 | 1321.69 | 501.68 |
| Land Acquisition Status | Sr. No | Description | Sahebganj to Areraj | Areraj to Bettiah | Spur Connectivity |
| | 1 | Total additional Land Required (Ha) | 210.00 Ha. out of which 1.95 Ha. is govt. land | 194.0211 Ha. out of which 21.5302 Ha. is govt. land | Additional Land of 86.561 Ha to be acquired. |
| | 2 | 3A Status | 199.42 Ha has been published on 10.02.2021 & 20.10.2022. Balance 3A is expected to be completed by December '24. | East Champaran District: - Out of 77.7262 HA complete 76.9623 HA have been approved published vide 4036(A) dated 19.09.2024 West Champaran District – Out of 116.295 HA complete 100.658 HA have been published on 29.10.2024 | Under progress |
| | 3 | 3D Status | 199.42 Ha has been published on 09.02.2022 & 26.07.2023. | 3D of 76.77 Ha East Champaran published on 27.02.2025, 3D of west Champaran completed, likely to be submitted after concurrence of PPPAC | Yet to start |
| | 4 | 3G Status | 3(G) of 158.34 Ha. land amounting to Rs. 222.28 Cr. has been approved. | Yet to initiated. | Yet to start |

| | | | | |
|-----------------------------|---|--------------------------------|--------------------------------|---------------------------------|
| | | Balance under process. | | |
| | | | | |
| Financial Viability | Particulars | Sahebganj-Areraj status | Areraj – Bettiah status | Spur Connectivity Status |
| | PIRR | 13.04 % | 12.23 % | 12.25% |
| | EIRR | 15.00% | 15.00% | 15.00% |
| Concession Agreement | The project is proposed to be implemented as per Model Concession Agreement dated 09.12.2016 uploaded on MoRTH website. | | | |
| Bidding parameter | Lowest Bid Project Cost. | | | |
| Bidding process | Single Stage Two-part system of bidding | | | |

5. The primary purpose of the proposed partially-access controlled four-lane greenfield project corridor is to improve travel efficiency between Patna and Bettiah and enhance connectivity in North Bihar. The proposed corridor shall also improve connectivity across Hajipur, Saran, Vaishali, Siwan, Gopalganj, East and west Champaran including Nepal border districts. The projected traffic on the proposed corridor is about 16,000 PCU/day in 2025 and is expected to cross 50,000 PCU/day by 2047. Additionally, the upgradation of the existing 2-lane SH-54 and SH-74 to a 4-lane/access-controlled facility were not found feasible as it passes through dense habitations. Accordingly, the instant proposal is to develop 4-lane partially access-controlled, greenfield corridor from Sahebganj to Areraj (Package-1), Areraj to Battiah (Package-2) and Spur connectivity from Maker to Darihara (connecting NH-722 and NH-139W).
6. The proposed greenfield alignment including the Spur is of 96.726 km length, supporting average vehicular speeds of 80 km/h with design speed of 100 km/h. This will reduce the overall travel time to approximately 2 hours, cutting journey time by over 50% compared to existing alternatives, while offering safer, faster, and uninterrupted connectivity for both passenger and freight vehicles.
7. The project will be executed under the HAM model with a Total Capital Cost of Rs.4531.81 crore. The project is included under the NH(O) for the FY 2025-26. The financial assessment indicates the project IRR is higher than 12% and the equity IRR is 15%.
8. 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.
9. Director, DoE raised the following observations:

- a) Despite relatively low projected traffic (4,884 PCUs for the year 2025), the Spur is proposed as a 4-lane corridor. It is suggested that MoRTH may consider developing 2-lane Spur with provision for 4-lane ROW to accommodate future expansion.
- b) MoRTH may develop a productivity test, similar to the one used by the Ministry of Railways to assess project outcomes against initial objectives.

10. PD, NITI Aayog raised the following observations:

- a) The traffic survey is 06 years old, as it was conducted in 2019. Whether there is any change in the current pattern of traffic which may impact the design criteria?
- b) Considering the low tollable-traffic (for instance, the tollable traffic of Areraj-Bettiah is only 3000 vehicles) what is the justification for a greenfield 4-lane highway? Whether the traffic loads been considered while designing the project?
- c) The projected traffic level for the Spur connectivity in 2027 is 5,324 PCU only and does not meet the criteria for construction of for 4-lane greenfield highway. MoRTH may consider going for 2-lane in Spur connectivity.
- d) The list of utilities to be shifted by the concessionaire needs to be properly identified and listed out in the Schedule of the DCA.

11. JS(ISD) highlighted the following observations:

- a) The project is designed as a partially access-controlled corridor. What is the rationale behind going for partially access-controlled design?
- b) The instant project is proposed to undertake in three packages including the Spur connectivity. It is suggested to undertake the project in one package.
- c) The cost of debt considered is 11.10% which is on a high side which may be revised as per current market trend.

12. The Chair made the following observations:

- a) Whether any Origin-Destination (OD) survey been conducted to assess existing traffic patterns and justify the projected demand of Spur connectivity?
- b) SH-54 and SH-74 are running parallel to the proposed project within a distance of ~20 kms. What is the rationale behind developing a greenfield highway running close parallel to already existing State Highways?

- c) Who is the competent authority to approve a new NH?
- d) The Spur from Darihara to Maker is proposed to connect NH-139W to NH-722, but these NHs are already connected at Manikpur, which is in close proximity to the proposed Spur. The projected traffic in 2027 is ~5000 PCU only. Moreover, the spur does not link to the main Sahebganj–Areraj-Bettiah section. In such a scenario, what is the justification of the proposed Spur connectivity as a part of Sahebganj-Areraj-Bettiah corridor?
- e) The purpose of the NH shall be to connect large habitations and economic/industrial nodes, whereas, in the instant proposal, road alignment runs parallel to a river and does not appear to connect any significant habitation clusters. What is the rationale for such alignment?
- f) What is the anticipated timeline for obtaining environmental clearance from MoEF&CC?
- g) What is the tolling mechanism for the entire project?

13. MoRTH submitted the following to the queries raised by the PPPAC Members: -

- a) The Spur would provide connectivity to NH-139W and NH-722 both having 4-lane configuration. Therefore, it is proposed to keep the Spur connectivity as 4-lane and the same was approved by the Alignment approval committee on 15.01.2025.
- b) MoRTH has issued a circular on 'Mechanism for monitoring outcome parameters of all capacity-augmentation projects, including under Bharatmala Pariyojana-I' on 5th June, 2025 wherein outcome parameters of the projects will be assessed against its initial parameters.
- c) The base traffic survey was conducted in 2019 and adjusted using econometric growth models and vehicle registration trends till 2025. The current trend in vehicles have been captured from vehicle registration data. The methodology is consistent with accepted practices for long-term traffic forecasting. Hence, the 2019 data continue to provide a reliable basis for corridor design and capacity planning.
- d) As per the Indo-HCM 2017, the threshold capacity of a 2-lane road with paved shoulders under mixed traffic is approximately 15,000 PCU/day. The projected AADT (Average Annual Daily Traffic) for 2025 in the NH-139W corridor is 15,983–16,180 PCU/day, indicating operation at or above LOS-E (Level of Service), which denotes high congestion and sub-optimal travel conditions. This justifies the need for 4-laning for smooth level of service. Further, the traffic survey used for forecasting follows the

standard DPR methodology wherein traffic counts are taken for a base year and forecasted using established growth rates derived from regional development trends, past registration data, and economic indicators. The traffic load has been considered while designing the project.

- e) Considering a comparative small length spur of about 18 km proposed to connect between to NHs (NH-139W with 4-lane configuration and NH-722 having more than 15,000 PCU and proposed for upgradation in coming years) , it is proposed to keep this spur connectivity as 4-lane.
- f) The utilities which need to be shifted is under scope of the concessionaire and shall be made a part of final concession agreement.
- g) The project is proposed to be access-controlled highway based on balance, cost-effective approach. A Partially Access-Controlled Highway is a roadway where access is regulated through designated entry and exit points but does not follow full expressway-level restrictions. In the context of the proposed NH-139W corridor, access is provided only through planned slip roads and service lanes connecting to the main carriageway.
An access-controlled road is envisaged to improve travel efficiency between Patna and Bettiah. Upon completion, it will offer a direct 163 km access-controlled corridor, supporting average vehicular speeds of 80 km/h with design speed of 100 km/h. This will reduce the overall travel time to approximately 2 hrs, cutting journey time by over 50% compared to existing alternatives, while offering safer, faster, and uninterrupted connectivity for both passenger and freight vehicles.
- h) The packaging of complete NH-139W corridor was planned as per differential land acquisition readiness and administrative manageability. At present, approximately 80% of land acquisition under Section 3G for the Sahebganj–Areraj package has been completed, with disbursement underway. Land acquisition for the Areraj–Bettiah package is still at the Section 3D stage. Land acquisition for the Spur package (3A) has yet to commence. Combining these packages at this stage would likely to delay construction timelines and significantly increase the total capital cost of the project.
- i) The cost of debt shall be revised as per the prevalent market rate.
- j) The Origin-Destination (OD) survey was conducted as part of the comprehensive traffic study for the main corridor from Bakarpur to Dhumariya Ghat, carried out in Oct-Nov 2024. The proposed Maker Spur, constitutes the initial segment of this broader corridor. Hence, the OD data relevant to the spur was adequately covered under the main survey scope.

- k) The existing route of Sahebganj to Bettiah i.e., Via SH-74 & SH-54, which broadly runs parallel to the proposed alignment, is a 2-lane intermediate standard road with poor geometrics, non-uniform carriageway widths, and high levels of road side local movement. It mainly caters to short-distance, intra-district rural and agricultural traffic, and is unable to provide uninterrupted flow for inter-regional connectivity or heavy freight movement. SH-74, SH-54 operates with limited capacity and poor Level of Service (LOS), often falling under very LOS E during peak hours due to mixed traffic and absence of shoulders or bypasses. Moreover, SH-74, SH-54 passes through multiple built-up sections and market areas, leading to safety risks, travel time delays, and high vehicle operating costs. Its widening to 4-lane standards was evaluated but found infeasible due to higher cost and extensive resettlement issues and corridor obstructions.
- l) MoRTH is the Competent Authority for notifying a highway as National Highway.
- m) The spur connectivity aims to connect NH-139W to NH-722 (From Darihara to Maker). It will also improve connectivity in the northern parts of Bihar with capital city, ultimately enhancing the efficiency of long-route traffic and freight movement from the southwestern to the northeastern sector of the states. As there is no existing road along the proposed project, the Spur connectivity would ensure last mile connectivity to the surrounding settlements. Though Spur connectivity is not connected to Package-I and Package-II of the proposal, it would connect to the habitations of west Ghandak river.
- n) The project provides connectivity to scattered habitation areas throughout the project alignment.
- o) The environmental clearance from MoEF&CC shall be obtained within 3 months. The public hearing is going on at present.
- p) The corridor is currently proposed under open tolling with 03 toll plaza in entire corridor. Although the corridor is initially proposed for open tolling due to staged implementation, it will be considered for closed tolling via gantry-based or other barrierless methods once completed.

Recommendations:

14.After detailed deliberations, the PPPAC unanimously recommended the proposal for “Construction of 4 laning of Sahebganj Areraj Bettiah of NH-139W in the State of Bihar on HAM Mode”, subject to following recommendations, for consideration of the competent authority for giving administrative approval.

- a) The decision of approving new NHs is not only about enhancing connectivity, it is also about incurring huge public expenditure for developing such highways. It has been

observed that NHs are approved and the land acquisition starts before approval of such expenditure by the Competent Authority. Therefore, MoRTH should seek guidance from Cabinet Secretariat and develop a clear SOP for approving new NHs.

- b) The practice of developing competing facilities at close proximity to existing NH/SH may impact the toll potential of the existing roads. In addition, it is non-optimal use of resources. Upgrading existing SHs/NHs should get priority over creating parallel greenfield corridors. MoRTH should consider this factor for future Highway projects.
- c) The fundamental objective of developing NHs is to establish connectivity between large habitations and facilitate socio-economic integration. For future projects, MoRTH should ensure that the NH alignment is designed to provides connectivity to the habitations and economic nodes.
- d) There should be an objective decision framework for deciding greenfield, brownfield, bypass, access-controlled corridor, RoW, cost sharing by state governments for the land, norms to regulate ribbon development, etc, considering competing demands on the budget government resources. MoRTH should formulate such a framework, undertake inter-ministerial consultation, and obtain approval of the competent authority for the framework.
- e) The appraised Total Capital Cost of Sahebganj-Areraj-Bettiah corridor is Rs. 3822.31 crore.
- f) The Package-I (Sahebganj to Areraj) and Package-II (Areraj to Bettiah) should be combined into a single package to leverage economies of scale and foster greater synergy to the projects.
- g) The Package-III, i.e., Spur connectivity from Darihara to Maker, is not an integral part of proposed Sahebganj-Areraj-Bettiah corridor. It is neither connecting large habitational areas nor economic nodes. NH-139W is already connected to NH-722 at Manikpur which is in proximity to the proposed Spur at Maker. The projected traffic along the spur is also not justifying the need of this spur. This spur connectivity lacks economic and project optimization logic. Hence, the development of Spur connectivity is not recommended.
- h) The project may be taken up on HAM mode with 15-year concession period (including the construction period) under the NH(O) scheme.
- i) Financial bids for the project should be called only after obtaining the environmental clearance.

15. Revalidation of its recommendation by the PPPAC is not required for the 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 129th meeting of the PPPAC

a) Department of Economic Affairs, Ministry of Finance

1. Shri Ajay Seth, Secretary, EA- In Chair
2. Ms. Anuradha Thakur, OSD(EA)
3. Shri Baldeo Purushartha, JS (ISD)
4. Ms. Arya Balan Kumari, Joint Director
5. Shri Rajender Singh, SO (PIU)
6. Shri Manjeet Yadav, ASO(PIU)
7. Shri Deepak Meena, ASO(PIU)

b) Department of Expenditure

1. Shri L. K. Trivedi, Director

c) NITI Aayog

1. Shri. Partha Reddy, Programme Director

d) Department of Legal Affairs

1. Dr. R.J.R. Kasibhatla, Joint Secretary & Legal Adviser

e) Ministry of Road Transport and Highways

1. Shri V Umashankar, Secretary (RTH)
2. Shri Puneet Agarwal AS&FA
3. Shri Vinay Kumar, AS(H)
4. Shri Manoj Kumar, CE
5. Shri Nazim Khan, AEE

f) National Highway Authority of India (NHAI)

1. Shri Santosh Kumar Yadav, Chairman
2. Shri Anil Chaudhary, Member
3. Shri L P Padhy, CGM
4. Shri Bhaskar Mishra, GM
5. Shri Abhishek Lodhwal, Manager
