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

STCs Building, Janpath New Delhi
Dated: 12th May 2025

Record of Discussion

Subject: Record of Discussion of the 122nd meeting of the PPPAC for considering the Two project proposals of the Ministry of Road, Transport & Highways (MoRTH) on PPP mode.

Reference: 120th Meeting of the PPPAC meeting held on 11th February 2025 & 122nd meeting held on 29th April 2025.

Sir/Madam,

The undersigned is directed to forward the Record of Discussion of the 122nd meeting of the PPPAC held on 29th April 2025, under the Chairmanship of Finance Secretary & 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-01**
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 122nd meeting of the PPPAC for considering the following project proposals: -

(i) Six-lane Access Control Greenfield Capital Region Ring Road (Bhubaneswar Bypass) from Rameshwar to Tangi in the State of Odisha on HAM.

(ii) Four-lane, Parmakudi to Ramanathapuram Section of NH-87 in the State of Tamil Nadu on HAM.

(iii) 4 Laning of Rajapalayam to Shenkottai Section of NH-744 from Km 71+600 to Km 139+900 (Design Chainage) in Tamil Nadu on Hybrid Annuity Mode (Project Length-68.3Km)

1. The 122nd meeting of the PPPAC was held on 29th April 2025 at 06:15 Hours under the Chairmanship of Finance Secretary cum Secretary (EA) to consider the above-mentioned road projects of MoRTH. Project (i) and (ii) were discussed in the 120th PPPAC also but deferred in the light of observation of the PPPAC. MoRTH has provided a detailed response to the observations of the 120th PPPAC. The responses of MoRTH are annexed at **Annexure-I & II.**

2. The project at serial number (iii) was deferred for consideration after receiving response of the MoRTH on comments at **Annexure-III**

3. List of attendees is placed at **Annexure-IV.**

4. 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 these two road projects.

I. Six-lane Access Control Greenfield Capital Region Ring Road (Bhubaneswar Bypass) from Rameshwar to Tangi in the State of Odisha on HAM.

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

Table 1: Details of the project

<table>
<tr><td>Project Description</td><td colspan="6">Development of new 6-lane Access Control Greenfield Capital Region Ring Road (Bhubaneswar Bypass) from Rameshwar Near Kuspangi (NH-16) to Tangi Near Bandalo Toll Plaza (NH-16) total length Km. 110.875 on Hybrid Annuity Mode in the State of Odisha</td></tr>
<tr><td>PPP Model</td><td colspan="6">HAM</td></tr>
<tr><td>Sponsoring Authority</td><td colspan="6">Ministry of Road Transport and Highways (MoRTH)</td></tr>
<tr><td>Implementing Agency</td><td colspan="6">National Highways Authority of India (NHAI)</td></tr>
<tr><td>Location</td><td colspan="6">State: Odisha
District: Khurda, Dhenkanal & Cuttack</td></tr>
<tr><td>Length</td><td colspan="6">110.875 Km</td></tr>
<tr><td>Type of pavement</td><td colspan="6">Flexible</td></tr>
<tr><td>Lane configuration</td><td colspan="6">Six Lane (6-Lane)</td></tr>
<tr><td>Proposed RoW</td><td colspan="6">60 m</td></tr>
<tr><td rowspan="15">Structures</td><td>Sl. No.</td><td>Description</td><td>Package-1</td><td>Package-2</td><td>Package-3</td><td>Total</td></tr>
<tr><td>1</td><td>Length(km)</td><td>40.250</td><td>30.295</td><td>40.330</td><td>110.875</td></tr>
<tr><td>2</td><td>Interchange</td><td>2</td><td>3</td><td>1</td><td>6</td></tr>
<tr><td>4</td><td>Viaduct</td><td>1</td><td>Nil</td><td>2</td><td>4</td></tr>
<tr><td>5</td><td>VUP</td><td>08 Nos.</td><td>03 Nos.</td><td>06 Nos.</td><td>17 Nos.</td></tr>
<tr><td>6</td><td>LVUP</td><td>08 Nos.</td><td>06 Nos.</td><td>16 Nos.</td><td>30 Nos.</td></tr>
<tr><td>7</td><td>SVUP</td><td>07 Nos.</td><td>03 Nos.</td><td>03 Nos.</td><td>13 Nos.</td></tr>
<tr><td>8</td><td>EUP/Animal Underpass</td><td>07 Nos.</td><td>03 Nos.</td><td>02 Nos.</td><td>12 Nos.</td></tr>
<tr><td>10</td><td>ROB</td><td>01 No.</td><td>Nil</td><td>2 Nos</td><td>3 Nos.</td></tr>
<tr><td>11</td><td>Major Bridges</td><td>Nil</td><td>03 Nos</td><td>02 Nos</td><td>5 Nos.</td></tr>
<tr><td>12</td><td>Minor Bridges</td><td>10 Nos.</td><td>11 Nos.</td><td>23 Nos.</td><td>44 Nos.</td></tr>
<tr><td>13</td><td>Culverts</td><td>142 Nos</td><td>90 Nos</td><td>69 Nos.</td><td>301 Nos.</td></tr>
<tr><td>14</td><td>Waysides Amenity</td><td>01 No.</td><td>01 No.</td><td>1 Nos.</td><td>3 Nos.</td></tr>
</table>

	15	Toll Plaza	One Main Plaza and ramp Plaza at Exit - entry locations	Only Ramp Plazas at exit- entry locations.	One Main Plaza and ramp Plaza at Exit -entry locations	

Project Packages	**Sl. No.**	**Description**	**Package-1**	**Package-2**	**Package-3**	**Total**
	1	Length(km)	40.250	30.295	40.330	110.875

Concession Period	17.5 years (2.5 years of construction + 15 years of O&M)

Estimated Capital Cost with Break-up under major heads of expenditure	**Sl. No.**	**DESCRIPTION OF WORKS**	**Package-1**	**Package-2**	**Package-3**	**Total**
	A	Cost of Civil Works	1584.36	1314.22	1742.25	4640.83
	B	Utility Shifting Cost	25.64	11.78	8.49	45.91
	1	**Total Civil Construction Cost (including cost of Utility Shifting)**	**1610**	**1326.00**	**1750.74**	**4686.74**
	2	I/C & Pre-Operative Expenses (1 % of Civil Cost)	16.10	13.26	17.51	46.87
	3	Financing Cost (1% of debt)	7.18	5.89	6.39	19.46
	4	Interest during construction	82.03	57.50	52.69	191.04
	5	**Estimated Project Cost (1+2+3+4)**	**1715.31**	**1402.64**	**1827.33**	**4945.28**

	6	GST @ 18 % on Total Civil Cost (Excluding Utility Shifting)	293.99	252.48	315.13	861.6
	7	Contingency @ 1% on Civil Cost (Excluding Utility Shifting)	15.84	13.14	17.51	46.49
	8	O&M Cost for 15 years as per Ministry OM dated 23.05.2022	216.57	177.16	240.76	634.49
	9	Escalation @ 5% per year for 3 Years (on Civil Cost ic. Utilities)	253.74	208.98	275.92	738.64
	9	Supervision Charges on Utility Cost	0.64	0.29	0.21	1.14
	10	Land acquisition and R&R	426.26	383.17	220.0	1029.43
	11	Environmental & Forest Mitigation Cost	22	15.32	13.34	50.66
	12	**Total Capital Cost (5+6+7+8+9+10 +11)**	**2944.36**	**2453.18**	**2910.20**	**8307.74**
	13	**Per km of Total Capital Cost (Cr. / km)**	**73.15**	**80.97**	**72.15**	**74.93**

<table>
<tr><td>Land Acquisition Status</td><td>Total Required: 840.39 Ha
3A: 95%,
3D: 95%
3G: 85%</td></tr>
<tr><td>Financial Viability</td><td>
<table>
<tr><th>Particulars</th><th>Package1</th><th>Package2</th><th>Package3</th></tr>
<tr><td>Project IRR (in %)</td><td>12.66%</td><td>13.08%</td><td>12.83%</td></tr>
<tr><td>Equity IRR (in %)</td><td>15%</td><td>15%</td><td>15%</td></tr>
<tr><td>Project NPV @12% discounting (Rs. in Cr.)</td><td>27.39 Crs.</td><td>36.27Crs.</td><td>36.73 Crs.</td></tr>
<tr><td>Project NPV @WACC of 10.31% (Rs. in Cr.)</td><td>105.82 Crs.</td><td>120.71 Crs</td><td>123.19 Crs</td></tr>
<tr><td>Min. DSCR</td><td>1.34</td><td>1.37</td><td>1.31</td></tr>
</table>
</td></tr>
<tr><td>Concession Agreement</td><td>Based on MCA for Hybrid Annuity Model</td></tr>
<tr><td>Bidding parameter</td><td>Bids will be evaluated on the basis of the lowest Bid Project Cost.</td></tr>
<tr><td>Bidding process</td><td>Single Stage Two Envelop Process</td></tr>
</table>

2. The primary purpose of the proposed 6 Lane access-controlled project Highway is to ease up congestion in the existing NH-16 (Part of GQ) passing through Khorda, Bhubaneswar & Cuttack (86 Km). The Existing NH-16 (Kolkata- Chennai) passes through highly urbanized areas of 3 major cities of Khorda, Bhubaneswar and Cuttack. Considering the rapid urbanization and growth in the state capital, it is not practical to widen or augment the existing National Highway. The traffic in the city has already crossed 1 Lakh PCU leading to multiple congestion points. Therefore, the proposed project is essential to address the huge traffic congestion problem and for the overall development of the Region.

3. The travel time on the existing road section is around 120 minutes. During the peak hours, the travel time on existing road section increases from 120 minutes to 150 minutes. The proposed greenfield alignment, designed for 100 km/h, is expected to reduce travel time from 120 minutes to 80 minutes. The proposed 6-lane road project, spanning 110.875 km with a 60m right-of-way, is expected to yield significant savings in Vehicle Operating Costs (VOC).

4. The project will be executed under the HAM model with a Total Capital Cost of Rs.8,307.74 crore. Subsequently, it will be monetized through InvIT or TOT models. The project will be implemented in three packages and is part of NH(O) Scheme. The financial assessment indicates a Project IRR of both the packages are higher than 12% and equity IRR of 15%. With respect to land acquisition, the 3G of 85% has

been achieved in the project. Further, state govt. is sharing 50% of land acquisition cost in the project. Accordingly, 200 Cr. has already been deposited by state Govt for this purpose.

5. The project has been considered in the 120th PPPAC meeting held on 4th Feb 2025. The queries raised by the PPPAC and the response of MoRTH are provided at Annexure I. The main observation was on the tolling plan of the proposed road including proposal of revenue sharing with the existing BOT concessionaire. In its reply, MoRTH said that the tolling plan proposed during the 120th PPPAC meeting has been revised, eliminating the need for compensating the existing BOT concessionaire through toll revenue sharing. Tangi serves as the toll plaza for the BOT (Toll) project, located 16KM from the proposed roadway. Between Bhubaneswar and the Tangi toll plaza, the distance is 44.3KM. As per the revised tolling strategy, no toll is to be paid by the passengers for 33KM on the proposed bypass (which is the equivalent distance of 44.3 KM of existing BoT Road). In other words, it is now proposed to allow the user to travel equivalent road length free on proposed bypass to ensure no financial impact on the commuter as well as the existing BOT concessionaire. The toll Plaza of CRRR on Tangi side shall be shifted in Ch. 78km (approx.) at suitable location. With the integrated tolling system, commuters from Chennai and Kolkata will be tolled at the Tangi Plaza, ensuring that the operation remains free of financial losses to the existing concessionaire.

6. After the detailed presentation, the Chair asked the PPPAC members for their observations. DEA, NITI Aayog, DoE and DoLA supported the proposal and stated that no further comments to offer.

7. The Chair made the following observations:

a) How MoRTH is addressing the problem of unregulated ribbon development along the ring roads/bypasses?

b) Has any legal advice been sought regarding revised tolling strategy envisaged for the project?

c) The per KM for Package-2 is higher than the normative costs and those of the other two packages?

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

a) MoRTH is finalizing a policy on development of access-controlled Ring roads/ bypasses for major cities for urban decongestion. Under the proposed policy, emphasis is on regulated development along proposed bypasses. The policy would require a development control zone of 15m on either side of the NH bypass or ring road shall be notified by the State

Government as a green zone under the planning laws enacted by the State Government where development shall be prohibited unless it is for public transport or mobility infrastructure, public utility infrastructure like electricity, water or sewerage pipeline or green zone infrastructure. Beyond the No Construction Green Zone, the State Government may plan, develop, or regulate the development of residential, commercial, industrial, and institutional infrastructure within a 2 km radial distance on either side of the bypass or ring road. This will enable value capture for new development for economic activities using the ring road or bypass as the centre of development in a regulated manner. Additionally, the access to ring road/bypass would be only through service roads which would be constructed at the time of project development and entry to the main carriageway would be provided only through slip roads or interchanges.

b) A legal opinion has been obtained on the revised tolling strategy, and it has been confirmed that the proposed mechanism is free from any legal impediment. The existing BOT concessionaire has also given no objection to this.

c) The per kilometer cost for Package-2 is Rs. 80.97 crore vis a vis the costs for the other two packages are in the range of Rs. 73 crore per kilometer. The main reason for the high per km cost in Package-2 is due to the construction of bridges over the Mahanadi River.

Recommendations:

9. After detailed deliberations, the PPPAC unanimously recommended the proposal for "Development of Six-lane Access Controlled Greenfield Capital Region Ring Road (Bhubaneswar Bypass) from Rameshwar to Tangi in the State of Odisha on HAM" for consideration of the competent authority for giving administrative approval. The overall recommendation is subject to following specific recommendation.

a) The appraised Total Capital Cost for all three packages is Rs. 8307.74 crore.

b) The project should be taken up on HAM under the NH (O) scheme.

c) MoRTH should develop a policy for regulated development along Ring roads/ bypasses.

d) All approvals, such as forest clearance, tree cutting, permissions, etc., shall be obtained by the NHAI well before the bid submission date.

10. 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.

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II. Four-lane, Parmakudi to Ramanathapuram Section of NH-87 in the state of Tamil Nadu on HAM

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

Table 2: Details of the project

Project Description	4 Laning of Parmakudi to Ramanathapuram Section of NH-87 from Km 80+360 to Km 127+025 (Design Chainage) in the state of Tamil Nadu on Hybrid Annuity Mode (Project Length-46.665 km)	
PPP Model	HAM	
Sponsoring Authority	Ministry of Road Transport and Highways (MoRTH)	
Implementing Agency	National Highways Authority of India (NHAI)	
Location	**State:** Tamil Nadu **Town:** Tiruppuvanam to Dhanushkodi	
Length	46.665 km	
Type of pavement	Flexible	
Lane configuration	Four lanes (4-lane)	
Proposed RoW	30m – 45m	
Structures	Major Bridges Major Bridge Cum VUP Minor Bridges	Nil 1 No. 20 Nos
	Box Culverts	106 Nos = 49 (New) + 51 (Reconstruction) + 6 (Widening)
	Additional Box culverts Cross road Box Culverts Median Drain Out Culverts	10 77 26
	Flyover Interchange Viaduct	Nil Nil Nil
	RoB/ RuB	Nil
	VUP	9 Nos.
	Animal Underpass (No)	Nil
	LVUP SVUP VOP	4 Nos 4 Nos 19 Nos.
	FOB	Nil

	Junctions below grade separated structures	18 Nos.
	Length of Service Road/ Slip Road (Both Sides)	3.430 Km + 20.890 Km = 24.320 Km
	Lined/RCC roadside drain (Both Sides) Median Drain	25.030km 42.694 km
	Bypass (No. & Length)	2 Nos & 7.870 km
	Realignment – length	17.275 km
	Bus-bays/ Shelters	Bus Bays: 7 Nos. Bus Shelters: 33 nos.
	Truck Lay-byes	2 No (Both Sides)
	Rest Area / Way side amenities	Nil
	Any Other, specify	Nil
Project Packages	One package with 46.665KM	
Concession Period	17 years (2 years construction period + 15 years Operation Period)	

Estimated Capital Cost with Break-up under major heads of expenditure

Sl. No.	**Description**	**Cost (Rs in crore)**
(i)	Civil Construction Cost including Utility Shifting (Excl. GST)	997.63
(ii)	IC & Pre-operative Expenses	9.98
(iii)	Financing Cost	4.23
(iv)	Interest During Construction	30.99
(v)	**Estimated Project Cost [(i) to (iv)]**	1042.83
(vi)	Civil Construction Cost per km	21.38
(vii)	Land Acquisition Cost including R&R & Structures	340.94
(viii)	Other Cost (like Forest Clearance, Environmental Mitigation Measures etc.	6.50
(ix)	Contingency @ 1% of (i)	9.98
(x)	GST@18% of (i), (ii) & (iii)	182.13
(xi)	Escalation during construction	60.00
(xii)	O&M for 15 years including escalation	210.78

<table>
<tr><td></td><td>(xiii)</td><td colspan="2">Total Capital Cost [(v)+(vii)+(viii)+(ix)+(x)+(xi)+(xii)]</td><td>1853.16</td></tr>
<tr><td></td><td></td><td colspan="2">Estimated BPC</td><td>1313.84</td></tr>
<tr><td rowspan="11">Land Acquisition Status</td><td>S.No.</td><td>Description</td><td colspan="2">Present Status</td></tr>
<tr><td>1</td><td>Total Land Required (Ha)</td><td colspan="2">302.57</td></tr>
<tr><td>2</td><td>Existing Land available (Ha)</td><td colspan="2">107.49</td></tr>
<tr><td>3</td><td>Addl. Land Required (Ha)</td><td colspan="2">195.08</td></tr>
<tr><td>4</td><td>Forest land (Ha)</td><td colspan="2">Nil</td></tr>
<tr><td>5</td><td>Private land (Ha)</td><td colspan="2">154.11</td></tr>
<tr><td>6</td><td>Govt. land (Ha)</td><td colspan="2">40.97</td></tr>
<tr><td>7</td><td>3A Status</td><td colspan="2">Published for 185.59 Ha (95.14%)</td></tr>
<tr><td>8</td><td>3D Status</td><td colspan="2">Published for 185.59 Ha (95.14%)</td></tr>
<tr><td>9</td><td>3G Status</td><td colspan="2">Completed for 121.5 Ha (62.3%)</td></tr>
<tr><td>10</td><td>3H Status</td><td colspan="2">Completed for 15.1 Ha (7.7%)</td></tr>
<tr><td rowspan="6">Financial Viability</td><td colspan="3">Category</td><td>Value</td></tr>
<tr><td colspan="3">PIRR</td><td>12.70%</td></tr>
<tr><td colspan="3">EIRR</td><td>15%</td></tr>
<tr><td colspan="3">Project NPV @ 12% discount rate</td><td>Rs. 33.75 crore</td></tr>
<tr><td colspan="3">Project NPV @WACC of 10.31% (Rs. in crore)</td><td>Rs. 81.50 crore</td></tr>
<tr><td colspan="3">Minimum DSCR</td><td>1.59</td></tr>
<tr><td>Concession Agreement</td><td colspan="4">Based on MCA for Hybrid Annuity Model</td></tr>
<tr><td>Bidding parameter</td><td colspan="4">Bids will be evaluated on the basis of the lowest Bid Project Cost.</td></tr>
<tr><td>Bidding process</td><td colspan="4">Single Stage Two Envelope Process</td></tr>
</table>

2. The primary purpose of the project is to provide better connectivity between Paramakudi and Ramanathapuram and also to decongest the existing 2 lane paved shoulder road. The project road is a section of NH-49 (new NH-87) which connects two important pilgrimage centers Madurai and Rameshwaram. The

Project Road passes through plain terrain and through settlements like Paramakudi Near Ariyanandel, Sathirakudi, Achundanvayal, Ramanathapuram and Perungulam. The proposed alignment with designed speed of 80 km/hr, will connect five economic nodes.

3. The project, with a stretch of 46.665 km, is proposed for 4 lane development in on Hybrid Annuity Mode. As per the revised proposal for the 46.665 km stretch, approximately 25 kms is to be developed as greenfield due to the presence of dense habitation along the existing alignment. Approximately 13 kms of the existing road are proposed to be widened without demolishing existing road, while approximately 8 kms are planned for complete reconstruction by demolishing the existing road, which is inevitable due to approach locations of grade separators and technical constrains. The financial assessment indicates a Project IRR project is 12% and equity IRR of 15%. With respect to land acquisition, 3G of 62% land has been achieved.

4. The project has been considered in the 120th PPPAC meeting held on 4th Feb 2025. The queries raised by the PPPAC and the response of MoRTH are provided at Annexure II. The main issues raised by the 120th PPPAC was about the dismantling of the existing road which was constructed in 2019. In its reply, MoRTH said that in the initial proposal demolition of existing stretches of around 21 km was proposed as per the design requirements of IRC-SP-84-2019, whereas 2-laning with paved shoulders constructed in 2019 was based on IRC-SP-73-2007. Now, the proposal is modified by avoiding the demolition of existing pavement to the possible extent and now only around 8 km stretch is coming under re-construction in approaches of crossing structures against 21 km proposed initially. As a result, Rs. 320 crore has been saved as compared to the initial cost estimates.

5. After the detailed presentation, the Chair asked the PPPAC members for their observations. DEA, NITI Aayog, DoE and DoLA supported the proposal and stated that no further comments to offer.

6. The Chair made the following observations:

a) What is the typical lifespan of a 2-lane road?

b) The existing road was constructed in 2019, and the land acquisition process for the proposed corridor also commenced in 2019. This indicates poor planning on the part of the authority?

c) How will the traffic of the existing stretch will be managed during the construction phase?

d) The possibility of developing the entire Madurai to Ramanathapuram corridor on BOT(Toll) mode may be explored?

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

a) The typical lifespan of a two-lane road is 20 years.

b) In 2014 when the approval process of the existing road was started, the PCU on the corridor was qualifying for 2-lane only (less than 15000 PCU). However, the guideline changed in 2016 by which the 4-lane traffic trigger point was changed to 10,000 PCU. When the project completed in 2019, the traffic in the stretch was more than 10,000 PCU necessitating the augmentation to 4-lane. Since the traffic has been triggered for 4-lane in 2019, the land acquisition process has been initiated in 2019 itself.

c) Traffic management during the construction period falls within the scope of the concessionaire by providing diversions. It will be ensured that there will be minimal disruption to regular traffic flow.

d) The short stretch of Paramakudi–Ramanathapuram is not financially viable on its own in BOT (Toll) mode. However, the completed Madurai–Paramakudi section, built under the EPC model, can be offered to the concessionaire under the TOT model to enhance overall project viability. Based on financial analysis and also considering the audit observation, the possibility of developing combined Madurai–Ramanathapuram stretch on the BOT (Toll) model shall be explored.

Recommendations:

8. After detailed deliberations, the PPPAC unanimously recommended the proposal for 4 Laning of Parmakudi to Ramanathapuram Section of NH-87 from Km 80+360 to Km 127+025 (Design Chainage) in the state of Tamil Nadu on Hybrid Annuity Mode for consideration of the competent authority for giving administrative approval. The overall recommendation is subject to the following specific recommendations.

a) The appraised Total Capital Cost is Rs. 1853.16 crore.

b) the possibility of developing combined Madurai–Ramanathapuram stretch on the BOT (Toll) model shall be explored by the MoRTH.

c) MoRTH should adopt a forward-thinking approach for designing road projects, considering future traffic demands, infrastructure needs, and potential challenges. This would prevent the need for costly and premature redevelopment while ensuring that road infrastructure remains sustainable and efficient over its intended lifespan.

d) All approvals, such as forest clearance, tree cutting, permissions, etc., shall be obtained by the NHAI well before the bid submission due date.

9. 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.

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Annexure-I

(Replies to observations to PPPAC committee for Capital Ring Road Project)

S. No.	Comments of 120th PPPAC	Reply by MoRTH
A.	**Project Rationale**	
1.	This section passes through 2 large cities, Bhubaneswar, and Cuttack. The state government had planned another proposal almost 2 years back to decongest the city section at a much lower cost.	The mentioned proposal planned by State The mentioned proposal planned by State the same is yet to be started. The alignment mentioned is planned from eastern side and will only bypass Bhubaneswar city. However, MoRTH proposal is from western side which is bypassing three Cities namely Bhubaneswar, Cuttack ft Khorda. Also, The Heavy traffic from NH-55, NH-655, NH-57 ft SH-65 is not captured by State alignment. Further, the State Govt is sharing the 50% LA cost of proposed Bhubaneswar Bypass. As the state proposal is at very initial state, costing has not been finalized for the same, as of now. The per km per lane estimated civil construction cost of the MoRTftH project is 6.98 Cr., which is within the normative cost.
2.	The availability of this alternate route, besides existing Khurda-Chandaka-Nanadakanan road may have implications on the likely traffic on the proposed bypass.	The existing Khurda-Chandaka-Nanadakanan State Road is primarily 2 Lane having poor geometrics, which is already congested and may not solve the problem of traffic congesti on. Further, it ends before Cuttack ft Mahanadi bridge and may not solve the traffic congestion in Khurdha and Cuttack. It may not have any implication on likely traffic of proposed Bypass as the through traffic of NH-16 on either side of proposed bypass shall get diverted before Khordha and Cuttack respectively.
3.	The estimated traffic on the proposed bypass ranges from about 20,000 to 24,400 PCU. Therefore, it would solve only a part of the urban congestion problem. The rationale of a very high level of congestion (1 lakh PCU per day) in the city limits appears to be due to the local traffic, and most likely will remain partly addressed. ,	Looking into the traffic growth, the widening of existing NH-16 to 8 Lane with Service Road will be costly option with much higher cost including LA for additional 20m Land required. The said option has been examined and not found feasible and hence bypass has proposed. The through Traffic on NH-16 shall be diverted on proposed Bypass. Thus, the proposed Bypass will ensure smooth travel of through traffic and traffic bound towards western Odisha through NH-55, NH-655, NH- 57 & SH-65. Further diversion of through traffic through the proposed bypass shall result in substantial reduction in the traffic on existing NH-16 in urban area, which will partly de-congest the urban part. The problem of local traffic not getting catered by the proposed bypass and creating congestion will be addressed by the road planned by State Govt. Further, on completion of CRRR and roads planned by State Government, assessment would be done and needful action shall be taken accordingly.
4.	The urban congestion is likely to be mostly during the day period, and that too during peak hours. During	The traffic assessment has been made on the basis of 24-hour OD survey. Further, the existing stretch (NH-16) is also being tolled. The traffic assessment has been done considering both peak and off-peak hours and the estimated

	off-peak hours and during nighttime, the through traffic may still find it convenient (shorter distance) to pass through the 2 cities instead of using the bypass road. That may lead to lower than estimated traffic on the bypass road and lower toll earnings for NHAI.	traffic has been calculated accordingly.
B.	**Tolling Strategy**	
1.	There seems to have a balance period of another 10 to 12 years.	The existing concession of BOT(Toll) road is up to 2037.
2.	The non-compete period in the existing concession is perhaps over. However, the concessionaire will may have to be compensated for a few years (may be 5 to 7 years).	The tolling plan proposed during PPPAC scheduled earlier has been revised and the revised tolling plan is at Annexure-1. It is now proposed not to compensate the existing BoT Concessionaire by sharing toll revenue. Under this plan, it is unlikely that the concession period would be extended.
3.	NHAI proposes to share a part of the toll collected on the bypass road with the BOT Concessionaire. Such sharing is not envisaged in the concession agreement (CA).	In earlier tolling plan, it was proposed to reduce the user fee charged at BOT Plaza for Vehicle moving from Chennai to Kolkata and compensate the same to Concessionaire by the Authority. Now, tolling strategy has been revised and it is now proposed not to compensate the existing BoT Concessionaire by sharing toll revenue. The Bypass has been proposed to be constructed on HAM mode, to be tolled by NHAI. In order to avoid unfair charging of user fee (at Bandalo Toll Plaza on NH-16) for length not travelled by the users in the BOT project, it is now proposed to allow the user to travel equivalent length free for both side movement on proposed bypass. In other words, the toll Plaza of CRRR on Tangi side shall be shifted in Ch. 78km (approx.) at suitable location. Revised Tolling Plan attached at Annexure-A).
4.	Adopting a compensation method outside the CA will involve negotiation of the CA.	
5.	The concession road will have lower traffic (as a part of the traffic will use the bypass road) resulting in lower wear & tear requiring lower maintenance cost. Yet, the concessionaire is proposed to be compensated as if the diverted traffic was also on the concession road.	As clarified above, it is now proposed not to compensate the existing BoT Concessionaire by sharing toll revenue. Further, despite the use of proposed Bypass Road by through traffic, the remaining as well as local traffic shall be using the existing road. There may not be any significant difference of maintenance cost. The periodic renewal has to be done as per IRC Guidelines.
6.	A clarity is also needed in respect of the appropriate forum and the competent authority for appraising and approving the negotiated concession.	As per revised Tolling Plan, there is no requirement of negotiation with Existing BoT Concessionaire
7.	In view of the sharing of the toll revenue, the economic	The viability of the project has already been considered taking into account the proposed integrated tolling

	and financial viability of the project may also be lower. The viability should be reworked based on net toll to NHAI.	mechanism.

Annexure-A

Revised Tolling Strategy

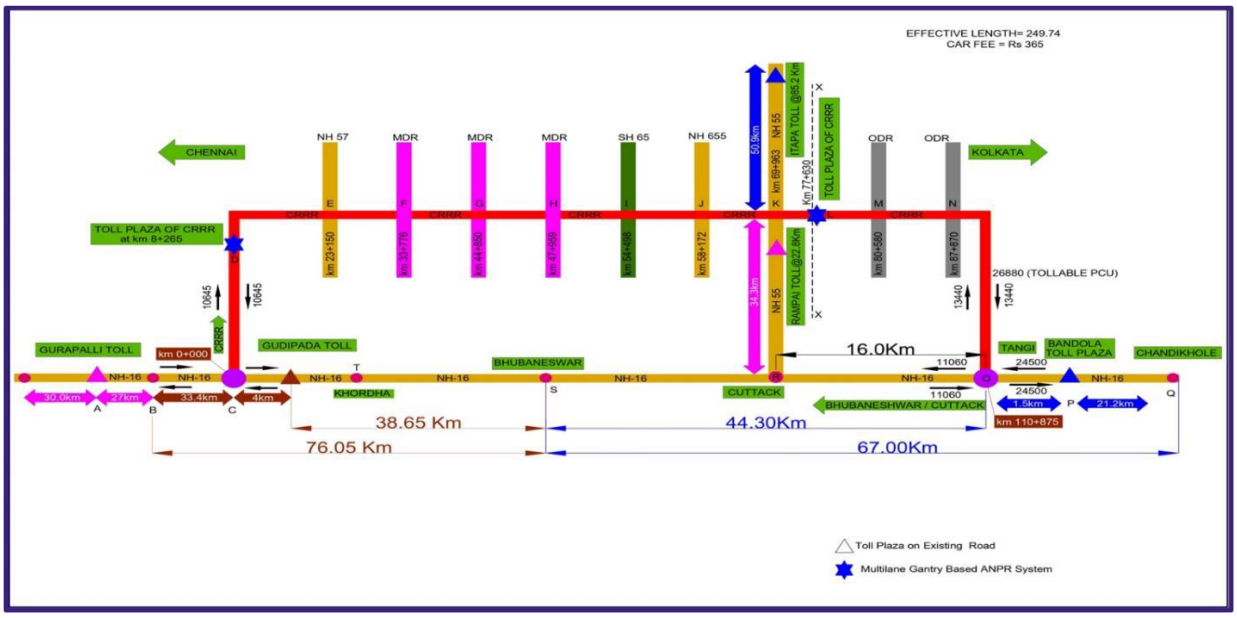
The map showing the tolling strategy is at attached.

Case 1: - For traffic moving from Kolkata to Chennai using Bhubaneswar Bypass: - Car crossing point P (BOT toll Plaza at Bandola) will be paying full charges at the BOT toll plaza and the vehicles coming on bypass shall be allow to travel equivalent length (33 Km) free upto point X-X and charges will be applicable for actual distance travelled beyond point X-X till it exits from Bhubaneswar Bypass.

Case 2: - Vehicle moving from Chennai to Kolkata using Capital Region Ring Road (Bhubaneswar Bypass).

1 User entering Bhubaneswar Bypass at C (4 Km before next toll Plaza i.e., Gudipada Toll Plaza) and travelling Length upto & beyond X-X will be paying toll free up to X-X i.e., 77.630 Km approx.

2 User entering Bhubaneswar Bypass at C (4 Km before next toll Plaza i.e., Gudipada Toll Plaza) and exiting from intermediate access before X-X will have to pay for actual length travelled.


EFFECTIVE LENGTH= 249.74
CAR FEE = Rs 365
CHENNAI
KOLKATA
NH 57
MDR
MDR
MDR
SH 65
NH 655
NH 55
ODR
ODR
ITAPA TOLL @65.2 Km
TOLL PLAZA OF CRRR
RAMPAI TOLL@22.9Km
TOLL PLAZA OF CRRR at km 8+265
26880 (TOLLABLE PCU)
GURAPALLI TOLL
GUDIPADA TOLL
BHUBANESWAR
CUTTACK
TANGI
BANDOLA TOLL PLAZA
CHANDIKHOLE
KHORDHA
BHUBANESHWAR / CUTTACK
16.0Km
30.0km
27km
33.4km
4km
38.65 Km
76.05 Km
44.30Km
67.00Km
Toll Plaza on Existing Road
Multilane Gantry Based ANPR System

Annexure-II

Replies to observations to PPPAC committee for Paramakudi to Ramanathapuram Project

Observations of 120th PPPAC	Compliance/ Reply by MoRTH
a. **Project rationale:** The proposal seeks to demolish the road section completed barely 6 years back. **I.** The upgradation of this section to 2-lanes with paved shoulders was completed in 2019. MoRTH may review whether the current traffic far exceed the assumptions in that project to require 4-laning now by demolishing that work. II. MoRTH may examine if the existing road can handle the traffic for another 7 to 8 years with acceptable service quality. The current traffic on this section appears to suggest that.	2-lane with paved shoulder is the basic and bare minimum facilities for National Highway and as such no traffic parameter exists for providing 2-lane highway and no traffic assumption was made for this project that time. The current traffic in the project highway is 12,700 PCU/day, therefore *the existing road cannot handle the traffic for another 7 to 8 years* with acceptable service quality in light of changing socio-economic conditions in the country and in order to ensure safe and comfortable mobility of road users along with reduction in road accidents being prime concern for everyone. As per the 2-lane manual (IRC-SP-73-2018) when the design service volume of two-lane highway exceeds 10,000 PCU/day, the congestion increases necessitating its upgradation to 4-lane. Therefore 4-lane of the stretch is required. In the initial proposal demolition of existing stretches in around 21 Km was proposed as per the design requirements of IRC-SP-84-2019, whereas the 2-laning with paved shoulders (constructed 6 years back) was based on IRC-SP-73-2007. During appraisal by PPPAC on 04.02.2025, it was suggested to review and emphasis was given to utilize the existing highway to the possible extent. Accordingly, the proposal was modified by avoiding the demolition of existing pavement to the possible extent.
III. The land has been acquired (as per the proposal) and tenders have been called (as per newspaper reports), even before approval of the project by the competent authority. MoRTH may examine if that is the appropriate way of committing and using public funds.	The land acquisition was done in the project as the project was earlier included under Bharatmala Scheme and majority of land have been acquired between 2018-2023(Refer table below). However, no land acquisition has been done after MoRTH OM dated 23.11.2023 (regarding non creation of liability under Bharatmala Pariyojana Phase-I). Tenders are normally invited after

<table>
<tr><th>Observations of 120th PPPAC</th><th>Compliance/ Reply by MoRTH</th></tr>
<tr><td></td><td>the appraisal of the project by PATSC in NHAI so that the bidders get sufficient time to get familiar of the project; so that they can correctly design and competitive quotes may be submitted. Accordingly, the bids were invited in anticipation of approval of the project. However, it is submitted that tenders will be received only after getting its approval and sanction of project from Competent Authority.
<table>
<tr><td colspan="2">3A published (185.59 Ha)</td><td colspan="2">3D published (185.59 Ha)</td></tr>
<tr><td>Date</td><td>Area (Ha)</td><td>Date</td><td>Area (Ha)</td></tr>
<tr><td>17.04.2018</td><td>124.74</td><td>09.04.2019</td><td>124.74</td></tr>
<tr><td>10.05.2018</td><td>9.15</td><td>09.05.2019</td><td>9.15</td></tr>
<tr><td>23.08.2022</td><td>6.17</td><td>24.11.2022</td><td>6.17</td></tr>
<tr><td>05.01.2023</td><td>45.53</td><td>17.04.2023</td><td>45.53</td></tr>
</table></td></tr>
<tr><td>b. Project design:
I. As the land has been acquired, it may be too late to consider any alternate design. Nevertheless, MoRTH may verify if the option of building a new 2-lane road abutting the existing 2-lanes was considered, instead of designing for demolition of the road completed 6 years back.</td><td>Yes, as the majority of land has already been acquired as brought out above. 2-lane with paved shoulder is the basic and bare minimum facilities for National Highway and as such no traffic parameter exists for providing the same and also the same is done within the available land without much improving the existing geometry and changing the alignments. Earlier, complete reconstruction of existing highway was proposed as the 2-lane highway constructed 6 years ago was based on standards of IRC:SP:73-2007, however the IRC specification got upgraded and the submitted proposal was based on IRC SP: 84-2019 wherein the geometric standards got upgraded, due to which it was not possible to accommodate existing 2-lane carriageway in 4-lane design.
As brought above in response to the project rationale, after the deliberation and suggestion during appraisal by PPPAC on 04.02.2025, the proposal was modified considering the suggested option of building a new 2-lane road abutting the existing 2-lanes with adopting the design parameters as per existing vertical profile to the</td></tr>
</table>

Observations of 120th PPPAC	Compliance/ Reply by MoRTH
	possible extent. Accordingly, around 13 Km (out of 21Km) existing stretch has been utilized and now the reconstruction length is proposed only in around 8 Km which is inevitable at approach locations of grade separators.
II. A much higher embankment of 2.5 meter throughout the project length has been planned instead of the normative 1 meter. MoRTH may examine if the project section passes through a flood-prone area requiring the higher embankment	The embankment height varies from project to project. 1m embankment height in Normative calculations is taken as an assumption for calculation purpose only as per MoRTH Circular dated 19.01.2022. However, the same being dynamic in nature changes as per design requirement. The normal construction, the embankment height is also decided in such a way that the bottom of the sub-grade is kept 1m above the HFL/NGL. Therefore, the minimum height of embankment including sub-grade is around 1.5m. In the instant project, there are 9 Nos. of VUPs, 3 Nos. of LVUPs & 5 Nos. of SVUPs provisions in the project. The minimum clearances for these structures are 4-5m which causes increase in the height of embankments in its approaches.
III. The above aspect becomes even more prominent as the lead distance for the required earth is large at 45 km.	As in the instant project the lead of Earth is around 45km (being higher due to non-availability of suitable earth in vicinity), as brought out above, after deliberation in PPPAC meeting on 04.02.2025 the proposal has been modified to optimize the quantities of earth and accordingly cost have been reduced considerably.
IV. A recently awarded (March 2024) package on Chennai-Tirupati NH has entailed civil construction cost of Rs. 22.71 Cr./km. The civil cost of the proposal is almost 50% higher at Rs. 32.09 Cr/km. MoRTH may examine if the proposal is over-designed requiring higher cost.	The per km cost in earlier submission was Rs. 32.09 Cr/km as it was designed based on currently prevailing IRC specifications. However, in the revised proposal, the per km cost is now Rs. 21.4Cr/km arrived based on adopting the existing vertical profile to the possible extent for utilization of existing highway recently completed (6 years ago), which is now comparable (lower) to recently awarded package on Chennai-Tirupati (March 2024- Rs. 22.71 Cr./km). Both the projects are widening projects of 2 to 4-lane.

Annexure-III

Comments on MoRTH Proposal

1. **Development of 4 Laning of Rajapalayam to Shenkottai Section of NH-744 from Km 71+600 to Km 139+900 (Design Chainage) in Tamil Nadu on Hybrid Annuity Mode (Project Length-68.3Km)**
    - **a.** Who is the competent authority to approve new NH alignment? What will be the status of the existing alignment after the construction of the greenfield alignment?

    - **b.** The proposed project is part of the Madurai–Kollam corridor and the Shenkottai–Kollam stretch currently remains a 2-lane road. As the corridor from Shenkottai towards Kollam passes through Western Ghats and involves construction of tunnels for which obtaining clearance is tough task and uncertain.

    - **c.** What is the feasibility of constructing proposed tunnels in the Shenkottai–Kollam section?

    - **d.** As getting the environmental clearances are uncertain, what is the rational for the proposed project of construction of 4 Laning of Rajapalayam to Shenkottai?

    - **e.** How does the Rajapalayam–Shenkottai project align with NH development goals such as Bharatmala Pariyojana

    - **f.** What is the current status of land acquisition and clearances for the entire corridor?

Annexure-IV

List of the participants of the 122nd 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. Ms. Anmol Waraich, AD (PIU)
6. Shri Rajender Singh, SO (PIU)
7. Shri Manjeet Yadav, ASO

b) Department of Expenditure

1. Shri Ranganath Audam, Deputy 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 Alok Deepankar, Member
4. Shri Harish Sharma, CGM
5. Shri Anil Choudhary, Member
6. Shri Wathore, CGM
7. Shri Manoj Kumar, Ministry
8. Shri Vinay Kumar, AS(H)
9. Shri Vinod Choudhary, Dy Manager
10. Shri Surya Manivannan, AT Kearney

f) National Highway Authority of India (NHAI)

1. Shri Santosh Kumar Yadav, Chairman
2. Shri KM Sharma, NHAI
3. Shri K Venkatramana, Member (PPP)

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