



भारतीय राष्ट्रीय राजमार्ग प्राधिकरण

(सड़क परिवहन और राजमार्ग मंत्रालय, भारत सरकार)

National Highways Authority of India

(Ministry of Road Transport and Highways, Government of India)

जी-5 एवं 6, सेक्टर-10, द्वारका, नई दिल्ली - 110 075 • G-5 & 6, Sector-10, Dwarka, New Delhi-110075

दूरभाष/Phone : 91-11-25074100 / 25074200



NHAI/Policy Guidelines/Management of Plazas/2025

Policy Circular No. 17.5.93 /2025 dated 26th November, 2025

[Decision taken on E-Office File No. IHMCL-11011(12)/4/2025-IHMCL (Comp. No. 283368)]

Sub: Implementation, O&M of Toll & ETC Infrastructure at Toll Plazas for EPC/HAM/O&M Projects-reg.

The National Highways Authority of India, vide Policy Circular No. 17.5.83/2022 dated 17.01.2022 and 17.5.88/2024 dated 10.05.2024, mandates the engagement of IHMCL Empaneled System Integrators for the implementation of Electronic Toll Collection (ETC) Infrastructure and its Operations & Maintenance (O&M) at Toll Plazas.

2. It has been observed that although EPC Contractors and HAM Concessionaires are engaging IHMCL Empaneled System Integrators, the agreements executed with these Integrators are often not aligned with the empanelment conditions like scope of work, Bill of Quantities (BoQ) and other terms as specified in IHMCL Tenders. This misalignment has led to the deployment of substandard and non-compliant equipment, insufficient manpower and non-fulfilment of Service Level Agreements (SLAs) leading to public inconvenience at large.

3. In order to ensure uniformity and compliance in the implementation and O&M of ETC Infrastructure, it has been decided that ETC Infra and Operation & Maintenance of the Toll Plazas under EPC and HAM Contracts shall be executed as per the following SOP:

3.1 For New EPC and HAM Highway Projects to be awarded:

(a) The Technical Division shall include the cost of ETC infrastructure and its O&M in Project appraisal proposals for financial approval of the cost involved. However, the scope of Electronic Toll Collection (ETC) Infrastructure and its O&M shall not be part of the bidding document of the Highway Construction Contract with the Civil Contractor.

(b) The Scope of the Highway Construction Contract with the Civil Contractor, in respect of the Toll Plaza shall be limited to the construction of Toll Plaza Building, Foot over Bridge (FOB), Toll lanes and provision of raw electrical power in terms of the Policy Circular No. 17.5.82 dated 24.05.2021.

(c) The ETC Infrastructure and its O&M Works shall be carried out by IHMCL.

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(d) The concerned **Regional Officer** shall inform the details of the Toll Plaza to CO Division at the time of Award of the Project. Further, the concerned Project Director shall hand over such Toll Plaza(s) to CO Division before **SIX (06) MONTHS** of the anticipated PCC (Scheduled Provisional Completion Date)/CC (Scheduled Completion Date) of the Project(s) as applicable so that project could be placed timely for its Commercial Operation (COD). The CO Division shall hand over the Toll Plazas to IHMCL for appointment of the System Integrator.

3.2 For all ongoing, under-construction and O&M Projects under EPC and HAM:

(a) The Electronic Toll Collection (ETC) Infrastructure has to be implemented and maintained strictly in terms with the provision of Contract Agreement and the applicable IRC standards and specifications as under:

- i. Chapter-10 of Manual of Specifications and Standards for Four Laning of Highways (IRC SP: 84:2019 or latest revision).
- ii. Chapter-10 of Manual of Specifications and Standards for Six Laning of Highways (IRC SP:87:2019 or latest revision)
- iii. Chapter-12 of the Manual of Specifications and Standards for Expressways (IRC SP:99:2023 or latest revision)

(b) A Checklist covering the aforesaid requirements is placed at **Annexure- I**. The Project Directors shall ensure strict compliance with all items of the “Checklist items” prior to the Commencement of Tolling in terms of the NHAI Policy Circular No. 17.5.85/2023 dated 31.07.2023. The Checklist shall be duly certified and signed by the HTMS Expert of the AE/IE or by the designated representative of IHMCL where HTMS Expert is not deployed.

(c) The EPC Contractor/HAM Concessionaire shall maintain the Toll Plaza as per the Service Level, spares etc. as per the codal provisions mentioned at para (a) above. The uptime availability of all critical components of Hybrid ETC lanes shall be **99 percent per lane per month** for 90 percent of total lanes in a toll plaza (rounded off to nearest integer). For the balance 10 percent lanes, uptime availability of all critical components shall be 98 percent per lane per month. The uptime of lane and health monitoring of critical equipment at Toll Plazas can be accessed through TMCC portal available to PIUs. The health monitoring status of ETC infra is also being made part of the Monthly Progress Report (MPR) through integration of TMCC and Datalake.

(d) It is reiterated that the operation, maintenance and upkeep of ETC infrastructure at fee plazas during the Contract Period is the primary responsibility of EPC Contractors/HAM Concessionaires. Any failure in discharging these obligations constitutes a material breach of the Contract/Concession Agreement as it directly impacts toll revenue, thereby causing financial loss to NHAI.

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(e) The maintenance and upkeep of the ETC Infrastructure and Toll Plaza (including, Admin Building, Toilet Block Static weigh Bridge building, Medical Aid Post, Traffic Aid Post, Toll Booths, Toll Plaza Canopy, Toll Signages, Bull Nose, Kerbs, Separators, Median Barriers, Road Marking, Road safety items- Attenuators, Spring-posts, Median Markers, Cat Eyes, Road Studs, Flashing Lights etc., Landscaping, Removal of encroachments nearby Toll Area, ACs, Fans, Switches, Water tank, Furniture, DG Sets, Light Poles, any other infrastructure provided by Civil Contractor, etc.) shall be subject to regular monitoring by the PIU. Each Toll Plaza shall be inspected against the Checklist placed at **Annexure-I**, and any deficiencies observed shall be addressed strictly in accordance with the provisions of the Contract/Concession Agreement. All the infrastructure shall be maintained in good/pleasant condition and painted annually/replaced after its design life. In cases of persistent breach of maintenance obligations of ETC Infrastructure by EPC Contractors/HAM Concessionaires/O&M Agency action must be taken strictly as per contractual provisions including invocation of the Risk & Cost clause wherever applicable.

(f) The projects for which DLP is completed and projects under O&M/PBMC and provision of maintenance of Toll/ETC Infrastructure is not considered in the scope; PIU may take up “one-time maintenance” as per delegated powers under Road Safety and may consider its further maintenance in the scope of O&M/PBMC Contractor.

4. The Policy Circular No 17.5.88/2024 dated 10.05.2024 shall stands modified for new EPC and HAM Projects to the above extent.

5. The scope of ETC Infrastructure shall be excluded from all Highway Projects that are yet to be awarded including those currently under bidding and future tenders in accordance with the provisions outlined in Para 3(A) above.

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

Encl: As above.

SKP
26/11/25

(CS. Sanjay Kumar Patel)
I/c Chief General Manager (Coord.)

To,

All Officers of NHAI HQ/ ROs/ PIUs/ CMUs/ Site Offices

Copy to:

1. Library for hosting the circular on library site.
2. Web Admin for circulation.
3. PPS to Secretary, MoRTH for Kind Information.

**Check List of Toll Plaza
(EPC / HAM Projects)**

General Instructions:

1. This document shall be duly certified by the HTMS Expert and the Team Leader of the Independent/Authority Engineer (IE/AE)/Project Director prior to the commencement of tolling operations and during all periodic inspections. All equipment listed must remain fully functional and in good condition at all times. Any missing or non-functional item shall be repaired or replaced by the EPC Contractor or HAM Concessionaire, excluding consumables that fall under the scope of the User Fee Collecting Agency. The consumables shall be promptly replaced/repaired by the User Fee Collection Agency
2. The Uptime of critical ETC equipment shall be regularly monitored by the PD/AE/IE and shall be the part of the MPR.
3. It is the responsibility of PIU to ensure availability of all equipment at Fee Plaza before & after handing over of Fee Plaza to New User Fee Collecting Agency.
4. The Checklist is structured in three sections for systematic verification:
 - a. Part A: ETC Infrastructure
 - b. Part B: Toll Plaza Infrastructure
 - c. Part C: Other Infrastructure (if applicable)



Part A: ETC Infrastructure

S. No.	Item/ Equipment/Minimum Required Specifications	Make/ Model No.	Serial No.	Specifications	Status of Guarantee /Warranty	Functional/ Non-functional/ Not available	Reason of Non-functional/ Not available
1	ETC RFID transceiver near pay-axis- mounted on canopy (As per specifications mentioned in IRC/Morth/IHMCL guidelines)						
2	Electronics Enclosure (Industrial Grade with suitable IP ratings)						
3	Lane Controller with Industrial PC (Industrial Grade with suitable IP ratings)						
4	AVC including sensors, loop and detector (As per specifications mentioned in IRC/Morth/IHMCL guidelines) or Digital camera for detection of No of Axels						
5	User Fare Display with Mounting pole (Size: 750 mm X 400 mm, Display: Red LED, Visible Range: 10 mtr., Enclosure: MS, Protection: IP 65)						
6	Automatic Barrier Gate (Functionality should meet specs defined by IHMCL (0.6 Sec.), Rating: IP 55, Boom Length: 3.5 mtr, Boom Material: Aluminum)						
7	Overhead Lane Status Light (O HLS), Size: 300 X 300, Display (Cross): Red LED, Display (Arrow): Green LED Visibility Range: 300 mtr, Enclosure: IP 65						
8	Traffic light with Mounting Pole Size: 200 mm, Display (Stop): Amber LED, Display (Start): Green LED, Visible Range: 20 mtr under normal visibility condition,						



	Enclosure: SS with IP 65 rating.					
9	Loops with detector (As per specifications mentioned in IRC/Morth/IHMCL guidelines)					
10	Incident capture camera/ Lane Monitoring Camera with mounting pole (As per specifications mentioned in IRC/Morth/IHMCL guidelines)					
11	License plate image Capture camera / Automatic Number Plate Recognition Camera with mounting poles (As per specifications mentioned in IRC/Morth/IHMCL guidelines)					
12	TFT Monitor (Touch Screen)					
13	Customized industrial grade Keyboard (Industrial grade keyboard)					
14	Thermal receipt printer					
15	Barcode Reader with stand/ QR Reader					
16	Violation light & Alarm (on existing pole) and foot switch in booth					
17	Booth CCTV camera with voice recording					
18	Cabling/ Networking/ Installation/ Commissioning					
19	Software-Lane Level					
20	Intercom Slave unit in booth					
21	01 KVA Online UPS including Batteries					
22	Medium speed weigh in motion					
23	ETC/Plaza servers in hot standby configuration					
23	Static Weigh Bridge & WIMs					
24	Workstations for MIS, Cash up, Audit & LSDU (Lane status display unit in control room, Latest Configuration I7/I5 etc.)					
25	Network Printer					
26	8 Port Network switch (layer 3)					



27	24 Port Network Switch (Layer 3)					
28	Internet router for connection to the CCH					
29	Software- Plaza Level					
30	Broadband/Dedicated Internet Lease Line (02 Static IP per connection) with minimum bandwidth equivalent to 02 Mbps per lane for CCH connectivity					
31	UPS System for Plaza building and Toll equipment's					
32	Display for CCTV Monitoring (Minimum 55" LED)					
33	Network video Recorder (NVR) for CCTV recording for all cameras (NVR should cover all camera recording (PTZ, Administration building, Booth camera, LPIC, ICC). Should be able to record & store a minimum of 30 days of video on full load from all cameras (All camera recording required (PTZ, Administration building, Booth camera, LPIC, ICC))					
34	CCTV cameras for Plaza building surveillance (Server room, Control room, Cash up room, admin)					
35	Intercom Master unit in Control Room - 10 Channel (For <= 8 lanes)					
36	Intercom Master unit in Control Room - 20 Channel (For > 8 lanes)					
37	ATMS Functional - Control Room (Y/N)					
38	Servo Stabilizer (60 KVA -03 phase)					
39	Firewall Hardware					
40	PTZ Camera					
41	Geo-fenced smart attendance system with timing and face recognition					



ETC System -Spare Management

S. No	Description	Available/Not Available	Reason for Non-Availability (Mention name of ETC equipment not Available)
42	Availability of ETC equipment of minimum 02 lanes in spare		
43	Any other Item, not listed above		

Note:

- i. Make and Model details for all TMS / Electronic & IT equipment should be mentioned in the checklist.
- ii. All the items listed are as per MoRTH Specifications/IRC guidelines. If any item listed above is/are **non-available** on site, may be checked by RO/PIU/IE/AE as per scope of Contract of (Concessioner/EPC Contractor/O&M Contractor/Toll Contract/System Integrator Contract)/ IRC guidelines/MoRT&H Specifications, with proper justification in record for its non-availability. Further, obligations of O&M Contractor in reference of Toll Infrastructure, Toll Building etc., after completing of DLP/Concession period of any project shall be remain same as was during the construction of Highway.
- iii. TMS system established by Concessioner/EPC Contractor will be maintained by System Integrator (SI) as per the provisions made in the Contract of SI with IHMCL.



Part B : Toll Plaza Infrastructure

S. No.	Item/ Equipment	Compliance Status	Remarks, if Any/ Reason for Non- Compliance
1	Provision of Fire-fighting system in Building including smoke detectors and auto visual alarm system. (Make/AMC/Last Mock Drill Date, NOC from Fire & Safety Department (One time during handover by Civil Contractor and renewal by Civil Contractor)		
2	Installation of Firefighting Cylinders etc. in Toll Booths (Total Nos. of Cylinders/Weight/Make/Expiry Date)		
3	Provision for proper arrangement of Table, Chair, Light, Fan, Air Conditioners in Toll Building and Toll Booths. (A complete inventory should also be enclosed with Check List ensuring all items handed over by Civil Contractor are functional and maintained completely). (a) Toll Building: (i) Fan (Nos.) (ii) Light (Nos.) (iii) Exhaust Fan (Nos.) (iv) Switches/Sockets (Nos.) (v) Table (Nos.) (vi) Chair (Nos.) (vii) AC (Nos. & AMC details) (viii) Water Tank (.....Ltr.) (b) Toll Booths: (i) Fan (Nos.) (ii) Light (Nos.) (iii) Exhaust Fan (Nos.) (iv) Switches/Sockets (Nos.) (v) Table (Nos.) (vi) Chair (Nos.) (vii) AC (Nos. & AMC details) (viii) Emergency Alarm /Siren (ix) Intercom Phone (Nos.) (c) Static Weigh Bridge Room (LHS+RHS) (i) Fan (Nos.) (ii) Light (Nos.) (iii) Exhaust Fan (Nos.) (iv) Switches/Sockets (Nos.) (v) Table (Nos.) (vi) Chair (Nos.) (vii) AC (viii) SWB Report of entire Month (day wise) (ix) WIM/SWB stamping from concerned department (One time during handover by Civil Contractor and renewal by System Integrator).		
	a. Total WIMs (LHS+RHS):		

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	b. Total SWBs (LHS+RHS):		
	(x) Stamping date on WIM/SWB & Renewal due date:		
	a. WIMs (LHS+RHS):		
	b. SWBs (LHS+RHS):		

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Part C : Other Infrastructure (If Applicable)

S. No.	Item/ Equipment	Compliance Status	Remarks, if Any/ Reason for Non-Compliance
1	Provision for toilet blocks, drainage, cabling, landscaping, signages, safety infrastructure, O&M center, pest control, lighting, DG sets, FOB, encroachment status, scrap disposal, etc.) Toilet Blocks (LHS/RHS/PH) (i) Fan (Nos.) (ii) Light (Nos.) (iii) Exhaust Fan (Nos.) (iv) Switches/Sockets (Nos.) (v) Wash Basins (Nos.) (vi) WC (Nos.) (vii) Urinals (Nos.) (viii) Taps (Nos.) (ix) Drainage System (x) Septic Tank & Soak Pit (Cleaning Date/Due Date of Cleaning) (xi) Toilet blocks for physically disabled persons (xii) Wheelchair access in washrooms (xiii) Wheelchair (Nos.)		
2	The Toll Plaza shall be provided with surface and sub-surface drainage system so that all the storm water is drained off efficiently and no ponding or stagnation of water takes place at any area of the Toll Plaza.		
	All electrical cables should be properly underground to avoid any incidents and short-circuits (Toll Building + Toll booths+ Toll Area 500 m on either side of Toll Plaza).		
3	Manhole Covers Provided at Toll Booths should be covered		
4	Electrical Poles/Checking of Bolts/MCB Box of Poles should be covered/Its Functionality		
5	Condition of Landscaping work at toll Plaza Building		
6	Whether Contractor is having their O&M Centre or Using Toll Plaza area as his O&M center. (Relevant CA provision for using Toll Building as O&M Centre)		
7	Signages: i. Toll Plaza Signages /All Type of Boards/Updating of Rate List etc./Retro reflectivity Test Reports ii. Informatory board/Signboards for Toll Plaza (at distance 500 mtr. and 1 Km) iii. Informatory board/Signboard for Toll Plaza canopy. iv. Informatory board/Signboard for lanes (Including extra-wide lane) v. Informatory board/Signboard for SWBs		



	vi. Informatory board/Signboard for Public Facility		
8	Attenuators before Bull Nose/Type/Condition		
9	Kerb/Islands of Toll booths (painting etc/ Damaged or not)		
10	Fog lights at Bull Nose		
11	High Mask Lights (Checking of all Nut & Bolts, No rusting, Functionality)		
12	Road Marking Visibility		
13	Condition of Traffic Aid Post along with furniture status		
14	Condition of Medical Aid post along with furniture status		
15	Stabilizer availability as per site condition.		
16	DG availability as per site condition/AMC/Due Service Date		
17	i. Toll Plaza Building painting during handover including toilet blocks/ Due Date of Painting etc. ii. Last deep cleaning date of building /floor by floor Cleaning Machine. iii. Replacement of Damaged Flooring/Railing/Flowerpots/Door Handles/Locks etc.		
18	All the toll lanes and toll booths shall be covered with a canopy/ Glass/Window/Booth should be maintained properly with no leakage.		
19	Railing condition (Painting Date)		
20	MBCB Condition/ Cleaning Chart of every month.		
21	Pest Control (AMC)/Due Date (a) Toll Building + Toilet Block + SWB Building (b) Manhole + Cabling route		
22	Condition of Road/PQC 500 m on either side of Plaza		
23	Any scrap material of Civil Contractor at Toll Plaza Area, Likely Date of its Disposal.		
24	Boom barriers arm shall be in good condition and full lane width with proper safety cover.		
25	Toll Tunnel: i. Flooring condition (Paved or not) ii. Ventilation/ Exhaust Fan System iii. Seepage inside the tunnel iv. Water ponding/ water logging condition v. Concealed conduit for wiring/ Cable tray vi. Lighting inside toll tunnel		
26	FOB at Toll Plaza location: i. Annual painting of FOB ii. Condition of Flooring of Stairs/Walkway iii. Railing Available on both sides		



	iv. Ceiling Condition (Open to Sky/Covered) and well maintained		
	v. Lighting inside FOB		
27	Water purifiers/ RO's should be placed at plaza building level/Nos./AMC Certificate/Due Service Date.		
28	Status of Encroachment on either side of Toll Plaza (LHS+RHS) - 500 m Up/Down		
29	No POS Machine usage implication found or not found at Toll Plaza (Y/N)		



During O&M Period of Toll Plaza:

1. Repairing of Toll Building/Toll Booths/Bull Nose/Kerbs/Road Marking/Kerb painting/Road Section/Electric Poles/High Mask Poles and other Civil Infrastructure constructed by Civil Contractor at toll plaza site will be the responsibility of EPC Contractor/ Concessionaire/ EPC Contractor/O&M/PBMC Agency.
2. Highway Lighting Poles/High Mask Poles on either side shall be checked periodically in terms of fixing of Nuts & Bolts, availability of sufficient light on either side of plaza (500 m both side) as per Contract Provisions by tolling agency for the safety of road users.
3. Agreement of Toll Agency Shall be handed over to IE/AE for its monitoring.
4. Agreement of System Integrators (SI) shall be in standard format as published by IHMCL and shall be shared with NHAI/IE & AE.
5. SI staff shall be available in all three shifts and submit their audited reports (Daily/Weekly /Monthly/ Quarterly etc.) as per CA provisions.
6. Sufficient Back-up (1 month/6 months) of Toll Recordings/PTZ Cameras/Lane Cameras (LPIC, ICC)/ Booth Camera/Administration Building) etc. shall be recorded and stored in Server/Cloud/Hard disk etc. as per Contract Provisions.
7. SI shall check functionality of all Equipment of Toll System including all type of cameras, RFID Readers, Boom Barrier, AVCC etc. and submit their health report on daily basis to IE/AE/PIU.
8. Biometric Attendance Machine/Face Reader etc. as per System Integrator Contract shall be available on site and SI & Toll Staff shall marked their attendance on this system.
9. List of Warranty items under SI/EPC contractor shall be shared with Toll Agency.
10. DLP/AMC of TMS equipment will be the responsibility of EPC Contractor/ Concessionaire.
11. Spares for 2 Nos. lanes shall be made available on Toll Plaza storeroom by EPC Contractor/ Concessionaire and in addition to these 2 Nos. lanes shall also be maintained by the tolling agency additionally.
12. Spares @ 50% of Toll lanes shall be made available on Toll Plaza storeroom by the System Integrators engaged by IHMCL at each Plaza.
13. All the items listed are as per MoRTH Specifications/IRC guidelines. If any item listed above is/are **non-available** on site, may be checked by RO/PIU/IE/AE as per scope of Contract of (Concessioner / EPC Contractor/HAM Concessioner/ O&M Contractor/PBMC Contractor /Toll Contractor/System Integrator Contract)/ IRC guidelines/MoRTH Specifications, with proper justification in record for its non-availability. Further, obligations of O&M Contractor in reference of Toll Infrastructure, Toll Building etc., after completing of DLP/Concession period of any project shall be remain same as was during the construction of Highway.

