GOVERNMENT OF INDIA
MINISTRY OF ROAD TRANSPORT AND HIGHWAYS

RAJYA SABHA
UNSTARRED QUESTION NO. 3758
ANSWERED ON - 25/03/2026

GNSS-BASED TOLLING AND DIGITAL INFRASTRUCTURE

3758. SHRI S. SELVAGANABATHY:
DR. MEDHA VISHRAMKULKARNI:
SMT. KIRAN CHOUDHRY:
SHRI DEEPAK PRAKASH:
SHRI ASHOKRAO SHANKARRAO CHAVAN:
SHRI NARAYANA KORAGAPPA:
SHRI NARHARI AMIN:

Will the Minister of ROAD TRANSPORT AND HIGHWAYS be pleased to state:

(a) how the integration of Automatic Number Plate Recognition (ANPR) with AI-enabled cameras has reduced toll plaza wait times;

(b) what specific timeline has been set for the 100 per cent nationwide rollout of satellite-based tolling;

(c) whether the National Highway Fee Rules have been amended to allow real-time toll deduction based on exact distance traveled;

(d) if so, the details thereof; and

(e) how much fuel savings are projected annually once physical barriers are eliminated across the 50,000-kilometer highway network?

ANSWER

THE MINISTER OF ROAD TRANSPORT AND HIGHWAYS

(SHRI NITIN JAIRAM GADKARI)

(a) The Multi Lane Free Flow (MLFF) Tolling System leverages high-performance RFID readers and Automatic Number Plate Recognition (ANPR) systems integrated with AI-enabled cameras to enable automatic identification of vehicles at highway speeds and seamless deduction of user fee through the FASTag ecosystem, thereby eliminating physical barriers and allowing uninterrupted traffic flow. As vehicles are not required to stop or slow down at fee plazas, this tolling system eliminates queues and waiting time on National Highways.

(b) The Apex Committee and High-Level Empowered Committee consisting of Experts from Industry and Academia, in view of security and privacy considerations, breach and overall operational control, have recommended further deliberations for Satellite based Multi-Lane Free Flow (MLFF) Tolling based on Indian constellation of Satellites. However, in effort to enhance toll operations and enable seamless movement of vehicles, the Government has decided to

implement MLFF through Automatic Number Plate Recognition (ANPR) with AI analytics and RFID-based Electronic Toll Collection (FASTag) which facilitates barrier-less tolling on NHs. Multi-Lane Free Flow based Barrier less Tolling using existing FASTag (RFID)+ANPR/AI-Technology has been awarded on 16 fee plazas, as per **Annexure A**. Further, bids have been invited for additional 36 fee plazas, as per **Annexure B**.

(c) to (d) On access-controlled highways, a closed user fee collection system is followed wherein the user fee is levied based on the actual distance travelled by a vehicle, determined through its entry and exit points on the highway. As per Rule 2(da) of the National Highways Fee Rules, 2008, "closed user fee collection system" means a system under which the fee is levied based on the actual distance travelled by a mechanical vehicle on a National Highway or expressway.

(e) Under the Multi-Lane Free Flow (MLFF) tolling system, high performance Radio Frequency Identification (RFID) readers and Automatic Number Plate Recognition (ANPR) cameras are used for deduction of user fee through existing FASTag system. These components operate concurrently for redundancy and enhance accuracy of toll transactions. No assessment study has been conducted. However, as it is a barrier less tolling system, it is expected to improve user convenience by offering faster and seamless travel, while also delivering significant economic benefits through cost savings, higher operational efficiency, environmental benefits, and improved productivity. Some of the expected key advantages are as under:

(i) As vehicles are not required to stop or slow down at fee plaza lanes, it ensures smoother and uninterrupted journeys for road users.

(ii) The elimination of queuing and waiting at fee plazas on National Highways reduces fuel consumption and leads to lower vehicular emissions, thereby benefiting the environment.

(iii) In the absence of physical toll booths and barriers, operational and maintenance costs are substantially reduced, resulting in lower expenditure on infrastructure upkeep and manpower.

(iv) Faster and uninterrupted movement of goods enhances logistics efficiency and lowers overall transportation costs.

(v) Barrier-less tolling also improves user fee collection by enabling automated and efficient tolling operations at fee plazas on National Highways.

ANNEXURE REFERRED TO IN REPLY TO PART (b) OF RAJYA SABHA UNSTARRED QUESTION NO. 3758 FOR ANSWER ON 25.03.2026 ASKED BY SHRI S. SELVAGANABATHY, DR. MEDHA VISHRAM KULKARNI, SMT. KIRAN CHOUDHRY, SHRI DEEPAK PRAKASH, SHRI ASHOKRAO SHANKARRAO CHAVAN, SHRI NARAYANA KORAGAPPA, SHRI NARHARI AMIN REGARDING GNSS-BASED TOLLING AND DIGITAL INFRASTRUCTURE.

The details of fee plazas for which Request for Proposal (RFP) has been awarded for implementation of barrier less tolling:

Sl. No.	Fee Plaza	NH / State	Status
1.	Gharaunda	NH-44 in Haryana	Awarded
2.	Chorayasi	NH-48 in Gujarat	Awarded
3.	Daulatpura	NH-48 in Rajasthan	Awarded
4.	Manoharpura	NH-48 in Rajasthan	Awarded
5.	Shahjahanpur	NH-48 in Rajasthan	Awarded
6.	Mundaka	UER-II in Delhi	Awarded
7.	Boriach	NH-48 in Gujarat	Awarded
8.	Nemili	NH-48 in Tamil Nadu	Awarded
9.	Chenasamudram	NH-48 in Tamil Nadu	Awarded
10.	Paranur	NH-45 in Tamil Nadu	Awarded
11.	Kasepalli	NH-44 in Andhra Pradesh	Awarded
12.	Amakathadu	NH-44 in Andhra Pradesh	Awarded
13.	Marur	NH-44 in Andhra Pradesh	Awarded
14.	Chalakwadi	NH-50 in Maharashtra	Awarded
15.	Hiwargaon Pavsa	NH-50 in Maharashtra	Awarded
16.	Badarpur Faridabad	NH-19 in Haryana	Awarded

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The details of fee plazas for which Request for Proposal (RFP) have been invited for implementation of barrier less tolling:

Sl. No.	Fee Plaza Name	NH Number
1.	Kurana	334
2.	Sirohi Bahali	148B 11
3.	Jiwana	709 B
4.	Kathuwas	11
5.	Ghamroj Sohna Road	248A
6.	Tamsabad	709AD
7..	Kiranj	148
8.	Patnipratapur	709AA
9.	Bhuni	709A
10.	Jagaheri	709AD
11.	Bhanera	119 (New 34)
12.	Chota Mawana	119 (New 34)
13.	Dabhedi	709B
14.	Mujhera	709AD
15.	Narayanpura	48
16.	Dakan kotra	48
17.	Jaswantgarh (Gogunda)	27
18.	Malera	27
19.	Kishorepura	52
20.	Beermandi	52
21.	Mandana	52
22.	Biratiya Kalan	25
23.	Binawas	25
24.	Dangiyawas	125A
25.	Manaklao-TP-02	125A
26.	Tankla	62
27.	Netra	62
28.	Hingonia	148C
29.	Sitarampura	148C
30.	Kishangarh	48
31.	Thikariya	48
32.	Tatiawas	52
33.	Akhepura	52
34.	Thirpali Badi	709 E
35.	Titoli	11A Extn
36.	Rabawata	11A Extn

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