



## FASTag RFID Scam

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### ABSTRACT

While the Union government enforced FASTag on vehicle users on national highways, as happens with 'everything government' No doubt, technologies like FASTag will help reduce corruption, it just need support from the government authorities as well as at the ground level, especially from people who are implementing this. Now a days, many scams were happening like coping the radio frequency identification sticker pasting to there vehicle by that the actual person who registered to that are losing the money for this we can register to our car register number plat to radio frequency identification for that the car number plat should be visible this should be made as a rule by National Highways Authority of India (NHAI) has warned people about the selling of fake FASTag online.

**Keywords:** Toll Collection System, RFID(Radio-Frequency Identification), FASTag, Traffic Management, Toll Plaza.

### INTRODUCTION

Fastag, a cashless option for crossing toll gates on National Highways, was launched by the National Highways Authority of India (NHAI). Fastag is an RFID-enabled sticker that is placed on the windshields of vehicles. Toll gates use sensors that read the Fastag and immediately subtract the toll due. The Fastag is a prepaid device that drivers can reload online with any amount they want. Fastags are installed on all new autos. Fastag cars have their own lanes at toll gates. They are issued on behalf of the NHAI by banks and other financial institutions.

India has the world's second-largest road network behind China. National highways cover over 97,991 kilometres of the 5.4 million kilometres of road network. The National Highways Authority of India (NHAI), a Ministry of Road Transport and Highways nodal body, is in charge of highway maintenance and expansion.

The Toll Tax must be paid when travelling on certain state/national highways, often known as toll roads. The government invests the toll road fees received on road upkeep so that cars and riders can travel comfortably.

#### **The challenges associated with the conventional tolling process are as follows:**

- Due to the limited number of toll booths, the toll collecting process is slow.
- The slow toll collection process at the toll booths results in a minimum of 10 minutes of average waiting time each car.
- Fuel wastage as a result of long lines at toll booths.
- Toll plaza accidents caused by cars abruptly changing lanes for speedier clearance.
- Time wasted at booths has a negative influence on the transportation industry as well as the entire economy.

According to a 2016 study by IIM Calcutta, the country loses about Rs 40,000 crore per year owing to transportation delays. The study also found that the delays resulted in gasoline use.

#### **History Of FASTag Timeline: -**

From January 15, 2020, FASTag will be required for all cars, both private and commercial. According to figures issued by the National Payments Corporation of India on January 1, 2020, nearly 6.4 crore FASTag transactions worth Rs.1,256 crore was processed in December, compared to 3.4 crore transactions worth Rs.774 crore in November. In December, Paytm Payments Bank issued almost 40% of all FASTags. The government is currently putting in place the appropriate measures to promote it.

The technology was first used as a test project on the Golden Quadrilateral between Ahmedabad and Mumbai in 2014.

- On November 4, 2014, the system became live on the Quadrilateral's Delhi-Mumbai leg.
- In July 2015, toll plazas along the Golden Quadrilateral's Chennai-Bangalore section began accepting FASTag payments.
- By April 2016, FASTag had been installed in 247 toll plazas on national highways across India, accounting for 70% of all toll plazas at the time.
- As of November 23, 2016, 347 fee plazas on national highways around the country accepted FASTag payments, out of a total of 366.
- On October 1, 2017, the NHAI opened a FASTag lane in each of its 370 toll plazas.
- On November 8, 2017, it was announced that FASTag would be required on all new vehicles sold in India after December 2017.

- On October 19, 2019, it was announced that, beginning December 1, 2019, FASTag will be required on all National Highways, with non-FASTag users paying double the toll.
- In November, the Hyderabad airport will open the FASTag Car Park.
- FASTag became obligatory in India on December 15, 2019.
- FASTag is now connected to 600+ toll plazas. Many more are waiting to connect in the near future.
- FASTAG became obligatory at all toll plazas in the country on January 1, 2021. However, the date was later pushed back to February 15, 2021.

## FASTag

FASTag is a simple reloadable tag that allows for toll charges to be deducted automatically without the need to stop at toll plazas to pay. This tag is attached to the vehicle's windscreen and uses RFID technology. Set built as a test experiment on a segment of the Golden Gate Bridge, 2019 IJRAR Volume 6, Issue 2 [www.ijrar.org](http://www.ijrar.org) IJRAR Volume 6, Issue 2 IJRAR Volume 6, Issue 2 IJRAR Volume 6, Issue 2 IJRAR Volume 6, Issue 2 (E-ISSN 2348-1269, P-ISSN 2349-5138; E-ISSN 2348-1269, P-ISSN 2348-1269, P-ISSN 2348-1269 [www.ijrar.org](http://www.ijrar.org) International Journal of Research and Analytical Reviews (IJRAR) IJRAR1ANP004 International Journal of Research and Analytical Reviews (IJRAR) IJRAR1ANP004 International Journal of Research and Analytical Reviews (IJRAR) On November 4, 2014, the system was launched on the Delhi-Mumbai leg of the Quadrilateral, which runs between Ahmedabad and Mumbai. FASTag is currently in use at more than 240 toll plazas around the country. After recharging their FASTag accounts, users can drive their vehicles through the FASTag lanes at toll plazas, and the toll amount will be automatically debited from their accounts. After December 1, 2017, the government made it required for all vehicles manufactured or sold after that date to have a FASTag.

Working: -

A unique RFID tag affixed to the vehicle's wind shield allows toll payments to be made straight from the bank or prepaid account linked to it. The applicable toll fee will be electronically deducted from the customer's account associated to the FASTag by the Issuer Agency. This deduction will be made after the toll transaction has been completed. The consumer must have sufficient funds in the FASTag-linked account. This procedure of recharging is known as top-up. As soon as the toll transaction is completed, the customer receives an SMS with the necessary information to his registered mobile number. Each time a sum is debited from your FASTag account, you will receive an SMS alert to your registered phone number. In addition to being displayed at the toll plazas, the fee for each toll plaza is available on [www.nhtis.org](http://www.nhtis.org). After registering with the Issuer Agency, customers can get a periodic statement of account on the Issuer Agency's website.



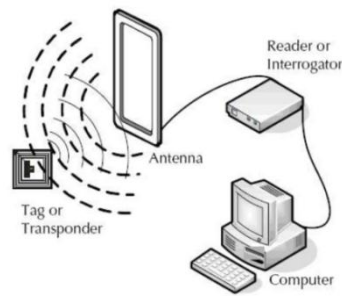
FASTag affixed to the car's wind shield

### RFID Working Technology System: -

Using radio waves, RFID technology allows a device to capture digital data contained in RFID tags or smart labels. RFID is part of a larger category of technology known as Automatic Identification and Data Capture (AIDC). It employs radio waves to identify people or objects automatically, collect data about them, and enter that data straight into computer systems with little or no human intervention.

RFID systems are made up of three parts: -

- A smart label or an RFID tag
- An RFID reader
- An Antenna



**RFID System**

An integrated circuit and an antenna are utilised in RFID tags to convey data to the RFID reader. The radio waves are then converted into a more useable type of data by the RFID reader. The data from the tags is subsequently sent to a host computer system via a communication interface, where it can be saved in a database and analysed later.

In India we are using RFID tags, but in other countries their using toll cards. In India the security levels are low compared to other countries like USA, JAPAN.

#### **India security levels:**

1. In toll they are scanning FASTag tag, the tag contains 15 letters of digital number based on number the RFID system will work.
2. The scammers are taking the tag and sticking into other cars. The toll scanners are only scanning tag but not seeing the car number.
3. If car number and RFID number both link means we must chance to overcome the problem.
4. The car number plate and fastag tag should be visible means it scans both it won't have chance to fraud.

Other countries security levels: -

- In India for security, we use only one kind of system that is fastag to debit toll fee to prevent confusions.
- In foreign countries they use different kind of systems like cards which are differently provided by different companies for debit toll fee.

#### **Problem rectification:**

The problem we find out in this references, if the Radio-Frequency Identification (RFID) is stolen or forgery or scam and stucked to other vehicle the amount will be deducted to the who registered to that Radio-Frequency Identification (RFID) from National Highways Authority of India (NHAI)

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## **CONCLUSION**

For this problem the solution is we can link the Radio-Frequency Identification (RFID) to number plate of the vehicle then by checking the number plate it identifies the vehicle and it allows to move, and we can add one sensor chip to the vehicle by that also it can identify the vehicle by that we are safe from RFID scams

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