



## **A STUDY ON USER ATTITUDE AND SATISFACTION TOWARDS FASTAG WITH SPECIAL REFERENCE TO VIRUDHUNAGAR TOWN**

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### **ABSTRACT**

Transportation is the crucial element of any country's economy. India assumes the second-largest road network in the world, with more than 97,991 km of its 5.4 million km of total road length being national highways. A tax needs to be paid called the Toll tax in order to travel on state and national highways. To ensure that the riders and drivers can travel comfortably, the government uses the taxes that it receives by means of toll road usage on the upkeep of these roads. The problems and shortcomings faced in the conventional toll collection system prompted an immediate overhaul in the Indian toll collection system which resulted in the development of 'FASTag' by NHAI, which makes use of RFID technology and allows for the smooth flow of FASTag affixed vehicles in all toll plazas. This study was conducted among FASTag users in Virudhunagar town to learn about the attitude and satisfaction level of users towards FASTag. The study also discusses the drawbacks of using traditional toll collection system and the necessity of using FASTag, an automated toll collection system.

**Key Words:** FASTag, RFID, Toll Plaza, Toll Collection, Virudhunagar.

### **INTRODUCTION**

FASTag is a technological advancement in the Indian toll collection system. It is a system which is built on RFID (Radio Frequency Identification Device) technology (Sumithra, and Buvaneshwari,

2015; Venkatesh Suvarna and Jeet Patalia, 2015). The FASTag tag is affixed on the vehicles' windscreen which is detected when the vehicle passes the toll and the amount is deducted from the respective FASTag

account. The FASTag account can be opened in any bank, online or through mobile applications. Automatic withdrawals from the account are made and an SMS is sent to confirm the transaction. Through FASTag, the fuel consumption of vehicle is reduced. In addition, FASTag reduces the amount of paper usage, reduces traffic jamming and reduces the air pollution. Similar type of highway tag brands are widespread in developed countries and they go by a variety of names such as 'Eazee Pass', 'SunPass' in US, 'Salik' in Dubai and 'e-Pass' in Australia. FASTag was made mandatory for both private and commercial vehicles from 15<sup>th</sup> February, 2021.

According to the available data from the Ministry of Road, Transport and Highways, it is revealed that FASTag penetration has increased significantly between 2017-2018 and 2021-2022, from roughly 16% to 96.3%. A total of Rs.21,948 crore in tolls were collected between 2017 and 2018, including Rs.3,532 crore through FASTag. However, toll collection using FASTag rose significantly in 2021-2022. The total amount of toll collected was Rs. 34,535 crore, out of which Rs.33,274 crore was collected through FASTag.

The majority of National Highways have been converted to roadways with toll booths. Due to this, all people now frequently encounter toll plazas when travelling. The introduction of FASTag services by the government has provided RFID tags and link different bank accounts and other cash accounts

to pay for toll plazas. Despite the fact that FASTag is healthier and more advantageous than the conventional toll collection system and despite the numerous other benefits it offers, it is not being welcomed by a sizeable portion of the population. As FASTag has become the need of the hour, this study on attitude and satisfaction level of users towards FASTag in Virudhunagar town was found necessary to find out the satisfaction level as well as the areas where the FASTag users encounter problems.

Shakti Singh and Rakhi Yadav (2018) made a comparative study on toll collection system at Kherki Daula toll plaza in Gurugram, Haryana. The study aimed to determine the commuters' degree of awareness on various payment methods at Kherki Daula toll plaza, to study the users' perception about the various toll payment options available at the toll booth and to recommend the best method for paying toll fees. According to the study findings, all respondents were aware of the conventional form of toll payment, but only 20% knew about RFID, and 70% of respondents were aware of the FASTag service. This indicates that commuters' awareness level about FASTag service is high in terms of their preferred mode of payment. 45% of the total sample studied prefers to use FASTag service. The study concluded that more efforts should be made by the government to encourage individuals to use cashless transactions. Nayan Parmar, *et.al.* (2018) made a comparison study between conventional toll collection and automatic toll collection systems. The study arrived at a

conclusion that automatic toll collection systems facilitate quick and easy payment at toll plazas without standing in lengthy lines on highways. This method can not only lessen the traffic congestion, but it can also help in loss of fuel.

Amrin (2019) in his study outlined the difficulties faced by conventional toll collection systems in India and highlighted the necessity of having FASTag. The high FASTag fee for multi-axle vehicles and the need for proper monitoring to ensure refunds are given in the event of billing errors are mentioned as problems in the study. The study came to the conclusion that while the RFID-based FASTag is viewed as a beneficial method of toll collection in India, providing numerous environmental and economic benefits to both the users and the collector, until its shortcomings are not uprooted to the base, the module shall persist to encounter serious crunch and may not function as planned. Akshay Hinge (2020) conducted a study on toll plazas to assess the impact of existing electronic toll collection system and to suggest remedial measures to improve the functionality of the existing toll collection system during peak hours. The research findings identified that the existing electronic toll collection system has some issues during its operation which in turn created unnecessary delays for vehicles at toll plazas.

Ishan Mattoo (2021) conducted a survey with 100 FASTag users in South Gujarat region to learn about the prospects and difficulties of FASTag. The study results showed that the FASTag system saves time and

money, which is advantageous to both the operator and the users. The FASTag system not only speeds up the toll collection process but also lessens the traffic congestion at all toll plazas. Akshaya and Guna Sundari (2021) in their study titled, 'A study on passenger's satisfaction using FASTag with special reference to Coimbatore city' highlighted the key goals were understanding the demographics of those using FASTag and examining the issues people are having as a result of FASTag's deployment. The findings of the study shows that the FASTag users are very much satisfied with the system's payment simplicity. Shanmugha Priya (2022) carried out a study in order to help the developers to understand the problems that exist within the FASTag concept and to further aid them in problem mitigation. The study also revealed that FASTag system of toll collection increased the toll lane capacity while being environmentally beneficial. FASTag minimizes the time spent in long queues and eliminates the pointless scanning delays.

Hence, the objectives of the present are focusing the attitude and the satisfaction level of users towards FASTag in Virudhunagar. Besides, to know the problems faced by the users in using FASTag and to offer valuable suggestions based on the findings of the study.

## **RESEARCH METHODOLOGY**

The study covers 45 users of the FASTag toll collection system in Virudhunagar town. The study makes an effort to determine the attitude and satisfaction level

of uses of FASTag toll collection. The study also analyses the problems faced by users while using FASTag. This study is descriptive in nature. There were two sources of information used for this study. The primary data was collected from 45 FASTag users using a well structured questionnaire in Virudhunagar town. The secondary

data sources were journals, websites and related articles. After proper classification and tabulation of the collected data, suitable statistical tools and techniques have been applied for analysis and interpretation. This social-economic profile of the respondents are given in the table 1

**Table 1 shows Socio-Economic Profile of the Respondents**

Demographic Profile	Variables	No. of Respondents	Percentage (%)
<b>Gender</b>	Male	32	71.1
	Female	13	28.9
<b>Age</b>	20 – 30 years	28	62.2
	30 – 40 years	12	26.7
	40 – 50 years	4	8.9
	Above 50 years	1	2.2
<b>Educational Qualification</b>	SSLC / HSC	6	13.3
	UG	24	53.4
	PG	5	11.1
	Others	10	22.2
<b>Marital Status</b>	Married	25	55.6
	Unmarried	20	44.4
<b>Occupation</b>	Private employee	16	35.6
	Government employee	8	17.8
	Business	14	31.1
	Professional	7	15.5
<b>Family Structure</b>	Joint family	26	57.8
	Nuclear family	19	42.2
<b>No. of Children</b>	1	14	31.1
	2	23	51.1
	3 & above	8	17.8
<b>Monthly Income</b>	Less than Rs.20,000	13	28.9
	Rs.20,000 – Rs.30,000	19	42.2
	Rs.30,001 – Rs.40,000	5	11.1
	Above Rs.40,000	8	17.8

Source: Primary Data, 2023

**RESULT AND DISCUSSION**

A majority (40%) of sample respondents are working in Government school having a work experience of 5 – 10 years (30%). From the table, it is inferred that out of 175 respondents, a majority of 64% of them are female teachers with a majority (37%) falling in the age group between 25 – 35 years. Most (83%) of the respondents are married having 2 children (49%).

**Table 2 highlights type of vehicle regularly used to pass the toll by the respondents**

S. No.	Particulars	No. of Respondents	Respondents (%)
1	Car	33	73.3
2	Bus	9	20.0
3	Lorry	3	6.7
<b>Total</b>		<b>45</b>	<b>100.0</b>

Source: Primary data, 2023

The above table(2) reveals that a majority of 73.3% of the respondents is passing the toll regularly in car, 20.0% of the respondents pass the toll regularly in bus and 6.7% of the respondents are regularly passing the toll by Lorry.

**Table 3 showing the respondents’ mode of recharge for FASTag**

S. No.	Particulars	No. of Respondents	Respondents (%)
1	Credit/debit cards	17	37.8
2	Internet banking	11	24.4
3	UPI Apps	17	37.8
<b>Total</b>		<b>45</b>	<b>100.0</b>

Source: Primary data, 2023

From the above table (3), it is understood that 37.8% of the respondents are using credit/debit cards to recharge for FASTag, 24.4% of the respondents are using internet banking and 37.8% of the respondents use UPI apps.

**Table 4 showing the respondents’ most preferred FASTag provider.**

S. No.	Particulars	No. of Respondents	Respondents (%)
1	ICICI bank	2	4.4
2	SBI	26	57.8
3	Axis bank	4	8.9
4	HDFC bank	3	6.7
5	City union bank	2	4.4
6	INDUSLAND bank	1	2.2
7	TMB	7	15.6
<b>Total</b>		<b>45</b>	<b>100.0</b>

Source: Primary data, 2023

From the above table (4) it is clear that 4.4% of the respondents prefer ICICI bank FASTag provider, 57.8% of the respondents are preferring SBI, 8.9% of the respondents are preferring Axis Bank FASTag provider, 6.7% of the respondents use HDFC bank, 4.4% of the respondents prefer City Union Bank, 2.2% of the respondents are preferring INDUSLAND Bank and 15.6% of the respondents prefer TMB FASTag provider.

**Table 5 showing the amount spent per month for FASTag recharge by the respondents**

S. No.	Particulars	No. of Respondents	Respondents (%)
1	Less than Rs.500	16	35.6
2	Rs.500 - Rs.1000	16	35.6
3	Rs.1001 - Rs.1500	9	20.0
4	More than Rs.1500	4	8.8
<b>Total</b>		<b>45</b>	<b>100.0</b>

Source: Primary data, 2023

From the above table(5) it is observed that 35.6% of the respondents are spending less than Rs.500 for FASTag recharge per month, 35.6% of the respondents spend around Rs.500-Rs.1000, 20.0% of the respondents are spending Rs.1000-Rs.1500 and 8.8% of the respondents are spending more than Rs.1500 per month for FASTag recharge.

**Table 6 showing the respondents’ satisfaction towards various factors of FASTag service**

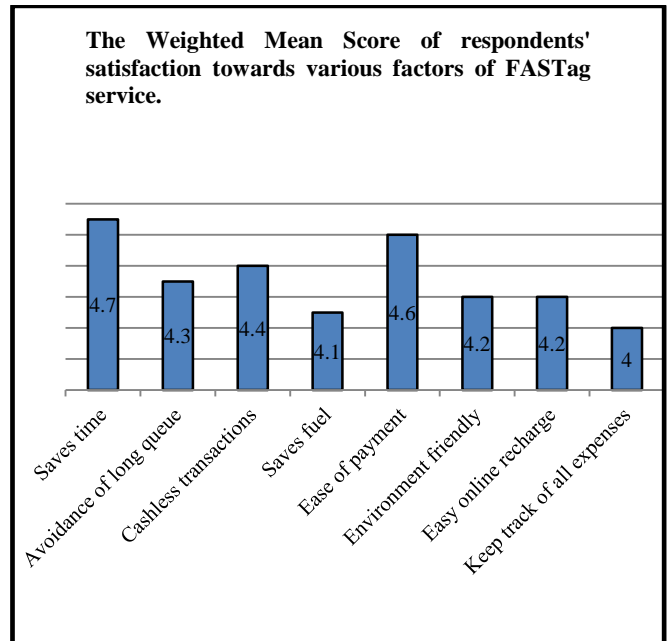
Factors	Highly Satisfied	Satisfied	Neutral	Dissatisfied	Highly Dissatisfied	Total	Weighted mean
Saves time	34	8	2	1	0	45	4.7
	170	32	6	2	0	210	
Avoidance of long queue	25	13	7	0	0	45	4.3
	125	52	21	0	0	198	
Cashless transactions	28	10	5	2	0	45	4.4
	140	40	15	4	0	199	
Saves fuel	21	17	4	2	1	45	4.1
	105	68	12	4	1	189	
Ease of payment	31	9	4	1	0	45	4.6
	155	36	12	2	0	205	
Environmental friendly	15	26	4	0	0	45	4.2
	75	104	12	0	0	191	
Easy online recharge	20	18	4	3	0	45	4.2
	100	72	12	6	0	190	
Keep track of all toll expenses	16	25	0	2	2	45	4.0
	80	100	0	4	2	186	

Source: Primary data, 2023

Table 6 reveals the weighted mean score of respondents’ satisfaction towards the various factors of FASTag service. Among them, the factor ‘Saves time’ has got the highest mean score of 4.7 and thus it is considered as more significant for preferring FASTag service by the respondents, followed by ‘Ease of payment’ scoring a weighted mean of 4.6, ‘Cashless transactions’ with a weighted mean of 4.4, ‘Avoidance of long queue’ with a weighted mean of 4.3, the factors ‘Environmental friendly’ and ‘Easy online recharge’ has got a weighted mean of 4.2 each, followed by the

factor ‘Saves fuel’ which has got a weighted mean of 4.1.

**Figure 1 showing the Weighted Mean Score of respondents' satisfaction towards various factors of FASTag service.**



**Table 7 showing the problems faced by respondents while using FASTag**

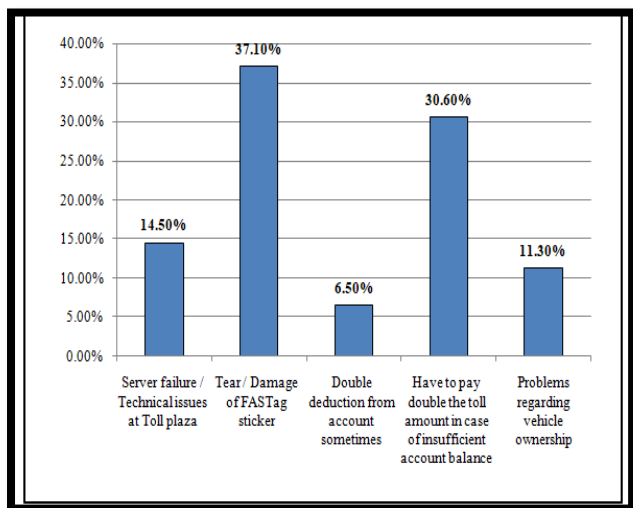
S. No.	Problems / Issues	No. of Responses	Percentage (%)
1	Server failure / Technical issues at Toll plaza	9	14.5
2	Tear / Damage of FASTag sticker	23	37.1
3	Double deduction from account sometimes	4	6.5
4	Have to pay double the toll amount in case of insufficient account balance	19	30.6
5	Problems regarding vehicle ownership	7	11.3
<b>Total</b>		<b>62</b>	<b>100.0</b>

Source: Primary Data, 2023

Table 7 depicts the different problems or issues encountered by the respondents while making use of FASTag service. As some respondents have faced more than one problem

when using FASTag (Figure 2), here the number of responses is 62. Among them 14.5% of the respondents are encountered with the server failure and technical issues at Toll plaza while using FASTag, 37.1% of the respondents have faced the problem of tear or damage of FASTag sticker, 6.5% of the respondents have encountered the problem of double deduction from their bank account for the FASTag service, 30.6% have encountered the problem of paying double the toll amount in case of insufficient account balance and 11.3% of them have faced problems regarding vehicle ownership.

**Figure 2 shows Problems encountered by users while using FASTag**



**Table 8 showing the satisfaction level of respondents regarding FASTag customer service**

S. No	Particulars	No. of Respondents	Respondents %
1	Highly Satisfied	3	6.7
2	Satisfied	25	55.6
3	Neutral	17	37.7
4	Dissatisfied	0	0
5	Highly Dissatisfied	0	0
<b>Total</b>		<b>45</b>	<b>100.0</b>

Source: Primary data, 2023

The above table 8 clearly shows that 6.7 % of the respondents are highly satisfied with the FASTag customer service, 55.6% of the respondents are satisfied and 37.7% of the respondents feel neutral about the FASTag customer service.

**Table 9 showing the respondents’ most preferred toll payment system**

S. No	Particulars	No. of Respondents	Respondents %
1	FASTag toll payment	34	75.6
2	Conventional toll payment	11	24.4
<b>Total</b>		<b>45</b>	<b>100.0</b>

Source: Primary data, 2023

The above table(9) clearly shows that 75.6% of the respondents strongly prefer FASTag toll payment while 24.4% of the respondents prefer conventional toll payment system.

The study findings show that the users are very happy with the implementation of FASTag service. The major factors which influence the users to prefer FASTag are that it ‘saves time and fuel’ and there is ‘ease of making payment’. Along with these benefits, FASTag is widely preferred by users as it facilitates cashless transactions, there is no need of long queue, is environmental friendly and one can keep track of all toll related expenses. Despite having a wide acceptance of FASTag in Virudhunagar, the users sometimes encounter few issues with FASTag such as deduction of double the toll amount while using FASTag, tear of FASTag sticker, vehicle

ownership problem and server or technical fault. It is important to note that nearly 75.6% of the users prefer FASTag toll collection system than the conventional toll collection system as FASTag system is more helpful not only to the users but also to the toll operators and to the environment as a whole.

In India, FASTag is regarded as the most advantageous method of toll collection system. Both users and toll operators benefit from the time saving factor of FASTag. FASTag can exclusively be used for one vehicle only and is not transferable. FASTag has been considered as an 'Aadhaar' for any vehicle. The enforcement agencies can use the FASTag data to track the vehicles across the country. FASTag also supports 'Make in India', one of the nation's main aspirations and dreams. FASTag is environmentally beneficial and increased the toll lane capacity. Not only should the government take the initiative to address few challenges related to the FASTag service, additionally every individual has the responsibility to contribute in making India a technologically driven economy and a better place to live.

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