

Perceived benefits of toll road Projects- A Survey from Haryana state

Dr. Dalip Kaur

Assistant Professor

Government PG College for Women, Rohtak

Email: dalipkaurmd@gmail.com

Abstract

World-class infrastructure is essential for the economic progress of a nation. Public-private partnership has evolved as the most effective way to develop public infrastructure efficiently. Roads are like the nervous system of a country that connects inter and intra-state movement of transport. For the development of an efficient road system, the public sector is looking for financial and professional help from the private sector. The Highway and Road projects are developed under PPP model and users are charged for using the service. This study is focused on evaluating the users' perception about the amenities and services of toll roads. A Descriptive technique has been employed to analyze the primary data collected through a questionnaire. The results will help guide the public sector, private sector, and policymakers in framing the policies and plans that consider the perspective of the general public.

Keywords: Perception, Public Private Partnership (PPP), Toll roads, Users.

Introduction

Public Private Partnership has evolved as the most effective way to develop public infrastructure efficiently. There is no single definition that could define the term 'PPP'. IMF defines it as "public private partnerships (PPPs) refer to arrangements where the private sector supplies infrastructure assets and services that traditionally have been provided by the government"(IMF, 2004). The Government of India defined a P3 in 2011 as "Public Private Partnership (PPP) means an arrangement between a Government / statutory entity / Government owned entity on one side and a private sector entity on the other, for the provision of public assets and/or public services, through investments being made and/or management being undertaken by the private sector entity, for a specified period of time, where there is well defined allocation of risk between the private sector and the public entity and the private entity who is chosen on the basis of open competitive bidding, receives performance linked payments that conform (or are benchmarked) to specified and predetermined performance standards, measurable by the public entity or its Representative." There are various forms of PPP contracts such as BOT, BOOT, BOO, EPC, HAM etc. Government has been using these models extensively in different infrastructure development projects such as

Highways, hospitals, schools etc. Roads are like the nervous system of a nation that connects inter and intra-state movement of transports. An efficient road infrastructure is crucial for Industrial success and hence, for the nation's development. For the development of an efficient road system, the public sector is looking for financial and professional help. A Handshake with the private sector is, thus, a solution in the hands of the government. This study aims at understanding the perception of users about the amenities and services of PPP toll roads.

Review of Literature

Navandar et al., (2019) studied a sample of 1150 respondents from 4 toll plazas to understand the level of services as perceived by them. The findings suggested that users' perception varied across different levels of services among various vehicle categories. Pilaka (2018) designed a structure to evaluate the performance of toll projects of Pune. Various amenities and other parameters were investigated. Study established that users wanted to get road services free of cost since they are already paying a lot of taxes. A similar study in Indonesia was conducted by Zuna et al., (2015) about the service quality of toll roads. The physical condition of the road was found to have the highest impact on user's satisfaction. Along with it, traffic conditions, response in emergency, safety of users, rest areas and toll gate facilities also found to have an impact on users' satisfaction. Gomez et al., (2017) in their study, explored the perception of users toward interurban toll roads in Spain. Due to asymmetric distribution of tolls throughout the nation, users who were bearing the burden of toll were found to be more negative. Another similar study was conducted by Mathur (2014) in Andhra Pradesh. A significant difference in the perception of users' was found and they were not willing to pay tolls in any form.

Research Methodology

To understand the perception of users, a questionnaire survey was conducted online as well as offline from the 4 selected toll booths of Haryana state i.e. 2 were the most expensive toll booths and 2 were the cheapest ones. Using a 5% confidence interval, Sample size of 385 (Godden, 2004) was calculated using Bill Godden's Formula for infinite population. However, 500 questionnaires were distributed and finally, 414 were used for analysis. Data was analysed using SPSS software and descriptive techniques were applied to conclude the results.

Analysis and Findings

Survey tool i.e. Questionnaire was circulated among 500 respondents and from it, 414 were found usable for further processing. The questionnaire contained nineteen statements related to the amenities and services being provided on the PPP road projects. These answers were collected on a 1-5 point scale, where 1 representing strongly disagree to 5 representing strongly agree. The demographic outline of the respondent is as follows:

Table 1: Demographic Outline of Respondents

| Measure | Categories | Count | Percentage |
|-------------------|--------------------|-------|------------|
| Age | Less than 25 years | 119 | 28.7 |
| | 25 to 40 years | 112 | 27.1 |
| | 40 to 60 years | 99 | 23.9 |
| | Above 60 years | 84 | 20.3 |
| Travel Frequency | Everyday | 86 | 20.8 |
| | Weekly | 68 | 16.4 |
| | Fortnightly | 70 | 16.9 |
| | Monthly | 91 | 22 |
| | Occasionally | 99 | 23.9 |
| Purpose of travel | Personal | 224 | 54.1 |
| | Official | 190 | 45.9 |

(Data Source: Primary Data)

The above Table depicts the demographics of the 414 respondents. There were 4 categories of Age groups whose count and percentages had been shown in the table. Along with it, the frequency and the purpose of travelling through a particular toll road had also been investigated.

A Balanced distribution in the various categories of Age, Frequency of travelling and purpose of traveling has been observed. Users were investigated over the various aspects of PPP projects by asking the under mentioned 19 statements. Descriptive techniques i.e. Mean, Standard deviation, skewness and Kurtosis were calculated to analyze the data. Result of the analysis has been summarised in the table below.

Table 2: Result of Descriptive Analysis

| Statements | Mean | Std. Deviation | Skewness | Kurtosis |
|--|------|----------------|----------|----------|
| There should be expansion of new roads with tolls instead of having old roads with no toll charges. (S1) | 3.49 | 0.983 | -0.488 | -0.153 |
| Rate of accidents decreases due to speeding up of vehicles on smooth roads (S2) | 3.72 | 0.817 | -0.373 | 0.388 |
| The road signs and markings are done properly (S3) | 3.95 | 0.968 | -0.466 | -0.736 |
| Emergency services (ambulance/crane etc) are available in case of any mishap. (S4) | 3.55 | 0.782 | -0.298 | 0.136 |
| The robbery or theft has reduced due to regulatory efficiency. (S5) | 3.94 | 0.872 | -0.510 | -0.304 |
| Proper lighting is available on the roads (S6) | 3.93 | 0.922 | -0.633 | -0.037 |
| Roads are properly repaired and maintain regularly. (S7) | 3.63 | 0.881 | -0.089 | -0.516 |
| Toll roads are efficient and provide safety to users.(S8) | 3.51 | 1.182 | -0.443 | -0.762 |
| Traffic congestion has reduced because of new toll roads. (S9) | 3.52 | 1.199 | -0.336 | -0.910 |
| Toll roads resulted in time saving of users. (S10) | 3.46 | 1.028 | -0.198 | -0.542 |
| Fastag is a better and convenient mode of toll collection. (S11) | 3.52 | 1.180 | -0.422 | -0.733 |
| Fastag lanes saves your time(S12) | 3.44 | 1.152 | -0.384 | -0.684 |
| Parkings, Public toilets, restaurants, petrol pumps are easily available.(S13) | 3.53 | 1.297 | -0.509 | -0.854 |
| Users should pay toll charges for new PPP roads.(S14) | 3.36 | 0.925 | -0.233 | -0.250 |
| Toll cost per vehicle should be reduced after recovering the construction cost. (S15) | 3.69 | 0.923 | -0.356 | -0.265 |
| Tolls rates are not fair and very expensive. (S16) | 3.54 | 0.854 | -0.626 | 0.602 |

| | | | | |
|---|------|-------|--------|--------|
| Operating cost of vehicles is saved because of less traffic congestion on toll roads. (S17) | 3.55 | 0.873 | -0.193 | -0.440 |
| Efficient roads lead to less wear and tear on vehicles. (S18) | 3.55 | 0.867 | -0.291 | -0.183 |
| Tolls are an appropriate mechanism to fund roads.(S19) | 3.42 | 0.859 | -0.281 | 0.210 |

(Source: Software Output)

Table 2 discusses the result of descriptive analysis performed on the nineteen statements pertaining to the toll road projects. Mean of all the statements were above 3 which depicts that respondents were on the agreement side for all of the 19 items. S.D (Standard Deviation) less than 1 depicts that there is a high degree of consistency in the responses. It can be interpreted from the above table that there is more uniformity in the responses. Although for some statements (from S8 to S13) S.D is greater than 1, which shows that there is great variation in the responses for these statements. Overall users are found to be satisfied with the amenities and services but along with that they feel toll rates are expensive and it should be reduced after recovering the costs. Further, some statements regarding the efficacy of Fastag were also included for which positive response was observed.

Conclusion

Users are paying for the public infrastructure and hence, they want a value for money deal. The study highlighted the fact that users are satisfied with the amenities being provided but they also feel that tolls are expensive and after recovering the cost of the project, toll charges should be reduced. The Public Sector should look out for some other innovative ways of financing the projects so that toll charges may be reduced or abolished.

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