

# A STUDY ON BUILD OPERATE AND TRANSFER (B.O.T) PROJECTS IN INDIA

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**Abstract** – A study was done on Udhampur to Jammu Highway and it was found that huge impact was taking place on fuel savings just by widening 80 Km stretch which was reduced to 64 Km under the Government's B.O.T Scheme. The Commuters were benefited by savings in fuel, time and maintenance costs just by paying a toll charge. It was found that 5 to 8 thousand vehicles would cross the Ban and Nashri toll plaza daily by paying a levy of toll. Huge turnover was recorded on the toll plaza since the completion of project and had great impact on country's economy. Case study proved that employment generation was very much increased during the project which benefitted the local population to a great extent. Around 28 lakh rupees were saved daily by less fuel consumption creating a positive impact on local economy and nation in general. Despite of all these benefits it was revealed that the current B.O.T policies in India were not sufficiently protecting the investment of entrepreneurs which ultimately cause delay in projects or loss in general. Entrepreneurs showed negative views about the general knowledge of personals either working with the project or connected to the project anyway regarding the BOT concept. Based on the studies recommendations were put forward.

**Key Words:** B.O.T, Ban Toll, Local Population, Economy, Policies, Views

## 1. INTRODUCTION

B.O.T is a form of project financing, where a private company receives a concession from a public sector to finance, make and design, construct, buy, and operate a facility stated in the concession contract. The host which is normally the government is the initiator of the infrastructure project and decides if the B.O.T model is appropriate to meet its needs. There are many stakeholders in this project like *The Concessionaire, Banks and other Lenders*.

B.O.T projects have a number of benefits as it minimizes the public cost for infrastructure development, reduces public debt, allows for innovation, provides a chance to bring in expertise. However there a number of disadvantages also as it has higher transaction costs and mostly works for large projects. Moreover it requires fund raising and strong corporate governance.

Currently India's transport system handles 870 billion ton per km of freight and 2550 billion passengers per kilometer a year. Union Budget 2019-20 has allocated 11.9 billion

dollars towards Ministry of Road Transport. Last year after a gap of 8 years, NHAI had invited bids for 15 road projects with a tentative total project cost of rupees 22,000 crore for nearly 800 Km.

## 2. LITERATURE REVIEW

Many researches have been conducted on the study of B.O.T models. According to Sudhanshu (2015) the procurement of BOT policy is the most recent addition in the world of economic development and growth across country. Shastri on his research in 2014 said, there is need for effective distribution of responsibility, costs and risks between the private and public sector. According to UNIDO BOT guidelines, the BOT approach is not a solution for the host government, BOT projects are complex from both financial and legal point of view, for the successful BOT implementation the process requires the stable political and economic climate.

According to Cheng and Wang (2009) the BOT model is defined as the cooperation between the government and private entities to provide public infrastructure products and services. According to Fan and Li (2010) the acronym of B.O.T model stands for build operate and transfer or build own and transfer ,the objectives and expectations of bot practices are key factors that help to shape and leads to progress of the project.

## 3. METHODOLOGY

The various parameters of the projects were studied with doctrinal and empirical approach. The data was collected from the books, publications, reference documents, various committee reports available in the libraries. The research work was carried out in wide variety of data collected through the various concerned offices located in the UT of J&K.

This research is on the basis to gather all necessary information in an effective way. The study presents various causes generated on the basis of related research work on construction delay together with input, revision, and modification by some construction parties. The work was carried out on the Jammu Srinagar National Highway NH-44 and data was collected from Ban Toll and Shri Shama Prasad Mukherjee Tunnel Toll Plaza Nashri J&K.

#### 4. DATA COLLECTION

The data was collected by the following ways:

1. *Interviews & Discussions:* Interviews were conducted with the BOT Cell authorities, Entrepreneurs, Consultants, officers of the financial institutions etc. and they have shared their views giving a lot of information.

2. *Questionnaire:* The information was also collected through the Questionnaires, which were circulated to Government authorities, the Entrepreneurs, Officers of the financial institutions and banks, consultants and the facility users of each category. Questionnaire consisting of 18 most important questions were given to 350 facility users of different categories. The questionnaire was based on rating.

3. *Websites and Emails:* Lot of data and information was obtained from the web portals of various entrepreneurs and consultants. Apart from this emails were sent to the stakeholders for collection of further information. Emails were sent to 130 stake holders out of which 57 replied and shared their views

4. *Survey:* Information was collected through the survey of various toll stations located on the NH-44

13	Vicinity Improvement					
14	Impact on Business					
15	Road Flexibility					
16	Reduction in Fuel Consumption					
17	Impact on Vehicle Maintenance					
18	Overall Benefits					

#### 5. RESULTS

TABLE 2

Vehicle toll rate in Rupees per Km

LMV	1.0912
LCV	1.6465
Trucks/Buses	3.4497
Multi-Axle Vehicles	5.4098
Heavy Construction Vehicles	6.5858

TABLE 3

Yearly toll collection and cash flow at Ban toll plaza

Year	Investment in Crores	Total Collection in Crores	Current Cost	Maintenance Cost in Crores	Interest @ 18 %	O/S Amount
2011	700		700			
2012	850		850			
2013	700	63	700			
2014	230	86.65	230			
2015		92.88		0.25	16.67	109.3
2016		98.66		0.48	17.67	115.85
2017		123.87		0.62	22.18	145.43
2018		140.54		0.89	25.13	164.78
2019		92.76		0.73	16.56	108.59

This table shows the yearly investment for in the Jammu-Udhampur Highway project up to 2014 and toll collection since 2014. At 18% interest on yearly toll collection the projection of turnover at the toll plaza is very promising and will surely add to the country's GDP.

TABLE 4  
TRAFFIC FLOW CHART

SINGLE JOURNEY NO. OF VEHICLES			
Car	LCV/Mini Bus	Bus/Truck	Multi Axle
2267	123	752	1992
2058	104	1159	1776
2065	819	1111	2164

TABLE 1  
Questionnaire Sample

S.No	Question	Ranking (1 to 5)				
1	Satisfaction on Carriage Way					
2	Smooth Driving					
3	Night Commute					
4	Ease of Toll Payment					
5	Overall Ranking					
6	Is Toll Payment Hectic?					
7	Accident Reduction					
8	Time Saving					
9	Fuel Saving					
10	Road Maintenance					
11	Traffic Jams					
12	Overall Rating					

1121	221	678	1818
1132	168	719	1873
1153	145	1187	2350
1196	148	1218	2717
1200	163	654	1839
1215	128	1394	2416

DAILY PASS JOURNEY			
NO. OF VEHICLES			
Car	LCV/Mini Bus	Bus/Truck	Multi Axle
81	19	32	34
105	21	28	23
124	15	26	28
94	14	38	26
105	13	22	26
95	12	29	28
110	17	21	36
93	26	31	34
126	22	35	22

MONTHLY PASS JOURNEY			
NO. OF VEHICLES			
Car	LCV/Mini Bus	Bus/Truck	Multi Axle
	1		
1	2		
1			
1	1		
1	1		

The above tables show the flow of traffic for the 4 consecutive days and 5 alternative days. The traffic flow on peak goes upto 8000 per day as said by the plaza workers and later confirmed by records. The toll plaza has huge potential of generating revenue in government accounts. The multi-axle vehicles carrying goods to the State were much higher in number

**TABLE 5**  
**SAVINGS IN VEHICLE OPERATING COST**

Details	Bus	Truck	L.M.V (Petrol)	L.M.V (Diesel)
No.	1000	2000	1800	1836
Avg Km/Litre	5.75	4.5	15	20
Fuel Saved/Litre	5.21	6.66	4	7

Fuel Rate/Litre	71.34	71.34	81.32	71.34
Amount Saved per vehicle	371.68	475	325	499
Amount saved per day	371000	950000	585000	916000

This table tells the average amount saved daily by vehicles on vehicle operating cost. In this table the total fuel saved by vehicle is multiplied by the current rate of fuel and further multiplied by the number of vehicles using the facility. On average Rupees 28 lac are saved by the vehicles daily.

From the above it is clear that B.O.T has enormous advantages but still there are some issues in the B.O.T policy that must be reviewed.

**6. CONCLUSIONS**

1. BOT policies and legal framework needs to be implemented or amended so that the investors and government both are protected under a law of security.
2. There needs to be change in the politically influenced or arbitrarily issuance of BOT projects.
3. Newly emerging or low budget entrepreneurs should be introduced to hybrid annuity models.
4. For fruitful execution of BOT system a believable and efficient authoritative structure needs to be guaranteed.
5. There needs to be amendments in the concession agreements given by public sector
6. There needs to be creation of awareness in employees and stake holders. Seminars, campaigns and other purposeful endeavors to instruct the general population on BOT ideas.
7. Training and study tours for the employees responsible for handling the BOT projects
8. Double taxation should be reviewed where a user has to pay hefty amounts on fuel tax and in turn toll tax becomes a burden.
9. Toll plazas need to be installed with multi scanning lanes instead of just one or two to avoid traffic jams, hectic toll payment and ensure smooth movement of traffic at toll plaza.

**ACKNOWLEDGEMENT**

The author is highly thankful to his guide *Dr. Sandeep Singla* (HOD, Department of Civil Engineering R.I.M.T University Punjab) for providing constant support during the work. I am also highly thankful to one of my friends, *Peerzada Mohsin Shafi* who always tried his best to help me out in sorting the things during this paper work. I am also thankful

to all my friends and more importantly to my parents for always believing in me.

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## BIOGRAPHIES



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