

Government's Role in Road Toll Collection: The Coimbatore Bypass Experience¹

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Introduction

India has the second largest road system in the world with a road length of 3.3 million kms. There is, however, a high disparity in construction quality and road conditions nationwide. As of 1998-9, the Indian transport sector handled 870 billion tonne kms (btkms) of freight and 2,450 billion passenger kms (bpkms) of passenger traffic. Of this, the road sector carried 566 btkms (65 per cent) of freight and 2,132 bpkms (87 per cent) of passenger traffic. The btkms and bpkms by road grew at the rate of 12 per cent and 8.4 per cent respectively during the nineties [Ministry of Road Transport and Highways, and World Bank, 2002]. In the past 50 years, while the aggregate length of the roads has increased eightfold, the traffic has increased to almost twentyfold, resulting in congestion [World Bank, 2000].

To reduce the congestion and improve road quality, the central and state governments have focused on road development projects in the recent years (Box 1). Public private partnerships have also been leveraged through the Build, Operate and Transfer (BOT) framework.

Importance of Tolling to the BOT Projects

In the BOT projects, revenue through tolling is used as an important mechanism to attract private financing. (Annuities payments to the BOT operator is catching up as an alternate mechanism). Revenues are generated from toll collection for operating and maintaining the road as well as recovering the overall project costs. Internationally, about 95 per cent of the revenues of toll road come from the tolls themselves [World Bank, 1999]. Thus tolling is a very critical area in the concession agreement and needs a fair amount of analysis to verify the financial prospects.

However, in spite of efforts by the government, the toll collection system in India has not been very successful. One such example is the Coimbatore Bypass project, where there are concerns (even as of August 2002) of toll compliance and the financial viability of the project is in question. In this paper, we highlight the various issues raised by this project, which is a national highway toll road project.

¹ This paper is partly based on a note by Mr M Abul Hassan, (Former) Secretary Highways, Government of Tamil Nadu (July, 2000), and A Note on Toll Collection in Coimbatore Athupalam Bridge, Government of Tamil Nadu (September, 2000).

The Coimbatore Bypass Experience

The Coimbatore Bypass project questions the responsibility of the government in public private partnership projects. L&T Transportation Infrastructure Ltd (LTTIL), the BOT operator, is facing financial problems, experiencing a difficult time collecting tolls from the Athupalam Bridge segment of the Coimbatore Bypass project. This experience raises the issue that if the government is reluctant to provide the required support and action, the future of public private toll based road development projects is not very bright.

Background

The story began in September 1995, when the Ministry of Surface Transport (MoST), GOI, floated a global tender to select a private sector participant for development of the Coimbatore Bypass.

Coimbatore, the second largest city in Tamil Nadu, also known as the 'Manchester' of the state, was a prosperous industrial city. It was well connected by both the national highway and state highway networks. The national highway No 47 (NH 47) passed through the city, connecting Salem with Kanyakumari. Congestion within the city caused heavy traffic delays and hence a need was felt to construct a bypass to the city. The alignment, traversing a length of 27.67 km, was finalized in 1974. Land for a width of 40 to 45 m was acquired for this purpose at the same time. However, construction was delayed due to inadequate funding arrangements.

LTTIL was the only firm which responded to the tender and submitted a conditional bid to construct and operate the Coimbatore Bypass. The conditions in the bid included the addition of, (i) a bridge (the Athupalam Bridge) over Noyyal river on NH 47 in the city (close to the city limits), and (ii) a rail over bridge (ROB) on NH 209 (Coimbatore-Dindigul Road), to the project scope of the Coimbatore Bypass project. These segments would also be tolled in order to improve financial viability of project.

The bid was discussed in detail with the state government. Based on the argument that the 27.67 km bypass road, linking the Southern (Coimbatore-Kanyakumari) segment of NH 47 with the Northern (Coimbatore-Salem) segment of the same NH, was not viable on its own, the state government agreed to enlarge the scope of the project. It included the construction of an additional bridge (to make the two lane into a four lane right of way) near the old Athupalam Bridge, across Noyyal river. The ROB on NH 209 was not considered. Subsequently, a tripartite concession agreement was signed between MoST, Tamil Nadu State Government and LTTIL on 13 October 1997.

Project Scope

The scope of the project thus included two distinct segments, (i) construction of the bypass, and (ii) construction of a two lane Athupalam Bridge across Noyyal river on NH 47. (A map indicating the location of the Coimbatore Bypass and its adjoining road network is shown in exhibit 1). This project was the first to be executed on a BOT basis in the state.

- (i) *Coimbatore Bypass*: Construction of bypass for a length of 27.67 km, having a two lane 7.5 m carriage way with paved shoulders configuration. The alignment of the bypass intersected two major roads which had since been notified as national highways, namely, the Coimbatore Pollachi Road (NH 209) and Coimbatore Karur Road (NH 54A). The bypass component included construction of two ROBs, one major bridge (across river Noyyal, called Noyyal Bridge), 10 minor bridges and other cross drainage structures.
- (ii) *Athupalam Bridge*: Construction of two additional lanes to the existing bridge over river Noyyal on NH 47 at km 161/8 was proposed as part of the bypass project to ease congestion on the existing bridge.

The cost of the project was estimated at Rs 90 crores (87 crores for the Coimbatore Bypass and 3 crores for the Athupalam Bridge), the recovery of which was proposed through collection of tolls on both the bypass and the bridge.

As per the agreement, LTTIL was given a concession to levy toll for a period of 20 years on the Athupalam Bridge and 30 years on the Coimbatore Bypass. The agreement clearly specified that while the traffic risk was with LTTIL, the risk due to non-payment of tolls would be with the state government. The toll rates as agreed in the concession agreement are presented in exhibit 2.

Opening of the Athupalam Bridge Segment

The work on the project commenced in December 1997. The Athupalam Bridge was completed first and opened to traffic in 12 December 1998.

From the very first day of commissioning and opening the traffic at the Athupalam Bridge, the Bus Owner's Association (BOA) and the public had been protesting against the toll collection. The bridge users were agitated about the collection of toll fee for each trip and refused to pay, resulting in frequent blockades and crowding near the toll plaza. The Collector convened a series of meetings with various Associations between 13 and 19 December 1998 on this issue. The users felt that due to construction of this new bridge, unnecessary financial burden was put on them. Various organizations had proposed to go on strike, opposing the collection of the toll fee on the bridge. He

requested the state government for complete waiver on toll fee at the Athupalam Bridge.

LTTIL made several representations to the state government in an attempt to resolve the issue. The State Transport Corporations (STCs), together with private buses, local trucks and taxi operators who made multiple trips on the bridge, expressed their unwillingness to pay the toll for every trip.

The Minister for Highways and Ports convened a meeting with the Minister of Forest and Environment, the Collector, LTTIL and various Association representatives on 4 January 1999. In the meeting, he proposed the following suggestions:

- (i) Introduction of concessional toll rate of Rs 50 per day for unlimited trips for government and private buses
- (ii) Reduction in monthly tariff rate from Rs 325 to Rs 300 for all non commercial vehicles, and
- (iii) Full exemption for government vehicles, mortuary vans and convoys.
- (iv) A recommendation to be made to the GOI, requesting compensation for the losses incurred due to the above concession.

LTTIL accepted suggestion (i) above, but restricted it to the STCs with the condition that the GOI should compensate the financial loss. LTTIL insisted on retaining the toll per trip as agreed in the concessional agreement for the private buses, local trucks and taxi operators.

The Tamil Nadu and Kerala STCs started paying concessional tolls, whereas the BOA refused to pay the toll amount. The BOA filed a writ petition on 31 March 1999 in the Chennai High Court challenging the collection of toll at Athupalam Bridge. The High Court dismissed the petition on 21 September 1999 and passed an interim order that the BOA must pay the tolls as per the concession. (LTTIL was supposed to keep an account of vehicles of BOA which paid the toll fee and refund the amount paid, if the judgement was pronounced against it).

The Secretary held a meeting on 22 July 1999 with the Collector and various Associations of road users. In spite of an appeal by the Secretary and the Collector, the Associations stuck to their demand. A situation arose where it was found that forceful collection of toll might lead to serious law and order problem. The daily toll collection of the bridge came down from Rs 110,000 per day during December 1998 to Rs 40,000 per day in September 1999.

The Coimbatore National Highways Wing conducted a one week traffic survey of the Athupalam Bridge from 19 to 25 November 1999. The survey gave the profile of the usage of the bridge by examining the number of trips made per day by different types of vehicles (exhibit 3). As can be seen, buses were the largest high frequency users of

the bridge. About one per cent of car/jeeps/vans (CJVs), about 20 per cent of buses and less than one per cent of trucks made four or more trips per day

LTTIL expressed its inability to enforce toll collection and requested the state government to provide police support. In response to the request, the state police force was deployed on cost basis from 30 December 1999. But even this did not bring any major improvement in the compliance.

Opening of the Bypass Segment

The bypass was opened to traffic in January 2000. The actual total cost on completion of the project was Rs 110 crores, of which Rs 42 crores was funded by LTTIL as equity and Rs 68 crores by institutional financiers as debt. The cost was more than what was planned for due to (i) the introduction of an additional road over bridge in the bypass segment, (ii) additional works on either side of the Athupalam bridge, including the construction of a control room, and (iii) interest during construction due to delays.

In the mean time, the matter of non compliance of toll at the Athupalam Bridge continued. This was viewed seriously by the GOI. The Union Minister of Surface Transport wrote to the Chief Minister, Tamil Nadu, to intervene in the matter. In a letter dated 28 April 2000, the Chief Minister assured smooth collection of toll on the bridge. The state government had been periodically addressing the Collector to personally monitor and ensure smooth collection of the toll. After the posting of police personnel, the situation had improved slightly, but not completely. The private buses and trucks continued not to pay toll.

The BOA filed a review petition in the Chennai High Court immediately after the dismissal of the previous writ petition. The Court dismissed the petition on 16 June 2000. BOA disregarded the Court's order and refused to pay the tolls.

As of July 2000, LTTIL reported a loss of Rs 8.5 crores due to unrecovered toll (Exhibit 4). This was claimed as compensation from the state government. LTTIL had data about toll collection on the number of trips made by different class of vehicles at Athupalam Bridge from December 1998 to July 2000. On the basis of this information, comparative projections were made on the revenue that could have been realized if (i) the tolls were paid strictly according to the agreement, (ii) the amount was collected at concessional toll rate of Rs 50 per day for unlimited trips for government and private buses, and (iii) all the suggestions of the Minister of Highways and Ports were implemented.

Accordingly, the traffic calculations pointed out that if the Minister's suggestion was accepted and implemented, the real collections could have been much more than what was actually collected during the period. This was because the willingness to pay would have been higher if the toll rates were capped for high frequency users. The analysis

showed that LTTIL could have collected Rs 11.0 crores according to the Minister's suggestion. However, LTTIL could collect only Rs 2.9 crores.

The state government commented that the loss claimed by LTTIL was a result of the company's 'inflexible' attitude. The state government could not be held responsible for it. It pointed out that if the suggestion of the Minister was accepted, the loss could have been limited to Rs 33.4 lakhs. This amount could be easily compensated by cash or a slight increase in the concession period.

Given the response of the state government, LTTIL notified the central government for invoking the provisions of the concession agreement. Considering this, the Secretary, MoST, wrote to the Secretary, Highways, Government of Tamil Nadu, on 31 August 2000, drawing attention towards the obligatory requirements of the state government, being a signatory to the tripartite agreement. The Secretary asked the Collector to take effective steps for enforcement of smooth collection of tolls at Athupalam Bridge.

The Situation in July 2002

The Athupalam Bridge users were still protesting against payment of tolls, though the traffic density at the bridge was increasing. One form of protest by the buses/LCVs and other frequent users was to leave their vehicles at the bridge, thereby creating hindrances to other road users. This increased the queuing/waiting time to about 40-45 minutes. Some users just broke the signal barriers and speed away.

The average daily toll collection at the bridge was around Rs 70,000 to 75,000 per day as against the projected revenue of Rs 1.8 lakhs to Rs 2.0 lakhs per day. The compliance of the toll collection on the bypass road was reported to be satisfactory. The number of vehicles using the bypass road daily was about 3,500. The collection at the bypass road was about Rs 84,000 per day, which was 70 per cent of the estimated Rs 1.2 lakhs per day (based on LTTIL's own studies prior to the project).

According to the original revenue projections, 60 per cent of the revenue was to come from collection of toll at Athupalam Bridge and the balance 40 per cent from users of the bypass road.

The company recorded a loss of Rs 5.9 crores for the year 2001-2, adding to a cumulative loss of Rs 12.6 crores [LTTIL Annual Report, 2002]. About 230 buses made a minimum of 2,180 trips a day. The company claimed it would sustain a loss of Rs 20,000 per day on government buses alone. The cost of deployment of the police was also borne by LTTIL. It paid security charges of Rs 53 lakhs for the year 2001-2. The financial institutions were putting pressure on LTTIL for creating additional securities. The interest payment worked out to Rs 9 crores per year.

With such a financial position, it was clear that unless the company was given powers by the government to take stringent action against the non payers, it would be impossible for the company to recover its investments on the project. The proposal to extend the project concession period to make up for the loss in collection was not perceived as beneficial to the company because of the discounted value of money.

LTTIL felt that if the situation did not improve, the company would be forced to request the state government to take over the project by invoking the force majeure clause.

Issues Raised by the Coimbatore Bypass Experience

After four years of implementation of the project, LTTIL has recorded a cumulative loss of Rs 12.6 crores. Was the traffic itself less than projections or has toll non compliance been the major cause? The overall experience states that the usage of Athupalam Bridge is heavy and the construction of the bridge has been a major convenience to the users. (Prior to this BOT project, there was a single seven-metre wide carriageway over the river, which made it difficult for even two commercial vehicles to cross at a time. Often, there used to be waits due to congestion. After construction of the new bridge, there is a separate way for either direction).

The reasons behind this 'unpleasant' experience include the following:

- (a) *Project structuring*: Only one private party bid for the project. This was mainly due to deficiency in project structuring, both scope wise and financially. LTTIL bid for the project with the condition that the Athupalam Bridge segment should be bundled with the bypass segment to make it financially viable.
- (b) *Public consultation*: Neither any demand or willingness to pay surveys were carried out nor any initiative was taken towards preparing the users for a high class facility that saved on operational costs like time, fuel, wear and tear, etc. There was no prior public consultation or discussion with opinion makers before deciding to levy toll on the bridge.
- (c) *Biased revenue analysis*: Revenue projections were expected in the ratio of 40:60 from the bypass and the bridge, whereas the investment towards the construction was in the ratio of 87:3. The bridge users were supposed to cross subsidize the bypass users.
- (d) *Delays due to queuing*: The tolling on the bridge had its attendant queuing and waiting time. The public looked upon this as a hindrance instead of improved levels of service.

- (e) *Local traffic:* The Athupalam Bridge was located close to the city limits of Coimbatore. The volume of local traffic was very high. There was an unwillingness to pay toll, especially since they had not paid tolls for the bridge crossing prior to the construction of the new two lane bridge.
- (f) *Multiple trips:* The agreement provided for collection of tolls only on the basis of single trips made across the bridge. It ignored the users that made multiple trips per day. Such users found trip wise toll charges an expensive affair.
- (g) *Toll on existing bridge:* The agreement provided for collection on the existing two lane bridge. After the construction of the new two lane bridge, each bridge was being used uni-directionally. Public objected to the toll being levied on the existing bridge for which LTTIL had not made any additional investment.
- (h) *Enforcement:* Local taxi operators, bus operators, and commercial fleet operators had formed associations to protest against toll collection and were refusing to pay toll. Despite public protest, toll collection continued, but with poor/low compliance. LTTIL had appealed to the government to suitably amend the Motor Vehicles Act to empower a private entrepreneur to enforce toll collection and regulate traffic flow for users refusing to pay the toll charges.

Lessons

In the Coimbatore Bypass case, in spite of the government being responsible for the payment risk, it is not fulfilling its role by taking action towards ensuring toll compliance or compensating for the losses. If the response from the government remains so, future public private road projects would be in jeopardy, as already feared for the forthcoming BOT bridge projects in Kuzhithurai on NH-47, Vaniyambadi and Pachakupam on NH-46 in Tamil Nadu [Financial Express, 2000].

There is no clarity between the government and the developer on the resolution of problems, if the project does get into unanticipated problems. This would be a major deterrent for private players to invest in road development projects. Other fundamental deterrents are perceived risk due to problems in estimating traffic demand and willingness to pay.

Tolls based road projects are demand sensitive. This is more so in urban roads where the willingness to pay is almost nil. Also, the extent of homework to identify various user segments (for example, single trip versus multiple trip users) and develop an appropriate tolling structure is significant. The consequence would be that the construction and maintenance of city roads would be ignored under the toll based road development concept.

This aspect raises the basic issue of sustainability of tolling on the Indian highways. Commercial truck operators (who form the largest segment of road users) have been opposing the concept of tolls since they are already paying motor vehicles tax and a cess on diesel and petrol. They have also expressed concerns that a significant share of their revenues are consumed by tolls. [The Tribune Online Edition, 2002]

Considering the above, annuity based projects rather than toll based seem to have a better future. Annuity based projects are those where the revenue streams are provided to the BOT operator, either based on traffic volumes, or as a pre-determined amount. While this idea directly addresses the unwillingness to pay tolls by the user, it moves away from the economic principle of demand being influenced by the user fees.

The Coimbatore Bypass project also has a lesson for project structuring. in that we cannot resort to 'inappropriate' bundling to make the projects financially viable.

The country's largest road development project, the National Highways Development Project (NHDP), is concentrating on arterial road building with appropriate incentives for quick construction and maintenance. The primary financing is through a cess on fuel (Box 1). The BOT framework has been used to a certain extent. For the BOT projects, annuities rather than tolling seems to be preferred route, though the National Highways Authority of India (NHAI) has reserved the right of tolling.

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Exhibit 1

Map Indicating the Location of Coimbatore Bypass Project

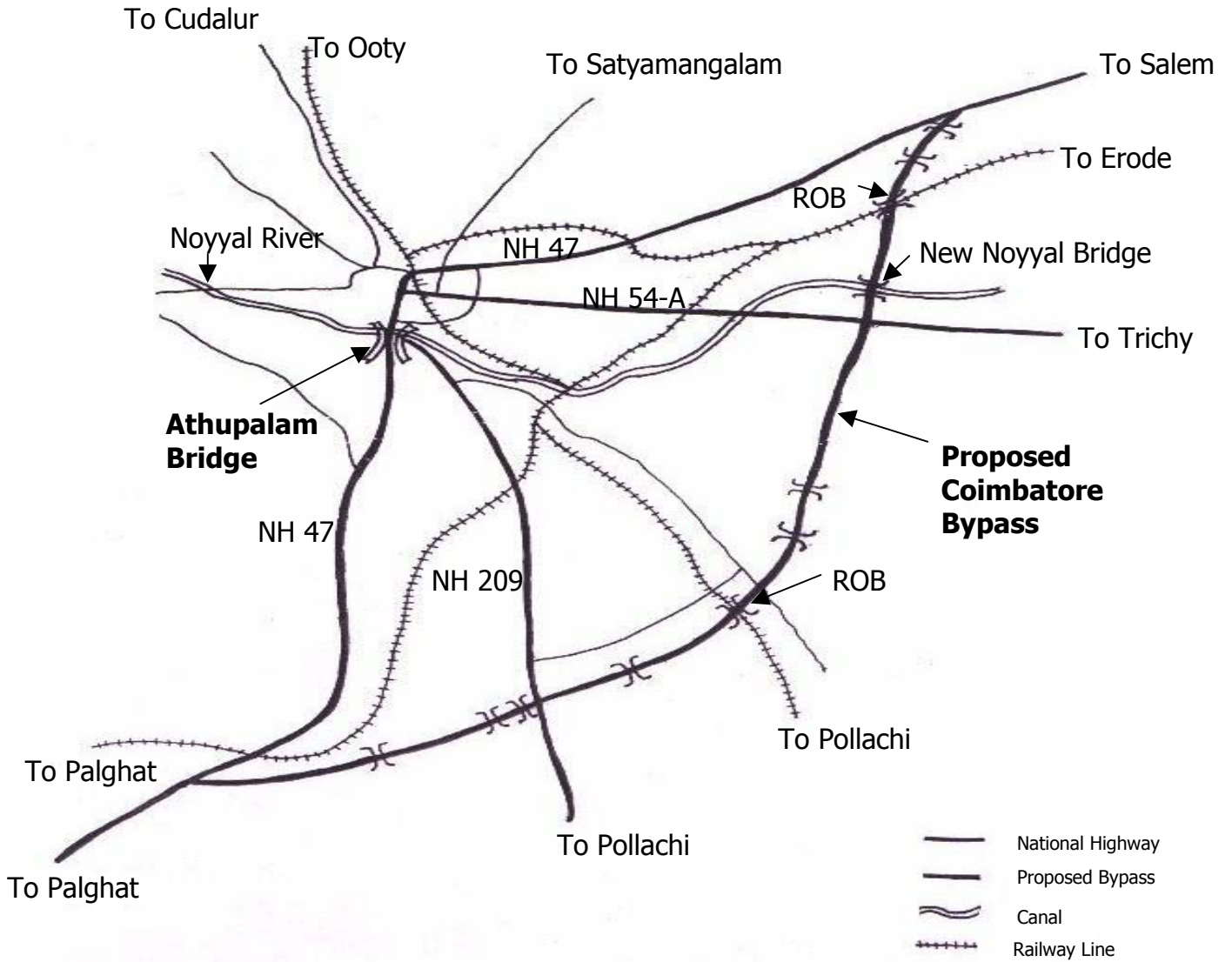


Exhibit 2

Toll Rates as per the Concession Agreement

Category of Vehicle	Toll on Athupalam Bridge (for old and new) (Rs/trip)	Toll on bypass for part use (Rs/trip)	Toll on bypass for full use (Rs/trip)
Car/Jeep/Vans (CJVs)	5	7	19
Light Commercial Vehicles (LCVs)	15	10	28
Buses	15	20	56
Trucks	15	20	56
Multi-axle Vehicles (MAVs)/Other Heavy Construction Equipment	23	30	84

Auto rickshaws, two wheelers and slow moving vehicles are exempt from paying tolls.

Source: Government of Tamil Nadu

Exhibit 3

Profile of Usage of Athupalam Bridge by Different Types of Vehicles up to July 2000

(Trips and Vehicles in '000s)

No of Trips	CJVs				LCVs				Buses			
	% of Trips	Total No of Trips	Total No of Vehicles	% of Vehicles Unpaid	% of Trips	Total No of Trips	Total No of Vehicles	% of Vehicles Unpaid	% of Trips	Total No of Trips	Total No of Vehicles	% of Vehicles Unpaid
1	81.1	3323.0	3323.0	85.8	84.4	1028.0	1028.0	88.2	65.6	1403.8	1403.8	64.9
2	16.1	657.6	328.8	11.8	13.1	159.7	79.9	9.9	10.4	222.0	111.0	10.2
3	1.9	78.3	26.1	1.6	1.8	21.8	7.3	1.3	4.7	99.5	33.2	4.8
4 and more	0.9	38.5	8.5	0.8	0.7	8.7	1.9	0.6	19.3	413.6	61.1	20.1
Total	100.0	4097.4	3686.4	100.0	100.0	1218.2	1117.1	100.0	100.0	2138.9	1609.1	100.0

No of Trips	Trucks				MAVs				Total			
	% of Trips	Total No of Trips	Total No of Vehicles	% of Vehicles Unpaid	% of Trips	Total No of Trips	Total No of Vehicles	% of Vehicles Unpaid	% of Trips	Total No of Trips	Total No of Vehicles	% of Vehicles Unpaid
1	91.27	2418.9	2418.9	91.9	98.9	118.8	118.8	98.2	81.1	8292.5	8292.5	87.9
2	7.14	189.2	94.6	6.6	1.1	1.3	0.7	1.8	12.0	1229.8	615.0	8.8
3	0.84	22.3	7.4	0.9	-	-	-	-	2.2	221.9	74.0	2.6
4 and more	0.75	19.9	4.0	0.6	-	-	-	-	4.7	480.7	75.5	0.7
Total	100.0	2650.3	2524.9	100.0	100.0	120.2	119.5	100.0	100.0	10225.0	9057.0	100.0

*Source: (i) Total no of trips and vehicles is from Toll Plaza data of December 1998 to July 2000. Similar data had been obtained in the one week survey between 19 to 25 November 1999 by Coimbatore National Highway Wing
(ii) % of vehicles unpaid is from the one week survey*

Exhibit 4

Analysis of Toll Collections at Athupalam Bridge from December 1998 to July 2000

(Rs '000s)

Sl No	Type of vehicle	Amount collectable as per agreement ¹	Amount collectable on vehicle basis (irrespective of no of trips made) ²	Amount collectable if concessional toll was accepted (as per the Minister's suggestions) ³	Actual amount collected by LTTIL
1	CJVs	20,486.87	18,432.16	20,422.71	9574.81
2	LCVs	18,272.99	16,757.04	18,240.50	4089.18
3	Buses	32,083.52	24,136.58	28,937.71	1482.01
4	Trucks	39,753.86	37,873.97	39,656.07	11589.10
5	MAVs	2,763.79	2,748.45	2,763.79	1836.04
	Total	113,361.02	99,948.20	110,020.78	28,571.14
	Loss		(13,412.82)	(3,340.24)	(84,789.88)

¹ No of trips multiplied by respective toll rates

² No of vehicles per day multiplied by respective toll rates

³ For vehicles upto three trips per day: No of trips multiplied by respective toll rates.
For vehicles doing four or more trips per day: No of vehicles multiplied by Rs 15 for CJVs and Rs 50 for the other vehicles

Source: A Note on Toll Collection in Coimbatore Athupalam Bridge, Government of Tamil Nadu, September 2000

Box 1

Road Development Initiatives

Considering the heavy demand for quality roads, the central government has been taking initiatives to attract the private sector for road development (Table 1). The government has finalized model concession agreements for large (over Rs 100 crores) and small (under Rs 100 crores) Build, Operate and Transfer (BOT) projects. The primary revenue generation for these BOT projects is through tolls. Due to difficulties and costs of toll collections, the government has also initiated annuity based BOT projects, wherein revenue streams would be provided to the BOT operator, either based on traffic volumes, or as a pre-determined amount. As of December 2000, Ministry of Surface Transport (MoST) and National Highways Authority of India (NHAI) had signed concession agreements with private sector for development of about 20 road projects involving an investment of Rs 1,000 crores under the BOT scheme [Ministry of Road Transport and Highways, 2002]. Since private toll roads were relatively new in India, it was not surprising that the initial projects were bypasses and bridges, with no road stretches being taken up.

The state governments have also been trying to attract the private sector to participate in road development to have access to entrepreneurial skills and private funds. For example, the Government of Gujarat has budgeted an amount of Rs 19,951 crores for road development from the total infrastructural development cost of Rs 116,993 crores until 2010. Out of the road development funds, it has proposed 16 BOT road projects comprising of 423 kms with an investment of Rs 1,414 crores [Government of Gujarat, 1999]. As another example, the Madhya Pradesh Government took the initiative of attracting the private sector on BOT basis for state highway road projects that involved upgradation and maintenance with toll based revenues. Since, the projects were financially 'unviable,' they were awarded on a 'least subsidy' criterion. As of June 2002, the government had awarded 13 projects of about 1,800 kms costing Rs 945 crores, for which the subsidy amount was Rs 460 crores [Government of Madhya Pradesh, 2002].

Out of the 3.3 million kms of roads, the national highways are about 58,000 kms. Though constituting only 1.75 per cent of the total road network, they carried over 45 per cent of the total traffic in 2000-1. As a consequence, most stretches of the national highways are congested. In this context, the MoST, with the support of the Prime Minister, has decided to take up capacity improvements on the national highways, called the National Highways Development Project (NHDP). The NHAI is implementing the NHDP.

The NHDP involves four laning (and six laning in certain stretches) of the (i) Golden Quadrilateral, connecting the four metros of Chennai, Delhi, Kolkata and Mumbai with spurs to the major ports, (ii) North-South and East-West Corridors connecting Srinagar to Kanyakumari and Silchar to Porbandar respectively and (iii) a few other road

stretches. The size of the NHDP is about 14,000 kms and the estimated cost of the project is Rs 58,000 crores (as of July 2002). The Golden Quadrilateral has a length of 5,846 kms, and is expected to be completed by December 2003. The North-South and East-West Corridors cover the length of 4,000 and 3,300 kms, and are expected to be completed by December 2007. The confidence that the government has for the completion of this project is largely due to the 'ring fenced' funds from the cess on petrol and diesel. This fund in turn has enabled leveraging other funds. The financing plan of the NHDP is presented in table 2.

Table 3 gives a profile of the BOT projects under the NHDP. These projects constitute 8.23 per cent of the total length and 12.12 per cent of the total project cost of the NHDP. The rest of the project is to be executed in the traditional contract mode.

Table 1

Government Policy Initiatives for Attracting Private Investment in Roads

- Private sector allowed to retain toll money
- Government will carry out all preparatory work including land acquisition and utility removal. Right of way (ROW) to be made available to concessionaires free from all encumbrances.
- NHAI/Government of India (GOI) to provide capital grant up to 40 per cent of project cost to enhance viability on a case to case basis
- 100 per cent tax exemption for five years and 30 per cent relief for next five years, which may be availed of in 20 years.
- Concession period allowed up to 30 years
- Arbitration and Conciliation Act 1996 based on UNICITRAL provisions.
- The Housing and Real Estate development which is an integral part of the Highway project will be treated as infrastructure and will be entitled for same tax benefits
- NHAI permitted to participate in equity in BOT projects upto 30 per cent of total equity.
- Duty free import of specified modern high capacity equipment for highway construction.

Source: <http://www.nhai.org/govtpolicy.htm>

Table 2
Financing Plan of NHDP

Source	Amount (Rs Crores)
Cess on Petrol and Diesel	20,000
World Bank/Asian Development Bank Loan Assistance	20,000
Market Borrowings	12,000
Private Sector Participation	6,000
Total	58,000

Source: www.nhai.org

Table 3
Profile of BOT Projects in the NHDP
31 July, 2002

Category	Promoter	Revenue Source	No of Contracts	Length (Kms)	Total Project Cost (Rs Crores)
Toll Based Projects	Non-NHAI	Tolls	7	435	3,314
Annuity Projects	Mostly Non-NHAI	Annuity	8	476	2,354
NHAI Driven SPVs	NHAI	Tolls	7	241	1,364
Total			22	1,152	7,032
Total under NHDP				14,000	58,000
Per cent of BOT Projects to Total under NHDP				8.23	12.12
Per cent of BOT/Toll Based Projects to Total under NHDP				4.83	8.07

Source: www.nhai.org