

ONE WAY TOLLS – NON-STOP GO

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ABSTRACT

India has allocated almost over Rs.20,000 Cr towards Road development in the year 2012-13 alone. Most roads already have tolls to provide for partial recovery of this expenditure. These tolls, apart from the collections, also cut down the throughput speed with which one can move on highways introducing a waiting time of almost 3-4 minutes each way. This paper discusses a comparison of international toll booths and how most of them have migrated to a one way toll collection and thereby cutting down this 3-4 minutes wait by over 75%, thereby saving precious time, fuel consumption and collection costs, while keeping revenue collections intact. This is therefore going to reduce the overall public expenditure, public discomfort while keeping the state revenue intact.

Keywords: Public Policy, Traffic, Roads, Environment, Infrastructure.

I. INTRODUCTION

The Roads are improving fast. The traffic is growing even faster. So how does one keep the road infrastructure growing faster than the traffic rate itself, so that we can materially benefit. As our road infrastructure is growing, the money spent in creating these roads is collected through Toll charges at various places. The toll charges that are collected are indeed used for further infrastructure development of our cities and towns. The toll booths that we have in India are for various purposes. Typically they are:

- Maintenance of a bridge or a portion of a highway, typically 20-50 km
- Entry toll into a city, region or state that uses funds for development & maintenance.

In all these cases, we observe that toll is collected, typically on both sides of the road, with toll varying from Rs.10, to Rs.100 for a car, and going upwards for a multi axle vehicle. For the purpose of this paper, we will consider the second type of tolls, while the same can be applied to the first type of toll booths as well.

II. THE CASE: ENTRY TOLLS IN MUMBAI

Typically, in a metro city, like Greater Mumbai or NCR, one has to pay a toll at least twice a day, which averages to anywhere between Rs.50 – Rs.70 a day. On an intercity travel, one has to pay toll 3-4 times for a 6 hour travel, ranging from Rs.100-Rs.200 if one passes through roads that have been managed well. So when will the tolls leave us behind? Maybe never. Several Toll plazas

carry a 15-20 year contract for recovery of toll charges.

A look at what happens at a Toll: For the purpose of this article we will consider a metro toll, and specifically tolls in Mumbai. Mumbai has five toll booths that enable entry into the city. These five booths create a closed area with restricted road access. With the already thrown open flyovers, the sea link and several more upcoming flyovers and development links in progress, this toll collection is going to continue. A typical toll booth has a wider road than normal that can accommodate about 6 lanes to get into Mumbai and another 6 lanes to get out of Mumbai. At peak hours, the toll takes about three minutes to cross over while during off peak hours maybe one minute, and rare happy hours takes 30 seconds. If you are not a pass holder, the stress of taking out currency, handing it over, and collecting the change, and moving on, apart from the blaring horns all around asking you to speed up are a constant push. So at the end of the day, one spends almost 6 minutes (3 each way) during peak hours.

III. AN INTERNATIONAL COMPARISON

A look at some of the prominent international tolls reveal that while some of them have two way toll, most popular ones have one way tolls only. Google maps images are displayed below:

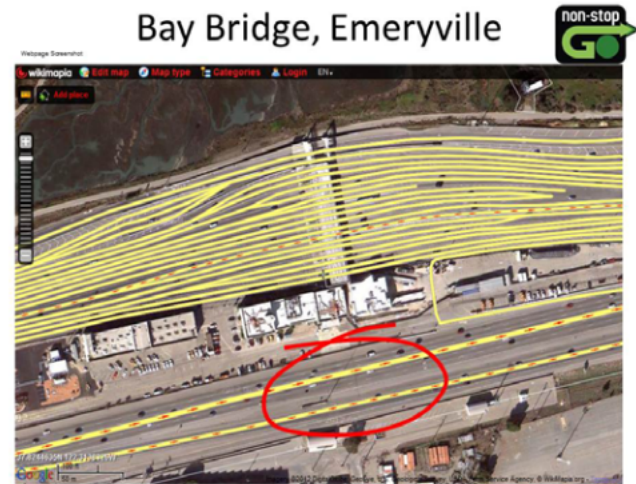


Fig.1 Bay brige, Emeryville



Fig.2 Holland, tunnel, NY

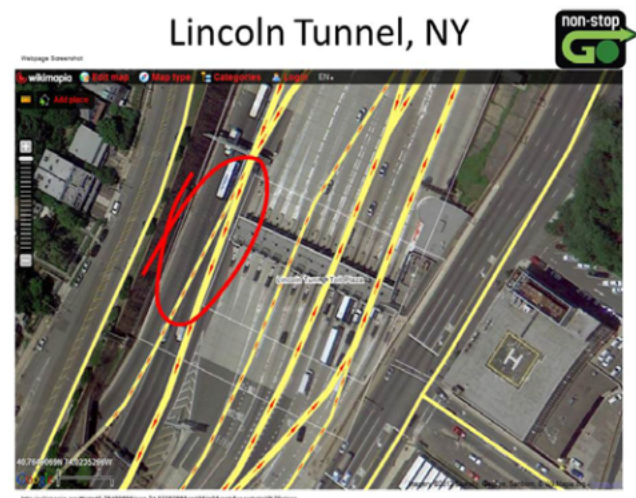


Fig.3 Linvol tunnrl,ny



Fig.4 Richmond-san rafeal,MD

IV. THE PROPOSAL

What if we collect toll just one way and leave the other way free? Collect double the toll amount, and collect only inward into Mumbai, and keep outward free.

So how does this happen. It's simple. No change in infrastructure needed. No change in process needed. The only change is in the toll amount. Just charge double the amount but collect just one way. So what are the concerns:

(a) The Money?

Collect double the toll charges one way, leave the other way free. So this keeps the total collections for the toll collector same. This keeps the traveler spending the same amount. Because, every traveler, that comes into Mumbai goes out at some time or the other. So overall, it's even.

(b) So what's the catch?

We save. We save. We save. What? Time, Energy, Fuel, Sound pollution, Manpower. How?

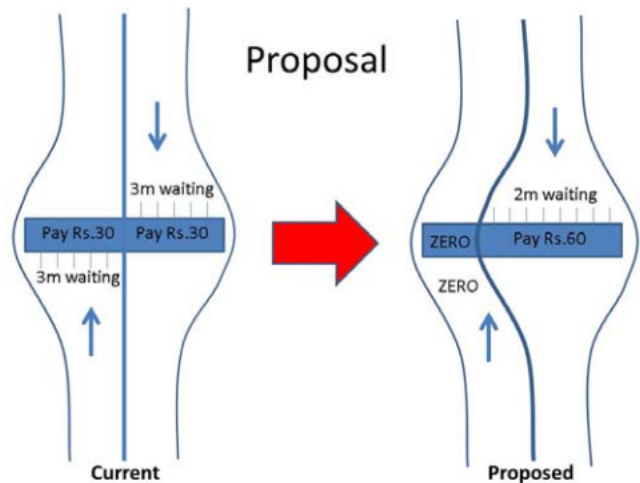


Fig5 Proposal

Time: One way toll time of 3 minutes is directly saved as the return is open. Besides, since there is space for 6 lanes on the return path while we need only 3, we can use 3 additional lanes to collect onward toll, thus increasing toll collection lanes for inward journey to 9 booths instead of 6. This will save an additional 1 minute. So 4 minutes peak-time saved per vehicle.

Energy: Human energy, stress, blowing horns, finding change, dealing with the toll window, is all an inherent saving. So many man-hours.

Fuel: Four minutes fuel saved in stalling-1st gear can run your car almost 4 kilometers at 60 kmph which may amount to definitely 100ml of fuel per car per day. So national fuel saving is imminent.

Sound pollution: A toll booth is one of the noisiest places next to 4 way crossing signals. So half the noise pollution is gone.

Manpower: A typical toll in Mumbai employs over 100 people, which includes toll collection agents, bouncers, relievers, assistants, officers, etc., as this is a 24 hour operation. So once the lanes become half, or even $3/4^{\text{th}}$ this manpower reduced to 50 or 75. So toll collection costs reduces by half.

So whats the total saving? Add up all these. Isnt this a WIN-WIN ? Rather a WIN-WIN-WIN ?

Traffic, or general public wins as it gets smoother. **Government** wins as there is no change in earnings. **Collection** agent wins as collection costs are lower.

So what are we waiting for!!!

V. CONCLUSION

So now going back to the types of toll gates, the three types.

- (a) First the toll gates which cover maintenance of a bridge or a stretch of highway. We can identify, one direction, say, northward and charge toll only for the northbound traffic. Some of our roads also have non-toll alternatives. So this may increase northbound traffic on the non-toll roads. But this is a minor challenge.
- (b) Second, for city entry tolls, it's much simpler. Choose just the entry for toll charges.
- (c) The return can be left free of toll.