INTERNATIONAL JOURNAL OF ADVANCE RESEARCH AND DEVELOPMENT

(Volume 3, Issue 1)

Available online at www.ijarnd.com

Are Automotive Related Laws of Singapore the Solution to Bengaluru's Traffic Problems?

Deepika Pachisia, S. Siddharth

[1, 2] *School of Business Studies and Social Sciences, Christ (Deemed to be University), Bangalore, Karnataka*

ABSTRACT

The lack of effectively supervised development in Bengaluru, the capital of Karnataka has made got itself gridlocked. People spend sizable amounts of working hours stuck in traffic. The existing efforts from the government's side to tackle this problem have little or no effect in curbing traffic. The main purpose of this paper is to offer more solutions to tackle the prevailing traffic problems. The concepts behind the solutions offered are mainly derived from that of Singapore's initiatives to curb traffic over the years. Why Singapore is because the island city-state has managed to show tangible results through their initiatives like COE, ERP, ARF. Most of the solutions are derived from the Singaporean legalities with relation to ownership of automobiles.

Keywords: ***Gridlock; COE-Certificate of Entitlement; ERP- Electronic Road Pricing; ARF-Additional Registration Fee.***

NEED FOR THE STUDY

Bengaluru is stuck in traffic jams. The Karnataka state capital is grid locked. There is a common saying in the city which goes like," if you want to reach fast, walk". Now, this is not a good sign. A report suggested that a citizen of the city spends more than 240 hours stuck in traffic every year (BBC, 2016). These delays cost the city 65 billion rupees a year. Many initiatives have been implemented by the government but nothing seems to be working because this effect of the initiative is offset by the 3500+ new vehicles that flood the roads on a daily basis. In fact, car use is increasing at an alarming rate; therefore there is a hard felt need to rectify this situation at the earliest.

OBJECTIVES

To understand the traffic problems the city of Bengaluru faces

To understand what measures the Singaporean government has taken to control traffic in the country to examine if the implementation of these initiatives in Bengaluru will help curb traffic problems

ASSUMPTIONS OF THE STUDY

The local population abides by the law of demand"

- The cars suppliers in the area do not agitate and react negatively when the new initiatives are implemented.
- All residents comply with the terms of section 47 of the Motor Vehicle Act 1988.
- Necessary technology is available in the country to implement certain initiatives

LITERATURE REVIEW

1. Mimi Kirk (Jun 18, 2013) says that in the very start of the article, the author cites an incident of an interview with a movie star who in the end exclaims, "is the moral of the story, don't buy cars in Singapore?" For most Singaporeans, it is not a story but a reality says the author. In this article, the author talks about how the cost Toyota Corolla which cost around $48000 in 2008 rose up to $96000 in 2013. She mentions that the high pricing of cars or this system (making cars costly) means that only 15% of Singaporeans own a car. This helps in maintaining Singapore as one of the greenest urban areas in Asia if not the greenest. She also talks about the downside which is the system has created one of the biggest rifts between the rich and the poor in the country. For most of the population, owning a car is a prestige related thing. Owning a car is luxury. The author also mentions about how the public transport is also of high standards and yet culturally, public transport is not seen as an attractive option compared to a car. (Kirk, 2013)

2. Singapore legal advice (March 22, 2017). In this page, a step by step process that one has to go through to buy a car in Singapore is given. This mainly focuses on what one has to pay for? 1)Registration fees;2) Goods and Service Tax;3)Certificate Of Entitlement;4)Additional Registration Fee;5)Carbon Emissions-Based Vehicle Scheme;6)Road Tax;7)Special Tax. (Singapore Legal Advice, 2017)

3. Asawari the author emphasizes on how critical the problem of traffic congestion is. Then the focus shifts on how the Singaporean government curbed traffic in the early 70's. The implementation of the Area Licensing System (ALS) which later was replaced by Electronic Road Pricing (ERP) in 1995. Initially, people referred it as "everyday rob people" however the public later adapted and played a vital role in controlling traffic congestion. Apart from the payable components mentioned in the previous article, the currently effective initiative-ERP is a bold and successful in managing traffic congestions in Singapore.

4. Daniel Shane (October 24, 2017) says buying cars in Singapore is hard and is going to get harder. Singapore says that it won't allow any increase in the number of cars on its roads as a remedy to cut traffic congestion. Drivers need to get a special certificate from the government which can cost up to 50000 Singapore dollars. Monthly auctions happen for them. Currently, the increase in a number of private cars that the government allows is just 0.25% per year. The government plans on bringing that down to 0% by February 2018. This means that resident aspiring car owners will have to wait for other drivers to give up their certificates in order to get permission for themselves. On the other hand, the government is spending extensively on building and upgrading public transport network in the upcoming years.

5. Nitin Pai (Dec 1st, 2016) has introduced the basic concepts which create the congestion on roads. Firstly various road widening projects which most likely turns into an uneven road width that causes congestion, whereas roads circulation is stuck by numerous blockages like potholes, construction materials, parked cars, auto rickshaw stands and street vendors not only disturb the traffic flow but endanger the safety of motorist and pedestrians. In a city like Bengaluru (India) many domestic animals must be moved away from the roads which hinder the flow. The lack of markings and lanes create no discipline in their driving manner which also occurs to the major reason of right turns queuing where all the vehicles wait to turn right not in a queue but side by side in a right turning arc leading the rest of the vehicles blocked.

6. Kashif Masood (Dec 7th, 2016) says that traffic jams have become a way of life for local citizens and explains his personal experience in this city. The author puts forwards the words of traffic and transport expert Prof MN Sreehari who stated: "traffic is a mess here". Bangalore traffic moving speed has been reducing rapidly from the year 2005 and a report says that an average number of citizens are stuck in traffic for 240 hours. The author states that the condition has taken place due to the unplanned and rapid growth of the silicon valley of India (Bengaluru). The sudden increase in population and a huge migration from all over India has increased infrastructure requirement which has failed to keep hold of people. Addition to the problems of slow metro construction and delay of deadlines have caused major traffic problems but the very fact of one-third of the city roads are taken away by parking which leaves no space to move.

7. PTI (November 20th, 2017) mentions the battle between Singapore and its traffic gridlocks. Singapore wants to avoid the monster jam by taking forward the tough approaches. To curb the rush hour jams and distinguish among the ones who need the car for work or a status symbol. The authority introduced COE (Certificate of Entitlement) that every car owner must bid for 10 years, the cost of COE fluctuates depending on demand and this certificate being valid only for 10 years must be renewed. Hence increases the cost of car ownership. Another alternative is charging tolls on private cars during

busy times which reduce traffic congestion during that time. The Government has planned to spend about 28 million Singaporean dollars to execute the initiatives and tough policies to upgrade the Public Transport Networks.

8. Push Jun You (October 25th, 2017) enlightens us with the vehicle population growth and the addition of roads. Even after rapid development, the roads aren't enough to handle the vehicle population growth. Singapore consists of about 12% of roads in the total land area and increasing the number of roads isn't a sustainable solution to ease traffic.
   Some of the policies like CAR-LITE Policy are taken forward to tackle the situation. The government has decided to make car ownership expensive by introducing COE which every individual must bid for to use their cars for 10 years and after 10 years they must renew it. The cost incurred will make the purchase more expensive and fewer purchases. Singapore also introduced ERP (electronic road pricing) which helps to reduce the demand for using heavily used roads and reduce traffic as the surcharge discourages drivers to use these roads.

9. Srikanth Ramakrishnan (Jan 10th, 2017) has released the revised master plan of Bangalore development authority for 2031 for the Bengaluru city. The Revised master plan has specific future transportation development plans that are as follows: Development of Road networks- Improving the existing road system and adding more roads to the urban areas by road hierarchy Improving Road transport-Improving public transport is important as they carry about 70% of the traffic in the city. The plan mainly focuses on the bus rapid transit, metro and monorail projects and commuter rails. Transit Oriented Development (TOD)-.The TOD is to eliminate the last mile connectivity and give commuter easy access to public transport. Provision of freight Movement and logistic hub-. This problem alone adds large congestion in the city, therefore to limit movement of freight during day time which will ease traffic and increase the productivity of good. Reorganise Interstate bus and rail hubs -Intra-city transport will be required to reorganize its transit point and lines that cater this to decentralize network and not congest into one particular area. Making Bengaluru pedestrian friendly-BDA is focusing on setting up pavements under the tenderdure project within and outskirts of Bengaluru Making Bangalore Cycle –friendly-The plan has made provision of cycle lanes which will consist both lanes and the parking lots under this point From the literature review we understand that some of the concepts prevailing in Singapore are very much relevant in solving the problems that the Karnataka state capital is facing. Possible measures that can be implemented in Bengaluru:

   The transport authority of Bengaluru can adopt the following concepts that prevail in Singapore:

   1) Certificate of entitlement (COE): Anyone who wants to buy a new car has to obtain a document called the certificate of entitlement. The COE represents a right to vehicle ownership and a right to use road space for the duration of 5 years. COEs are issued through competitive biddings twice a month. After the term is over, the bearer may choose to deregister their vehicle or revalidate for another term of 5 years. This strategy will reduce the number of new vehicles that flood the roads on a daily basis.

   2) Additional registration fee (ARF): The ARF is valued at 100% of the Open Market Value. This will be initial implementation. After sometime, slabs similar to that of income tax can be set based on market dynamics. Partial repayment of ARF is done during the time of deregistration. What percent of the ARF initially paid that is returned, is based on the age of the car.

   3) Carbon Emissions based Vehicle Scheme (CEVS): under this initiative, the government takes into consideration the number of carbon emissions. If cars emit low carbon emissions of less than or equal to 160g/km, the owners are entitled to a rebate (on the ARF payable) that ranges from Rs.200000 to Rs.800000. meanwhile, car owners will be penalised with a surge charge that again ranges from Rs.200000 to Rs 800000.

   4) Apart from all the above, owners are required to pay road tax and a special tax is imposed on owners who's cars run on diesel. The general idea behind the above concepts is that these make ownership of a car costly. These make car ownership a luxury.

   5) The transport authority of Bengaluru can start of by implementing a permissible vehicle growth rate. Over time it can reduce the rate by controlling the amount of Certificate(s) of Entitlement that is issued monthly. This means that resident aspiring car owners will have to wait for other drivers to give up their certificates in order to get permission for themselves.

6) Electronic road pricing (ERP): The idea behind ERP is to pay as per the use road. Charging is done as per time, location, traffic flow. ERP prices shall vary from 0 to Rs.200. Charging this may make people choose other transport options most preferably public transport. The technologies required for this to be implemented are In Vehicle Units in cars and ERP gantries.

CONCLUSION

Mere expansion of roads and building metro lines will not be sufficient to reduce traffic in the city. By doing this the government is just trying to accommodate car usage rather than reducing it. We see that the existing efforts of the local government are not enough to curb traffic. Careful and flawless execution of the suggested initiatives will prove to be useful. While some initiatives like the issue of Certificate of Entitlement and implementation of ARF show immediate effect (can be seen on the number of cars that hit the road), initiatives like Electronic Road Pricing and Carbon Emissions based Vehicle Scheme will help in regulation of the number of cars that use roads despite car ownership becoming a luxury.

REFERENCES

1. (n.d.). Retrieved January 2018, from Land and Transport Authority of Singapore: https://www.lta.gov.sg/content/ltaweb/en/roads-and-motoring/owning-a-vehicle/costs-of-owning-a-vehicle/tax-structure-for-cars.html
2. (n.d.). Retrieved January 2018, from CNN Money: http://money.cnn.com/2017/10/24/news/singapore-car-numbers-limit/index.html
3. (2013, April 15). Retrieved January 2018, from Blogspot: http://transportpolicy2013.blogspot.in/2013/04/singapore-traffic-congestion-solution.html
4. (2016, December 7). Retrieved January 2018, from BBC: http://www.bbc.com/news/world-asia-india-38155635
5. (2017, march 22). Retrieved January 2018, from Singapore Legal Advice: https://singaporelegaladvice.com/law-articles/buying-a-car-in-singapore-a-comprehensive-guide/
6. Kirk, M. (2013, June 18). Retrieved January 2018, from City Lab: https://www.citylab.com/transportation/2013/06/singapore-making-cars-unaffordable-has-only-made-them-more-desirable/5931/
7. Pai, N. (2016, December 1). Retrieved January 2018, from Times Of India: https://timesofindia.indiatimes.com/city/bengaluru/Eight-fold-path-to-decongest-Bengaluru-roads/articleshow/55717365.cms
8. PTI. (2017, November 20). Retrieved January 2018, from Economic Times Auto: https://auto.economictimes.indiatimes.com/news/passenger-vehicle/cars/singapore-rolls-out-tough-measures-to-keep-cars-off-the-roads/61722194
9. Ramakrishnan, S. (2017, January 10). Retrieved January 2018, from https://swarajyamag.com/ideas/7-initiatives-that-may-transform-bengalurus-transport-infra-by-2031
10. Yip, I. R. (2015). Singapore law on automotive emissions standards and automobile product liability. *Asia Insurance Review.*

