

# GAUTENG FREEWAY DEVELOPMENT AND THE IMPACT ON FREIGHT LOGISTICS

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## ABSTRACT

Traffic congestion remains an issue of major concern for all South Africans and is a problem that requires resolution should we not wish to add to our travel time each year. This paper explores tolling as a possible solution - with money generated from tolling utilised for road maintenance and upgrades. More importantly, effective and intelligent tolling can shape driver behaviour and benefit logistics and supply chain management immensely. Whilst this perspective remains largely unpopular and emotionally charged, the author is of the firm belief that if we can achieve the shift towards efficient public transport and/or higher density private passenger transport (i.e. sharing), congestion can be avoided and the life of the Gauteng Freeway system can be extended. If not, more than 90% of freeway usage in Gauteng will remain by passenger vehicles that use the national infrastructure investment without paying, only to win a few minutes of convenience whilst they hamper the economy.

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For the last 2 years, since the investment of R17.5 billion in the Gauteng Freeway Improvement Project (GFIP), I have been one of many happy users of the Pretoria / R21 upgrades. Traffic congestion on this major economic arterial has largely disappeared. Unfortunately, users of the N12 are the unfortunate victims of implementation delays. In addition,, peak-time commuters on the N1 system are facing increased travelling time of approximately 15 minutes every year as the aorta of the economic heartland has reached its design capacity once again.

The investment and resulting improvement in traffic flows have been great news for transport, logistics and supply chain service providers. Less traffic congestion clearly benefits our operations due to reduced unproductive time spent between loading and off-loading points. More importantly, less congestion improves the predictability of transport and distribution activities. The better we can predict how long a route will take, the better we can plan for multiple sequential activities – and thus increase the workload on vehicles to reduce cost. When roads are congested, freight operators have to assume the worse to mitigate potential customer service failures – and that means planning for the maximum possible wasted time.

Unfortunately, trucks are often blamed for congestion – and most people may remember the call for peak-hour truck bans. In reality, less than 10% of urban traffic is for freight movement. Furthermore, the impact of inter-metro traffic, access onto and from highways is significant. According to studies, up to 30% of road capacity is consumed by short-distance usage.

All things considered, we are likely to head for the same chaos we experienced before the GFIP investment. This may sound pessimistic and even alarmist, but the simple realities of economic growth and insufficient further investment predict the laws of traffic congestion. One solution to the problem is to implement effective tolling. Yes, you read correctly: Gauteng Tolling is a possible solution.

I am in no position to argue whether the e-tolling as proposed is the most effective toll collection system or that the proposed toll charge was correctly calculated - that is for other experts (or lawyers!) to review.

It seems a real pity that the toll income needs to be used to fund law enforcement and that the user cost of administering toll is escalated by inadequate licencing systems integration. Unfortunately, government has not provided these essential services which are critically required to reduce lawlessness on our roads.

I do, however, believe that tolling needs to be used to collect money from the users of the road to for the maintenance and upgrading of the road. More importantly, I believe that effective (and intelligent) tolling can shape driver behaviour and benefit logistics and supply chain management immensely.

This opinion does not make many friends in the road freight community, who argue that an increased fuel levy is a more appropriate mechanism to collect revenue to pay for roads. For that community, this argument suits since it is much more efficient and lower risk. Unfortunately, with no guarantee that fuel levies will be used for road maintenance or further expansion, this does not offer the most effective solution. The simple reality is that fuel levies currently collected (amounting to R42.8 billion per year) become part of the tax revenue and is applied as prioritised by National Treasury (which is not on road maintenance and/or upgrading). And importantly, using the fuel levy to recover costs also eliminates the opportunity to shape traffic behaviour to benefit the supply chains that we operate in.

The opinion to support tolling does also not win many friends amongst those who must consider the impact on their personal wallets. Simply put though, the argument that 40c/km will increase travel cost significantly is incorrect and short-sighted. Incorrect, since cost only increases by the portion travelled on toll roads – which is probably only half of the 40c/km for most people. Also, if the fuel levy increases, it will impact distances travelled by all. Short-sighted since the total cost of transport is significantly more if capital, maintenance and even taxes used to build and maintain roads are considered.

The simple reality is that the Gauteng Freeway system will only be able to support expanding economic activity if less of its capacity is consumed by single passenger vehicles that are not willing to pay for the privilege of using the roads.

A similar opinion entitled “Considering e-tolling soberly”<sup>1</sup> as published in “Civil Engineering, June 2012,” by Gerard de Villiers (highly respected transport and logistics industry specialist) includes some “serious” facts:

- Mobility is a prerequisite for economic development and prosperity.
- More and improved roads attract additional traffic, and in particular use of private cars.
- Public transport, as alternative to the use of private cars on the freeways currently, cannot be taken seriously.
- Congestion is largely symptomatic of unbalanced modal use, and spatial imbalances inherited and left uncontrolled, will eventually choke arterials to a standstill.
- Trucks are, and will increasingly be the victims of growing congestion, with spiralling logistics costs of distributing consumer goods in urban areas.
- Tolling is well-researched and globally accepted as a transport economic instrument to not only change driver behaviour and source funding (especially for rural or interregional roads), but also to serve as traffic management tool (especially for urban or intraregional roads) such as the London congestion charging scheme. “

The latter two facts are specifically relevant to the freight logistics community in Gauteng, of which Imperial Logistics is a key stakeholder. The opinion supports that trucks are the victims of congestion and that transport and distribution costs are adversely affected by it. The opinion also supports the idea that tolling can serve as a traffic management tool. Logistics service providers could be incentivised to use roads in off-peak periods, as proposed through the night-time discount of the Gauteng e-Tolling system.

De Villiers further argues that “the benefits of tolling include the following: users pay for what they use, funding of capital investment, travel demand management (such as smoothing peak hour demand with differentiated tariffs), support of public transport and change of behaviour. The benefits of time saving, reduced congestion and lower operational costs clearly outweigh the costs of the toll. There are indeed other transport economic instruments for funding, such as fuel levies, annual licence fees and subsidies, but none are as effective as tolling for traffic management. “

He also adds that “tolling is probably the most effective instrument to encourage private vehicle users to switch mode from their cars to the Gautrain or to other forms of public transport. “

If we can achieve the shift towards efficient public transport and/or higher density private passenger transport (i.e. sharing), congestion can be avoided and the life of the Gauteng Freeway system can be extended. If not, more than 90% of freeway usage in Gauteng will remain by passenger vehicles that use the national infrastructure investment without paying, only to win a few minutes of convenience whilst they hamper the economy.

## **REFERENCES**

1. De Villiers, G, June 2012. Considering e-tolling soberly. Civil Engineering