The e-tolling debate: Stop swallowing your own propaganda

Judging by the reaction and comments on my article two weeks ago: The DA and their roads mess, a significant proportion of readers (or at least those that commented) feels that tolling of certain roads amounts to double taxation if it is considered that most of these road users are individuals or companies that pay tax. Add onto this the fact that all these road users also pay the fuel levy every time they fill up and the argument against tolling becomes explosive. This was highlighted in the reaction to last week's article: Profit the root of all evil? But is this argument correct? This is the matter that I would like to expand on in this article.

A friend of mine (and one of the topmost road engineers in the country) recently provided me with this quip by JF Kennedy: "*Wealth does not create roads, but roads create wealth*". In our case, I definitely believe it is true. But our road network is under serious threat and with it the wealth it creates. South Africa boasts 153 719 km of paved (mostly tarred) roads ranging from normal dual lane roads up to eight lane divided highways. The CSIR estimated the asset value of these paved roads at R800 billion in 2010 – I suspect this is the depreciated asset value. The current replacement value is estimated at close to R4 000 billion. In addition, we have around 593 259 km of gravel roads. This extensive road network is second to none in Africa.

Our roads create a serious dilemma for government in spite of the wealth they bring. This dilemma is two fold: (i) there is simply not enough money to maintain the network in an appropriate state of repair and render the level of service demanded by road users and (ii) significant money is needed for construction of new roads or upgrade of existing roads (i.e. expand capacity of the road to reduce congestion or upgrade from gravel to paved road). Given the shortage of funds for maintenance there is (at all times) a trade-off between maintenance and new build. And even for new build, there is a further trade-off between allocating money to (mostly urban) roads that are highly congested versus (mostly rural gravel) roads that are in need of upgrade to paved standard.

Let me expand on the shortage of funds for maintenance of the existing road network. My friend the road engineer estimates that in order to maintain all our paved roads in a decent condition will require a minimum of R62 billion per annum. If however one applies the guidelines of the World Bank (2.5% of replacement cost per annum) this figure increases to a staggering R100 billion per annum. The real need probably lies somewhere in between? For our gravel roads the minimum requirement is estimated at R38 billion per annum. Thus between R100 billion and R140 billion in total is

needed per annum for maintenance. These figures must be compared to the actual spend on maintenance of our roads.

It is difficult to obtain accurate figures for actual maintenance spend, but provinces and municipalities spent R20.1 billion in 2008/09 (as reported by National Treasury). Take note, this figure may include overheads as well as an element of new build, so it is difficult to ascertain what the actual maintenance spend was. I should also stress that this is one particular year and it may be more or less for later years. Municipalities and metros can supplement their funding received from the Department of Transport through other subsidy funds and their own internal funds. The combined impact of such supplemental funding can be significant and can fluctuate greatly year on year. To the figure of R20.1 billion, we need to add SANRAL's expenditure on maintenance. In 2014/15 SANRAL received R3.4 billion from the Department of Transport for current operations. Let us assume that the majority of this was used for maintenance. This would again be supplemented by a portion of tolling income on the tolled routes. I would thus estimate the total figure spent on maintenance ranging between R25 billion and R35 billion per annum (as a first order estimate). Can you spot the problem? This illustrates the first dilemma referred to above: there is simply not enough money being spent to maintain our roads network.

This shortfall is responsible for the fact that the overall condition of our roads is steadily deteriorating. I am sure that most of the readers (especially those in the countryside) are witnessing this deterioration first hand. Accurate figures are not readily available – only 37% of proclaimed roads' condition is known (through regular engineering assessments). It is pertinent to note that surfaced roads in this country are structurally designed for a 20-year lifespan, after which the road is typically reconstructed. Many of the surfaced roads in this country are approaching lifespans of 50 years and more. These roads are even more sensitive to proper and adequate maintenance. The reduced maintenance expenditure on our roads creates what is called a "maintenance backlog". Theoretically, the maintenance backlog is the amount of capital that must be spent (right now) to restore the condition of our road network to the standard it should have been. It is very difficult to measure or determine the maintenance backlog but I believe most experts will agree that it ranges between R50 billion and R100 billion. The worst thing about the maintenance backlog is that it increases annually and the rate of this increase is starting to accelerate.

The above figures leave one with a sense of despair. They should convince everyone that we have a serious funding problem. Take note: we are talking here of preserving what we've got. Forget new roads or upgrades of roads. Any money that is diverted to new build worsens the maintenance backlog. Of course, this situation is further worsened by poor management, poor execution and corruption. But even in an ideal world with excellent planning and execution and no corruption, we would still face a dire situation given the numbers above. The question is: can government supplement the funding available for maintenance of the roads to arrest this decline and even reverse it?

From the comments to the previous articles, it is obvious that many people believe the fuel levy is the solution to this problem. According to 2012/2013 figures, the fuel levy (at 80c per litre) contributed R40 billion to the tax pool. The fuel levy as it is currently operated, is a general tax. It is not an indirect user pays mechanism for roads users, as it is not ring-fenced for road maintenance or road upgrades. Even if it was ring-fenced, a strong case would be made that its application should be towards the wider transport industry rather than just maintenance of roads. As such it would be used to fund the Road Accident Fund (currently R5 billion per annum), passenger – and goods railway services and bus services to name but a few. Under such circumstances it is highly unlikely that it would be able to contribute more than R10 billion to the annual allocation for roads maintenance. It is important to note that this R10 billion is already included in the figure of R25 billion to R35 billion estimated above.

There is little that differentiates a national fuel levy (ring-fenced or not) from ordinary income tax, other than possibly a slight shift in the taxpayer base. For a fuel levy to start functioning like a user-pays-mechanism it needs to be implemented on a local or regional basis. I do not believe that is feasible in South Africa.

Many readers also believe that an increased and ring-fenced fuel levy is the answer to fund new build. One reader claimed that an additional fuel levy of 5c per litre would have paid for the Gauteng Freeway Improvement Program ("GFIP") rather than the e-tolling mechanism. Indeed, such an additional levy would raise roughly R2.5 billion per annum. If this additional levy was used to finance capital spend, it would contribute around R25 billion – this is a once off amount calculated over a 20-year repayment period. Two key questions are: (i) is this feasible given the already significant pressure to increase the tax base and (ii) is it equitable that the rest of the country must pay for Gauteng's road upgrades? My answer to both questions is an emphatic no. Just by way of further example, we would need an additional fuel levy

of 40c to 80c just to address the maintenance backlog and to start stopping the maintenance gap as illustrated above.

The figures above should convince those people who fervently believe that paying tax and the current fuel levy should be sufficient to overcome our roads problems, that such reasoning is fundamentally flawed – unless of course we are happy with the status quo and the deterioration it brings? I doubt it. All the talk of "double taxation" and using existing funds more efficiently (even if it was used optimally) simply do not wash.

Where will the money needed for maintenance and new build come from? To answer this question I have classified all our roads into four different categories. The answer is different for each of these categories.

The first category is the national roads, under the jurisdiction of SANRAL, but specifically excluding those parts of the national roads that run through the metropolitan areas. SANRAL will continue to maintain these roads using its budget for operations (R3.4 billion) for the non-tolled roads and its tolling income on the tolled roads. As traffic counts warrant, some of the non-tolled roads or sections will be tolled. Over a period of time we should see a greater portion of the maintenance and upgrade costs of these roads to be covered through tolling revenue. These are some of the key economic arterials of our country and I am happy that they will be maintained at world-class standards. These roads make up around 5% of the minimum annual maintenance requirement of R100 billion stated above - so it is one small piece of the problem that is taken care of.

The second category is the provincial roads that also fall outside the metropolitan areas (thus semi-urban and rural). This category includes paved and gravel roads and make up roughly 30% of the minimum annual maintenance requirement of R100 billion. Any form of tolling on these roads is not feasible and this category can only be financed through the fiscus. It is clear that this category will make a strong claim for additional funding from the fiscus given that its current spend (a portion of the R20.1 billion combined spend for provinces and municipalities noted previously) is significantly below the required R30 billion. As a result of this reduced spend, this is the category where the deterioration of our roads are the most visible and already impact significantly on resident communities. Any additional funding from the fiscus must be conditional on improved efficiency and planning and reduced corruption. Alternative funding mechanisms that can optimise the benefit of capital spend and

mechanisms that will enhance the capacity of the relevant authority will be crucial in this regard.

The third category is the standard neighbourhood roads in our towns and cities. This category makes up nearly 45% of the minimum annual maintenance requirement of R100 billion. Direct funding from the fiscus is a portion of the R20.1 billion combined spend for provinces and municipalities noted previously. This may be supplemented by further funding from the fiscus in the guise of the municipal equitable share (at the election of the relevant municipality) and from other municipal sources (property rates and profits on other services). An interesting fact around these roads is that the majority of the initial construction costs are carried by a developer under the township development process and not by the municipality. It is my view that National Treasury will resist any further direct funding from the fiscus for this category. The message is clear: if your municipality is wasteful, inefficient and corrupt, your roads will go to pot! You deal with it – it is not our problem! I believe that the recent local government elections have shown that in many areas, people are starting to deal with it.

This brings us to the fourth Category that is a mixture of national -, provincial – and main municipal roads located in the metropolitan areas. These roads form a complex and interactive web of routes used by commuters on a daily basis. This category makes up around 20% of the minimum annual maintenance requirement of R100 billion. I believe that these roads probably carry close to 80% of the total traffic in the country. As such they are highly congested during peak hours (and beyond?). Due to the complex and interactive routes, there is a significant requirement for interchanges, fly-overs and ancillary infrastructure. This makes the initial capital cost of this category exceedingly high compared to the other categories.

Due to the population density in the metropolitan areas, reducing congestion is not a simple equation of increasing road capacity. Enhanced public transport, enhanced utilisation efficiency and the relative costs of different modes of transport all play key roles. What do I mean by utilisation efficiency? A simple measure of this would be the average number of occupants per private vehicle during peak hours. In most of our metropolitan areas this measure is still relatively low – the single commuter in a private vehicle is still typical of our society.

If we look at funding of maintenance for Category 4, I believe there is not a material gap – combined funding from SANRAL, the relevant province as well as the relevant metro should in most cases be sufficient. It is in the funding of new build and

upgrades that a significant funding gap exists. Optimising efficiency of capital investment requires strong integration and close cooperation between these three parties. Unfortunately such integration is often lacking. This is my strongest criticism against the GFIP and it seems to be one of the stumbling blocks for Cape Town and surrounds.

In my opinion, the strong local flavour of a Category 4 project renders it inappropriate for additional capital funding through the fiscus as it implies cross-subsidisation between residents of different metros. In this regard, one should not only consider the potential impact on the national fuel levy of GFIP, but also a number of large capital projects in other metropolitan areas including Cape Town, GFIP phase 2 etc. We could easily end up with another 80c to R1.00 additional fuel levy. Given the pressures on the fiscus from some of the other categories, I believe this will prove untenable. On the other hand, the high traffic volumes on these roads make direct tolling financially feasible and potentially a strong generator of capital. Historically, direct tolling was not technically feasible due to the complex web of routes etc. Traditional tollbooths would exacerbate congestion rather than alleviate it. Modern technology has resolved these and other problems through e-tolling.

To me it is evident that funding the capital cost of Category 4 through direct tolling is more equitable than funding through the fiscus. Moreover, direct tolling provides a decongestion benefit in that it impacts directly on the "cost of using the road" thereby reducing "demand" – this is the classical economic phenomenon of price elasticity of demand. Direct tolling also enables "time of day" pricing – toll fees can be inflated during peak hours to incentivise commuters to use public transport, travel outside peak hours or take measures to enhance road use efficiency (such as lift clubs). Reduced demand during peak hours due to such measures will result in significant capital cost savings while generating enhanced revenues. This can make significant funding available for public transport infrastructure and running costs. This demonstrates how direct tolling can play a key role in providing integrated solutions that will maximise capital efficiency and economic benefit.

The benefits of any user-pays-mechanism are contingent on the cost and efficiency of the recovery mechanism deployed. We have previously seen public claims around the cost of the e-tolling mechanism. I believe these claims are unrealistic and over stated. This belief is rooted in my own experience of the quality of the roads versus my monthly e-tolling account. It does however remain incumbent on SANRAL to provide definitive and auditable data around these costs to dispel current perceptions and claims.

Most readers will probably agree with my prognosis for the funding of categories 1, 2 and 3. I believe that any notion that existing taxes and fuel levy is sufficient to fund all requirements has been dispelled. It is around Category 4 and the use of direct tolling that opinions will divert most. To me, the various benefits of direct tolling over funding through the fiscus for this category is clear. Given the pressure for further funding from the fiscus on other categories I do not believe the widespread agitation for fiscal funding of Category 4 projects is realistic. If we want meaningful solutions and road upgrades in the metropolitan areas, then direct tolling will have to form part of the solution. It is time for people who are against direct tolling and e-tolling to stop swallowing their own propaganda….