An Economic Analysis of the Gauteng Freeway Improvement Scheme

ARUP

Prepared for:

Provincial Government of Gauteng

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Executive Summary

Headline Findings

1. This report has considered the economic case for upgrading and expanding the Gauteng freeway network. It has applied three methods of analysis:

   - Cost benefit analysis. This is the primary measure of the project's viability and gives a robust indication of the value that the project can deliver to the national economy

   - Micro-economic analysis. This looks at the same costs and benefits but from the perspective of a range of different stakeholders. It notes that within the overall picture of benefit there are losers as well as gainers

   - Macro-economic analysis. This looks at the effect of the project on the national and regional economies, including job creation and economic efficiency effects. It is therefore important from a policy perspective.

2. The **cost benefit analysis** results are summarised in Table ES.1. They shows that the upgrading of the existing network offers significant benefit to cost ratios (BCRs). The project also offers higher internal rates of return to investment (IRRs) than can be achieved on most commercial investments; and the net present values of benefits vs. costs (NPVs) are strongly positive. The project involving new freeways has the higher NPV because the larger network is involved in the assessment. The financial analysis shows the financial benefits to road users, not to the project proponent, while the economic analysis shows the benefits to society at large.

Table ES.1 Economic Cost benefit analysis for a 50c per km toll tariff

Scheme	BCR	IRR	NPV (Rbn)
Upgrade	8.4	37%	209.8

3. All three of the measures, BCR, IRR or NPV, indicate that the upgrading of the Gauteng freeway network was based on sound economic principles. The scheme is set to return society a positive net present value of R210bn over the next 20 years. It has an internal rate of return of 37% which, in itself, is a significant IRR. Finally, and probably most importantly it returns a benefit cost ratio of 8.4. This means that for

each one rand of cost, initial capital works and ongoing maintenance and running costs, society benefits by R8.40.

4. While the tolling approach allows for funding within the current commercial remit of SANRAL, as can be expected the economic benefits would have been even higher if they were to be funded in part or wholly from the National Treasury. This is because tolling reduces user benefits by the cost of the tolling infrastructure. However, this does not take into account the risks attached to the potential increase in tax; the sovereigns credit ratings and thus the sovereigns cost of borrowing. The advantages of tolling are both the user pays principle and that projects will usually be implemented more rapidly than would otherwise be the case. It is realised, of course, that the allocation of funding from the Treasury does take into account the needs and priorities of the country from an economic and social perspective. It should be noted that toll roads are a small portion – currently 3120 km out of about 110 000 km of surfaced roads or 16 170 of national roads – of the national road network and that the remainder of the national road network is non-toll and funded by the Treasury.

5. The advantage of the tolling approach to funding is that it relieves Government of the financial burden of direct funding, forces users to 'feel' the cost of travel, and also provides a valuable tool to optimise the operational management of the network.

6. It should be noted that tolling is not an optimum solution from SANRAL's perspective. It is as an instrument that SANRAL uses to maintain the road network. While tolling may reduce road user benefits – this should be balanced with the consequences of the roads not being in a good condition.

7. However it is sub-optimal in national economic terms. Some form of direct funding approach, even if still channelled through SANRAL as agent, would optimise the economic benefits to "SA (Pty) Ltd".

8. The **micro-economic analysis** is designed to draw attention to the impacts of the tolling system on different categories of users. While the cost benefit analysis shows that the balance is overwhelmingly positive, this section draws attention to the impacts on the following categories:

    - Lower income groups would be unable to afford as much use of the network as other groups and would remain dependent on public transport. Frequent users will be eligible for frequent user discounts.

- Public transport vehicles using the network would have higher costs unless arrangements are made to mitigate the impact on fares. In this instance generous discounts have been proposed. Public transport vehicles will, also, be eligible for frequent user discounts and toll fees are tax deductible.

- On non-congested parts of the network toll payments would exceed user benefits in the early years. The corollary to this is that without the improvements the network would have remained congested and the perceived benefits would not be realised. In addition people travelling in the evening and on weekends would face increased costs.

- Effects on businesses would generally be strongly positive because of the improved accessibility. A very small minority of businesses may suffer losses through reduced passing trade.

- International research experience suggests that in addition to normal accessibility improvements, businesses in a growing economy like Gauteng would benefit from increased efficiency in their labour markets. This may add 30 percent 50 percent extra to conventionally assessed benefits

- Some properties would decline in value as a result of reduced amenity arising from proximity to new or expanded freeways. But this in itself be an opportunity to change the usage of the property and realize a "new" benefit. Many other properties would rise in value because of improved accessibility.

9. The **macro-economic analysis** shows that the investment in upgrading or expanding the freeway network would bring about additional growth in the national and especially Gauteng regional economies. As a result there would be substantial job and business creation impacts over and above those associated with the construction contracts themselves.

Background to the macro-economic analysis

10. Gauteng is the industrial and financial centre of the South African economy. It contributes a disproportionate share to the total gross domestic product and is home to nearly twenty percent the population. One of the potential key constraints to economic growth in Gauteng is an inadequate transport network. There has been a deteriorating rail network, increasing traffic congestion and inadequate public

transport. In addition, the actual quality of the road pavement has been deteriorating because of inadequate maintenance funding.

11. As part of the solution to this problem the Provincial Government of Gauteng, the South African National Roads Agency (Pty) Ltd (SANRAL) and relevant local authorities are proposing to make significant improvements to the freeway network in the province. These improvements include increasing the capacity of the existing network, encouraging the use of high occupancy vehicles and adding new roads where necessary. This is being planned within the ambit of an integrated transport solution, including public transport (rail/BRT/etc) and TDM and ITS.

Freeway improvement scheme consistent with policy

12. These proposals fit well with existing policy. The 1996 White Paper regards primary roads as elements of the country's "economic" infrastructure on which a measurable economic or financial return should be achievable, and where the principle of user charging or cost recovery from direct users would be applied as far as possible. Because of transport's role in supporting broader economic and social development the White Paper also indicates that government would be willing to consider a range of approaches to transport infrastructure procurement depending on the availability of fiscal resources and on the potential impacts on economic development.

13. At the provincial level a range of initiatives has been undertaken in recent years which are resulting in a clearer transport policy framework generally together with other more detailed work that is leading to clarification of the functionality of the different road categories. Policy is still in the process of being formulated however and, as is also the case at the national level, general policy considerations relating to the role of transport in supporting economic and social development have progressed further than specific matters regarding the role of and functional categorisation of different types of road. The main conclusions that are drawn from an analysis of existing policy are:

- The freeways' primary role is to provide support for broader economic integration and social development policies and to help consolidate the Gauteng city region.

- It would be contrary to national and provincial transport policies for freeway upgrading or expansion to be procured in isolation from investment in public transport/integrated with public transport.

- The great majority of road-based public transport relies on routes other than freeways because of it's primarily accessibility, as opposed to mobility, support function.

- The primary role of freeways with respect to public transport is to ensure that the routes identified for public transport priority are not congested with traffic that should be using the freeways.

- The freeways' primary role in terms of the functionality of different road categories is to provide capacity to accommodate growth of private, commercial and freight traffic.

- Road-based public transport work in Gauteng suggests that HOV lanes on the freeways, as part of an integrated approach, could be supported as a first phase in enhancing the 'person movement capacity' of the freeways.

International experience in cost benefit methodology

14. A review was undertaken of recent thinking on the economic analysis of transport projects in other countries. This review benefited from the recent Eddington Transport Study in the UK which was an 18 month long study by the Department for Transport and the UK Treasury of the economic case for investment in transport infrastructure. The conclusions drawn are:

- Prioritise small infrastructure and service improvements before committing to major network expansion because these smaller schemes tend to have the highest BCRs.

- 'Wider Economic Benefits' based on the quantification of labour market efficiency improvements in urban economies can add significantly to the benefits derived directly from the travel time and operating cost savings caused by large infrastructure interventions.

    - Agglomeration benefits and other, labour market efficiency factors, can add between 30 percent and 50 percent to economic benefits measured by conventional methods;

    - Such benefits tend to be highest in conditions of rapid economic growth. Given the high rate of economic growth in Gauteng, the higher end of the range for such benefits could be expected to apply in the case of the freeway improvement scheme programme;

    - The sections of the network most closely supporting concentrations of employment would have the highest incremental gains from wider economic benefits; links that are more specifically inter urban would have lower gains.

- Pricing of infrastructure leads to more efficient network use but may also result in negative agglomeration and other labour market effects because road pricing tends to counteract accessibility gains.

- Monetarisation of environmental externalities helps optimise the choice of intervention.

- National economic benefits are often not realised because infrastructure investment decisions tend to be made on a local or sectoral rather than a national cost benefit basis, or may be constrained by institutional funding mandates. An independent appraisal body for nationally important projects could reduce delays and allow the national benefits of major infrastructure decisions to be better articulated allowing funding decision also to be made on a national basis, and be less constrained by institutional funding mandates.

15. It is in this context that the Provincial Government of Gauteng, SANRAL and relevant local authorities wish to understand the economic implications of upgrading the existing Gauteng freeway network, adding capacity, adding new roads and tolling the entire network.

Appraisal methods used

16. Three types of economic analysis have been used. These are a cost benefit analysis, an analysis of microeconomic costs and benefits, and a macroeconomic analysis. In doing these analyses two options are considered. The first is the so-called 'do-nothing option. This option is based on preserving current asset, minor improvements, and periodic upgrades. There are no capacity increased in this option. The second is the upgrading of the existing freeway network.

17. The freeway upgrade has an initial capital cost of R19.6bn. This would include upgrading public transport facilities, the tolling system and customer service centres.

18. Cost benefit analysis is a means of taking all the direct costs and all the direct benefits of a project and comparing these. It is the conventional method that is used in project appraisal. The outcome of this analysis is the reporting of a net present value (NPV), a benefit cost ratio (BCR) and an internal rate of return (IRR). In doing this one performs both a financial and economic cost benefit analysis. The difference between the financial and economic results is that the financial analysis looks at monetary costs and benefits of the alternatives while the economic analysis includes the costs to society.

19. This latter analysis is done by adjusting for shadow prices and wages and removing the potential distortions caused by taxes and subsidies. A high BCR is usually a good

indicator that it would be possible to raise finance to implement a project. In the case of a private sector investment the good BCR would be part of the business case to funders. If it is a public infrastructure project, a high BCR should give confidence that it is worth funding the project directly from the Treasury.

20. The microeconomic analysis focuses on benefits like greater economic growth, labour mobility and increased efficiencies. The costs would include changing property values, negative impacts on poorer people and potential captive communities and businesses.

21. The third type of analysis is macroeconomic analysis. This focuses on the overall contribution of the project to the national economy. It reports on contribution to GDP, job creation, tax generation, etc.

Funding options

22. A key issue is how to pay for the project. There is a school of thought that a cost-effective way to pay is through a combination of fuel tax and special levies for heavy vehicles, with the revenue from these levies applied directly to freeway expansion. The special levies would be necessary because, while heavy vehicles do the most damage to roads, these damages are not fully recovered in the fuel tax. However, the quantum increase in such taxes and levies make the funding of the road network inequitable.

23. The major constraint on the effective implementation of such a scheme is the financial policy on the part of government that fiscal integrity means that there should be no earmarking of funds. Hence all revenues raised, including the fuel tax, go into a common revenue fund and expenditures are made from this fund. Although in terms of national accounting, government generally raises far more per year in fuel taxes (and licence fees) than it spends on roads, the division of national revenues among the various departmental calls on funds is determined according to economic and social priorities of government rather than the sourcing of the revenue.

24. This is common, but not universal, practice among national governments. Some countries have national road funds that are fully self funding from charges on road users, whether fuel or other sources. Namibia, for example, has a national roads fund to ensure that road construction and maintenance is adequately funded. But the recent economic climate and the increase in fuel prices has left Namibia with a large shortfall in its revenue to fund its road maintenance programme. Ultimately, the amount of money spent on roads should not exceed the economic value as measured in cost benefit analysis.

25. At present in South Africa, road expenditure, including the amounts spent on the Gauteng upgrade scheme, is considerably lower than the cost benefit analysis results show to be optimum. The effect of spending less than is economically optimal is that the national economy grows less than it might otherwise.

26. The political reality of extensive poverty and hardship in the country, as well as the need to address these issues have resulted in historic budgetary allocations in favour of poverty alleviation (rightly so) and at the ‘expense’ of other areas of expenditure – like road maintenance. In consequence while tolling may be the second best way of paying for roads, political and social realities suggest that it is the likely option.

27. There could be certain losses in efficiency as a result of this choice but there is also the potential for gains in economic efficiency. The efficiency loss is the cost of establishing and administering the tolling infrastructure. This would include the actual cost of infrastructure as well as the compliance cost to vehicle owners. Efficiency gains are the imposition of the user pay system and the potential for differential toll tariffs. The first differential toll could see heavy vehicles paying for their fair share of road damage. The second is the opportunity to introduce congestion tolling. The third is the opportunity to implement the project more rapidly than waiting for State allocation of funding.

28. Clearly there is a trade off between equity and efficiency. The least cost way of funding any road project is through a fuel tax, either directly or indirectly channelled to the construction of roads. This avoids all of the costs associated with tolling.

29. It is however not perfectly equitable because all users of fuel would be paying for the project and might not necessarily benefit from the project. In the study an estimate was made of the cost of tolling. It has been calculated that the actual cost of the toll infrastructure adds, on average 8.5 cents per vehicle kilometre for the upgrade option. This is the cost that would be incurred to pay for improved equity.

Results (1) - costs benefit analysis method

30. The first type of economic analysis reported on is the cost benefit analysis. The costs included in the analysis were construction, maintenance and operating costs of the roads and toll collection infrastructure; road user costs; the cost to the road users of diverting off the toll roads; and the cost to the provincial and local authorities for road damage caused by traffic diversion as well as the cost of diversion if the roads are not upgraded. Economic CBAs are reported for the upgrade option over a twenty year period where the economic analysis shows the benefits to society at large. The results are given for various tolling rates, namely 0c per km (i.e. no tolling), 30c, 40c, 50c, 60c and 70c per km for light vehicles.

31. Total costs increase from a Present Value (PV) of R17.5bn for a 0c per km toll to R29.8bn for a 70c per km toll. While the costs increase as the tolling rate increases, benefits on the other hand generally show a decrease. The benefits, as characterised by road user cost savings when compared to the “Do nothing” case, decrease from a PV of R244.8bn for 0c per km to R239.6bn for 70c per km – an insignificant 2%

Table ES.2 Economic Cost benefit analysis for a 50c per km toll tariff

Scheme	BCR	IRR	NPV (Rbn)
Upgrade	8.4	37%	209.8

32. All three of the measures, Benefit Cost Ratios (BCR), internal rate of return (IRR) and Net Present Value (NPV), indicate that the upgrading of the Gauteng freeway network was based on sound economic logic. Table ES.2 illustrates these values for a toll rate of 50c per km. At this toll the scheme is set to return society a positive net present value of R209bn over the next 20 years. It has an internal rate of return of 37% which, in itself, is a remarkable high IRR. Finally, and probably most importantly it returns a benefit cost ratio of 8.4. This means that for each one rand of cost, initial capital works and ongoing maintenance and running costs, society benefits by R8.4.

33. The BCRs for all toll tariffs are above 8.0, indicating that the project is, from an economic perspective, beneficial to society. The BCR reduces from 14.0 for the 0c per km tolling rate to 8.4 for 30c, 8.3 for 40c, 8.4 for 50c, 8.1 for 60c and 8.0 for 70c. The effect of tolling on the upgraded road network is therefore to reduce the BCR from 14.0 to between 8.0 and 8.4, depending on which tolling rate is chosen. The 0c per km tolling scenario does not take into account the concomitant impact of the "Do Nothing" option.

34. The Net Benefits or NPV, which is the difference between the benefits and the costs, are all positive and vary between R209.8bn for a 70c per km tolling rate to R227.3bn for a 0c per km tolling rate. The IRR's for all the tolling options are 37%, while for the non-tolling option is 41%.

35. The cost benefit analysis was taken further and a series of individual journeys were analysed. It was found that, apart from a few important exceptions, most users of the toll roads during weekdays would have positive road user benefits. Further to this, it was also found that in aggregate the toll roads generate overall road user benefits that are greater than road user costs. Simply put this means that road user benefits would be greater by driving on the upgraded toll road and paying the toll than on the existing roads and not paying a toll. This is due to decreased congestion; faster travelling times; lower road user costs and less probability of accidents.

36. Three sets of road user journeys were analysed. These are those journeys when no tolling is charged on the entire network; the journeys on those sections of road where

a toll tariff would be levied and; the journeys on those sections of freeway which are not tolled within the context where most of the network is tolled.

37. **Journeys when there is no tolling on the entire network:** For the majority of journeys and road users there are only benefits although there are some exceptions. These exceptions are caused by additional traffic that is attracted onto the freeway network because of the road upgrades and are:

- On the N3, Buccleuch to the M2 Geldenhuys Interchange
    - PM peak hour in the southerly direction, for all light vehicles from 2014 to 2020;
    - Midday off-peak in the southerly direction, for all vehicles in 2025;
    - AM peak hour in the northerly direction, for all light vehicles from 2020 onwards;
    - PM peak hour in the northerly direction, for all light vehicles from 2020 onwards;
    - Midday off-peak in the northerly direction, for light vehicle business travellers in 2025.
- On the R24, from OR Tambo International Airport to the N12:
    - AM peak traffic in the westerly direction, for all light vehicles from 2020 onwards and for heavy vehicles in 2025;
    - PM peak traffic in the westerly direction, for all light vehicles from 2020 onwards;
    - Midday off-peak traffic in the westerly direction, for all light vehicles and class 2 heavy vehicles in 2025.
- On the N1, from 14th Avenue to Grasmere:
    - PM peak traffic in the southerly direction, for light vehicle business travellers in 2025;
    - AM peak traffic in the northerly direction, for all light vehicles in 2025.
- On the N1, from Brakfontein to Buccleuch:
    - PM peak traffic in the northerly direction, for light vehicle business travellers in 2020 to 2025;

- Midday off-peak traffic in the northerly direction, for light vehicle business travellers in 2025.

- On the R80 from Suiderberg to DF Malan:

  - PM peak hour traffic in a northerly / westerly direction, all light vehicles in 2025.

38. **Journeys on those sections of freeway that would be tolled:**

- On the whole people travelling during the morning and afternoon peak hours and midday off peak times generally have lower costs. This changes for people travelling in the evening and on weekends and they would find that their cost of travelling has increased relative to the do-minimum option.

- During the morning and afternoon peak hours there are two roads where road users would generally have higher costs. These are on the R24 travelling between OR Tambo International Airport to the N12 in the easterly direction and the N3 travelling between Buccleuch and the M2 Geldenhuys interchange in both directions. During the afternoon peak road users would generally have higher costs on the N1 when travelling between Brakfontein to Buccleuch in the northerly direction.

- For people travelling during the weekday off peak period it is only those who are on the R24 travelling in an easterly direction between OR Tambo International Airport and the N12 who would face higher costs.

- Most people travelling during the evening or on weekends would have higher costs at the toll equivalent of 40c and above. At a toll equivalent of 30c per km there are more road users with lower costs than higher costs at these times.

39. **Journeys on those sections of the freeway which are not tolled within the context where most of the network is tolled:** It is only in certain isolated instances in morning and afternoon peak hour and midday off peak that road users have increased costs. These costs are confined mainly to light vehicles and to the R80 between Soshanguve and Suiderberg, and between Suiderberg and DF Malan roads. There are also some isolated incidents of increased costs for light vehicle users travelling in an easterly direction on the N4 between Proefplaas and Donkerhoek road. There are only reduced costs for all road users travelling during the evening and over weekends.

40. It was also found that road user benefits accrue more than proportionately to heavy vehicles rather than light vehicles. As the class of vehicle increases so does the increased benefit.

Results (2) - micro-economic analysis

41. The second type of analysis that was undertaken was a microeconomic analysis. This includes issues of affordability, impacts on individual drivers and their capacity to pay; impacts on the cost of consumer goods; impacts on business generally and impacts on specific business.

42. There is always some concern about the ability of society to carry the cost of major infrastructural projects like the Gauteng freeway upgrade. Two estimates were made to assess this issue. The first is the share of total toll revenue to that of the size of the Gauteng economy. The second is the share of tolling relative to people's disposable income. The analysis found that total toll revenue is expected to be 0.34% of projected Gauteng GDP in 2011. In other words the toll burden from the freeway upgrade is the equivalent of 34c for each R100 of GDP. It was also found that, in the same year, total toll revenue is expected to be 0.43% of projected Gauteng household gross disposable income in 2011. In other words the toll burden for light vehicles from the freeway upgrade is the equivalent of 43c for each R100 of disposable income.

43. For private road users it can be argued that, for some people, there would not be an "obvious" saving in vehicle operating costs in the early years of the toll road. It is recognised that savings in some vehicle costs would be obvious and apparent – fuel costs, time costs and lower accident rates, for example. Other costs, however, are far less discrete over time and tend to be lump sum costs after a period of time – tyre costs, suspension and steering repairs, etc. Hence the immediate discernable and obvious saving in vehicle operating costs would be for fuel, time and, possibly, accident costs. Other costs would accumulate in the future. Hence the reality would be that total savings would only be realised some years into the future.

44. Therefore for cash flow purposes there would be less road user benefits in the early years of the tolled roads, as these benefits would accumulate into the future. The perception and reality would be that some drivers who currently do and would continue to use the road on a regular basis could be vulnerable to the proposed tolling. In addition less affluent owners of private vehicles may face road user costs that are different to those used in the general calculations. In particular, less affluent people would have lower (work related) time costs than others. In addition such people may

choose to repair their vehicles themselves or may choose simply not to repair their vehicles at all.

45. The analysis was based on a set of interviews conducted in 2009 that focussed on class 1 vehicles using the freeways. This was a telephonic interview, based on the registration numbers of vehicles using the freeways. Over 27 000 people were interviewed. The following conclusions were made:

    - The majority of trips being made in light vehicles were done for either business or commuting purposes.

    - It was found that 20% of people make monthly journeys on the freeway system of less than 200km. Of the journeys made 51% of people travel 700km or less on the Gauteng freeways. Conversely there are a number of people who make extensive monthly journeys on the Gauteng freeways. Of the total number of people interviewed 2% drive more than 2 500km a month, 5% drive between 2 000km and 2 500km, 9% drive between 1 600km and 1 999km a month and 33% drive between 700km and 1 600km a month.

46. An analysis was undertaken purely on people who commute to work. This was done because it was felt that these are the type of journey where people might be most vulnerable to tolling because it is a journey where one has little choice in making the journey. This was further corrected by removing anyone who had a company car allowance; was driving on a Sunday; and had more than one occupant in the car. There is no science in choosing such a number and the higher people's income the higher this value could be because of their greater amount of discretionary income. For the purposes of this analysis a value of tolls being equal or higher than 3%, 5% and 10% of income were chosen. The following conclusions were drawn:

    - 40% of the sample is expected to pay toll fees of less that R200 a month.
    - 50% of commuters declaring an income of less than R4 999 a month are expected to pay less than R200 a month in tolls. This is however in excess of 3% of monthly income for these people.
    - 18.9% of commuters are expected to pay tolls of between R200 and R400 a month. This is 327 people in the sample of which 19 will be paying tolls greater than 3% of their income and 2 will be paying tolls greater than 10% of their income.
    - 15% of commuters are expected to pay tolls of between R400 and R600 a month. This is 265 people in the sample of which 32 people will be paying tolls greater

than 3% of their income, 19 will be paying tolls greater than 5% of their income and 2 will be paying tolls in excess of 10% of their incomes.

- 11.5% of people are expected to pay tolls of between R600 and R800 a month. This is 199 commuters in the sample of which 89 people will be paying tolls greater than 3% of their income, 38 will be paying tolls greater than 5% of their income and 4 will be paying tolls in excess of 10% of their incomes.
- 8.2% of people are expected to pay tolls of between R800 and R1 000 a month. This is 141 commuters in the sample of which 42 people will be paying tolls greater than 3% of their income, 58 will be paying tolls greater than 5% of their income and 4 will be paying tolls in excess of 10% of their incomes.
- 4.9% of people are expected to pay tolls of between R1 000 and R1 300 a month. This is 84 commuters in the sample of which 9 people will be paying tolls greater than 3% of their income, 44 will be paying tolls greater than 5% of their income and 5 will be paying tolls in excess of 10% of their incomes.
- 1% of people are expected to pay tolls of between R1 300 and R1 600 a month. This is 18 commuters in the sample of which 3 people will be paying tolls greater than 3% of their income, 9 will be paying tolls greater than 5% of their income and 6 will be paying tolls in excess of 10% of their incomes.
- Of the total sample of 1 728 commuters there is the possibility that, based on the survey:
    - 390 people would be paying tolls equal to or greater than 3% of their income. This is the equivalent of 22% of the sample;
    - 191 people would be paying tolls equal to or greater than 5% of their income. This is the equivalent of 11% of the sample;
    - 23 people would be paying tolls equal to or greater than 10% of their income. This is the equivalent of 1.3% of the sample.

47. **Businesses** are a major stakeholder in the outcome of the freeway upgrade and expansion schemes. Business users of the freeways typically have a higher value of time than either commuters generally or leisure users. The time and vehicle operating cost savings are therefore of greater importance to this group as time savings translate directly into business productivity gains. These productivity benefits are expressions of the travel time and operating cost savings that arise from the new capacity and resultant reduction in network congestion.

48. These business benefits would be expressed typically in some of the following ways:

- With reduced congestion on the network distributors of goods are able to complete more turnarounds per day resulting in higher turnover and productivity
- More business appointments can be achieved per day resulting in improved productivity
- Greater reliability/timekeeping by staff translates into business productivity gains
- Toll payments are tax deductible.

49. The Eddington Transport Study in the UK has shown that further business benefits, not counted in the travel time and operating cost savings, may occur as businesses respond to the fact that they now have access to larger, and possibly deeper, labour markets. Eddington concluded that in rapidly growing urban economies these secondary productivity gains can be very significant.

50. In this present study no attempt has been made to quantify these additional benefits to business but it is should be noted that they can amount to as much as 50 percent more than the sum of calculated benefits. This implies that the cost benefit measures referred to above could in reality be considerably higher than indicated.

51. **Public transport vehicles** using the improved freeway network would also benefit from travel time, vehicle operating cost and safety improvements. But, to the extent that they also pay the tolls, their costs would rise and these may be passed on to users, increasing the fares that they have to pay. Public transport users would be less able than private users to balance savings in time and safety with fare levels paid and may perceive themselves to be in a net negative position even if economic calculations show otherwise. For lowest income users affordability would be an issue too.

52. Although the economic balance would be positive overall, the issue is expected to be mitigated by lower tolls charged for public transport vehicles. This is due in no small measure since the scheme principally must promote public transport.

53. The significance of this issue also needs to be viewed in the light of the fact that the freeways are generally not the primary routes used by public transport vehicles. This was revealed in recent research undertaken by Gauteng Province (Strategic Roads Network review). Partly as a consequence of this finding, Gauteng Province embarked on a further study to determine priorities among the routes that public transport vehicles do mainly use, including bus and proposed Bus Rapid Transit routes.

54. An implication of this is that improvements to public transport road infrastructure would primarily be addressed elsewhere than through the freeway upgrade project. Nevertheless, the element of public transport optimisation through high occupancy vehicle lane provision and probable lower toll charges, would mean that public transport would not be disadvantaged by the scheme.

55. In addition to the largely positive impacts of actually using the freeway network, public transport vehicles would experience additional benefits from the decongestion of the non-freeway routes that they typically use, as a result of the diversion of some traffic from these roads to the new capacity on the freeways.

56. **Captive businesses and communities** Although no quantification has been undertaken of this concern, there would be a small number of businesses and communities where the only practical route available may be a new tolled freeway. As a consequence, use of the network would not be a free choice. While such groups would experience the benefit of improved travel time, operating costs and safety, they would not be doing so by choice and so in some cases their net benefit may be negative.

57. It is anticipated that the numbers of parties affected in this way would be very small and limited to certain existing residents and businesses along the routes of the new freeways. It is only where access to a previously used route becomes barred by the construction of the new route that this situation would apply.

58. The final set of microeconomic analysis relates to the potential impact of tolling on the cost of consumer goods. This analysis was done by looking just at the cost of tolling while ignoring all the benefits of the freeway upgrades. The conclusion was drawn that

households with incomes less than R24 365 would face cost of living increases of 0.31%. This is the equivalent of 31 cents for each R100 spent on consumer goods. Households with incomes between R24 365 and R55 159 would face cost of living increases of 0.29%. Households with incomes in excess of R55 160 would have cost of living increases of 0.29% due to the increased cost of consumer goods. Pensioners would face cost of living increases of 0.28%. It can therefore be concluded that the scheme will have little impact on the cost of consumer goods and will not be inflationary.

Results (3) – macro-economic analysis

59. The last type of analysis that was undertaken was a macroeconomic analysis. While there are a number of different types of macroeconomic effects, the two most important are contribution to gross domestic product (GDP) and creation of jobs. The importance of job creation is obvious. Increases in GDP are synonymous with increases in peoples' economic standards of living. Increased GDP – i.e. increased production – is experienced in the form of more jobs, higher wages and reduced economic hardship. It is clearly an important measure.

- Gross Domestic Product is the total value of all final goods and services produced in the country. It is clearly fundamental to the economic quality of life of people in the country.
    - The initial capital expenditure on upgrading the existing roads as well as constructing new roads was estimated to contribute as much as R7.4bn in 2008, R9.9bn in 2009 and 11.0bn in 2010. The contribution due to the initial capital expenditure is then expected to reduce to R2.2bn in 2011 and R194m in 2012 as the construction tapers off.
    - The contribution from routine road maintenance is expected to contribute at least R160m to GDP, while rehabilitation and periodic maintenance is expected to add further to GDP in each of 2019, 2020, 2021, 2029 & 2030. The contribution to GDP from ORT related maintenance and operating costs is expected to increase from R610m in 2010 to R1.9bn in 2030.
    - Once the toll roads are operational it is really the business time savings that contribute the most to GDP. This contribution to GDP is expected to increase from R3.27bn in 2010 to R7.69bn in 2030.
    - GDP is important not just because it is income but also because income has the capacity to add to wealth. Based on these projections, the toll road

would have made a cumulative contribution to GDP of nearly R50bn by 2013, the projected end of construction. This cumulative total increases to over R207bn by the end of 2030.

- In comparative terms it is estimated that the toll road project in Gauteng added 0.32% to South African GDP in 2008 and 0.41% in 2009. It is estimated that the project has the capacity to add 0.44% to GDP in 2010. This contribution is then expected to drop from the start of the operations phase. From 2013 the project is still expected to add 0.06% to GDP, increasing to 0.11% in 2030.

- Gross Geographic Product (GGP) is the provincial equivalent of national GDP. It is estimated that the project would make a total contribution to Gauteng GGP of R3.3bn in 2008, R4.4bn in 2009 and R5.1bn in 2010. By 2030 the project would add R8.1bn to GGP. Based on these projections, the project would add a cumulative R112.7bn to provincial GGP by 2030.

- The project would result in changes to three types of jobs. The first are the direct jobs that would be created over the project period. These are jobs directly on road construction and operation of the toll road. The second are the so-called indirect jobs that are due to multiplier effects of both the toll roads as well as from changes in transport costs and road user costs. The third type of change in jobs results from the structural economic changes attributable to the toll road. Of these jobs only the first two can be measured with any degree of accuracy. The estimation of indirect jobs is not necessarily an uncontentious issue. The estimates are based on the official South African input output tables which show quite generous estimates for indirect jobs. In the light of the historic 'jobless' economic growth that this country has had and in light of the recent recession we have tended to downplay indirect job estimates. Therefore the indirect job estimates that are reported below are based on a quarter of the multiplier estimates but should be treated as the lower bound of these estimates.

    - At the height of the construction period in 2010 as many as 15,957 people were directly employed as a result of the project. This number is expected to taper off as construction activities come to an end in 2013. From 2012 onwards it is expected that over 1,100 people would be directly employed on either maintaining the road or maintaining and operating the toll system. The number of jobs created from business time savings is expected to increase from 3 341 in 2011 to 7 851 in 2030, in line with the increased

savings as the traffic numbers increase. The majority of the direct jobs created during the construction period are created at the low income level, thus having the ability to contribute significantly to poverty alleviation.

- During the construction period between 2008 and 2013 it is estimated that as many as 21 394 indirect jobs have been or would be created throughout South Africa. These indirect jobs are then expected to taper off to around 8 700 in 2012 before increasing again to 14 323 in 2020 and 23 263 in 2030.

- Total direct and indirect jobs are expected to have amounted to 23 499 in 2008, 31 552 in 2009 and 37 351 in 2010. It is expected that 13 734 direct and indirect jobs would be created in 2012, increasing to 35 128 by 2030.

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Table of Contents

List of Tables

List of Figures

Abbreviations

BCR: Benefit Cost ratio

BRT: Bus rapid transit

CBA: Cost Benefit Analysis

CfIT: UK Commission for Integrated Transport

DOT: National Department of Transport's

FIS: Freeway Improvement Scheme

GDP: Gross Domestic Product

GGP: Gross Geographic Product

GRDP: Gauteng Roads Development Plan

HOV: High occupancy vehicles

ICW: Initial construction works

ITS: Intelligent Traffic System

ORT: Open road tolling

NLTSF: The National Land Transport Strategic Framework of 2006

NLTTA: The National Land Transport Transition Act of 2000

NPV: Net Present Value

RIFSA: The Road Infrastructure Strategic Framework

SACTRA: UK Standing Advisory Council on Trunk Road Assessment

SANRAL: South African National Roads Agency (Pty) Ltd

SWYMMS: South and West Yorkshire Multi-modal Study

SWYSM: South and West Yorkshire Strategic Model

TDM: Traffic demand management

V/C: volume capacity

WEB: Wider Economic Benefits

1 Introduction

Gauteng is the industrial and financial centre of the South African economy. It contributes a disproportionate share to the total gross domestic product (GDP) and is home to nearly twenty percent of the population. Under ASGISA, the growth in the economy is set to accelerate. One of the potential key constraints to economic growth in some parts of the country is an inadequate transport network. This is particularly true in Gauteng where there has been a deteriorating rail network, increasing traffic congestion and inadequate public transport. In addition the actual quality of the road pavement has been deteriorating because of inadequate funding from the National Treasury.

As part of the solution to this problem the Provincial Government of Gauteng and the South African National Roads Agency (Pty) Ltd (SANRAL) have made significant improvements to the freeway network in the province. These improvements include increasing the capacity of the existing network, encouraging the use of high occupancy vehicles (HOVs) and adding new roads where necessary.

The Provincial Government of Gauteng and SANRAL wish to understand the economic implications of upgrading the existing Gauteng freeway network, adding capacity, adding new roads and tolling the entire network. There are a variety of different types of economic analysis. These include cost benefit analysis, microeconomic analysis, and macroeconomic analysis.

The economic analysis was started in 2007, prior to the beginning of the freeway upgrades, and a draft report was presented in 2008. The one area of concern in the draft report was the results of the microeconomic analysis. The microeconomic analysis in the draft report was based on the Gauteng travel survey that was conducted in 2002 (Gauteng Department of Public Transport, Roads and Works, 2002) as well as the road side interviews that were conducted in November 2006. Neither the survey nor the road side interviews proved satisfactory for the purposes of the analysis. One of the key issues that needed to be examined is affordability. In other words, the freeways would be upgraded and this would improve traffic flows, etc, and would be welcome by most drivers. The real issue is to determine how many drivers would not be able to afford to pay for these proposed upgrades. To do this it was necessary to have some correlation between a driver's income, the distance that the driver travels, the purpose of the journey and trip frequency on the highway network. In The road side interviews had all of this information with the exception of income. The survey had all of this information about all drivers in Gauteng but did not differentiate between those who did and did not use the highway network (and those therefore subject to

tolling). In order to address these constraints SANRAL conducted a new set of interviews in 2009 that focussed on class 1 vehicles using the freeways.

The consequence was that the economic report could only be finalised in 2010 once the interviews had been processed. During that time the nature of the scheme also changed including the basis on which heavy vehicles would be tolled. In the initial and subsequent analysis both the traffic engineers and economists worked with three classes of heavy vehicles with the classes being differentiated by number of axles. Subsequent to that analysis it has been decided to toll heavy vehicles on volumetric size rather than number of axles. Hence in this report three classes of heavy vehicles are analysed while there will be only two classes of tolling for heavy vehicles.

It will be shown that:

- From a policy perspective the proposals are a good fit with current transport and roads policy.
- There is a trade off between paying for roads with a fuel tax, which increases economic efficiency, and tolling with increases economic equity. The actual cost of the tolling infrastructure is an average of 8.5 cents per vehicle kilometre.
- The cost benefit analysis indicates that upgrading and tolling the freeway network is justified on economic grounds.
- In analysing individual journeys it will be shown that during weekdays in aggregate the toll roads generate overall road user benefits that are greater than road user costs. However, the opposite occurs during the evenings and over weekends.
- Three sets of journeys will be analysed. These are those journeys when no tolling is charged on the entire network; the journeys on those sections of road where a toll tariff would be levied and; the journeys on those sections of freeway which are not tolled within the context where most of the network is tolled.
- From a microeconomic perspective it will be shown that:
    - a large group of people make extensive journeys in Gauteng on a regular if not every day basis.
    - ??% of road users will pay monthly tolls of less than R200 a month.
    - there is a group of people who could be financially vulnerable to tolling.

  - There is a negligible impact on the cost of consumer goods as a result of tolling.

  - The overall impact on business would be positive although some businesses may be impacted in a negative way.

  - There is likely to be only a marginal impact on public transport

- Gross Domestic Product would have made a cumulative increase of R39.2bn by 2011 for the expansion option. This cumulative total increases to over R167bn by the end of 2027. In comparative terms the toll road project in Gauteng has the capacity to add 0.7% to South African GDP in 2008 and 2009. This percentage contribution increases as the business savings increase, and in 2027 the project is expected to add 0.27% to GDP.

- The toll road would result in increased jobs.

  - At the height of the construction period in 2010 as many as 15,957 people were directly employed as a result of the project. This number is expected to taper off as construction activities come to an end in 2013. From 2012 onwards it is expected that over 1,100 people would be directly employed on either maintaining the road or maintaining and operating the toll system. The number of jobs created from business time savings is expected to increase from 3 341 in 2011 to 7 851 in 2030, in line with the increased savings as the traffic numbers increase. The majority of the direct jobs created during the construction period are created at the low income level, thus having the ability to contribute significantly to poverty alleviation.

  - During the construction period between 2008 and 2013 it is estimated that as many as 21 394 indirect jobs have been or would be created throughout South Africa. These indirect jobs are then expected to taper off to around 8 700 in 2012 before increasing again to 14 323 in 2020 and 23 263 in 2030.

  - Total direct and indirect jobs are expected to have amounted to 23 499 in 2008, 31 552 in 2009 and 37 351 in 2010. It is expected that 13 734 direct and indirect jobs would be created in 2012, increasing to 35 128 by 2030.

This report has ten sections:

- Section 1 introduces the study.

- Section 2 describes the scope of work.
- Section 3 lays out the policy environment.
- Section 4 gives a general description of economic analysis, sets out some recent developments in economic analysis and sets the scene for the reporting of the results to the analysis.
- Section 5 gives a brief description of tolling systems.
- Section 6 reviews the efficiency of paying for roads though tolling or a dedicated fuel tax.
- Section 7 reports the results to the cost benefit analysis.
- Section 8 reports the results of the microeconomic analysis
- Section 9 reports the results of the macroeconomic analysis.
- Finally, Section 10 concludes the report.

2 Scope of Works

The analysis in this report considers two options. The first is the so-called ‘do-nothing’ option. This is the option of, in this case, literally do nothing to the existing freeway system apart from periodic maintenance. The second is the scope of works that has been undertaken and is referred to as the ‘upgrade option’ in this report.

The toll scheme comprises a combination of existing road network and capacity expansion. There is the possibility that there will be the development of new freeways in the future but this has not been taken into account in this analysis. The existing road network improvements comprise the ring road network, the Ben Schoeman highway and the R21 and R24 links to the OR Tambo International Airport.

The detailed section descriptions below should be read in conjunction with Figure 1. Sections to be upgraded as part of the initial construction works (ICW):

- N1
- N3
- N12
- N14
- R21
- R24

A large portion of the network has been integrated in the scheme for purposes of maintenance, ITS, the provision of lighting and future upgrading. These routes include the N14, N1 Eastern Bypass (Pretoria), N4 up to Hans Strijdom and the N12 south of Johannesburg.

Figure 1: Toll Scheme

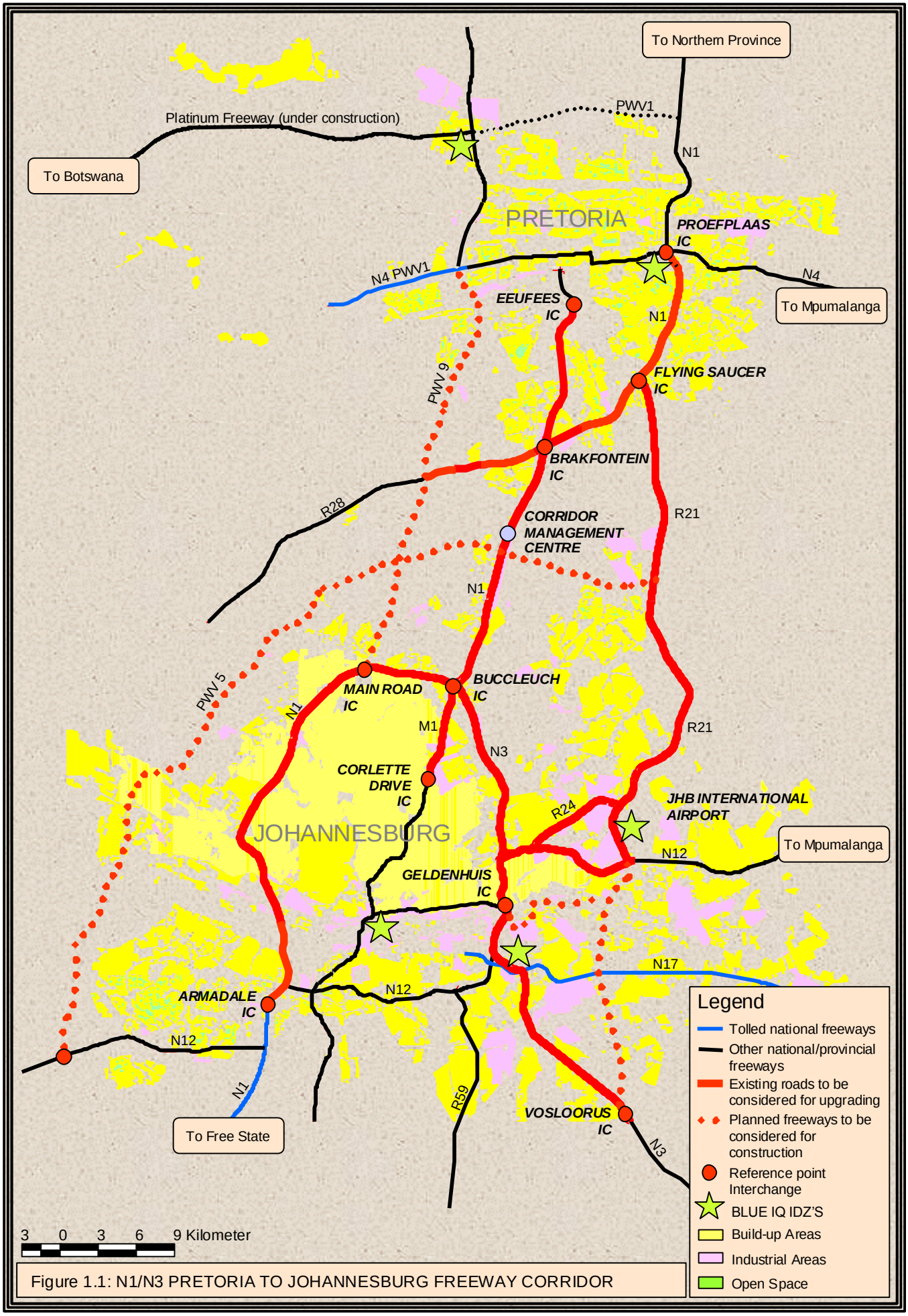

Figure 1.1: N1/N3 PRETORIA TO JOHANNESBURG FREEWAY CORRIDOR

The costs of the scheme are presented in Table 1 and are divided into three broad categories, namely those associated with the initial construction works, the ongoing maintenance & rehabilitation of the road and the operating costs associated with tolling. For presentation purposes only a selection of years are shown in the table. The costs are given in constant 2010 prices and are expected to total R56bn by 2030.

Table 1: Costs of the upgrade scheme (R millions, 2010 prices)

Road Related Costs	**2008**	**2009**	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**	**2020**	**2025**	**2030**
Initial Construction Costs	4,758	6,345	6,974	1,376	123	47					
Road Maintenance Costs											
Periodic Maintenance	0	0	0	0	0	0	0	0	910	0	2,730
Routine Maintenance	0	0	0	102	102	102	102	102	102	102	102
ORT System Related Costs											
TAGS	0	0	0	19	17	17	17	17	17	17	17
Toll System Costs	0	0	0	0	0	0	0	0	15	138	0
VPC	0	0	0	606	337	339	343	346	363	375	388
ORT System Operating Costs	0	0	378	880	676	681	687	693	726	751	776
Total Costs	**4,758**	**6,345**	**7,352**	**2,983**	**1,255**	**1,186**	**1,149**	**1,159**	**2,133**	**1,383**	**4,013**

It is expected that the initial construction works would total just under R20bn and be spread over the years 2008 to 2013. The routine road maintenance is expected to start in 2011, while periodic maintenance occurs in two distinct periods, namely 2019 to 2021 and 2029 to 2030.

The ORT System Operating Costs are expected to begin in 2010, with the rest of the ORT related costs commencing in 2011.

3 Policy Environment

This section sets out the policy context within which the project is taking place. It includes national, provincial and city/region considerations. It will be shown that the freeway improvement scheme being appraised is an accurate expression of current transport policy and roads policy in particular.

3.1 National level

The national Department of Transport's (DOT) Strategic Plan for 2007-2010, states that DOT has a constitutional responsibility for 'maximizing the contribution of transport to the economic and social development of society by providing fully integrated transport operations and infrastructure' and that *"Transport, [is] the heartbeat of South Africa's economic growth and social development"*.

This responsibility is articulated through a legislative framework of some 66 Acts of Parliament, as well as in policy White Papers and other government strategy reviews. Although the facilitating legislation for highway construction is contained in various National Roads Acts and their amendments, the principal national policy framework for land transport is contained in the 1996 White Paper on Transport Policy; the National Land Transport Transition Act (NLTTA) of 2000, the National Land Transport Strategic Framework (NLTSF) of 2006, and finally the Road Infrastructure Strategic Framework (RIFSA), also of 2006.

The 1996 White Paper states that the main policy goals of transport including the road network are:

- to support the goals of the Reconstruction and Development Programme meeting basic needs, growing the economy, developing human resources, and democratising decision making.
- To improve the safety, security, reliability, quality, and speed of transporting goods and people.
- To improve South Africa's competitiveness and that of its transport infrastructure and operations.
- To invest in infrastructure or transport systems in ways which satisfy social, economic, or strategic investment criteria.

- To achieve the above objectives in a manner which are economically and environmentally sustainable with minimal negative side effects.

The White Paper regards primary roads as elements of the country's "economic" infrastructure on which a measurable economic or financial return should be achievable, and where the principle of user charging or cost recovery from direct users will be applied as far as possible. In the case of roads this 'may take the form of a fuel tax, which is a surrogate user charge, and where viable or appropriate, tolling which is a direct user charge'.

Because of transport's role in supporting broader economic and social development the White Paper also indicates that Government would be willing to consider a range of approaches to transport infrastructure procurement depending on the availability of fiscal resources and on the potential impacts on economic development. These approaches include:

- public ownership and operation,
- public ownership and operation via state agency (such as the present SANRAL) including concessions within this framework,
- private ownership and operation.

The approach adopted in the analysis is consistent with this broad summary of White Paper policy. It seeks to quantify the benefits to society of the project by measuring the safety, security, reliability, quality, and speed of transporting goods and people within Gauteng. It shows how these improvements will contribute to both short term job creation and longer term employment prospects through mediated through a more strongly growing economy.

The NLTTA of 2000 gives legal expression to the broad policy objectives of the White Paper, explains the roles and powers of the different levels of government and sets out regulations to govern land transport in South Africa. Its principal relevance to the macro-economic appraisal of the GFIS is that it places a higher priority on public transport provision than on private transport and as such highlights social objectives of transport policy more directly than it does the economic policy aims. While setting out in detail the mechanisms and institutional responsibilities designed to achieve these public transport objectives, NLTTA tends to leave open the way in which the primary road network should contribute to these objectives.

The first result of this work is contained in the Road Infrastructure Strategic Framework (RIFSA). This framework aims at improving road network management partly through the

reclassification of the entire road network in a system of strategic national, secondary and access roads with the aim of aligning infrastructure developments with Government's broader economic and social objectives. The RIFSA process will eventually result in a clear redefinition of the social and economic function of each level of the road network, including the freeway system. At present there is insufficient clarity from this process to adequately define the expected role of the freeways generally and the freeway improvement scheme in particular.

The NLTSF of 2006 starts to address this issue of functionality when it notes that roads serve the vast majority of all transport requirements in South Africa, and that their primary function is to facilitate effective economic development especially in the urban areas. The detailed implications of this stipulation for roads policy are still being worked out at national DOT level and NLTSF refers to work currently in hand to comprehensively redefine the functions of different categories of roads.

Because of the present incompleteness of the national policy development process, the project is taking place within a generally rather than specifically tailored policy context and this has resulted in some uncertainty as to the precise role of the project. The issue on which greater clarity of policy is needed is the functionality for the different categories of roads especially as regards the division between public transport and private / freight transport use. The project is being progressed against a background of still emerging policy perspectives, but with a broad commitment to addressing public as well as private transport needs.

3.2 Provincial level

At the Provincial level a range of initiatives has been undertaken in recent years which are resulting in a clearer transport policy framework generally together with other more detailed work that is leading to clarification of the functionality of the different road categories.

Policy is still in the process of being formulated however and, as is also the case at the national level, general policy considerations relating to the role of transport in supporting economic and social development have progressed further than specific matters regarding the role of and functional categorisation of different types of road.

A consequence of this is that some SANRAL decisions, particularly regarding the public transport functionality of the project may have been taken without due consideration of the functionality of the various categories of roads. The commitment to include high occupancy vehicles (HOV) lanes on the network is an example of public transport prioritisation based on general policy rather than on detailed assessment of the requirements of road-based public

transport in the Province. The detailed work on which such an assessment can be based is currently in the process of reporting and this paper includes provisional findings which would require stakeholder ratification.

3.2.1 General policy framework

At the general level the following documents are the most relevant:

- Gauteng Growth and Development Strategy (transport to facilitate economic growth and social policy objectives);
- Gauteng Strategic Agenda for Transport (includes efficiency of infrastructure use with focus on public transport capacity provision to limit road investment);
- Gauteng Road Freight Corridor Study (identifies freight intensive routes and suggests freight route prioritisation);
- Gautrain Integration Report (includes recommendation that both freeway and additional public transport investment needed to support broader objectives of the project);
- Gauteng bus routes rationalisation study (aims to align longer distance subsidised bus routes with other public transport provision);
- Gauteng Strategic Roads Development Plan (emphasises need for freeway expansion).

To bring these strategic policy objectives down to the practical, implementation level, an ongoing process called 'Better Roads for Gauteng' has been initiated. This process will eventually define a new high level strategic network based on a road classification system that is aligned with that proposed in the national RIFSA study process.

3.2.2 Specific policy guidance

The Better Roads for Gauteng process is being conducted in phases. These are:

Phase 1a, June 2006: Strategic Roads Network Review on the role of freeways and other higher level roads, with the focus on prioritisation of intra-provincial mobility routes. This work drew together, national, provincial and local government level stakeholders in a collective, workshop-based process that reviewed the previous PWV framework for freeway expansion. All proposed upgrade and new build links in Gauteng's freeway network were

scored and then ranked using a set of technical and policy oriented criteria. The principal outcomes were:

- Broad consensus achieved on priorities for upgrading and expanding the network;
- The freeway network provides a mobility more than an accessibility function;
- Its principal role is to serve private, commercial and freight functionality;
- Public transport functionality on the freeways is important but secondary;
- A public transport route prioritisation exercise should also be undertaken;
- Road classification decisions to be informed by the outcomes of both exercises.

Phase 1b, June 2007: Road-based Public Transport Routes Review. This was a similar process again involving national, provincial and local government stakeholders but in a review of routes for road-based public transport focusing on the accessibility as opposed to mobility function. It drew on work already done by metro and provincial authorities on strategic public transport networks and includes proposed bus rapid transit (BRT) routes. The assessment criteria used were tailored to public transport functionality. The main outcomes were:

- Broad consensus achieved on province wide priorities for public transport route upgrade;
- Over fifty public transport road routes were collectively appraised and ranked;
- The Johannesburg and Tshwane BRT routes featured in the top ten priorities;
- The concept of varying degrees of dedicated public transport infrastructure was introduced;

Phase 2, Gauteng Highway Standards, which would define technical standards for roads of different functionality, aligning with the RIFSA national route categorization work.

3.2.3 Implications of the policy review for the project

The main implications for the project are:

- The freeways' primary role is to provide support for broader economic integration and social development policies and to help consolidate the Gauteng city region.

- It would be contrary to national and provincial transport policies for freeway upgrading or expansion to be procured in isolation from investment in public transport.

- The great majority of road-based public transport relies on routes other than freeways because of it's primarily accessibility, as opposed to mobility, support function.

- The primary role of freeways with respect to public transport is to ensure that the routes identified for public transport priority are not congested with traffic that should be using the freeways.

- The freeways' primary role in terms of the functionality of different road categories is to provide capacity to accommodate growth of private, commercial and freight traffic.

- Road-based public transport work in Gauteng suggests that HOV lanes on the freeways could be supported as a first phase in enhancing the 'person movement capacity' of the freeways by means of longer distance public transport services provided on freeways in HOV lanes.

3.3 Road Infrastructure in Gauteng

There are potentially three critical issues that are faced by the existing road infrastructure in Gauteng. These are historic planning which no longer fits with existing transport needs; deteriorating pavement quality and traffic congestion.

The existing road network was planned under apartheid priorities and land use expectations. "Today, the important link and support mechanism between land use and transport infrastructure has largely been lost as a result of underinvestment in road provision as well as a result of land use trends deviating from assumptions made at the time the PWV network was conceptualised.

As a result many road corridors are no longer performing their originally intended functions. Roads designed for mobility are now performing access functions. The question of institutional responsibility has further clouded the question of road functionality and as such, the process of determining functionality will assist in resolving this key question of accountability.

Public transport was also not recognized as a major component of the overall transport network. Finally there is the increasing pressure of congestion which needs to be addressed not by building more roads but better management of road space and private car use." (Gauteng Roads Development Plan (GRDP) p19)

The GRDP indicates that in total there are over 34 000km of roads in Gauteng. Of these 466km are national roads, 4 820km are provincial roads and the remainder are municipal roads. What is of importance is that the bulk of these roads were built before 1994 and the road network has not kept pace with the double pressure of population and economic growth since that time. “Only 30% of the proposed freeway network from the old PWV major road network has been constructed and only 65% of the proposed K-routes exist in one form or another” (GRDP p5).

“Data from the inventory of the Pavement Management System shows that about 80% of the total road network in Gauteng has a pavement structure older than 20 years, which is normally considered the design life of a pavement. In other words, 3 100km have already reached the end of their design life. In the 20 years since 1985, the proportion of sub-standard condition roads has increased from 4% to 24%, and the proportion of those in acceptable or better condition has reduced from 96% to 76%.

In order to maintain and preserve the provincial road network diligently, about 100km to 200km of road (for a 40- to 20-year life span target respectively) should be reconstructed or rehabilitated each year. Since 1990, the rate of repair has decreased markedly, averaging only 22km per year (GRDP p5). This is having a twofold effect:

- First, there is now a sense of urgency in the need to repair the road network. It is well known that the longer a road is left without being maintained the greater is the eventual cost of the repairs. The repair cost does not grow in line with the time of delay in repair but exponentially.
- Second, there is growing congestion on the road network. On most of the major freeway arterials the morning peak period moves earlier and earlier each year with the number of trips out of peak time approaching, as with the Ben Schoeman Highway, about 70% of peak flows. The GRDP (p8) estimates that by 2010 the volume capacity (V/C) greater than 0.85 would increase from 979km to 2 299km of the major road network. The consequence of this is that average travel speeds would fall by 25% and more than 116km of the road network would be carrying 10 000 vehicles in peak hour (compared to 44km currently).

The conclusion that must be drawn from this is that a crisis is imminent. The traffic congestion is evident to anyone who drives in Gauteng and the increase in the congestion is even more evident to those who drive in Gauteng on a more irregular basis. The second, less imminent but just as real part of the crisis is the deterioration in the riding quality of the roads and the increasing urgency in the need to address the issue.

What follows from this is that if the Gauteng freeway network were expanded it would facilitate some important economic expansion. In particular it would help with:

- The industrial development zones at City Deep and OR Tambo;
- Accessibility to OR Tambo generally
- The Mabopane Centurion Development Corridor (MCDC); and
- The Wadeville – Alrode Industrial Corridor
- The City of Johannesburg's proposal to achieve CBD-like consolidation in the Diepsloot, Fourways, Olievenhoutbosch and Sunninghill/Kyalami areas to the north of Sandton
- The development of the Kya Sands/Cosmo City and Lanseria airport development nodes
- West Rand District Municipality's aspirations for economic development along the N14 corridor

In a previous study that was undertaken for the Provincial Government of Gauteng it was shown that:

"Failure to address and plan for the impact of demand growth on the road and transport infrastructure would result in increase in the structural constraints facing many sectors of the economy, thereby decreasing the potential growth rates that could be achieved. The forecasting model was re-evaluated on this basis, with the structural constraints facing each sector that relies on road transport being progressively raised, and the growth rates being determined, the net difference in GGVA at constant 2000 prices between the approach that assumes that the road and transport infrastructure will not constitute a significant constraint on the economic growth of Gauteng, and the approach that assumes that it will, amounts to R68 billion over the period 2004 to 2025 in constant 1995 Rands. Assuming an average rate of inflation of 4% per annum, this would translate into around R155 billion in the money of the day." (Botha 2005 p20/1).

4 Making sense of the Economic Analysis

There are a variety of different types of economic analysis, some of which can be quantified and some of which cannot. The analyses that can be quantified include cost benefit analysis, microeconomic costs and benefits, and macroeconomic analysis. Those which cannot be quantified include debates about the trade off between economic efficiency and economic equity.

The purpose of this section is to outline the meaning of the different types of analyses and debate the merits or otherwise of upgrading the Gauteng Freeway Network and charging a toll for this upgrade. The discussion on cost benefit also looks at some recent international work and its applicability to South Africa.

4.1 Macroeconomic Analysis

The size of a national or regional economy is measured in terms of the sum total of all economic activities taking place within the area concerned, both in the public and private sectors. For countries like South Africa, this necessarily includes measures of informal sector activity as well. The name given to the measure of the size of the economy is Gross Domestic Product (GDP) for the country as a whole or Gross Geographic Product (GGP) for a province or other sub division of the nation. The unit of measurement is the national currency.

Underlying the measurement of GDP or GGP is the understanding that all economic activity is dependent on the physical and institutional support systems that enable an economy to operate effectively. These include the various levels of governmental structure, the legal system, and the administrative, financial and educational infrastructure in the country. In terms of physical infrastructure, all economic activity depends on water supply, telecommunication, and transport infrastructure. Without all of these systems being in place the economy could not operate.

While there are a number of different types of macroeconomic effects, the two most important are contribution to gross domestic product (GDP) and creation of jobs. The importance of job creation is obvious. Increases in GDP are synonymous with increases in peoples' economic standards of living. Increased GDP – i.e. increased production – is experienced in the form of more jobs, higher wages and reduced economic hardship. It is clearly an important measure.

The effects of any infrastructure project on the size of the GDP arise as a result of the myriad ways in which businesses, public service providers ordinary people find their normal daily activities affected, hopefully for the better, by the changes brought about by the new infrastructure.

The actual task of calculating the macroeconomic impact of the projects demands a detailed and multifaceted approach not least because of the so-called multiplier effects. It is well recognised that the simple act of spending – constructing a road, for example, - leads to other economic effects. Demand for steel and cement can lead to increased production in those industries. Increased demand for steel and cement, in turn, leads to increased demand for mining output which uses wood, water, electricity and so on. These are the so-called multiplier effects. While this process unfolds, each industry employs people and pays wages. Employees, in turn, spend their wages and cause further multiplier effects through the economy. Measuring this is further complicated by the fact that different industries demand different types of skills. This leads to different wage structures across the various industries. People earning different wages have different spending patterns. Thus, the change in overall spending patterns is dependent on which industries are affected.

4.1.1 Construction and operation

Input-output analysis was used for the measurement of the macroeconomic impact of the construction and operation of the proposed toll roads. This approach demands that all expenditure in and around the toll roads be identified and estimated. This expenditure, in turn, needs to be linked to the Standard Industrial Classification of all Economic Activity (SIC codes). In addition, if employment is part of the expenditure then estimates must be made of the likely items of expenditure as a result of wage payments. Allowances must also be made for the fact that workers at different income levels have different spending patterns.

The expenditure areas that were identified are:

- Constructing and upgrading the roads and the electronic tolling equipment.
- Ongoing capital expenditures such as upgrading of the roads and facilities.
- Operating and maintaining the toll collection infrastructure. This includes patrolling the roads and providing emergency services.
- Administrative costs, such as legal and technical advice, administration of contracts, monitoring of the toll equipment, etc.

Five steps are required to measure the overall economic impact of the construction and upgrade phase of the roads and the associated infrastructure.

- First, to identify an appropriate bill of materials. The standard composition of a Bill of Quantities for a road construction project was used, with the proportion and allocation of costs for the different roads and subsections verified by the estimators for the project.

- Second, to determine the relative proportions of profit, labour, plant and material for each line item in the bill of materials.

- Third, to assign each item of material and plant in the bill of quantities to the appropriate SIC code.

- Fourth, to decompose labour and profit into income categories and apportion the total wages and profits to each income category. Following this, estimates of expenditure patterns by income category are used to determine total spending patterns.

- Finally, all the items in the SIC coded bill of materials are brought together. The total multiplier effect of the construction phase is calculated as the aggregate product SIC coded spending on plant and material, as well as SIC coded spending by workers multiplied through the national multipliers. The national multipliers are known through the South African input output tables.

The overall economic impact operation and maintenance was undertaken in a manner similar to that outlined for capital expenditure. The operation and maintenance of the toll roads is divided into:

- Rehabilitation and periodic maintenance costs;
- Routine maintenance costs;
- TAGS for the ORT system;
- Toll system costs;
- Violations processing centre (VPC);
- ORT system operating costs.

For the purpose of determining multiplier effects each category of expenditure was consolidated into a single economic model. Following from this all expenditure was decomposed and classified according to its appropriate SIC classification.

4.1.2 Network work capacity and road user benefits

The following steps were taken to calculate the macroeconomic effects of changes in network capacity and the saving in business time.

- The immediate savings to road users and the immediate savings to users of the road network were as described in Section 7.3.

- The business time savings were then isolated from the road user savings. All other savings are either non-financial savings (e.g. leisure time) or the savings would merely be spent elsewhere in the economy (e.g. savings in petrol would be spent on other consumer goods). The only saving that could be quantified and spent more productively elsewhere is therefore business time savings.

- The savings in business time was then distributed into the economy according to typical business sector spending patterns and the multiplied impact calculated.

4.2 Economic cost benefit analysis

Cost Benefit Analysis (CBA) treats the national economy, or a provincial economy, as an entity in and of itself. It assumes, with some important caveats[1], that what is demonstrably good for the economy as a whole is a reasonable approximation of what would be good for the majority of the people living and working in that area.

When large infrastructure investments like the proposed Gauteng freeway improvement scheme are contemplated, decision makers need to know what impact the new, or improved, infrastructure would have on the economy as a whole and hence how much benefit can be assumed to accrue to the people of the province. The main linkage is via the changes in transport costs and travel time that occur when infrastructure improvements take place which transmit changes in the level of economic activity in areas benefiting from the new infrastructure.

It is important at the outset to outline the general methodology that has been used in the economic study and point out those issues which have been excluded. The study has employed an economic cost benefit analysis that has taken a number of costs and benefits into account. These are:

[1] For example, policy makers also need to know how projects that may be good for the economy as a whole may affect different sectors of the population differently and also how the physical environment is affected.

- capital costs of building and/or upgrading alternative alignments;
- costs of maintaining the roads to specific standards (which is determined by the status of the road with national roads having a higher standard than secondary roads);
- savings in vehicle operating costs that result from a better quality road and easier driving conditions;
- travel time savings arising from a reduction in road congestion;
- reduced loss of life and injuries that are associated with improved road provision;
- potential traffic diversions and their effect on municipal and provincial road maintenance budgets.

One area of dispute is whether the impact on property values should be included. This can result from increased investment in commercial and residential property in such areas with consequent changes in property values. Although it is possible to make estimates of the scale of such effects, because they are the direct consequence of transport cost reductions, economic theory suggests that they would have been largely captured via the calculation of the transport cost savings. To include property value effects in addition to the transport cost benefits would therefore, strictly speaking, be double counting.

The outcome of this analysis is the reporting of a net present value (NPV), a benefit cost ratio (BCR) and an internal rate of return (IRR) for those cases where the route is compared to a do minimum alternative. A NPV shows the total value of future costs and benefits reduced to a present day value. This is done by using a social discount rate of 8% as specified by the National Treasury. The BCR measures the changes in benefits and costs that would result from an investment. BCRs are typically used when there are many competing alternatives and projects need to be funded from a limited set of resources. Finally, the IRR is the discount rate that returns a NPV of zero and shows the likely economic returns to society of a project in relation to other investment opportunities.

If the evaluated benefits of a project are indeed greater than the overall project costs then the BCR ratio would be greater than 1. A BCR greater than 1 indicates that the completed project would constitute an economic asset; a BCR less than 1 implies that the project would be an economic liability. The higher the BCR the less risk there is that the proposed investment could turn out to be less than beneficial economically. Low BCR's, even if

greater than 1, provide a warning that a project could be risky and may turn out to become an economic liability instead of an asset.

A high BCR is usually a good indicator that it would be possible to raise finance to implement a project. In the case of a private sector investment the good BCR would be part of the business case to funders. If it is a public infrastructure project, a high BCR should give confidence that it is worth funding the project directly from its Treasury or, alternatively, to make suitable institutional arrangements for the involvement of the private sector in the project's funding.

An economic analysis includes the true costs to society. This is done by adjusting for shadow prices and wages and removing the distortions caused by taxes and subsidies. An economic cost benefit analysis focuses purely on direct costs and benefits and does not taken any indirect costs and benefits into account. Indirect costs and benefits would include those costs and benefits obtained through multiplier effects. For example, the upgrading of a road would have spin off effects for the construction industry and the building materials supply industries. These, in turn, would have backward linkages with other commodity suppliers and retail industries. In addition to this a number of other potential economic impacts have not been taken into account in the CBA analysis. These include any positive or negative impacts on business and the potential impacts on captive communities.

The proposal is considered in relation to the do nothing alternative. The CBA was developed based on best practice and in consultation with the guidelines of the Manual for Cost Benefit Analysis in South Africa (Conningarth, 2007). The CBA makes use of the NPV method of discounting all costs and benefits as a means for comparing the various options. The analysis has been conducted from a country wide, i.e. South African, perspective.

To explore the economic value of any investment programme, the analyst must identify the costs of and the benefits to investment in the project when compared to the situation that would have prevailed if no such investment had been made. This latter situation is commonly referred to as the base case or do minimum situation. Such an approach allows one both to determine the (least-cost) solution and to identify the benefits in such a way that they can be compared across the economy as an aid to the rational and efficient allocation of resources.

4.3 Review of International Best Practice

This section summarises research on the economic impact of transport infrastructure construction, based mainly on UK work but with some reference to the French experience. The aim is to determine whether there is evidence for benefits in addition to those estimated

by direct transport cost and travel time savings. Another is to advise on the applicability in South Africa of methods for taking account of such benefits.

4.3.1 Early 1980s - Benefits in addition to normal CBA for motorway expansion

During a significant phase of motorway extension in the UK in the 1970s considerable efforts were made to estimate, and then monitor, the likely macro-economic impacts of the M62 Yorkshire to Lancashire route and also the extension of the M4 motorway further into South Wales. By this time the UK Department of Transport's 'COBA' manual on cost benefit analysis for road project appraisal was well developed. The benefits calculated at the time were: vehicle operating cost savings, travel time savings and safety benefits. Environment was addressed on a rather ad hoc, issue by issue, basis.

Post construction reviews of the economic appraisals of the two motorways in the early 1980s were faced with the reality that a great deal of economic activity appeared to have been spawned by the motorway construction especially around the junctions close to urban areas. After much discussion, the national Treasury produced a detailed analysis that argued from micro-economic principle that there was no basis for believing that the observed economic development effects were anything other than rational responses to reduced vehicle operating costs and travel time. They stated that the new economic activity was best regarded as displaced/relocated investment that could well have happened elsewhere in the country in the absence of the new infrastructure.

It was argued further that the only way in which benefits could emerge in addition to those which the COBA analysis estimated, would be if the location at which the new economic activity was taking place had some economic production advantages over other, equally accessible locations. In other words there would have to be some comparative advantage in production at the new location that was not previously able to be realised because transport costs were too high. At the time Treasury thought that such effects were minimal and anyway could not be measured.

4.3.2 Early 1980s - Economic impacts of the Paris – Lyon TGV extension

At more or less the same time the French rail operator, SNCF, was promoting an economic case for extending its high speed TGV rail network from Paris to Lyon. Again, the discussion centred on whether any benefits in addition to those estimated by the travel time and safety savings could be allowed.

SNCF argued that additional benefits would indeed emerge. Their view was similar to that rejected in the above UK Treasury analysis. It centred on the fact that the time savings brought about by the TGV service were so great that they would stimulate the emergence, or at least the strengthening, of the higher value service industry sectors in Lyon that were then far more typical of the Parisian economy. It was argued that, in addition to making pre-existing commercial relations between the two cities more efficient, (as a result of transport cost and travel time reduction) skills and business opportunities that would otherwise have remained latent in Lyon would emerge. In macro-economic terms, SNCF was arguing that the benefits estimated by transport cost analysis alone would indeed be supplemented by gains based on enhanced urban economic efficiency.

At the time, the UK Department of Transport and the Treasury were both aware of these arguments but were not persuaded that there was a convincing micro-economic basis for the claimed additional macro-economic benefits.

4.3.3 The 1999 SACTRA report: "Transport and the Economy"

In the later 1980s further motorway construction became the subject of increasing public opposition in Britain, primarily for environmental reasons. The planned extension of the M3 motorway southwards towards Southampton through the Twyford Down area of natural beauty became the focus of this opposition. The project was completed in the early 1990s but, partly as a result of this opposition and partly because of the early 1990s economic recession, Government shelve all plans for further trunk road and motorway expansion.

Then, as the national economy began to grow strongly again in the late 1990s, the debate about how to accommodate the traffic growth that accompanied economic growth had to be reopened. Continued environmental objections to new infrastructure capacity creation, and also the new Government's strong policy commitment to lowering traffic generation from new development, resulted in the focus of the debate being on finding ways to accommodate new development with minimal traffic growth.

This focus became the agenda for a detailed, government-sponsored research programme undertaken from 1996 by the 'Standing Advisory Council on Trunk Road Assessment', (SACTRA). The aim of their research was to resolve questions such as:

- To what extent do transport improvements lead to increased economic activity?
- Can traffic growth be "decoupled" from such economic growth: or, put alternatively, can traffic be reduced without having a negative impact on the economy?

- Are all of the economic impacts captured in current appraisal techniques?
- Should appraisal techniques be amended and if so, how?

The final report submitted in June 1999 made the following main points:

- Transport improvements do lead to increased economic activity but conventional cost benefit analysis methods remained the best proxy for capturing the scale of such benefits
- It was acknowledged, however, that this measure of benefits assumes a situation of perfect competition in the economy and that transport cost benefit analysis does not account for any adjustments towards greater market efficiency (or inefficiency) that might emerge
- Any such additional effects are likely to be dependent on specific local circumstances
- Further research was recommended into how to determine the nature of such effects
- It may be possible to accommodate some economic growth without significantly adding to traffic growth by application of intensive traffic demand management (TDM) measures

The cautiously worded report was broadly welcomed and led to considerable efforts on the part of the UK's Highways Agency to institute better highway capacity management systems. The report's emphasis on TDM measures also gave a degree of comfort to opponents of road capacity expansion that their objectives could be met without seriously compromising economic growth.

4.3.4 The 2002 Commission for Integrated Transport review of regional multi-modal transport studies

A further development was a series of regional multi-modal transport studies which began in 1999. The goal of this program was to develop twenty year plans that would consider interactions among all modes of travel as well as interactions between land use patterns and transport. A significant feature of the programme was that methodologies were developed to try to 'level the playing field' between road and other modes of transport in terms of cost benefit analysis.

The methodologies involved the quantification of a wider range of benefits including the congestion reducing impacts of transferring travel demand among the various modes and

also more explicit acknowledgement of employment benefits. Even though under conventional methodology these benefits would have been regarded as being simply the expressions of transport cost reductions a Treasury approved scoring system was developed that allowed their inclusion in appraisals in order to give quantified expression to policy objectives of traffic reduction and employment creation. Environmental cost and benefits were also scored but not monetarised in these earlier studies.

After two years progress the Government asked its Commission for Integrated Transport (CfIT) to review the conclusions of those studies that had reported to date. The CfIT found:

- that Government's policy objective of achieving a shift away from road-based solutions was being realised with well over 50% of all investments proposed being in rail and other public transport proposals, but

- that the BCRs achieved for almost all of these non-road solutions were typically very low. In most cases they did not meet the Treasury's benchmark for public investment even when the additional, socially motivated benefits were included.

- Highway projects, on the other hand, were found to consistently score much higher on the same broad-based BCRs, sometimes having double figure ratios.

Nevertheless, Government still found itself uncertain about committing to a major programme of infrastructure upgrade. The Department for Transport subsequently commissioned further detailed research into transport appraisal techniques in particular looking at impacts on the productivity of urban economies and labour markets.

It also convened a Parliamentary Committee hearing 'The Value of Rail' to review what benefit the country was receiving from continued capital investment in subsidy payments for the rail system. This yielded greater clarity regarding the scale of investment needed to secure an improved rail network but no consensus for any major network expansion. Instead Government decided that decisions regarding rail investment should as far as possible be taken in regional forums where the costs of different approaches to transport improvement could faced up to by local stakeholders.

The multi-modal studies continued to report and one, the South and West Yorkshire Multi-modal Study (SWYMMS) has undertaken detailed testing of preliminary findings using a comprehensive land use transport interaction model called the SWYSM or South and West Yorkshire Strategic Model.

4.3.5 The 2006 Eddington Transport Study

With continued economic growth the need for investment in additional transport infrastructure capacity became ever more urgent in that congestion was, in some areas, becoming a brake on economic growth. Major new rail capacity appeared unlikely as Government had effectively delegated decisions regarding new schemes to the regions which would not have access to significant capital resources. As for new highway capacity, Government could not look to its Highways Agency because its mandate was for network management not network expansion.

It was clear that if any significant expansion in transport infrastructure capacity was to occur then Government would need to thoroughly motivate a case. The result was the appointment of Sir Rod Eddington, to coordinate a detailed study with a brief to develop a sound case for investment in transport infrastructure. The study, which reported in December 2006 focused on the following main issues:

- A general and historic review of the ways in which transport affects economic development
- A review of methods used and factors considered in measuring transport's economic impacts
- A consideration of the circumstances in which transports economic impacts will be greatest
- Proposals for improving the institutional mechanisms for delivering transport improvements

4.3.5.1 The role of transport in economic development

Eddington's review points to periods in history when transport has been responsible for supporting 'step changes' in levels of economic activity. This has occurred when technological change results in major efficiently improvements. Examples are the railway revolution and more recently road-based passenger and freight transport. In periods between major technological developments, the economic benefits mediated by transport interventions are smaller and, by comparison incremental in nature. Measurement of the benefits requires far more sophisticated methods than might be relevant when measuring a step change.

Eddington notes that mature economies, including Britain, generally have well developed transport infrastructure networks and that consequently very detailed work is needed to estimate the economic benefit of interventions.

4.3.5.2 Review of appraisal methods and the significance of 'Wider Economic Benefits'

Eddington covers much the same ground as is summarised above but examines the case for there being additional, productivity-related economic benefits on top of those calculated by conventional techniques based on transport cost and time reductions.

The principle contribution of the whole report is indeed its very detailed review of methods for quantifying the wider economic benefits associated with economic productivity gains. These are the same benefits that earlier work in both the UK and France had hinted at but which were either not regarded as significant or were not able to be measured.

The 'Wider Economic Benefits' that were measured in addition to normal time/cost items are:

- **Agglomeration benefits:** a measure that links improvements in business productivity to changes in the breadth and depth of labour markets to which businesses have access
- **Increased labour market entrants:** as lower costs of access attract current non-participants
- **Increased labour market productivity:** as people in employment have access to a wider range of jobs and become more efficiently employed
- **Increased productivity in imperfectly competitive markets:** as firms may adjust their network of suppliers and clients in response to transport efficiencies.

In each case the benefits are in addition to those measured conventionally by transport time and cost reductions. This is because the impacts of the immediate cost reductions are assumed to apply to static patterns of participation in a region's economy. The Wider Economic Benefits (WEB), measure efficiency improvements beyond simply cost reductions for current networks of business and employment relations. In the research modelling conducted for the Eddington report the typical impact of these additional, productivity related benefits were as follows:

- Additional benefits may be between 30% and 50% more than that calculated by conventional CBA;

- The agglomeration benefits typically account for 70% of total additional benefits;

- Because these (mainly labour market) benefits appear to be proportional to accessibility improvements, and because accessibility is measured in terms of generalised cost of travel, the benefits turn out to be negative for projects involving commercial road pricing/demand management approaches.

- For projects funded in this commercial manner, the agglomeration benefits appear to be displaced by commensurately large 'road pricing revenues' accruing to the agent responsible for the project, whether public or private.

This last point suggests that the chosen funding route has a major effect on whether 'commercial operator optimisation' or 'user benefit optimisation' results from highway construction.

The Eddington report also reviews and incorporates into its conclusions, innovative research into methods of monetarising certain environmental externalities including carbon footprint, air quality, noise and landscape. The main finding here was that although the environmental externalities of transport interventions are generally negative they are usually not sufficiently so to compromise the viability of schemes with otherwise strongly positive BCRs.

4.3.5.3 Circumstances in which transport interventions would have the biggest impact

The Eddington study also considers under what circumstances it could be expected that the impacts of transport interventions would be greatest. Whereas conventional appraisal methodology can only indicate that the scale of benefit is proportional to the extent of the transport cost savings delivered by an intervention, the WEBs offers more interesting pointers. This is because what is being measured in the WEB approach is the enhanced expression of pre-existing economic potential within the region affected by the transport intervention. The implication of this analysis is that the scale of the WEBs would vary according to the nature of pre-existing economic potential. Even more specifically, it suggests that the WEB impacts would be greatest where pre-existing economic potential is showing greatest dynamism, in other words where economic growth is already occurring, independently of any new transport interventions. In light of this insight, Eddington suggests that in order to achieve the highest economic impact, transport interventions should be focused on supporting the economies of growing urban areas.

The report also argues that in a trade-dependent economy like the UK, improvements to interurban corridors and links between key points of entry to the economy, such as ports and airports, and these areas of high economic growth, are also likely to yield higher macro-economic benefits.

4.3.5.4 Institutional mechanisms for delivering transport improvements

Eddington also argues strongly for the establishment of an 'Independent Planning Commission' with powers to take decisions on transport interventions of national importance. It was noted that the implementation of the strategic transport interventions needed to support further growth in key urban areas was often severely hampered and excessively delayed by the multiplicity of institutions involved in the process. In Eddington's view, the introduction of transparent, but much streamlined approvals procedures would yield substantial economic benefits by significantly reducing the time between project conception and implementation.

An independent body would also allow investment decisions to capture, and actually take account of, costs and benefit information from a fuller national perspective rather than the potentially narrower perspective of a mandated infrastructure institution or local authority.

4.3.5.5 Summary of Eddington's findings

In summary, the key lessons from the Eddington Transport Study are as follows:

- Transport interventions, including infrastructure projects, often yield benefits many times their costs whether using conventional welfare measures based on transport time and cost reduction or methodologies that relate GDP impact to the scale of transport investment.

- The highest benefit cost ratios are usually achieved from schemes that deal with bottlenecks in existing transport networks thus allowing existing infrastructure to perform more efficiently.

- Wider economic benefits, such as economic agglomeration effects, may add between 30% and 50% to benefits achieved using conventional measures. These are especially significant when interventions are in support of growing urban areas and points of access such as ports.

- Pricing of infrastructure use increases the efficiency with which it is used and yields major financial benefits. (But, as indicated earlier, [pp 24/25] pricing also has strong

distributive impact in that it transfers benefit away from users to the pricing agency. The ultimate value of a road pricing approach to road funding will therefore depend on the level of the price and also what happens to the funds raised).

- Many transport interventions retain high positive benefit cost ratios even after the ratios are reduced as a result of monetarised cost of environmental externalities.

- Streamlined institutional arrangements are needed to fast-track transport interventions that are of strategic importance for national economic growth.

While Eddington advocates improved utilisation of existing infrastructure as a first intervention priority, a key message of the study is that fully quantified macro-economic analysis also provides a very sound basis for action in terms of major transport infrastructure expansion.

4.3.6 Lessons for macro-economic cost benefit analysis in South Africa

Cost benefit appraisal methodology in South Africa would benefit from adopting the following lessons from the Eddington work:

Prioritise small infrastructure and service improvements before committing to major network expansion because these smaller schemes tend to have the highest BCRs. This would include interventions such as shoulder lane utilisation; junction capacity improvements; electronic management and information systems, etc. SANRAL is doing this already in advance of implementing the project.

Inclusion of Wider Economic Benefits based on efficiency improvements in urban economies can add significantly to the benefits of large infrastructure interventions. The feasibility of undertaking such analysis in the Gauteng area is currently being assessed.

In the meantime the following key conclusions should be noted:

- Wider economic benefits including agglomeration and other, labour market efficiency factors, could add between 30 percent and 50 percent to economic benefits measured by conventional methods;

- Given the high rate of economic growth in Gauteng, the higher end of the range for such benefits could be expected to apply in the case of the FIS programme;

- The sections of the network most closely supporting concentrations of employment would have the highest incremental gains from wider economic benefits; links that are more specifically inter-urban would have lower gains.

Pricing of infrastructure leads to more efficient network use but may result in negative benefits in terms of agglomeration and other labour market effects, (possibly transferring benefits away from employees and towards infrastructure operators). The Gauteng FIS is a combination of pricing and capacity expansion. It is therefore likely to have a less negative impact on agglomeration and other wider benefits than a pure demand management approach but would still be suboptimal in terms of achievement of wider benefits.

While pricing of infrastructure does result in more efficient operation, it also reduces the value of the travel time and other user benefits. Because the agglomeration and other wider labour market efficiency effects are mediated via improvements in generalised cost of travel, pricing the infrastructure too highly may result in reduction or even wiping out of value of these improvements. The effect is extremely efficient operational performance of the infrastructure but greatly reduced secondary labour market benefits.

In effect, benefit is transferred away from businesses that might otherwise benefit from improved labour productivity to the network operator.

Pricing of environmental externalities helps optimise choice of intervention. While environmental externalities of freeway projects are usually negative, the monetarisation work undertaken by Eddington shows that many infrastructure projects retain strongly positive BCRs even after environmental costs have been taken into account. At present environmental effects are dealt with in South Africa as an 'off cost benefit balance sheet' item. The result is that potentially arbitrary decisions have to be made regarding the extent to which environmental impacts should impede infrastructure expansion, and the amount of investment in the mitigation of such impacts. Monetarisation of these impacts could reduce the level of uncertainty in decisions.

An independent appraisal body for nationally important projects could reduce delays and allow infrastructure investment decisions to be made on a national, rather than a local or sectoral cost benefit basis, and also be less constrained by institutional funding mandates.

5 Toll collection Systems

The intention of this section is give a brief introduction to the different methods of tolling that were considered for the project. These are tolling using traditional toll plazas or open road tolling (ORT).

The traditional toll plaza system is familiar to anyone in Gauteng who uses the N4. Here you drive up to a plaza, pay the required fee and continue the journey. Often there are frequent user discounts or local area discounts. In turn this type of system can be either an open or closed tolling system. A closed tolling system aims to toll every vehicle on the road. While this is straight forward in a rural environment in an urban environment it means having plazas on every ramp of the entire freeway system. This is usually financially inefficient and the result is typically an open tolling system where there are a number of mainline plazas and a limited number of ramp plazas. The latter are either to limit diversion away from a mainline plaza or because the ramp carries a high volume of traffic.

One of the key disadvantages of the plaza system for urban roads is the potential for long delays at the plazas, particularly at peak periods. A potential solution to this problem is to have a number of lanes that use some kind of electronic toll collection (ETC). This could be an optical number plate reader or a transponder of some sort. Here, registered users of the toll road slow down but do not need to stop.

The alternative to this type of tolling system is to use some form of ORT. This is a system that uses electronic toll collection that partially or totally does away with the need for traditional toll plazas. Here there are gantries that span the road at regular intervals which again could use a potential variety of electronic means to record which vehicles are using the road and how far the vehicles are travelling. (It also potentially allows for the tracking of stolen vehicles and the monitoring of vehicle speeds).

In considering the use of ORT there are both demand and supply side issues. Demand side deals with issues relating to people who would use the ORT system while the supply side deals with those responsible for purchasing, implementing and maintaining the ORT system.

5.1 Supply Side Issues

Analysing the continuum it can be seen that the first and possibly the most important issue that needs to be addressed is the choice of the toll collection system that would be installed. This is important as it would affect not only the implementation costs but the maintenance and enforcement costs as well.

Table 2: Generic Comparison of Different Toll Systems[2]

	Manual Operation	***Hybrid Operation***	***Fully Automated ETC***
Maintenance	High	Medium-High	Low
Congestion Relief	Low	Medium	High
Required Enforcement	Low	Medium-Low	High

A fully automated ORT system requires little maintenance *"While a conventional interchange requires 25 full-time employees, at a cost of up to one-third of the toll collection revenue, the ETC option would require only one maintenance person and account support"*[3] Note however the fully automated ETC system would required a labour intensive enforcement system often also requiring local traffic police assistance[4]. The Hybrid options make use of Express or Managed lanes; here toll users who have subscribed to the system need not wait to pay but pass through with the ETC automatically debiting their account. Once again effective enforcement procedures must be in place[5].

When an ORT system is implemented it requires that consumers that use the system have some type of on board unit (OBU). This raises two issues. Firstly who would install the OBU's and also where would this installation take place. While secondly and most importantly, who would bear the cost of purchasing, installing and maintaining the OBU. It is issues such as this that have a high impact on the demand side decision to join the ETC system or not. Some international trends indicate that subsidisation would be preferable.

As discussed by Chen (2007) one of the major issues surrounding low subscription is that consumers are not fully aware of the benefit if the join the system. It is thus important that a marketing campaign be conducted to educate the public about the potential benefits. Chen further suggests that this needs to be an ongoing campaign.

At present no international standards of best practice with regards to ETC can be found, due to different government intervention between countries. In Japan the ETC system is entirely funded and run by the Government, while in the USA there have been moves to privatise toll collection systems (http://www.itscanada.ca).

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[2] Note that this table was compiled by using different internet sources namely (http://www.itscanada.ca) & (http://www.calccit.org/itsdecision/serv_and_tech/Electronic_toll_collection).
[3] (http://www.calccit.org/itsdecision/serv_and_tech/Electronic_toll_collection).
[4] (http://www.itslessons.its.dot.gov/its/benecost.nsf
[5]http://www.itslessons.its.dot.gov/its/benecost.nsf)&(http://www.calccit.org/itsdecision/serv_and_tech/Electronic_toll_collection).

The last supply side issue that needs to be addressed is that specific legal procedures must be in-place not only to ensure that those not paying toll fees are dealt with but also to ensure that the consumers' right to privacy is respected.

5.2 Demand Side Issues

An important issue that underpins the success of an ETC system is whether consumers would join. A key factor in this decision is the cost that the consumer would have to bear and also the perceived benefit that consumer would receive. *"The most prominent suggestion for improving the ETC system is cost related: availability of toll discounts (for those that are part of the system) as well as cheaper OBU's"* (Montalbo 2007). Linked to this is the marketing and public acceptance programme that should be aimed at educating the consumers about the benefits of the new system. Montalbo showed further that approximately 55% of consumers that opted not to join the ETC system did so due to high initial cost, while approximately only 23% opted not to use the system due to infrequent use of the carriage way. From this it is clear that cost to the consumer is a key factor in ensuring that the ETC system succeeds.

Interestingly an issue that needs to be taken into account when marketing the ETC system is that *"Commuters do not always value time savings as highly as planners would like. In addition, minor time savings exhibited on a few of the newest ETC facilities do not justify the cost of obtaining and maintaining and OBU and a toll account"*[6]. It is thus necessary to, when marketing the product to the consumers to ensure that a package of benefits is marketed and not just "Time Savings".

[6] (http://www.itscanada.ca).

6 Efficiency, Equity and Toll roads

This section explores the interrelationship that exists between economic efficiency, equity and the tolling of roads. The discipline of economics distinguishes between three types of economic efficiencies. These are productive, allocative and dynamic efficiency. Productive efficiency occurs when the factors of production within a country are used in their most efficient way. Allocative efficiency refers to the actual mix of production and output. Dynamic efficiency is the degree to which productive and allocative efficiency interact with other factors to generate economic growth. Since transport is a derived demand (only some people drive purely for the pleasure of driving) the focus here is on productive efficiency.

The section starts by focusing on the ways in which the project would contribute to the generation of economic efficiencies. This is followed by the identification of source of inefficiency for the project and a conclusion about the trade off between equity and efficiency.

6.1 Sources of efficiency

The project has the potential to contribute to the generation of productive efficiency in at least three ways.

6.1.1 User pays principle

The requirement that the tolling system be economically efficient is captured in the government transport policy document, “Moving South Africa”. In the overview this includes the objective: ‘Recover full costs from users’. This is elucidated in two parts. The first requires that users are charged for the full cost of their use of infrastructure and operations used, and for all externalities they generate. The second requires that users not be charged above full costs in order to support infrastructure and operations that do not provide them with benefits (Moving South Africa p17).

In effect this requires that each road user pay a fee equal to the incremental costs that user imposes on the roads and on other road users. The charge can also incorporate an element to cover amortisation of the sunk costs involved, however no group of users should be cross-subsidising other users. Hence tolling increases equity because only those people who use the roads actually pay for them. Funding the roads through an increase in the fuel tax reduces equity because the benefits from the roads are localised (to specific users) while the costs are borne by anyone who pays for fuel.

6.1.2 Damage and distortions from heavy vehicles

Before toll roads there was little way in which heavy vehicles could be charged fully for the use of a road. Vehicle licences and fuel tax are not adequate here because they do not increase in proportion between light and heavy vehicles relative to the degree of damage that these vehicles cause. The consequence is that light vehicle owners are subsidising heavy vehicles by paying more than their 'user cost' portion of the road.

This subsidy further distorts the transport system through its impact on the rail network. Spoornet, for example, not only covers the running costs of its own haulage operations, but is also responsible for all track construction and maintenance. In addition, hauliers do not pay for road damages or any clean ups (e.g. chemical spills) that are necessitated by accidents involving trucks while rail operators cover all of the cost when accidents occur.

6.1.3 Congestion tolling

Vehicles impose four main costs on the rest of society – accident externalities, environmental pollution, road damage, and congestion. As these are costs that are borne by society but not by the driver this means that the journey is costing the individual less than it is costing society. Now, while these issues are largely irrelevant on open rural roads, they become particularly important as road congestion increases. The incidence of accidents increases, and the slower moving traffic increases air and noise pollution, and adds to road user costs. It is clear that congestion is a source of economic inefficiency.

The project has the capacity to address these economic inefficiencies by introducing congestion tolling. This requires a toll that varies with time of day. While such congestion tolling has not been introduced on any of South Africa's toll roads to date they do warrant consideration because of their capacity to generate economic efficiencies.

6.2 Sources of inefficiencies

In contrast to the sources of efficiencies outlined above the project also has the capacity to generate a number of inefficiencies.

6.2.1 Toll collection costs

Paying for roads through taxes or a dedicated fuel fund is simply cheaper than imposing tolls on a road even if this is through an ORT system. The cost of collection is far lower because it does not incur the cost of toll collection system.

It has been calculated that the actual cost of the toll infrastructure adds, on average 8.5 cents per vehicle kilometre. This is the cost that would be incurred to pay for improved equity.

6.2.2 Diversions

The increased possibility of vehicles diverting because of the proposed tolling would generate economic inefficiencies as social costs diverge from private costs. Tolling an open highway may shift some costs onto the province and local residents as vehicles divert onto secondary roads to avoid tolls.

Where an open access tolling system on a trunk route is combined with unmonitored, uncontrolled and untolled side roads, there is an incentive for drivers to use them. Since such alternate routes are generally narrower and have lighter foundations, whenever tolling shifts a heavy vehicle to a side road it increases road damage, reduces revenue recovery, slows traffic flows and increases accident risk. The damage a vehicle does to a road rises exponentially with that vehicle's mass and axle loading. It also rises if the road being used has light foundations, i.e. a road not designed for heavy vehicle use. Tolling that leads to heavy vehicle diversion to minor roads may thus feasibly reduce efficiency.

While it can probably be expected that there would be some diversions in the early years of the project it can also be expected that the additional capacity that would be added to the freeway system would attract traffic off the rest of the road network. Conversely, in the absence of adding capacity to the freeway network it is a fact that sections of these roads are already at or close to full carrying capacity during morning and afternoon peak hour. Growth in vehicle ownership would then have the effect of increasing diversions to the rest of the road network and an increase in the time that peak traffic continues.

7 A Cost Benefit Analysis

This section reports on the economic cost benefit analysis of the project. The following costs were included in the analysis:

- The construction, maintenance and operations costs of the roads and toll collection infrastructure.
- Road user costs (which include vehicle operating costs, time costs and accidents).
- The cost of diversions to the road users who would divert off the toll roads and onto the network.
- The cost, if any, to the Provincial /metropolitan Authorities who would be responsible for the increased cost of maintaining their network due to traffic diversion.

The results are given for various tolling rates, namely 0c per km (i.e. no tolling), 30c, 40c, 50c, 60c and 70c per km for light vehicles. The ratio between tolls paid by light vehicles and tolls paid by other vehicles is 2.5 times for a class B vehicle and 4.5 times for a class C vehicle. In order to reduce the degree of verbiage in this report tolls for heavy vehicles are referred to as 'toll equivalent' meaning that, for example, a 30c toll for a light vehicle would be 75c for a class B vehicle and a 40c light vehicle toll would be a R1.00 toll for a class B vehicle.

The results for heavy vehicles from the traffic model were given on an axle based system rather than a volumetric based system. Hence the results are given for class 2, 3 and 4 heavy vehicles rather than classes B & C. However, the toll ratio for class C is the same as for class 4 while class B is between classes 2 and 3. The toll ratios for classes 2, 3 and 4 are 2, 3.25 & 4.5 respectively.

7.1 Results

The overall economic costs and benefits of upgrading and tolling relative to the do nothing option are given in Table 3.

These are the light vehicle tolling rates and will be referred to as the equivalent tolling rates for heavy vehicles. The toll tariffs applicable to heavy vehicles would be multiplies of these light vehicle tolling rates.

All tolling strategies, apart from the no tolling option (0c per km) have the same initial construction costs and operating & maintenance costs. For the no tolling option there is a reduced initial construction cost (PV of R1.7bn) from not having to implement the tolling system and reduced operating and maintenance costs (PV of R10.1bn).

The costs to local authorities increase as the tolling rate increases. This occurs because as the toll increases so more and more vehicles would divert off the toll roads and onto the rest of the road network. This results in a higher annual maintenance cost to the municipal and provincial road authorities.

Table 3: Economic cost benefit analysis

Results of Cost Benefit Analysis	**Toll Rate per km**					
	0c	**30c**	**40c**	**50c**	**60c**	**70c**
Initial Construction Costs	14,689	16,410	16,410	16,410	16,410	16,410
Operating & Maintenance Costs	2,793	12,902	12,902	12,902	12,902	12,902
Cost to Local Authorities	0	193	270	344	398	459
Total Costs (R million)	**17,483**	**29,505**	**29,582**	**29,656**	**29,710**	**29,772**
Road User Cost Savings	244,761	248,019	244,401	247,967	240,831	239,580
Total Benefits (R million)	**244,761**	**248,019**	**244,401**	**247,967**	**240,831**	**239,580**
Net Benefits (R million)	227,279	218,514	214,819	218,311	211,121	209,808
BCR	14.0	8.4	8.3	8.4	8.1	8.0
IRR	41%	37%	37%	37%	37%	37%

Total costs therefore increase from a PV of R17.5bn for a 0c per km toll to R29.8bn for a 70c per km toll. While the costs increase as the tolling rate increases, benefits on the other hand generally show a decrease. The benefits, as characterised by road user cost savings when compared to the "Do nothing" case, decrease from a PV of R244.8bn for 0c per km to R239.6bn for 70c per km. The two exceptions to this are the increase when moving from 0c per km to 30c per km and from 40c per km to 50c per km. The reason for these two exceptions has to do with the different behaviour among the different classes of road users. If tolling is introduced and the rate changes from 0c to 30c per km commuters and other light vehicles divert off the toll road, while business travellers and heavy vehicles remain on the toll roads who can then travel at a greater speed. This results in a higher value of time savings because business travellers and heavy vehicles have a higher cost of time than commuters and other light vehicle users. This pattern only occurs for certain increments in the tolling rate because generally as the toll rate increases so more vehicles would divert off the toll roads. The vehicles that remain on the toll roads are already travelling at the official speed limit and cannot (in theory) travel any faster.

The Benefit Cost Ratios (BCR), are all above 8.0, indicating that the project is, from an economic perspective, beneficial to society. The BCR reduces from 14.0 for the 0c per km tolling rate to 8.4 for 30c, 8.3 for 40c, 8.4 for 50c, 8.1 for 60c and 8.0 for 70c. The effect of

tolling on the upgraded road network is therefore to reduce the BCR from 14.0 to between 8.0 and 8.4, depending on which tolling rate is chosen.

The Net Benefits or NPV, which is the difference between the benefits and the costs, are all positive and vary between R209.8bn for a 70c per km tolling rate to R227.3bn for a 0c per km tolling rate. The IRR's for all the tolling options are 37%, while for the non-tolling option is 41%.

7.2 Sensitivity analysis

A sensitivity analysis was performed on two key variables that were used in the analysis. These are the maintenance and operating costs and the cost of time. The sensitivity analyses is done only for a 50c toll.

7.2.1 Maintenance and Operating Costs

The maintenance & operating costs are important in the overall costs of the project. Although the initial construction costs have PV's that are higher than that of the maintenance & operating costs, the initial construction costs have been largely incurred and doing a sensitivity analysis on them would be of no value. This sensitivity analysis looks at the effect of increasing the maintenance & operating costs. The results are shown in Table 4.

Table 4: Sensitivity analysis on Maintenance & Operating Costs

Sensitivity	O&M	BCR
1.0x O&M Costs	12,902	**8.4**
2.0x O&M Costs	25,804	5.8
3.0x O&M Costs	38,706	4.5

Doubling the operating & maintenance costs reduces the BCR for the 50c toll from 8.4 to 5.8. Tripling the operating & maintenance costs reduces the BCR further to 4.5. Under both cases the BCR is still higher than one, indicating that the project remains economically viable.

The conclusion drawn from this sensitivity analysis is that a threefold increase in operating & maintenance costs does not invalidate the economic viability of this project.

7.2.2 Cost of Time

In the analysis different road users are, based on their declared income, given different values of time. Business travellers have costs of time equal to their income, whereas commuters and other travellers have lower costs of time. According to the World Bank

guidelines on economic analysis non-business road users should be allocated a cost of time equal to a third of their income. This sensitivity examines the impact of varying the costs of time.

Table 5: Effect of varying the Costs of Time

Cost of Time (R/hour)	LV Commuters	LV Business	LV Other	Heavy Vehicles	BCR
1.25x Cost of Time	55.54	210.72	56.55	66.38	10.3
1.0x Cost of Time	**44.43**	**168.58**	**45.24**	**53.11**	**8.4**
0.75x Cost of Time	33.33	126.43	33.93	39.83	6.4
0.5x Cost of Time	22.22	84.29	22.62	26.55	4.4

It can be seen from Table 5 that halving the cost of time has the effect of reducing the BCR from 8.4 to 4.4. Halving the cost of time nearly halves the BCR, so it can be concluded that the cost of time would need to be reduced to one eighth for the BCR to approach 1 and for the project to become economically unviable.

Conversely, increasing the cost of time increases the BCR. This is similar to applying a motorway bonus to road user benefits. A motorway bonus incorporates those perceived benefits that road users attach to using a toll road, over and above the vehicle operating cost savings, time savings and reduction in accidents. Examples of motorway bonuses would be safety perceptions attached to driving at night on a well-lit road rather than deviating through dark areas and having to stop at traffic lights. The BCR would increase from 8.4 to 10.3 if the motorway bonus were as much as 25% of the cost of time.

The overall conclusion of this sensitivity analysis is the while varying the cost of time does have an effect on the overall results it does not change the overall conclusion that the project is economically viable and beneficial to society.

7.3 Road user costs and benefits

One of the critical issues in the economic assessment of the project is how tolling the roads would impact on people and business. There are a variety of potential impacts.

- The first is that people would now pay a toll to use the freeway network.
- The second is that there would be potential cost savings to road users because the increased capacity and surface upgrades reduce vehicle operating costs and accident costs.
- Increased capacity would reduce traffic congestion and therefore reduce travel times on the proposed toll roads and the costs associated with travel.
- The increased capacity of the project could attract additional traffic. If this occurs there would be less traffic on the rest of the road network. This would lead to reduced congestion and lower travel costs for road users and lower road maintenance costs for local authorities.
- There is the potential for the proposed tolling to cause traffic diversions. Where this occurs there would be slower travelling times, increased chance of accidents and the costs associated with these changes. There would be increased road maintenance costs to local authorities if there were substantial heavy vehicle deviations.

The section starts with a brief description of methodology. Second, estimated costs and benefits to individual road users are reported on.

7.3.1 Methodological approach

The approach followed was to determine the current and future road user costs for individual and total vehicle usage for the seven potential options. These are the do nothing option, the upgrade but not tolling option and the upgrade option with five different tolling rates (30c, 40c, 50c 60c and 70c per km tolling rate). The difference between these costs, less any toll tariff that would be paid, is the net financial cost or benefit to the road user.

There are a number of factors that complicate estimating the changes in costs:

- The tolled and untolled roads would have different carrying capacities and different riding surfaces. The proposed toll roads make provision for initial and ongoing increases in carrying capacity. In turn it has been assumed that the untolled roads

would have no capacity increases but sufficient maintenance to keep a reasonable road surface. In consequence there would be different road user costs for the tolled and untolled roads.

- Increased capacity would attract traffic to the upgraded roads where the toll tariff determines the degree of attraction. If the toll tariff were raised too high it would push traffic onto the rest of the road network. The result of attracting or repelling traffic affects the riding quality of the road particularly if there are changes in flows of heavy vehicles.

There are several computer software programmes available that assist in calculating benefits to road users for alternative road transport projects. One of the most well known software programmes is the Highway Design and Maintenance Standard Model 4 (HDM4)[7]. It was developed by the World Bank and is used extensively by traffic engineers in South Africa. The HDM4 computer model takes its starting point as the concept of "pavement life cycle analysis" and is able to generate vehicle operating costs (VOC) and road user costs (RUC) per kilometre of road for various classes of vehicles, road alignments, traffic flows and pavement conditions.

The methodological approach used here follows the logic of the HDM4 software for the calculation of vehicle operating costs and road user charges but does not use HDM4 explicitly. Rather a spreadsheet modelling approach was used to replicate the HDM4 algorithms and output. The main reason for following this approach was because HDM4 is very 'black-box' in its presentation and does not have the transparency or flexibility of a spreadsheet model.

7.3.2 Quantifying vehicle operating costs and road users costs

Technically two different costs are defined in the use of a vehicle. The first are the so-called vehicle operating costs. These are specific to the cost of using a vehicle. Second are road user costs. Road user costs include vehicle operating costs but also include costs of potential accidents and time costs. The methodological approaches to these two costs are discussed below.

[7] www.worldbank.org/transport/roads/rd_tools/hdm4.htm

7.3.3 Quantifying vehicle operating costs

Vehicle operating costs (VOC) are direct costs incurred by the owner or driver of a vehicle. Specifically these include fuel, capital, maintenance, tyres and oil. These costs vary according to the type of vehicle that is operated as well as the type of road and terrain covered by the road. In addition to this, the age of the road and the type of traffic the road has been subjected to also affect operating costs. SANRAL supplied the information used in these calculations as an output from the HDM4 software.

Different types of roads in different topographical locations result in different basic VOC and Road User Costs (RUC). The freeways are made up of different types of road as a result of varying levels of traffic. The VOCs for each section of road were treated separately according to the type of road and the data was read from the HDM4 database, which is incorporated into the model. An example of the VOC's from the database is shown in Table 6. Most of the roads in the analysis have been treated as either 4, 6 or 8 lane freeways in rolling terrain.

Table 6: Vehicle Operating Costs per km from HDM4 Database

Vehicle Class	DUAL4F VOC	DUAL6R VOC	PAVED2PR VOC
Class 1 Light Vehicles	R3.01	R3.01	R3.01
Class 2 Heavy Vehicles	R8.05	R8.08	R8.93
Class 3 Heavy Vehicles	R10.67	R10.69	R20.33
Class 4 Heavy Vehicles	R20.25	R20.33	R23.54

For any given road, VOCs are determined by the quality of the road surface. Good road surfaces result in lower vehicle operating costs while bad road surfaces result in higher costs. The quality of the road surface is given by the so-called Present Serviceability Index (PSI) factor. The road quality deteriorates over time due to both vehicle usage and weather damage. Typically new or upgraded roads would have a PSI of 4.0 and a PSI of 2.5 to 2.0 under normal traffic conditions by the end of its design life. For the purposes of this analysis the upgraded roads are assumed to have a PSI of 4.0, while the un-upgraded roads are assumed to have a PSI of 2.5.

VOC and RUC need to be adjusted for different road qualities and congestion values. The quality of the riding surface of the existing road is inferior to that of a newly built or upgraded road. The PSI of a road is calculated from the following formula (CB Roads):

$$PSI_{(t)} = PSI_{new} - (PSI_{new} - PSI_{end}) \times (E80_{(t)} / \text{Design E80})^{n}$$

Where $PSI_{(t)}$ is the current PSI of the riding surface

PSI_{new} is the PSI of a new or rehabilitated pavement

PSI_{end} is the desired PSI at the end of the road's design life

$E80_{(t)}$ is the number of equivalent 80kN (8 ton) single axle loads (E80's) that have used the pavement over a period of time (t).

Design E80 is the number of E80's for which the pavement has been designed, usually over a period of 20 years.

n is the pavement equivalency exponent, which for tarred roads is 4 and for concrete roads is 6.

The traffic projections for light and heavy vehicles have been converted into equivalent E80 loads using the factors in Table 7 (Source TMH4 Table 6). These E80s are then summed and inserted into the PSI formula given above to determine the cumulative effect on the quality of the riding surface.

Table 7: Equivalent E80 per vehicle type

Equivalent E80's per Vehicle Class			
Class I	**Class II**	**Class III**	**Class IV**
0.0	1.2	1.8	3.5

From PSI, we can obtain QI. QI is "the quarter car index and is measured by means of a linear displacement integrator (LDI) which measures and sums the displacements between the rigid axle of a vehicle and the body of the vehicle as the vehicle moves over the road" (Van der Merwe & Grant 1980 as cited in Sabita 1994).

The relationship between QI and PSI is given as (Visser, 1982):

$$QI = 92.63 - 56.39 \times \ln(PSI)$$

And from QI we can obtain frl and frh, where frl is the roughness coefficient for light vehicles and frh for heavy vehicles:

$frl = 0.0081 \times QI + 0.676$ for light vehicles, and

$frh = 0.0036 \times QI + 0.856$ for heavy vehicles

Finally, $fr = (1-\%HV) \times frl + \%HV \times frh$ for 2 lane bi-directional roads, or

fr = 0.8 + 0.3 x (1-%HV) x frl + 0.9 x %HV x frh for multi lane roads

The proportion of heavy vehicles in the daily traffic is given as %HV.

By multiplying the VOC with fr, one can obtain the Vehicle Operating Costs for a particular quality road and for a particular traffic count. The model does this for each link for the before and after upgrading options, i.e. VOCBEFORE and VOCAFTER per link. The VOC's are unique on each link because of the different proportion of vehicle classes that occur there, the different type of road and the varying quality of the riding surface. This is done for the five discreet time slots that have been analysed, namely weekday morning peak, afternoon peak, midday off peak, night time and weekends. Each of these time periods have their own vehicle traffic composition.

7.3.4 Quantifying road user costs

Road user costs are the sum of vehicle operating costs, potential costs of accidents and the cost of time. As has been shown above, type of road and terrain as well as the quality of the road surface affect vehicle operating costs. The HDM4 approach to accident costs is to allow cost changes depending on road and terrain type. Accident costs also increase as a result of increasing traffic congestion. Accident costs are given as a fixed value for road and terrain type and as a variable factor (the so-called fc) for congestion where fc is the congestion factor. Finally, time costs are considered because of the opportunity cost of a journey and are typically measured as earnings foregone.

Accident costs are determined from a SANRAL database, based on accident related statistics. The accident statistics are classified by the number of fatal, serious and light accidents and the damage per 100 million vehicle kilometres for different types of roads. This is done according to the type of intersections encountered on the road (at grade or grade separated) and according to the type of shoulder on the road (paved or unpaved). The length of the road link is multiplied by the appropriate accident statistic to obtain the potential cost of an accident per commuter.

The key issue for changes in road user costs relates to traffic congestion. As congestion increases so too does the probability of an accident and the opportunity cost of the journey. The upgrading and capacity increases will allow these roads to carry more traffic with less congestion than would be the case if the roads had been maintained at their current capacity and riding quality. In order to measure these changed road user costs resort was made to HDM4 type methodology for the measurement of the cost of accidents. For measuring the cost of time the traffic engineers supplied predicted speeds for different options for each link

on the roads. Taking the speed saving and applying a cost of time value and vehicle occupancy rate allowed for a value to be placed on the savings in road user costs. The five time periods that were analysed have their own traffic congestion and travel speeds.

The cost of time and vehicle occupancy rates were based the road side interview conducted in 2009 and the results increased to 2010 values using the increases in GDP per capita over the same time period. The time costs have been divided into working time and non-working time costs for class 1 vehicle owners and working time costs for all other classes. According to K.W. Gwouldiam (1997), as cited in Belli et al (1998), working time only applies to people driving on work-related business and does not include commuting to and from work. The same report suggests that non-working time be taken as one third that of working time. The number of people per car during peak and off peak times is determined from the roadside interviews to produce the total cost of time per vehicle per hour. The traffic engineers have supplied the speed of the different classes of vehicles over the length of the link of road under consideration, which thus determines the time spent per length of road link. The cost of time per vehicle per road link is then calculated. The actual values used in the cost of time calculations are given in Table 8.

Table 8: Cost of time per vehicle (rands per hour)

From 2009 RSI	2009 R/hr	2010 R/hr
LV Commuting Time	165.44	177.66
LV Non-Working Time	168.45	180.90
LV Working Time	156.98	168.58

Congestion also has an impact on the Road User Costs. The capacity of the road would be increased with its upgrading, and the effect of the reduced congestion would magnify the difference in the vehicle operating costs for the before and after upgrading options, as well as the accident costs. At low vehicle flows, there is no magnification, but once the number of vehicles on the road starts exceeding 40% of the road capacity then there is a difference as shown in the formulae below:

If V/C <= 0.4, then fc = 1.00

0.4 < V/C <= 1.00, then fc = (V/C + 0.6) 1.15

V/C > 1.00 then fc = 1.6 1.15

Where: V/C is the number of vehicles as a proportion of the capacity of the road and fc is the multiplication factor for the road user costs.

The final Road User Costs (RUC) are then obtained from

RUC = (Accident Costs x fc + Time Costs + VOC x fr x fc) x length of road

Road User Costs can now be obtained for the before and after upgrading options. The difference in before and after, multiplied by the length of road that the user would be commuting on, should be more than the toll fee charged if the proposal is to be of a benefit to that road user.

It will also be recognised that as traffic congestion varies according to the day and according to the season, allowances need to be made as to how these impact on road user costs. To this end five types of estimates have been made. They are for individual vehicles travelling in weekday morning peak hour traffic, afternoon peak hour traffic, midday offpeak traffic, night time traffic and weekend traffic.

The quantification of the change in road user costs follows from the calculations of the road PSI and the vehicle operating cost outlined in the section above. From these calculations we know the vehicle operating costs for the tolled and untolled roads for each link along each road. From the traffic engineers we also know the volume of traffic on each link and vehicle speed (again recognising that volumes and travelling speeds differ according to the tolled and untolled option).

Hence the difference in road user benefits are the reduced road user costs as a result of the upgrading of each section and link. The overall change in road user costs is therefore the difference between the cost of driving on the untolled road without upgrades and difference in road user costs and benefits of driving on the upgraded and tolled road.

A practical example of this methodological approach is illustrated in Table 9 and Table 10. These tables illustrate the VOC and RUC for the section on the N1 from Proefplaas to the Brakfontein Interchange. Table 9 gives the estimated costs and benefits for the road without any upgrading while Table 10 conducts the identical exercise for a road that is upgraded. The most important numbers in these tables are those for “Individual Road User Costs”. Here a comparison of the numbers on the two tables indicates the cost savings due to upgrading. No toll tariff is removed in these calculations because the proponents preferred location is not on this section. For those sections where a gantry is located the benefits are reduced by that toll.

Table 9: Do nothing Road User Costs for the N1: Proefplaas to Brakfontein (Proefplaas to Lynwood Section, Southbound)

Before upgrades - DO MINIMUM																								
AM Peak Hour Traffic								% HV	V:C	fc	fr	Modified VOCs (R/km)				Ave	Acc	Cost of Time (R/km)				Individual Road User Costs (Rands)					
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4	Total					Cl 1	Cl 2	Cl 3	Cl 4	Speed	(R/km)	Cl 1 C	Cl 1 B	Cl 1 O	HV	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	4,490	84	280	66	25	67	5,012	3.1%	0.85	1.53	1.12	3.37	10.02	14.11	26.09	46.2	0.151	1.28	3.65	1.30	1.15	24.64	33.37	24.73	61.73	84.87	152.64
2012	4,546	84	279	67	25	67	5,067	3.1%	0.86	1.54	1.12	3.37	10.01	14.11	26.09	44.2	0.151	1.34	3.82	1.37	1.20	25.01	34.15	25.10	62.35	85.67	153.93
2013	4,602	83	277	67	25	67	5,123	3.1%	0.87	1.56	1.12	3.37	10.01	14.11	26.09	42.1	0.151	1.41	4.00	1.43	1.26	25.40	34.98	25.49	62.99	86.48	155.24
2014	4,658	83	276	68	25	68	5,178	3.1%	0.88	1.57	1.12	3.37	10.01	14.11	26.09	40.0	0.151	1.48	4.21	1.51	1.33	25.81	35.89	25.91	63.66	87.31	156.58
2015	4,714	82	274	69	26	68	5,233	3.1%	0.89	1.58	1.12	3.37	10.01	14.10	26.08	38.0	0.151	1.56	4.44	1.59	1.40	26.25	36.88	26.36	64.35	88.18	157.94
2016	4,751	82	274	69	25	67	5,269	3.1%	0.89	1.59	1.12	3.37	10.01	14.10	26.08	36.8	0.151	1.61	4.58	1.64	1.44	26.53	37.49	26.63	64.77	88.71	158.78
2017	4,789	82	274	68	25	66	5,305	3.0%	0.90	1.59	1.12	3.37	10.01	14.10	26.07	35.7	0.151	1.66	4.73	1.69	1.49	26.81	38.13	26.92	65.21	89.25	159.63
2018	4,826	82	274	68	25	65	5,340	3.0%	0.91	1.60	1.12	3.37	10.01	14.09	26.07	34.5	0.151	1.72	4.89	1.75	1.54	27.11	38.81	27.22	65.66	89.80	160.50
2019	4,863	82	273	68	25	65	5,376	2.9%	0.91	1.61	1.12	3.37	10.00	14.09	26.06	33.3	0.151	1.78	5.06	1.81	1.59	27.42	39.53	27.54	66.12	90.37	161.37
2020	4,901	82	273	67	25	64	5,412	2.9%	0.92	1.62	1.12	3.36	10.00	14.09	26.05	32.2	0.151	1.84	5.24	1.87	1.65	27.75	40.30	27.87	66.60	90.95	162.26
2021	5,009	82	273	66	24	62	5,516	2.8%	0.93	1.64	1.12	3.36	9.99	14.08	26.04	29.7	0.151	1.99	5.67	2.03	1.79	28.57	42.15	28.71	67.87	92.53	164.75
2022	5,117	82	272	65	23	60	5,620	2.6%	0.95	1.66	1.12	3.36	9.99	14.07	26.02	27.3	0.151	2.17	6.18	2.21	1.95	29.50	44.28	29.64	69.23	94.20	167.33
2023	5,226	82	272	63	23	59	5,724	2.5%	0.97	1.68	1.12	3.36	9.98	14.06	26.00	24.9	0.151	2.38	6.78	2.43	2.14	30.55	46.78	30.71	70.70	95.99	170.03
2024	5,334	82	271	62	22	57	5,828	2.4%	0.99	1.70	1.12	3.36	9.98	14.05	25.99	22.4	0.151	2.64	7.52	2.69	2.37	31.77	49.76	31.95	72.33	97.93	172.89
2025	5,442	81	271	61	21	55	5,932	2.3%	1.01	1.72	1.12	3.35	9.97	14.05	25.97	20.0	0.151	2.96	8.43	3.01	2.66	33.14	53.31	33.34	73.92	99.73	175.31
2026	5,563	81	270	60	21	54	6,048	2.2%	1.03	1.72	1.12	3.35	9.97	14.04	25.96	19.6	0.151	3.01	8.58	3.07	2.70	33.32	53.87	33.53	74.07	99.87	175.40
2027	5,683	81	270	58	20	52	6,165	2.1%	1.04	1.72	1.12	3.35	9.96	14.03	25.95	19.3	0.151	3.07	8.74	3.13	2.75	33.52	54.44	33.73	74.22	100.01	175.51
2028	5,803	81	269	57	20	51	6,281	2.0%	1.06	1.72	1.11	3.35	9.96	14.02	25.94	18.9	0.151	3.13	8.91	3.19	2.81	33.72	55.04	33.93	74.38	100.15	175.62
2029	5,924	81	269	56	19	50	6,398	1.9%	1.08	1.72	1.11	3.35	9.95	14.02	25.92	18.6	0.151	3.19	9.08	3.25	2.86	33.94	55.67	34.15	74.55	100.31	175.74
2030	6,044	80	268	55	18	48	6,514	1.9%	1.10	1.72	1.11	3.35	9.95	14.01	25.91	18.2	0.151	3.25	9.26	3.31	2.92	34.16	56.31	34.38	74.73	100.48	175.87

Table 10: Upgrade Option Road User Costs for the N1: Proefplaas to Brakfontein (Proefplaas to Lynwood Section, Southbound)

After upgrades - 50c per km toll																								
	AM Peak Hour Traffic							% HV	V:C	fc	fr	Modified VOCs (R/km)				Ave	Acc	Cost of Time (R/km)				Individual Road User Costs (Rands)					
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4	Total					Cl 1	Cl 2	Cl 3	Cl 4	Speed	(R/km)	Cl 1 C	Cl 1 B	Cl 1 O	HV	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	5,647	126	339	91	35	91	6,330	3.4%	0.83	1.51	1.06	3.18	9.45	13.31	24.62	61.3	0.151	0.97	2.75	0.98	0.87	22.15	28.73	22.21	56.77	78.31	141.40
2012	5,751	123	340	93	36	92	6,436	3.4%	0.85	1.53	1.06	3.18	9.45	13.31	24.61	58.0	0.151	1.02	2.91	1.04	0.92	22.56	29.53	22.63	57.55	79.34	143.13
2013	5,856	120	341	96	36	93	6,541	3.4%	0.86	1.55	1.06	3.18	9.45	13.31	24.61	54.6	0.151	1.08	3.09	1.10	0.97	23.00	30.39	23.07	58.36	80.38	144.88
2014	5,960	117	342	98	36	93	6,647	3.4%	0.87	1.56	1.06	3.18	9.45	13.31	24.61	51.3	0.151	1.16	3.29	1.18	1.04	23.47	31.34	23.55	59.19	81.46	146.66
2015	6,064	114	344	100	37	94	6,752	3.4%	0.89	1.58	1.06	3.18	9.45	13.31	24.61	47.9	0.151	1.24	3.52	1.26	1.11	23.98	32.40	24.06	60.06	82.57	148.48
2016	6,104	113	343	100	37	94	6,791	3.4%	0.89	1.59	1.06	3.18	9.45	13.31	24.61	46.8	0.151	1.27	3.60	1.29	1.13	24.16	32.78	24.24	60.36	82.95	149.10
2017	6,145	113	341	100	36	93	6,829	3.4%	0.90	1.59	1.06	3.18	9.44	13.30	24.60	45.7	0.151	1.30	3.69	1.32	1.16	24.34	33.17	24.43	60.66	83.34	149.73
2018	6,186	113	340	99	36	92	6,867	3.3%	0.90	1.60	1.06	3.18	9.44	13.30	24.60	44.6	0.151	1.33	3.78	1.35	1.19	24.53	33.57	24.62	60.98	83.73	150.37
2019	6,226	113	339	99	36	92	6,905	3.3%	0.91	1.60	1.06	3.18	9.44	13.30	24.59	43.5	0.151	1.36	3.87	1.39	1.22	24.72	34.00	24.81	61.29	84.13	151.01
2020	6,267	112	338	98	36	91	6,943	3.2%	0.91	1.61	1.06	3.18	9.44	13.30	24.59	42.4	0.151	1.40	3.97	1.42	1.25	24.92	34.44	25.02	61.61	84.54	151.65
2021	6,463	112	339	97	35	89	7,136	3.1%	0.94	1.64	1.06	3.17	9.43	13.29	24.57	37.9	0.151	1.56	4.44	1.59	1.40	25.90	36.54	26.01	63.22	86.57	154.93
2022	6,660	111	340	96	35	87	7,329	3.0%	0.96	1.67	1.06	3.17	9.43	13.28	24.55	33.5	0.151	1.77	5.04	1.80	1.59	27.04	39.10	27.16	64.97	88.75	158.36
2023	6,856	110	340	95	34	86	7,522	2.9%	0.99	1.70	1.05	3.17	9.42	13.27	24.54	29.0	0.151	2.04	5.82	2.08	1.83	28.42	42.35	28.56	66.95	91.15	162.02
2024	7,053	110	341	94	33	84	7,715	2.7%	1.02	1.72	1.05	3.17	9.41	13.26	24.52	24.5	0.151	2.42	6.89	2.46	2.17	29.95	46.43	30.11	68.59	92.96	164.31
2025	7,249	109	342	93	33	82	7,908	2.6%	1.04	1.72	1.05	3.17	9.41	13.25	24.51	20.0	0.151	2.96	8.43	3.01	2.66	31.94	52.11	32.13	70.35	94.70	166.01
2026	7,477	109	343	92	32	80	8,133	2.5%	1.07	1.72	1.05	3.16	9.40	13.24	24.49	19.5	0.151	3.04	8.64	3.09	2.72	32.20	52.89	32.41	70.56	94.90	166.16
2027	7,704	108	343	91	32	79	8,357	2.4%	1.10	1.72	1.05	3.16	9.40	13.24	24.48	19.0	0.151	3.12	8.87	3.17	2.79	32.48	53.71	32.69	70.79	95.12	166.34
2028	7,932	107	344	90	31	77	8,581	2.3%	1.13	1.72	1.05	3.16	9.39	13.23	24.46	18.5	0.151	3.20	9.11	3.26	2.87	32.78	54.58	32.99	71.04	95.35	166.53
2029	8,159	107	345	89	30	75	8,805	2.2%	1.16	1.72	1.05	3.16	9.39	13.22	24.45	18.0	0.151	3.29	9.36	3.35	2.95	33.10	55.50	33.32	71.30	95.59	166.74
2030	8,386	106	345	88	30	74	9,030	2.1%	1.19	1.72	1.05	3.16	9.38	13.21	24.44	17.5	0.151	3.38	9.62	3.44	3.03	33.43	56.47	33.66	71.58	95.86	166.97

7.4 Individual road user costs and benefits

This section reports on the estimated changes in road user costs for individual journeys for certain selected locations. The reporting in this section is complicated as a result of the very large numbers of permutations of different road sections, different types of vehicles, different times of the day or night and the fact that the analysis is done, in this section, for the next fifteen years. Two reporting methods are used to address this level of detail:

- The first is to report changes in road user costs for two journeys. These are the journey from Pretoria to Isando (effectively OR Tambo International Airport) and from Isando to Soweto. These journeys have been chosen because they are two of the potentially longer journeys on the freeway network.
- The second is to report all other journeys at a more aggregated level. This aggregation still conveys the key conclusions without reporting every detail. The actual detail is however given in Appendix B.

As with the cost benefit analysis it needs to be stressed that the changes in road user costs are the costs compared to the do-nothing option. Hence if there is, for example, a finding that road user costs are lower, in other words there is a road user benefit, then these costs are lower compared to the do nothing option. They might well be higher than travelling costs of five years ago. The toll tariffs that have been used in the analysis are presented in Appendix A. These are given in 2010 values. The benefits (or in some cases increased costs) have taken the toll tariff into account and are also expressed in 2010 terms.

The journeys are divided into three categories. These are for the upgraded network:

- without any tolling on the entire network;
- on sections of road where a toll tariff would be levied and;
- on sections of road which are not tolled within the context where most of the network is tolled.

The journey was analysed in both directions.

The changes in road user costs are given annually for the six different road user classes for 2010 to 2015 and then in five-yearly intervals until 2025. The six different road user classes are:

- light vehicle commuters, (called Cl 1 C in the tables)

- light vehicle business travellers, (Cl 1 B)
- other light vehicle road users; (Cl 1 O) and
- three classes of heavy vehicles (Cl 2; Cl 3, and Cl 4).

Journeys are analysed for five time periods. These are:

- weekday morning peak,
- weekday afternoon peak,
- midday off-peak,
- weekday evening and
- weekends.

7.4.1 Two Specific Journeys

This section presents the results of the analysis of two specific journeys. These are the journey from Pretoria to Isando (in close proximity to OR Tambo International Airport) and from Isando to Soweto. The reason that these two journeys have been selected for specific presentation is because they are two of the longer journeys that might be undertaken on the freeway network.

The results in this section are a combination of parts of the road user benefits discussed in sections 7.4.2.2 to 7.4.2.3 below.

7.4.1.1 Pretoria to Isando (southerly direction)

The costs and benefits accruing to road users on the journey from Pretoria to the OR Tambo airport via the N1, M3, N12 and R24 are presented in Table 11.

It can be seen from the table that at a 30c equivalent toll rate:

- all road users have reduced costs for all years examined at the morning and afternoon peak hours;
- all road users have reduced costs at the midday off peak times and over weekends;
- during the evenings all light vehicle users have increased costs, whereas heavy vehicles have reduced costs.

As the toll tariff increases so the cost reduction becomes smaller and, in the later years, becomes an increased cost. For the 40c per km toll this switching occurs in 2025 for class 1 commuters and other vehicles users during the morning peak traffic. Weekend

users begin to experience increased costs in the earlier years, but these change to reduced costs in the later years.

This trend continues and at a 70c toll equivalent light vehicle users have increased costs from 2020 onwards for the morning peak hour and 2025 for both the afternoon peak hour and midday off peak traffic. Weekend users experience increased costs from 2011 until 2015. All people travelling in the evening have increased costs at a 40c and above toll equivalent.

Table 11: Change in Road User Costs for a Journey from Pretoria to Isando via the N1, M3, N12 & R24

Morning Peak Hour - 30c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	56	131	56	96	113	203
2012	53	125	53	90	105	190
2013	48	117	49	82	94	170
2014	42	106	43	70	78	144
2015	35	90	36	58	63	119
2020	9	23	10	30	32	80
2025	7	11	7	31	36	90

Morning Peak Hour - 40c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	50	126	51	85	95	177
2012	47	120	48	79	87	165
2013	43	113	44	71	76	146
2014	37	102	38	60	62	121
2015	30	88	31	48	47	96
2020	7	23	7	24	20	65
2025	-1	2	-1	17	14	59

Morning Peak Hour - 50c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	49	129	50	82	87	169
2012	46	123	46	75	78	155
2013	41	115	42	66	66	134
2014	35	103	36	54	50	106
2015	28	89	28	41	33	79
2020	1	18	2	13	2	40
2025	-7	-5	-7	6	-4	34

Morning Peak Hour - 60c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	46	129	47	75	75	154
2012	42	122	43	67	64	137
2013	37	112	38	57	51	113
2014	30	100	31	43	32	82
2015	22	83	22	28	13	50
2020	-5	11	-5	-0	-18	11
2025	-11	-7	-11	-3	-20	12

Morning Peak Hour - 70c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	42	127	43	68	61	137
2012	39	121	40	60	51	120
2013	34	112	35	50	38	96
2014	27	100	28	37	20	66
2015	19	85	20	22	1	34
2020	-8	11	-8	-8	-32	-7
2025	-19	-20	-19	-16	-40	-14

Afternoon Peak Hour - 30c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	49	99	49	102	127	238
2012	47	99	48	98	121	227
2013	46	98	47	94	114	215
2014	45	97	45	89	107	201
2015	43	96	44	84	100	188
2020	31	63	31	71	87	172
2025	12	20	12	43	51	117

Afternoon Peak Hour - 40c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	45	97	46	96	114	223
2012	44	96	44	91	108	212
2013	42	95	43	86	101	198
2014	41	94	41	81	93	183
2015	39	93	39	75	85	169
2020	23	53	23	56	63	138
2025	5	11	5	29	30	86

Afternoon Peak Hour - 50c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	42	96	43	90	103	210
2012	40	95	41	85	96	197
2013	38	93	39	79	88	182
2014	36	90	37	72	79	165
2015	33	86	34	66	70	149
2020	18	48	18	46	46	114
2025	-1	4	-1	17	10	59

Afternoon Peak Hour - 60c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	38	92	38	81	88	191
2012	36	91	37	76	81	178
2013	34	90	35	70	73	163
2014	33	89	33	64	65	146
2015	31	88	31	58	56	130
2020	13	45	14	36	30	93
2025	-5	3	-5	9	-4	41

Afternoon Peak Hour - 70c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	35	91	35	75	77	178
2012	33	90	34	70	70	164
2013	31	89	32	64	61	149
2014	29	87	30	58	52	131
2015	27	86	28	51	43	114
2020	8	39	8	25	12	69
2025	-11	-4	-11	-3	-23	14

Midday Off Peak - 30c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	46	80	46	113	145	278
2012	46	82	46	110	141	270
2013	46	86	47	108	137	261
2014	47	90	47	106	133	252
2015	48	96	49	104	129	244
2020	49	114	50	89	105	193
2025	6	10	6	29	32	83

Midday Off Peak - 40c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	43	78	44	109	136	271
2012	43	81	44	106	132	261
2013	43	84	44	103	127	251
2014	44	88	44	100	122	241
2015	45	94	45	98	118	231
2020	45	110	45	80	90	173
2025	0	6	0	17	14	58

Midday Off Peak - 50c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	41	77	41	105	128	263
2012	41	79	41	102	123	253
2013	41	82	41	98	118	242
2014	41	87	41	95	112	230
2015	42	93	43	93	108	220
2020	41	109	42	72	76	154
2025	-5	-1	-5	7	-3	35

Midday Off Peak - 60c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	38	74	38	100	118	253
2012	37	77	38	96	113	242
2013	37	80	38	93	107	229
2014	38	85	38	89	101	217
2015	38	91	39	86	96	205
2020	37	107	38	64	62	135
2025	-10	-4	-10	-3	-20	11

Midday Off Peak - 70c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	35	73	35	96	110	246
2012	34	75	35	92	103	232
2013	34	78	35	87	97	219
2014	34	83	35	83	90	205
2015	35	89	36	80	84	192
2020	34	106	35	58	50	121
2025	-15	-9	-15	-14	-39	-15

Weekday Evening - 30c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	-3	-1	-3	6	1	26
2012	-3	-1	-3	6	1	26
2013	-3	-1	-3	6	1	26
2014	-3	-1	-3	6	1	26
2015	-3	-1	-3	6	1	26
2020	-3	-1	-3	6	1	26
2025	-3	-1	-3	6	1	26

Weekday Evening - 40c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	-8	-7	-8	-5	-17	1
2012	-8	-7	-8	-5	-17	1
2013	-8	-7	-8	-5	-17	1
2014	-8	-7	-8	-5	-17	1
2015	-8	-7	-8	-5	-17	1
2020	-8	-7	-8	-5	-17	1
2025	-8	-7	-8	-5	-17	1

Weekday Evening - 50c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	-14	-13	-14	-17	-37	-26
2012	-14	-13	-14	-17	-37	-26
2013	-14	-13	-14	-17	-37	-26
2014	-14	-13	-14	-17	-37	-26
2015	-14	-13	-14	-17	-37	-26
2020	-14	-13	-14	-17	-36	-26
2025	-14	-12	-14	-17	-36	-26

Weekday Evening - 60c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	-20	-18	-20	-28	-55	-51
2012	-20	-18	-20	-28	-55	-51
2013	-20	-18	-20	-28	-55	-51
2014	-20	-18	-20	-28	-55	-51
2015	-20	-18	-20	-28	-55	-51
2020	-20	-18	-20	-28	-55	-51
2025	-20	-18	-20	-28	-55	-51

Weekday Evening - 70c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	-25	-24	-25	-40	-73	-76
2012	-25	-24	-25	-40	-73	-76
2013	-25	-24	-25	-40	-73	-76
2014	-25	-24	-25	-40	-73	-76
2015	-25	-24	-25	-40	-73	-76
2020	-25	-24	-25	-39	-73	-76
2025	-26	-24	-26	-40	-73	-77

Weekend - 30c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	2	4	2	20	20	61
2012	5	7	5	27	31	81
2013	8	11	8	37	45	106
2014	12	15	12	47	58	132
2015	16	19	16	58	73	158
2020	33	41	33	102	134	268
2025	43	70	43	110	142	276

Weekend - 40c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	-4	-1	-3	9	2	36
2012	-1	2	-1	16	13	56
2013	3	6	3	26	26	81
2014	6	9	6	36	40	106
2015	10	14	10	46	55	133
2020	29	37	29	94	121	253
2025	39	67	40	105	133	267

Weekend - 50c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	-9	-7	-9	-3	-17	11
2012	-6	-4	-6	5	-6	30
2013	-3	-0	-3	15	8	55
2014	1	4	1	25	22	81
2015	4	8	5	35	36	108
2020	24	33	24	87	108	237
2025	37	65	37	103	126	263

Weekend - 60c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	-15	-13	-15	-14	-35	-15
2012	-12	-9	-12	-6	-24	5
2013	-8	-6	-8	3	-11	30
2014	-5	-2	-5	13	3	55
2015	-1	2	-1	24	18	82
2020	19	28	20	78	93	218
2025	34	63	35	100	119	258

Weekend - 70c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	-20	-18	-20	-26	-54	-41
2012	-18	-15	-18	-18	-43	-21
2013	-14	-11	-14	-8	-29	4
2014	-11	-7	-11	2	-15	30
2015	-7	-3	-7	12	-0	56
2020	15	23	15	70	79	200
2025	32	61	32	96	111	252

7.4.1.2 Isando to Soweto (westerly direction)

The costs and benefits accruing to road users on a journey from the OR Tambo Airport to Soweto (the Diepkloof Interchange) via the R24 and the N12 are presented in Table 12.

It can be seen that, on the whole, all road users experience benefits for all years and all toll tariffs during the morning and afternoon peak hours and during the midday off peak time. The exception is in the afternoon peak hour in 2025 when some vehicles have increased costs at the 60c and 70c toll equivalent.

A different picture emerges for evening and weekends travel, when most users have higher costs. For a 40c and above toll equivalent all users experience increased costs at all times, while at a toll equivalent tariff of 30c class 2 and class 4 heavy vehicles have lower costs. Light vehicles and class 2 heavy vehicles experience have increased costs at the 30 toll equivalent.

Table 12: Road user benefits from OR Tambo Airport to the Diepkloof I/C

Morning Peak Hour - 30c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	23	30	23	68	90	179
2012	23	30	23	68	89	178
2013	23	31	23	68	89	176
2014	23	32	23	67	88	174
2015	23	33	23	67	87	172
2020	21	31	21	59	76	152
2025	17	28	17	48	61	124

Morning Peak Hour - 40c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	21	28	21	65	83	171
2012	21	30	21	66	84	174
2013	22	31	22	66	85	175
2014	22	32	22	67	86	175
2015	23	34	23	67	86	176
2020	19	30	19	57	71	148
2025	14	25	14	43	51	112

Morning Peak Hour - 50c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	18	25	18	59	74	160
2012	18	27	18	60	75	162
2013	19	28	19	61	76	163
2014	19	29	19	61	76	162
2015	19	30	19	61	75	162
2020	15	25	15	48	57	127
2025	11	23	11	37	42	100

Morning Peak Hour - 60c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	15	22	15	54	64	148
2012	15	24	16	55	66	151
2013	16	26	16	57	68	155
2014	17	28	17	58	70	157
2015	18	29	18	59	71	158
2020	14	26	14	48	56	130
2025	9	21	9	34	36	93

Morning Peak Hour - 70c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	13	22	13	52	60	144
2012	14	24	14	53	61	146
2013	15	25	15	54	62	148
2014	15	27	15	55	64	150
2015	16	28	16	56	64	152
2020	11	22	11	42	46	118
2025	8	21	8	33	32	92

Afternoon Peak Hour - 30c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	28	50	28	66	84	163
2012	28	53	29	67	84	161
2013	29	56	30	67	84	160
2014	31	61	31	67	83	158
2015	32	66	33	67	83	156
2020	38	92	39	63	72	128
2025	6	16	7	19	21	51

Afternoon Peak Hour - 40c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	26	48	26	63	77	154
2012	26	51	26	62	76	152
2013	27	55	27	62	76	150
2014	28	59	29	62	75	147
2015	30	64	30	62	74	144
2020	41	105	42	64	71	127
2025	4	15	5	15	13	43

Afternoon Peak Hour - 50c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	23	47	24	59	70	146
2012	24	50	24	58	69	143
2013	25	54	25	58	68	140
2014	26	58	26	58	67	137
2015	27	64	28	57	65	133
2020	40	106	40	60	63	117
2025	4	19	4	11	5	30

Afternoon Peak Hour - 60c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	22	48	22	56	65	141
2012	22	50	23	55	62	136
2013	23	53	23	54	60	130
2014	24	57	24	52	57	124
2015	24	61	25	51	54	117
2020	34	96	34	50	48	96
2025	0	16	0	3	-9	10

Afternoon Peak Hour - 70c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	20	47	20	52	57	133
2012	21	50	21	51	55	128
2013	21	54	22	51	53	123
2014	22	58	23	50	51	118
2015	24	64	24	49	49	112
2020	29	91	29	39	32	71
2025	-7	2	-7	-8	-25	-11

Midday Off Peak - 30c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	16	20	16	52	68	139
2012	18	23	18	58	76	154
2013	20	26	20	63	82	165
2014	22	29	22	67	88	175
2015	24	32	24	70	92	183
2020	29	50	30	73	94	182
2025	36	73	36	74	91	170

Midday Off Peak - 40c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	13	18	13	47	59	129
2012	16	22	16	54	68	144
2013	18	25	18	59	75	157
2014	20	28	20	64	82	170
2015	22	31	22	68	87	179
2020	27	48	28	70	88	176
2025	33	71	34	69	83	160

Midday Off Peak - 50c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	11	16	11	42	50	117
2012	13	19	13	49	59	134
2013	16	23	16	54	67	147
2014	18	26	18	59	74	160
2015	20	30	20	65	81	173
2020	25	44	25	67	82	170
2025	30	69	31	63	73	146

Midday Off Peak - 60c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	8	13	8	37	41	105
2012	11	17	11	44	51	123
2013	13	21	13	49	58	137
2014	15	24	15	55	66	150
2015	18	28	18	60	73	163
2020	24	46	24	66	79	168
2025	22	55	22	47	49	110

Midday Off Peak - 70c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	5	11	5	31	31	93
2012	8	15	8	39	42	112
2013	10	18	10	45	50	126
2014	13	22	13	50	57	139
2015	15	26	15	56	65	153
2020	22	45	23	64	74	165
2025	24	62	24	51	52	119

Weekday Evening - 30c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	-4	-4	-4	0	-4	8
2012	-4	-4	-4	0	-4	8
2013	-4	-4	-4	0	-4	8
2014	-4	-4	-4	0	-4	9
2015	-4	-4	-4	0	-4	9
2020	-4	-4	-4	0	-4	8
2025	-4	-4	-4	0	-4	8

Weekday Evening - 40c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	-7	-8	-7	-7	-16	-7
2012	-7	-8	-7	-7	-16	-7
2013	-7	-8	-7	-7	-16	-7
2014	-7	-8	-7	-7	-16	-7
2015	-7	-8	-7	-7	-16	-7
2020	-7	-8	-7	-7	-16	-7
2025	-7	-8	-7	-7	-16	-8

Weekday Evening - 50c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	-11	-12	-11	-15	-29	-26
2012	-11	-12	-11	-15	-29	-26
2013	-11	-12	-11	-15	-29	-26
2014	-11	-12	-11	-15	-29	-26
2015	-11	-12	-11	-15	-29	-26
2020	-11	-12	-11	-15	-29	-26
2025	-11	-12	-11	-15	-29	-27

Weekday Evening - 60c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	-15	-15	-15	-23	-42	-44
2012	-15	-15	-15	-23	-42	-44
2013	-15	-15	-15	-23	-42	-44
2014	-15	-15	-15	-23	-42	-44
2015	-15	-15	-15	-23	-42	-44
2020	-15	-15	-15	-23	-42	-44
2025	-15	-16	-15	-23	-42	-45

Weekday Evening - 70c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	-19	-19	-19	-30	-53	-59
2012	-19	-19	-19	-30	-53	-60
2013	-19	-19	-19	-30	-53	-60
2014	-19	-19	-19	-30	-53	-60
2015	-19	-19	-19	-30	-53	-60
2020	-19	-19	-19	-30	-53	-60
2025	-19	-19	-19	-30	-54	-61

Weekend - 30c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	-4	-4	-4	0	-5	8
2012	-4	-4	-4	0	-4	9
2013	-3	-4	-3	1	-3	11
2014	-3	-3	-3	2	-2	12
2015	-3	-3	-3	2	-1	14
2020	-2	-2	-2	5	2	20
2025	-2	-2	-2	5	3	22

Weekend - 40c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	-7	-8	-7	-7	-17	-9
2012	-7	-8	-7	-7	-16	-8
2013	-7	-7	-7	-6	-15	-6
2014	-7	-7	-7	-6	-14	-4
2015	-7	-7	-7	-5	-13	-2
2020	-5	-6	-5	-2	-9	6
2025	-5	-5	-5	-0	-7	9

Weekend - 50c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	-11	-11	-11	-15	-28	-25
2012	-11	-11	-11	-14	-28	-24
2013	-11	-11	-11	-14	-27	-22
2014	-10	-11	-10	-13	-26	-20
2015	-10	-10	-10	-12	-25	-19
2020	-9	-9	-9	-9	-20	-10
2025	-8	-8	-8	-6	-16	-3

Weekend - 60c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	-15	-15	-15	-22	-41	-42
2012	-15	-15	-15	-22	-40	-41
2013	-14	-15	-14	-21	-39	-39
2014	-14	-14	-14	-20	-38	-37
2015	-14	-14	-14	-20	-37	-35
2020	-13	-13	-13	-16	-32	-27
2025	-11	-11	-11	-12	-26	-15

Weekend - 70c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	-18	-19	-18	-30	-53	-59
2012	-18	-19	-18	-29	-52	-58
2013	-18	-18	-18	-29	-52	-57
2014	-18	-18	-18	-28	-51	-55
2015	-18	-18	-18	-27	-50	-53
2020	-16	-17	-16	-24	-45	-45
2025	-14	-14	-14	-19	-37	-30

7.4.2 Summarised reporting on other journeys

As can be seen from the preceding section there is an extraordinary level of detail required in the reporting. This was judged to be an unnecessary amount of detail and, apart from the two journeys reported in detail above, a more summarised reporting is given below. However, as mentioned, all the relevant detail can be found in Appendix B.

A summary table has been developed to reduce the amount of detail. The summary table is colour coded. If a particular journey is coloured dark green this means that road users have reduced costs for all years. A light green colour means that there are some cases where costs increase but most of the time costs are lower. Pink means that there are more cases of increased costs then decreased costs. Red means increased costs for all years to 2025. All light vehicles have been aggregated and all heavy vehicles have been aggregated.

7.4.2.1 Upgraded Network with No Tolling

This section deals with the journeys on the upgraded roads for the case where the roads are not tolled. For the majority of journeys and road users there are only benefits although there are some exceptions. These exceptions are:

- On the M3, Buccleuch to the M2 Geldenhuys Interchange
    - PM peak hour in the southerly direction, for all light vehicles from 2014 to 2020;
    - Midday off-peak in the southerly direction, for all vehicles in 2025;
    - AM peak hour in the northerly direction, for all light vehicles from 2020 onwards;
    - PM peak hour in the northerly direction, for all light vehicles from 2020 onwards;
    - Midday off-peak in the northerly direction, for light vehicle business travellers in 2025.
- On the R24, from OR Tambo International Airport to the N12:
    - AM peak traffic in the westerly direction, for all light vehicles from 2020 onwards and for heavy vehicles in 2025;
    - PM peak traffic in the westerly direction, for all light vehicles from 2020 onwards;
    - Midday off-peak traffic in the westerly direction, for all light vehicles and class 2 heavy vehicles in 2025.

- On the N1, from 14th Avenue to Grasmere:
  - PM peak traffic in the southerly direction, for light vehicle business travellers in 2025;
  - AM peak traffic in the northerly direction, for all light vehicles in 2025.
- On the N1, from Brakfontein to Buccleuch:
  - PM peak traffic in the northerly direction, for light vehicle business travellers in 2020 to 2025;
  - Midday off-peak traffic in the northerly direction, for light vehicle business travellers in 2025.
- On the R80 from Suiderberg to DF Malan:
  - PM peak hour traffic in a northerly / westerly direction, all light vehicles in 2025.

Table 13: Increased costs and benefits on upgraded freeways for no toll

		Southbound / Eastbound					Northbound / Westbound				
Road Section	**Road User**	**AM Peak**	**PM Peak**	**Off Peak**	**Nights**	**Weekend**	**AM Peak**	**PM Peak**	**Off Peak**	**Nights**	**Weekend**
N1: Proefplaas to Brakfontein	Light Vehicles										
	Heavy Vehicles										
N1: Brakfontein to Buccleuch	Light Vehicles										
	Heavy Vehicles										
N1: Buccleuch to 14th Avenue	Light Vehicles										
	Heavy Vehicles										
N1: 14th Avenue to Grasmere	Light Vehicles										
	Heavy Vehicles										
R21: Flying Saucer to N12	Light Vehicles										
	Heavy Vehicles										
R24: ORT IA to N12	Light Vehicles										
	Heavy Vehicles										
N3: Buccleuch to M2 Geldenhuys I/C	Light Vehicles										
	Heavy Vehicles										
N3: Geldenhuys I/C to Barry Marais	Light Vehicles										
	Heavy Vehicles										
N14: Jan Smuts to Brakfontein	Light Vehicles										
	Heavy Vehicles										
N14: Brakfontein to Hendrick Potgieter	Light Vehicles										
	Heavy Vehicles										
N12: N1 Diepkloof to N3 Elands I/C	Light Vehicles										
	Heavy Vehicles										
N12: N3 Gillooly's to Kingsway	Light Vehicles										
	Heavy Vehicles										
N12: N1 Misgund to Old Potch Rd	Light Vehicles										
	Heavy Vehicles										
N4: Proefplaas to Donkerhoek	Light Vehicles										
	Heavy Vehicles										
R59: Reading to Henley Rd	Light Vehicles										
	Heavy Vehicles										
R80: Soshanguve to Suiderberg	Light Vehicles										
	Heavy Vehicles										
R80: Suiderberg to DF Malan	Light Vehicles										
	Heavy Vehicles										

The sections of road on which road users would experience increased costs are shown in Table 13. The increased costs are caused by additional traffic that is attracted onto the freeway network because of the road upgrades. The increased capacity of the freeway network on these specific sections is not enough, when compared to the do minimum case, to cater for the increased traffic in the later years.

In the table the dark green cells show those sections of road, at different times of the week, where all traffic streams only experience reduced costs. The light green cells indicate those sections of road that mostly experience reduced costs, but in certain instances there are increased costs (as described above). However, the number of instances where the traffic stream experiences reduced costs still outweighs those instances where they experience increased costs.

7.4.2.2 With Tolling Case: Tolled Road Sections

This section reports, in summary form, on the increased or decreased costs to road users on those sections of road where a toll is levied.

Morning Peak Journeys

Details of the morning peak hour journeys are contained in Table 14. It can be seen that for the majority of road sections the road users will either experience reduced costs for all years or for most years, as illustrated by the dark green and light green shading respectively. This is true for all toll tariffs.

Table 14: Morning Peak Journeys on Roads with Tolls

		Southbound / Eastbound					Northbound / Westbound				
Road Section	**Road User**	**30c**	**40c**	**50c**	**60c**	**70c**	**30c**	**40c**	**50c**	**60c**	**70c**
N1: Proefplaas to Brakfontein	Light Vehicles										
	Heavy Vehicles										
N1: Brakfontein to Buccleuch	Light Vehicles										
	Heavy Vehicles										
N1: Buccleuch to 14th Avenue	Light Vehicles										
	Heavy Vehicles										
N1: 14th Avenue to Grasmere	Light Vehicles										
	Heavy Vehicles										
R21: Flying Saucer to N12	Light Vehicles										
	Heavy Vehicles										
N3: Buccleuch to M2 Geldenhuys I/C	Light Vehicles										
	Heavy Vehicles										
N3: Geldenhuys I/C to Barry Marais	Light Vehicles										
	Heavy Vehicles										
N12: N1 Diepkloof to N3 Elands I/C	Light Vehicles										
	Heavy Vehicles										
N12: N3 Gillooly's to Kingsway	Light Vehicles										
	Heavy Vehicles										

Some road sections only experience reduced costs for all years for all toll tariffs and for both light and heavy vehicles. These are the ones illustrated by the dark green shading and are:

- N1: Proefplaas to Brakfontein, in the northerly direction;

- N1: Brakfontein to Buccleuch, in the northerly direction;
- N1: Buccleuch to 14th Avenue, in the southerly direction;
- N1: 14th Avenue to Grasmere, in the southerly direction and for heavy vehicles in the northerly direction;
- N3: Geldenhuys interchange to Barry Marais, in the northerly directions;
- N12: N1 Diepkloof to N3 Elands interchange, both directions;
- N12: N3 Gillooly's to Kingsway, both directions.

Road users on the N3: Buccleuch interchange to the M2 Geldenhuys interchange have mostly reduced costs in both directions at an equivalent toll rate of 30c per km but this changes to mostly experiencing increased costs as soon as the equivalent toll rate increases to 40c per km and above. Heavy vehicles on this section of road only have increased costs at a heavy vehicle equivalent toll rate of 50c per km and above.

Lastly, light vehicle users on the N3: Geldenhuys interchange to Barry Marais have reduced costs at 30c, 40c and 50c toll rates per km. Some but not all have lower costs at a 60c per km toll but all have higher costs at a toll rate of 70c per km.

Afternoon Peak Journeys

Details of the afternoon peak hour journeys are shown in Table 15. As with the morning peak hour journeys there are some road sections where users have lower costs for all years and for all toll tariffs. These road sections, as indicated by the dark green blocks, are:

- N1: Buccleuch to 14th Avenue, in a northerly direction;
- N1: 14th Avenue to Grasmere, in a northerly direction;
- N3: Geldenhuys interchange to Barry Marais, in both directions;
- N12: N1 Diepkloof to N3 Elands interchange, in an easterly direction;
- N12: N3 Gillooly's to Kingsway in both directions.

Table 15: Afternoon Peak Journeys on Roads with Tolls

		Southbound / Eastbound					Northbound / Westbound				
Road Section	**Road User**	**30c**	**40c**	**50c**	**60c**	**70c**	**30c**	**40c**	**50c**	**60c**	**70c**
N1: Proefplaas to Brakfontein	Light Vehicles										
	Heavy Vehicles										
N1: Brakfontein to Buccleuch	Light Vehicles										
	Heavy Vehicles										
N1: Buccleuch to 14th Avenue	Light Vehicles										
	Heavy Vehicles										
N1: 14th Avenue to Grasmere	Light Vehicles										
	Heavy Vehicles										
R21: Flying Saucer to N12	Light Vehicles										
	Heavy Vehicles										
N3: Buccleuch to M2 Geldenhuys I/C	Light Vehicles										
	Heavy Vehicles										
N3: Geldenhuys I/C to Barry Marais	Light Vehicles										
	Heavy Vehicles										
N12: N1 Diepkloof to N3 Elands I/C	Light Vehicles										
	Heavy Vehicles										
N12: N3 Gillooly's to Kingsway	Light Vehicles										
	Heavy Vehicles										

Most of the users on the other roads have lower costs. There are, however, two exceptions. These are:

- The N1: Brakfontein to Buccleuch in a northerly direction. At toll rate or equivalent of 30c per km both light and heavy vehicle users have lower costs. However, from 40c onwards light vehicle users experience mainly higher costs. Heavy vehicles experience mainly increased costs at an equivalent toll tariff of 50c per km although there are some with lower costs. However from 60c per km and above there are only increased costs.
- The N3: Buccleuch to M2 Geldenhuys interchange in both directions. Light vehicles have mostly increased costs for all toll tariffs, except for the 30c per km toll rate in the southerly direction where, on the whole there are lower costs. Heavy vehicles have mostly lower costs in the southerly direction at an equivalent toll rate of 30c per km, then mainly increased costs at the 40c, 50c and 60c equivalent toll rates and then only increased costs at the 70c equivalent toll rate. Heavy vehicles travelling in the opposite direction have higher costs for all toll tariffs.

Midday Off Peak Journeys

Details of the midday off peak journeys are shown in Table 16. The dark green cells in the table indicate that on most road sections road users have lower costs, even after paying a toll. The light green cells indicate those road sections where there are mainly

reduced costs, although there are certain years where costs increase. There is only one small exception though. Heavy vehicles on the N3: Buccleuch to the M2 Geldenhuys interchange, in the northerly direction, at a toll equivalent of 70c face mainly increased costs, although light vehicles still have mainly lowers costs on this section of road.

Table 16: Midday Off Peak Journeys on Roads with Tolls

		Southbound / Eastbound					Northbound / Westbound				
Road Section	**Road User**	**30c**	**40c**	**50c**	**60c**	**70c**	**30c**	**40c**	**50c**	**60c**	**70c**
N1: Proefplaas to Brakfontein	Light Vehicles										
	Heavy Vehicles										
N1: Brakfontein to Buccleuch	Light Vehicles										
	Heavy Vehicles										
N1: Buccleuch to 14th Avenue	Light Vehicles										
	Heavy Vehicles										
N1: 14th Avenue to Grasmere	Light Vehicles										
	Heavy Vehicles										
R21: Flying Saucer to N12	Light Vehicles										
	Heavy Vehicles										
N3: Buccleuch to M2 Geldenhuys I/C	Light Vehicles										
	Heavy Vehicles										
N3: Geldenhuys I/C to Barry Marais	Light Vehicles										
	Heavy Vehicles										
N12: N1 Diepkloof to N3 Elands I/C	Light Vehicles										
	Heavy Vehicles										
N12: N3 Gillooly's to Kingsway	Light Vehicles										
	Heavy Vehicles										

Weekly Evening Journeys

Details of the weekly evening journeys are shown in Table 17. In contrast to the morning and afternoon peak hour journeys and the midday off peak journeys, road users travelling in the evening would generally have higher costs. This is particularly the case for toll equivalents of 40c and above. This is demonstrated by the multitude of red and pink cells in the table.

Light vehicle users have lower costs in only three instances:

- N1: 14th Avenue to Grasmere. In the southerly direction at a 30c toll and in the northerly direction at the 30c, 40c and 50c toll.
- N3: Geldenhuys interchange to Barry Marais, in both directions for all tolls (with the exception of the 70c toll in the southerly direction).
- N12: N3 Gillooly's to Kingsway, in both directions, at the 30c toll.

Table 17: Evening Journeys on Roads with Tolls

		Southbound / Eastbound					Northbound / Westbound				
Road Section	**Road User**	**30c**	**40c**	**50c**	**60c**	**70c**	**30c**	**40c**	**50c**	**60c**	**70c**
N1: Proefplaas to Brakfontein	Light Vehicles										
	Heavy Vehicles										
N1: Brakfontein to Buccleuch	Light Vehicles										
	Heavy Vehicles										
N1: Buccleuch to 14th Avenue	Light Vehicles										
	Heavy Vehicles										
N1: 14th Avenue to Grasmere	Light Vehicles										
	Heavy Vehicles										
R21: Flying Saucer to N12	Light Vehicles										
	Heavy Vehicles										
N3: Buccleuch to M2 Geldenhuys I/C	Light Vehicles										
	Heavy Vehicles										
N3: Geldenhuys I/C to Barry Marais	Light Vehicles										
	Heavy Vehicles										
N12: N1 Diepkloof to N3 Elands I/C	Light Vehicles										
	Heavy Vehicles										
N12: N3 Gillooly's to Kingsway	Light Vehicles										
	Heavy Vehicles										

Heavy vehicles mostly have increased costs but not in as many instances as for light vehicles. Heavy vehicles have mostly lower costs at the 30c toll equivalent except for:

- N1: Proefplaas to Brakfontein, in the northerly direction;
- N1: Buccleuch to 14th Avenue, in the northerly direction;
- N3: Buccleuch to the M2 Geldenhuys interchange, in a northerly direction;
- N12: N1 Diepkloof to N3 Elands interchange, in the westerly direction.

For heavy vehicles these cost reductions begin to taper off at the toll equivalent of 40c and above. It is only really on the N1: 14th Avenue to Grasmere (both directions), the N3: Geldenhuys interchange to Barry Marais (both directions) and to a lesser extent the N3 Gillooly's to Kingsway (both directions) that heavy vehicles have lowers costs at a toll equivalent of 40c and above.

Weekend Journeys

Details for weekend journeys are shown in Table 18. It is apparent from the table that people using the roads on weekends have higher costs than for weekday journeys but less so than for journeys in the evening.

At a toll equivalent of 30c most road users have either mainly reduced costs or totally reduced costs. There are three exceptions:

- N1: Brakfontein to Buccleuch, light vehicles travelling in the northerly direction mainly experience increased costs;
- R21: Flying Saucer to the N12, light vehicles travelling in both directions;
- N12: N1 Diepkloof to N3 Elands interchange, light vehicles travelling in the easterly direction have mainly increased costs, light vehicles travelling in the westerly direction only experience increased costs, while heavy vehicles travelling in the westerly direction have mainly increased costs.

Table 18: Weekend Journeys on Roads with Tolls

		Southbound / Eastbound					Northbound / Westbound				
Road Section	**Road User**	**30c**	**40c**	**50c**	**60c**	**70c**	**30c**	**40c**	**50c**	**60c**	**70c**
N1: Proefplaas to Brakfontein	Light Vehicles										
	Heavy Vehicles										
N1: Brakfontein to Buccleuch	Light Vehicles										
	Heavy Vehicles										
N1: Buccleuch to 14th Avenue	Light Vehicles										
	Heavy Vehicles										
N1: 14th Avenue to Grasmere	Light Vehicles										
	Heavy Vehicles										
R21: Flying Saucer to N12	Light Vehicles										
	Heavy Vehicles										
N3: Buccleuch to M2 Geldenhuys I/C	Light Vehicles										
	Heavy Vehicles										
N3: Geldenhuys I/C to Barry Marais	Light Vehicles										
	Heavy Vehicles										
N12: N1 Diepkloof to N3 Elands I/C	Light Vehicles										
	Heavy Vehicles										
N12: N3 Gillooly's to Kingsway	Light Vehicles										
	Heavy Vehicles										

At a toll equivalent of 40c and above there are more instances where road users have either mainly increased costs or only increased costs. There are two roads where this is not the case and road users have either overall reduced costs or mainly reduced costs:

- N3: Geldenhuys interchange to Barry Marais, in the northerly direction, for both light and heavy vehicles;
- N3: Geldenhuys interchange to Barry Marais, in the southerly direction, up to a rate of 50c per km for light vehicles and for all rates for heavy vehicles.

Conclusion to Journeys on Tolled Road Sections

On the whole people travelling during the morning and afternoon peak hours and midday off peak times generally have lower costs. This changes for people travelling in the evening and on weekends and they would find that their cost of travelling has increased relative to the do-minimum option.

During the morning and afternoon peak hours there are two roads where road users would generally have higher costs. These are on the N3 travelling between Buccleuch and the M2 Geldenhuys interchange in both directions and on the N1 when travelling between Brakfontein to Buccleuch in the northerly direction during the afternoon peak. An analysis of N3: Buccleuch to M2 Geldenhuys interchange indicates increased traffic (an hence lower travelling speeds) on the Buccleuch – Marlboro link, Marlboro - London Rd link and the Linksfield – Gillooly's link. A similar analysis of the N1: Buccleuch to Brakfontein road section indicates higher traffic volumes (and hence lower speeds) on the Buccleuch – Woodmead and Samrand – Olifantsfontein links (in the northern direction).

For people travelling during the weekday off peak period most road users would face reduced costs, except for the isolated case of heavy vehicles on the N3: Buccleuch to M2 Geldenhuys interchange at an equivalent toll tariff of 70c per km.

Most of the people travelling during the evening or on weekends would have higher costs at the toll equivalent of 40c and above. At a toll equivalent of 30c per km there are more road users with lower costs than higher costs at these times.

7.4.2.3 With Tolling Case: Untolled Road Sections

This section of the report analysed journeys on road sections that are part of the freeway upgrade but that will not currently be tolled. These include the following road sections:

- R24: OR Tambo International Airport to the N12
- N14: Jan Smuts to Brakfontein
- N14: Brakfontein to Hendrik Potgieter
- N12: N1 Misgund to Old Potch Road
- N4: Proefplaas to Donkerhoek
- R59: Reading to Henley Road
- R80 (PWV9): Soshanguve to Suiderberg
- R80: Suiderberg to D.F. Malan

Most of the journeys for all road users experience reduced costs only. There are some exceptions where road users do experience increased costs for some years:

- R24: OR Tambo International Airport to the N12:
    - Light and heavy vehicles travelling in the easterly direction during the morning peak and midday off-peak, at all toll rates;

  - Light vehicles travelling in the easterly direction during the afternoon peak at all toll rates, and light vehicles travelling in the westerly direction during the afternoon peak at the 40c and 50c toll rates.
- N4: Proefplaas to Donkerhoek:
  - In the westerly direction for the AM peak hour traffic, business commuters experience increased costs for the following instances:
    - 40c toll rate, 2011 to 2015;
    - 50c toll rate, 2011 & 2012;
    - 60c toll rate, 2011 & 2012;
    - 70c toll rate, 2011 to 2015.
  - In the easterly direction for the PM peak hour traffic, business commuters experience increased costs for the 60c per km toll rate in 2020;
- The R80 (PWV9): Soshanguve to Suiderberg:
  - In the southbound direction, during off-peak midday traffic business travellers at the toll equivalent of 60c and above in 2025;
  - In the northbound direction, during off-peak midday traffic business travellers at the 60c toll in 2025;
- The R80: Suiderberg to D.F. Malan in the westerly direction for PM peak hour traffic, all light vehicles and class 2 heavy vehicles in 2025.

In most cases the increased costs are less than R1.00. It is only on the R24: OR Tambo International Airport to N12 in the westerly direction and the PM peak hour traffic in 2025 on the R80 between Suiderberg and D.F. Malan that the increased costs exceed R1.00. These are both one of the few instances where there were increased costs on sections of the freeway that are upgraded but not tolled. The cause of this is that the upgrades attract more traffic to those sections of the freeway and there are no tolls to cause traffic to divert off those sections of the freeway.

To conclude, it is only in certain isolated instances in morning and afternoon peak hour and midday off peak that people have increased costs. These costs are confined mainly to light vehicles and to the R24: OR Tambo International Airport to the N12, the R80 between Soshanguve and Suiderberg, and between Suiderberg and DF Malan roads. There are also some isolated incidents of increased costs for light vehicle users travelling in an easterly direction on the N4 between Proefplaas and Donkerhoek road. There are reduced costs for all road users travelling during the evening and over weekends.

8 Microeconomic impacts

The previous section has demonstrated that in many cases there are more benefits to road users than there are costs in the project. Hence the general conclusion that can be drawn is that proposed tolling is good for private motorists, business vehicles and public transport. However, there are a number of potential microeconomic impacts that should be explored. These include impacts on individual drivers and their capacity to pay; impact on jobs and wages; impacts on the cost of consumer goods; impacts on business generally and impacts on specific business.

8.1 Overall Affordability

There is always some concern about the ability of society to carry the cost of major infrastructural projects like the Gauteng freeway upgrade. The purpose of this section is to determine the relative size of the freeway upgrade to the Gauteng economy as a whole and relative size of tolling to people's disposable income. Table 19 has been constructed for the purposes of this assessment.

Two estimates are made in the table. The first is the share of total toll revenue to that of the Gauteng economy. The second is the share of tolling relative to people's disposable income. In 2011, the first year of proposed tolling, toll revenues from all vehicles is expected to total R3.3bn. Gauteng has an estimated share of 41.6% of South African GDP. This means that in 2011 the Gauteng share of South African GDP is expected to be R978.8bn. Total toll revenue is therefore 0.34% of projected Gauteng GDP in 2011. In other words the toll burden from the freeway upgrade is the equivalent of 34c for each R100 of GDP.

It will further be recognised that the calculation made above does not take into account any of the economic benefits that have been realised by the construction industry in undertaking the initial construction works. It also does not take into account any of the road user benefits, including improved business productivity, resulting from reduced congestion, reduced accidents and quicker travelling times.

The second estimate relates directly to how much money individual people have for the purpose of spending and how much of this could, potentially, be absorbed by tolling. To this end household disposable income has been used as a proxy for how much money people have available for spending. Total expected toll revenues from light vehicles have been used as the toll burden although it does include business travellers, most of whom would not pay tolls in their personal capacity. In 2011, the first year of proposed tolling, toll

revenues from light vehicles is expected to total R2.7bn. Gauteng has an estimated share of 41.6% of South African household income. This means that in 2011 the Gauteng share of South African household gross disposable income is expected to be R624.9bn. Total toll revenue is therefore 0.43% of projected Gauteng household gross disposable income in 2011. In other words the toll burden from the freeway upgrade for light vehicles is the equivalent of 43c for each R100 of disposable income.

A final calculation is included in the table and that is the likely toll tariff burden on people falling into LSM 7 to 10. This category has been used because these are the types of people who are more likely to own private vehicles and use them on the highways. In Gauteng LSM 7 to 10 constitute 90.2% of total household income. As a consequence the toll tariff burden on this group of people is expected to be in the region of 0.48% in 2011.

Table 19: Potential Burden of Tolling

Toll Burden in Gauteng in 2011

(Rm)

Gross Domestic Product	
South African GDP projected 2011 [1]	2,352,943
Gauteng Share of GDP [2]	41.6%
Gauteng GGP in 2011	978,824
Total Annual Toll Revenue in 2011	3,308
Toll Revenue as a percentage of Gauteng GGP	0.34%
Household Disposable Income (all households)	
SA Household Gross Disposable Income (HGDI) projected 2011 [3]	1,502,188
Gauteng share of HGDI [2]	41.6%
Gauteng HGDI in 2011	624,910
Total Annual Toll Revenue from Light Vehicles in 2011	2,686
Toll Revenue from Light Vehicles as a % of Gauteng HGDI	0.43%
Household Disposable Income (LSM 7 to 10)	
LSM 7 - 10 share of Gauteng income	90.2%
LSM 7 - 10 HGDI in 2011	563,669
Total Annual Toll Revenue from Light Vehicles in 2011	2,686
Toll Revenue from Light Vehicles as a % of Gauteng HGDI LSM 7 - 10	0.48%

Notes and Sources:

1. SA Reserve Bank Quarterly Bulletin June 2010. First quarter GDP grown at 2.5%.

2. Calculated from the 2007 Community Survey, based on household income

3. SA Reserve Bank Quarterly Bulletin June 2010. 2009 PDI grown at 5%

8.2 Private road users

The previous section has demonstrated that in almost all cases there are more benefits to road users than there are costs in the project. Hence the general conclusion that can be

drawn is that proposed tolling is good for private motorists, business vehicles and public transport. However, at least two arguments can be made in mitigation against some of the general conclusions that have been drawn.

First, it can be argued that, for some people, there would not be an obvious saving in vehicle operating costs in the early years of the toll road. It is recognised that savings in some vehicle costs would be obvious and apparent – fuel costs, time costs and lower accident rates, for example. Other costs, however, are far less discrete over time and tend to be lump sum costs after a period of time – tyre costs, suspension and steering repairs, etc. Hence the immediate and obvious saving in vehicle operating costs would be for fuel, time and, possibly, accident costs. Other costs would accumulate in the future. Hence while the above section shows road user benefits in each year the reality is that the savings would only be realised some years into the future. Therefore for cash flow purposes there would be less road user benefits in the early years of the tolled roads, as these benefits would accumulate into the future. The perception and reality would be that some drivers who currently do and would continue to use the road on a regular basis could be vulnerable to the proposed tolling.

Second, less affluent owners of private vehicles or those who are cash constrained may face road user costs that are different to those used in the general calculations. In particular, less affluent people would have lower time costs than others. In addition such people may choose to repair their vehicles themselves or may choose simply not to repair their vehicles at all. Hence, for example, minor accident damage may simply be left and not repaired. Mechanical repairs may be more rudimentary or make use of second hand or salvaged parts.

In order to explore these issues an analysis was made of the composition of traffic currently using the Freeway network. The initial analysis was done by making use of the Gauteng travel survey that was conducted in 2002 (Gauteng Department of Public Transport, Roads and Works, 2002) as well as the road side interviews that were conducted in November 2006.

Neither the survey nor the road side interviews proved satisfactory for the purposes of the analysis. One of the key issues that needed to be examined is affordability. In other words, the freeways would be upgraded and this would improve traffic flows, etc, and would be welcome by most drivers. The real issue is to determine how many drivers would not be able to afford to pay for these proposed upgrades. To do this it was necessary to have some correlation between a driver's income, the distance that the driver travels, the purpose of the journey and trip frequency on the highway network. In

The road side interviews had all of this information with the exception of income. The survey had all of this information about all drivers in Gauteng but did not differentiate between those who did and did not use the highway network (and those therefore subject to tolling).

In order to address these constraints SANRAL conducted a new set of interviews in 2009 that focussed on class 1 vehicles using the freeways. This was a telephonic interview, based on the registration numbers of vehicles using the freeways. Over 27 000 people were interviewed. The analysis in this section is based on this new set of interviews.

Trip frequency and the purpose of the journey from the interviews are presented in Table 20 and Table 21. The largest category of people using the freeways are those doing it for the purpose of work commuting (32% of all interviews), followed by people who were 'going home' (26%). It is not clear if these are people returning from work or returning home from other business. It is more likely the former. This is followed, at 19% by people visiting friends or relatives, at 11%, by 'refusal, personal, private, unspecified', at 6% by people going shopping and, at 4% by people going to entertainment of various kinds.

For the purpose of determining who would be potentially vulnerable to tolling the conclusion that is drawn is that the focus should be on work commuters. It can be expected that those travelling for employers business would not bear the burden of the toll (it may be that this is passed on to consumers in the form of higher prices – this is examined further in section 8.6).

Table 20: Travel frequency and journey purpose 1

Travel frequency and journey purpose

Sample size: 27 300

	Number of trips per month							
Journey purpose	<10	10-20	20-30	30-40	40-50	50-60	>60	Grand Total
Airport/ O.R. TAMBO	1%	1%	0%	0%	0%	0%	0%	0%
Church/ Religious	0%	0%	0%	0%	0%	0%	0%	0%
Doctor/ Hospital	1%	1%	0%	0%	0%	0%	0%	0%
Dropping kids off at school/ extra murials	0%	0%	0%	0%	0%	0%	0%	0%
Going home	21%	29%	33%	31%	29%	25%	33%	26%
Going to office/ work/ any business related	38%	18%	25%	27%	31%	50%	24%	32%
Going to shops/ Shopping	8%	6%	5%	5%	5%	0%	6%	6%
Holiday/ weekend away	1%	1%	1%	1%	1%	0%	3%	1%
Other	0%	0%	0%	0%	0%	0%	0%	0%
Refusal/ Personal/ Private/ Unspecify	9%	16%	12%	12%	12%	17%	12%	11%
Restaurant/ movies/ lunch/ evening out	2%	2%	3%	4%	5%	0%	3%	4%
Visiting friends/ relatives	20%	27%	21%	19%	17%	8%	18%	19%
Grand Total	100%	100%	100%	100%	100%	100%	100%	100%

Table 21 gives some more of the detail of those drivers who are potentially vulnerable to tolling. Here it will be seen that 39% of drivers make less than 10 trips a month on the freeways, 21% make between 10 and 40 monthly trips and 39% of all drivers used the

freeways between 40 and 50 times a month. There are some people who make more that 50 monthly trips but, as can be seen from the table, there are relatively few such drivers.

It would therefore appear that, in order to determine the degree of vulnerability to tolling the focus should be on those people who are making between 40 and 50 monthly trips. There is some variation in this travel frequency band with up to 59% of people travelling for the purpose of entertainment using the freeways between 40 and 50 times a month. It is, of course unlikely that these drivers spend their entire time travelling for the purpose of entertainment. If one sums the 'going to office' and 'going home' categories in Table 20 then we find that 60% of people making between 40 and 50 monthly trips are probably commuters.

Table 21: Travel frequency and journey purpose 2

Travel Frequency and Monthly Distance

Sample size 15 472

	Number of trips per month							
Journey purpose	<10	10-20	20-30	30-40	40-50	50-60	>60	Total
Airport/ O.R. TAMBO	52%	7%	10%	7%	24%	0.0%	0.0%	100%
Church/ Religious	100%	0%	0%	0%	0%	0.0%	0.0%	100%
Doctor/ Hospital	60%	5%	8%	4%	24%	0.0%	0.0%	100%
Dropping kids off at school/ extra murials	88%	2%	5%	2%	2%	0.0%	0.0%	100%
Going home	31%	3%	14%	9%	43%	0.0%	0.2%	100%
Going to office/ work/ any business related	46%	1%	9%	6%	37%	0.1%	0.1%	100%
Going to shops/ Shopping	51%	2%	10%	7%	30%	0.0%	0.1%	100%
Holiday/ weekend away	47%	2%	11%	8%	32%	0.0%	0.4%	100%
Other	100%	0%	0%	0%	0%	0.0%	0.0%	100%
Refusal/ Personal/ Private/ Unspecify	33%	3%	12%	9%	42%	0.1%	0.1%	100%
Restaurant/ movies/ lunch/ evening out	22%	2%	9%	8%	59%	0.0%	0.1%	100%
Visiting friends/ relatives	41%	3%	13%	8%	35%	0.0%	0.1%	100%
Total	39%	2%	11%	8%	39%	0.0%	0.1%	100%

In Table 22 the description of Table 20 is taken slightly further by examining the monthly distance that people are driving. This table should be treated with some caution because the distance that is recorded is the distance that was driven when the vehicle was identified for the purposes of the telephonic interview. The table shows the percentage of total journeys and the cumulative total. From the table 20% of people make monthly journeys on the freeway system of less than 200km. Of the journeys made 51% of people travel 700km or less on the Gauteng freeways.

Conversely there are a number of people who make extensive monthly journeys on the Gauteng freeways. Of the total number of people interviewed 2% drive more than 2 500km a month, 5% drive between 2 000km and 2 500km, 9% drive between 1 600km and 1 999km a month and 33% drive between 700km and 1 600km a month. The conclusion that must be drawn from this analysis is that a large group of people who travel extensively on the Gauteng freeways.

Table 22: Travel frequency and travel time 1

Monthly Distance

Sample size 15 472

(km)	% of total	Cumulative total
>100	10%	10%
100-199	10%	20%
200-299	8%	28%
300-399	6%	33%
400-499	8%	41%
500-599	5%	46%
600-699	5%	51%
700-799	5%	56%
800-899	5%	61%
900-999	3%	65%
1000-1199	7%	71%
1200-1399	8%	79%
1400-1599	5%	84%
1600-1999	9%	93%
2000-2500	5%	98%
>2500	2%	100%
Total	100%	

This conclusion is further reinforced by the findings presented in Table 23 which shows a similar analysis to that of Table 22 except that it focuses purely on work commuters rather than on all drivers. Here it can be seen that while there is some variation between the distances that commuter drive on the freeways compared to all drivers the differences are not particularly marked. Here, for example, 50% rather than 51% travel up to 700km a month.

Table 23: Travel frequency and travel time, work commuters

Monthly Distance: Commuters

Sample size 9244

(km)	% of total	Cumulative total
>100	9%	9%
100-199	10%	19%
200-299	8%	27%
300-399	6%	33%
400-499	8%	41%
500-599	5%	46%
600-699	5%	50%
700-799	5%	56%
800-899	5%	61%
900-999	3%	64%
1000-1199	7%	70%
1200-1399	8%	79%
1400-1599	5%	84%
1600-1999	9%	92%
2000-2500	5%	98%
>2500	2%	100%
Total	100%	

The final calculation that is made is to determine the likely toll burden at different income levels. The cost of tolling is based on a toll of 71.5c per km adjusted for two types of discounts. These are an electronic tag discount of 20% and frequent user discounts as given in Table 24. Off peak and other discounts are not included in the analysis. The analysis is again based on the telephonic interviews that were conducted and the results are reported in Table 27 and Table 28. It is well known that questions about income are problematic in any survey. This appears to have been true of the telephonic survey as well. The first problem is that many people refuse to disclose their income. Hence it can be seen that of the total of over 27 000 interviews only 5 524 people were prepared to disclose their incomes. The second is that people often report an income that is at variance with their true income.

Table 24: Frequent User Discounts Used in the Analysis

Gantry passages during a calendar month	Discount for each gantry passage in the band
No 1-40	0%
No 41-80	0%
No 81-120	5%
No 121-160	10%
No 161-200	15%
No 201-240	20%
No 241-280	25%
No 281-320	30%
No 321-360	35%
No 361 and higher	40%

The starting point in identifying the number of people who are potentially vulnerable to tolling was to choose an amount where people would notice that the payment of tolls was a significant part of their disposable income. The focus of the analysis was on people who were travelling for work purposes. This was done because it was felt that these are the type of journey where people might be most vulnerable to tolling because it is a journey where one has little choice in making the journey. This was further corrected by removing anyone who had a company car allowance; was driving on a Sunday; and had more than one occupant in the car.

One further check was introduced and that was to determine the cost of travel relative to a driver's declared income. The results of this exercise are reported in Table 25. Highlighted in orange in the table are those cells where monthly travel costs exceed 50% of income. It will be seen that for drivers with an income of less that R4 999 a month (midpoint R2 500) driving between 400km and 600km (midpoint 500km) travel cost constitute 60% of their income. Once drivers in this income category start to travel 900km and more then travel costs exceed their monthly income (with midpoint R2 500). This orange highlighting has been carried forward into the analysis of toll tariff burden.

Table 25: Monthly Travel Cost as Percentage of Income

Monthly Travel Cost as a % of income

	Monthly Travel Cost as % of income						
Monthly income	<200	200-400	400-600	600-800	800-1000	1000-1300	1300-1600
Midpoint km	100	300	500	700	900	1150	1450
2500	12%	36%	60%	84%	108%	138%	175%
6500	5%	14%	23%	32%	42%	53%	67%
9500	3%	10%	16%	22%	29%	36%	46%
12500	2%	7%	12%	17%	22%	28%	35%
13000	2%	7%	12%	16%	21%	27%	34%
18000	2%	5%	8%	12%	15%	19%	24%
22500	1%	4%	7%	9%	12%	15%	19%
27500	1%	3%	5%	8%	10%	13%	16%
45000	1%	2%	3%	5%	6%	8%	10%

There is no science in choosing a measure of a toll tariff burden and the higher people's income the higher this value could be because of their greater amount of discretionary income. For the purposes of this analysis a value of toll being equal or higher than 3%, 5% and 10% of income were chosen. This is illustrated as the shaded part of Table 26 where the midpoint of monthly toll costs and income categories have been used for the calculation. The light shading is where tolls exceed 3% of income, the medium shading where tolls exceed 5% and the dark shading where tolls exceed 10% of income. This shading is carried over to Table 27 and Table 28 which report on the actual number and percentage of drivers in each category.

Table 26: Toll Cost as a Percentage of Income with 3%, 5% and 10% highlighted

Monthly income and Toll Cost

	Sample size	5,524						
	Monthly Toll Cost (with discount)							
Monthly income	100	300	500	700	900	1150	1450	Total
2500	4%	12.0%	20.0%	28.0%	36.0%	46.0%	58.0%	60
6500	2%	4.6%	7.7%	10.8%	13.8%	17.7%	22.3%	152
9500	1%	3.2%	5.3%	7.4%	9.5%	12.1%	15.3%	251
12500	1%	2.4%	4.0%	5.6%	7.2%	9.2%	11.6%	280
13000	1%	2.3%	3.8%	5.4%	6.9%	8.8%	11.2%	410
18000	1%	1.7%	2.8%	3.9%	5.0%	6.4%	8.1%	730
22500	0%	1.3%	2.2%	3.1%	4.0%	5.1%	6.4%	1,130
27500	0%	1.1%	1.8%	2.5%	3.3%	4.2%	5.3%	703
45000	0%	0.7%	1.1%	1.6%	2.0%	2.6%	3.2%	1,808
Total	2,678	884	732	566	347	260	57	5,524

The following conclusions can be made about the information in Table 27 and Table 28 where the focus is on single occupant vehicles being used for work commuting where the driver does not have a company travel allowance:

- 40% of the sample is expected to pay toll fees of less that R200 a month.

- 50% of commuters declaring an income of less than R4 999 a month are expected to pay less than R200 a month in tolls. This is however in excess of 3% of monthly income for these people.
- 18.9% of commuters are expected to pay tolls of between R200 and R400 a month. This is 327 people in the sample of which 19 will be paying tolls greater than 3% of their income and 2 will be paying tolls greater than 10% of their income.

Table 27: Monthly income and Toll Cost: Absolute Numbers

Monthly income and Toll Cost (Single occupant vehicle, Work purpose Journey)

Sample size 1,728

	Monthly Toll Cost (with discount)							
Monthly income	<200	200-400	400-600	600-800	800-1000	1000-1300	1300-1600	Total
Up to R4,999	5	2	2	1				10
R5,000-R7,999	11	2	8	3	4	2	2	32
R8,000-R10,999	36	17	11	6	7	3		80
R11,000-R13,999	32	16	14	13	15	3	1	94
R14,000-R15,999	46	33	18	19	14	14	3	147
R16,000-R19,999	91	55	41	38	22	12	3	262
R20,000-R24,999	150	67	69	51	26	15	3	381
R25,000-R29,999	89	48	24	24	16	9	3	213
R30,000+	234	87	78	44	37	26	3	509
Total	694	327	265	199	141	84	18	1,728

- 15% of commuters are expected to pay tolls of between R400 and R600 a month. This is 265 people in the sample of which 32 people will be paying tolls greater than 3% of their income, 19 will be paying tolls greater than 5% of their income and 2 will be paying tolls in excess of 10% of their incomes. However in the latter case these two drivers have declared that the cost of their travel on Gauteng highways exceeds 50% of their income.
- 11.5% of people are expected to pay tolls of between R600 and R800 a month. This is 199 commuters in the sample of which 89 people will be paying tolls greater than 3% of their income, 38 will be paying tolls greater than 5% of their income and 4 will be paying tolls in excess of 10% of their incomes.
- 8.2% of people are expected to pay tolls of between R800 and R1 000 a month. This is 141 commuters in the sample of which 42 people will be paying tolls greater than 3% of their income, 58 will be paying tolls greater than 5% of their income and 4 will be paying tolls in excess of 10% of their incomes.
- 4.9% of people are expected to pay tolls of between R1 000 and R1 300 a month. This is 84 commuters in the sample of which 9 people will be paying tolls greater than 3% of their income, 44 will be paying tolls greater than 5% of their income and 5 will be paying tolls in excess of 10% of their incomes. Of the latter 5 there

are 2 people who have declared travel costs as being in excess of 50% of their declared income.

Table 28: Monthly income and Toll Cost: Percentage Distribution

Percent of Sample: Toll Cost as a Percentage of Income
(Single occupant vehicle, Work purpose Journey)

	Monthly Toll Cost (with discount)						
Monthly income	<200	200-400	400-600	600-800	800-1000	1000-1300	1300-1600
Up to R4,999	50.0%	20.0%	20.0%	10.0%	0.0%	0.0%	0.0%
R5,000-R7,999	34.4%	6.3%	25.0%	9.4%	12.5%	6.3%	6.3%
R8,000-R10,999	45.0%	21.3%	13.8%	7.5%	8.8%	3.8%	0.0%
R11,000-R13,999	34.0%	17.0%	14.9%	13.8%	16.0%	3.2%	1.1%
R14,000-R15,999	31.3%	22.4%	12.2%	12.9%	9.5%	9.5%	2.0%
R16,000-R19,999	34.7%	21.0%	15.6%	14.5%	8.4%	4.6%	1.1%
R20,000-R24,999	39.4%	17.6%	18.1%	13.4%	6.8%	3.9%	0.8%
R25,000-R29,999	41.8%	22.5%	11.3%	11.3%	7.5%	4.2%	1.4%
R30,000+	46.0%	17.1%	15.3%	8.6%	7.3%	5.1%	0.6%
	40.2%	18.9%	15.3%	11.5%	8.2%	4.9%	1.0%

- 1% of people are expected to pay tolls of between R1 300 and R1 600 a month. This is 18 commuters in the sample of which 3 people will be paying tolls greater than 3% of their income, 9 will be paying tolls greater than 5% of their income and 6 will be paying tolls in excess of 10% of their incomes.
- Of the total sample of 1 728 commuters there is the possibility that, based on the survey:
    - 390 people would be paying tolls equal to or greater than 3% of their income. This is the equivalent of 22% of the sample;
    - 191 people would be paying tolls equal to or greater than 5% of their income. This is the equivalent of 11% of the sample;
    - 23 people would be paying tolls equal to or greater than 10% of their income. This is the equivalent of 1.3% of the sample. However of this group 7 have travel costs that exceed 50% of their income.

8.3 Impact on business

Two main categories of travel affect business: travel to work journeys of all workers; and travel for the purposes of work, primarily during the day. The travel for work journeys includes business travel for people as well as freight transport for the purpose of distribution and supply of all the economic activities in the Gauteng economy.

Impacts on these business activities will be mediated principally by the effect that the freeway upgrade or expansion schemes have on the generalised cost of travel. Generalised cost is a measure that combines financial cost of travel with the travel time, operating costs and safety. The micro-economic analysis has shown that for the great

majority of users of the tolled network, the net position is one of gain. As a result, the schemes will have a net positive impact on business in that almost all travel will be less expensive in overall economic value terms.

This reduction in generalised cost of travel translates directly into business productivity improvements. These business benefits would be expressed typically in some of the following ways:

- Greater reliability/timekeeping by staff translates into business productivity gains
- With reduced congestion on the network distributors of goods are able to complete more turnarounds per day resulting in higher turnover and productivity
- More business appointments can be achieved per day resulting in improved productivity

All of these benefits are incorporated in the calculations that go towards the cost benefit analysis results.

The Eddington Transport Study in the UK has shown that further business benefits, not counted in the travel time and operating cost savings, may occur as businesses respond to the fact that they now have access to larger, and possibly deeper, labour markets. Eddington concluded that in rapidly growing urban economies these secondary productivity gains can be very significant.

Eddington refers to these benefits as 'agglomeration' gains. These benefits arise because firms located in relatively dense areas but served by good transport links are able to access a larger pool of labour than those either in less dense areas or where transport access is poorer. When accessibility is improved significantly the labour pool to which firms have access is expanded; more people can reach their premises within a set time than was the case previously. This means that, over time, businesses can adjust their employment structure to take advantage of the wider range of people and skills available to them.

Particularly in situations where growth potential is already present, these secondary labour market productivity gains can be very significant. In this present study no attempt has been made to quantify these additional benefits to business but it is should be noted that they can amount to between 30 and 50 percent more than the sum of benefits calculated by conventional means. Gauteng is experiencing very rapid economic growth at present and the growth potentially achievable is being constrained by congestion. In

these circumstances, the secondary productivity gains demonstrated in the Eddington Transport Study could be expected to be towards the higher end of the suggested range.

This implies that the cost benefit measures referred to in Section 7 could in reality be considerably higher than indicated.

8.4 Impact on public transport

Public transport vehicles using the improved freeway network would also benefit from travel time, vehicle operating cost and safety improvements. But, to the extent that they also pay the tolls, their costs would rise and these may be passed on to users, increasing the fares that they have to pay. Public transport users would be less able than private users to balance savings in time and safety with fare levels paid and may perceive themselves to be in a net negative position even if economic calculations show otherwise. For lowest income users affordability would be an issue too if toll charges are passed on to passenger fares.

Although according to the detailed analysis of user benefits, the economic balance would be positive overall, the issue is expected to require mitigation either via lower tolls being charged to public transport vehicles or road space prioritisation measures for higher occupancy vehicles, or both.

An important consideration in assessing the significance of this issue is the fact that the freeways are generally not the primary routes used by public transport vehicles. This was revealed in recent research undertaken by Gauteng Province (Strategic Roads Network review). Partly as a consequence of this finding, Gauteng Province embarked on a further study to determine priorities among the routes that public transport vehicles do indeed mainly use, including existing bus and taxi routes and proposed Bus Rapid Transit routes.

An implication of this is that infrastructure improvements for the benefit of public transport road vehicles would mainly be addressed elsewhere than via the freeway upgrade project. Nevertheless, the element of public transport optimisation through HOV lane provision and probable lower toll charges would mean that public transport users and operators would not be disadvantaged by the scheme.

In addition to the largely positive impacts of actually using the freeway network, public transport vehicles would experience additional benefits from the decongestion of the non-freeway routes that they typically use, as a result of the diversion of some traffic from

these roads to the newly provided capacity on the freeways. Discounts will be offered to public transport operators.

8.5 Captive business and communities

Although no attempt at quantification has been undertaken of this concern, there would be a small number of businesses and communities where the only practical route available may be a new tolled freeway. As a consequence, use of the network would not be a free choice. While such groups may still experience the benefit of improved travel time, operating costs and safety, they would not be doing so by choice and so in some cases their net benefit may be negative.

It is anticipated that the numbers of parties affected in this way would be very small and limited to certain existing residents and businesses along the routes of the proposed new freeways. It is only where access to a previously used route becomes barred by the construction of the new route that this situation would apply.

8.6 Impact on the cost of consumer goods

There are always concerns that a toll road would increase the cost of consumer goods and possibly destroy jobs and reduce wages. Given that the cost benefit analysis showed positive results, consumer goods prices should theoretically be less with the project than without it.

Nevertheless, in order to test the limits the following assessment quantifies the effects of tolling **while ignoring all the benefits of the freeway upgrades.**

Such an assessment can be undertaken at various levels of detail where this detail is determined largely by the amount of available information, the time frame for the study and resources made available for the study. A full assessment of these issues would demand a detailed and minute analysis of the impact of the roads on every sector, at least, if not also on individual companies. Bear in mind that this type of information is usually considered confidential by all companies, affected or not. An assessment of this nature is beyond the scope, the time frame or resources available for such a study.

Issues of employment are addressed in the macroeconomic section where direct and indirect job creation is quantified for some aspects of the project. These include construction jobs, jobs during operation and potential jobs as a result of increases in network speed. There is also the potential for permanent job losses. Permanent job losses could occur if the transport cost increases of the project are sufficient to undermine the

financial viability of individual companies or entire sectors. Following from this, because wages are a function of the demand and supply of labour, the study was not able to determine the overall changes in demand and supply of labour or draw conclusions about the likely impact of the project on wages.

In order to measure the possible impact on the cost of consumer goods a hypothetical journey was established. The intention in this exercise was to measure the highest possible changes in the cost of consumer goods. To this end a number of possible permutations of vehicle size, load value and origin and destination were analysed.

This analysis is based on the following key points and assumptions:

- The toll tariff that has been used is the actual toll tariff that has been used by the traffic engineers.

- All road user benefits from the project are ignored. In other words the exercise is undertaken as if the existing roads were simply tolled without any rehabilitation or capacity upgrades. This would overstate the size of the impact on the cost of consumer goods.

- The analysis ignores the fact that some consumer goods would not be affected by tolls because they are not moved on the freeway network but either by rail or on secondary roads. This would overstate the size of the impact on the cost of consumer goods.

- It is assumed that all toll tariffs after VAT and company tax are passed on to the final consumer. Some of the cost increases could be absorbed by the producer either because of the known resistance of major supermarket chains to cost increases or because of competition from products that are either imported or from other areas not affected by tolling. This would overstate the size of the impact on the cost of consumer goods.

- The toll tariff on the return journey has also been included because the vehicle may, for example, be returning empty or carrying farm supplies back to the farm. This would overstate the size of the impact on the cost of consumer goods if the return vehicle is carrying goods destined for sale out of the province.

- The analysis does not take into account other possible cost increases like the increased cost of staff being transported to work or the travel costs of sales

representatives. This would understate the size of the impact on the cost of consumer goods.

The methodology that was followed in this section was to base it on a hypothetical vehicle fleet and location of a transport company based at Isando close to OR Tambo International Airport which is responsible for delivering goods to the stores of a major retail chain[8]. Typically cargo is brought to Isando in vehicles of varying size. Here the cargo is sorted or repackaged before being sent to its final destination. We chose to analyse one of the longer journeys for cargo being brought to Isando. This was from north of Pretoria along the Ben Schoeman highway. The cargo was then delivered to one of the poorer parts of the province in the form of Soweto. For both journeys it was assumed that the vehicle returned to Isando and north of Pretoria without any cargo. The total toll tariff was then added to the cost of the cargo. The final step in the analysis was to apportion these cost increases across people's spending patterns to determine the overall increase in the cost of living. This final step was done for different income categories because different income levels have different spending patterns.

Two types of food stuffs were analysed – fruit and vegetables, and dry goods. The reason for the choices was that fruit and vegetables were moved in smaller vehicles while dry goods were typically moved in larger vehicles. For fruit and vegetables the average value of cargo was R15 000 with a typical minimum of R13 000. Dry goods have an average value of R120 000 with a minimum trip value of R110 000.

The estimates that were made are reported below. As a means of understanding the tables, the first column of Table 29 estimates the increased cost of moving fruit and vegetables in a class 2 vehicle. Here the value of the cargo is R12 000. The toll tariff from north of Pretoria to Isando is R45.72. After deducting VAT and company tax this adds 0.47% to the cost of the cargo. The cargo is then sorted, packed into another class 2 vehicle and delivered to retail outlets in Soweto. The toll tariff to Soweto is R36.33. This adds a further 0.30% to the cost of the fruit and vegetables. In total both journeys add 0.77% to the cost of fruit and vegetables. The second and third columns of the table follow similar logic for larger vehicles. Clearly the larger the vehicle and the greater value of the cargo so the proportionate costs decline. Cargo carried in class 3 vehicles would cost 0.28% more and 0.23% more in class 4 vehicles.

[8] This analysis is based on similar work undertaken in the Western Cape.

Table 29 reports on the impact on the cost of fruit and vegetables while Table 30 reports on the estimates for dry goods.

As a means of understanding the tables, the first column of Table 29 estimates the increased cost of moving fruit and vegetables in a class 2 vehicle. Here the value of the cargo is R12 000. The toll tariff from north of Pretoria to Isando is R45.72. After deducting VAT and company tax this adds 0.47% to the cost of the cargo. The cargo is then sorted, packed into another class 2 vehicle and delivered to retail outlets in Soweto. The toll tariff to Soweto is R36.33. This adds a further 0.30% to the cost of the fruit and vegetables. In total both journeys add 0.77% to the cost of fruit and vegetables. The second and third columns of the table follow similar logic for larger vehicles. Clearly the larger the vehicle and the greater value of the cargo so the proportionate costs decline. Cargo carried in class 3 vehicles would cost 0.28% more and 0.23% more in class 4 vehicles.

Table 29: Increased cost of fruit and vegetables

Impact on the cost of Fruit and Vegetables

	1	2	3
Origin	**North of Pretoria to Isando**		
Value of incoming load	12,000	60,000	100,000
Vehicle class	2	3	4
Distance (km)	61	61	61
Tolls on inward journey	45.72	74.30	102.87
Tolls on outward journey	45.72	74.30	102.87
Less: VAT	12.80	20.80	28.80
Less: Company tax	22.02	35.78	49.54
Less: Reduced maintenance			
Net cost of tolling	56.62	92.01	127.39
Toll as a percentage of load value	0.47%	0.15%	0.13%
Destination	**Isando to Soweto**		
Value of outgoing load	15,000	60,000	100,000
Vehicle class	2	3	4
Distance (km)	36	36	36
Tolls on inward journey	36.33	59.04	81.74
Tolls on outward journey	36.33	59.04	81.74
Less: VAT	10.17	16.53	22.89
Less: Company tax	17.50	28.43	39.37
Less: Reduced maintenance			
Net cost of tolling	44.99	73.12	101.23
Toll as a percentage of load value	0.30%	0.12%	0.10%
Percentage increase in cost of fruit & vegetables	0.77%	0.28%	0.23%

The possible impact on the cost of dry goods is given in Table 30. The methodology and journey types are the same. Because of the higher value of dry goods relative to their mass the lower value loads are omitted. Dry goods that are transported from Pretoria to the depot and then delivered to Soweto would have a cost increase of 0.12% when R140 000 of cargo is moved by a class 3 vehicle. If a class 4 vehicle is used (class 3 with a trailer) then the cost increase is 0.11% if the cargo has a value of R200 000.

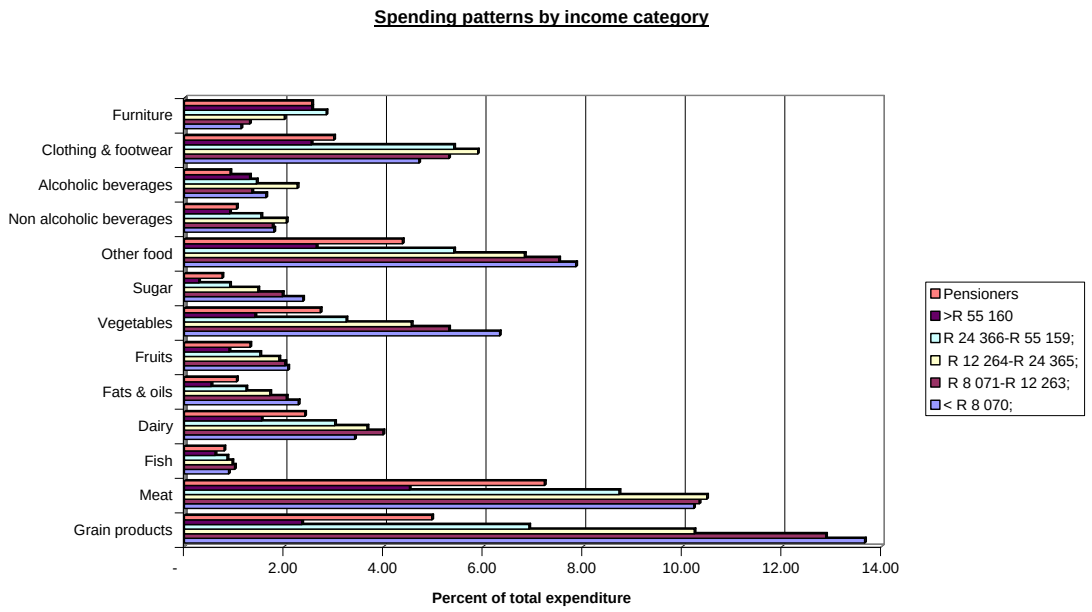
Table 30: Increased cost of dry goods

Impact on the cost of Dry Goods

	1	2
Origin	**North of Pretoria to Isando**	
Value of incoming load	140,000	200,000
Vehicle class	3	4
Distance km	61	61
Tolls on inward journey	74.30	102.87
Tolls on outward journey	74.30	102.87
Less: VAT	20.80	28.80
Less: Company tax	35.78	49.54
Less: Reduced maintenance		
Net cost of tolling	92.01	127.39
Toll as a percentage of load value	0.07%	0.06%
Destination	**Isando to Soweto**	
Value of outgoing load	140,000	200,000
Vehicle class	3	4
Distance km	36	36
Tolls on inward journey	59.04	81.74
Tolls on outward journey	59.04	81.74
Less: VAT	16.53	22.89
Less: Company tax	28.43	39.37
Less: Reduced maintenance		
Net cost of tolling	73.12	101.23
Toll as a percentage of load value	0.05%	0.05%
Percentage increase in cost of dry goods	0.12%	0.11%

Following from these conclusions it is important to establish the degree to which fruit, vegetables, milk and, to a lesser extent (because of higher cargo values), grain mill products contribute to the overall spending of consumers. The average spending patterns of people in South Africa is illustrated in Figure 2 below. This is shown for the thirteen largest types of expenditure categories and is given for five different income levels as well as pensioners.

Figure 2: The average consumer spending pattern
Source: Statistics SA Statistical Release P P0141.5



These spending patterns were used as the basis to estimate the overall change in the cost of consumer goods. This was calculated by taking the weighted changes in the cost of transport and determining the percentage increase in the cost of consumer goods for certain specific journeys and for the income categories shown in the figure above.

Table 31: Spending patterns by income category

Spending patterns for different income categories

Annual household income between:	< R 8 070;	R 8 071-R 12 263;	R 12 264- R 24 365;	R 24 366- R 55 159;	>R 55 160	Pensioners
Grain products	13.66	12.88	10.24	6.92	2.36	4.97
Meat	10.23	10.34	10.49	8.73	4.52	7.23
Fish	0.89	1.01	0.96	0.86	0.62	0.80
Dairy	3.42	3.99	3.67	3.02	1.55	2.42
Fats & oils	2.29	2.05	1.72	1.24	0.54	1.05
Fruits	2.08	2.02	1.90	1.52	0.90	1.32
Vegetables	6.33	5.31	4.56	3.25	1.42	2.73
Sugar	2.38	1.97	1.48	0.91	0.29	0.76
Other food	7.86	7.52	6.83	5.41	2.65	4.38
Non alcoholic beverages	1.80	1.77	2.05	1.54	0.91	1.05
Alcoholic beverages	1.64	1.36	2.27	1.45	1.31	0.92
Clothing & footwear	4.71	5.31	5.89	5.41	2.55	3.00
Furniture	1.14	1.31	2.01	2.85	2.56	2.56
Other items	41.57	43.16	45.93	56.89	77.82	66.81

Source: Statistics SA 2000 income and expenditure survey (Statistical release P0141.5)

Table 31 gives the detail spending patterns across five income categories and pensioners. Table 32 shows the estimated cost increase (as based on the methodology above) for

different types of consumer goods being moved from north of Pretoria to Soweto via Isando. Finally Table 33 reports on the overall cost increases that consumers could face due to the tolling of the Gauteng freeway network.

Households with incomes less than R24 365 would face cost of living increases of 0.15%. This is the equivalent of 15 cents for each R100 spent on consumer goods. Households with incomes between R24 365 and R55 159 would face cost of living increases of 0.14%. Households with incomes in excess of R55 160 would have cost of living increases of 0.13% due to the increased cost of consumer goods. Pensioners would face cost of living increases of 0.14%.

Table 32: Increased costs on consumer goods of a toll tariff without taking any benefits into account

Toll tariff increase to cost of goods

	Highest	*Average*	*Lowest*
Grain mill products	0.11%	0.12%	0.12%
Sugar factories & refineries	0.11%	0.12%	0.12%
Slaughtering, preparing & preserving of meat	0.11%	0.12%	0.12%
Agriculture	0.77%	0.50%	0.23%
Other food products	0.11%	0.12%	0.12%
Clothing, except footwear	0.11%	0.12%	0.12%
Coal mining	0.11%	0.12%	0.12%
Tobacco products	0.11%	0.12%	0.12%
Petroleum refineries & products of petroleum and coal	0.11%	0.12%	0.12%
Dairy products	0.77%	0.50%	0.23%
Wood and wood products, except furniture	0.11%	0.12%	0.12%
Footwear	0.11%	0.12%	0.12%
Vegetable & animal oils and fats	0.11%	0.12%	0.12%
Other products	0.11%	0.12%	0.12%

Table 33: Highest increase in cost of consumer goods being moved from north of Pretoria to Soweto via Isando

Highest increase in cost of consumer goods

Annual household income between:	< R 8 070;	R 8 071-R 12 263;	R 12 264- R 24 365;	R 24 366- R 55 159;	>R 55 160	Pensioners
Grain products	13.68	12.89	10.25	6.93	2.36	4.98
Meat	10.24	10.35	10.50	8.74	4.53	7.24
Fish	0.89	1.01	0.96	0.86	0.62	0.80
Dairy	3.45	4.02	3.70	3.04	1.56	2.44
Fats & oils	2.29	2.05	1.72	1.24	0.54	1.05
Fruits	2.08	2.02	1.90	1.52	0.90	1.32
Vegetables	6.34	5.32	4.57	3.25	1.42	2.73
Sugar	2.38	1.97	1.48	0.91	0.29	0.76
Other food	7.87	7.53	6.84	5.42	2.65	4.39
Non alcoholic beverages	1.81	1.78	2.07	1.55	0.92	1.06
Alcoholic beverages	1.64	1.36	2.27	1.45	1.31	0.92
Clothing & footwear	4.72	5.32	5.90	5.42	2.55	3.00
Furniture	1.14	1.31	2.01	2.85	2.56	2.56
Other items	41.62	43.21	45.98	56.96	77.91	66.89
Total increase in cost of consumer goods	**0.15%**	**0.15%**	**0.15%**	**0.14%**	**0.13%**	**0.14%**

In drawing the conclusions above it is important to appreciate the findings in the light of the limitations of the methodology. These are repeated below.

- All road user benefits from the project are ignored. In other words the exercise is undertaken as if the existing roads were simply tolled without rehabilitation or capacity upgrades. This would overstate the size of the impact on the cost of consumer goods.

- The analysis ignores that some consumer goods would not be affected by tolls because they are not moved on the freeway system. This would overstate the size of the impact on the cost of consumer goods.

- It is assumed that all toll tariffs are passed on to the final consumer. Some of the cost increases could be absorbed by the producer either because of the known resistance of major supermarket chains to cost increases or because of competition from products that are either imported or from other areas not affected by tolling. This would overstate the size of the impact on the cost of consumer goods.

- The toll tariff on the return journey has also been included because the vehicle may, for example, be travelling back empty or carrying farm supplies back to the farm. This would overstate the size of the impact on the cost of consumer goods if the return vehicle is carrying goods destined for sale out of the province.

- The analysis does not take into account other possible cost increases like the increased cost of staff being transported to work, the travel costs of sales representatives or other deliveries that may be subjected to paying tolls. This would understate the size of the impact on the cost of consumer goods.

- The exercise was done for a depot located at Isando. Cost could be different for different locations.

The overall conclusion which is drawn from this analysis is that the project probably would increase the cost of consumer goods but having tested the highest limit of this increase the effect would be very small indeed.

9 Macroeconomic Impacts

While there are a number of different types of macroeconomic effects, the two most important are contribution to gross domestic product (GDP) and creation of jobs. The importance of job creation is obvious. Increases in GDP are synonymous with increases in peoples' economic standards of living. Increased GDP – i.e. increased production – is experienced in the form of more jobs, higher wages and reduced economic hardship. It is clearly an important measure.

The actual task of calculating the macroeconomic impact of the project is described in detail in Section 4. The macroeconomic results that are reported here are for the 50c per km equivalent toll tariff only.

9.1 Capacity increases and lower transport costs

There are a number of potential changes in transport costs as a result of the proposed toll roads. There are likely to be lower road user costs to users of the existing roads even after tolling compared to the 'do minimum' alternative. In addition to this there are likely to be reduced costs on the road transport system generally as the increased capacity of the toll roads would result in reduced congestion on the road network. Of course in some instances there could be increased network costs should the tolling of the roads result in local diversion of traffic on to secondary roads.

9.2 Contribution to Gross Domestic Product

Gross Domestic Product is the total value of all final goods and services produced in the country. It is clearly fundamental to the economic quality of life of people in the country. It is also the most important and all encompassing measure of the macroeconomic effect of the proposed toll road. Table 34 reports on the contribution to GDP and the composition of this change. The table presents values for each year from 2008 to 2015 and then in five yearly intervals thereafter.

Table 34: Contribution to Gross Domestic Product

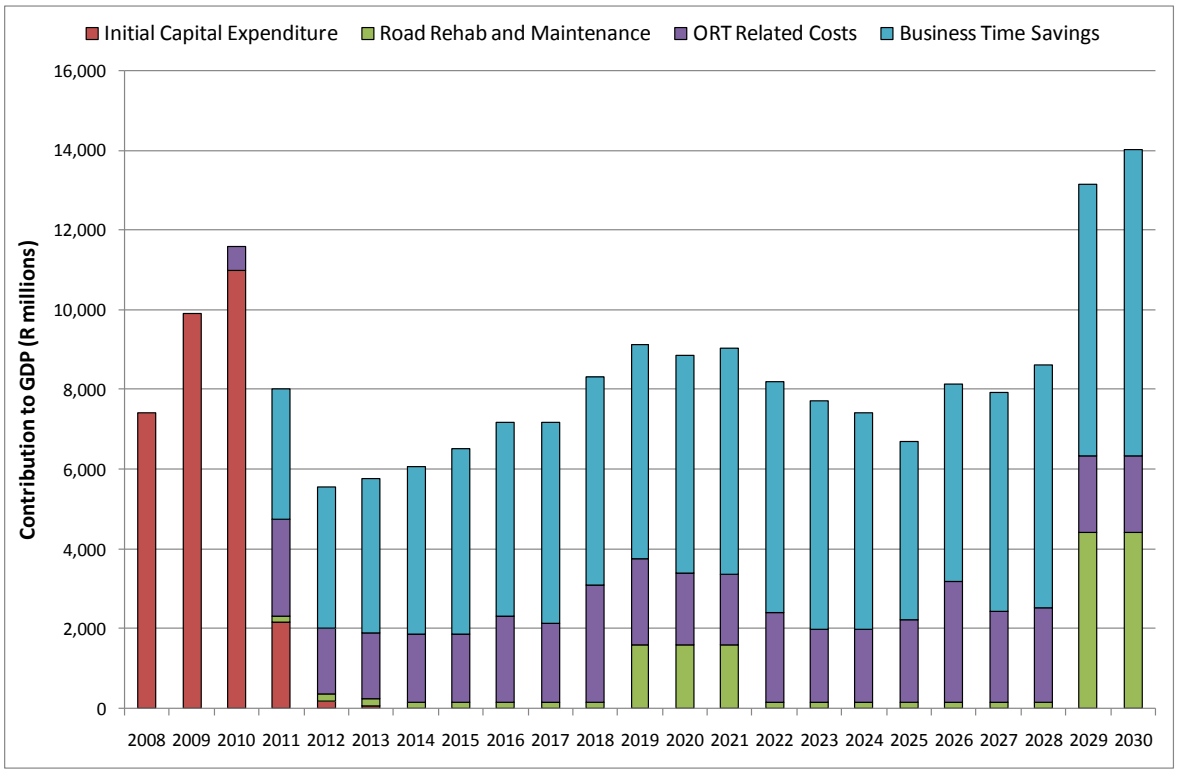
Contribution to Gross Domestic Product - South Africa											
Rand million, 2010 prices											
Financial Year	**2008**	**2009**	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**	**2020**	**2025**	**2030**
Initial Capital Expenditure	7,422	9,914	10,987	2,163	194	73					
Road Rehab and Maintenance			0	160	160	160	160	160	1,582	160	4,427
ORT Related Costs			610	2,424	1,658	1,671	1,686	1,702	1,805	2,061	1,902
Business Time Savings				3,270	3,542	3,856	4,224	4,662	5,469	4,465	7,685
Total Contribution	**7,422**	**9,914**	**11,597**	**8,018**	**5,554**	**5,760**	**6,070**	**6,524**	**8,856**	**6,686**	**14,014**
Cumulative Contribution	7,422	17,336	28,933	36,950	42,504	48,264	54,334	60,858	101,482	140,510	192,363

The initial capital expenditure on upgrading the existing roads as well as constructing new roads was estimated to contribute as much as R7.4bn in 2008, R9.9bn in 2009 and 11.0bn in 2010. The contribution due to the initial capital expenditure is then expected to reduce to R2.2bn in 2011 and R194m in 2012 as the construction tapers off.

The contribution from routine road maintenance is expected to contribute at least R160m to GDP, while rehabilitation and periodic maintenance is expected to add further to GDP in each of 2019, 2020, 2021, 2029 & 2030. The contribution to GDP from ORT related maintenance and operating costs is expected to increase from R610m in 2010 to R1.9bn in 2030.

Once the toll roads are operational it is really the business time savings that contribute the most to GDP. This contribution to GDP is expected to increase from R3.27bn in 2010 to R7.69bn in 2030. These contributions are illustrated in Figure 3, where the relative contributions of the initial capital works and the dominance of the business time savings are clearly shown.

Figure 3: Detailed Contribution to GDP



GDP is important not just because it is income but also because income has the capacity to add to wealth. Based on these projections, the proposed toll road would have made a cumulative contribution to GDP of nearly R50bn by 2013, the projected end of construction. This cumulative total increases to over R207bn by the end of 2030.

Table 35 indicates the relative contribution that the proposed toll roads would make to the national economy.

Table 35: Relative contribution to the national economy

The Contribution of the Proposed Toll Roads to GDP
Excludes Road User Cost Savings

	2008	2009	2010	2011	2012	2013	2014	2015	2020	2025	2030
South African GDP (Rbn)	2,284	2,408	2,648	2,754	2,865	2,979	3,098	3,222	3,920	4,770	5,803
Toll Road Contribution (R bn)	7.4	9.9	11.6	4.7	2.0	1.9	1.8	1.9	3.4	2.2	6.3
% Contribution by Toll Roads	0.32%	0.41%	0.44%	0.17%	0.07%	0.06%	0.06%	0.06%	0.09%	0.05%	0.11%

Assumptions:
1. South African GDP (2008 & 2009) - Source: Statistics South Africa
2. Nominal GDP between 2009 and 2010 increased by 10%
3. Real GDP growth per annum thereafter taken as 4%

In comparative terms it is estimated that the proposed toll road project in Gauteng added 0.32% to South African GDP in 2008 and 0.41% in 2009. It is estimated that the project has the capacity to add 0.44% to GDP in 2010. This contribution is then expected to drop from the start of the operations phase. From 2013 the project is still expected to add 0.06% to GDP, increasing to 0.11% in 2030.

9.3 Contribution to Gross Geographic Product

Gross Geographic Product (GGP) is the provincial equivalent of national GDP. Naturally while many of the direct effects would be felt within the province there would be indirect effects on other provinces. The project contribution to provincial GGP is reported in Table 36 below.

Table 36: Contribution to Gross Domestic Product

Contribution to Gross Geographic Product - South Africa
Rand million, 2010 prices

Financial Year	**2008**	**2009**	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**	**2020**	**2025**	**2030**
Initial Capital Expenditure	3,281	4,377	4,792	944	85	32					
Road Rehab and Maintenance			0	68	68	68	68	68	669	68	1,872
ORT Related Costs			355	1,407	962	969	978	987	1,043	1,161	1,103
Business Time Savings				2,173	2,353	2,562	2,807	3,097	3,634	2,967	5,107
Total Contribution	**3,281**	**4,377**	**5,147**	**4,592**	**3,467**	**3,631**	**3,852**	**4,152**	**5,346**	**4,195**	**8,082**
Cumulative Contribution	3,281	7,658	12,805	17,397	20,864	24,495	28,347	32,499	57,338	81,819	112,745

After taking account of all multiplier effects it is estimated that the project would make a total contribution to Gauteng GGP of R3.3bn in 2008, R4.4bn in 2009 and R5.1bn in 2010. By 2030 the project would add R8.1bn to GGP. Based on these projections, the project would have added a cumulative R112.7bn to provincial GGP by 2030.

9.4 Job Creation

The proposed toll road would result in changes to three types of jobs. The first are the direct jobs that would be created over the project period. These are jobs directly on road construction and operation of the toll road. The second are the so-called indirect jobs that are due to multiplier effects of both the proposed toll roads as well as from changes in transport costs and road user costs. The third type of change in jobs results from the structural economic changes attributable to the proposed toll road. There can be job increases because the upgrading of the toll roads results in greater business and commercial opportunities and more employment. There can be job losses or job relocations as a toll road impacts, for example, on a captive industrial area and reduces the customer base.

Table 37 reports on the direct job creation, Table 39 on the indirect jobs that are created as a result of the project, while Table 40 is a sum of the direct and indirect job creation.

Table 37: Direct job creation

Contribution to Direct Jobs - Gauteng											
Financial Year	**2008**	**2009**	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**	**2020**	**2025**	**2030**
Initial Capital Expenditure	10,477	14,051	15,579	3,041	272	103					
Road Rehab and Maintenance			0	102	102	102	102	102	1,013	102	2,833
ORT Related Costs			378	1,505	1,030	1,037	1,047	1,057	1,121	1,281	1,180
Business Time Savings				3,341	3,618	3,939	4,315	4,762	5,586	4,561	7,851
Total Contribution	**10,477**	**14,051**	**15,957**	**7,989**	**5,022**	**5,182**	**5,464**	**5,921**	**7,719**	**5,944**	**11,864**

Table 37 indicates that during the height of the construction period in 2010 as many as 15,957 people were directly employed as a result of the project. This number is expected to taper off as construction activities come to an end in 2013. From 2012 onwards it is expected that over 1,100 people would be directly employed on either maintaining the road or maintaining and operating the toll system. The number of jobs created from business time savings is expected to increase from 3 341 in 2011 to 7 851 in 2030, in line with the increased savings as the traffic numbers increase.

Table 38: Composition of direct jobs

Job Category	2008	2009	2010	2011	2012	2013
Low Skilled	9,217	12,386	13,940	2,716	243	92
Medium Skilled	1,086	1,433	1,384	274	25	9
High Skilled	174	232	255	50	5	2
Total Jobs	**10,477**	**14,051**	**15,579**	**3,041**	**272**	**103**

Table 38 lists the composition of the direct construction jobs in 2008 to 2013. It can be seen from the table that the majority of the direct jobs created during the construction

period are created at the low skilled level (and by implication thus the low income level), thus having the ability to contribute significantly to poverty alleviation.

The estimation of indirect jobs is not necessarily an uncontentious issue. The estimates are based on the official South African input output tables which show quite generous estimates for indirect jobs. In the light of the historic 'jobless' economic growth that this country has had and in light of the job losses incurred during the recession we have tended to downplay indirect job estimates. Therefore the indirect job estimates that are reported below are based on 25% of the multiplier estimates, but should be treated as the lower bound of these estimates.

Table 39: Indirect job creation

Contribution to Indirect Jobs - South Africa											
Rand million, 2010 prices											
Financial Year	**2008**	**2009**	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**	**2020**	**2025**	**2030**
Initial Capital Expenditure	13,022	17,500	20,580	4,038	362	137					
Road Rehab and Maintenance			0	291	291	291	291	291	2,876	291	8,047
ORT Related Costs			813	3,244	2,220	2,237	2,258	2,279	2,431	2,896	2,545
Business Time Savings				5,391	5,839	6,357	6,964	7,686	9,016	7,361	12,671
Total Contribution	**13,022**	**17,500**	**21,394**	**12,964**	**8,712**	**9,022**	**9,513**	**10,256**	**14,323**	**10,548**	**23,263**

Table 39 illustrates the potential indirect job creation. During the construction period between 2008 and 2013 it is estimated that as many as 21 394 indirect jobs have been or would be created throughout South Africa. These indirect jobs are then expected to taper off to around 8 700 in 2012 before increasing again to 14 323 in 2020 and 23 263 in 2030.

Table 40: Total (direct plus indirect) job creation

Contribution to Total Jobs - South Africa											
Rand million, 2010 prices											
Financial Year	**2008**	**2009**	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**	**2020**	**2025**	**2030**
Initial Capital Expenditure	23,499	31,552	36,160	7,079	634	240					
Road Rehab and Maintenance			0	393	393	393	393	393	3,889	393	10,880
ORT Related Costs			1,191	4,748	3,250	3,274	3,305	3,336	3,551	4,177	3,725
Business Time Savings				8,732	9,457	10,295	11,279	12,447	14,602	11,922	20,522
Total Contribution	**23,499**	**31,552**	**37,351**	**20,953**	**13,734**	**14,203**	**14,977**	**16,177**	**22,043**	**16,492**	**35,128**

Total direct and indirect jobs, as illustrated in Table 40, are expected to have amounted to 23 499 in 2008, 31 552 in 2009 and 37 351 in 2010. It is expected that 13 734 direct and indirect jobs would be created in 2012, increasing to 35 128 by 2030.

9.5 Other macroeconomic effects

Apart from the key macroeconomic effects discussed above, there are many other macroeconomic effects that would flow from the construction, upgrading and operation of the proposed toll roads. These include the generation of income tax, company tax and indirect household income. Table 41 reports on total income tax that would be generated and Table 42 on the indirect generation of household income.

Table 41: Contribution to Taxes

Taxes - South Africa											
Rand million, 2010 prices											
Financial Year	**2008**	**2009**	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**	**2020**	**2025**	**2030**
Initial Capital Expenditure	793	1,056	1,109	218	20	7					
Road Rehab and Maintenance			0	18	18	18	18	18	177	18	495
ORT Related Costs			68	270	184	186	187	189	200	227	211
Business Time Savings				303	328	357	392	432	507	414	712
Total Contribution	**793**	**1,056**	**1,177**	**809**	**550**	**568**	**597**	**639**	**884**	**659**	**1,419**
Cumulative Contribution	793	1,849	3,026	3,835	4,385	4,953	5,550	6,189	10,203	14,034	19,208

By 2013, the end of the initial construction period, a total of R4.95bn in taxes would have been generated by the project. R3.2bn of this amount would have been due to the initial capital expenditure. Total tax generation is expected to increase from R550m in 2012 to R1.42bn in 2030. The cumulative contribution to taxes by 2030 is expected to exceed R19.2bn.

Table 42: Contribution to Indirect Household Income

Contribution to Indirect Household Income - South Africa											
Rand million, 2010 prices											
Financial Year	**2008**	**2009**	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**	**2020**	**2025**	**2030**
Initial Capital Expenditure	3,907	5,236	6,002	1,180	106	40					
Road Rehab and Maintenance			0	85	85	85	85	85	837	85	2,341
ORT Related Costs			297	1,184	810	816	823	831	883	1,022	928
Business Time Savings				1,612	1,746	1,901	2,083	2,298	2,696	2,201	3,789
Total Contribution	**3,907**	**5,236**	**6,300**	**4,060**	**2,746**	**2,841**	**2,990**	**3,214**	**4,416**	**3,307**	**7,058**
Cumulative Contribution	3,907	9,143	15,443	19,503	22,249	25,090	28,081	31,295	51,531	70,825	96,784

The project would also contribute to indirect household income. By 2030 it is expected that the construction, operation and maintenance of the project would have cumulatively added over R96bn to indirect household income.

10 Conclusion

One of the potential key constraints to economic growth in Gauteng is an inadequate transport network. As part of the solution to this problem the Provincial Government of Gauteng and the South African National Roads Agency (Pty) Ltd (SANRAL) have mde significant improvements to the freeway network in the province and wish to understand the economic implications of upgrading the existing Gauteng freeway network, adding capacity and tolling the entire network.

One of the key issues is how to pay for the rehabilitation and upgrading. The most cost-effective way to pay for this rehabilitation and upgrading is through a combination of fuel tax and special levies for heavy vehicles. The special levies are necessary because, while heavy vehicles do the most damage to roads, these damages are not fully recovered in the fuel tax. The major constraint on the effective implementation of such a scheme is the financial policy on the part of government that fiscal integrity means that there should be no earmarking of funds. Hence all revenues raised, including the fuel tax, go into a common revenue fund and expenditures are made from this fund.

The political reality of extensive poverty and hardship in the country, as well as the need to address these issues have resulted in budgetary allocations in favour of poverty alleviation, etc, and at the expense of other areas of expenditure – like road maintenance. In consequence while tolling is a second best way of paying for roads, political realities suggest that it is the likely option.

Clearly there is a trade off between equity and efficiency. The least cost way of funding any road project is through a fuel tax. This avoids all of the costs associated with tolling. It is however not necessarily equitable because all users of fuel would be paying for the project and might not necessarily benefit from the project. In the study an estimate was made of the cost of tolling. It has been calculated that the actual cost of the toll infrastructure adds, on average 8.5 cents per vehicle kilometre for the upgrade option. This is the cost that would be incurred to pay for improved equity.

The first type of economic analysis reported on is the cost benefit analysis. The costs included in the analysis were construction, maintenance and operating costs of the roads and toll collection infrastructure; road user costs; the cost to the road users of diverting off the toll roads; and the cost to the provincial and local authorities for road damage caused by traffic diversion as well as the cost of diversion if the roads are not upgraded. Economic CBAs are reported for the upgrade option over a twenty year period where the

economic analysis shows the benefits to society at large. The results are given for various tolling rates, namely 0c per km (i.e. no tolling), 30c, 40c, 50c, 60c and 70c per km for light vehicles.

Total costs increase from a Present Value (PV) of R17.5bn for a 0c per km toll to R29.8bn for a 70c per km toll. While the costs increase as the tolling rate increases, benefits on the other hand generally show a decrease. The benefits, as characterised by road user cost savings when compared to the "Do nothing" case, decrease from a PV of R244.8bn for 0c per km to R239.6bn for 70c per km.

All three of the measures, Benefit Cost Ratios (BCR), internal rate of return (IRR) and Net Present Value (NPV), indicate that the upgrading of the Gauteng freeway network was based on sound economic logic. Table ES.2 illustrates these values for a toll rate of 50c per km. At this toll the scheme is set to return society a positive net present value of R209bn over the next 20 years. It has an internal rate of return of 37% which, in itself, is a remarkable high IRR. Finally, and probably most importantly it returns a benefit cost ratio of 8.4. This means that for each one rand of cost, initial capital works and ongoing maintenance and running costs, society benefits by R8.4.

The BCRs for all toll tariffs are above 8.0, indicating that the project is, from an economic perspective, beneficial to society. The BCR reduces from 14.0 for the 0c per km tolling rate to 8.4 for 30c, 8.3 for 40c, 8.4 for 50c, 8.1 for 60c and 8.0 for 70c. The effect of tolling on the upgraded road network is therefore to reduce the BCR from 14.0 to between 8.0 and 8.4, depending on which tolling rate is chosen.

The Net Benefits or NPV, which is the difference between the benefits and the costs, are all positive and vary between R209.8bn for a 70c per km tolling rate to R227.3bn for a 0c per km tolling rate. The IRR's for all the tolling options are 37%, while for the non-tolling option is 41%.

The cost benefit analysis was taken further and a series of individual journeys were analysed. It was found that, apart from a few important exceptions, most users of the toll roads during weekdays would have positive road user benefits. Further to this, it was also found that in aggregate the toll roads generate overall road user benefits that are greater than road user costs. Simply put this means that road user benefits would be greater by driving on the upgraded toll road and paying the toll than on the existing roads and not paying a toll. This is due to decreased congestion; faster travelling times; lower road user costs and less probability of accidents.

Three sets of road user journeys were analysed. These are those journeys when no tolling is charged on the entire network; the journeys on those sections of road where a toll tariff would be levied and; the journeys on those sections of freeway which are not tolled within the context where most of the network is tolled.

Journeys when there is no tolling on the entire network: For the majority of journeys and road users there are only benefits although there are some exceptions. These exceptions are caused by additional traffic that is attracted onto the freeway network because of the road upgrades and are:

- On the M3, Buccleuch to the M2 Geldenhuys Interchange
    - PM peak hour in the southerly direction, for all light vehicles from 2014 to 2020;
    - Midday off-peak in the southerly direction, for all vehicles in 2025;
    - AM peak hour in the northerly direction, for all light vehicles from 2020 onwards;
    - PM peak hour in the northerly direction, for all light vehicles from 2020 onwards;
    - Midday off-peak in the northerly direction, for light vehicle business travellers in 2025.
- On the R24, from OR Tambo International Airport to the N12:
    - AM peak traffic in the westerly direction, for all light vehicles from 2020 onwards and for heavy vehicles in 2025;
    - PM peak traffic in the westerly direction, for all light vehicles from 2020 onwards;
    - Midday off-peak traffic in the westerly direction, for all light vehicles and class 2 heavy vehicles in 2025.
- On the N1, from 14th Avenue to Grasmere:
    - PM peak traffic in the southerly direction, for light vehicle business travellers in 2025;
    - AM peak traffic in the northerly direction, for all light vehicles in 2025.
- On the N1, from Brakfontein to Buccleuch:

  - PM peak traffic in the northerly direction, for light vehicle business travellers in 2020 to 2025;
  - Midday off-peak traffic in the northerly direction, for light vehicle business travellers in 2025.

- On the R80 from Suiderberg to DF Malan:

  - PM peak hour traffic in a northerly / westerly direction, all light vehicles in 2025.

Journeys on those sections of freeway that would be tolled:

- On the whole people travelling during the morning and afternoon peak hours and midday off peak times generally have lower costs. This changes for people travelling in the evening and on weekends and they would find that their cost of travelling has increased relative to the do-minimum option.

- During the morning and afternoon peak hours there are two roads where road users would generally have higher costs. These are on the N3 travelling between Buccleuch and the M2 Geldenhuys interchange in both directions and on the N1 when travelling between Brakfontein to Buccleuch in the northerly direction during the afternoon peak. An analysis of N3: Buccleuch to M2 Geldenhuys interchange indicates increased traffic (an hence lower travelling speeds) on the Buccleuch – Marlboro link, Marlboro - London Rd link and the Linksfield – Gillooly's link. A similar analysis of the N1: Buccleuch to Brakfontein road section indicates higher traffic volumes (and hence lower speeds) on the Buccleuch – Woodmead and Samrand – Olifantsfontein links (in the northern direction).

- For people travelling during the weekday off peak period most road users would face reduced costs, except for the isolated case of heavy vehicles on the N3: Buccleuch to M2 Geldenhuys interchange at an equivalent toll tariff of 70c per km.

- Most of the people travelling during the evening or on weekends would have higher costs at the toll equivalent of 40c and above. At a toll equivalent of 30c per km there are more road users with lower costs than higher costs at these times.

Journeys on those sections of the freeway which are not tolled within the context where most of the network is tolled: It is only in certain isolated instances in morning and afternoon peak hour and midday off peak that people have increased costs. These costs are confined mainly to light vehicles and to the R24: OR Tambo International Airport to

the N12, the R80 between Soshanguve and Suiderberg, and between Suiderberg and DF Malan roads. There are also some isolated incidents of increased costs for light vehicle users travelling in an easterly direction on the N4 between Proefplaas and Donkerhoek road. There are reduced costs for all road users travelling during the evening and over weekends.

It was also found that road user benefits accrue more than proportionately to heavy vehicles rather than light vehicles. As the class of vehicle increases so does the increased benefit.

The second type of analysis that was undertaken was a microeconomic analysis. This includes issues of affordability, impacts on individual drivers and their capacity to pay; impacts on the cost of consumer goods; impacts on business generally and impacts on specific business.

There is always some concern about the ability of society to carry the cost of major infrastructural projects like the Gauteng freeway upgrade. Two estimates were made to assess this issue. The first is the share of total toll revenue to that of the size of the Gauteng economy. The second is the share of tolling relative to people's disposable income. The analysis found that total toll revenue is expected to be 0.34% of projected Gauteng GDP in 2011. In other words the toll burden from the freeway upgrade is the equivalent of 34c for each R100 of GDP. It was also found that, in the same year, total toll revenue is expected to be 0.43% of projected Gauteng household gross disposable income in 2011. In other words the toll burden for light vehicles from the freeway upgrade is the equivalent of 43c for each R100 of disposable income.

For private road users it can be argued that, for some people, there would not be an obvious saving in vehicle operating costs in the early years of the toll road. It is recognised that savings in some vehicle costs would be obvious and apparent – fuel costs, time costs and lower accident rates, for example. Other costs, however, are far less discrete over time and tend to be lump sum costs after a period of time – tyre costs, suspension and steering repairs, etc. Hence the immediate and obvious saving in vehicle operating costs would be for fuel, time and, possibly, accident costs. Other costs would accumulate in the future. Hence the reality would be that savings would only be realised some years into the future.

Therefore for cash flow purposes there would be less road user benefits in the early years of the tolled roads, as these benefits would accumulate into the future. The perception and reality would be that some drivers who currently do and would continue to use the road on

a regular basis could be vulnerable to the proposed tolling. In addition less affluent owners of private vehicles may face road user costs that are different to those used in the general calculations. In particular, less affluent people would have lower time costs than others. In addition such people may choose to repair their vehicles themselves or may choose simply not to repair their vehicles at all.

The analysis was based on a set of interviews conducted in 2009 that focussed on class 1 vehicles using the freeways. This was a telephonic interview, based on the registration numbers of vehicles using the freeways. Over 27 000 people were interviewed. The following conclusions were made:

- The majority of trips being made in light vehicles were done for either business or commuting purposes.

- It was found that 20% of people make monthly journeys on the freeway system of less than 200km. Of the journeys made 51% of people travel 700km or less on the Gauteng freeways. Conversely there are a number of people who make extensive monthly journeys on the Gauteng freeways. Of the total number of people interviewed 2% drive more than 2 500km a month, 5% drive between 2 000km and 2 500km, 9% drive between 1 600km and 1 999km a month and 33% drive between 700km and 1 600km a month.

An analysis was undertaken purely on people who commute to work. This was done because it was felt that these are the type of journey where people might be most vulnerable to tolling because it is a journey where one has little choice in making the journey. This was further corrected by removing anyone who had a company car allowance; was driving on a Sunday; and had more than one occupant in the car. There is no science in choosing such a number and the higher people's income the higher this value could be because of their greater amount of discretionary income. For the purposes of this analysis a value of tolls being equal or higher than 3%, 5% and 10% of income were chosen. The following conclusions were drawn:

- 40% of the sample is expected to pay toll fees of less that R200 a month.
- 50% of commuters declaring an income of less than R4 999 a month are expected to pay less than R200 a month in tolls. This is however in excess of 3% of monthly income for these people.
- 18.9% of commuters are expected to pay tolls of between R200 and R400 a month. This is 327 people in the sample of which 19 will be paying tolls greater

than 3% of their income and 2 will be paying tolls greater than 10% of their income.

- 15% of commuters are expected to pay tolls of between R400 and R600 a month. This is 265 people in the sample of which 32 people will be paying tolls greater than 3% of their income, 19 will be paying tolls greater than 5% of their income and 2 will be paying tolls in excess of 10% of their incomes. However in the latter case these two drivers have declared that the cost of their travel on Gauteng highways exceeds 50% of their income.
- 11.5% of people are expected to pay tolls of between R600 and R800 a month. This is 199 commuters in the sample of which 89 people will be paying tolls greater than 3% of their income, 38 will be paying tolls greater than 5% of their income and 4 will be paying tolls in excess of 10% of their incomes.
- 8.2% of people are expected to pay tolls of between R800 and R1 000 a month. This is 141 commuters in the sample of which 42 people will be paying tolls greater than 3% of their income, 58 will be paying tolls greater than 5% of their income and 4 will be paying tolls in excess of 10% of their incomes.
- 4.9% of people are expected to pay tolls of between R1 000 and R1 300 a month. This is 84 commuters in the sample of which 9 people will be paying tolls greater than 3% of their income, 44 will be paying tolls greater than 5% of their income and 5 will be paying tolls in excess of 10% of their incomes. Of the latter 5 there are 2 people who have declared travel costs as being in excess of 50% of their declared income.
- 1% of people are expected to pay tolls of between R1 300 and R1 600 a month. This is 18 commuters in the sample of which 3 people will be paying tolls greater than 3% of their income, 9 will be paying tolls greater than 5% of their income and 6 will be paying tolls in excess of 10% of their incomes.
- Of the total sample of 1 728 commuters there is the possibility that, based on the survey:
    - 390 people would be paying tolls equal to or greater than 3% of their income. This is the equivalent of 22% of the sample;
    - 191 people would be paying tolls equal to or greater than 5% of their income. This is the equivalent of 11% of the sample;
    - 23 people would be paying tolls equal to or greater than 10% of their income. This is the equivalent of 1.3% of the sample. However of this group 7 have travel costs that exceed 50% of their income.

Businesses are a major stakeholder in the outcome of the freeway upgrade and expansion schemes. Business users of the freeways typically have a higher value of time than either commuters generally or leisure users. The time and vehicle operating cost savings are therefore of greater importance to this group as time savings translate directly into business productivity gains. These productivity benefits are expressions of the travel time and operating cost savings that arise from the new capacity and resultant reduction in network congestion.

These business benefits would be expressed typically in some of the following ways:

- With reduced congestion on the network distributors of goods are able to complete more turnarounds per day resulting in higher turnover and productivity
- More business appointments can be achieved per day resulting in improved productivity
- Greater reliability/timekeeping by staff translates into business productivity gains

The Eddington Transport Study in the UK has shown that further business benefits, not counted in the travel time and operating cost savings, may occur as businesses respond to the fact that they now have access to larger, and possibly deeper, labour markets. Eddington concluded that in rapidly growing urban economies these secondary productivity gains can be very significant.

In this present study no attempt has been made to quantify these additional benefits to business but it is should be noted that they can amount to as much as 50% more than the sum of benefits calculated by conventional means. This implies that the cost benefit measures referred to above could in reality be considerably higher than indicated there.

Public transport vehicles using the improved freeway network would also benefit from travel time, vehicle operating cost and safety improvements. But, to the extent that they also pay the tolls, their costs would rise and these may be passed on to users, increasing the fares that they have to pay. Public transport users would be less able than private users to balance savings in time and safety with fare levels paid and may perceive themselves to be in a net negative position even if economic calculations show otherwise. For lowest income users affordability would be an issue too.

Although the economic balance would be positive overall, the issue is expected to be mitigated by lower tolls charged to public transport vehicles.

The significance of this issue also needs to be viewed in the light of the fact that the freeways are generally not the primary routes used by public transport vehicles. This was revealed in recent research undertaken by Gauteng Province (Strategic Roads Network review). Partly as a consequence of this finding, Gauteng Province embarked on a further study to determine priorities among the routes that public transport vehicles do mainly use, including bus and proposed Bus Rapid Transit routes.

An implication of this is that improvements to public transport road infrastructure would primarily be addressed elsewhere than via the freeway upgrade project. Nevertheless, the element of public transport optimisation through HOV lane provision and probable lower toll charges, would mean that public transport would not be disadvantaged by the scheme.

In addition to the largely positive impacts of actually the freeway network, public transport vehicles would experience additional benefits from the decongestion of the non-freeway routes that they typically use, as a result of the diversion of some traffic from these roads to the new capacity on the freeways.

Captive businesses and communities: Although no quantification has been undertaken of this concern, there would be a small number of businesses and communities where the only practical route available may be a new tolled freeway. As a consequence, use of the network would not be a free choice. While such groups would experience the benefit of improved travel time, operating costs and safety, they would not be doing so by choice and so in some cases their net benefit may be negative.

It is anticipated that the numbers of parties affected in this way would be very small and limited to certain existing residents and businesses along the routes of the proposed new freeways. It is only where access to a previously used route becomes barred by the construction of the new route that this situation would apply.

Positive property market effects are not additional to the benefits measured by travel time savings. Rather they are an expression of those savings.

Amenity losses arising from proximity to the new or expanded freeways are not taken into account in this analysis and any mitigation that might be agreed via the social cost benefit analysis would, strictly, need to be deducted from the total benefit recorded here. But, as indicated, this is likely to be relatively small and not make a noticeable difference to the overall positive result.

The final set of microeconomic analysis relates to the potential impact of tolling on the cost of consumer goods. This analysis was done by looking just at the cost of tolling while ignoring all the benefits of the freeway upgrades. The conclusion was drawn that households with incomes less than R24 365 would face cost of living increases of 0.15%. This is the equivalent of 15 cents for each R100 spent on consumer goods. Households with incomes between R24 365 and R55 159 would face cost of living increases of 0.14%. Households with incomes in excess of R55 160 would have cost of living increases of 0.13% due to the increased cost of consumer goods. Pensioners would face cost of living increases of 0.14%. It can therefore be concluded that the scheme will have little impact on the cost of consumer goods and will not be inflationary.

The last type of analysis that was undertaken was a macroeconomic analysis. While there are a number of different types of macroeconomic effects, the two most important are contribution to gross domestic product (GDP) and creation of jobs. The importance of job creation is obvious. Increases in GDP are synonymous with increases in peoples' economic standards of living. Increased GDP – i.e. increased production – is experienced in the form of more jobs, higher wages and reduced economic hardship. It is clearly an important measure.

There are a number of potential changes in transport costs as a result of the proposed toll roads. There are likely to be lower road user costs to users of the existing roads even after tolling compared to the 'do minimum' alternative. In addition there are likely to be reduced costs on the road transport system generally as the increased capacity of the toll roads would result in reduced congestion on the road network. Of course in some instances there could be increased network costs should the tolling of the roads result in local diversion of traffic on to secondary roads.

- Gross Domestic Product is the total value of all final goods and services produced in the country. It is clearly fundamental to the economic quality of life of people in the country.
    - The initial capital expenditure on upgrading the existing roads as well as constructing new roads was estimated to contribute as much as R7.4bn in 2008, R9.9bn in 2009 and 11.0bn in 2010. The contribution due to the initial capital expenditure is then expected to reduce to R2.2bn in 2011 and R194m in 2012 as the construction tapers off.
    - The contribution from routine road maintenance is expected to contribute at least R160m to GDP, while rehabilitation and periodic maintenance is

expected to add further to GDP in each of 2019, 2020, 2021, 2029 & 2030. The contribution to GDP from ORT related maintenance and operating costs is expected to increase from R610m in 2010 to R1.9bn in 2030.

- Once the toll roads are operational it is really the business time savings that contribute the most to GDP. This contribution to GDP is expected to increase from R3.27bn in 2010 to R7.69bn in 2030.
- GDP is important not just because it is income but also because income has the capacity to add to wealth. Based on these projections, the toll road would have made a cumulative contribution to GDP of nearly R50bn by 2013, the projected end of construction. This cumulative total increases to over R207bn by the end of 2030.
- In comparative terms it is estimated that the toll road project in Gauteng added 0.32% to South African GDP in 2008 and 0.41% in 2009. It is estimated that the project has the capacity to add 0.44% to GDP in 2010. This contribution is then expected to drop from the start of the operations phase. From 2013 the project is still expected to add 0.06% to GDP, increasing to 0.11% in 2030.

- Gross Geographic Product (GGP) is the provincial equivalent of national GDP. It is estimated that the project would make a total contribution to Gauteng GGP of R3.3bn in 2008, R4.4bn in 2009 and R5.1bn in 2010. By 2030 the project would add R8.1bn to GGP. Based on these projections, the project would add a cumulative R112.7bn to provincial GGP by 2030.

- The project would result in changes to three types of jobs. The first are the direct jobs that would be created over the project period. These are jobs directly on road construction and operation of the toll road. The second are the so-called indirect jobs that are due to multiplier effects of both the toll roads as well as from changes in transport costs and road user costs. The third type of change in jobs results from the structural economic changes attributable to the toll road. Of these jobs only the first two can be measured with any degree of accuracy. The estimation of indirect jobs is not necessarily an uncontentious issue. The estimates are based on the official South African input output tables which show quite generous estimates for indirect jobs. In the light of the historic 'jobless' economic growth that this country has had and in light of the recent recession we have tended to downplay indirect job estimates. Therefore the indirect job estimates that are reported below are based on a quarter of the multiplier estimates but should be treated as the lower bound of these estimates.

- At the height of the construction period in 2010 as many as 15,957 people were directly employed as a result of the project. This number is expected to taper off as construction activities come to an end in 2013. From 2012 onwards it is expected that over 1,100 people would be directly employed on either maintaining the road or maintaining and operating the toll system. The number of jobs created from business time savings is expected to increase from 3 341 in 2011 to 7 851 in 2030, in line with the increased savings as the traffic numbers increase. The majority of the direct jobs created during the construction period are created at the low income level, thus having the ability to contribute significantly to poverty alleviation.

- During the construction period between 2008 and 2013 it is estimated that as many as 21 394 indirect jobs have been or would be created throughout South Africa. These indirect jobs are then expected to taper off to around 8 700 in 2012 before increasing again to 14 323 in 2020 and 23 263 in 2030.

- Total direct and indirect jobs are expected to have amounted to 23 499 in 2008, 31 552 in 2009 and 37 351 in 2010. It is expected that 13 734 direct and indirect jobs would be created in 2012, increasing to 35 128 by 2030.

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Appendix A: Toll Tariffs

Tariffs based on 50c per km for light vehicles						Tolled
Gantry	Description	Light	H2	H3	H4	Distance
37	Hans Stijdom - Flying Saucer	5.87	11.75	19.09	26.43	11.745
7	New Road - Olifantsfontein	5.63	11.26	18.30	25.34	11.26
1	Lynwood - Proefplaas	5.77	11.53	18.74	25.94	11.53
3	Botha - Flying Saucer	4.72	9.43	15.32	21.22	9.43
5	Rooihuiskraal - Brakfontein	4.52	9.04	14.69	20.34	9.04
9	Rivonia - Buccleuch	4.31	8.61	13.99	19.37	8.61
11	Hans Strijdom - William Nicol	5.30	10.60	17.23	23.85	10.6
13	Metro Boulevard - Bayers Naude	4.87	9.73	15.81	21.89	9.73
15	N17 - Maraisburg	4.31	8.61	13.99	19.37	8.61
18	Marlboro - Buccleuch	3.51	7.02	11.41	15.80	7.02
20	Modderfontein - London	3.91	7.81	12.69	17.57	7.81
22	Van Buuren - Gillooly's	3.87	7.74	12.58	17.42	7.74
24	N17 - Elands	3.85	7.70	12.51	17.33	7.7
25	Grey Ave - Heidelberg Rd	3.85	7.70	12.51	17.33	7.7
29	Kliprivier - Comaro	4.99	9.98	16.22	22.46	9.98
28	Ridgeway - Diepkloof	4.99	9.98	16.22	22.46	9.98
17	Golden Highway - Old Potch	2.90	5.80	9.43	13.05	5.8
2	Rigel - Flying Saucer	5.77	11.53	18.74	25.94	11.53
4	John Vorster - Brakfontein	4.72	9.43	15.32	21.22	9.43
6	Samrand - Olifantsfontein	4.52	9.04	14.69	20.34	9.04
8	Allandale - Buccleuch	5.63	11.26	18.30	25.34	11.26
38	Irene - Flying Saucer	5.87	11.75	19.09	26.43	11.745
39	Irene - Olifantsfontein	3.11	6.23	10.12	14.01	6.225
40	Olifantsfontein - Irene	3.11	6.23	10.12	14.01	6.225
41	Bapsfontein - Olifantsfontein	7.05	14.10	22.91	31.73	14.1
42	Bapsfontein - R23 Benoni	7.05	14.10	22.91	31.73	14.1
45	Barbara Road - O R Tambo	4.36	8.72	14.17	19.62	8.72
43	Griffiths - O R Tambo	5.99	11.98	19.47	26.96	11.98
44	Griffiths - N12 Rietfontein	5.99	11.98	19.47	26.96	11.98
33	Jet Park - R21 Rietfontein	5.30	10.59	17.21	23.83	10.59
32	R24 - Gillooly's	5.30	10.59	17.21	23.83	10.59
23	Geldenhuis - Elands	3.87	7.74	12.58	17.42	7.74
21	Linksfield - Gillooly's	3.91	7.81	12.69	17.57	7.81
19	Marlboro - London	3.51	7.02	11.41	15.80	7.02
10	Rivonia - William Nicol	4.31	8.61	13.99	19.37	8.61
12	Hans Strijdom - Beyers Naude	5.30	10.60	17.23	23.85	10.6
14	Gordon - Maraisburg	4.87	9.73	15.81	21.89	9.73
16	Soweto Highway - Randshow	4.31	8.61	13.99	19.37	8.61
35	Atlas Road - Tom Jones	4.18	8.36	13.59	18.81	8.36
34	Atlas Road - Rondebult	4.18	8.36	13.59	18.81	8.36
31	Reading - Voortrekker	4.01	8.02	13.03	18.05	8.02
30	Reading - Comaro	4.01	8.02	13.03	18.05	8.02

Appendix B: Road User Savings on Specific Road Sections

N1: Preofplaas to Brakfontein (Southbound)

Morning Peak Hour - 30c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	26	61	27	44	53	92
2012	24	56	24	40	47	82
2013	20	49	21	35	40	72
2014	16	40	17	29	33	61
2015	12	27	12	23	27	52
2020	5	11	5	16	19	42
2025	5	11	5	14	16	37

Morning Peak Hour - 40c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	24	59	24	40	45	82
2012	21	53	21	35	39	72
2013	18	46	18	30	32	61
2014	14	36	14	24	25	50
2015	9	24	9	18	19	41
2020	5	12	5	15	16	39
2025	3	9	3	10	10	29

Morning Peak Hour - 50c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	23	58	23	37	40	75
2012	20	52	20	32	34	66
2013	17	46	17	27	28	56
2014	13	37	13	22	21	45
2015	9	26	9	16	15	36
2020	3	10	3	10	8	28
2025	1	6	1	6	2	18

Morning Peak Hour - 60c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	22	58	22	35	37	71
2012	19	53	19	30	30	61
2013	16	46	16	25	23	49
2014	12	37	12	19	16	37
2015	7	25	7	12	8	27
2020	-0	6	-0	4	-1	15
2025	-1	4	-1	2	-4	9

Morning Peak Hour - 70c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	20	56	20	31	30	62
2012	17	51	17	26	24	52
2013	14	44	14	21	17	41
2014	10	35	10	15	9	29
2015	5	23	5	8	2	18
2020	-1	7	-1	2	-5	10
2025	-3	2	-3	-2	-11	-1

Afternoon Peak Hour - 30c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	29	60	30	59	74	133
2012	29	59	29	56	70	126
2013	28	58	28	53	65	117
2014	26	57	27	49	60	108
2015	25	56	25	45	55	98
2020	15	33	15	30	36	68
2025	9	22	9	20	22	45

Afternoon Peak Hour - 40c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	28	59	29	57	70	129
2012	28	59	28	54	66	121
2013	26	58	27	50	61	112
2014	25	57	26	47	56	102
2015	24	55	24	43	50	92
2020	12	30	13	25	28	57
2025	7	18	7	14	14	34

Afternoon Peak Hour - 50c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	27	58	27	54	66	124
2012	26	58	27	52	62	116
2013	25	58	26	48	57	107
2014	24	57	24	44	51	97
2015	23	56	23	40	46	87
2020	11	28	11	21	22	49
2025	4	16	4	10	7	23

Afternoon Peak Hour - 60c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	25	57	26	51	60	116
2012	25	57	25	48	56	109
2013	24	56	24	45	51	99
2014	23	56	23	41	46	89
2015	21	54	22	37	40	79
2020	9	27	9	17	15	40
2025	3	15	3	7	1	17

Afternoon Peak Hour - 70c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	24	56	24	49	56	111
2012	23	56	24	46	51	103
2013	22	55	23	42	46	94
2014	21	55	21	38	41	83
2015	20	54	20	34	35	73
2020	6	24	6	13	8	30
2025	1	13	1	2	-5	7

Midday Off Peak - 30c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	22	36	22	55	72	137
2012	23	38	23	56	72	136
2013	24	41	24	56	72	135
2014	25	45	25	56	73	135
2015	26	50	27	57	73	135
2020	26	57	27	50	61	110
2025	17	40	17	31	36	66

Midday Off Peak - 40c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	21	34	21	53	69	133
2012	22	37	22	53	68	132
2013	22	40	23	54	68	131
2014	24	44	24	54	68	130
2015	25	49	25	55	69	130
2020	25	56	25	47	56	103
2025	15	38	15	27	30	58

Midday Off Peak - 50c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	19	33	19	51	64	128
2012	20	36	20	51	64	127
2013	21	39	21	51	64	126
2014	22	43	22	52	64	125
2015	24	48	24	53	65	125
2020	24	55	24	44	51	97
2025	13	37	13	23	23	49

Midday Off Peak - 60c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	18	32	18	48	59	123
2012	19	34	19	48	59	122
2013	20	37	20	49	59	121
2014	21	42	21	49	60	120
2015	23	47	23	50	60	120
2020	22	54	22	41	46	90
2025	12	36	12	20	18	43

Midday Off Peak - 70c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	17	30	17	46	56	119
2012	17	33	17	46	55	117
2013	18	36	18	46	55	116
2014	19	40	20	47	55	115
2015	21	46	21	48	56	114
2020	21	54	21	39	41	85
2025	10	34	10	16	11	33

Weekday Evening - 30c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	-1	0	-1	0	-3	3
2012	-1	0	-1	0	-3	3
2013	-1	0	-1	0	-3	3
2014	-1	0	-1	0	-3	3
2015	-1	0	-1	0	-3	3
2020	-1	0	-1	0	-3	3
2025	-1	0	-1	0	-3	3

Weekday Evening - 40c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	-3	-2	-3	-4	-10	-6
2012	-3	-2	-3	-4	-10	-6
2013	-3	-2	-3	-4	-10	-6
2014	-3	-2	-3	-4	-10	-6
2015	-3	-2	-3	-4	-10	-6
2020	-3	-2	-3	-4	-10	-6
2025	-3	-2	-3	-4	-10	-6

Weekday Evening - 50c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	-6	-4	-6	-8	-17	-16
2012	-6	-4	-6	-8	-17	-16
2013	-6	-4	-6	-8	-17	-16
2014	-6	-4	-6	-8	-17	-16
2015	-6	-4	-6	-8	-17	-16
2020	-6	-4	-6	-8	-17	-16
2025	-6	-4	-6	-8	-17	-16

Weekday Evening - 60c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	-8	-6	-8	-12	-23	-25
2012	-8	-6	-8	-12	-23	-25
2013	-8	-6	-8	-12	-23	-25
2014	-8	-6	-8	-12	-23	-25
2015	-8	-6	-8	-12	-23	-25
2020	-8	-6	-8	-12	-23	-25
2025	-8	-6	-8	-12	-23	-25

Weekday Evening - 70c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	-10	-8	-10	-17	-30	-34
2012	-10	-8	-10	-17	-30	-34
2013	-10	-8	-10	-17	-30	-34
2014	-10	-8	-10	-17	-30	-34
2015	-10	-8	-10	-17	-30	-34
2020	-10	-8	-10	-17	-30	-34
2025	-10	-8	-10	-17	-30	-34

Weekend - 30c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	1	2	1	6	5	18
2012	1	3	1	8	8	23
2013	2	4	2	10	11	29
2014	3	5	3	12	14	34
2015	4	6	4	15	18	42
2020	12	16	12	37	48	96
2025	18	30	18	45	58	111

Weekend - 40c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	-1	0	-1	1	-2	8
2012	-1	1	-1	4	1	14
2013	0	2	0	6	4	19
2014	1	3	1	8	7	25
2015	2	4	2	11	11	32
2020	10	14	10	33	42	88
2025	17	29	17	43	54	107

Weekend - 50c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	-4	-2	-4	-3	-9	-1
2012	-3	-1	-3	-1	-6	4
2013	-2	0	-2	2	-3	10
2014	-1	1	-1	4	0	16
2015	-0	2	-0	7	4	23
2020	9	13	9	30	37	81
2025	15	28	16	41	50	103

Weekend - 60c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	-6	-4	-6	-7	-15	-10
2012	-5	-3	-5	-5	-13	-5
2013	-4	-2	-4	-3	-10	0
2014	-3	-1	-3	-0	-6	6
2015	-2	-0	-2	2	-3	13
2020	7	11	7	27	31	74
2025	14	26	14	38	46	98

Weekend - 70c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	-8	-6	-8	-11	-22	-20
2012	-7	-5	-7	-9	-19	-14
2013	-6	-4	-6	-7	-16	-9
2014	-5	-3	-5	-5	-13	-3
2015	-4	-2	-4	-2	-9	4
2020	5	9	5	23	25	66
2025	13	25	13	36	42	94

N1: Proefplaas to Brakfontein (Northbound)

Morning Peak Hour - 30c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	25	47	25	53	67	123
2012	24	47	24	51	64	119
2013	24	47	24	50	62	115
2014	23	46	23	48	60	111
2015	23	46	23	46	58	106
2020	19	40	19	37	46	85
2025	15	35	15	28	33	62

Morning Peak Hour - 40c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	23	46	23	50	62	117
2012	23	46	23	48	60	113
2013	22	46	22	47	58	109
2014	22	45	22	45	55	105
2015	21	45	21	44	53	100
2020	17	38	17	34	40	78
2025	13	33	13	24	26	52

Morning Peak Hour - 50c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	21	44	22	47	57	111
2012	21	45	21	46	55	108
2013	21	45	21	45	54	105
2014	21	45	21	44	52	101
2015	20	45	21	42	50	98
2020	15	37	16	31	35	71
2025	11	31	11	20	19	43

Morning Peak Hour - 60c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	20	43	20	44	52	105
2012	20	44	20	43	50	101
2013	19	43	20	42	48	98
2014	19	43	19	40	46	94
2015	18	43	19	39	44	90
2020	13	35	14	27	28	62
2025	9	30	10	17	14	36

Morning Peak Hour - 70c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	19	43	19	43	49	102
2012	19	43	19	41	47	98
2013	18	43	19	40	45	94
2014	18	43	18	38	42	89
2015	17	43	18	36	40	85
2020	12	34	12	25	24	57
2025	7	27	7	12	6	26

Afternoon Peak Hour - 30c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	22	50	22	38	46	82
2012	20	46	20	35	42	76
2013	18	42	18	32	38	69
2014	16	37	16	29	34	64
2015	13	30	13	26	31	60
2020	11	27	11	21	23	46
2025	5	11	5	14	16	37

Afternoon Peak Hour - 40c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	20	49	21	35	40	75
2012	19	46	19	32	37	69
2013	17	41	17	29	32	62
2014	14	36	14	26	28	56
2015	11	28	12	23	25	52
2020	6	16	6	13	13	32
2025	2	8	2	9	8	25

Afternoon Peak Hour - 50c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	19	48	19	33	35	69
2012	17	45	18	30	32	63
2013	15	41	16	27	28	57
2014	13	36	13	24	24	51
2015	11	29	11	21	21	46
2020	4	15	4	10	7	23
2025	-0	5	-0	4	1	15

Afternoon Peak Hour - 60c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	19	50	19	32	33	67
2012	17	46	17	28	28	59
2013	14	42	15	24	23	51
2014	12	35	12	20	18	43
2015	8	27	9	16	14	37
2020	-0	7	-0	3	-2	11
2025	-1	4	-1	2	-4	8

Afternoon Peak Hour - 70c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	16	47	17	27	26	57
2012	15	44	15	24	22	50
2013	13	40	13	21	17	43
2014	10	34	10	17	13	36
2015	7	26	7	13	9	30
2020	-3	3	-3	-2	-11	0
2025	-4	2	-4	-3	-11	-1

Midday Off Peak - 30c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	18	26	18	49	64	124
2012	18	28	18	49	64	124
2013	19	30	19	49	64	123
2014	20	33	20	49	64	122
2015	21	37	21	50	64	121
2020	25	54	25	46	56	101
2025	15	35	15	28	32	60

Midday Off Peak - 40c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	17	25	17	47	61	122
2012	17	27	17	48	62	122
2013	18	29	18	48	62	121
2014	19	32	19	48	61	120
2015	20	37	20	49	61	119
2020	24	54	24	44	52	96
2025	13	34	13	24	26	53

Midday Off Peak - 50c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	15	24	16	46	58	119
2012	16	26	16	46	58	119
2013	17	29	17	47	59	119
2014	18	32	18	47	59	118
2015	19	36	20	48	59	117
2020	22	53	23	41	47	90
2025	13	35	13	22	22	48

Midday Off Peak - 60c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	14	23	14	44	54	115
2012	15	25	15	44	55	116
2013	16	28	16	45	55	116
2014	17	31	17	45	55	115
2015	18	35	18	46	55	114
2020	21	53	22	39	43	85
2025	7	25	7	13	9	28

Midday Off Peak - 70c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	13	21	13	41	49	109
2012	14	24	14	42	51	112
2013	15	27	15	43	51	112
2014	16	30	16	44	52	112
2015	17	35	17	44	52	111
2020	20	52	20	37	39	80
2025	6	26	7	11	5	23

Weekday Evening - 30c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	-1	0	-1	-0	-3	3
2012	-1	0	-1	-0	-3	3
2013	-1	0	-1	-0	-3	3
2014	-1	0	-1	-0	-3	3
2015	-1	0	-1	-0	-3	3
2020	-1	0	-1	0	-3	3
2025	-1	0	-1	0	-3	4

Weekday Evening - 40c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	-4	-2	-4	-4	-10	-7
2012	-4	-2	-4	-4	-10	-7
2013	-4	-2	-4	-4	-10	-7
2014	-4	-2	-4	-4	-10	-7
2015	-4	-2	-4	-4	-10	-7
2020	-4	-2	-4	-4	-10	-7
2025	-3	-2	-3	-4	-10	-6

Weekday Evening - 50c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	-6	-4	-6	-9	-17	-16
2012	-6	-4	-6	-9	-17	-16
2013	-6	-4	-6	-8	-17	-16
2014	-6	-4	-6	-8	-17	-16
2015	-6	-4	-6	-8	-17	-16
2020	-6	-4	-6	-8	-17	-16
2025	-6	-4	-6	-8	-17	-16

Weekday Evening - 60c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	-8	-6	-8	-13	-24	-26
2012	-8	-6	-8	-13	-24	-26
2013	-8	-6	-8	-13	-24	-26
2014	-8	-6	-8	-13	-24	-26
2015	-8	-6	-8	-13	-24	-26
2020	-8	-6	-8	-13	-24	-26
2025	-8	-6	-8	-13	-24	-26

Weekday Evening - 70c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	-10	-8	-10	-17	-31	-36
2012	-10	-8	-10	-17	-31	-36
2013	-10	-8	-10	-17	-31	-36
2014	-10	-8	-10	-17	-31	-36
2015	-10	-8	-10	-17	-31	-36
2020	-10	-8	-10	-17	-31	-36
2025	-10	-8	-10	-17	-31	-36

Weekend - 30c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	-1	1	-1	0	-3	4
2012	-1	1	-1	1	-2	5
2013	-1	1	-1	2	-1	7
2014	-0	1	-0	3	0	10
2015	-0	2	-0	3	2	12
2020	4	6	4	14	16	39
2025	11	14	11	34	44	90

Weekend - 40c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	-3	-2	-3	-4	-9	-5
2012	-3	-1	-3	-3	-9	-4
2013	-3	-1	-3	-2	-7	-2
2014	-3	-1	-3	-2	-6	0
2015	-2	-0	-2	-1	-5	2
2020	1	4	2	10	10	30
2025	10	13	10	32	40	85

Weekend - 50c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	-5	-4	-5	-8	-16	-15
2012	-5	-3	-5	-8	-15	-14
2013	-5	-3	-5	-7	-14	-11
2014	-5	-3	-5	-6	-13	-9
2015	-4	-3	-4	-5	-12	-7
2020	-1	2	-1	6	3	20
2025	8	11	8	29	36	80

Weekend - 60c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	-8	-6	-8	-12	-23	-24
2012	-7	-6	-7	-12	-22	-23
2013	-7	-5	-7	-11	-21	-21
2014	-7	-5	-7	-10	-20	-19
2015	-6	-5	-6	-9	-19	-17
2020	-3	-1	-3	1	-4	11
2025	6	10	7	27	31	75

Weekend - 70c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	-10	-8	-10	-16	-30	-34
2012	-9	-8	-9	-16	-29	-33
2013	-9	-7	-9	-15	-28	-30
2014	-9	-7	-9	-14	-27	-28
2015	-9	-7	-9	-13	-26	-26
2020	-5	-3	-5	-3	-11	1
2025	5	8	5	24	26	68

N1: Brakfontein to Buccleuch (Southbound)

Morning Peak Hour - 30c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	25	56	25	44	53	93
2012	25	56	25	43	52	92
2013	23	54	24	40	48	85
2014	21	51	21	35	40	71
2015	19	47	19	29	32	57
2020	5	9	5	15	17	39
2025	10	23	10	21	24	49

Morning Peak Hour - 40c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	24	56	24	41	48	88
2012	23	56	24	40	47	85
2013	22	54	22	37	43	78
2014	20	51	20	32	35	64
2015	17	47	17	26	27	49
2020	3	8	3	11	11	31
2025	8	21	8	17	17	39

Morning Peak Hour - 50c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	22	55	23	39	43	82
2012	22	55	22	38	42	80
2013	21	53	21	35	38	72
2014	19	50	19	29	30	58
2015	16	46	16	23	22	43
2020	2	8	2	8	5	23
2025	6	19	6	13	11	30

Morning Peak Hour - 60c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	21	55	22	36	39	76
2012	21	55	21	35	38	74
2013	20	53	20	32	34	66
2014	18	51	18	27	26	52
2015	15	47	15	20	17	36
2020	-0	7	0	4	-1	14
2025	4	16	4	9	4	21

Morning Peak Hour - 70c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	19	52	19	33	34	71
2012	19	52	19	32	33	68
2013	18	52	19	30	29	60
2014	16	50	17	24	21	46
2015	14	48	15	18	12	30
2020	-1	7	-1	1	-6	7
2025	2	15	2	5	-2	13

Afternoon Peak Hour - 30c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	15	28	15	34	42	82
2012	16	31	16	35	44	83
2013	17	34	17	36	45	85
2014	19	39	19	38	47	87
2015	21	46	21	40	48	88
2020	24	54	25	45	54	97
2025	4	9	4	13	15	35

Afternoon Peak Hour - 40c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	14	27	14	32	39	78
2012	15	30	15	33	40	79
2013	16	34	16	34	41	80
2014	18	39	18	36	43	82
2015	20	46	20	38	44	83
2020	22	50	22	39	46	85
2025	3	8	3	9	9	26

Afternoon Peak Hour - 50c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	13	27	13	31	36	75
2012	14	30	14	31	36	75
2013	15	34	15	32	37	76
2014	16	38	17	34	38	77
2015	19	45	19	35	39	77
2020	20	49	20	36	41	78
2025	0	5	0	5	1	16

Afternoon Peak Hour - 60c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	11	26	12	28	31	70
2012	12	29	13	29	32	71
2013	14	33	14	30	33	71
2014	15	38	16	32	34	72
2015	18	45	18	33	36	73
2020	19	49	19	33	35	71
2025	-2	3	-2	1	-5	8

Afternoon Peak Hour - 70c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	10	26	11	26	28	66
2012	11	29	12	27	28	66
2013	13	33	13	28	29	67
2014	14	38	15	29	30	67
2015	16	44	17	31	31	67
2020	16	45	17	29	28	62
2025	-4	1	-4	-3	-12	-2

Midday Off Peak - 30c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	14	23	14	38	49	97
2012	14	24	15	37	48	94
2013	15	25	15	37	47	91
2014	15	27	15	36	46	88
2015	15	29	16	36	45	86
2020	23	53	24	42	50	90
2025	7	15	7	16	19	40

Midday Off Peak - 40c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	14	23	14	37	47	96
2012	14	24	14	36	45	92
2013	14	25	14	35	44	88
2014	14	27	14	34	42	84
2015	14	29	15	33	41	81
2020	22	52	22	39	45	83
2025	5	15	5	13	13	32

Midday Off Peak - 50c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	13	23	13	37	46	96
2012	13	23	13	36	43	91
2013	13	25	13	34	41	86
2014	13	26	13	33	39	81
2015	13	28	13	31	36	76
2020	21	51	21	36	40	77
2025	3	11	3	8	5	22

Midday Off Peak - 60c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	12	22	12	36	43	93
2012	12	23	12	34	40	88
2013	12	24	12	32	37	82
2014	12	25	12	31	35	77
2015	12	28	12	29	32	72
2020	19	51	20	33	35	70
2025	3	15	3	6	1	16

Midday Off Peak - 70c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	11	21	11	34	40	91
2012	11	22	11	32	37	85
2013	11	23	11	31	34	79
2014	11	25	11	29	31	73
2015	11	27	11	27	29	67
2020	18	50	18	31	31	65
2025	-0	10	-0	2	-6	6

Weekday Evening - 30c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	-2	-2	-2	1	-2	6
2012	-2	-2	-2	1	-2	6
2013	-2	-2	-2	1	-2	6
2014	-2	-2	-2	1	-2	6
2015	-2	-2	-2	1	-2	6
2020	-2	-2	-2	1	-2	6
2025	-2	-2	-2	1	-2	6

Weekday Evening - 40c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	-4	-4	-4	-3	-8	-3
2012	-4	-4	-4	-3	-8	-3
2013	-4	-4	-4	-3	-8	-3
2014	-4	-4	-4	-3	-8	-3
2015	-4	-4	-4	-3	-8	-3
2020	-4	-4	-4	-3	-8	-3
2025	-4	-4	-4	-3	-8	-3

Weekday Evening - 50c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	-6	-6	-6	-8	-15	-13
2012	-6	-6	-6	-8	-15	-13
2013	-6	-6	-6	-8	-15	-13
2014	-6	-6	-6	-8	-15	-13
2015	-6	-6	-6	-8	-15	-13
2020	-6	-6	-6	-8	-15	-13
2025	-6	-6	-6	-8	-15	-12

Weekday Evening - 60c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	-8	-8	-8	-12	-22	-22
2012	-8	-8	-8	-12	-22	-22
2013	-8	-8	-8	-12	-22	-22
2014	-8	-8	-8	-12	-22	-22
2015	-8	-8	-8	-12	-22	-22
2020	-8	-8	-8	-12	-22	-22
2025	-8	-8	-8	-12	-22	-22

Weekday Evening - 70c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	-10	-10	-10	-16	-29	-31
2012	-10	-10	-10	-16	-29	-31
2013	-10	-10	-10	-16	-29	-31
2014	-10	-10	-10	-16	-29	-31
2015	-10	-10	-10	-16	-29	-31
2020	-10	-10	-10	-16	-29	-31
2025	-10	-10	-10	-16	-29	-32

Weekend - 30c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	-0	-0	-0	4	3	15
2012	1	2	1	9	10	27
2013	3	4	3	15	18	42
2014	5	6	5	21	26	57
2015	8	8	8	27	35	73
2020	14	18	14	43	58	114
2025	17	30	18	42	54	103

Weekend - 40c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	-2	-2	-2	0	-3	6
2012	-1	-1	-1	5	3	18
2013	1	2	1	11	11	33
2014	3	4	3	17	20	48
2015	6	6	6	23	28	63
2020	13	17	13	42	54	111
2025	16	29	16	40	50	99

Weekend - 50c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	-5	-4	-5	-4	-10	-3
2012	-3	-3	-3	1	-4	9
2013	-1	-0	-1	7	5	24
2014	1	2	1	12	13	39
2015	3	4	3	19	21	54
2020	12	15	12	40	51	107
2025	15	29	16	40	48	99

Weekend - 60c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	-7	-6	-7	-8	-16	-12
2012	-5	-5	-5	-3	-10	-1
2013	-3	-2	-3	3	-2	14
2014	-1	-0	-1	8	6	30
2015	1	2	1	14	15	45
2020	10	14	10	37	46	101
2025	15	29	15	39	47	98

Weekend - 70c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	-9	-8	-9	-12	-23	-22
2012	-7	-7	-7	-8	-17	-10
2013	-5	-4	-5	-2	-9	5
2014	-3	-2	-3	4	-0	20
2015	-1	0	-1	10	8	36
2020	9	13	9	35	42	97
2025	14	28	14	38	44	96

N1: Brakfontein to Buccleuch (Northbound)

Morning Peak Hour - 30c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	6	9	6	20	24	53
2012	6	9	6	19	24	52
2013	6	9	6	19	24	52
2014	6	9	6	19	24	51
2015	6	9	6	19	24	51
2020	8	11	8	25	31	66
2025	16	31	16	35	44	84

Morning Peak Hour - 40c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	4	7	4	17	19	47
2012	5	8	5	17	20	49
2013	5	8	5	17	20	48
2014	5	8	5	17	20	48
2015	5	8	5	17	20	48
2020	5	8	5	20	24	55
2025	14	28	14	31	37	74

Morning Peak Hour - 50c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	3	6	3	14	14	40
2012	3	6	3	15	16	42
2013	3	7	3	15	16	44
2014	3	7	3	15	16	44
2015	4	7	4	15	17	44
2020	3	6	4	17	18	48
2025	12	28	12	28	33	69

Morning Peak Hour - 60c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	1	4	1	11	10	35
2012	1	5	1	12	10	36
2013	2	5	2	12	11	38
2014	2	5	2	12	11	37
2015	2	6	2	12	11	36
2020	2	6	2	14	14	43
2025	10	25	10	24	25	58

Morning Peak Hour - 70c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	-0	3	-0	8	5	29
2012	-0	3	-0	9	5	30
2013	0	4	0	9	6	31
2014	0	4	0	9	6	30
2015	-0	4	-0	8	5	29
2020	-0	3	-0	10	7	32
2025	8	24	8	20	19	51

Afternoon Peak Hour - 30c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	3	10	3	7	6	18
2012	2	7	2	6	5	16
2013	0	3	0	4	2	12
2014	-2	-2	-2	2	-0	9
2015	-4	-9	-4	-1	-3	6
2020	-7	-21	-7	1	2	18
2025	1	1	1	10	11	30

Afternoon Peak Hour - 40c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	1	9	1	4	0	10
2012	0	6	0	3	-1	8
2013	-1	2	-1	1	-3	5
2014	-3	-3	-3	-2	-6	1
2015	-6	-10	-6	-4	-9	-2
2020	-8	-21	-8	-2	-4	10
2025	-1	-1	-1	6	5	21

Afternoon Peak Hour - 50c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	0	8	0	1	-4	4
2012	-1	5	-1	-0	-6	2
2013	-3	1	-3	-2	-9	-2
2014	-5	-4	-5	-5	-12	-7
2015	-8	-12	-8	-8	-15	-10
2020	-10	-23	-10	-6	-10	1
2025	-3	-3	-3	2	-2	12

Afternoon Peak Hour - 60c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	-1	7	-1	-2	-10	-3
2012	-3	4	-2	-3	-12	-6
2013	-4	0	-4	-6	-14	-10
2014	-6	-5	-6	-9	-18	-15
2015	-9	-12	-9	-11	-20	-18
2020	-13	-27	-13	-11	-18	-9
2025	-5	-5	-5	-2	-9	3

Afternoon Peak Hour - 70c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	-3	6	-3	-5	-15	-10
2012	-4	4	-4	-7	-17	-13
2013	-6	-0	-6	-9	-20	-17
2014	-8	-5	-8	-12	-23	-22
2015	-10	-12	-10	-14	-25	-25
2020	-14	-27	-14	-14	-24	-17
2025	-7	-7	-7	-6	-15	-7

Midday Off Peak - 30c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	8	14	8	21	26	55
2012	7	14	7	19	23	49
2013	7	13	7	17	20	43
2014	6	14	6	15	17	38
2015	6	14	6	13	14	32
2020	5	14	5	9	9	22
2025	-6	-17	-6	3	3	20

Midday Off Peak - 40c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	7	13	7	20	23	51
2012	6	13	6	17	20	45
2013	5	13	5	15	17	40
2014	5	13	5	13	14	34
2015	5	14	5	11	11	28
2020	4	14	4	7	4	15
2025	-7	-19	-7	-1	-3	12

Midday Off Peak - 50c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	6	13	6	19	20	50
2012	5	12	5	16	17	43
2013	4	12	5	14	13	36
2014	4	13	4	11	10	30
2015	3	13	4	9	6	23
2020	2	14	2	4	-1	9
2025	-8	-18	-9	-4	-8	4

Midday Off Peak - 60c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	5	12	5	18	18	48
2012	4	12	4	15	14	41
2013	4	12	4	12	10	34
2014	3	12	3	10	7	27
2015	3	13	3	7	3	20
2020	1	12	1	1	-7	1
2025	-12	-23	-12	-9	-16	-6

Midday Off Peak - 70c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	4	11	4	16	15	45
2012	3	11	3	13	11	37
2013	2	11	2	10	7	30
2014	2	11	2	8	3	22
2015	1	12	1	5	-1	15
2020	-0	12	-0	-2	-11	-4
2025	-13	-25	-13	-13	-22	-15

Weekday Evening - 30c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	-2	-2	-2	1	-1	7
2012	-2	-2	-2	1	-1	7
2013	-2	-2	-2	1	-1	7
2014	-2	-2	-2	1	-1	7
2015	-2	-2	-2	1	-1	7
2020	-2	-2	-2	1	-1	7
2025	-2	-2	-2	1	-1	7

Weekday Evening - 40c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	-4	-4	-4	-3	-8	-3
2012	-4	-4	-4	-3	-8	-3
2013	-4	-4	-4	-3	-8	-3
2014	-4	-4	-4	-3	-8	-3
2015	-4	-4	-4	-3	-8	-3
2020	-4	-4	-4	-3	-8	-3
2025	-4	-4	-4	-3	-8	-3

Weekday Evening - 50c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	-6	-6	-6	-7	-14	-11
2012	-6	-6	-6	-7	-14	-11
2013	-6	-6	-6	-7	-14	-11
2014	-6	-6	-6	-7	-14	-11
2015	-6	-6	-6	-7	-14	-11
2020	-6	-6	-6	-7	-15	-12
2025	-6	-6	-6	-7	-15	-12

Weekday Evening - 60c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	-8	-8	-8	-11	-21	-21
2012	-8	-8	-8	-11	-21	-21
2013	-8	-8	-8	-11	-21	-21
2014	-8	-8	-8	-11	-21	-21
2015	-8	-8	-8	-11	-21	-21
2020	-8	-8	-8	-11	-21	-21
2025	-8	-8	-8	-11	-21	-21

Weekday Evening - 70c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	-10	-10	-10	-15	-27	-29
2012	-10	-10	-10	-15	-28	-29
2013	-10	-10	-10	-15	-28	-30
2014	-10	-10	-10	-15	-28	-30
2015	-10	-10	-10	-15	-28	-30
2020	-10	-10	-10	-16	-28	-30
2025	-10	-10	-10	-15	-28	-30

Weekend - 30c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	-2	-2	-2	0	-2	5
2012	-2	-2	-2	0	-2	6
2013	-2	-2	-2	0	-2	6
2014	-2	-2	-2	1	-2	6
2015	-1	-1	-1	2	-0	9
2020	4	4	4	17	21	47
2025	5	6	5	19	24	52

Weekend - 40c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	-4	-4	-4	-4	-9	-4
2012	-4	-4	-4	-4	-9	-4
2013	-4	-4	-4	-4	-9	-4
2014	-4	-4	-4	-3	-8	-3
2015	-3	-3	-3	-2	-7	-0
2020	2	2	2	13	15	39
2025	4	5	4	17	20	49

Weekend - 50c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	-6	-6	-6	-8	-15	-13
2012	-6	-6	-6	-8	-15	-13
2013	-6	-6	-6	-8	-15	-13
2014	-6	-6	-6	-7	-15	-12
2015	-5	-5	-5	-6	-13	-9
2020	0	1	0	9	9	31
2025	2	4	2	15	16	44

Weekend - 60c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	-8	-8	-8	-12	-22	-22
2012	-8	-8	-8	-12	-22	-22
2013	-8	-8	-8	-12	-22	-22
2014	-8	-8	-8	-12	-22	-21
2015	-7	-7	-7	-10	-20	-18
2020	-2	-1	-2	5	2	22
2025	1	3	1	13	13	41

Weekend - 70c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	-10	-10	-10	-16	-29	-32
2012	-10	-10	-10	-16	-29	-32
2013	-10	-10	-10	-16	-29	-32
2014	-10	-10	-10	-16	-28	-31
2015	-10	-9	-10	-15	-27	-28
2020	-4	-3	-4	1	-4	13
2025	-0	2	-0	11	9	38

N1: Buccleuch to 14th Avenue (Westbound / Southbound)

Morning Peak Hour - 30c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	11	16	11	32	41	83
2012	11	16	11	31	40	80
2013	10	15	10	30	38	78
2014	10	15	10	29	37	75
2015	10	15	10	28	36	72
2020	13	18	13	36	47	93
2025	12	16	12	37	49	98

Morning Peak Hour - 40c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	10	15	10	30	38	79
2012	9	15	10	29	36	76
2013	9	15	9	28	35	74
2014	9	14	9	27	34	71
2015	9	14	9	26	32	69
2020	11	16	11	32	41	85
2025	11	14	11	35	44	92

Morning Peak Hour - 50c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	9	14	9	29	35	77
2012	9	14	9	28	34	75
2013	8	14	9	27	33	73
2014	8	14	8	27	32	71
2015	8	14	8	26	31	69
2020	10	15	10	32	39	84
2025	10	13	10	33	41	89

Morning Peak Hour - 60c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	8	14	8	29	34	78
2012	8	14	8	28	33	75
2013	8	14	8	27	31	73
2014	8	14	8	26	30	70
2015	7	14	7	25	29	67
2020	9	15	9	31	37	83
2025	9	13	9	33	40	90

Morning Peak Hour - 70c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	7	13	7	27	30	74
2012	7	13	7	26	30	72
2013	7	13	7	26	29	70
2014	7	14	7	25	28	69
2015	7	14	7	24	27	67
2020	8	14	8	29	34	81
2025	7	11	7	29	34	82

Afternoon Peak Hour - 30c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	12	29	12	21	24	45
2012	11	28	11	20	22	43
2013	10	26	11	18	20	40
2014	9	23	9	16	18	36
2015	6	16	6	14	16	34
2020	1	0	1	9	10	27
2025	2	2	2	13	15	37

Afternoon Peak Hour - 40c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	10	28	11	18	19	38
2012	10	28	10	17	17	36
2013	9	26	9	16	15	33
2014	8	22	8	14	13	30
2015	5	15	5	11	10	27
2020	-2	-3	-2	4	3	18
2025	0	0	0	9	9	28

Afternoon Peak Hour - 50c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	10	29	10	16	15	35
2012	9	28	9	15	14	32
2013	8	26	8	14	12	28
2014	7	22	7	11	9	24
2015	4	15	4	9	6	21
2020	-3	-5	-3	1	-3	10
2025	-1	-1	-1	5	3	20

Afternoon Peak Hour - 60c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	9	30	10	15	13	32
2012	9	30	9	14	11	29
2013	8	29	9	13	9	26
2014	7	27	8	11	7	21
2015	6	23	6	9	4	17
2020	-6	-8	-6	-4	-10	0
2025	-3	-3	-3	1	-4	11

Afternoon Peak Hour - 70c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	9	31	9	14	9	28
2012	9	31	9	13	8	26
2013	8	31	8	12	7	23
2014	8	30	8	11	5	20
2015	6	26	6	8	2	15
2020	-9	-13	-9	-8	-17	-9
2025	-5	-5	-5	-3	-10	3

Midday Off Peak - 30c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	13	19	13	38	49	97
2012	13	19	13	36	47	92
2013	12	19	13	34	44	87
2014	12	20	12	32	41	82
2015	12	20	12	31	39	77
2020	12	26	12	24	28	55
2025	10	24	10	21	24	47

Midday Off Peak - 40c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	13	20	13	39	50	101
2012	13	20	13	37	47	95
2013	12	20	12	35	44	89
2014	12	20	12	32	41	83
2015	11	21	11	30	38	77
2020	11	26	11	23	26	53
2025	7	20	8	15	15	35

Midday Off Peak - 50c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	14	20	14	41	52	107
2012	13	20	13	38	48	100
2013	12	20	12	36	45	93
2014	12	21	12	33	41	86
2015	11	21	11	31	37	79
2020	11	27	11	22	23	51
2025	8	23	8	15	13	33

Midday Off Peak - 60c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	14	21	14	43	54	114
2012	13	21	13	40	50	105
2013	12	21	12	37	45	97
2014	12	21	12	34	41	88
2015	11	21	11	31	36	80
2020	10	27	10	21	20	48
2025	3	16	4	7	3	17

Midday Off Peak - 70c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	14	21	14	45	56	121
2012	13	21	13	42	51	111
2013	12	21	12	38	46	101
2014	11	21	12	35	41	92
2015	11	22	11	31	36	82
2020	10	28	10	20	19	47
2025	5	21	5	9	3	19

Weekday Evening - 30c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	-1	-1	-1	3	2	12
2012	-1	-1	-1	3	2	12
2013	-1	-1	-1	3	2	12
2014	-1	-1	-1	3	2	12
2015	-1	-1	-1	3	2	12
2020	-1	-1	-1	3	2	12
2025	-1	-1	-1	3	2	12

Weekday Evening - 40c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	-3	-3	-3	-1	-5	3
2012	-3	-3	-3	-1	-5	3
2013	-3	-3	-3	-1	-4	3
2014	-3	-3	-3	-1	-4	3
2015	-3	-3	-3	-1	-4	3
2020	-3	-3	-3	-1	-4	3
2025	-3	-3	-3	-1	-5	3

Weekday Evening - 50c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	-5	-5	-5	-5	-11	-5
2012	-5	-5	-5	-5	-11	-5
2013	-5	-5	-5	-5	-11	-5
2014	-5	-5	-5	-5	-11	-5
2015	-5	-5	-5	-5	-11	-5
2020	-5	-5	-5	-5	-11	-5
2025	-5	-5	-5	-5	-11	-5

Weekday Evening - 60c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	-7	-7	-7	-8	-17	-14
2012	-7	-7	-7	-8	-17	-14
2013	-7	-7	-7	-8	-17	-14
2014	-7	-7	-7	-8	-17	-14
2015	-7	-7	-7	-8	-17	-14
2020	-7	-7	-7	-8	-17	-14
2025	-7	-7	-7	-8	-17	-14

Weekday Evening - 70c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	-9	-9	-9	-12	-23	-23
2012	-9	-9	-9	-12	-23	-22
2013	-9	-9	-9	-12	-23	-22
2014	-9	-9	-9	-12	-23	-22
2015	-9	-9	-9	-12	-23	-22
2020	-8	-8	-8	-12	-23	-22
2025	-9	-9	-9	-12	-23	-23

Weekend - 30c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	-0	-0	-0	4	3	15
2012	-0	-0	-0	5	4	17
2013	0	0	0	6	6	19
2014	1	1	1	8	8	24
2015	1	2	1	9	11	28
2020	3	4	3	15	18	42
2025	4	4	4	16	20	46

Weekend - 40c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	-2	-2	-2	0	-3	6
2012	-2	-2	-2	1	-2	8
2013	-2	-2	-2	2	-0	11
2014	-1	-1	-1	4	2	15
2015	-0	-0	-0	6	4	20
2020	1	2	1	11	12	33
2025	2	3	2	13	15	39

Weekend - 50c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	-4	-4	-4	-3	-9	-2
2012	-4	-4	-4	-3	-8	-0
2013	-4	-3	-4	-2	-7	2
2014	-3	-3	-3	0	-4	7
2015	-2	-2	-2	2	-2	11
2020	-0	-0	-0	7	6	25
2025	0	1	0	9	9	30

Weekend - 60c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	-6	-6	-6	-7	-15	-11
2012	-6	-6	-6	-7	-14	-9
2013	-6	-5	-6	-5	-13	-6
2014	-5	-5	-5	-4	-10	-2
2015	-4	-4	-4	-2	-8	3
2020	-2	-2	-2	3	-0	16
2025	-2	-1	-2	5	3	22

Weekend - 70c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	-8	-8	-8	-11	-22	-20
2012	-8	-8	-8	-10	-21	-18
2013	-7	-7	-7	-9	-19	-15
2014	-7	-7	-7	-8	-17	-11
2015	-6	-6	-6	-6	-14	-6
2020	-4	-4	-4	-1	-7	8
2025	-4	-3	-4	2	-4	13

Buccleuch to 14th Avenue (Eastbound / Northbound)

Morning Peak Hour - 30c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	9	28	10	16	15	33
2012	9	27	10	16	16	35
2013	10	27	10	17	17	38
2014	10	27	10	18	19	40
2015	10	27	10	18	19	40
2020	3	11	3	8	6	21
2025	-3	-7	-3	4	3	21

Morning Peak Hour - 40c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	7	25	7	11	7	23
2012	7	25	7	12	8	25
2013	7	26	8	13	9	27
2014	8	26	8	14	11	31
2015	8	26	8	14	12	31
2020	1	10	1	3	-2	10
2025	-6	-10	-6	-1	-6	8

Morning Peak Hour - 50c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	6	27	7	9	2	17
2012	6	27	6	9	2	18
2013	6	26	6	9	3	19
2014	6	26	6	10	4	22
2015	6	25	6	10	4	21
2020	0	13	0	1	-8	3
2025	-9	-13	-9	-7	-15	-5

Morning Peak Hour - 60c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	5	28	5	6	-4	9
2012	5	27	5	5	-4	9
2013	5	26	5	6	-4	10
2014	4	25	5	6	-3	12
2015	4	24	4	6	-4	11
2020	-5	5	-5	-7	-20	-14
2025	-12	-16	-12	-13	-25	-18

Morning Peak Hour - 70c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	4	28	4	3	-10	2
2012	3	27	4	3	-10	2
2013	3	26	3	3	-10	3
2014	3	25	3	2	-10	3
2015	2	23	2	2	-11	2
2020	-4	11	-4	-8	-23	-18
2025	-15	-19	-15	-19	-34	-31

Afternoon Peak Hour - 30c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	13	26	13	33	40	81
2012	13	27	14	32	39	79
2013	13	28	14	31	37	76
2014	14	30	14	31	36	73
2015	14	31	14	30	35	70
2020	18	43	19	35	41	78
2025	40	98	40	60	70	118

Afternoon Peak Hour - 40c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	11	24	11	29	33	73
2012	11	25	11	28	31	69
2013	11	26	11	26	29	65
2014	11	27	11	25	27	61
2015	11	28	11	24	25	56
2020	17	43	17	32	34	70
2025	36	93	36	52	57	100

Afternoon Peak Hour - 50c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	10	24	10	27	29	69
2012	10	25	10	26	27	65
2013	10	26	10	24	24	60
2014	10	27	10	23	22	55
2015	10	28	10	21	20	51
2020	15	42	16	29	28	63
2025	34	93	35	49	52	93

Afternoon Peak Hour - 60c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	8	23	8	24	24	64
2012	8	23	8	22	21	58
2013	8	24	8	20	18	52
2014	7	25	8	19	15	46
2015	7	26	8	17	12	41
2020	12	39	12	22	18	49
2025	33	93	33	46	45	84

Afternoon Peak Hour - 70c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	7	22	7	22	20	60
2012	7	23	7	20	16	53
2013	6	23	6	18	13	47
2014	6	24	6	16	9	40
2015	6	25	6	14	6	34
2020	11	40	12	21	14	45
2025	30	90	31	40	36	72

Midday Off Peak - 30c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	11	16	12	37	47	98
2012	12	16	12	37	48	99
2013	11	16	11	36	45	94
2014	11	16	11	34	43	90
2015	10	16	11	32	40	85
2020	12	22	12	31	38	79
2025	21	47	21	40	47	89

Midday Off Peak - 40c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	10	14	10	34	42	92
2012	10	15	10	35	43	95
2013	10	15	10	34	42	93
2014	10	15	10	33	40	89
2015	9	15	9	31	38	84
2020	11	22	11	30	35	77
2025	18	45	19	35	39	78

Midday Off Peak - 50c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	8	13	8	32	38	89
2012	9	14	9	33	39	91
2013	9	14	9	34	40	93
2014	9	15	9	33	39	91
2015	9	15	9	31	36	86
2020	10	21	10	29	32	77
2025	17	45	17	33	34	73

Midday Off Peak - 60c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	7	11	7	30	33	85
2012	7	12	7	30	34	87
2013	7	13	7	31	35	88
2014	8	14	8	32	35	88
2015	8	14	8	31	34	86
2020	9	21	9	28	29	75
2025	15	43	15	29	27	64

Midday Off Peak - 70c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	5	9	5	26	27	78
2012	5	10	5	28	29	82
2013	6	11	6	28	30	82
2014	6	12	6	29	30	83
2015	6	13	6	29	30	83
2020	8	20	8	27	27	74
2025	13	41	13	24	20	55

Weekday Evening - 30c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	-4	-4	-4	-3	-8	-2
2012	-4	-4	-4	-3	-8	-2
2013	-4	-4	-4	-3	-8	-2
2014	-4	-4	-4	-3	-8	-2
2015	-4	-4	-4	-3	-8	-2
2020	-4	-4	-4	-3	-8	-2
2025	-4	-4	-4	-3	-8	-2

Weekday Evening - 40c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	-7	-7	-7	-9	-18	-15
2012	-7	-7	-7	-9	-18	-15
2013	-7	-7	-7	-9	-18	-15
2014	-7	-7	-7	-9	-18	-15
2015	-7	-7	-7	-9	-18	-15
2020	-7	-7	-7	-9	-17	-15
2025	-7	-7	-7	-9	-18	-15

Weekday Evening - 50c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	-10	-10	-10	-15	-27	-29
2012	-10	-10	-10	-15	-27	-28
2013	-10	-10	-10	-15	-27	-28
2014	-10	-10	-10	-15	-27	-28
2015	-10	-10	-10	-15	-27	-28
2020	-10	-10	-10	-15	-27	-28
2025	-10	-10	-10	-15	-27	-28

Weekday Evening - 60c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	-13	-13	-13	-21	-37	-41
2012	-13	-13	-13	-21	-36	-41
2013	-13	-13	-13	-21	-36	-41
2014	-13	-13	-13	-21	-36	-41
2015	-13	-13	-13	-21	-36	-41
2020	-13	-13	-13	-21	-37	-41
2025	-13	-13	-13	-21	-36	-41

Weekday Evening - 70c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	-15	-15	-15	-26	-46	-54
2012	-16	-16	-16	-26	-46	-54
2013	-16	-16	-16	-26	-46	-55
2014	-16	-16	-16	-27	-46	-55
2015	-16	-16	-16	-27	-46	-55
2020	-16	-16	-16	-26	-46	-55
2025	-15	-15	-15	-26	-46	-54

Weekend - 30c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	-2	-2	-2	1	-3	8
2012	-2	-1	-2	3	1	15
2013	-1	-0	-1	6	4	21
2014	0	1	0	8	8	28
2015	1	2	1	12	12	35
2020	7	9	7	26	33	72
2025	9	15	9	29	36	76

Weekend - 40c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	-5	-5	-5	-5	-12	-5
2012	-4	-4	-4	-2	-9	2
2013	-4	-3	-4	0	-5	8
2014	-3	-2	-3	3	-1	15
2015	-2	-1	-2	6	3	23
2020	5	7	5	22	26	64
2025	8	14	8	27	31	72

Weekend - 50c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	-8	-8	-8	-11	-21	-18
2012	-7	-7	-7	-8	-18	-12
2013	-6	-6	-6	-6	-15	-5
2014	-6	-5	-6	-3	-11	1
2015	-4	-4	-4	-0	-7	9
2020	2	4	2	18	18	54
2025	6	13	7	25	28	71

Weekend - 60c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	-11	-11	-11	-17	-31	-31
2012	-10	-10	-10	-14	-28	-25
2013	-9	-9	-9	-12	-24	-19
2014	-8	-8	-8	-9	-20	-12
2015	-7	-7	-7	-6	-16	-4
2020	-0	2	-0	13	11	44
2025	5	12	5	24	25	69

Weekend - 70c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	-14	-14	-14	-22	-40	-44
2012	-13	-13	-13	-20	-37	-38
2013	-12	-12	-12	-18	-34	-32
2014	-11	-11	-11	-15	-30	-25
2015	-10	-10	-10	-12	-25	-17
2020	-3	-1	-3	8	2	33
2025	4	10	4	22	21	67

N1: 14th Avenue to Grasmere (Southbound)

Morning Peak Hour - 30c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	20	33	20	49	64	121
2012	20	33	20	48	62	117
2013	19	33	19	46	60	113
2014	19	34	19	45	58	109
2015	19	34	19	44	56	105
2020	21	40	21	45	57	105
2025	21	47	22	39	48	86

Morning Peak Hour - 40c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	19	32	19	47	60	116
2012	18	32	18	45	58	112
2013	18	33	18	44	56	108
2014	18	33	18	43	54	104
2015	18	34	18	41	51	99
2020	18	36	18	39	48	93
2025	18	42	18	33	39	73

Morning Peak Hour - 50c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	18	31	18	45	57	114
2012	17	31	18	44	55	110
2013	17	32	17	43	53	106
2014	17	33	17	42	51	102
2015	17	34	17	40	50	98
2020	18	37	18	39	47	93
2025	20	48	20	35	40	76

Morning Peak Hour - 60c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	17	31	17	45	56	114
2012	17	31	17	43	53	108
2013	16	32	17	41	50	103
2014	16	32	16	40	48	98
2015	16	33	16	38	45	92
2020	17	38	17	38	44	90
2025	19	47	19	33	36	71

Morning Peak Hour - 70c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	16	30	16	43	52	109
2012	15	30	16	41	49	103
2013	15	31	15	39	46	98
2014	15	31	15	37	43	93
2015	15	32	15	36	41	87
2020	15	36	15	34	38	81
2025	16	44	16	28	29	61

Afternoon Peak Hour - 30c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	19	32	20	48	62	117
2012	19	32	19	46	60	113
2013	19	32	19	44	57	108
2014	18	32	18	43	55	103
2015	18	32	18	41	52	98
2020	14	33	14	27	31	59
2025	-7	-24	-7	3	6	26

Afternoon Peak Hour - 40c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	18	31	18	44	56	109
2012	17	31	17	43	54	105
2013	17	31	17	41	52	101
2014	17	31	17	40	50	97
2015	16	31	17	38	48	93
2020	12	31	12	22	24	47
2025	-5	-16	-5	4	5	24

Afternoon Peak Hour - 50c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	16	30	17	42	52	105
2012	16	30	16	41	51	101
2013	16	31	16	40	49	98
2014	16	32	16	39	47	94
2015	16	32	16	37	45	91
2020	12	33	12	22	22	46
2025	-5	-13	-5	3	2	20

Afternoon Peak Hour - 60c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	16	30	16	41	50	103
2012	15	30	15	39	47	98
2013	15	30	15	37	45	93
2014	15	30	15	36	42	88
2015	14	31	14	34	40	83
2020	9	27	9	16	13	34
2025	-8	-19	-9	-2	-6	11

Afternoon Peak Hour - 70c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	14	29	15	39	46	98
2012	14	29	14	37	43	93
2013	14	30	14	35	41	88
2014	14	30	14	34	39	84
2015	13	31	14	32	36	79
2020	9	30	9	14	10	29
2025	-8	-16	-8	-2	-7	10

Midday Off Peak - 30c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	10	11	10	34	45	92
2012	11	13	11	37	49	98
2013	12	14	12	38	51	102
2014	13	15	13	40	53	105
2015	14	17	14	42	55	109
2020	16	24	16	43	56	109
2025	18	36	18	38	47	87

Midday Off Peak - 40c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	9	10	9	32	42	87
2012	10	12	10	35	45	94
2013	11	13	11	37	48	99
2014	12	15	12	38	50	103
2015	13	16	13	40	52	106
2020	15	24	15	42	54	107
2025	15	33	15	32	39	75

Midday Off Peak - 50c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	8	9	8	30	38	83
2012	9	11	9	33	42	90
2013	10	12	10	35	45	96
2014	11	14	11	38	48	102
2015	12	15	12	39	50	105
2020	14	23	15	41	52	106
2025	17	38	17	35	41	80

Midday Off Peak - 60c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	6	8	7	28	34	79
2012	8	9	8	31	38	86
2013	9	11	9	33	41	92
2014	10	13	10	36	45	98
2015	11	14	11	38	47	102
2020	13	22	14	40	49	104
2025	12	30	12	25	27	59

Midday Off Peak - 70c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	5	6	5	26	30	75
2012	6	8	7	29	35	82
2013	8	10	8	31	38	88
2014	9	12	9	34	41	94
2015	10	13	10	36	45	100
2020	13	22	13	39	48	104
2025	14	35	14	29	30	67

Weekday Evening - 30c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	1	1	1	9	10	27
2012	1	1	1	9	10	27
2013	1	1	1	9	10	27
2014	1	1	1	9	10	27
2015	1	1	1	9	10	27
2020	1	1	1	9	10	27
2025	1	1	1	9	10	27

Weekday Evening - 40c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	-1	-1	-1	5	4	18
2012	-1	-1	-1	5	4	18
2013	-1	-1	-1	5	4	18
2014	-1	-1	-1	5	4	18
2015	-1	-1	-1	5	4	18
2020	-1	-1	-1	5	4	18
2025	-1	-1	-1	5	4	18

Weekday Evening - 50c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	-3	-3	-3	1	-3	9
2012	-3	-3	-3	1	-3	9
2013	-3	-3	-3	1	-3	9
2014	-3	-3	-3	1	-2	9
2015	-3	-3	-3	1	-2	10
2020	-3	-3	-3	1	-2	10
2025	-3	-3	-3	1	-2	10

Weekday Evening - 60c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	-5	-5	-5	-3	-9	0
2012	-5	-5	-5	-3	-9	0
2013	-5	-5	-5	-3	-9	0
2014	-5	-5	-5	-3	-9	0
2015	-5	-5	-5	-3	-9	0
2020	-5	-5	-5	-3	-9	0
2025	-5	-5	-5	-4	-10	-2

Weekday Evening - 70c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	-7	-7	-7	-7	-16	-10
2012	-7	-7	-7	-7	-16	-10
2013	-7	-7	-7	-7	-16	-9
2014	-7	-7	-7	-7	-15	-9
2015	-7	-7	-7	-7	-15	-9
2020	-7	-7	-7	-7	-16	-10
2025	-7	-7	-7	-7	-16	-10

Weekend - 30c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	1	1	1	9	10	27
2012	1	1	1	9	10	27
2013	1	1	1	9	10	27
2014	1	1	1	9	10	27
2015	1	1	1	9	10	27
2020	1	1	1	9	10	27
2025	1	2	1	10	11	29

Weekend - 40c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	-1	-1	-1	5	4	19
2012	-1	-1	-1	5	4	19
2013	-1	-1	-1	5	4	19
2014	-1	-1	-1	5	4	18
2015	-1	-1	-1	5	4	18
2020	-1	-1	-1	5	4	18
2025	-0	-0	-0	6	5	20

Weekend - 50c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	-2	-2	-2	2	-2	11
2012	-3	-2	-3	2	-2	10
2013	-3	-3	-3	1	-2	10
2014	-3	-3	-3	1	-2	10
2015	-3	-3	-3	1	-2	10
2020	-3	-3	-3	1	-2	9
2025	-2	-2	-2	2	-1	11

Weekend - 60c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	-4	-4	-4	-2	-8	2
2012	-4	-4	-4	-2	-8	2
2013	-4	-4	-4	-2	-8	2
2014	-4	-4	-4	-2	-8	2
2015	-4	-4	-4	-2	-8	2
2020	-4	-4	-4	-2	-8	1
2025	-4	-4	-4	-2	-7	3

Weekend - 70c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	-6	-6	-6	-6	-14	-6
2012	-6	-6	-6	-6	-14	-6
2013	-6	-6	-6	-6	-14	-6
2014	-6	-6	-6	-6	-14	-6
2015	-6	-6	-6	-6	-14	-6
2020	-6	-6	-6	-6	-14	-7
2025	-6	-6	-6	-5	-13	-5

14th Avenue to Grasmere (Northbound)

Morning Peak Hour - 30c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	21	34	21	50	65	122
2012	21	36	21	50	66	122
2013	22	38	22	51	66	122
2014	23	40	23	51	67	123
2015	24	44	24	52	68	123
2020	19	42	19	33	40	72
2025	-2	-11	-2	8	12	32

Morning Peak Hour - 40c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	20	34	20	49	64	120
2012	20	35	21	49	63	120
2013	21	37	21	49	63	119
2014	22	40	22	49	63	118
2015	23	43	23	50	63	117
2020	18	42	18	33	39	70
2025	-2	-9	-2	8	10	31

Morning Peak Hour - 50c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	20	34	20	49	62	120
2012	20	36	20	49	62	120
2013	21	38	21	49	63	119
2014	22	41	22	50	63	119
2015	23	44	23	50	63	118
2020	21	49	21	37	44	80
2025	3	3	3	15	17	42

Morning Peak Hour - 60c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	19	33	19	47	59	117
2012	19	35	19	47	59	115
2013	20	37	20	47	58	114
2014	20	39	20	46	58	112
2015	21	42	21	46	57	110
2020	18	45	18	31	35	67
2025	-4	-11	-4	4	3	22

Morning Peak Hour - 70c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	18	33	18	45	56	113
2012	18	35	19	46	57	113
2013	19	37	19	46	57	112
2014	20	40	20	47	57	112
2015	21	44	22	47	57	112
2020	19	49	20	34	38	73
2025	-2	-3	-2	6	5	25

Afternoon Peak Hour - 30c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	19	30	20	49	65	122
2012	21	33	21	50	66	123
2013	22	37	22	51	67	125
2014	24	43	24	53	69	126
2015	26	51	27	55	70	126
2020	21	44	21	41	51	90
2025	12	23	12	28	35	68

Afternoon Peak Hour - 40c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	18	29	18	47	61	116
2012	19	32	19	47	62	117
2013	21	36	21	49	63	119
2014	22	41	23	50	65	120
2015	25	49	25	52	66	120
2020	20	44	21	39	48	88
2025	11	23	12	27	33	65

Afternoon Peak Hour - 50c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	18	29	18	46	60	116
2012	19	32	19	47	60	116
2013	20	36	20	48	61	117
2014	22	41	22	49	62	118
2015	24	48	24	50	63	117
2020	22	50	22	40	47	86
2025	10	22	11	25	29	61

Afternoon Peak Hour - 60c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	17	28	17	45	58	115
2012	18	31	18	46	58	114
2013	19	35	19	46	58	114
2014	21	40	21	48	59	114
2015	23	48	23	48	59	112
2020	19	44	19	36	42	80
2025	9	20	9	22	25	55

Afternoon Peak Hour - 70c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	16	28	16	44	55	113
2012	17	31	17	44	55	111
2013	18	34	18	45	56	111
2014	20	40	20	46	57	111
2015	22	47	22	47	56	109
2020	21	52	22	39	44	84
2025	8	19	8	19	21	49

Midday Off Peak - 30c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	11	12	11	35	48	94
2012	12	13	12	38	52	101
2013	13	15	13	41	55	108
2014	15	17	15	44	60	116
2015	16	19	16	47	64	123
2020	19	25	19	52	69	132
2025	23	40	23	52	68	124

Midday Off Peak - 40c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	10	11	10	33	44	90
2012	11	12	11	36	48	97
2013	12	14	12	39	52	105
2014	14	16	14	43	57	113
2015	15	18	15	46	61	121
2020	18	25	18	51	68	132
2025	22	40	22	51	66	123

Midday Off Peak - 50c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	9	10	9	31	40	85
2012	10	12	10	35	46	95
2013	11	13	11	38	50	103
2014	13	15	13	41	55	111
2015	14	17	14	45	59	119
2020	18	24	18	51	67	131
2025	21	39	22	50	63	120

Midday Off Peak - 60c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	7	8	7	29	36	80
2012	9	10	9	33	42	90
2013	10	12	10	37	47	99
2014	12	14	12	40	52	107
2015	13	16	13	43	56	116
2020	17	24	17	50	65	130
2025	21	39	21	48	61	117

Midday Off Peak - 70c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	6	7	6	26	32	74
2012	8	9	8	31	38	85
2013	9	11	9	35	44	95
2014	11	13	11	39	49	105
2015	12	15	12	42	54	113
2020	17	23	17	50	64	131
2025	20	39	20	48	59	116

Weekday Evening - 30c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	2	2	2	11	14	33
2012	2	2	2	11	14	33
2013	2	2	2	11	14	33
2014	2	2	2	11	14	33
2015	2	2	2	11	14	33
2020	2	2	2	11	14	32
2025	2	2	2	11	14	33

Weekday Evening - 40c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	0	0	0	7	7	22
2012	0	0	0	7	7	22
2013	0	0	0	7	7	21
2014	0	0	0	6	7	21
2015	0	0	0	6	6	21
2020	0	0	0	6	6	20
2025	0	0	0	6	6	20

Weekday Evening - 50c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	-1	-1	-1	3	2	14
2012	-1	-1	-1	3	2	14
2013	-1	-1	-1	3	2	14
2014	-1	-1	-1	3	2	14
2015	-1	-1	-1	3	1	14
2020	-1	-1	-1	3	1	13
2025	-1	-1	-1	3	1	12

Weekday Evening - 60c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	-3	-3	-3	1	-3	8
2012	-3	-3	-3	1	-3	8
2013	-3	-3	-3	1	-3	8
2014	-3	-3	-3	1	-3	8
2015	-3	-3	-3	1	-3	7
2020	-3	-3	-3	0	-3	7
2025	-3	-3	-3	0	-3	7

Weekday Evening - 70c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	-4	-4	-4	-2	-7	2
2012	-4	-4	-4	-2	-7	2
2013	-4	-4	-4	-2	-7	2
2014	-4	-4	-4	-2	-7	1
2015	-4	-4	-4	-2	-8	1
2020	-4	-4	-4	-2	-8	1
2025	-4	-4	-4	-3	-8	1

Weekend - 30c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	2	2	2	11	14	32
2012	2	2	2	11	14	33
2013	2	2	2	11	14	33
2014	2	2	2	11	14	33
2015	2	2	2	11	14	33
2020	3	3	3	12	15	33
2025	4	4	4	16	21	45

Weekend - 40c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	1	1	1	9	9	26
2012	1	1	1	9	9	26
2013	1	1	1	9	9	26
2014	1	1	1	9	10	26
2015	1	1	1	9	10	26
2020	1	1	1	9	10	27
2025	3	3	3	13	16	38

Weekend - 50c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	-1	-1	-1	5	4	19
2012	-1	-1	-1	5	5	19
2013	-1	-0	-1	6	5	19
2014	-1	-0	-1	6	5	20
2015	-0	-0	-0	6	5	20
2020	-0	-0	-0	6	5	20
2025	1	2	1	10	11	32

Weekend - 60c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	-2	-2	-2	2	-0	13
2012	-2	-2	-2	2	-0	13
2013	-2	-2	-2	3	-0	13
2014	-2	-2	-2	3	-0	13
2015	-2	-2	-2	3	-0	13
2020	-2	-2	-2	3	0	14
2025	-0	0	-0	7	6	25

Weekend - 70c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	-4	-3	-4	-1	-5	6
2012	-4	-3	-4	-1	-5	6
2013	-4	-3	-4	-1	-5	6
2014	-4	-3	-4	-1	-5	6
2015	-4	-3	-4	-1	-5	6
2020	-3	-3	-3	0	-4	7
2025	-2	-1	-2	4	2	18

R21: Flying Saucer to N12 (Southbound)

Morning Peak Hour - 30c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	58	109	59	126	161	296
2012	58	111	58	122	156	285
2013	58	114	58	119	150	274
2014	58	117	58	114	143	259
2015	57	122	58	110	136	243
2020	45	106	46	78	92	165
2025	5	9	5	22	24	62

Morning Peak Hour - 40c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	55	106	55	120	150	282
2012	54	108	55	116	145	271
2013	54	111	55	113	139	260
2014	55	115	55	109	133	246
2015	55	121	55	104	125	230
2020	41	102	42	70	78	145
2025	-0	3	-0	12	8	40

Morning Peak Hour - 50c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	52	104	53	115	141	271
2012	52	107	52	111	135	259
2013	52	110	52	107	129	247
2014	52	114	52	102	122	232
2015	52	119	52	98	114	216
2020	41	108	41	66	70	136
2025	-4	-0	-4	3	-5	21

Morning Peak Hour - 60c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	48	101	49	107	128	254
2012	48	103	48	103	122	242
2013	48	107	49	100	117	230
2014	48	111	49	95	110	216
2015	49	117	49	91	103	201
2020	33	94	34	53	51	109
2025	-9	-4	-9	-5	-19	3

Morning Peak Hour - 70c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	45	98	45	100	117	239
2012	44	100	45	96	110	226
2013	44	104	45	92	104	213
2014	44	108	45	87	97	198
2015	44	113	45	83	89	182
2020	29	92	30	46	38	91
2025	-13	-8	-13	-14	-33	-17

Afternoon Peak Hour - 30c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	65	120	66	141	182	332
2012	65	123	66	139	177	323
2013	65	127	66	135	172	311
2014	65	131	66	131	165	297
2015	66	137	67	127	158	282
2020	41	98	42	70	82	148
2025	-2	-4	-2	10	9	38

Afternoon Peak Hour - 40c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	62	118	63	136	172	320
2012	62	121	63	133	168	311
2013	62	124	63	130	162	300
2014	63	129	63	126	156	287
2015	63	135	64	122	150	273
2020	38	95	38	63	70	132
2025	-10	-19	-10	-3	-10	13

Afternoon Peak Hour - 50c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	59	115	59	130	161	307
2012	59	118	59	127	157	298
2013	59	122	60	124	152	287
2014	59	126	60	120	146	274
2015	60	133	61	116	140	260
2020	34	93	34	55	57	114
2025	-12	-17	-12	-9	-22	-5

Afternoon Peak Hour - 60c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	55	112	56	124	151	294
2012	56	115	56	122	148	287
2013	56	119	57	118	142	275
2014	56	124	57	114	135	261
2015	57	130	58	110	128	246
2020	30	89	30	47	44	96
2025	-16	-20	-16	-18	-36	-25

Afternoon Peak Hour - 70c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	52	109	53	118	140	281
2012	53	112	53	116	137	275
2013	53	116	54	113	133	264
2014	53	121	54	109	126	250
2015	54	128	55	105	119	235
2020	26	87	27	40	31	79
2025	-21	-25	-21	-27	-50	-44

Midday Off Peak - 30c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	49	64	49	137	183	351
2012	52	70	52	144	193	367
2013	56	78	56	151	202	382
2014	59	84	59	154	206	388
2015	62	93	62	158	210	395
2020	75	143	76	157	201	363
2025	40	99	41	65	74	133

Midday Off Peak - 40c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	45	60	45	130	171	335
2012	49	67	49	138	182	353
2013	52	74	53	144	190	368
2014	55	81	56	149	196	377
2015	59	89	59	153	201	383
2020	72	140	73	151	191	350
2025	37	97	37	58	62	117

Midday Off Peak - 50c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	41	56	41	122	159	319
2012	45	63	45	131	170	339
2013	49	70	49	138	179	354
2014	52	78	52	143	186	364
2015	55	86	56	147	190	370
2020	69	138	70	146	182	340
2025	34	96	35	52	51	102

Midday Off Peak - 60c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	37	52	37	114	145	301
2012	41	59	41	123	158	323
2013	45	67	45	131	168	340
2014	49	75	49	137	176	353
2015	52	83	52	141	180	359
2020	66	135	67	141	173	330
2025	29	89	29	42	36	81

Midday Off Peak - 70c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	33	48	33	106	132	283
2012	37	56	38	116	146	307
2013	42	63	42	125	157	326
2014	46	72	46	132	166	341
2015	49	80	49	136	171	348
2020	63	133	64	136	163	318
2025	29	95	29	39	29	72

Weekday Evening - 30c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	-4	-4	-4	0	-5	10
2012	-4	-4	-4	0	-5	10
2013	-4	-4	-4	0	-5	10
2014	-4	-4	-4	0	-5	10
2015	-4	-4	-4	0	-5	10
2020	-4	-4	-4	0	-5	11
2025	-4	-4	-4	0	-5	10

Weekday Evening - 40c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	-8	-8	-8	-8	-19	-8
2012	-8	-8	-8	-8	-19	-8
2013	-8	-8	-8	-8	-19	-8
2014	-8	-8	-8	-8	-18	-7
2015	-8	-8	-8	-8	-18	-7
2020	-9	-9	-9	-8	-19	-9
2025	-8	-8	-8	-7	-18	-7

Weekday Evening - 50c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	-13	-13	-13	-18	-34	-30
2012	-13	-13	-13	-18	-34	-30
2013	-13	-13	-13	-18	-34	-30
2014	-13	-13	-13	-18	-34	-30
2015	-13	-13	-13	-18	-34	-30
2020	-13	-13	-13	-17	-33	-29
2025	-13	-13	-13	-16	-33	-27

Weekday Evening - 60c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	-18	-18	-18	-26	-49	-50
2012	-18	-18	-18	-27	-49	-50
2013	-18	-18	-18	-27	-49	-50
2014	-18	-18	-18	-27	-49	-51
2015	-18	-18	-18	-27	-49	-51
2020	-18	-18	-18	-27	-49	-50
2025	-17	-17	-17	-26	-48	-48

Weekday Evening - 70c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	-23	-23	-23	-37	-65	-75
2012	-22	-22	-22	-37	-65	-74
2013	-22	-22	-22	-37	-65	-73
2014	-22	-22	-22	-36	-65	-73
2015	-22	-22	-22	-36	-64	-72
2020	-22	-22	-22	-36	-64	-73
2025	-22	-22	-22	-36	-64	-71

Weekend - 30c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	-3	-3	-3	3	-1	17
2012	-2	-2	-2	6	2	24
2013	-1	-1	-1	8	6	30
2014	-0	0	-0	12	11	39
2015	1	1	1	15	16	48
2020	12	13	12	44	56	122
2025	36	45	36	107	143	280

Weekend - 40c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	-8	-7	-8	-6	-16	-2
2012	-7	-6	-7	-3	-12	5
2013	-6	-5	-6	-0	-8	11
2014	-4	-4	-4	3	-3	20
2015	-3	-3	-3	7	2	30
2020	7	9	7	35	42	102
2025	32	41	32	99	129	260

Weekend - 50c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	-12	-12	-12	-14	-30	-22
2012	-11	-11	-11	-12	-26	-15
2013	-10	-10	-10	-9	-22	-8
2014	-9	-9	-9	-6	-17	1
2015	-8	-7	-8	-2	-12	10
2020	3	4	3	27	27	83
2025	27	36	28	90	115	241

Weekend - 60c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	-16	-16	-16	-23	-44	-42
2012	-15	-15	-15	-21	-41	-35
2013	-15	-14	-15	-18	-37	-29
2014	-13	-13	-13	-14	-32	-20
2015	-12	-12	-12	-11	-27	-10
2020	-2	0	-2	18	13	63
2025	23	32	23	81	101	221

Weekend - 70c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	-21	-21	-21	-32	-59	-62
2012	-20	-20	-20	-30	-55	-55
2013	-19	-19	-19	-27	-51	-49
2014	-18	-17	-18	-23	-46	-40
2015	-16	-16	-16	-20	-42	-31
2020	-6	-4	-6	9	-1	43
2025	19	28	19	73	86	201

R21: Flying Saucer to N12 (Northbound)

Morning Peak Hour - 30c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	69	119	69	157	205	377
2012	71	126	71	158	205	375
2013	73	133	73	158	204	372
2014	75	141	76	158	203	368
2015	78	151	79	159	203	363
2020	64	148	65	109	130	226
2025	-1	8	-0	3	-3	11

Morning Peak Hour - 40c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	66	116	66	152	196	366
2012	68	123	68	152	195	363
2013	69	130	70	152	194	359
2014	72	138	72	152	193	355
2015	74	148	75	152	192	349
2020	62	146	63	103	121	214
2025	-5	3	-5	-5	-17	-7

Morning Peak Hour - 50c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	63	114	64	148	188	358
2012	65	120	65	148	187	355
2013	67	127	67	148	186	351
2014	69	136	70	148	185	346
2015	72	146	72	148	184	341
2020	59	146	60	99	112	204
2025	-10	-2	-9	-15	-32	-29

Morning Peak Hour - 60c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	60	111	61	143	179	347
2012	62	117	62	143	178	344
2013	64	124	64	142	176	339
2014	66	133	66	142	175	334
2015	68	143	69	142	173	328
2020	56	144	57	93	101	190
2025	-13	-4	-13	-22	-45	-46

Morning Peak Hour - 70c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	57	108	57	136	167	333
2012	58	114	59	136	167	330
2013	60	121	61	136	165	325
2014	62	130	63	136	164	320
2015	65	140	66	136	163	315
2020	53	141	54	86	89	174
2025	-16	-4	-16	-29	-57	-63

Afternoon Peak Hour - 30c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	79	135	80	181	237	434
2012	80	142	80	175	228	414
2013	79	150	80	166	214	385
2014	80	160	81	157	199	353
2015	82	176	83	149	185	322
2020	47	113	48	78	91	161
2025	9	15	9	31	37	86

Afternoon Peak Hour - 40c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	77	133	77	177	230	427
2012	77	140	78	172	221	407
2013	77	148	78	162	206	376
2014	77	159	78	152	190	342
2015	79	174	80	143	174	309
2020	41	105	42	67	75	138
2025	4	10	4	22	23	66

Afternoon Peak Hour - 50c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	74	130	74	171	220	414
2012	74	138	75	166	211	396
2013	74	146	75	157	196	365
2014	74	157	75	147	181	332
2015	77	172	78	138	166	299
2020	37	101	38	60	62	120
2025	-0	6	-0	13	8	46

Afternoon Peak Hour - 60c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	70	128	71	166	210	402
2012	71	135	72	161	202	384
2013	71	143	72	152	187	354
2014	72	155	72	142	171	321
2015	74	171	75	133	156	288
2020	35	102	36	55	52	108
2025	-5	2	-4	5	-6	27

Afternoon Peak Hour - 70c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	67	125	68	161	201	392
2012	68	132	69	155	192	373
2013	68	141	69	147	178	344
2014	69	153	70	137	162	310
2015	71	169	72	128	147	276
2020	32	101	33	48	40	93
2025	-9	-3	-9	-3	-20	8

Midday Off Peak - 30c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	47	60	47	134	180	346
2012	52	69	52	144	193	368
2013	57	78	57	152	204	386
2014	61	88	61	159	212	398
2015	65	100	65	162	215	401
2020	81	161	82	161	205	364
2025	38	91	39	66	77	140

Midday Off Peak - 40c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	43	57	43	127	168	331
2012	48	65	48	137	181	353
2013	53	75	53	146	193	374
2014	58	86	58	154	203	389
2015	62	98	63	158	207	393
2020	78	159	79	156	196	354
2025	35	90	36	60	65	125

Midday Off Peak - 50c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	39	53	40	120	156	314
2012	44	62	45	130	170	338
2013	50	71	50	140	182	359
2014	55	83	55	148	193	377
2015	59	95	60	154	199	385
2020	76	157	77	152	187	345
2025	33	91	34	54	54	109

Midday Off Peak - 60c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	35	49	35	112	142	296
2012	41	58	41	123	157	322
2013	46	68	46	133	170	344
2014	51	79	51	142	182	363
2015	56	92	57	149	190	374
2020	73	155	74	146	178	333
2025	24	75	25	41	36	85

Midday Off Peak - 70c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	31	44	31	103	129	277
2012	37	54	37	116	145	307
2013	42	64	42	126	158	328
2014	48	76	48	136	171	350
2015	53	89	54	144	181	365
2020	70	152	71	141	168	322
2025	27	87	27	41	32	80

Weekday Evening - 30c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	-4	-4	-4	1	-4	12
2012	-4	-4	-4	1	-4	12
2013	-4	-4	-4	1	-4	12
2014	-4	-4	-4	1	-5	12
2015	-4	-4	-4	1	-5	11
2020	-4	-4	-4	-0	-6	9
2025	-4	-4	-4	-0	-6	9

Weekday Evening - 40c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	-8	-8	-8	-8	-18	-7
2012	-8	-8	-8	-8	-18	-7
2013	-8	-8	-8	-8	-18	-7
2014	-8	-8	-8	-8	-18	-7
2015	-8	-8	-8	-8	-18	-7
2020	-8	-8	-8	-7	-18	-6
2025	-8	-8	-8	-8	-18	-7

Weekday Evening - 50c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	-13	-13	-13	-18	-35	-31
2012	-13	-13	-13	-18	-35	-31
2013	-13	-13	-13	-18	-35	-31
2014	-13	-13	-13	-18	-34	-30
2015	-13	-13	-13	-18	-34	-30
2020	-13	-13	-13	-17	-33	-28
2025	-13	-13	-13	-17	-33	-28

Weekday Evening - 60c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	-18	-18	-18	-27	-49	-52
2012	-18	-18	-18	-27	-49	-51
2013	-18	-18	-18	-27	-49	-51
2014	-18	-18	-18	-26	-49	-50
2015	-17	-17	-17	-26	-48	-50
2020	-18	-18	-18	-27	-49	-51
2025	-18	-18	-18	-26	-49	-50

Weekday Evening - 70c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	-22	-22	-22	-35	-63	-70
2012	-22	-22	-22	-35	-63	-70
2013	-22	-22	-22	-35	-63	-70
2014	-22	-22	-22	-35	-63	-70
2015	-22	-22	-22	-35	-63	-70
2020	-22	-22	-22	-35	-63	-71
2025	-22	-22	-22	-36	-64	-71

Weekend - 30c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	-4	-4	-4	0	-5	10
2012	-4	-4	-4	1	-4	13
2013	-3	-3	-3	3	-2	16
2014	-3	-3	-3	4	-1	19
2015	-3	-2	-3	5	1	22
2020	3	3	3	19	21	58
2025	24	28	24	77	101	205

Weekend - 40c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	-9	-8	-9	-8	-19	-9
2012	-8	-8	-8	-7	-18	-6
2013	-8	-8	-8	-6	-16	-4
2014	-7	-7	-7	-5	-15	-1
2015	-7	-7	-7	-4	-13	2
2020	-2	-1	-2	10	7	39
2025	20	24	20	68	87	185

Weekend - 50c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	-13	-13	-13	-17	-34	-30
2012	-13	-13	-13	-16	-33	-27
2013	-12	-12	-12	-15	-31	-24
2014	-12	-12	-12	-14	-29	-21
2015	-11	-11	-11	-13	-28	-18
2020	-6	-6	-6	2	-7	19
2025	15	20	15	60	73	165

Weekend - 60c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	-18	-17	-18	-26	-49	-50
2012	-17	-17	-17	-25	-47	-47
2013	-17	-17	-17	-24	-46	-44
2014	-16	-16	-16	-23	-44	-41
2015	-16	-16	-16	-22	-42	-38
2020	-11	-10	-11	-7	-22	-1
2025	11	15	11	51	59	146

Weekend - 70c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	-22	-22	-22	-35	-63	-70
2012	-22	-21	-22	-34	-62	-67
2013	-21	-21	-21	-33	-60	-64
2014	-21	-21	-21	-32	-58	-61
2015	-20	-20	-20	-31	-57	-59
2020	-15	-15	-15	-16	-36	-21
2025	6	11	6	42	44	126

R24: OR Tambo International Airport to N12 (Westbound)

Morning Peak Hour - 30c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	9	13	9	22	30	54
2012	9	13	9	22	30	54
2013	9	14	9	22	30	54
2014	9	14	9	22	30	53
2015	10	15	10	22	30	53
2020	9	14	9	19	26	46
2025	9	16	9	19	26	44

Morning Peak Hour - 40c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	9	13	9	22	30	54
2012	9	13	9	22	30	54
2013	9	14	9	22	30	54
2014	9	14	9	22	30	53
2015	10	15	10	22	30	53
2020	9	15	9	20	27	48
2025	9	16	9	19	25	44

Morning Peak Hour - 50c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	9	12	9	22	30	54
2012	9	13	9	22	30	53
2013	9	14	9	22	30	53
2014	9	14	9	22	30	53
2015	10	15	10	22	30	53
2020	9	15	9	20	28	48
2025	9	16	9	20	26	46

Morning Peak Hour - 60c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	9	12	9	22	30	54
2012	9	13	9	22	30	53
2013	9	13	9	22	30	53
2014	9	14	9	22	30	52
2015	9	15	9	22	29	52
2020	9	15	9	20	27	47
2025	9	16	9	19	25	43

Morning Peak Hour - 70c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	9	13	9	22	30	54
2012	9	13	9	22	30	54
2013	9	14	9	22	30	54
2014	9	14	9	22	30	54
2015	10	15	10	22	30	53
2020	9	14	9	20	26	46
2025	10	18	10	21	28	49

Afternoon Peak Hour - 30c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	5	6	5	13	19	34
2012	5	6	5	14	19	35
2013	6	7	6	15	20	37
2014	6	8	6	15	21	38
2015	6	9	6	16	22	39
2020	16	32	16	28	36	60
2025	5	9	5	11	14	24

Afternoon Peak Hour - 40c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	5	6	5	14	19	35
2012	5	6	5	14	20	36
2013	6	7	6	14	20	36
2014	6	8	6	15	21	37
2015	6	9	6	15	21	38
2020	16	32	16	28	36	59
2025	1	-1	1	7	10	20

Afternoon Peak Hour - 50c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	5	6	5	14	19	35
2012	5	6	5	14	20	36
2013	6	7	6	15	20	37
2014	6	8	6	15	21	38
2015	6	9	6	16	22	39
2020	16	32	16	27	35	59
2025	1	-2	1	7	10	21

Afternoon Peak Hour - 60c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	5	6	5	14	20	36
2012	5	6	5	14	20	36
2013	6	7	6	15	20	37
2014	6	8	6	15	21	37
2015	6	9	6	15	21	37
2020	16	32	16	28	36	59
2025	6	11	6	11	14	25

Afternoon Peak Hour - 70c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	5	6	5	14	20	36
2012	5	6	5	14	20	36
2013	6	7	6	14	20	36
2014	6	8	6	15	20	37
2015	6	9	6	15	21	37
2020	15	31	15	26	34	56
2025	2	1	2	8	11	21

Midday Off Peak - 30c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	5	6	5	15	21	39
2012	6	7	6	16	23	42
2013	6	7	6	17	23	43
2014	6	8	6	17	24	44
2015	7	8	7	18	25	45
2020	9	15	9	21	28	49
2025	14	29	14	25	32	52

Midday Off Peak - 40c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	5	6	5	15	21	39
2012	6	7	6	17	23	43
2013	6	7	6	17	24	44
2014	6	8	6	18	24	44
2015	7	8	7	18	25	45
2020	9	15	9	21	28	49
2025	14	30	15	25	33	54

Midday Off Peak - 50c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	5	6	5	15	21	39
2012	6	7	6	17	24	44
2013	6	7	6	18	25	45
2014	7	8	7	18	25	46
2015	7	8	7	18	26	47
2020	9	15	9	21	28	49
2025	14	30	14	25	32	53

Midday Off Peak - 60c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	5	6	5	15	21	39
2012	6	7	6	18	24	45
2013	7	7	7	18	25	46
2014	7	8	7	18	26	47
2015	7	9	7	19	26	47
2020	9	15	9	21	28	49
2025	13	27	13	22	29	47

Midday Off Peak - 70c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	5	6	5	15	22	40
2012	6	7	6	18	25	45
2013	7	8	7	18	26	47
2014	7	8	7	19	26	48
2015	7	9	7	19	27	49
2020	9	15	9	20	27	48
2025	14	29	14	24	31	52

Weekday Evening - 30c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	2	2	2	5	8	14
2012	2	2	2	5	8	14
2013	2	2	2	5	8	14
2014	2	2	2	5	8	14
2015	2	2	2	5	8	14
2020	2	2	2	5	7	14
2025	2	2	2	5	7	14

Weekday Evening - 40c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	2	2	2	6	8	15
2012	2	2	2	6	8	15
2013	2	2	2	6	8	15
2014	2	2	2	6	8	15
2015	2	2	2	6	8	15
2020	2	2	2	6	8	15
2025	2	2	2	6	8	15

Weekday Evening - 50c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	2	2	2	6	8	15
2012	2	2	2	6	8	15
2013	2	2	2	6	8	15
2014	2	2	2	6	8	15
2015	2	2	2	6	8	15
2020	2	2	2	6	8	15
2025	2	2	2	6	8	15

Weekday Evening - 60c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	2	2	2	6	8	15
2012	2	2	2	6	8	15
2013	2	2	2	6	8	15
2014	2	2	2	6	8	15
2015	2	2	2	6	8	15
2020	2	2	2	6	8	15
2025	2	2	2	6	8	15

Weekday Evening - 70c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	2	2	2	6	9	16
2012	2	2	2	6	9	16
2013	2	2	2	6	9	16
2014	2	2	2	6	9	16
2015	2	2	2	6	9	16
2020	2	2	2	6	9	16
2025	2	2	2	6	8	15

Weekend - 30c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	2	2	2	5	7	14
2012	2	2	2	5	7	14
2013	2	2	2	5	7	14
2014	2	2	2	5	7	14
2015	2	2	2	5	7	14
2020	2	2	2	5	7	13
2025	2	2	2	5	7	13

Weekend - 40c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	2	2	2	5	7	14
2012	2	2	2	5	7	14
2013	2	2	2	5	7	13
2014	2	2	2	5	7	13
2015	2	2	2	5	7	13
2020	2	2	2	5	7	13
2025	2	2	2	5	7	13

Weekend - 50c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	2	2	2	5	7	14
2012	2	2	2	5	7	14
2013	2	2	2	5	7	13
2014	2	2	2	5	7	13
2015	2	2	2	5	7	13
2020	2	2	2	5	7	13
2025	2	2	2	5	7	13

Weekend - 60c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	2	2	2	5	7	13
2012	2	2	2	5	7	13
2013	2	2	2	5	7	13
2014	2	2	2	5	7	13
2015	2	2	2	5	7	13
2020	2	2	2	5	7	13
2025	2	2	2	5	7	14

Weekend - 70c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	2	2	2	5	7	14
2012	2	2	2	5	7	14
2013	2	2	2	5	7	14
2014	2	2	2	5	7	14
2015	2	2	2	5	7	14
2020	2	2	2	5	7	13
2025	2	2	2	5	7	14

R24: OR Tambo International Airport to N12 (Eastbound)

Morning Peak Hour - 30c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	3	2	3	8	11	21
2012	2	2	2	7	10	19
2013	2	2	2	7	10	18
2014	2	1	2	6	9	17
2015	2	1	2	6	8	15
2020	-1	-5	-1	1	3	7
2025	-7	-20	-7	-5	-4	-2

Morning Peak Hour - 40c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	2	2	2	8	11	20
2012	2	2	2	7	10	19
2013	2	1	2	7	9	17
2014	2	1	2	6	8	16
2015	1	1	1	5	8	14
2020	-1	-5	-1	1	2	6
2025	-7	-21	-7	-5	-5	-3

Morning Peak Hour - 50c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	3	2	3	8	12	21
2012	2	2	2	7	10	19
2013	2	1	2	7	9	17
2014	2	1	2	6	8	15
2015	1	0	1	5	7	13
2020	-1	-5	-1	2	3	8
2025	-8	-24	-8	-7	-6	-5

Morning Peak Hour - 60c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	3	2	3	8	11	21
2012	2	2	2	7	10	19
2013	2	1	2	6	9	17
2014	2	1	2	6	8	15
2015	1	0	1	5	7	13
2020	-2	-6	-2	1	2	5
2025	-7	-20	-7	-5	-5	-3

Morning Peak Hour - 70c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	3	2	3	8	12	21
2012	2	2	2	7	10	19
2013	2	1	2	6	9	17
2014	2	1	2	5	8	15
2015	1	0	1	5	7	13
2020	-1	-6	-1	1	2	6
2025	-10	-29	-10	-9	-8	-7

Afternoon Peak Hour - 30c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	4	4	4	11	15	29
2012	3	3	3	10	14	26
2013	3	3	3	9	13	24
2014	3	2	3	8	12	22
2015	2	1	2	7	10	20
2020	1	-2	1	5	8	16
2025	-2	-12	-2	3	7	16

Afternoon Peak Hour - 40c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	4	4	4	11	16	29
2012	4	4	4	10	15	27
2013	3	3	3	10	14	25
2014	3	2	3	9	12	23
2015	2	2	2	8	11	21
2020	-0	-4	-0	3	5	12
2025	-4	-15	-4	1	4	12

Afternoon Peak Hour - 50c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	4	4	4	11	16	29
2012	4	4	4	10	14	27
2013	3	3	3	10	13	25
2014	3	2	3	9	12	23
2015	2	2	2	8	11	21
2020	-1	-5	-1	2	4	10
2025	-4	-14	-4	2	4	13

Afternoon Peak Hour - 60c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	4	4	4	11	16	29
2012	4	4	4	10	14	27
2013	3	3	3	9	13	24
2014	3	2	3	8	11	21
2015	2	1	2	7	10	19
2020	-0	-4	-0	3	5	11
2025	-3	-12	-3	3	6	16

Afternoon Peak Hour - 70c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	4	4	4	12	16	30
2012	4	4	4	11	15	28
2013	3	3	3	10	14	25
2014	3	2	3	9	12	23
2015	2	2	2	8	11	20
2020	-0	-4	-0	4	6	12
2025	-3	-13	-3	3	6	15

Midday Off Peak - 30c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	3	3	3	10	14	26
2012	3	3	3	10	14	25
2013	3	3	3	9	13	24
2014	3	3	3	9	13	23
2015	3	3	3	9	12	22
2020	1	0	1	4	6	12
2025	-3	-8	-3	-1	-1	1

Midday Off Peak - 40c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	4	4	4	10	15	27
2012	3	3	3	10	14	26
2013	3	3	3	10	14	25
2014	3	3	3	9	13	24
2015	3	3	3	9	12	23
2020	1	0	1	4	6	12
2025	-3	-10	-3	-3	-2	-2

Midday Off Peak - 50c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	4	4	4	11	15	28
2012	4	4	4	11	15	27
2013	3	3	3	10	14	26
2014	3	3	3	10	14	25
2015	3	3	3	9	13	24
2020	1	0	1	4	6	12
2025	-3	-8	-3	-1	-1	1

Midday Off Peak - 60c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	4	4	4	12	16	30
2012	4	4	4	11	16	29
2013	4	4	4	11	15	27
2014	3	3	3	10	14	26
2015	3	3	3	9	13	25
2020	1	-0	1	4	6	11
2025	-3	-9	-3	-2	-2	-1

Midday Off Peak - 70c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	4	4	4	12	17	31
2012	4	4	4	11	16	30
2013	4	4	4	11	15	28
2014	3	3	3	10	14	27
2015	3	3	3	10	14	25
2020	1	0	1	4	6	12
2025	-4	-10	-4	-3	-3	-3

Weekday Evening - 30c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	2	2	2	5	7	14
2012	2	2	2	5	7	14
2013	2	2	2	5	7	14
2014	2	2	2	5	7	14
2015	2	2	2	5	7	14
2020	2	2	2	5	7	14
2025	2	2	2	5	7	13

Weekday Evening - 40c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	2	2	2	6	8	14
2012	2	2	2	6	8	14
2013	2	2	2	5	8	14
2014	2	2	2	5	8	14
2015	2	2	2	5	8	14
2020	2	2	2	6	8	14
2025	2	2	2	5	8	14

Weekday Evening - 50c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	2	2	2	5	7	13
2012	2	2	2	5	7	13
2013	2	2	2	5	7	13
2014	2	2	2	5	7	13
2015	2	2	2	5	7	13
2020	2	2	2	5	7	14
2025	2	2	2	5	7	13

Weekday Evening - 60c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	2	2	2	5	8	14
2012	2	2	2	5	8	14
2013	2	2	2	5	8	14
2014	2	2	2	5	8	14
2015	2	2	2	5	8	14
2020	2	2	2	6	8	14
2025	2	2	2	5	8	14

Weekday Evening - 70c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	2	2	2	5	8	14
2012	2	2	2	5	8	14
2013	2	2	2	5	8	14
2014	2	2	2	5	8	14
2015	2	2	2	5	8	14
2020	2	2	2	6	8	15
2025	2	2	2	6	8	15

Weekend - 30c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	2	2	2	5	7	13
2012	2	2	2	5	7	13
2013	2	2	2	5	7	13
2014	2	2	2	5	7	13
2015	2	2	2	5	7	13
2020	2	2	2	5	7	13
2025	2	2	2	7	9	17

Weekend - 40c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	2	2	2	5	7	13
2012	2	2	2	5	7	13
2013	2	2	2	5	7	13
2014	2	2	2	5	7	13
2015	2	2	2	5	7	13
2020	2	2	2	5	7	13
2025	2	2	2	7	10	18

Weekend - 50c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	2	2	2	5	7	13
2012	2	2	2	5	7	13
2013	2	2	2	5	7	13
2014	2	2	2	5	7	13
2015	2	2	2	5	7	13
2020	2	2	2	5	7	13
2025	2	2	2	7	10	18

Weekend - 60c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	2	2	2	5	7	13
2012	2	2	2	5	7	13
2013	2	2	2	5	7	13
2014	2	2	2	5	7	13
2015	2	2	2	5	7	13
2020	2	2	2	5	7	13
2025	2	2	2	7	10	18

Weekend - 70c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	2	2	2	5	7	13
2012	2	2	2	5	7	13
2013	2	2	2	5	7	13
2014	2	2	2	5	7	13
2015	2	2	2	5	7	13
2020	2	2	2	5	7	13
2025	2	3	2	7	10	19

N3: Buccleuch to M2 Geldenhuys Interchange (Southbound)

Morning Peak Hour - 30c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	0	4	0	1	-1	2
2012	0	4	0	1	-1	3
2013	0	4	0	1	-1	4
2014	1	5	1	2	-0	4
2015	1	5	1	2	0	5
2020	-0	3	-0	1	-1	4
2025	-0	-1	-0	4	4	14

Morning Peak Hour - 40c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	-1	3	-1	-2	-6	-4
2012	-1	4	-1	-1	-5	-2
2013	-0	5	-0	-0	-4	0
2014	0	6	0	1	-3	2
2015	1	7	1	2	-1	4
2020	-1	3	-1	-0	-3	1
2025	-3	-5	-3	-0	-3	5

Morning Peak Hour - 50c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	-0	7	-0	-1	-5	-1
2012	-0	6	-0	-1	-5	-1
2013	-0	6	-0	-1	-5	-1
2014	-0	6	-0	-1	-5	-1
2015	-0	6	-0	-1	-5	-1
2020	-2	2	-2	-3	-9	-6
2025	-4	-5	-4	-2	-5	2

Morning Peak Hour - 60c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	-1	6	-1	-2	-9	-6
2012	-2	5	-1	-3	-10	-7
2013	-2	4	-2	-4	-11	-9
2014	-3	3	-3	-5	-12	-11
2015	-3	1	-3	-6	-13	-13
2020	-3	2	-2	-4	-11	-8
2025	-4	-6	-4	-3	-8	-2

Morning Peak Hour - 70c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	-1	7	-1	-3	-10	-7
2012	-2	7	-2	-4	-11	-8
2013	-2	6	-2	-4	-12	-10
2014	-2	5	-2	-5	-13	-11
2015	-3	4	-3	-6	-14	-13
2020	-4	2	-4	-7	-15	-14
2025	-5	-5	-5	-5	-11	-5

Afternoon Peak Hour - 30c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	4	14	4	6	5	12
2012	3	10	3	4	2	8
2013	1	6	1	2	-1	4
2014	-2	-0	-2	-2	-4	-2
2015	-4	-8	-4	-5	-8	-6
2020	-9	-24	-9	-5	-6	2
2025	2	2	2	11	13	31

Afternoon Peak Hour - 40c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	3	12	3	3	0	6
2012	1	8	1	1	-2	2
2013	-1	4	-1	-2	-6	-3
2014	-3	-2	-3	-5	-10	-9
2015	-6	-10	-6	-8	-13	-14
2020	-9	-21	-9	-7	-9	-3
2025	1	1	1	8	8	24

Afternoon Peak Hour - 50c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	2	13	3	2	-2	3
2012	0	9	1	-1	-6	-2
2013	-2	3	-2	-4	-10	-9
2014	-5	-5	-5	-8	-15	-16
2015	-9	-16	-9	-13	-20	-22
2020	-10	-22	-10	-9	-14	-9
2025	-1	-1	-1	5	4	18

Afternoon Peak Hour - 60c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	1	12	1	-0	-7	-3
2012	-1	8	-1	-3	-10	-8
2013	-3	3	-3	-6	-13	-13
2014	-5	-3	-5	-10	-18	-20
2015	-9	-12	-9	-14	-22	-26
2020	-13	-29	-14	-14	-20	-18
2025	-2	-2	-2	2	-1	11

Afternoon Peak Hour - 70c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	1	13	1	-2	-9	-6
2012	-1	9	-1	-4	-13	-12
2013	-3	4	-3	-8	-16	-18
2014	-6	-3	-6	-12	-21	-25
2015	-10	-12	-10	-16	-26	-31
2020	-13	-25	-13	-15	-24	-23
2025	-4	-4	-4	-1	-6	4

Midday Off Peak - 30c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	8	19	8	15	17	33
2012	7	18	7	14	15	30
2013	7	17	7	12	13	26
2014	6	16	6	10	11	22
2015	5	15	5	9	8	18
2020	1	8	1	1	-2	0
2025	-16	-41	-16	-14	-17	-13

Midday Off Peak - 40c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	7	19	7	14	15	31
2012	7	18	7	13	13	28
2013	6	18	6	11	10	24
2014	5	16	5	9	8	19
2015	5	15	5	7	6	15
2020	-1	6	-0	-2	-7	-7
2025	-18	-44	-18	-18	-22	-22

Midday Off Peak - 50c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	7	19	7	13	12	29
2012	6	18	6	11	10	25
2013	5	17	6	10	8	21
2014	5	17	5	8	6	17
2015	4	15	4	6	3	12
2020	-3	2	-3	-6	-13	-15
2025	-20	-46	-20	-21	-27	-28

Midday Off Peak - 60c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	6	19	6	11	9	25
2012	5	18	5	10	7	22
2013	5	17	5	8	5	17
2014	4	16	4	6	2	13
2015	3	15	3	4	-0	8
2020	-3	5	-2	-7	-15	-17
2025	-23	-52	-23	-26	-35	-40

Midday Off Peak - 70c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	5	19	5	10	8	24
2012	5	18	5	9	5	20
2013	4	17	4	7	3	15
2014	3	16	3	5	0	10
2015	2	15	3	3	-3	5
2020	-3	5	-3	-8	-18	-21
2025	-23	-50	-23	-27	-37	-42

Weekday Evening - 30c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	-1	-1	-1	3	2	10
2012	-1	-1	-1	3	2	10
2013	-1	-1	-1	3	2	10
2014	-1	-1	-1	3	2	10
2015	-1	-1	-1	3	2	10
2020	-1	-1	-1	3	2	10
2025	-1	-1	-1	3	2	10

Weekday Evening - 40c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	-2	-2	-2	-0	-3	3
2012	-2	-2	-2	-0	-3	3
2013	-2	-2	-2	-0	-3	3
2014	-2	-2	-2	-0	-3	3
2015	-2	-2	-2	-0	-3	3
2020	-2	-2	-2	-0	-3	3
2025	-2	-2	-2	-0	-3	3

Weekday Evening - 50c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	-4	-4	-4	-4	-8	-4
2012	-4	-4	-4	-4	-8	-4
2013	-4	-4	-4	-4	-8	-4
2014	-4	-4	-4	-4	-8	-4
2015	-4	-4	-4	-4	-8	-4
2020	-4	-4	-4	-4	-8	-4
2025	-4	-4	-4	-4	-8	-4

Weekday Evening - 60c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	-5	-5	-5	-7	-13	-11
2012	-5	-5	-5	-7	-13	-11
2013	-5	-5	-5	-7	-13	-11
2014	-5	-5	-5	-7	-13	-11
2015	-5	-5	-5	-7	-13	-11
2020	-5	-5	-5	-7	-13	-11
2025	-5	-5	-5	-7	-13	-11

Weekday Evening - 70c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	-7	-7	-7	-10	-18	-18
2012	-7	-7	-7	-10	-18	-18
2013	-7	-7	-7	-10	-18	-18
2014	-7	-7	-7	-10	-18	-18
2015	-7	-7	-7	-10	-18	-18
2020	-7	-7	-7	-10	-18	-18
2025	-7	-7	-7	-10	-18	-18

Weekend - 30c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	1	1	1	7	8	22
2012	2	2	2	8	10	25
2013	2	2	2	10	12	29
2014	3	3	3	12	15	34
2015	4	4	4	14	18	39
2020	6	7	6	22	28	59
2025	6	8	6	21	27	56

Weekend - 40c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	-0	-0	-0	4	3	15
2012	0	0	0	5	5	18
2013	1	1	1	7	7	22
2014	1	2	1	9	10	27
2015	2	2	2	11	13	32
2020	5	6	5	19	24	54
2025	6	8	6	21	27	57

Weekend - 50c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	-2	-2	-2	1	-2	8
2012	-1	-1	-1	2	0	11
2013	-1	-1	-1	4	2	16
2014	-0	0	-0	6	5	20
2015	1	1	1	8	8	25
2020	4	5	4	17	20	48
2025	6	8	6	22	27	60

Weekend - 60c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	-3	-3	-3	-2	-7	1
2012	-3	-3	-3	-1	-5	4
2013	-2	-2	-2	1	-3	9
2014	-2	-1	-2	3	0	13
2015	-1	-1	-1	5	3	18
2020	2	3	2	14	15	41
2025	5	7	5	22	27	62

Weekend - 70c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	-5	-5	-5	-5	-11	-6
2012	-4	-4	-4	-4	-10	-3
2013	-4	-4	-4	-2	-7	2
2014	-3	-3	-3	-0	-5	7
2015	-2	-2	-2	2	-2	12
2020	1	2	1	11	10	34
2025	5	6	5	21	24	59

N3: Buccleuch to M2 Geldenhuys Interchange (Northbound)

Morning Peak Hour - 30c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	4	15	4	6	3	12
2012	4	14	4	6	3	11
2013	4	14	4	5	2	10
2014	4	15	4	5	2	9
2015	4	15	4	5	1	8
2020	-10	-21	-10	-12	-17	-17
2025	-7	-18	-7	-2	-4	7

Morning Peak Hour - 40c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	2	14	2	3	-2	5
2012	2	13	2	2	-3	3
2013	2	13	2	1	-4	1
2014	2	13	2	1	-5	-0
2015	2	13	2	0	-6	-2
2020	-12	-22	-12	-16	-24	-27
2025	-9	-20	-9	-7	-11	-3

Morning Peak Hour - 50c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	0	12	0	-2	-9	-5
2012	0	12	0	-2	-10	-6
2013	-0	12	0	-2	-11	-7
2014	0	12	0	-3	-11	-8
2015	0	13	0	-3	-12	-10
2020	-12	-18	-12	-16	-27	-30
2025	-12	-22	-12	-11	-19	-13

Morning Peak Hour - 60c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	-1	12	-1	-4	-13	-10
2012	-1	12	-1	-4	-15	-12
2013	-1	11	-1	-5	-16	-14
2014	-2	11	-2	-6	-17	-16
2015	-2	11	-2	-7	-18	-19
2020	-17	-27	-17	-25	-39	-48
2025	-14	-24	-14	-16	-26	-24

Morning Peak Hour - 70c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	-3	11	-2	-7	-19	-18
2012	-3	11	-3	-8	-20	-19
2013	-3	11	-3	-8	-21	-21
2014	-3	11	-3	-9	-22	-22
2015	-3	12	-3	-9	-23	-24
2020	-16	-22	-16	-26	-42	-52
2025	-16	-27	-16	-20	-33	-34

Afternoon Peak Hour - 30c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	-0	8	-0	-4	-10	-12
2012	-1	7	-1	-4	-11	-12
2013	-2	4	-2	-5	-11	-12
2014	-2	2	-2	-5	-11	-12
2015	-3	-1	-3	-5	-11	-11
2020	-5	-7	-5	-7	-13	-13
2025	-13	-32	-13	-11	-14	-9

Afternoon Peak Hour - 40c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	-2	7	-2	-8	-17	-21
2012	-3	5	-3	-8	-17	-21
2013	-3	4	-3	-8	-17	-20
2014	-4	2	-4	-8	-17	-19
2015	-4	0	-4	-8	-16	-18
2020	-9	-11	-9	-13	-22	-26
2025	-15	-34	-15	-16	-22	-19

Afternoon Peak Hour - 50c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	-3	7	-3	-10	-22	-27
2012	-4	5	-4	-11	-22	-28
2013	-5	3	-5	-12	-23	-28
2014	-6	0	-6	-12	-23	-28
2015	-7	-3	-7	-13	-24	-28
2020	-11	-15	-11	-19	-30	-37
2025	-15	-30	-16	-18	-27	-27

Afternoon Peak Hour - 60c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	-5	6	-5	-15	-29	-37
2012	-6	3	-6	-16	-30	-38
2013	-7	0	-7	-17	-31	-40
2014	-8	-3	-8	-18	-32	-40
2015	-10	-7	-10	-19	-33	-41
2020	-13	-15	-13	-22	-36	-45
2025	-18	-33	-18	-23	-35	-38

Afternoon Peak Hour - 70c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	-8	3	-8	-20	-36	-48
2012	-8	1	-8	-20	-37	-48
2013	-9	-1	-9	-21	-37	-48
2014	-10	-3	-10	-21	-38	-48
2015	-11	-6	-11	-21	-38	-48
2020	-16	-19	-16	-28	-45	-58
2025	-19	-32	-19	-26	-41	-46

Midday Off Peak - 30c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	9	23	9	17	19	39
2012	9	23	9	17	18	37
2013	9	25	9	16	17	35
2014	9	26	10	16	17	34
2015	10	28	10	16	16	32
2020	5	19	5	6	3	11
2025	-5	-6	-5	-7	-12	-12

Midday Off Peak - 40c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	7	22	8	14	14	33
2012	8	23	8	14	13	31
2013	8	24	8	14	12	29
2014	8	25	8	13	11	27
2015	8	27	9	13	11	26
2020	3	18	4	3	-3	3
2025	-7	-6	-7	-11	-20	-23

Midday Off Peak - 50c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	6	20	6	11	8	26
2012	6	21	6	11	7	24
2013	6	23	6	10	7	22
2014	6	24	7	10	6	20
2015	7	26	7	10	5	19
2020	2	18	2	-0	-8	-4
2025	-9	-10	-9	-16	-27	-33

Midday Off Peak - 60c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	4	19	4	9	3	20
2012	4	21	5	8	2	18
2013	5	22	5	8	1	16
2014	5	23	5	7	0	14
2015	5	25	6	7	-0	12
2020	1	17	1	-3	-14	-12
2025	-13	-17	-13	-23	-37	-47

Midday Off Peak - 70c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	3	19	3	6	-1	15
2012	3	20	3	5	-2	12
2013	3	21	3	5	-4	10
2014	4	23	4	4	-5	7
2015	4	24	4	4	-6	5
2020	-1	15	-1	-7	-20	-20
2025	-13	-11	-12	-23	-40	-51

Weekday Evening - 30c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	-3	-3	-3	-2	-6	-2
2012	-3	-3	-3	-2	-6	-2
2013	-3	-3	-3	-2	-6	-2
2014	-3	-3	-3	-3	-6	-2
2015	-3	-3	-3	-3	-6	-2
2020	-3	-3	-3	-2	-6	-2
2025	-3	-3	-3	-2	-6	-2

Weekday Evening - 40c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	-5	-5	-5	-7	-14	-12
2012	-5	-5	-5	-7	-14	-12
2013	-5	-5	-5	-7	-14	-12
2014	-5	-5	-5	-7	-14	-12
2015	-5	-5	-5	-7	-14	-12
2020	-5	-5	-5	-7	-14	-12
2025	-5	-5	-5	-7	-14	-12

Weekday Evening - 50c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	-8	-8	-8	-11	-21	-22
2012	-8	-8	-8	-11	-21	-22
2013	-8	-8	-8	-11	-21	-22
2014	-8	-8	-8	-12	-21	-22
2015	-8	-8	-8	-12	-21	-22
2020	-8	-8	-8	-12	-21	-22
2025	-8	-8	-8	-12	-21	-22

Weekday Evening - 60c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	-10	-10	-10	-16	-29	-33
2012	-10	-10	-10	-16	-29	-33
2013	-10	-10	-10	-16	-29	-33
2014	-10	-10	-10	-16	-29	-33
2015	-10	-10	-10	-16	-29	-33
2020	-10	-10	-10	-16	-29	-32
2025	-10	-10	-10	-16	-29	-33

Weekday Evening - 70c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	-12	-12	-12	-20	-36	-42
2012	-12	-12	-12	-20	-36	-42
2013	-12	-12	-12	-21	-36	-42
2014	-12	-12	-12	-21	-36	-42
2015	-12	-12	-12	-21	-36	-42
2020	-12	-12	-12	-21	-36	-43
2025	-12	-12	-12	-21	-37	-44

Weekend - 30c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	0	0	0	6	6	21
2012	1	1	1	8	9	26
2013	2	2	2	10	12	31
2014	2	3	2	12	14	36
2015	3	4	3	15	17	42
2020	7	9	7	25	32	68
2025	8	13	8	24	29	62

Weekend - 40c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	-2	-2	-2	2	-1	11
2012	-1	-1	-1	4	1	16
2013	-1	-0	-1	6	4	21
2014	-0	0	0	8	7	26
2015	1	1	1	10	10	32
2020	6	7	6	23	28	64
2025	7	12	7	23	28	62

Weekend - 50c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	-4	-4	-4	-3	-9	1
2012	-4	-3	-4	-1	-6	6
2013	-3	-3	-3	1	-3	11
2014	-2	-2	-2	3	-0	16
2015	-1	-1	-1	6	3	22
2020	4	6	4	20	23	58
2025	7	12	7	23	26	63

Weekend - 60c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	-7	-6	-7	-7	-16	-10
2012	-6	-6	-6	-5	-13	-5
2013	-5	-5	-5	-3	-11	0
2014	-5	-4	-5	-1	-8	6
2015	-4	-3	-4	1	-5	12
2020	2	4	2	17	17	51
2025	6	12	6	23	25	64

Weekend - 70c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	-9	-9	-9	-12	-24	-20
2012	-8	-8	-8	-10	-21	-15
2013	-8	-7	-8	-8	-18	-10
2014	-7	-6	-7	-6	-15	-5
2015	-6	-5	-6	-4	-12	1
2020	0	2	0	14	12	45
2025	5	11	5	22	23	63

N3: Geldenhuys Interchange to Barry Marais (Southbound)

Morning Peak Hour - 30c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	5	5	5	19	25	52
2012	5	5	5	19	25	53
2013	5	5	5	19	25	53
2014	5	5	5	19	25	53
2015	5	5	5	19	24	52
2020	4	4	4	16	20	45
2025	4	4	4	16	20	45

Morning Peak Hour - 40c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	3	3	3	16	20	45
2012	3	4	3	16	20	46
2013	4	4	4	16	20	46
2014	4	4	4	16	20	47
2015	4	4	4	16	20	46
2020	2	3	2	13	16	39
2025	3	3	3	14	18	42

Morning Peak Hour - 50c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	2	2	2	13	16	40
2012	2	2	2	13	16	40
2013	2	2	2	14	16	40
2014	2	2	2	14	16	40
2015	2	2	2	14	16	40
2020	1	1	1	11	12	33
2025	2	1	2	12	14	37

Morning Peak Hour - 60c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	1	1	1	10	11	34
2012	1	1	1	11	11	34
2013	1	1	1	11	11	35
2014	1	1	1	11	11	35
2015	1	1	1	11	12	36
2020	-0	-0	-0	8	7	28
2025	-0	-0	-0	8	8	29

Morning Peak Hour - 70c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	-1	-1	-1	8	7	28
2012	-1	-1	-1	8	7	28
2013	-1	-0	-1	8	7	29
2014	-1	-0	-1	8	7	29
2015	-1	-0	-1	8	7	29
2020	-2	-2	-2	5	2	21
2025	-1	-1	-1	7	6	27

Afternoon Peak Hour - 30c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	17	22	17	49	65	126
2012	18	24	18	51	68	130
2013	19	26	19	52	70	133
2014	20	29	20	53	71	135
2015	21	32	21	55	73	137
2020	32	49	33	81	108	200
2025	38	74	39	77	99	175

Afternoon Peak Hour - 40c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	16	22	16	47	63	123
2012	17	23	17	49	65	127
2013	18	25	18	50	67	129
2014	19	28	19	51	68	130
2015	20	30	20	52	69	132
2020	31	47	31	78	103	192
2025	39	78	40	79	101	179

Afternoon Peak Hour - 50c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	15	21	15	45	59	118
2012	16	23	16	47	62	122
2013	17	25	17	49	64	126
2014	18	27	18	50	65	128
2015	19	30	19	51	66	130
2020	30	46	30	75	99	187
2025	37	75	37	73	92	166

Afternoon Peak Hour - 60c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	14	20	14	44	56	115
2012	15	22	15	46	59	119
2013	16	24	16	47	61	122
2014	17	26	17	48	62	124
2015	18	29	18	49	63	125
2020	29	46	29	74	96	185
2025	38	79	38	74	91	165

Afternoon Peak Hour - 70c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	13	19	13	42	53	112
2012	14	22	15	44	56	117
2013	16	24	16	46	58	120
2014	17	27	17	47	60	122
2015	18	31	18	49	61	124
2020	27	44	27	71	92	178
2025	35	75	36	70	86	159

Midday Off Peak - 30c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	7	7	7	23	31	64
2012	7	7	7	24	32	65
2013	7	8	7	25	32	66
2014	7	8	7	25	33	68
2015	8	9	8	26	34	70
2020	10	12	10	33	45	89
2025	18	21	18	52	70	134

Midday Off Peak - 40c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	5	6	5	21	27	58
2012	6	6	6	22	27	60
2013	6	7	6	22	28	61
2014	6	7	6	23	29	63
2015	6	8	6	24	31	66
2020	9	11	9	31	41	84
2025	17	21	17	50	67	131

Midday Off Peak - 50c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	4	5	4	18	22	52
2012	4	5	4	19	23	54
2013	4	5	4	19	24	55
2014	5	6	5	20	25	57
2015	5	6	5	21	26	60
2020	8	10	8	29	37	80
2025	15	19	15	47	62	124

Midday Off Peak - 60c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	3	3	3	16	18	47
2012	3	4	3	16	19	49
2013	3	4	3	17	20	50
2014	3	5	3	18	21	51
2015	4	5	4	19	22	54
2020	7	9	7	27	34	75
2025	13	16	13	43	56	115

Midday Off Peak - 70c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	1	2	1	13	14	41
2012	2	2	2	14	15	43
2013	2	3	2	15	15	44
2014	2	3	2	15	16	46
2015	3	4	3	16	18	49
2020	6	8	6	25	31	72
2025	13	17	13	43	55	115

Weekday Evening - 30c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	4	4	4	17	22	48
2012	4	4	4	17	22	48
2013	4	4	4	17	22	48
2014	4	4	4	17	22	48
2015	4	4	4	17	22	48
2020	4	4	4	17	22	48
2025	4	4	4	17	22	48

Weekday Evening - 40c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	3	3	3	14	17	41
2012	3	3	3	14	17	41
2013	3	3	3	14	17	41
2014	3	3	3	14	17	42
2015	3	3	3	14	17	42
2020	3	3	3	14	17	42
2025	3	3	3	14	18	42

Weekday Evening - 50c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	2	2	2	13	15	40
2012	2	2	2	13	15	40
2013	2	2	2	13	15	40
2014	2	2	2	13	15	40
2015	2	2	2	13	15	40
2020	2	2	2	13	15	40
2025	2	2	2	12	14	38

Weekday Evening - 60c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	0	0	0	10	11	34
2012	0	0	0	10	11	34
2013	0	0	0	10	11	34
2014	1	1	1	11	11	34
2015	1	1	1	11	11	34
2020	1	1	1	11	11	34
2025	1	1	1	11	11	34

Weekday Evening - 70c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	-1	-1	-1	8	7	30
2012	-1	-1	-1	9	7	30
2013	-1	-1	-1	9	7	30
2014	-1	-1	-1	9	8	30
2015	-1	-1	-1	9	8	31
2020	-1	-1	-1	9	8	31
2025	-1	-1	-1	9	8	30

Weekend - 30c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	4	4	4	15	19	43
2012	4	4	4	15	19	43
2013	4	4	4	15	19	43
2014	4	4	4	15	19	43
2015	4	4	4	15	19	43
2020	4	4	4	16	21	46
2025	4	4	4	16	20	44

Weekend - 40c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	2	2	2	12	14	35
2012	2	2	2	12	14	35
2013	2	2	2	12	14	35
2014	2	2	2	12	14	36
2015	2	2	2	12	14	36
2020	2	2	2	13	16	38
2025	2	2	2	13	15	37

Weekend - 50c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	0	0	0	9	9	28
2012	0	0	0	9	9	28
2013	0	0	0	9	9	28
2014	0	0	0	9	9	29
2015	0	0	0	9	9	29
2020	1	1	1	10	11	31
2025	1	1	1	10	10	30

Weekend - 60c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	-1	-1	-1	6	4	21
2012	-1	-1	-1	6	4	21
2013	-1	-1	-1	6	4	22
2014	-1	-1	-1	6	4	22
2015	-1	-1	-1	6	4	22
2020	-1	-1	-1	7	6	24
2025	-1	-1	-1	7	5	24

Weekend - 70c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	-3	-3	-3	3	-1	15
2012	-3	-3	-3	3	-1	15
2013	-3	-3	-3	3	-1	15
2014	-3	-3	-3	3	-1	15
2015	-3	-3	-3	3	-0	16
2020	-2	-2	-2	4	1	18
2025	-2	-2	-2	4	0	17

N3: Geldenhuys to Barry Marais (Northbound)

Morning Peak Hour - 30c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	13	16	13	39	54	102
2012	14	17	14	42	57	108
2013	15	19	16	44	61	114
2014	17	20	17	47	64	120
2015	18	22	18	49	67	126
2020	27	36	27	72	98	181
2025	40	70	40	87	115	204

Morning Peak Hour - 40c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	13	15	13	38	52	99
2012	14	16	14	40	55	105
2013	15	18	15	43	58	111
2014	16	19	16	45	62	117
2015	17	21	17	48	65	123
2020	28	40	28	73	99	183
2025	41	72	41	88	116	206

Morning Peak Hour - 50c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	13	16	13	39	53	103
2012	14	17	14	41	56	108
2013	15	18	15	43	59	113
2014	16	20	16	45	61	117
2015	17	21	17	47	64	121
2020	27	38	27	70	95	176
2025	39	70	40	86	113	201

Morning Peak Hour - 60c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	13	15	13	38	51	101
2012	14	17	14	41	55	108
2013	15	18	15	43	58	113
2014	16	20	16	45	61	118
2015	17	22	17	48	64	123
2020	26	37	26	70	94	176
2025	39	70	39	85	111	199

Morning Peak Hour - 70c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	12	15	12	37	49	97
2012	13	17	13	40	54	105
2013	14	18	14	42	57	111
2014	15	19	15	44	59	116
2015	16	21	16	46	62	120
2020	26	38	27	70	93	175
2025	38	69	38	82	107	193

Afternoon Peak Hour - 30c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	8	8	8	24	33	65
2012	8	8	8	24	33	65
2013	8	8	8	25	34	66
2014	8	8	8	25	34	66
2015	8	8	8	25	34	66
2020	9	9	9	28	38	74
2025	10	9	10	33	45	87

Afternoon Peak Hour - 40c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	7	7	7	24	32	64
2012	7	7	7	24	32	64
2013	7	7	7	24	32	63
2014	7	7	7	24	32	63
2015	7	7	7	23	32	63
2020	8	9	8	27	37	72
2025	10	10	10	34	46	89

Afternoon Peak Hour - 50c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	7	7	7	23	31	63
2012	7	7	7	23	31	62
2013	7	7	7	23	30	62
2014	7	7	7	23	30	61
2015	7	7	7	23	30	61
2020	8	8	8	26	34	69
2025	9	8	9	31	41	82

Afternoon Peak Hour - 60c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	6	6	6	22	29	60
2012	6	6	6	22	29	60
2013	6	6	6	22	28	59
2014	6	6	6	21	28	59
2015	6	6	6	21	28	58
2020	7	8	7	25	33	67
2025	9	8	9	30	40	81

Afternoon Peak Hour - 70c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	6	6	6	21	28	59
2012	6	6	6	21	27	59
2013	6	6	6	21	27	58
2014	6	6	6	21	27	58
2015	6	6	6	21	27	58
2020	6	7	6	23	30	64
2025	8	8	8	29	39	80

Midday Off Peak - 30c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	7	8	7	24	33	64
2012	8	8	8	24	33	65
2013	8	8	8	25	34	66
2014	8	8	8	25	35	68
2015	8	8	8	26	36	69
2020	8	9	8	27	37	71
2025	9	10	9	29	40	77

Midday Off Peak - 40c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	7	7	7	23	31	63
2012	7	7	7	24	32	63
2013	7	8	7	24	32	64
2014	7	8	7	25	33	66
2015	8	8	8	25	34	67
2020	8	9	8	27	36	71
2025	9	9	9	28	38	74

Midday Off Peak - 50c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	6	6	6	22	29	59
2012	6	7	6	22	30	60
2013	7	7	7	23	30	62
2014	7	7	7	23	31	63
2015	7	7	7	24	32	65
2020	8	8	8	26	35	69
2025	9	9	9	28	37	75

Midday Off Peak - 60c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	6	6	6	21	27	57
2012	6	6	6	21	28	58
2013	6	6	6	22	29	60
2014	6	7	6	22	30	61
2015	6	7	6	23	30	63
2020	7	8	7	25	34	69
2025	8	9	8	27	35	72

Midday Off Peak - 70c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	5	5	5	20	25	54
2012	5	5	5	20	26	55
2013	5	6	5	21	26	57
2014	6	6	6	21	27	58
2015	6	6	6	22	28	60
2020	7	7	7	24	32	67
2025	8	9	8	27	35	72

Weekday Evening - 30c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	6	6	6	21	29	57
2012	6	6	6	21	29	57
2013	6	6	6	21	29	58
2014	6	6	6	21	29	58
2015	6	6	6	21	29	58
2020	6	6	6	21	29	58
2025	6	6	6	21	29	57

Weekday Evening - 40c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	6	6	6	20	27	55
2012	6	6	6	20	27	55
2013	6	6	6	20	27	55
2014	6	6	6	20	27	55
2015	6	6	6	20	27	55
2020	6	6	6	20	27	55
2025	6	6	6	20	27	54

Weekday Evening - 50c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	5	5	5	19	25	51
2012	5	5	5	19	25	51
2013	5	5	5	19	25	51
2014	5	5	5	19	25	51
2015	5	5	5	19	25	51
2020	5	5	5	19	25	51
2025	5	5	5	19	24	51

Weekday Evening - 60c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	4	4	4	17	22	48
2012	4	4	4	17	22	48
2013	4	4	4	17	22	48
2014	4	4	4	17	22	49
2015	4	4	4	17	23	49
2020	4	4	4	17	22	48
2025	4	4	4	17	22	48

Weekday Evening - 70c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	3	3	3	15	19	43
2012	3	3	3	15	19	43
2013	3	3	3	15	19	43
2014	3	3	3	15	19	44
2015	3	3	3	15	19	44
2020	3	3	3	15	19	44
2025	3	3	3	15	19	44

Weekend - 30c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	6	6	6	20	27	54
2012	6	6	6	20	27	54
2013	6	6	6	20	27	54
2014	6	6	6	20	27	54
2015	6	6	6	20	27	54
2020	7	7	7	22	30	59
2025	7	7	7	23	32	63

Weekend - 40c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	5	5	5	18	25	50
2012	5	5	5	18	25	50
2013	5	5	5	18	25	50
2014	5	5	5	18	25	50
2015	5	5	5	18	25	50
2020	6	6	6	20	27	55
2025	6	7	6	22	30	60

Weekend - 50c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	4	4	4	17	22	46
2012	4	4	4	17	22	46
2013	4	4	4	17	22	46
2014	4	4	4	17	22	46
2015	4	4	4	17	22	47
2020	5	5	5	19	25	51
2025	6	6	6	21	28	58

Weekend - 60c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	4	4	4	15	19	43
2012	4	4	4	15	19	43
2013	4	4	4	15	19	43
2014	4	4	4	15	19	43
2015	4	4	4	15	19	43
2020	4	4	4	17	22	47
2025	5	5	5	20	26	55

Weekend - 70c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	3	3	3	14	17	39
2012	3	3	3	14	17	39
2013	3	3	3	14	17	39
2014	3	3	3	14	17	39
2015	3	3	3	14	17	39
2020	3	3	3	15	19	44
2025	5	5	5	19	24	52

N14: Jan Smuts to Brakfontein (Northbound)

Morning Peak Hour - 30c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	18	27	18	43	59	104
2012	19	30	19	44	60	105
2013	21	34	21	45	61	106
2014	23	41	23	47	63	108
2015	26	52	27	50	65	109
2020	16	35	17	28	36	60
2025	8	13	8	20	27	48

Morning Peak Hour - 40c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	18	27	18	43	59	104
2012	19	30	19	44	60	106
2013	21	35	21	46	61	108
2014	23	41	23	48	64	110
2015	27	52	27	50	66	111
2020	16	33	16	28	35	58
2025	10	15	10	22	30	54

Morning Peak Hour - 50c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	18	26	18	42	58	103
2012	19	30	19	44	59	105
2013	21	34	21	45	61	107
2014	23	41	23	48	63	110
2015	27	52	27	50	66	111
2020	16	34	16	28	36	58
2025	8	13	8	20	27	48

Morning Peak Hour - 60c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	17	26	17	41	56	99
2012	18	29	18	42	57	101
2013	20	33	20	44	59	103
2014	23	40	23	46	62	106
2015	26	51	26	49	64	108
2020	17	35	17	28	36	60
2025	9	14	9	21	28	50

Morning Peak Hour - 70c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	17	25	17	40	54	97
2012	18	29	18	42	56	100
2013	20	33	20	44	59	103
2014	23	40	23	47	62	107
2015	27	52	27	50	65	110
2020	16	34	16	28	35	58
2025	9	15	9	22	30	53

Afternoon Peak Hour - 30c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	13	23	13	25	34	58
2012	12	23	12	25	33	56
2013	12	23	12	24	31	54
2014	12	22	12	23	30	52
2015	11	22	12	22	30	50
2020	8	10	8	20	27	49
2025	17	30	17	34	45	78

Afternoon Peak Hour - 40c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	14	27	14	28	37	63
2012	14	27	14	27	36	61
2013	14	27	14	26	35	59
2014	14	27	14	26	34	56
2015	14	28	14	25	32	54
2020	8	10	8	20	27	49
2025	16	29	16	33	44	76

Afternoon Peak Hour - 50c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	12	23	12	25	33	56
2012	13	23	13	25	33	56
2013	13	25	13	25	33	56
2014	13	26	13	25	33	55
2015	14	28	14	26	33	55
2020	8	10	8	20	27	50
2025	17	31	17	34	45	78

Afternoon Peak Hour - 60c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	14	26	14	27	36	61
2012	14	26	14	26	35	59
2013	13	26	14	26	34	57
2014	13	26	13	25	33	56
2015	13	26	13	25	32	54
2020	7	10	7	18	25	46
2025	17	31	17	34	45	77

Afternoon Peak Hour - 70c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	11	20	11	23	30	52
2012	12	21	12	23	31	52
2013	12	23	12	24	31	53
2014	13	25	13	24	31	53
2015	13	27	14	25	32	54
2020	7	10	7	19	26	47
2025	17	30	17	34	44	76

Midday Off Peak - 30c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	14	20	14	35	47	85
2012	14	21	14	35	47	85
2013	14	21	14	35	47	85
2014	15	22	15	35	47	84
2015	15	22	15	35	47	84
2020	17	27	17	37	50	89
2025	19	39	19	34	44	74

Midday Off Peak - 40c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	14	19	14	33	46	82
2012	14	20	14	34	46	82
2013	14	21	14	34	46	82
2014	14	21	14	34	46	82
2015	14	22	15	34	46	82
2020	17	27	17	37	50	89
2025	19	38	19	34	44	73

Midday Off Peak - 50c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	13	19	14	33	45	81
2012	14	20	14	33	45	81
2013	14	20	14	33	46	81
2014	14	21	14	34	46	82
2015	14	22	14	34	46	82
2020	16	27	17	37	50	88
2025	19	38	19	34	44	74

Midday Off Peak - 60c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	13	19	13	33	45	81
2012	14	20	14	33	45	81
2013	14	20	14	33	45	81
2014	14	21	14	33	46	81
2015	14	22	14	34	46	82
2020	16	26	16	36	49	86
2025	20	40	20	35	46	76

Midday Off Peak - 70c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	13	19	13	32	44	79
2012	13	19	13	32	44	79
2013	14	20	14	33	45	80
2014	14	21	14	33	45	80
2015	14	21	14	33	45	80
2020	16	26	16	37	49	87
2025	20	42	21	36	47	78

Weekday Evening - 30c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	3	3	3	8	11	21
2012	3	3	3	8	11	21
2013	3	3	3	8	11	21
2014	3	3	3	8	11	21
2015	3	3	3	8	11	21
2020	3	3	3	8	11	21
2025	3	3	3	8	11	21

Weekday Evening - 40c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	3	3	3	8	11	21
2012	3	3	3	8	11	21
2013	3	3	3	8	11	21
2014	3	3	3	8	11	21
2015	3	3	3	8	11	21
2020	3	3	3	8	11	21
2025	3	3	3	8	11	21

Weekday Evening - 50c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	3	3	3	8	11	21
2012	3	3	3	8	11	21
2013	3	3	3	8	11	21
2014	3	3	3	8	11	21
2015	3	3	3	8	11	21
2020	3	3	3	8	11	21
2025	3	3	3	8	11	21

Weekday Evening - 60c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	3	3	3	8	11	21
2012	3	3	3	8	11	21
2013	3	3	3	8	11	21
2014	3	3	3	8	11	21
2015	3	3	3	8	11	21
2020	3	3	3	8	11	21
2025	3	3	3	8	11	21

Weekday Evening - 70c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	3	3	3	8	11	21
2012	3	3	3	8	11	21
2013	3	3	3	8	11	21
2014	3	3	3	8	11	21
2015	3	3	3	8	11	21
2020	3	3	3	8	11	21
2025	3	3	3	8	11	21

Weekend - 30c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	5	5	5	15	21	38
2012	6	6	6	16	23	42
2013	6	6	6	18	25	46
2014	7	7	7	20	27	50
2015	7	8	7	21	30	55
2020	10	11	10	29	40	73
2025	13	15	13	34	48	87

Weekend - 40c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	5	5	5	15	21	38
2012	6	6	6	16	23	42
2013	6	6	6	18	25	46
2014	7	7	7	20	27	50
2015	7	8	7	21	30	54
2020	10	11	10	28	40	73
2025	12	15	12	34	47	85

Weekend - 50c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	5	5	5	15	21	38
2012	6	6	6	16	23	42
2013	6	6	6	18	25	46
2014	7	7	7	20	27	50
2015	7	8	7	21	29	54
2020	10	11	10	28	39	72
2025	12	15	12	34	47	85

Weekend - 60c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	5	5	5	15	21	38
2012	6	6	6	16	23	42
2013	6	6	6	18	25	46
2014	7	7	7	19	27	50
2015	7	8	7	21	29	54
2020	10	11	10	27	38	70
2025	12	15	12	33	46	84

Weekend - 70c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	5	5	5	15	21	38
2012	6	6	6	16	23	42
2013	6	6	6	18	25	46
2014	7	7	7	19	27	50
2015	7	8	7	21	29	53
2020	10	10	10	27	38	70
2025	12	14	12	32	44	80

N14: Jan Smuts to Brakfontein (Southbound)

Morning Peak Hour - 30c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	17	34	17	32	42	70
2012	17	33	17	31	40	68
2013	16	33	17	30	39	65
2014	16	32	16	29	38	63
2015	16	31	16	28	36	60
2020	16	32	16	28	36	60
2025	13	23	13	27	35	61

Morning Peak Hour - 40c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	17	34	17	31	41	68
2012	17	33	17	30	39	66
2013	16	32	16	30	38	64
2014	16	32	16	29	37	62
2015	15	31	16	28	36	60
2020	17	34	17	30	38	64
2025	15	28	15	29	38	64

Morning Peak Hour - 50c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	17	34	17	32	42	70
2012	17	33	17	31	40	67
2013	16	32	16	30	39	65
2014	16	31	16	29	37	63
2015	15	30	15	28	36	60
2020	15	31	16	28	36	60
2025	14	26	14	27	35	60

Morning Peak Hour - 60c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	19	37	19	35	45	76
2012	18	36	18	33	43	72
2013	17	34	17	31	41	68
2014	16	32	16	30	38	64
2015	15	31	15	28	36	60
2020	18	36	18	31	40	66
2025	11	19	11	23	31	55

Morning Peak Hour - 70c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	18	37	19	34	44	73
2012	18	36	18	33	43	72
2013	18	35	18	32	42	70
2014	17	35	18	32	41	68
2015	17	34	17	31	40	67
2020	14	28	14	25	33	54
2025	13	23	13	27	36	62

Afternoon Peak Hour - 30c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	19	31	19	42	57	100
2012	20	33	20	42	57	99
2013	21	36	21	43	57	99
2014	22	40	22	43	57	97
2015	23	46	24	43	56	95
2020	8	13	8	19	26	46
2025	8	13	8	18	25	44

Afternoon Peak Hour - 40c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	19	31	19	42	57	100
2012	20	33	20	43	57	100
2013	21	37	21	43	58	100
2014	22	41	22	44	58	99
2015	24	47	24	44	58	97
2020	9	15	9	19	26	46
2025	8	14	8	19	25	45

Afternoon Peak Hour - 50c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	19	31	19	42	57	100
2012	20	33	20	43	57	100
2013	21	37	21	43	58	100
2014	22	41	22	44	58	99
2015	24	48	24	44	58	97
2020	10	18	10	21	28	49
2025	8	14	8	19	25	44

Afternoon Peak Hour - 60c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	19	30	19	41	56	98
2012	19	33	20	42	56	98
2013	21	36	21	43	57	98
2014	22	41	22	43	57	97
2015	24	47	24	44	57	96
2020	11	21	11	22	29	50
2025	8	13	8	18	24	43

Afternoon Peak Hour - 70c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	19	31	19	42	57	100
2012	20	33	20	42	57	99
2013	21	36	21	43	57	99
2014	22	40	22	43	57	97
2015	24	46	24	43	57	95
2020	13	26	13	24	31	52
2025	9	15	9	20	27	47

Midday Off Peak - 30c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	14	19	14	34	47	84
2012	14	21	14	35	48	85
2013	15	22	15	35	48	86
2014	15	23	15	36	49	88
2015	16	25	16	37	50	89
2020	23	45	24	45	59	100
2025	11	21	11	22	30	51

Midday Off Peak - 40c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	14	19	14	34	47	84
2012	14	21	14	35	48	85
2013	15	22	15	35	48	86
2014	15	23	15	36	49	87
2015	16	25	16	37	50	88
2020	24	45	24	46	60	101
2025	11	20	11	22	29	49

Midday Off Peak - 50c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	14	19	14	34	47	84
2012	14	20	14	34	47	84
2013	15	21	15	35	48	85
2014	15	23	15	35	48	86
2015	16	24	16	36	49	87
2020	24	45	24	45	60	101
2025	11	21	12	23	30	52

Midday Off Peak - 60c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	14	19	14	34	47	84
2012	14	20	14	35	47	85
2013	15	22	15	35	48	86
2014	15	23	15	36	49	86
2015	16	25	16	36	49	87
2020	24	45	24	45	60	101
2025	12	24	13	24	31	53

Midday Off Peak - 70c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	14	19	14	34	47	84
2012	14	20	14	35	47	85
2013	15	22	15	35	48	86
2014	15	23	15	36	49	87
2015	16	25	16	36	49	88
2020	23	44	23	45	59	99
2025	11	21	11	22	29	50

Weekday Evening - 30c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	3	3	3	8	11	21
2012	3	3	3	8	11	21
2013	3	3	3	8	11	21
2014	3	3	3	8	11	21
2015	3	3	3	8	11	21
2020	3	3	3	8	11	21
2025	3	3	3	8	11	21

Weekday Evening - 40c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	3	3	3	8	11	21
2012	3	3	3	8	11	21
2013	3	3	3	8	11	21
2014	3	3	3	8	11	21
2015	3	3	3	8	11	21
2020	3	3	3	8	11	21
2025	3	3	3	8	11	21

Weekday Evening - 50c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	3	3	3	8	11	21
2012	3	3	3	8	11	21
2013	3	3	3	8	11	21
2014	3	3	3	8	11	21
2015	3	3	3	8	11	21
2020	3	3	3	8	11	21
2025	3	3	3	8	11	21

Weekday Evening - 60c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	3	3	3	8	11	21
2012	3	3	3	8	11	21
2013	3	3	3	8	11	21
2014	3	3	3	8	11	21
2015	3	3	3	8	11	21
2020	3	3	3	8	11	21
2025	3	3	3	8	11	21

Weekday Evening - 70c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	3	3	3	8	11	21
2012	3	3	3	8	11	21
2013	3	3	3	8	11	21
2014	3	3	3	8	11	21
2015	3	3	3	8	11	21
2020	3	3	3	8	11	21
2025	3	3	3	8	11	21

Weekend - 30c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	4	4	4	12	17	32
2012	4	5	4	13	18	34
2013	5	5	5	14	19	35
2014	5	5	5	14	20	37
2015	5	5	5	15	21	38
2020	7	7	7	19	27	50
2025	9	10	9	25	35	65

Weekend - 40c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	4	4	4	12	17	32
2012	4	5	4	13	18	34
2013	5	5	5	14	19	35
2014	5	5	5	14	20	37
2015	5	5	5	15	21	38
2020	7	7	7	19	27	50
2025	9	9	9	25	35	64

Weekend - 50c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	4	4	4	12	17	32
2012	4	5	4	13	18	34
2013	5	5	5	14	19	35
2014	5	5	5	14	20	37
2015	5	5	5	15	21	38
2020	7	7	7	19	27	50
2025	9	9	9	25	35	64

Weekend - 60c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	4	4	4	12	17	32
2012	4	5	4	13	18	34
2013	5	5	5	14	19	35
2014	5	5	5	14	20	37
2015	5	5	5	15	21	38
2020	7	7	7	19	27	50
2025	9	9	9	25	35	64

Weekend - 70c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	4	4	4	12	17	32
2012	4	5	4	13	18	34
2013	5	5	5	14	19	35
2014	5	5	5	14	20	37
2015	5	5	5	15	21	38
2020	7	7	7	19	27	49
2025	9	9	9	25	34	63

N14: Brakfontein to Hendrick Potgieter (Westbound)

Morning Peak Hour - 30c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	38	49	38	99	137	249
2012	39	52	39	101	139	251
2013	40	54	40	102	140	253
2014	42	58	42	103	142	255
2015	43	62	43	105	144	258
2020	43	66	43	99	135	239
2025	60	103	60	127	170	296

Morning Peak Hour - 40c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	37	48	38	98	135	244
2012	39	51	39	99	137	247
2013	40	54	40	101	139	250
2014	41	58	42	103	141	254
2015	43	62	43	105	144	257
2020	41	64	42	97	131	233
2025	59	102	59	125	167	291

Morning Peak Hour - 50c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	38	48	38	98	136	246
2012	39	51	39	99	137	248
2013	40	54	40	101	139	250
2014	41	58	41	102	141	252
2015	43	62	43	104	143	255
2020	42	64	42	98	132	235
2025	59	102	60	126	168	293

Morning Peak Hour - 60c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	37	48	38	98	135	245
2012	38	51	39	99	136	246
2013	40	53	40	100	138	248
2014	41	57	41	102	139	250
2015	42	61	42	103	141	253
2020	41	62	41	95	130	230
2025	59	102	60	126	168	292

Morning Peak Hour - 70c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	37	48	37	96	133	241
2012	38	50	38	98	135	243
2013	39	53	39	99	137	246
2014	41	57	41	101	139	249
2015	42	61	42	103	141	252
2020	41	63	42	97	132	234
2025	57	98	57	122	163	283

Afternoon Peak Hour - 30c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	35	50	35	84	115	206
2012	37	55	37	87	119	212
2013	39	61	40	91	123	219
2014	43	70	43	95	128	225
2015	48	83	48	100	133	230
2020	51	99	51	97	127	215
2025	19	25	19	51	70	127

Afternoon Peak Hour - 40c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	34	49	34	83	114	204
2012	36	54	36	86	118	210
2013	39	61	39	90	123	217
2014	43	70	43	94	127	223
2015	47	83	48	99	132	229
2020	48	91	48	92	121	205
2025	19	24	19	50	69	125

Afternoon Peak Hour - 50c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	34	49	34	82	112	201
2012	36	54	36	85	116	207
2013	39	61	39	89	121	215
2014	42	69	42	93	125	220
2015	47	82	47	98	130	226
2020	48	92	48	92	121	204
2025	18	23	18	49	68	124

Afternoon Peak Hour - 60c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	33	48	33	81	110	197
2012	35	53	36	84	115	204
2013	38	60	38	88	120	212
2014	42	69	42	92	124	218
2015	46	82	47	97	129	224
2020	47	91	48	91	119	202
2025	18	23	18	49	67	123

Afternoon Peak Hour - 70c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	33	47	33	79	108	194
2012	35	52	35	83	113	201
2013	38	59	38	87	119	210
2014	41	68	41	91	123	215
2015	46	81	46	96	128	222
2020	46	88	46	89	116	197
2025	20	26	20	52	72	131

Midday Off Peak - 30c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	14	16	14	40	56	102
2012	19	22	19	53	74	135
2013	23	27	23	63	88	161
2014	27	31	27	72	101	183
2015	29	35	29	79	110	200
2020	39	58	39	92	126	224
2025	55	110	56	102	132	221

Midday Off Peak - 40c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	14	16	14	40	56	103
2012	19	22	19	53	74	135
2013	23	27	23	62	87	159
2014	26	31	26	71	99	181
2015	29	35	29	79	109	199
2020	38	57	38	91	124	222
2025	55	111	56	102	132	221

Midday Off Peak - 50c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	15	17	15	41	57	105
2012	18	21	18	51	71	130
2013	22	26	22	61	85	155
2014	26	31	26	70	98	178
2015	29	35	29	78	108	198
2020	38	57	38	90	123	219
2025	54	108	55	99	129	216

Midday Off Peak - 60c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	14	16	14	40	56	103
2012	18	21	18	50	70	128
2013	22	26	22	60	84	153
2014	26	30	26	70	97	177
2015	29	35	29	78	108	197
2020	37	56	37	89	121	215
2025	53	106	54	98	127	213

Midday Off Peak - 70c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	14	16	14	39	55	101
2012	18	21	18	49	69	126
2013	22	25	22	59	83	151
2014	25	30	25	69	96	174
2015	29	35	29	77	107	195
2020	37	55	37	87	119	211
2025	52	104	53	96	124	208

Weekday Evening - 30c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	9	10	9	25	35	65
2012	9	10	9	25	35	65
2013	9	10	9	25	35	65
2014	9	10	9	25	35	65
2015	9	10	9	25	35	65
2020	9	10	9	25	35	65
2025	9	10	9	25	35	64

Weekday Evening - 40c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	9	10	9	25	36	65
2012	9	10	9	25	36	65
2013	9	10	9	25	36	65
2014	9	10	9	25	36	65
2015	9	10	9	25	36	65
2020	9	10	9	25	35	65
2025	9	10	9	25	35	64

Weekday Evening - 50c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	9	10	9	26	36	67
2012	9	10	9	26	36	67
2013	9	10	9	26	36	67
2014	9	10	9	26	36	67
2015	9	10	9	26	36	67
2020	9	10	9	26	36	66
2025	9	10	9	25	35	65

Weekday Evening - 60c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	9	10	9	26	37	68
2012	9	10	9	26	37	68
2013	9	10	9	26	37	68
2014	9	10	9	26	37	68
2015	9	10	9	26	37	68
2020	9	10	9	26	37	68
2025	9	10	9	26	36	66

Weekday Evening - 70c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	10	11	10	27	38	70
2012	10	11	10	27	38	70
2013	10	11	10	27	38	70
2014	10	11	10	27	38	70
2015	10	11	10	27	38	70
2020	10	11	10	27	38	70
2025	9	11	9	27	38	70

Weekend - 30c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	9	10	9	25	36	65
2012	9	10	9	25	36	65
2013	9	10	9	25	35	65
2014	9	10	9	25	35	65
2015	9	10	9	25	35	65
2020	9	10	9	26	36	66
2025	9	11	9	25	35	63

Weekend - 40c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	9	10	9	26	36	66
2012	9	10	9	26	36	66
2013	9	10	9	26	36	66
2014	9	10	9	26	36	66
2015	9	10	9	26	36	66
2020	9	10	9	26	36	66
2025	9	11	9	25	35	63

Weekend - 50c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	9	10	9	26	36	67
2012	9	10	9	26	36	67
2013	9	10	9	26	36	67
2014	9	10	9	26	36	67
2015	9	10	9	26	36	67
2020	9	10	9	26	36	66
2025	9	11	9	25	35	64

Weekend - 60c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	9	10	9	26	36	67
2012	9	10	9	26	36	67
2013	9	10	9	26	36	67
2014	9	10	9	26	36	67
2015	9	10	9	26	36	67
2020	9	10	9	26	36	66
2025	9	11	9	25	35	64

Weekend - 70c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	9	10	9	27	37	68
2012	9	10	9	27	37	68
2013	9	10	9	26	37	68
2014	9	10	9	26	37	68
2015	9	10	9	26	37	68
2020	9	10	9	26	37	67
2025	9	11	9	25	35	64

N14: Brakfontein to Hendrick Potgieter (Eastbound)

Morning Peak Hour - 30c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	46	83	46	94	125	215
2012	47	86	48	96	127	219
2013	49	90	49	99	130	224
2014	51	95	51	101	134	229
2015	54	101	54	105	138	234
2020	60	114	60	116	152	258
2025	42	68	42	93	126	221

Morning Peak Hour - 40c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	45	82	46	92	122	211
2012	46	85	47	94	125	215
2013	48	88	48	96	127	219
2014	50	92	50	99	130	223
2015	52	99	53	102	134	228
2020	59	111	60	115	152	258
2025	42	68	42	93	126	222

Morning Peak Hour - 50c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	45	81	45	91	121	208
2012	46	84	46	93	124	213
2013	48	87	48	96	126	217
2014	49	92	50	98	129	221
2015	52	98	52	101	133	227
2020	60	114	61	118	155	263
2025	42	68	42	94	126	222

Morning Peak Hour - 60c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	45	81	45	91	120	207
2012	46	84	46	93	123	212
2013	48	87	48	96	126	217
2014	50	92	50	98	130	222
2015	52	98	53	102	134	228
2020	57	108	58	112	148	252
2025	42	68	42	93	126	221

Morning Peak Hour - 70c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	44	79	44	88	117	201
2012	45	82	45	91	120	206
2013	47	86	47	94	124	212
2014	49	90	49	97	127	218
2015	51	97	52	100	132	224
2020	60	112	60	117	154	262
2025	42	68	42	93	126	221

Afternoon Peak Hour - 30c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	39	69	39	81	108	186
2012	39	70	40	81	108	186
2013	40	73	40	81	108	185
2014	41	76	41	82	108	185
2015	43	81	43	84	110	188
2020	50	96	50	95	124	211
2025	48	90	48	93	123	209

Afternoon Peak Hour - 40c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	38	68	38	79	105	181
2012	39	70	39	79	105	182
2013	40	72	40	80	106	182
2014	41	76	41	81	107	183
2015	43	81	43	83	110	187
2020	48	93	49	92	120	204
2025	50	98	51	96	126	212

Afternoon Peak Hour - 50c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	38	67	38	78	103	178
2012	38	69	39	78	103	178
2013	39	72	39	78	104	178
2014	40	75	40	79	104	178
2015	42	79	42	81	107	182
2020	49	95	49	93	121	205
2025	45	84	45	88	116	198

Afternoon Peak Hour - 60c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	37	67	37	76	101	175
2012	38	69	38	77	102	175
2013	39	71	39	77	102	175
2014	40	74	40	78	103	176
2015	42	79	42	81	106	180
2020	48	92	48	91	119	201
2025	47	89	48	93	122	208

Afternoon Peak Hour - 70c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	37	66	37	76	100	173
2012	37	68	38	76	101	173
2013	38	71	39	76	101	173
2014	39	74	40	77	102	174
2015	41	78	41	79	104	177
2020	49	95	49	92	120	203
2025	48	92	48	92	121	205

Midday Off Peak - 30c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	25	52	25	43	55	90
2012	30	58	30	58	75	128
2013	35	63	35	70	93	160
2014	39	68	39	82	109	189
2015	43	73	43	93	125	218
2020	48	88	49	97	129	222
2025	65	135	66	113	145	239

Midday Off Peak - 40c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	25	52	25	43	55	90
2012	30	58	30	57	75	128
2013	34	62	34	69	91	157
2014	38	67	39	80	107	186
2015	43	73	43	92	123	215
2020	47	86	48	95	126	215
2025	66	137	67	115	148	244

Midday Off Peak - 50c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	25	52	25	43	55	91
2012	29	57	30	56	73	123
2013	34	62	34	67	89	153
2014	38	67	38	79	106	183
2015	42	72	43	91	122	214
2020	47	86	47	93	123	211
2025	65	135	66	113	144	237

Midday Off Peak - 60c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	25	51	25	43	55	90
2012	29	56	29	54	70	118
2013	33	61	33	66	87	149
2014	37	66	38	78	104	179
2015	42	72	42	90	120	210
2020	46	85	46	91	120	206
2025	64	134	65	111	143	235

Midday Off Peak - 70c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	24	51	24	40	52	84
2012	28	56	28	52	68	114
2013	33	61	33	64	85	145
2014	37	66	37	77	102	177
2015	42	72	42	89	120	208
2020	45	84	46	90	119	203
2025	63	131	64	109	140	230

Weekday Evening - 30c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	22	49	23	37	47	75
2012	22	49	23	37	47	75
2013	22	49	23	37	46	75
2014	22	49	23	37	46	75
2015	22	49	23	37	46	75
2020	22	49	23	37	46	74
2025	22	49	23	36	46	74

Weekday Evening - 40c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	23	49	23	37	47	76
2012	23	49	23	37	47	76
2013	23	49	23	37	47	76
2014	23	49	23	37	47	76
2015	23	49	23	37	47	76
2020	22	49	23	37	47	75
2025	22	49	23	37	46	75

Weekday Evening - 50c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	23	49	23	37	47	76
2012	23	49	23	37	47	76
2013	23	49	23	37	47	76
2014	23	49	23	37	47	76
2015	23	49	23	37	47	76
2020	22	49	23	37	47	75
2025	22	49	23	37	46	74

Weekday Evening - 60c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	23	49	23	38	48	78
2012	23	49	23	38	48	78
2013	23	49	23	38	48	78
2014	23	49	23	38	48	78
2015	23	49	23	38	48	77
2020	23	49	23	37	47	77
2025	23	49	23	37	47	76

Weekday Evening - 70c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	23	50	23	38	48	78
2012	23	50	23	38	48	78
2013	23	50	23	38	49	79
2014	23	50	23	38	49	79
2015	23	50	23	39	49	80
2020	23	50	23	38	49	79
2025	23	50	23	38	48	78

Weekend - 30c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	23	49	23	37	47	76
2012	23	49	23	37	47	76
2013	23	49	23	37	47	76
2014	23	49	23	37	47	76
2015	23	49	23	37	47	76
2020	23	49	23	37	47	76
2025	25	52	26	45	58	96

Weekend - 40c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	23	49	23	37	47	77
2012	23	49	23	37	47	77
2013	23	49	23	37	47	77
2014	23	49	23	37	47	77
2015	23	49	23	37	47	77
2020	23	49	23	37	47	76
2025	25	52	26	45	58	96

Weekend - 50c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	23	49	23	37	47	77
2012	23	49	23	37	47	77
2013	23	49	23	37	47	77
2014	23	49	23	37	47	77
2015	23	49	23	37	47	77
2020	23	49	23	37	47	76
2025	25	52	26	45	58	97

Weekend - 60c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	23	49	23	38	48	77
2012	23	49	23	38	48	77
2013	23	49	23	38	48	77
2014	23	49	23	37	47	77
2015	23	49	23	37	47	77
2020	23	49	23	37	47	76
2025	25	52	26	45	57	95

Weekend - 70c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	23	50	23	38	49	79
2012	23	50	23	38	49	79
2013	23	50	23	38	49	79
2014	23	50	23	38	48	78
2015	23	50	23	38	48	78
2020	23	49	23	38	48	77
2025	24	51	24	41	53	87

N12: N1 Diepkloof to N3 Elands Interchange (Eastbound)

Morning Peak Hour - 30c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	19	30	19	48	62	118
2012	19	31	19	47	61	115
2013	19	32	19	46	59	111
2014	19	34	19	45	57	108
2015	20	37	20	44	56	105
2020	16	35	17	33	41	76
2025	14	35	15	24	28	51

Morning Peak Hour - 40c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	19	31	19	49	63	123
2012	19	32	19	47	61	117
2013	19	33	19	46	58	112
2014	19	35	19	44	56	107
2015	19	37	19	43	53	102
2020	17	38	17	34	40	76
2025	17	48	18	25	26	46

Morning Peak Hour - 50c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	19	31	19	49	63	124
2012	18	32	19	47	60	118
2013	18	33	18	45	56	111
2014	18	35	18	43	53	105
2015	18	37	19	41	50	98
2020	17	41	17	33	38	73
2025	10	32	10	15	13	29

Morning Peak Hour - 60c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	18	31	18	49	62	124
2012	18	32	18	47	58	117
2013	18	33	18	44	55	110
2014	18	35	18	42	51	103
2015	18	37	18	40	48	97
2020	14	36	15	28	30	62
2025	8	28	8	10	5	17

Morning Peak Hour - 70c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	18	31	18	48	60	124
2012	17	32	17	46	56	117
2013	17	33	17	44	53	110
2014	17	35	17	42	50	103
2015	18	38	18	40	47	97
2020	16	42	16	30	32	67
2025	15	48	15	18	13	30

Afternoon Peak Hour - 30c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	16	20	16	47	63	123
2012	17	22	17	48	63	123
2013	17	23	17	47	63	121
2014	17	24	17	47	62	120
2015	17	25	17	47	62	119
2020	14	25	14	36	46	88
2025	14	28	14	31	39	74

Afternoon Peak Hour - 40c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	16	20	16	47	62	123
2012	16	21	16	47	62	123
2013	16	22	16	47	62	122
2014	16	24	17	47	61	120
2015	17	25	17	47	61	119
2020	13	23	13	33	41	82
2025	12	25	12	27	32	64

Afternoon Peak Hour - 50c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	15	19	15	46	60	122
2012	15	20	15	46	60	122
2013	15	22	16	46	60	121
2014	16	23	16	46	59	119
2015	16	25	16	46	58	117
2020	13	24	13	33	40	82
2025	11	24	11	24	27	59

Afternoon Peak Hour - 60c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	14	18	14	45	57	119
2012	14	19	14	45	57	118
2013	14	20	14	44	56	117
2014	14	22	14	43	55	114
2015	14	23	15	43	53	111
2020	12	23	12	31	37	79
2025	11	28	11	25	27	59

Afternoon Peak Hour - 70c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	13	17	13	43	54	117
2012	13	19	13	44	55	118
2013	14	20	14	44	55	117
2014	14	21	14	44	54	115
2015	14	23	14	43	53	113
2020	11	23	11	29	33	75
2025	9	24	9	20	20	49

Midday Off Peak - 30c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	6	7	6	23	30	63
2012	8	8	8	27	35	72
2013	9	10	9	30	40	81
2014	10	11	10	33	44	89
2015	11	13	11	37	49	98
2020	16	20	17	49	66	127
2025	18	29	18	46	60	114

Midday Off Peak - 40c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	5	5	5	20	25	56
2012	6	7	6	24	30	65
2013	7	8	7	27	35	75
2014	9	10	9	31	40	84
2015	10	11	10	34	45	93
2020	16	20	16	48	64	127
2025	17	28	17	44	57	110

Midday Off Peak - 50c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	3	4	3	17	20	50
2012	5	5	5	21	25	59
2013	6	7	6	24	30	68
2014	7	8	7	28	35	78
2015	9	10	9	32	40	87
2020	15	19	15	48	62	126
2025	17	29	17	46	58	115

Midday Off Peak - 60c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	1	2	1	13	14	42
2012	3	4	3	18	20	52
2013	4	5	4	21	25	62
2014	6	7	6	25	30	71
2015	7	9	7	29	35	81
2020	14	18	14	46	59	124
2025	16	29	16	44	54	111

Midday Off Peak - 70c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	-0	0	-0	10	8	34
2012	1	2	1	14	14	44
2013	3	4	3	18	20	55
2014	4	5	4	22	25	65
2015	5	7	5	26	30	74
2020	13	17	13	44	56	120
2025	15	28	16	43	52	109

Weekday Evening - 30c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	-2	-2	-2	0	-2	5
2012	-2	-2	-2	0	-2	5
2013	-2	-2	-2	0	-2	5
2014	-2	-2	-2	0	-2	5
2015	-2	-2	-2	0	-2	5
2020	-2	-2	-2	0	-2	5
2025	-2	-2	-2	0	-2	5

Weekday Evening - 40c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	-5	-5	-5	-6	-11	-10
2012	-5	-5	-5	-6	-11	-10
2013	-5	-5	-5	-6	-11	-10
2014	-5	-5	-5	-6	-11	-10
2015	-5	-5	-5	-6	-11	-10
2020	-5	-5	-5	-6	-12	-10
2025	-4	-5	-4	-6	-11	-10

Weekday Evening - 50c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	-6	-7	-6	-10	-18	-19
2012	-6	-7	-6	-10	-18	-20
2013	-6	-7	-6	-10	-18	-20
2014	-7	-7	-7	-10	-18	-20
2015	-7	-7	-7	-10	-18	-20
2020	-7	-7	-7	-10	-18	-20
2025	-7	-7	-7	-10	-19	-21

Weekday Evening - 60c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	-8	-9	-8	-14	-24	-29
2012	-8	-9	-8	-14	-24	-29
2013	-8	-9	-8	-14	-25	-29
2014	-8	-9	-8	-14	-25	-29
2015	-8	-9	-8	-14	-25	-29
2020	-8	-9	-8	-14	-25	-29
2025	-9	-9	-9	-14	-25	-29

Weekday Evening - 70c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	-10	-11	-10	-18	-30	-37
2012	-10	-11	-10	-18	-30	-37
2013	-10	-11	-10	-18	-30	-37
2014	-10	-11	-10	-18	-30	-37
2015	-10	-11	-10	-18	-30	-37
2020	-10	-11	-10	-18	-31	-37
2025	-10	-11	-10	-18	-30	-37

Weekend - 30c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	-2	-2	-2	-0	-3	3
2012	-2	-2	-2	-0	-3	3
2013	-2	-2	-2	-0	-3	3
2014	-2	-2	-2	-0	-3	3
2015	-2	-2	-2	-0	-3	3
2020	-1	-1	-1	2	0	9
2025	1	1	1	7	8	22

Weekend - 40c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	-4	-4	-4	-4	-9	-5
2012	-4	-4	-4	-4	-9	-5
2013	-4	-4	-4	-4	-9	-5
2014	-4	-4	-4	-4	-9	-5
2015	-4	-4	-4	-4	-9	-5
2020	-3	-3	-3	-2	-6	1
2025	-1	-1	-1	4	2	15

Weekend - 50c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	-6	-6	-6	-8	-15	-14
2012	-6	-6	-6	-8	-15	-13
2013	-6	-6	-6	-8	-15	-13
2014	-6	-6	-6	-8	-15	-13
2015	-6	-6	-6	-8	-14	-13
2020	-5	-5	-5	-5	-11	-8
2025	-3	-3	-3	1	-3	8

Weekend - 60c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	-8	-8	-8	-12	-21	-22
2012	-8	-8	-8	-12	-21	-22
2013	-8	-8	-8	-12	-21	-22
2014	-8	-8	-8	-12	-21	-22
2015	-8	-8	-8	-12	-21	-22
2020	-7	-7	-7	-9	-17	-16
2025	-4	-4	-4	-3	-8	1

Weekend - 70c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	-10	-10	-10	-16	-27	-31
2012	-10	-10	-10	-16	-27	-31
2013	-9	-10	-9	-16	-27	-31
2014	-9	-10	-9	-16	-27	-31
2015	-9	-10	-9	-16	-27	-31
2020	-9	-9	-9	-13	-24	-25
2025	-6	-6	-6	-6	-14	-7

N12: N1 Diepkloof to N3 Elands Interchange (Westbound)

Morning Peak Hour - 30c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	15	17	15	45	60	118
2012	15	17	15	44	60	117
2013	14	17	14	44	59	115
2014	14	17	14	43	57	112
2015	14	18	14	42	56	110
2020	13	17	13	39	51	100
2025	10	14	10	30	39	79

Morning Peak Hour - 40c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	14	16	14	44	58	117
2012	14	17	14	45	59	118
2013	14	17	14	45	59	118
2014	14	18	15	45	59	118
2015	15	18	15	45	59	118
2020	12	17	12	38	50	100
2025	9	13	9	27	34	72

Morning Peak Hour - 50c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	12	15	12	42	54	112
2012	13	16	13	42	55	114
2013	13	16	13	43	55	114
2014	13	16	13	42	55	113
2015	13	17	13	42	54	112
2020	10	14	10	33	41	88
2025	7	11	7	24	29	65

Morning Peak Hour - 60c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	11	14	11	39	50	107
2012	12	14	12	40	51	110
2013	12	15	12	42	53	113
2014	13	16	13	43	54	115
2015	13	17	13	43	55	116
2020	11	15	11	36	44	96
2025	7	11	7	24	29	67

Morning Peak Hour - 70c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	10	13	10	38	48	105
2012	11	14	11	39	49	108
2013	11	14	11	40	50	110
2014	12	15	12	41	51	112
2015	12	16	12	42	52	113
2020	9	14	9	34	41	92
2025	6	11	6	24	27	66

Afternoon Peak Hour - 30c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	20	34	20	46	59	112
2012	20	36	20	46	59	111
2013	21	39	21	46	59	110
2014	22	43	22	47	60	109
2015	24	48	24	48	60	109
2020	25	62	25	36	41	67
2025	4	9	4	10	11	26

Afternoon Peak Hour - 40c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	19	34	19	45	57	109
2012	20	36	20	45	57	108
2013	20	39	21	45	57	108
2014	22	44	22	46	57	107
2015	23	49	24	47	58	107
2020	28	73	29	40	44	74
2025	7	20	7	13	13	30

Afternoon Peak Hour - 50c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	18	33	18	43	54	107
2012	19	36	19	43	54	105
2013	19	39	20	44	53	104
2014	21	43	21	44	53	103
2015	22	48	23	45	54	102
2020	28	75	29	39	42	72
2025	8	27	8	13	10	25

Afternoon Peak Hour - 60c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	17	34	18	43	52	106
2012	18	36	18	42	51	103
2013	18	39	19	42	50	100
2014	19	42	20	42	49	97
2015	21	47	21	42	49	95
2020	26	72	26	35	35	62
2025	2	13	2	4	-1	10

Afternoon Peak Hour - 70c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	17	33	17	41	49	103
2012	17	35	17	41	48	100
2013	18	39	18	41	48	98
2014	19	43	19	41	47	96
2015	21	48	21	41	47	94
2020	22	65	22	28	25	47
2025	0	11	0	-0	-8	0

Midday Off Peak - 30c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	10	11	10	32	42	86
2012	12	13	12	37	49	98
2013	13	15	13	41	55	109
2014	15	17	15	45	60	118
2015	16	19	16	48	64	126
2020	18	25	18	48	64	122
2025	21	40	22	46	59	109

Midday Off Peak - 40c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	8	9	8	29	38	80
2012	10	12	10	34	45	92
2013	12	14	12	39	51	105
2014	14	17	14	44	58	117
2015	16	19	16	48	64	126
2020	17	25	17	48	63	124
2025	21	41	21	45	56	106

Midday Off Peak - 50c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	7	8	7	27	33	74
2012	9	10	9	31	40	86
2013	11	13	11	36	47	99
2014	12	15	13	41	54	111
2015	14	18	15	47	61	124
2020	17	25	17	49	64	127
2025	20	40	20	43	52	101

Midday Off Peak - 60c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	5	6	5	23	27	66
2012	7	9	7	28	35	80
2013	9	11	9	34	42	92
2014	11	14	11	39	49	105
2015	13	16	13	44	56	118
2020	17	25	17	50	64	130
2025	17	36	17	37	43	88

Midday Off Peak - 70c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	3	4	3	20	22	58
2012	5	7	5	25	29	72
2013	7	10	7	31	37	86
2014	9	12	9	36	44	99
2015	11	15	11	41	51	112
2020	17	25	17	51	64	134
2025	17	38	17	39	44	92

Weekday Evening - 30c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	-2	-2	-2	-0	-3	3
2012	-2	-2	-2	-0	-3	3
2013	-2	-2	-2	-0	-3	3
2014	-2	-2	-2	-0	-3	3
2015	-2	-2	-2	-0	-3	3
2020	-2	-2	-2	-0	-3	3
2025	-2	-2	-2	-0	-3	3

Weekday Evening - 40c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	-4	-4	-4	-4	-9	-6
2012	-4	-4	-4	-4	-9	-6
2013	-4	-4	-4	-4	-9	-6
2014	-4	-4	-4	-4	-9	-6
2015	-4	-4	-4	-4	-9	-6
2020	-4	-4	-4	-4	-9	-6
2025	-4	-4	-4	-4	-9	-6

Weekday Evening - 50c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	-6	-6	-6	-9	-16	-16
2012	-6	-6	-6	-9	-16	-16
2013	-6	-6	-6	-9	-16	-16
2014	-6	-6	-6	-9	-16	-16
2015	-6	-6	-6	-9	-16	-16
2020	-6	-6	-6	-9	-16	-16
2025	-6	-6	-6	-9	-16	-16

Weekday Evening - 60c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	-8	-9	-8	-13	-23	-27
2012	-8	-9	-8	-13	-23	-27
2013	-8	-9	-8	-13	-24	-27
2014	-8	-9	-8	-13	-24	-27
2015	-8	-9	-8	-13	-24	-27
2020	-8	-9	-8	-14	-24	-28
2025	-8	-9	-8	-14	-24	-28

Weekday Evening - 70c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	-10	-10	-10	-17	-30	-36
2012	-10	-10	-10	-17	-30	-36
2013	-10	-11	-10	-17	-30	-36
2014	-10	-11	-10	-17	-30	-36
2015	-10	-11	-10	-18	-30	-36
2020	-10	-11	-10	-18	-30	-37
2025	-10	-11	-10	-18	-30	-37

Weekend - 30c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	-2	-2	-2	-0	-3	3
2012	-2	-2	-2	-0	-3	3
2013	-2	-2	-2	-0	-3	3
2014	-2	-2	-2	-0	-3	3
2015	-2	-2	-2	-0	-3	3
2020	-2	-2	-2	-0	-3	3
2025	-2	-2	-2	0	-2	5

Weekend - 40c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	-4	-4	-4	-4	-9	-5
2012	-4	-4	-4	-4	-9	-5
2013	-4	-4	-4	-4	-9	-5
2014	-4	-4	-4	-4	-9	-5
2015	-4	-4	-4	-4	-9	-5
2020	-4	-4	-4	-4	-9	-5
2025	-4	-4	-4	-3	-8	-4

Weekend - 50c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	-6	-6	-6	-8	-15	-14
2012	-6	-6	-6	-8	-15	-13
2013	-6	-6	-6	-8	-15	-13
2014	-6	-6	-6	-8	-15	-13
2015	-6	-6	-6	-8	-15	-13
2020	-6	-6	-6	-8	-15	-13
2025	-5	-6	-5	-7	-14	-12

Weekend - 60c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	-8	-8	-8	-12	-21	-23
2012	-8	-8	-8	-12	-21	-22
2013	-8	-8	-8	-12	-21	-22
2014	-8	-8	-8	-11	-21	-22
2015	-8	-8	-8	-11	-21	-22
2020	-7	-8	-7	-11	-20	-21
2025	-7	-8	-7	-11	-20	-20

Weekend - 70c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	-10	-10	-10	-16	-27	-31
2012	-10	-10	-10	-16	-27	-31
2013	-10	-10	-10	-16	-27	-31
2014	-10	-10	-10	-16	-27	-31
2015	-10	-10	-10	-16	-27	-31
2020	-9	-10	-9	-16	-27	-31
2025	-9	-9	-9	-15	-26	-29

N12: N3 Gillooly's to Kingsway (Eastbound)

Morning Peak Hour - 30c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	8	11	8	27	35	72
2012	10	13	10	30	39	79
2013	10	14	10	32	42	85
2014	11	15	11	34	45	90
2015	12	16	12	36	47	94
2020	14	16	14	42	57	112
2025	16	21	16	46	61	119

Morning Peak Hour - 40c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	6	9	6	23	28	63
2012	8	11	8	26	33	70
2013	9	12	9	29	37	77
2014	10	14	10	32	40	84
2015	11	16	11	34	44	91
2020	12	15	12	40	53	107
2025	14	19	14	42	55	111

Morning Peak Hour - 50c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	5	8	5	20	23	55
2012	6	9	6	23	27	62
2013	7	11	7	25	31	70
2014	8	13	8	28	35	76
2015	9	14	9	31	39	83
2020	11	13	11	37	47	100
2025	14	22	14	40	51	105

Morning Peak Hour - 60c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	3	6	3	16	17	47
2012	4	8	4	19	21	54
2013	5	9	5	22	25	61
2014	6	11	6	24	28	68
2015	7	12	7	27	32	74
2020	9	12	9	35	44	96
2025	10	16	11	35	44	96

Morning Peak Hour - 70c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	1	5	1	13	11	39
2012	3	6	3	15	15	46
2013	4	8	4	18	19	53
2014	5	9	5	21	23	60
2015	6	11	6	24	27	67
2020	8	10	8	32	38	89
2025	9	14	9	32	38	89

Afternoon Peak Hour - 30c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	23	49	23	45	55	100
2012	23	49	23	45	55	99
2013	23	50	24	45	55	99
2014	24	51	24	45	55	99
2015	24	52	24	45	55	99
2020	18	37	18	37	45	84
2025	12	22	12	29	36	71

Afternoon Peak Hour - 40c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	23	51	23	44	53	97
2012	23	52	24	44	53	97
2013	24	53	24	44	53	97
2014	24	55	25	45	53	97
2015	25	57	25	45	54	98
2020	14	31	14	31	36	72
2025	12	26	12	27	32	65

Afternoon Peak Hour - 50c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	22	51	22	41	48	90
2012	22	51	22	40	47	89
2013	22	51	22	40	46	88
2014	22	51	22	40	46	87
2015	22	51	22	39	45	86
2020	12	28	12	27	30	63
2025	10	23	10	23	26	56

Afternoon Peak Hour - 60c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	21	50	21	38	43	85
2012	21	50	21	38	43	84
2013	21	51	21	38	42	83
2014	21	51	21	38	42	83
2015	21	51	21	38	42	82
2020	10	27	11	23	25	56
2025	7	17	7	18	18	47

Afternoon Peak Hour - 70c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	19	50	20	36	38	78
2012	19	50	19	35	37	76
2013	19	49	19	34	36	74
2014	19	49	19	34	36	73
2015	19	49	19	33	35	72
2020	8	24	8	19	17	46
2025	4	13	4	13	11	37

Midday Off Peak - 30c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	21	28	21	58	78	150
2012	21	29	21	58	77	148
2013	21	30	21	58	77	146
2014	21	31	21	57	76	145
2015	22	32	22	57	75	143
2020	23	38	23	55	71	133
2025	28	56	28	55	69	125

Midday Off Peak - 40c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	20	28	20	58	77	149
2012	20	29	21	57	76	147
2013	21	30	21	57	75	145
2014	21	31	21	56	74	143
2015	21	32	21	56	73	142
2020	22	37	22	53	68	131
2025	27	56	27	54	66	122

Midday Off Peak - 50c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	20	28	20	57	74	148
2012	20	28	20	57	74	146
2013	20	29	20	56	73	145
2014	20	31	20	56	72	143
2015	20	32	21	56	72	143
2020	21	38	21	53	66	130
2025	25	55	26	51	61	115

Midday Off Peak - 60c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	19	27	19	56	72	147
2012	19	28	19	56	72	145
2013	19	29	19	56	71	144
2014	19	30	20	55	70	142
2015	20	31	20	55	70	142
2020	20	37	20	51	63	127
2025	24	55	25	48	57	109

Midday Off Peak - 70c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	18	27	18	55	70	145
2012	18	28	18	55	70	144
2013	18	29	19	55	69	143
2014	19	30	19	54	68	141
2015	19	31	19	54	68	139
2020	19	37	19	49	60	124
2025	23	54	24	46	53	105

Weekday Evening - 30c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	0	0	0	7	7	22
2012	0	0	0	7	7	22
2013	0	0	0	7	7	21
2014	0	0	0	7	7	21
2015	0	0	0	7	7	21
2020	0	0	0	7	7	22
2025	0	0	0	7	7	21

Weekday Evening - 40c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	-1	-1	-1	3	1	14
2012	-1	-1	-1	3	1	14
2013	-1	-1	-1	3	1	14
2014	-1	-1	-1	3	1	14
2015	-1	-1	-1	3	1	14
2020	-1	-1	-1	3	1	13
2025	-2	-2	-2	3	1	13

Weekday Evening - 50c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	-3	-3	-3	-0	-4	6
2012	-3	-3	-3	-0	-4	6
2013	-3	-3	-3	-0	-5	6
2014	-3	-3	-3	-0	-5	6
2015	-3	-3	-3	-0	-5	6
2020	-3	-3	-3	-0	-5	6
2025	-3	-3	-3	-1	-5	5

Weekday Evening - 60c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	-5	-5	-5	-4	-11	-2
2012	-5	-5	-5	-4	-11	-2
2013	-5	-5	-5	-4	-11	-2
2014	-5	-5	-5	-4	-11	-2
2015	-5	-5	-5	-4	-11	-3
2020	-5	-5	-5	-4	-11	-3
2025	-5	-5	-5	-4	-11	-3

Weekday Evening - 70c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	-7	-7	-7	-8	-17	-11
2012	-7	-7	-7	-8	-17	-11
2013	-7	-7	-7	-8	-17	-11
2014	-7	-7	-7	-8	-17	-11
2015	-7	-7	-7	-8	-17	-11
2020	-7	-7	-7	-8	-17	-11
2025	-7	-7	-7	-8	-17	-12

Weekend - 30c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	0	0	0	7	7	22
2012	0	0	0	7	7	22
2013	1	1	1	7	8	23
2014	1	1	1	8	8	24
2015	1	1	1	8	9	24
2020	1	1	1	9	11	28
2025	3	4	3	14	17	39

Weekend - 40c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	-1	-1	-1	3	1	13
2012	-1	-1	-1	3	1	13
2013	-1	-1	-1	3	2	14
2014	-1	-1	-1	4	2	15
2015	-1	-1	-1	4	3	16
2020	-0	-0	-0	6	5	21
2025	1	2	1	10	11	31

Weekend - 50c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	-3	-3	-3	-1	-5	5
2012	-3	-3	-3	-1	-5	5
2013	-3	-3	-3	-0	-5	6
2014	-3	-3	-3	0	-4	7
2015	-3	-3	-3	0	-4	8
2020	-2	-2	-2	3	-0	14
2025	-0	0	-0	7	5	24

Weekend - 60c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	-5	-5	-5	-4	-11	-4
2012	-5	-5	-5	-4	-11	-4
2013	-5	-5	-5	-4	-11	-3
2014	-5	-5	-5	-4	-10	-2
2015	-5	-5	-5	-3	-10	-1
2020	-4	-4	-4	-0	-6	7
2025	-2	-2	-2	3	-0	16

Weekend - 70c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	-7	-7	-7	-8	-17	-12
2012	-7	-7	-7	-8	-17	-12
2013	-7	-7	-7	-8	-17	-11
2014	-7	-7	-7	-8	-16	-10
2015	-7	-7	-7	-7	-16	-9
2020	-6	-5	-6	-4	-11	-1
2025	-4	-3	-4	0	-5	10

N12: N3 Gillooly's to Kingsway (Westbound)

Morning Peak Hour - 30c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	22	47	22	43	53	95
2012	22	48	23	43	52	95
2013	23	49	23	43	53	95
2014	23	50	23	43	53	95
2015	23	51	24	43	53	95
2020	16	35	16	33	41	76
2025	18	38	18	36	45	83

Morning Peak Hour - 40c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	16	34	16	34	40	78
2012	17	37	17	35	42	81
2013	19	41	19	37	45	84
2014	21	46	21	39	47	87
2015	23	52	23	42	50	91
2020	16	36	16	31	37	71
2025	15	34	15	31	37	71

Morning Peak Hour - 50c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	14	33	15	31	35	72
2012	16	37	16	32	37	75
2013	18	41	18	34	40	78
2014	20	46	20	37	42	81
2015	22	53	22	39	45	85
2020	18	43	18	33	37	72
2025	14	34	14	28	32	64

Morning Peak Hour - 60c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	13	32	13	28	31	66
2012	15	36	15	30	33	68
2013	16	40	16	32	35	71
2014	18	45	18	34	37	74
2015	20	51	20	36	39	77
2020	12	31	12	23	24	53
2025	13	33	13	25	26	57

Morning Peak Hour - 70c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	12	31	12	25	25	58
2012	13	35	13	27	27	61
2013	15	40	15	29	30	65
2014	17	46	17	31	33	69
2015	20	52	20	34	36	73
2020	14	42	15	25	24	53
2025	7	23	7	16	13	38

Afternoon Peak Hour - 30c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	13	15	13	42	56	110
2012	14	17	14	44	59	116
2013	15	18	15	46	62	121
2014	16	20	16	49	65	127
2015	17	22	17	51	69	133
2020	20	30	20	54	71	135
2025	29	50	29	66	86	158

Afternoon Peak Hour - 40c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	12	14	12	40	52	106
2012	13	16	13	42	55	112
2013	14	17	14	44	59	118
2014	15	19	15	47	62	124
2015	16	21	16	49	65	129
2020	19	28	19	51	67	131
2025	27	48	27	63	81	151

Afternoon Peak Hour - 50c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	11	13	11	38	48	102
2012	12	15	12	40	52	108
2013	13	16	13	42	54	113
2014	14	18	14	44	57	118
2015	15	19	15	46	60	122
2020	18	29	18	51	65	130
2025	25	46	25	58	74	142

Afternoon Peak Hour - 60c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	9	12	9	35	43	95
2012	11	14	11	38	47	103
2013	12	16	12	40	51	109
2014	13	17	13	43	54	115
2015	14	19	14	45	57	121
2020	17	27	17	47	59	122
2025	20	38	20	49	61	122

Afternoon Peak Hour - 70c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	8	11	8	32	39	90
2012	9	12	9	35	42	96
2013	10	14	10	37	46	102
2014	11	16	11	39	48	106
2015	12	17	12	41	51	111
2020	14	24	14	42	51	111
2025	20	39	20	49	59	121

Midday Off Peak - 30c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	19	22	19	55	75	145
2012	19	23	19	56	75	145
2013	19	24	19	56	75	145
2014	19	24	19	56	75	145
2015	19	25	19	56	75	144
2020	23	34	23	61	81	154
2025	28	50	29	64	84	154

Midday Off Peak - 40c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	18	22	18	55	73	143
2012	18	22	18	55	73	143
2013	18	23	18	55	73	144
2014	19	24	19	56	74	145
2015	19	25	19	55	73	144
2020	22	34	22	59	78	150
2025	27	49	27	61	79	147

Midday Off Peak - 50c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	17	21	17	53	69	140
2012	17	22	17	53	70	141
2013	17	23	17	54	70	142
2014	18	24	18	54	71	143
2015	18	24	18	54	71	142
2020	21	32	21	58	74	147
2025	25	47	25	58	73	140

Midday Off Peak - 60c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	16	20	16	51	65	136
2012	16	21	16	51	66	137
2013	16	22	16	52	67	139
2014	17	23	17	53	68	139
2015	17	24	17	53	68	139
2020	20	32	20	56	72	145
2025	23	45	24	55	68	133

Midday Off Peak - 70c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	14	19	14	49	61	131
2012	15	20	15	49	62	132
2013	15	21	15	50	63	134
2014	16	22	16	51	65	136
2015	16	23	16	51	65	136
2020	19	31	19	55	69	141
2025	22	44	22	52	63	127

Weekday Evening - 30c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	1	1	1	7	8	23
2012	1	1	1	7	8	23
2013	1	1	1	7	8	23
2014	1	1	1	7	8	23
2015	1	1	1	7	8	23
2020	1	1	1	7	8	23
2025	0	0	0	7	7	22

Weekday Evening - 40c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	-1	-1	-1	4	2	15
2012	-1	-1	-1	4	2	15
2013	-1	-1	-1	4	2	15
2014	-1	-1	-1	4	2	15
2015	-1	-1	-1	4	2	15
2020	-1	-1	-1	4	2	15
2025	-1	-1	-1	3	1	14

Weekday Evening - 50c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	-3	-3	-3	-0	-4	7
2012	-3	-3	-3	-0	-4	7
2013	-3	-3	-3	-0	-4	7
2014	-3	-3	-3	-0	-4	6
2015	-3	-3	-3	-0	-4	6
2020	-3	-3	-3	-0	-5	6
2025	-3	-3	-3	-1	-5	5

Weekday Evening - 60c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	-5	-5	-5	-4	-10	-2
2012	-5	-5	-5	-4	-10	-2
2013	-5	-5	-5	-4	-10	-2
2014	-5	-5	-5	-4	-10	-2
2015	-5	-5	-5	-4	-10	-2
2020	-5	-5	-5	-4	-10	-2
2025	-5	-5	-5	-4	-11	-3

Weekday Evening - 70c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	-7	-7	-7	-7	-15	-8
2012	-7	-7	-7	-7	-15	-8
2013	-7	-7	-7	-7	-15	-8
2014	-7	-7	-7	-7	-15	-8
2015	-7	-7	-7	-7	-15	-8
2020	-7	-7	-7	-7	-16	-9
2025	-7	-7	-7	-8	-17	-10

Weekend - 30c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	1	1	1	7	8	23
2012	1	1	1	7	8	23
2013	1	1	1	8	9	25
2014	1	1	1	9	10	27
2015	1	1	1	10	11	29
2020	3	3	3	13	16	38
2025	5	6	5	21	26	57

Weekend - 40c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	-1	-1	-1	4	2	15
2012	-1	-1	-1	4	2	15
2013	-1	-1	-1	4	3	17
2014	-1	-1	-1	5	4	19
2015	-0	-0	-0	6	5	21
2020	1	1	1	10	11	32
2025	4	4	4	18	21	51

Weekend - 50c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	-3	-3	-3	-0	-5	6
2012	-3	-3	-3	-0	-4	7
2013	-3	-3	-3	1	-3	8
2014	-3	-3	-3	1	-2	10
2015	-2	-2	-2	2	-1	12
2020	-1	-1	-1	6	5	23
2025	2	3	2	15	16	44

Weekend - 60c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	-5	-5	-5	-4	-11	-3
2012	-5	-5	-5	-4	-11	-3
2013	-5	-5	-5	-3	-10	-1
2014	-5	-5	-5	-3	-9	1
2015	-4	-4	-4	-2	-8	3
2020	-3	-3	-3	2	-2	14
2025	1	1	1	12	11	38

Weekend - 70c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	-7	-7	-7	-8	-17	-12
2012	-7	-7	-7	-8	-17	-11
2013	-7	-7	-7	-7	-16	-10
2014	-7	-6	-7	-7	-15	-8
2015	-6	-6	-6	-6	-14	-6
2020	-5	-4	-5	-2	-8	5
2025	-1	-0	-1	8	6	30

N12: N1 Misgund to Old Potch Road (Eastbound)

Morning Peak Hour - 30c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	2	2	2	7	10	18
2012	2	2	2	7	10	19
2013	3	3	3	8	11	20
2014	3	3	3	8	12	21
2015	3	4	3	9	12	22
2020	3	4	3	9	12	21
2025	3	3	3	8	11	21

Morning Peak Hour - 40c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	3	3	3	8	12	21
2012	3	4	3	9	12	22
2013	3	4	3	9	13	23
2014	3	4	4	9	13	24
2015	4	5	4	10	14	25
2020	3	4	3	8	11	21
2025	3	3	3	8	11	21

Morning Peak Hour - 50c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	3	4	3	9	12	22
2012	3	4	3	9	12	22
2013	3	4	3	9	13	23
2014	3	4	3	9	13	23
2015	3	4	3	9	13	24
2020	4	6	4	10	13	23
2025	3	3	3	8	11	21

Morning Peak Hour - 60c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	3	4	3	8	12	22
2012	3	4	3	9	12	22
2013	3	4	3	9	12	23
2014	3	4	3	9	13	23
2015	3	4	3	9	13	24
2020	3	4	3	9	12	22
2025	3	3	3	9	12	22

Morning Peak Hour - 70c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	3	4	3	9	12	23
2012	3	4	3	9	13	23
2013	4	5	4	9	13	24
2014	4	5	4	10	14	25
2015	4	5	4	10	14	25
2020	4	6	4	10	13	24
2025	4	5	4	9	12	22

Afternoon Peak Hour - 30c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	2	2	2	6	8	15
2012	2	2	2	6	8	14
2013	2	2	2	6	8	14
2014	2	2	2	6	8	14
2015	2	2	2	5	8	14
2020	3	3	3	7	10	19
2025	3	3	3	8	11	21

Afternoon Peak Hour - 40c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	2	2	2	6	8	15
2012	2	2	2	6	8	15
2013	2	2	2	6	8	15
2014	2	2	2	6	8	15
2015	2	2	2	6	8	15
2020	3	3	3	8	11	20
2025	3	4	3	9	12	22

Afternoon Peak Hour - 50c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	2	2	2	6	9	16
2012	2	2	2	6	9	16
2013	2	2	2	6	9	16
2014	2	2	2	6	9	16
2015	2	2	2	6	9	16
2020	3	3	3	8	11	19
2025	3	3	3	8	11	21

Afternoon Peak Hour - 60c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	2	2	2	6	9	16
2012	2	2	2	6	9	17
2013	2	2	2	6	9	17
2014	2	2	2	6	9	17
2015	2	2	2	6	9	17
2020	3	3	3	8	11	21
2025	3	3	3	9	13	24

Afternoon Peak Hour - 70c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	2	2	2	6	9	16
2012	2	2	2	7	9	17
2013	2	2	2	7	9	17
2014	2	2	2	7	9	17
2015	2	2	2	7	9	17
2020	3	4	3	9	12	23
2025	3	4	3	9	13	23

Midday Off Peak - 30c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	2	2	2	6	8	15
2012	2	2	2	6	9	16
2013	2	2	2	7	9	17
2014	2	2	2	7	9	17
2015	2	2	2	7	9	17
2020	2	3	2	7	10	18
2025	4	5	4	11	15	27

Midday Off Peak - 40c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	2	2	2	6	8	16
2012	2	2	2	6	9	16
2013	2	2	2	7	9	17
2014	2	3	2	7	10	18
2015	2	3	2	7	10	18
2020	3	3	3	7	10	19
2025	4	5	4	11	15	27

Midday Off Peak - 50c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	2	2	2	6	8	16
2012	2	2	2	6	9	16
2013	2	2	2	7	9	17
2014	2	3	2	7	10	18
2015	3	3	3	7	10	19
2020	3	3	3	8	11	20
2025	4	5	4	11	16	29

Midday Off Peak - 60c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	2	2	2	6	9	16
2012	2	2	2	6	9	17
2013	2	2	2	7	9	17
2014	2	3	2	7	10	18
2015	3	3	3	7	10	19
2020	3	3	3	8	11	21
2025	4	5	4	11	16	29

Midday Off Peak - 70c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	2	2	2	6	9	16
2012	2	2	2	6	9	17
2013	2	2	2	7	10	18
2014	2	3	2	7	10	18
2015	3	3	3	8	11	19
2020	3	3	3	8	12	22
2025	4	5	4	12	16	29

Weekday Evening - 30c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	2	2	2	6	8	14
2012	2	2	2	6	8	14
2013	2	2	2	6	8	14
2014	2	2	2	6	8	15
2015	2	2	2	6	8	15
2020	2	2	2	6	8	15
2025	2	2	2	6	8	15

Weekday Evening - 40c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	2	2	2	5	7	14
2012	2	2	2	5	7	14
2013	2	2	2	5	7	14
2014	2	2	2	5	7	14
2015	2	2	2	5	7	14
2020	2	2	2	5	7	14
2025	2	2	2	5	8	14

Weekday Evening - 50c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	2	2	2	5	7	14
2012	2	2	2	5	7	14
2013	2	2	2	5	7	14
2014	2	2	2	5	7	14
2015	2	2	2	5	7	14
2020	2	2	2	5	7	14
2025	2	2	2	5	7	14

Weekday Evening - 60c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	2	2	2	5	7	14
2012	2	2	2	5	7	14
2013	2	2	2	5	7	13
2014	2	2	2	5	7	13
2015	2	2	2	5	7	13
2020	2	2	2	5	7	13
2025	2	2	2	5	7	13

Weekday Evening - 70c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	2	2	2	5	8	14
2012	2	2	2	5	8	14
2013	2	2	2	5	8	14
2014	2	2	2	5	8	14
2015	2	2	2	5	8	14
2020	2	2	2	5	8	14
2025	2	2	2	5	8	14

Weekend - 30c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	2	2	2	5	7	13
2012	2	2	2	5	7	13
2013	2	2	2	5	7	13
2014	2	2	2	5	7	13
2015	2	2	2	5	7	13
2020	2	2	2	5	7	13
2025	2	2	2	5	7	13

Weekend - 40c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	2	2	2	5	7	14
2012	2	2	2	5	7	14
2013	2	2	2	5	7	14
2014	2	2	2	5	7	14
2015	2	2	2	5	7	13
2020	2	2	2	5	7	13
2025	2	2	2	5	7	13

Weekend - 50c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	2	2	2	5	7	14
2012	2	2	2	5	7	14
2013	2	2	2	5	7	14
2014	2	2	2	5	7	14
2015	2	2	2	5	7	14
2020	2	2	2	5	7	13
2025	2	2	2	5	7	13

Weekend - 60c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	2	2	2	5	7	14
2012	2	2	2	5	7	14
2013	2	2	2	5	7	14
2014	2	2	2	5	7	14
2015	2	2	2	5	7	14
2020	2	2	2	5	7	14
2025	2	2	2	5	7	13

Weekend - 70c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	2	2	2	5	7	14
2012	2	2	2	5	7	14
2013	2	2	2	5	7	14
2014	2	2	2	5	7	14
2015	2	2	2	5	7	14
2020	2	2	2	5	7	13
2025	2	2	2	5	7	13

N12: N1 Misgund to Old Potch Road (Westbound)

Morning Peak Hour - 30c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	2	2	2	6	8	14
2012	2	2	2	6	8	14
2013	2	2	2	6	8	15
2014	2	2	2	6	8	15
2015	2	2	2	6	8	15
2020	2	2	2	6	8	15
2025	3	3	3	8	11	20

Morning Peak Hour - 40c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	2	2	2	6	8	15
2012	2	2	2	6	8	15
2013	2	2	2	6	8	15
2014	2	2	2	6	8	15
2015	2	2	2	6	8	15
2020	2	2	2	6	8	15
2025	3	3	3	8	11	20

Morning Peak Hour - 50c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	2	2	2	6	8	15
2012	2	2	2	6	8	15
2013	2	2	2	6	8	15
2014	2	2	2	6	8	15
2015	2	2	2	6	8	15
2020	2	2	2	6	8	15
2025	3	4	3	8	11	21

Morning Peak Hour - 60c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	2	2	2	6	8	15
2012	2	2	2	6	8	15
2013	2	2	2	6	8	15
2014	2	2	2	6	8	15
2015	2	2	2	6	8	15
2020	2	2	2	6	8	15
2025	3	4	3	8	12	21

Morning Peak Hour - 70c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	2	2	2	6	8	15
2012	2	2	2	6	8	15
2013	2	2	2	6	8	15
2014	2	2	2	6	8	15
2015	2	2	2	6	8	15
2020	2	2	2	6	8	15
2025	3	4	3	8	11	21

Afternoon Peak Hour - 30c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	2	3	2	7	10	18
2012	3	3	3	7	10	19
2013	3	2	3	8	11	20
2014	3	2	3	8	11	21
2015	3	2	3	8	12	22
2020	4	5	4	11	15	28
2025	3	3	3	9	12	23

Afternoon Peak Hour - 40c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	3	3	3	8	11	19
2012	3	3	3	8	11	20
2013	3	3	3	8	11	21
2014	3	2	3	8	11	21
2015	3	2	3	8	12	22
2020	5	6	5	12	16	29
2025	3	3	3	9	12	23

Afternoon Peak Hour - 50c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	3	3	3	8	11	19
2012	3	3	3	8	11	20
2013	3	3	3	8	11	21
2014	3	3	3	8	11	21
2015	3	2	3	8	12	22
2020	4	5	4	11	15	28
2025	3	3	3	9	12	23

Afternoon Peak Hour - 60c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	3	3	3	8	11	20
2012	3	3	3	8	11	20
2013	3	3	3	8	11	21
2014	3	2	3	8	11	21
2015	2	2	2	8	11	21
2020	4	5	4	11	15	28
2025	3	3	3	9	12	23

Afternoon Peak Hour - 70c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	3	4	3	8	11	21
2012	3	4	3	9	12	22
2013	3	4	3	9	12	22
2014	3	4	3	9	13	23
2015	3	4	3	9	13	24
2020	5	7	5	12	16	29
2025	3	3	3	9	12	23

Midday Off Peak - 30c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	2	2	2	6	9	16
2012	2	2	2	6	9	16
2013	2	2	2	6	9	16
2014	2	2	2	6	9	16
2015	2	2	2	6	9	16
2020	2	2	2	6	9	16
2025	5	6	5	12	16	29

Midday Off Peak - 40c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	2	2	2	6	9	17
2012	2	2	2	6	9	17
2013	2	2	2	6	9	17
2014	2	2	2	6	9	17
2015	2	2	2	6	9	16
2020	2	2	2	6	9	16
2025	5	6	5	12	16	29

Midday Off Peak - 50c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	2	2	2	7	10	18
2012	2	2	2	7	9	17
2013	2	2	2	7	9	17
2014	2	2	2	7	9	17
2015	2	2	2	7	9	17
2020	2	2	2	6	9	17
2025	5	7	5	12	17	30

Midday Off Peak - 60c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	2	2	2	7	10	18
2012	2	2	2	7	10	18
2013	2	2	2	7	10	18
2014	2	3	2	7	10	18
2015	2	3	2	7	9	17
2020	2	2	2	7	9	17
2025	5	7	5	12	16	30

Midday Off Peak - 70c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	2	3	2	7	10	19
2012	2	3	2	7	10	19
2013	2	3	2	7	10	18
2014	2	3	2	7	10	18
2015	2	3	2	7	10	18
2020	2	3	2	7	10	18
2025	5	7	5	13	17	31

Weekday Evening - 30c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	2	2	2	5	7	14
2012	2	2	2	5	7	14
2013	2	2	2	5	7	14
2014	2	2	2	5	7	14
2015	2	2	2	5	7	14
2020	2	2	2	5	7	14
2025	2	2	2	5	7	14

Weekday Evening - 40c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	2	2	2	5	8	14
2012	2	2	2	5	8	14
2013	2	2	2	5	8	14
2014	2	2	2	5	8	14
2015	2	2	2	5	8	14
2020	2	2	2	5	8	14
2025	2	2	2	5	7	14

Weekday Evening - 50c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	2	2	2	5	7	14
2012	2	2	2	5	7	14
2013	2	2	2	5	7	14
2014	2	2	2	5	7	14
2015	2	2	2	5	7	14
2020	2	2	2	5	7	14
2025	2	2	2	5	7	14

Weekday Evening - 60c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	2	2	2	5	7	14
2012	2	2	2	5	7	14
2013	2	2	2	5	7	14
2014	2	2	2	5	7	14
2015	2	2	2	5	7	14
2020	2	2	2	5	7	14
2025	2	2	2	5	7	13

Weekday Evening - 70c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	2	2	2	5	7	14
2012	2	2	2	5	7	14
2013	2	2	2	5	7	14
2014	2	2	2	5	7	14
2015	2	2	2	5	7	14
2020	2	2	2	5	7	14
2025	2	2	2	5	7	13

Weekend - 30c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	2	2	2	5	7	13
2012	2	2	2	5	7	13
2013	2	2	2	5	7	13
2014	2	2	2	5	7	13
2015	2	2	2	5	7	13
2020	2	2	2	5	7	13
2025	2	2	2	5	7	13

Weekend - 40c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	2	2	2	5	7	13
2012	2	2	2	5	7	13
2013	2	2	2	5	7	13
2014	2	2	2	5	7	13
2015	2	2	2	5	7	13
2020	2	2	2	5	7	13
2025	2	2	2	5	7	13

Weekend - 50c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	2	2	2	5	7	13
2012	2	2	2	5	7	13
2013	2	2	2	5	7	14
2014	2	2	2	5	7	14
2015	2	2	2	5	7	14
2020	2	2	2	5	7	14
2025	2	2	2	5	7	14

Weekend - 60c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	2	2	2	5	7	13
2012	2	2	2	5	7	13
2013	2	2	2	5	7	13
2014	2	2	2	5	7	13
2015	2	2	2	5	7	13
2020	2	2	2	5	7	14
2025	2	2	2	5	7	14

Weekend - 70c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	2	2	2	5	7	13
2012	2	2	2	5	7	13
2013	2	2	2	5	7	13
2014	2	2	2	5	7	13
2015	2	2	2	5	7	13
2020	2	2	2	5	7	13
2025	2	2	2	5	7	14

N4: Proefplaas to Donkerhoek (Eastbound)

Morning Peak Hour - 30c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	3	4	3	10	14	26
2012	3	4	3	10	14	26
2013	4	4	4	10	14	26
2014	4	4	4	11	15	27
2015	4	4	4	11	15	28
2020	5	5	5	13	18	33
2025	7	9	7	18	25	46

Morning Peak Hour - 40c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	3	4	3	10	14	26
2012	4	4	4	10	14	27
2013	4	4	4	10	15	27
2014	4	4	4	11	15	28
2015	4	4	4	11	16	29
2020	5	5	5	13	18	33
2025	7	9	7	19	26	47

Morning Peak Hour - 50c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	4	4	4	10	15	27
2012	4	4	4	11	15	28
2013	4	4	4	11	15	28
2014	4	4	4	11	16	29
2015	4	4	4	12	17	30
2020	5	5	5	14	19	35
2025	7	9	7	20	27	50

Morning Peak Hour - 60c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	4	4	4	11	15	28
2012	4	4	4	11	15	28
2013	4	4	4	11	15	29
2014	4	4	4	11	16	29
2015	4	5	4	12	17	31
2020	5	6	5	14	20	36
2025	8	9	8	20	28	51

Morning Peak Hour - 70c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	4	4	4	11	16	29
2012	4	4	4	11	16	29
2013	4	4	4	11	16	29
2014	4	4	4	12	16	30
2015	4	5	4	12	17	31
2020	5	5	5	14	19	35
2025	7	9	7	18	26	46

Afternoon Peak Hour - 30c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	4	6	4	8	11	19
2012	4	7	4	9	12	20
2013	4	7	4	9	12	21
2014	4	8	4	10	13	23
2015	5	8	5	10	14	24
2020	5	7	5	13	18	32
2025	10	16	10	23	30	54

Afternoon Peak Hour - 40c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	4	7	4	9	12	22
2012	4	8	4	10	13	22
2013	5	8	5	10	13	23
2014	5	8	5	10	14	24
2015	5	9	5	11	14	25
2020	3	2	3	11	15	29
2025	10	15	10	22	29	52

Afternoon Peak Hour - 50c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	4	7	4	9	13	22
2012	5	8	5	10	13	23
2013	5	8	5	10	13	23
2014	5	9	5	10	14	24
2015	5	9	5	11	14	24
2020	4	6	4	12	16	30
2025	9	13	9	20	28	49

Afternoon Peak Hour - 60c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	6	10	6	12	16	28
2012	6	10	6	12	16	27
2013	5	10	6	11	15	26
2014	5	10	5	11	14	25
2015	5	9	5	10	14	24
2020	2	-0	2	9	13	24
2025	9	15	10	22	29	52

Afternoon Peak Hour - 70c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	4	8	4	10	13	23
2012	5	8	5	10	13	23
2013	5	8	5	10	14	24
2014	5	9	5	10	14	24
2015	5	9	5	11	14	25
2020	3	1	3	10	14	28
2025	10	16	10	22	30	52

Midday Off Peak - 30c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	4	4	4	11	16	29
2012	4	4	4	11	16	29
2013	4	4	4	11	15	28
2014	4	4	4	10	14	26
2015	3	4	3	9	13	24
2020	3	3	3	7	10	18
2025	7	12	7	17	23	41

Midday Off Peak - 40c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	4	4	4	12	17	31
2012	4	5	4	12	17	31
2013	4	5	4	12	17	31
2014	4	4	4	11	16	28
2015	4	4	4	10	14	26
2020	3	4	3	8	11	19
2025	8	13	8	18	24	42

Midday Off Peak - 50c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	4	5	4	13	18	33
2012	5	5	5	13	18	33
2013	4	5	4	13	18	33
2014	4	5	4	12	17	31
2015	4	4	4	11	15	28
2020	3	4	3	8	11	20
2025	8	12	8	17	23	41

Midday Off Peak - 60c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	5	5	5	13	18	34
2012	5	5	5	13	19	35
2013	5	5	5	13	19	34
2014	4	5	4	13	18	32
2015	4	5	4	12	16	30
2020	3	4	3	9	12	22
2025	7	12	7	17	23	40

Midday Off Peak - 70c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	5	5	5	13	19	35
2012	5	5	5	14	19	35
2013	5	5	5	14	20	36
2014	5	5	5	13	19	34
2015	4	5	4	12	17	32
2020	3	5	4	9	13	23
2025	8	13	8	17	24	42

Weekday Evening - 30c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	2	2	2	6	8	15
2012	2	2	2	6	8	15
2013	2	2	2	6	8	15
2014	2	2	2	6	8	15
2015	2	2	2	6	8	15
2020	2	2	2	6	8	15
2025	2	2	2	6	9	16

Weekday Evening - 40c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	2	2	2	6	8	15
2012	2	2	2	6	8	15
2013	2	2	2	6	8	15
2014	2	2	2	6	8	15
2015	2	2	2	6	8	15
2020	2	2	2	6	8	15
2025	2	2	2	6	8	16

Weekday Evening - 50c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	2	2	2	6	8	14
2012	2	2	2	6	8	14
2013	2	2	2	6	8	15
2014	2	2	2	6	8	15
2015	2	2	2	6	8	15
2020	2	2	2	6	8	15
2025	2	2	2	6	8	16

Weekday Evening - 60c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	2	2	2	6	8	14
2012	2	2	2	6	8	14
2013	2	2	2	6	8	15
2014	2	2	2	6	8	15
2015	2	2	2	6	8	15
2020	2	2	2	6	8	15
2025	2	2	2	6	8	16

Weekday Evening - 70c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	2	2	2	5	8	14
2012	2	2	2	6	8	14
2013	2	2	2	6	8	14
2014	2	2	2	6	8	14
2015	2	2	2	6	8	14
2020	2	2	2	6	8	15
2025	2	2	2	6	8	16

Weekend - 30c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	2	2	2	7	10	18
2012	2	2	2	7	10	18
2013	2	2	2	7	10	19
2014	2	2	2	7	10	19
2015	2	2	2	7	10	19
2020	2	2	2	7	10	19
2025	3	3	3	8	11	21

Weekend - 40c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	2	2	2	7	10	18
2012	2	2	2	7	10	18
2013	2	2	2	7	10	19
2014	2	2	2	7	10	19
2015	2	2	2	7	10	19
2020	2	3	2	7	10	19
2025	3	3	3	8	11	20

Weekend - 50c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	2	2	2	7	10	18
2012	2	2	2	7	10	18
2013	2	2	2	7	10	18
2014	2	2	2	7	10	18
2015	2	2	2	7	10	19
2020	2	2	2	7	10	19
2025	3	3	3	8	11	20

Weekend - 60c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	2	2	2	7	10	18
2012	2	2	2	7	10	18
2013	2	2	2	7	10	18
2014	2	2	2	7	10	18
2015	2	2	2	7	10	19
2020	2	2	2	7	10	19
2025	3	3	3	8	11	20

Weekend - 70c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	2	2	2	7	10	18
2012	2	2	2	7	10	18
2013	2	2	2	7	10	18
2014	2	2	2	7	10	18
2015	2	2	2	7	10	19
2020	2	2	2	7	10	19
2025	3	3	3	8	11	20

N4: Proefplaas to Donkerhoek (Westbound)

Morning Peak Hour - 30c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	1	1	1	3	5	9
2012	1	1	1	3	5	9
2013	1	1	1	4	5	9
2014	1	1	1	4	5	10
2015	1	1	1	4	5	10
2020	3	1	3	10	14	26
2025	8	11	8	19	26	46

Morning Peak Hour - 40c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	0	-1	0	2	3	6
2012	0	-1	0	2	3	6
2013	0	-1	0	2	3	6
2014	0	-1	0	2	3	7
2015	0	-1	0	2	4	7
2020	6	11	6	14	19	33
2025	7	11	7	19	25	46

Morning Peak Hour - 50c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	0	-1	0	2	3	5
2012	0	-0	0	2	4	7
2013	1	1	1	3	5	9
2014	1	2	1	4	6	11
2015	2	3	2	5	7	13
2020	6	10	6	13	18	32
2025	7	10	7	18	24	43

Morning Peak Hour - 60c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	0	-0	0	2	3	6
2012	1	-0	1	3	4	7
2013	1	0	1	3	4	8
2014	1	1	1	4	5	10
2015	1	2	1	4	6	11
2020	3	2	3	10	15	28
2025	7	11	7	18	25	45

Morning Peak Hour - 70c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	0	-1	0	2	3	6
2012	0	-1	0	2	3	6
2013	0	-0	0	2	4	7
2014	1	-0	1	3	4	8
2015	1	0	1	3	5	9
2020	6	9	6	13	18	32
2025	7	10	7	18	24	44

Afternoon Peak Hour - 30c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	3	4	3	10	14	25
2012	4	4	4	10	14	26
2013	4	4	4	10	14	26
2014	4	4	4	10	14	26
2015	4	4	4	10	14	26
2020	5	7	6	15	21	38
2025	8	12	8	19	26	46

Afternoon Peak Hour - 40c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	3	4	3	10	14	25
2012	4	4	4	10	14	26
2013	4	4	4	10	14	26
2014	4	4	4	10	14	26
2015	4	4	4	10	14	26
2020	5	7	5	15	21	38
2025	8	12	8	18	25	44

Afternoon Peak Hour - 50c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	3	4	3	10	14	25
2012	4	4	4	10	14	26
2013	4	4	4	10	14	26
2014	4	4	4	10	14	26
2015	4	4	4	10	15	27
2020	5	6	5	15	20	37
2025	8	12	8	19	25	45

Afternoon Peak Hour - 60c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	3	3	3	9	13	24
2012	3	4	3	10	14	25
2013	3	4	3	10	14	25
2014	3	4	3	10	14	25
2015	4	4	4	10	14	25
2020	5	6	5	14	19	35
2025	8	13	8	19	26	47

Afternoon Peak Hour - 70c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	3	3	3	9	13	24
2012	3	4	3	10	13	25
2013	3	4	3	10	14	25
2014	3	4	3	10	14	25
2015	4	4	4	10	14	26
2020	5	6	5	14	19	35
2025	8	12	8	18	25	44

Midday Off Peak - 30c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	3	3	3	9	13	24
2012	3	3	3	9	12	22
2013	3	3	3	8	11	21
2014	3	3	3	8	11	20
2015	3	3	3	8	11	20
2020	2	2	2	5	8	14
2025	5	7	5	13	18	33

Midday Off Peak - 40c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	3	3	3	9	13	23
2012	3	3	3	9	12	22
2013	3	3	3	8	11	21
2014	3	3	3	8	11	20
2015	3	3	3	8	11	20
2020	2	2	2	5	7	13
2025	5	7	5	13	18	33

Midday Off Peak - 50c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	3	3	3	9	13	24
2012	3	3	3	9	12	22
2013	3	3	3	8	11	21
2014	3	3	3	8	11	20
2015	3	3	3	7	10	19
2020	2	2	2	5	7	13
2025	5	7	5	12	17	31

Midday Off Peak - 60c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	3	3	3	9	13	23
2012	3	3	3	8	12	22
2013	3	3	3	8	11	20
2014	3	3	3	8	11	20
2015	3	3	3	7	10	19
2020	2	2	2	5	7	13
2025	5	6	5	12	16	29

Midday Off Peak - 70c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	3	3	3	9	12	23
2012	3	3	3	8	12	21
2013	3	3	3	8	11	20
2014	3	3	3	7	10	19
2015	2	3	2	7	10	18
2020	2	2	2	5	6	12
2025	5	6	5	12	17	30

Weekday Evening - 30c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	2	2	2	7	10	19
2012	2	2	2	7	10	19
2013	2	2	2	7	10	19
2014	2	2	2	7	10	19
2015	2	2	2	7	10	19
2020	2	2	2	7	10	19
2025	3	3	3	7	11	20

Weekday Evening - 40c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	2	2	2	7	10	19
2012	2	2	2	7	10	19
2013	2	2	2	7	10	19
2014	2	2	2	7	10	19
2015	2	2	2	7	10	19
2020	2	2	2	7	10	19
2025	2	2	2	7	10	19

Weekday Evening - 50c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	2	2	2	7	10	19
2012	2	2	2	7	10	19
2013	2	2	2	7	10	19
2014	2	2	2	7	10	19
2015	2	2	2	7	10	19
2020	2	2	2	7	10	19
2025	2	2	2	7	10	19

Weekday Evening - 60c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	2	2	2	7	10	18
2012	2	2	2	7	10	18
2013	2	2	2	7	10	18
2014	2	2	2	7	10	18
2015	2	2	2	7	10	18
2020	2	2	2	7	10	19
2025	2	2	2	7	10	19

Weekday Evening - 70c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	2	2	2	7	10	18
2012	2	2	2	7	10	18
2013	2	2	2	7	10	18
2014	2	2	2	7	10	18
2015	2	2	2	7	10	18
2020	2	2	2	7	10	19
2025	2	2	2	7	10	19

Weekend - 30c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	3	3	3	7	11	19
2012	3	3	3	7	11	19
2013	3	3	3	7	11	19
2014	3	3	3	7	11	19
2015	3	3	3	7	11	19
2020	3	3	3	7	11	20
2025	3	3	3	9	12	23

Weekend - 40c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	3	3	3	7	11	19
2012	3	3	3	7	11	19
2013	3	3	3	7	11	19
2014	3	3	3	7	11	19
2015	3	3	3	7	11	19
2020	3	3	3	7	10	19
2025	3	3	3	9	12	23

Weekend - 50c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	3	3	3	7	11	20
2012	3	3	3	7	11	20
2013	3	3	3	7	11	20
2014	3	3	3	7	11	20
2015	3	3	3	7	11	20
2020	3	3	3	7	11	19
2025	3	3	3	9	12	23

Weekend - 60c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	3	3	3	7	11	20
2012	3	3	3	7	11	19
2013	3	3	3	7	11	19
2014	3	3	3	7	11	19
2015	3	3	3	7	11	19
2020	3	3	3	7	11	19
2025	3	3	3	9	12	23

Weekend - 70c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	3	3	3	8	11	20
2012	3	3	3	7	11	20
2013	3	3	3	7	11	20
2014	3	3	3	7	11	19
2015	3	3	3	7	11	19
2020	3	3	3	7	10	19
2025	3	3	3	9	12	23

R59: Reading to Henley Road (Southbound)

Morning Peak Hour - 30c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	13	13	13	39	55	102
2012	13	13	13	39	55	101
2013	13	13	13	39	55	101
2014	13	13	13	39	55	101
2015	13	13	13	39	55	102
2020	14	14	14	42	60	110
2025	14	14	14	43	60	112

Morning Peak Hour - 40c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	13	12	13	39	54	101
2012	13	12	13	38	54	100
2013	13	12	13	38	54	100
2014	13	12	13	38	54	100
2015	13	12	13	38	54	100
2020	14	14	14	42	59	109
2025	14	13	14	42	59	110

Morning Peak Hour - 50c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	13	12	13	39	54	101
2012	13	12	13	39	54	101
2013	13	12	13	38	54	100
2014	13	12	13	39	54	101
2015	13	13	13	39	55	101
2020	14	14	14	42	58	108
2025	13	11	13	40	57	106

Morning Peak Hour - 60c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	13	13	13	39	56	103
2012	13	12	13	39	55	102
2013	13	12	13	38	54	100
2014	13	12	13	38	54	100
2015	13	12	13	38	54	99
2020	14	13	14	41	58	107
2025	14	14	14	41	58	107

Morning Peak Hour - 70c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	13	13	13	39	55	102
2012	13	12	13	39	55	101
2013	13	12	13	38	54	100
2014	13	12	13	38	54	100
2015	13	12	13	38	54	100
2020	14	13	14	41	58	107
2025	16	18	16	44	61	113

Afternoon Peak Hour - 30c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	14	13	14	42	59	109
2012	14	13	14	42	59	109
2013	14	13	14	42	59	110
2014	14	13	14	42	59	110
2015	13	12	13	42	59	110
2020	19	20	19	55	76	141
2025	25	31	25	67	93	170

Afternoon Peak Hour - 40c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	14	14	14	42	59	110
2012	14	14	14	43	60	111
2013	14	14	14	43	61	113
2014	14	14	14	44	62	114
2015	14	14	14	44	62	115
2020	19	21	19	56	78	143
2025	25	33	25	67	93	168

Afternoon Peak Hour - 50c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	13	13	13	41	57	107
2012	14	13	14	41	58	108
2013	14	13	14	42	59	109
2014	14	13	14	42	60	111
2015	14	13	14	43	60	112
2020	20	23	20	57	79	145
2025	28	40	28	70	96	172

Afternoon Peak Hour - 60c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	13	13	13	41	58	108
2012	14	13	14	42	59	110
2013	14	14	14	43	61	112
2014	15	14	15	44	62	115
2015	15	15	15	45	63	117
2020	18	19	18	53	74	136
2025	27	36	27	71	98	178

Afternoon Peak Hour - 70c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	14	14	14	43	60	112
2012	14	14	14	43	60	111
2013	14	14	14	42	60	111
2014	14	13	14	42	60	111
2015	14	12	14	42	59	110
2020	18	18	18	52	74	136
2025	28	39	28	72	99	178

Midday Off Peak - 30c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	15	15	15	43	61	113
2012	15	15	15	44	61	114
2013	15	15	15	44	62	115
2014	15	15	15	44	63	116
2015	15	15	15	45	63	117
2020	17	17	17	49	69	128
2025	20	21	20	58	81	149

Midday Off Peak - 40c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	14	14	14	42	60	110
2012	14	14	14	43	60	111
2013	14	14	14	43	61	113
2014	15	15	15	44	62	114
2015	15	15	15	44	62	115
2020	16	16	16	47	66	123
2025	20	21	20	57	80	147

Midday Off Peak - 50c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	14	14	14	41	58	108
2012	14	14	14	42	59	109
2013	14	14	14	42	60	110
2014	14	14	14	43	60	111
2015	14	14	14	43	61	113
2020	15	15	15	47	66	122
2025	21	23	21	59	82	150

Midday Off Peak - 60c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	13	13	13	40	57	105
2012	14	13	14	41	57	106
2013	14	13	14	41	58	107
2014	14	14	14	42	59	109
2015	14	14	14	42	59	110
2020	16	15	16	47	66	122
2025	15	12	15	48	69	128

Midday Off Peak - 70c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	14	13	14	41	57	106
2012	14	13	14	41	58	107
2013	14	14	14	41	58	108
2014	14	14	14	42	59	109
2015	14	14	14	42	59	110
2020	15	14	15	45	63	118
2025	19	20	19	56	79	145

Weekday Evening - 30c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	13	13	13	38	53	98
2012	13	13	13	38	53	98
2013	13	13	13	38	53	98
2014	13	13	13	38	53	98
2015	13	13	13	38	53	98
2020	13	13	13	38	53	98
2025	12	12	12	37	52	97

Weekday Evening - 40c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	12	12	12	37	52	97
2012	12	12	12	37	52	97
2013	12	12	12	37	52	97
2014	12	12	12	37	52	97
2015	12	12	12	37	52	97
2020	12	12	12	37	52	97
2025	12	12	12	37	52	96

Weekday Evening - 50c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	12	12	12	36	50	93
2012	12	12	12	36	50	93
2013	12	12	12	36	50	93
2014	12	12	12	36	51	94
2015	12	12	12	36	51	94
2020	12	12	12	36	51	94
2025	12	12	12	36	51	95

Weekday Evening - 60c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	12	12	12	35	49	91
2012	12	12	12	35	49	91
2013	12	12	12	35	49	91
2014	12	12	12	35	49	91
2015	12	12	12	35	49	92
2020	12	12	12	36	50	92
2025	12	12	12	36	50	93

Weekday Evening - 70c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	11	11	11	34	48	89
2012	12	12	12	34	48	90
2013	12	12	12	35	49	90
2014	12	12	12	35	49	90
2015	12	12	12	35	49	90
2020	12	12	12	35	49	91
2025	12	12	12	35	50	92

Weekend - 30c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	12	12	12	35	50	92
2012	12	12	12	35	50	92
2013	12	12	12	35	50	92
2014	12	12	12	35	50	92
2015	12	12	12	35	50	92
2020	12	12	12	36	50	92
2025	12	12	12	36	51	94

Weekend - 40c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	12	12	12	35	49	91
2012	12	12	12	35	49	91
2013	12	12	12	35	49	92
2014	12	12	12	35	50	92
2015	12	12	12	35	50	92
2020	12	12	12	35	50	92
2025	12	12	12	36	51	94

Weekend - 50c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	12	12	12	35	49	91
2012	12	12	12	35	49	91
2013	12	12	12	35	49	91
2014	12	12	12	35	49	91
2015	12	12	12	35	49	91
2020	12	12	12	35	50	92
2025	12	12	12	36	50	93

Weekend - 60c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	11	11	11	34	48	89
2012	11	11	11	34	48	89
2013	11	11	11	34	48	89
2014	11	11	11	34	48	89
2015	11	11	11	34	48	89
2020	12	12	12	34	48	89
2025	12	12	12	35	50	92

Weekend - 70c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	11	11	11	34	48	88
2012	11	11	11	34	48	88
2013	11	11	11	34	48	88
2014	11	11	11	34	48	88
2015	11	11	11	34	48	89
2020	11	12	11	34	48	89
2025	12	12	12	35	49	91

R59: Reading to Henley Road (Northbound)

Morning Peak Hour - 30c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	19	23	19	52	73	133
2012	19	23	19	53	74	135
2013	20	24	20	54	75	138
2014	20	24	20	55	77	140
2015	20	24	20	56	78	142
2020	22	27	22	61	85	155
2025	29	40	29	74	102	184

Morning Peak Hour - 40c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	18	21	18	50	70	128
2012	19	22	19	52	72	132
2013	19	23	19	53	74	135
2014	20	24	20	55	76	139
2015	20	25	21	56	78	143
2020	23	29	23	63	88	160
2025	29	41	29	74	101	182

Morning Peak Hour - 50c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	18	21	18	50	69	127
2012	19	22	19	51	72	131
2013	19	23	19	53	74	136
2014	20	24	20	55	77	140
2015	21	25	21	57	79	145
2020	25	33	25	66	91	165
2025	30	42	30	75	103	185

Morning Peak Hour - 60c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	19	22	19	51	71	130
2012	19	22	19	52	72	132
2013	19	23	19	53	73	134
2014	19	23	19	53	75	136
2015	20	23	20	54	76	138
2020	22	26	22	60	84	154
2025	30	42	30	75	103	185

Morning Peak Hour - 70c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	18	21	18	50	69	126
2012	19	22	19	51	71	130
2013	19	23	19	53	74	134
2014	20	24	20	55	76	139
2015	21	25	21	56	78	143
2020	25	34	26	66	92	166
2025	29	39	29	74	102	184

Afternoon Peak Hour - 30c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	15	15	15	46	64	119
2012	16	15	16	47	66	122
2013	16	16	16	47	67	123
2014	16	16	16	47	66	123
2015	16	16	16	48	67	125
2020	18	20	18	53	74	136
2025	19	20	19	56	79	146

Afternoon Peak Hour - 40c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	16	15	16	46	65	120
2012	16	16	16	47	66	122
2013	16	16	16	47	67	124
2014	16	16	16	47	66	123
2015	16	16	16	48	67	124
2020	19	21	19	54	75	138
2025	26	37	27	67	92	166

Afternoon Peak Hour - 50c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	16	15	16	46	65	121
2012	16	16	16	47	66	123
2013	16	16	16	48	67	124
2014	16	15	16	47	66	123
2015	16	15	16	48	67	124
2020	17	17	17	52	73	134
2025	23	28	23	62	86	157

Afternoon Peak Hour - 60c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	16	16	16	47	66	122
2012	16	16	16	47	67	123
2013	16	16	16	48	67	124
2014	16	16	16	47	67	123
2015	16	16	16	48	67	124
2020	17	18	17	50	71	131
2025	19	20	19	56	79	146

Afternoon Peak Hour - 70c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	16	16	16	48	67	124
2012	16	16	16	48	67	125
2013	16	16	16	48	68	125
2014	16	16	16	48	67	124
2015	16	16	16	48	67	125
2020	18	19	18	52	73	134
2025	20	20	20	58	82	151

Midday Off Peak - 30c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	16	17	16	48	67	123
2012	16	17	16	48	67	124
2013	17	18	17	49	68	125
2014	17	18	17	49	69	127
2015	17	18	17	50	70	128
2020	16	17	16	47	66	122
2025	17	17	17	49	69	127

Midday Off Peak - 40c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	16	17	16	47	66	122
2012	16	17	16	48	67	123
2013	17	17	17	48	68	125
2014	17	18	17	49	69	127
2015	17	18	17	50	70	129
2020	16	16	16	46	65	120
2025	16	17	16	48	67	124

Midday Off Peak - 50c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	16	16	16	46	65	120
2012	16	17	16	47	66	121
2013	16	17	16	47	66	123
2014	16	17	16	48	67	124
2015	17	18	17	48	68	125
2020	16	16	16	46	64	119
2025	16	17	16	48	67	124

Midday Off Peak - 60c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	16	17	16	48	67	123
2012	16	17	16	48	67	124
2013	17	17	17	48	68	125
2014	17	18	17	49	68	126
2015	17	18	17	49	69	127
2020	16	16	16	46	65	120
2025	16	17	16	48	68	125

Midday Off Peak - 70c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	17	17	17	48	68	125
2012	17	17	17	49	68	126
2013	17	18	17	49	68	126
2014	17	18	17	49	69	127
2015	17	18	17	49	69	127
2020	16	16	16	46	65	120
2025	16	17	16	48	68	125

Weekday Evening - 30c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	12	12	12	37	52	96
2012	12	12	12	37	52	96
2013	12	12	12	37	52	96
2014	12	12	12	37	52	96
2015	12	12	12	37	52	96
2020	12	12	12	37	52	96
2025	12	12	12	37	51	95

Weekday Evening - 40c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	12	12	12	35	49	91
2012	12	12	12	35	49	91
2013	12	12	12	35	49	91
2014	12	12	12	35	49	92
2015	12	12	12	35	50	92
2020	12	12	12	35	50	92
2025	12	12	12	35	50	92

Weekday Evening - 50c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	12	12	12	35	49	91
2012	12	12	12	35	49	91
2013	12	12	12	35	49	92
2014	12	12	12	35	50	92
2015	12	12	12	35	50	92
2020	12	12	12	36	50	93
2025	12	12	12	36	51	94

Weekday Evening - 60c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	11	11	11	34	48	89
2012	11	11	11	34	48	89
2013	12	12	12	34	48	90
2014	12	12	12	35	49	90
2015	12	12	12	35	49	90
2020	12	12	12	35	50	92
2025	12	12	12	35	50	92

Weekday Evening - 70c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	11	11	11	34	48	89
2012	12	12	12	34	48	90
2013	12	12	12	35	49	90
2014	12	12	12	35	49	90
2015	12	12	12	35	49	91
2020	12	12	12	35	49	91
2025	12	12	12	35	50	92

Weekend - 30c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	12	12	12	36	51	94
2012	12	12	12	37	51	95
2013	12	12	12	37	52	96
2014	12	13	12	37	52	97
2015	13	13	13	37	53	97
2020	13	14	13	40	56	104
2025	16	16	16	46	65	120

Weekend - 40c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	12	12	12	35	50	92
2012	12	12	12	36	50	93
2013	12	12	12	36	51	94
2014	12	12	12	37	52	96
2015	12	13	12	37	52	97
2020	13	14	13	40	56	103
2025	16	16	16	47	65	121

Weekend - 50c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	12	12	12	36	50	92
2012	12	12	12	36	50	93
2013	12	12	12	36	51	94
2014	12	12	12	36	51	94
2015	12	12	12	37	51	95
2020	13	14	13	40	56	103
2025	16	16	16	47	66	122

Weekend - 60c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	12	12	12	35	49	91
2012	12	12	12	35	50	92
2013	12	12	12	36	50	93
2014	12	12	12	36	51	94
2015	12	12	12	37	51	95
2020	13	14	13	39	55	102
2025	16	17	16	48	67	124

Weekend - 70c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	12	12	12	35	49	91
2012	12	12	12	35	50	92
2013	12	12	12	36	50	93
2014	12	12	12	36	51	94
2015	12	12	12	36	51	95
2020	13	13	13	39	55	102
2025	16	17	16	48	68	125

R80 (PWV9): Soshanguve to Suiderberg (Southbound)

Morning Peak Hour - 30c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	7	8	7	20	27	50
2012	7	8	7	20	27	50
2013	7	8	7	19	27	50
2014	7	8	7	19	27	50
2015	7	7	7	19	27	49
2020	7	8	7	19	27	49
2025	6	6	6	19	26	49

Morning Peak Hour - 40c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	7	9	7	20	28	51
2012	7	9	7	20	28	52
2013	8	9	8	21	29	52
2014	8	10	8	21	29	53
2015	8	10	8	21	29	54
2020	6	7	6	19	26	49
2025	7	7	7	19	27	50

Morning Peak Hour - 50c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	7	8	7	19	27	49
2012	7	8	7	20	28	50
2013	7	9	7	20	28	51
2014	8	9	8	21	29	53
2015	8	10	8	21	29	53
2020	7	10	7	20	28	50
2025	6	6	6	19	26	49

Morning Peak Hour - 60c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	7	7	7	19	27	49
2012	7	8	7	20	28	51
2013	7	9	7	20	28	52
2014	8	10	8	21	29	53
2015	8	11	8	22	30	55
2020	6	7	6	19	26	48
2025	6	6	6	19	27	49

Morning Peak Hour - 70c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	6	5	6	17	24	45
2012	6	6	6	18	26	47
2013	7	8	7	20	27	50
2014	8	9	8	21	29	53
2015	8	11	8	22	31	55
2020	8	10	8	20	28	51
2025	7	7	7	19	27	50

Afternoon Peak Hour - 30c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	4	4	4	13	19	34
2012	5	5	5	14	19	35
2013	5	5	5	14	20	36
2014	5	5	5	14	20	37
2015	5	5	5	15	21	38
2020	5	5	5	14	19	35
2025	3	2	3	12	18	33

Afternoon Peak Hour - 40c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	4	4	4	13	19	35
2012	5	5	5	14	19	36
2013	5	5	5	14	20	36
2014	5	5	5	14	20	37
2015	5	5	5	15	21	38
2020	5	5	5	14	19	36
2025	3	0	3	12	17	33

Afternoon Peak Hour - 50c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	5	5	5	14	19	36
2012	5	5	5	14	20	36
2013	5	5	5	14	20	37
2014	5	5	5	14	20	37
2015	5	5	5	15	20	38
2020	5	5	5	14	19	35
2025	3	0	3	12	17	33

Afternoon Peak Hour - 60c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	5	5	5	14	19	36
2012	5	5	5	14	20	36
2013	5	5	5	14	20	37
2014	5	5	5	14	20	38
2015	5	5	5	15	21	38
2020	5	5	5	14	19	35
2025	3	2	3	12	18	33

Afternoon Peak Hour - 70c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	5	5	5	14	19	35
2012	5	5	5	14	19	36
2013	5	5	5	14	20	37
2014	5	5	5	14	20	37
2015	5	5	5	15	20	38
2020	5	6	5	14	19	35
2025	3	2	3	13	18	34

Midday Off Peak - 30c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	5	5	5	16	22	41
2012	5	5	5	16	22	41
2013	5	5	5	16	22	41
2014	5	5	5	16	23	42
2015	5	5	5	16	23	42
2020	5	6	5	16	23	42
2025	4	4	4	14	20	38

Midday Off Peak - 40c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	5	5	5	16	22	41
2012	5	5	5	16	22	41
2013	5	5	5	16	22	41
2014	5	5	5	16	22	41
2015	5	5	5	16	22	41
2020	5	5	5	16	22	41
2025	4	2	4	14	20	37

Midday Off Peak - 50c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	5	5	5	16	22	41
2012	5	5	5	16	22	41
2013	5	5	5	16	22	41
2014	5	5	5	16	22	42
2015	5	5	5	16	22	42
2020	5	5	5	16	23	42
2025	5	4	5	15	21	38

Midday Off Peak - 60c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	5	5	5	16	22	42
2012	5	5	5	16	23	42
2013	5	5	5	16	23	42
2014	5	6	5	16	23	42
2015	6	6	6	16	23	42
2020	5	6	5	16	23	42
2025	2	-3	2	11	16	32

Midday Off Peak - 70c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	5	5	5	16	22	41
2012	5	5	5	16	22	41
2013	5	5	5	16	23	42
2014	5	6	5	16	23	42
2015	6	6	6	16	23	42
2020	5	5	5	16	23	42
2025	3	-1	3	13	18	35

Weekday Evening - 30c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	4	4	4	12	16	30
2012	4	4	4	12	16	30
2013	4	4	4	12	16	30
2014	4	4	4	12	16	30
2015	4	4	4	12	16	30
2020	4	4	4	12	16	30
2025	4	4	4	12	16	30

Weekday Evening - 40c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	4	4	4	12	16	30
2012	4	4	4	12	16	30
2013	4	4	4	12	16	30
2014	4	4	4	12	16	30
2015	4	4	4	12	16	30
2020	4	4	4	12	16	30
2025	4	4	4	12	16	30

Weekday Evening - 50c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	4	4	4	12	16	30
2012	4	4	4	12	16	30
2013	4	4	4	12	16	30
2014	4	4	4	12	16	30
2015	4	4	4	12	16	30
2020	4	4	4	12	16	30
2025	4	4	4	12	16	30

Weekday Evening - 60c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	4	4	4	12	16	30
2012	4	4	4	12	16	30
2013	4	4	4	12	16	30
2014	4	4	4	12	16	30
2015	4	4	4	12	16	30
2020	4	4	4	12	16	30
2025	4	4	4	12	16	30

Weekday Evening - 70c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	4	4	4	12	16	30
2012	4	4	4	12	16	30
2013	4	4	4	12	16	30
2014	4	4	4	12	16	30
2015	4	4	4	12	16	30
2020	4	4	4	12	16	30
2025	4	4	4	12	16	30

Weekend - 30c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	4	4	4	12	16	30
2012	4	4	4	12	16	30
2013	4	4	4	12	16	30
2014	4	4	4	12	16	30
2015	4	4	4	12	16	30
2020	4	4	4	12	17	31
2025	4	4	4	13	18	33

Weekend - 40c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	4	4	4	12	16	30
2012	4	4	4	12	16	30
2013	4	4	4	12	16	30
2014	4	4	4	12	16	30
2015	4	4	4	12	16	30
2020	4	4	4	12	17	31
2025	4	4	4	13	18	34

Weekend - 50c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	4	4	4	12	16	30
2012	4	4	4	12	16	30
2013	4	4	4	12	16	30
2014	4	4	4	12	16	30
2015	4	4	4	12	16	30
2020	4	4	4	12	17	31
2025	4	4	4	13	18	33

Weekend - 60c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	4	4	4	12	16	30
2012	4	4	4	12	16	30
2013	4	4	4	12	16	30
2014	4	4	4	12	16	30
2015	4	4	4	12	16	30
2020	4	4	4	12	17	32
2025	4	4	4	13	18	34

Weekend - 70c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	4	4	4	12	16	30
2012	4	4	4	12	16	30
2013	4	4	4	12	16	30
2014	4	4	4	12	16	30
2015	4	4	4	12	16	30
2020	4	4	4	12	17	32
2025	4	4	4	13	18	34

R80 (PWV9): Soshanguve to Suiderberg (Northbound)

Morning Peak Hour - 30c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	4	4	4	13	18	34
2012	4	4	4	13	19	35
2013	4	4	4	13	19	35
2014	5	4	5	14	19	36
2015	5	4	5	14	19	36
2020	5	5	5	13	19	35
2025	4	3	4	12	18	33

Morning Peak Hour - 40c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	4	4	4	13	18	34
2012	4	4	4	13	19	34
2013	4	4	4	13	19	35
2014	4	4	4	14	19	35
2015	4	4	4	14	19	36
2020	4	4	4	13	18	34
2025	4	4	4	13	18	34

Morning Peak Hour - 50c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	4	4	4	13	18	34
2012	4	4	4	13	19	34
2013	4	4	4	13	19	35
2014	4	4	4	14	19	35
2015	5	4	5	14	19	36
2020	5	5	5	13	19	35
2025	4	4	4	13	18	34

Morning Peak Hour - 60c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	4	4	4	13	18	34
2012	4	4	4	13	19	35
2013	4	4	4	14	19	35
2014	5	5	5	14	19	36
2015	5	5	5	14	20	37
2020	4	5	4	13	19	35
2025	4	3	4	13	18	34

Morning Peak Hour - 70c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	4	4	4	13	19	35
2012	4	4	4	13	19	35
2013	5	4	5	14	19	36
2014	5	5	5	14	19	36
2015	5	5	5	14	20	36
2020	5	5	5	13	19	35
2025	4	3	4	13	18	34

Afternoon Peak Hour - 30c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	7	7	7	19	27	50
2012	6	6	6	19	26	48
2013	6	6	6	18	26	47
2014	6	5	6	18	25	46
2015	5	4	5	17	25	46
2020	6	7	6	19	27	49
2025	6	6	6	19	27	49

Afternoon Peak Hour - 40c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	7	9	7	20	28	52
2012	7	8	7	20	28	51
2013	7	8	7	20	27	50
2014	7	7	7	19	27	50
2015	6	6	6	19	27	49
2020	5	4	5	18	25	47
2025	6	5	6	18	26	48

Afternoon Peak Hour - 50c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	7	9	7	20	28	52
2012	7	7	7	19	27	50
2013	6	6	6	18	25	47
2014	5	4	5	17	24	44
2015	4	1	4	16	23	44
2020	7	7	7	19	26	49
2025	6	5	6	18	26	48

Afternoon Peak Hour - 60c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	6	6	6	18	25	47
2012	6	6	6	18	25	47
2013	6	6	6	18	25	47
2014	6	5	6	18	25	47
2015	6	5	6	18	25	47
2020	6	5	6	18	25	47
2025	7	8	7	20	28	52

Afternoon Peak Hour - 70c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	7	8	7	20	28	51
2012	7	8	7	20	28	51
2013	7	8	7	20	28	51
2014	7	7	7	19	27	50
2015	6	6	6	19	27	50
2020	8	11	8	20	28	51
2025	6	6	6	19	27	50

Midday Off Peak - 30c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	5	5	5	16	22	41
2012	5	5	5	16	22	41
2013	5	5	5	16	22	41
2014	5	5	5	16	22	41
2015	5	5	5	16	22	41
2020	6	7	6	17	24	45
2025	7	10	7	19	26	47

Midday Off Peak - 40c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	5	5	5	15	22	40
2012	5	5	5	15	22	40
2013	5	5	5	15	22	40
2014	5	5	5	15	21	40
2015	5	5	5	15	21	40
2020	6	7	6	17	24	45
2025	5	3	5	16	22	42

Midday Off Peak - 50c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	5	5	5	15	22	40
2012	5	5	5	15	22	40
2013	5	5	5	15	22	40
2014	5	5	5	15	22	40
2015	5	5	5	15	22	40
2020	6	6	6	17	24	44
2025	6	6	6	17	24	44

Midday Off Peak - 60c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	5	5	5	16	22	41
2012	5	5	5	16	22	41
2013	5	5	5	16	22	41
2014	5	5	5	15	22	40
2015	5	5	5	15	22	40
2020	6	6	6	16	23	43
2025	3	-1	3	13	20	38

Midday Off Peak - 70c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	5	5	5	15	22	41
2012	5	5	5	16	22	41
2013	5	5	5	16	22	41
2014	5	5	5	16	22	41
2015	5	5	5	16	22	41
2020	5	5	5	16	23	43
2025	4	2	4	16	23	43

Weekday Evening - 30c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	4	4	4	12	16	30
2012	4	4	4	12	16	30
2013	4	4	4	12	16	30
2014	4	4	4	12	16	30
2015	4	4	4	12	16	30
2020	4	4	4	12	16	30
2025	4	4	4	12	16	30

Weekday Evening - 40c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	4	4	4	12	16	30
2012	4	4	4	12	16	30
2013	4	4	4	12	16	30
2014	4	4	4	12	16	30
2015	4	4	4	12	16	30
2020	4	4	4	12	16	30
2025	4	4	4	12	16	30

Weekday Evening - 50c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	4	4	4	12	16	30
2012	4	4	4	12	16	30
2013	4	4	4	12	16	30
2014	4	4	4	12	16	30
2015	4	4	4	12	16	30
2020	4	4	4	12	16	30
2025	4	4	4	12	16	30

Weekday Evening - 60c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	4	4	4	12	16	30
2012	4	4	4	12	16	30
2013	4	4	4	12	16	30
2014	4	4	4	12	16	30
2015	4	4	4	12	16	30
2020	4	4	4	12	16	30
2025	4	4	4	12	16	30

Weekday Evening - 70c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	4	4	4	12	16	30
2012	4	4	4	12	16	30
2013	4	4	4	12	16	30
2014	4	4	4	12	16	30
2015	4	4	4	12	16	30
2020	4	4	4	12	16	30
2025	4	4	4	12	16	30

Weekend - 30c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	4	4	4	12	16	30
2012	4	4	4	12	16	30
2013	4	4	4	12	16	30
2014	4	4	4	12	16	30
2015	4	4	4	12	16	30
2020	4	4	4	12	17	31
2025	4	4	4	12	17	32

Weekend - 40c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	4	4	4	12	16	30
2012	4	4	4	12	16	30
2013	4	4	4	12	16	30
2014	4	4	4	12	16	30
2015	4	4	4	12	16	30
2020	4	4	4	12	17	31
2025	4	4	4	12	17	31

Weekend - 50c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	4	4	4	11	16	30
2012	4	4	4	12	16	30
2013	4	4	4	12	16	30
2014	4	4	4	12	16	30
2015	4	4	4	12	16	30
2020	4	4	4	12	16	30
2025	4	4	4	12	17	31

Weekend - 60c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	4	4	4	11	16	30
2012	4	4	4	12	16	30
2013	4	4	4	12	16	30
2014	4	4	4	12	16	30
2015	4	4	4	12	16	30
2020	4	4	4	12	16	30
2025	4	4	4	12	17	31

Weekend - 70c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	4	4	4	11	16	30
2012	4	4	4	11	16	30
2013	4	4	4	12	16	30
2014	4	4	4	12	16	30
2015	4	4	4	12	16	30
2020	4	4	4	12	16	30
2025	4	4	4	12	17	31

R80: Suiderberg to D.F. Malan (Eastbound)

Morning Peak Hour - 30c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	2	2	2	6	8	14
2012	2	2	2	5	8	14
2013	2	2	2	5	7	13
2014	2	2	2	5	7	13
2015	2	2	2	5	7	13
2020	2	3	2	5	8	14
2025	2	2	2	5	7	12

Morning Peak Hour - 40c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	2	2	2	6	8	15
2012	2	3	2	6	9	16
2013	2	3	2	6	9	16
2014	2	3	2	6	9	16
2015	2	3	2	6	9	16
2020	2	2	2	5	7	13
2025	1	1	1	4	6	11

Morning Peak Hour - 50c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	2	2	2	6	8	14
2012	2	2	2	6	8	15
2013	2	3	2	6	8	15
2014	2	3	2	6	8	15
2015	2	3	2	6	9	16
2020	2	3	2	6	9	15
2025	1	1	1	4	5	10

Morning Peak Hour - 60c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	2	2	2	5	7	14
2012	2	3	2	6	9	16
2013	3	3	3	7	10	17
2014	3	4	3	8	11	19
2015	3	4	3	8	12	21
2020	3	3	3	7	9	17
2025	2	3	2	6	8	14

Morning Peak Hour - 70c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	2	2	2	4	6	12
2012	2	2	2	5	7	12
2013	2	2	2	5	7	13
2014	2	2	2	6	8	14
2015	2	3	2	6	8	15
2020	2	2	2	5	7	12
2025	2	3	2	5	7	13

Afternoon Peak Hour - 30c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	1	1	1	3	5	9
2012	1	1	1	4	5	9
2013	1	1	1	4	5	10
2014	1	1	1	4	6	10
2015	1	2	1	4	6	11
2020	2	2	2	5	7	12
2025	1	1	1	3	4	8

Afternoon Peak Hour - 40c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	1	1	1	4	5	10
2012	1	1	1	4	6	10
2013	1	1	1	4	6	11
2014	2	2	2	4	6	11
2015	2	2	2	5	6	12
2020	2	2	2	4	6	11
2025	1	0	1	2	3	6

Afternoon Peak Hour - 50c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	1	1	1	4	5	9
2012	1	1	1	4	5	10
2013	1	1	1	4	6	11
2014	2	2	2	4	6	11
2015	2	2	2	5	7	12
2020	2	2	2	4	6	11
2025	1	1	1	4	5	9

Afternoon Peak Hour - 60c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	1	1	1	4	6	11
2012	1	2	1	4	6	11
2013	2	2	2	4	6	11
2014	2	2	2	4	6	12
2015	2	2	2	5	6	12
2020	2	2	2	5	7	12
2025	1	1	1	4	5	9

Afternoon Peak Hour - 70c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	1	1	1	3	5	8
2012	1	1	1	4	5	9
2013	1	1	1	4	6	10
2014	2	2	2	4	6	11
2015	2	2	2	5	7	12
2020	1	1	1	3	5	9
2025	1	1	1	3	4	8

Midday Off Peak - 30c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	1	1	1	3	5	9
2012	1	1	1	3	5	9
2013	1	1	1	3	5	9
2014	1	1	1	3	5	9
2015	1	1	1	3	5	8
2020	1	1	1	3	5	9
2025	2	2	2	5	7	12

Midday Off Peak - 40c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	1	1	1	3	5	9
2012	1	1	1	3	5	9
2013	1	1	1	3	5	8
2014	1	1	1	3	4	8
2015	1	1	1	3	4	8
2020	1	1	1	3	5	9
2025	2	2	2	5	7	12

Midday Off Peak - 50c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	1	1	1	3	5	9
2012	1	1	1	3	5	9
2013	1	1	1	3	5	9
2014	1	1	1	3	5	9
2015	1	1	1	3	5	8
2020	1	1	1	3	5	9
2025	1	2	1	4	6	11

Midday Off Peak - 60c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	1	1	1	3	5	9
2012	1	1	1	3	5	9
2013	1	1	1	3	5	9
2014	1	1	1	3	5	9
2015	1	1	1	3	5	8
2020	1	1	1	3	5	9
2025	2	2	2	4	6	11

Midday Off Peak - 70c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	1	1	1	3	5	9
2012	1	1	1	3	5	9
2013	1	1	1	3	5	9
2014	1	1	1	3	5	9
2015	1	1	1	3	5	9
2020	1	1	1	3	5	9
2025	1	1	1	4	6	11

Weekday Evening - 30c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	1	1	1	3	4	7
2012	1	1	1	3	4	7
2013	1	1	1	3	4	7
2014	1	1	1	3	4	7
2015	1	1	1	3	4	7
2020	1	1	1	3	4	7
2025	1	1	1	3	4	7

Weekday Evening - 40c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	1	1	1	3	4	7
2012	1	1	1	3	4	7
2013	1	1	1	3	4	7
2014	1	1	1	3	4	7
2015	1	1	1	3	4	7
2020	1	1	1	3	4	7
2025	1	1	1	3	4	7

Weekday Evening - 50c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	1	1	1	3	4	7
2012	1	1	1	3	4	7
2013	1	1	1	3	4	7
2014	1	1	1	3	4	7
2015	1	1	1	3	4	7
2020	1	1	1	3	4	7
2025	1	1	1	3	4	7

Weekday Evening - 60c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	1	1	1	3	4	7
2012	1	1	1	3	4	7
2013	1	1	1	3	4	7
2014	1	1	1	3	4	7
2015	1	1	1	3	4	7
2020	1	1	1	3	4	7
2025	1	1	1	3	4	7

Weekday Evening - 70c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	1	1	1	3	4	7
2012	1	1	1	3	4	7
2013	1	1	1	3	4	7
2014	1	1	1	3	4	7
2015	1	1	1	3	4	7
2020	1	1	1	3	4	7
2025	1	1	1	3	4	7

Weekend - 30c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	1	1	1	3	4	7
2012	1	1	1	3	4	7
2013	1	1	1	3	4	7
2014	1	1	1	3	4	7
2015	1	1	1	3	4	7
2020	1	1	1	3	4	7
2025	1	1	1	3	5	9

Weekend - 40c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	1	1	1	3	4	7
2012	1	1	1	3	4	7
2013	1	1	1	3	4	7
2014	1	1	1	3	4	7
2015	1	1	1	3	4	7
2020	1	1	1	3	4	8
2025	1	1	1	3	5	9

Weekend - 50c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	1	1	1	3	4	7
2012	1	1	1	3	4	7
2013	1	1	1	3	4	7
2014	1	1	1	3	4	7
2015	1	1	1	3	4	7
2020	1	1	1	3	4	8
2025	1	1	1	3	5	9

Weekend - 60c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	1	1	1	3	4	7
2012	1	1	1	3	4	7
2013	1	1	1	3	4	7
2014	1	1	1	3	4	7
2015	1	1	1	3	4	7
2020	1	1	1	3	4	8
2025	1	1	1	4	5	9

Weekend - 70c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	1	1	1	3	4	7
2012	1	1	1	3	4	7
2013	1	1	1	3	4	7
2014	1	1	1	3	4	7
2015	1	1	1	3	4	7
2020	1	1	1	3	4	8
2025	1	1	1	4	5	9

R80: Suiderberg to D.F. Malan (Westbound)

Morning Peak Hour - 30c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	1	1	1	4	6	11
2012	1	1	1	4	6	11
2013	1	1	1	4	6	11
2014	1	1	1	4	6	11
2015	1	1	1	4	6	11
2020	1	1	1	3	5	8
2025	2	1	2	5	7	13

Morning Peak Hour - 40c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	1	1	1	4	6	11
2012	1	1	1	4	6	11
2013	1	1	1	4	6	11
2014	1	1	1	4	6	11
2015	1	1	1	4	6	11
2020	1	2	1	4	6	10
2025	1	1	1	5	6	12

Morning Peak Hour - 50c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	2	2	2	5	6	12
2012	2	2	2	4	6	12
2013	1	2	1	4	6	11
2014	1	1	1	4	6	11
2015	1	1	1	4	6	11
2020	2	2	2	5	7	12
2025	1	1	1	4	6	12

Morning Peak Hour - 60c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	1	1	1	4	6	11
2012	2	2	2	5	6	12
2013	2	2	2	5	7	13
2014	2	2	2	5	7	14
2015	2	2	2	6	8	14
2020	2	2	2	6	8	15
2025	1	0	1	4	5	10

Morning Peak Hour - 70c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	2	2	2	5	6	12
2012	1	1	1	4	6	11
2013	1	1	1	4	6	11
2014	1	1	1	4	6	10
2015	1	1	1	4	5	10
2020	2	2	2	5	6	12
2025	1	1	1	5	7	13

Afternoon Peak Hour - 30c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	2	2	2	5	8	14
2012	2	2	2	5	7	14
2013	2	2	2	5	7	13
2014	2	2	2	5	7	13
2015	2	2	2	5	7	13
2020	2	2	2	5	7	13
2025	-3	-9	-3	-1	0	4

Afternoon Peak Hour - 40c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	2	2	2	6	8	14
2012	2	2	2	5	8	14
2013	2	2	2	5	7	14
2014	2	2	2	5	7	13
2015	2	2	2	5	7	13
2020	1	2	1	4	6	11
2025	0	-1	0	3	4	8

Afternoon Peak Hour - 50c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	2	2	2	6	8	15
2012	2	2	2	5	8	14
2013	2	2	2	5	7	13
2014	2	2	2	4	6	12
2015	1	1	1	4	6	10
2020	2	2	2	5	7	12
2025	-3	-10	-3	-1	0	3

Afternoon Peak Hour - 60c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	2	2	2	5	7	12
2012	2	2	2	5	7	12
2013	2	2	2	5	7	12
2014	2	2	2	5	7	13
2015	2	2	2	5	7	13
2020	2	3	2	5	8	14
2025	-3	-9	-3	-0	1	4

Afternoon Peak Hour - 70c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	2	2	2	5	7	13
2012	2	2	2	5	7	13
2013	2	2	2	5	7	13
2014	2	2	2	5	7	13
2015	2	2	2	5	7	13
2020	2	2	2	5	7	13
2025	2	2	2	5	7	12

Midday Off Peak - 30c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	1	1	1	3	5	8
2012	1	1	1	3	5	8
2013	1	1	1	3	5	8
2014	1	1	1	3	5	8
2015	1	1	1	3	5	9
2020	1	1	1	3	5	9
2025	2	2	2	5	7	13

Midday Off Peak - 40c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	1	1	1	3	5	8
2012	1	1	1	3	5	8
2013	1	1	1	3	5	8
2014	1	1	1	3	5	9
2015	1	1	1	3	5	9
2020	1	1	1	3	5	9
2025	2	3	2	6	8	14

Midday Off Peak - 50c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	1	1	1	3	4	8
2012	1	1	1	3	4	8
2013	1	1	1	3	4	8
2014	1	1	1	3	4	8
2015	1	1	1	3	4	8
2020	1	1	1	3	5	8
2025	1	1	1	4	6	11

Midday Off Peak - 60c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	1	1	1	3	4	8
2012	1	1	1	3	4	8
2013	1	1	1	3	4	8
2014	1	1	1	3	4	8
2015	1	1	1	3	4	8
2020	1	1	1	3	4	8
2025	2	2	2	5	7	13

Midday Off Peak - 70c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	1	1	1	3	5	8
2012	1	1	1	3	5	8
2013	1	1	1	3	5	8
2014	1	1	1	3	5	8
2015	1	1	1	3	5	8
2020	1	1	1	3	5	8
2025	2	2	2	5	7	13

Weekday Evening - 30c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	1	1	1	3	4	7
2012	1	1	1	3	4	7
2013	1	1	1	3	4	7
2014	1	1	1	3	4	7
2015	1	1	1	3	4	7
2020	1	1	1	3	4	7
2025	1	1	1	3	4	7

Weekday Evening - 40c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	1	1	1	3	4	7
2012	1	1	1	3	4	7
2013	1	1	1	3	4	7
2014	1	1	1	3	4	7
2015	1	1	1	3	4	7
2020	1	1	1	3	4	7
2025	1	1	1	3	4	7

Weekday Evening - 50c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	1	1	1	3	4	7
2012	1	1	1	3	4	7
2013	1	1	1	3	4	7
2014	1	1	1	3	4	7
2015	1	1	1	3	4	7
2020	1	1	1	3	4	7
2025	1	1	1	3	4	7

Weekday Evening - 60c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	1	1	1	3	4	7
2012	1	1	1	3	4	7
2013	1	1	1	3	4	7
2014	1	1	1	3	4	7
2015	1	1	1	3	4	7
2020	1	1	1	3	4	7
2025	1	1	1	3	4	7

Weekday Evening - 70c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	1	1	1	3	4	7
2012	1	1	1	3	4	7
2013	1	1	1	3	4	7
2014	1	1	1	3	4	7
2015	1	1	1	3	4	7
2020	1	1	1	3	4	7
2025	1	1	1	3	4	7

Weekend - 30c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	1	1	1	3	4	7
2012	1	1	1	3	4	7
2013	1	1	1	3	4	7
2014	1	1	1	3	4	7
2015	1	1	1	3	4	7
2020	1	1	1	3	4	7
2025	1	1	1	3	4	7

Weekend - 40c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	1	1	1	3	4	7
2012	1	1	1	3	4	7
2013	1	1	1	3	4	7
2014	1	1	1	3	4	7
2015	1	1	1	3	4	7
2020	1	1	1	3	4	7
2025	1	1	1	3	4	7

Weekend - 50c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	1	1	1	3	4	7
2012	1	1	1	3	4	7
2013	1	1	1	3	4	7
2014	1	1	1	3	4	7
2015	1	1	1	3	4	7
2020	1	1	1	3	4	7
2025	1	1	1	3	4	7

Weekend - 60c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	1	1	1	3	4	7
2012	1	1	1	3	4	7
2013	1	1	1	3	4	7
2014	1	1	1	3	4	7
2015	1	1	1	3	4	7
2020	1	1	1	3	4	7
2025	1	1	1	3	4	7

Weekend - 70c Equiv Toll Rate						
Date	Cl 1 C	Cl 1 B	Cl 1 O	Cl 2	Cl 3	Cl 4
2011	1	1	1	3	4	7
2012	1	1	1	3	4	7
2013	1	1	1	3	4	7
2014	1	1	1	3	4	7
2015	1	1	1	3	4	7
2020	1	1	1	3	4	7
2025	1	1	1	3	4	7