AN ECONOMIC IMPACT ASSESSMENT OF TOLL ROADS, WITH SPECIFIC REFERENCE TO THE IMPACT ON ALTERNATIVE ROADS BETWEEN THE PUMULANI AND HAMMANSKRAAL TOLL GATES

BY

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MAY 2006
DECLARATION

I hereby declare that:

AN ECONOMIC IMPACT ASSESSMENT OF TOLL ROADS, WITH SPECIFIC REFERENCE TO THE IMPACT ON ALTERNATIVE ROADS BETWEEN THE PUMULANI AND HAMMANSKRAAL TOLL GATES is my own work, and that all the sources used and quoted have been indicated and acknowledged by means of complete references and that this dissertation was not submitted by me for a degree at another university.

__________________________  ______________________
Signature                          Date
ACKNOWLEDGEMENTS

I wish to express sincere appreciation to Professors M.C. Breitenbach and T.J.C. Slabbert for supervising this work. Their attention, inspiration and positive critique helped shape my thoughts, research efforts and indeed, this study.

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The library staff of the University of Pretoria.

My sincere gratitude to God the creator, who gave me life and strength to persevere in completing this work even when it was tough.

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ABSTRACT

The erection of tollgates along the N1 freeway has triggered a great deal of interest. As a result of the toll fees, traffic has been diverted to alternative roads. This study investigates how traffic diverted from the toll road affect the welfare of users of the alternative road.

The literature review provides a theoretical framework of economic impact assessment and road pricing. Furthermore, the literature study reviews previous studies of a similar nature and compare them with the findings of this study.

There is no conclusive evidence that diversion of traffic from the N1 causes congestion on the R101 and has a negative impact on the economy of the region. On the contrary, evidence suggests that there was an initial diversion of traffic when the toll came into operation but that is slowly filtered back after six months.

In the application of the RED model, economic benefits are derived from user benefits, which is a function of savings in VOC’s and time of normal and generated traffic on a road or saving due to an improvement in road safety, resulting from improved roads. A decrease in traffic has a measurable effect on vehicle travel speeds and travel time only when the roads are significantly congested.

In the case of scenario 1 (including diversion), frequent maintenance needs to be performed under increased traffic. Increased traffic due to “diverted traffic” causes congestion in accidents and travelling time, which is a cost to the economy. Under scenario 2 (excluding diversion), it is assumed that ADT will return to normal. Due to lower levels of congestion and travelling times would be faster, while maintenance costs and accident rates would decrease. Scenario 2 is selected as being economically the most feasible option.

It is clear that the R101 cannot cope with the current levels of traffic and congestion. One can speculate about the causes of the congestion but in order to derive at a solution to the problem more research needs to be done on the cause of the congestion in order to resolve the problem.

KEYWORDS
Road user charging
Road pricing
Toll road
Economic impact assessment
Cost benefit analysis
User pay principle
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