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SOCIAL IMPACT ASSESSORS

SOCIAL IMPACT ASSESSMENT OF THE PROPOSED N2 WILD COAST TOLL HIGHWAY

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Submitted to

CCA Environmental (Pty) Ltd
On behalf of

The South African Road Agency Limited

Final Draft Report 15 June 2008

EXECUTIVE SUMMARY

Over the last few years various considerations have been given to upgrading existing sections of the N2 and R61 routes and to construct new sections of road linking East London in the Eastern Cape with Durban in KwaZulu-Natal. In terms of regulations an Environmental Impact Assessment (EIA) is required for such a development. Part of the overall EIA documentation is a Social impact Assessment (SIA). This report makes up the SIA.

The study area extends, for a distance of approximately 559.5 km, along existing sections of the N2 and R61 routes and in certain Greenfields sections between Gonubie Interchange near East London in the Eastern Cape Province and Isipingo Interchange south of Durban in the Province of KwaZulu-Natal. The route can be divided further into the following seven sections:

- Section 1: Gonubie Interchange to Ngobozi – approximately 80 km over the existing N2
- Section 2: Ngobozi to Mthatha (Ngqeleni) – approximately 145 km over the existing N2
- Section 3: Mthatha (Ngqeleni) to Ndwalane – approximately 72 km over the existing R61
- Section 4: Ndwalane to Ntafufu River – approximately 16.5 km new road section
- Section 5: Ntafufu River to Lusikisiki (Magwa Intersection) – approximately 24.5 km over the existing R61 (approximately 18 km) over the existing concrete road (DR08024 approximately 5 km)
- Section 6: Lusikisiki (Magwa Intersection) to Mthamvuna River – approximately 73.5 km largely Greenfields section
- Section 7: Mthamvuna River to Isipingo Interchange – approximately 148 km over the existing R61 and N2. Due to the nature of this section of the route and for purpose of impact assessment this section has been subdivided into two further sections. The first of these subsections stretches between the Mthamvuna River and Port Shepstone, is more rural in nature, and is labelled 7a. The second, between Port Shepstone and Isipingo Interchange, is more urban and is labelled 7b.

The characteristics of the entire route are such that it was possible to divide it into three sections based on the nature of each section. Progressing from East London to Durban these sections consist of a relatively mixed section of the existing N2 between Gonubie Interchange and Mthatha (Ngqeleni) comprised largely of rural areas and small development nodes clustered around a few small towns. Secondly, a largely rural Greenfields section between Mthatha (Ngqeleni) and Mthamvuna River consisting of sections of the R61 route and new road sections at times over extremely rugged territory. The final section of road follows the R61 and N2 route from Mthamvuna River to Isipingo Interchange and initially progresses through rural and then farming terrain linking a number of small and medium size resort towns and becomes increasingly urbanised towards the Isipingo Interchange. The seven sub-sections of road described above are all catered for within the three divisions made largely on methodological grounds. Research into the Social Impacts for the section of road between the Gonubie Interchange and Mthatha (Ngqeleni) and then from the Mthamvuna River to Isipingo employed the following data sources and methods:

- An examination of the Scoping Report, Minutes of all the Public Participation Meetings and the Issues/Response trail for the Wild Coast Toll Highway, as well as the previous SIA and DEAT's comments on this report.
- A review of the existing literature for relevant District Municipalities, and other secondary sources on the land uses and livelihoods of residents of the Eastern Cape.
- Stats SA 2001 Census data for the Eastern Cape and KwaZulu-Natal Province and the relevant district and local municipalities.
- An examination of the 1:50 000 topographic maps for this section of road.
- Recorded observations of the number of pedestrians and road access onto the N2 along this section, as well as the number of residential/business sites with direct access onto the N2.
- A structured closed ended questionnaire survey of 140 commuters using taxis in Butterworth, Idutywa and Mthatha.
- Interviews with the following stakeholders and affected parties in the Eastern Cape:
    - Taxi operators in Butterworth, Idutywa and Mthatha.
    - Municipal officials in Butterworth, Idutywa and Mthatha.
    - Local residents of Ndabakazi rural area west of Butterworth.
- Interviews with stakeholders in the KwaZulu-Natal area. In all, over 50 stakeholders participated in meetings. Notes of all meetings are appended as Appendix 1. Interest groups that were contacted included provincial departments, district municipality representatives, local municipality representatives, key sectoral stakeholders, local interest, representatives of marginal communities, large business, small scale traders, etc.

The Mthatha Mthamvuna section of the route comprises largely of Greenfields areas and, as a result, a number of hitherto unreported social impacts could occur within this sector. Consequently, the methodological approach adopted was designed to both complement and expand on the original Terms of Reference and included a Sustainable Livelihoods Framework approach which emphasises the linkages between policy and planning priorities and the potential responses of households and communities. It also provides a focus on both sustainability and vulnerability issues. This methodology was used to investigate local perspectives on the impacts of the proposed road on the livelihood resources such as:

- Natural capital – including land, water and forests.
- Human capital – including skills, knowledge, health and the potential impacts on the amount and quality of local labour.
- Social capital – community and family networks and formal and informal membership of various types of groups and organisations.
- Physical capital – including local basic infrastructure, shelter and roads and the stock of services needed to sustain livelihoods. This also includes schooling, health and energy services.
- Financial capital – including annual income, potential savings and expenditure, the available stocks of cash and bank assets and the accumulation of livestock and other convertible incomes or savings.

A diverse sample consisting of seven communities, representing the characteristics of the twenty-one communities along the Mthatha to Mthamvuna River section of the proposed route was selected.

Research into the social impacts revealed the following major issues of concern for the residents and stakeholder between the Gonubie and Mthatha sections.

Resettlement: Widening of the road reserve from 30 to 80m will result in a large (as yet unknown) number of households needing to be moved. There were also concerns about the graves of family members who have been buried in the homestead gardens. There was also concern amongst some municipal officials about the need to ensure that the widened road reserve is not encroached on again. This is particularly pertinent as only half of the reserve will be used for the highway at this stage.

Access issues: Residents of neighbouring rural communities were concerned about SANRAL's proposal to restrict access to and across the highway. This would affect their access to transport services and to a wide variety of resources that may be located on the other side of the road (i.e. schools, clinics, shops, family and friends, arable lands, grazing lands and other natural resources).

Health and safety: There was general support for the development of the highway as a means of improving the safety of the road and making the former Transki a more attractive and accessible destination for tourists and through traffic. There was considerable concern about safety issues and the high number of accidents along this section of road. At the same time residents in rural settlements expressed some concerns about increased safety risks for their children and livestock as a result of the high speed traffic that would be using the highway.

Road maintenance and infrastructure Issues: There was concern about the poor condition of the N2, particularly in the towns of Mthatha, Butterworth and Idutywa. The need for the upgrading of these sections is urgent, and local officials were concerned that SANRAL's maintenance work on this road would be delayed until the issues around the toll highway are resolved.

Labour: There was some support for the highway due to expected employment benefits for local residents. There was a general feeling that the jobs that do become available need to be reserved for local residents. At the same time there were concerns raised by some stakeholders that the number of local people employed on such projects tends to be low and will only be temporary (during the construction phase).

Economic impact of tolls: While most people supported the development of a highway, all the key stakeholders were very concerned about the imposition of tolls on the N2. The main concern is that the local population was too poor and would not be able to afford these fees. There was also concern about the high cost of the road due to the need for many bridges, interchanges and

under- or overpasses, and the consequent high toll fees. They argued that toll fees would not be able to pay for all these costs and that the government would need to subsidise the construction costs.

One-way systems for town: Local municipalities are concerned about the delays in the development of the highway and the associated development of one-way streets through the towns that would help to alleviate the traffic problems in these towns. They are also concerned that SANRAL appears to not be prepared to invest the financial resources needed for new bridges to develop effective one-way systems for these towns.

Bypasses for towns: There are some concerns amongst local residents and business people about the negative impact the bypasses will have on the local economies due to the loss of business from bypassing traffic. At the same time there is recognition of the traffic congestion problems in the city centres and the contribution that the bypasses could make to the alleviation of these problems.

Off ramps and interchanges for towns*:* There was some concern amongst the Mthatha municipal officials about SANRAL's proposal to have only two interchanges for Mthatha on either end of the bypass. This was considered inadequate and a strong plea was made for a third interchange to access the centre of the city.

Ribbon development along the N2: A concern has been raised in the Tshani report with respect to ribbon development along the N2. The concern is that the highway might encourage such development.

For the Mthatha – Mthamvua section the following major issues emerged.

Resettlement: Potential resettlement of homesteads to make way for the road was identified as a crucial impact.

Access: Some possible restrictions on access to natural capital resources and assets in the form of water, forests, plantations and grazing and arable land were raised. Given the area's profile, potential losses of the social capital inherent in community interaction and in family engagements and support networks were held to be very high.

Health and safety: Health benefits were expressed generally in terms of those potential increases accruing from the perception, or aspiration, that an improved road would lead to a better quality and way of life, and particularly, in terms of better access to a wider range of major health services covered above. Negative expressions covered the general problems associated with more noise due to increased and faster traffic after construction. Younger people expressed concern regarding an increase in fumes and the possibility of chemical spills from the heavy

traffic. The possible increase in the spread of HIV/AIDS and STDs due to more truckers, despite perceptions about a high local prevalence in the area, was frequently noted as a negative issue. Safety issues raised most frequently were that a better road made for safer travelling and would also result in an improved condition of the local taxi fleet. Improved fencing and the management of a toll road were invariably held to have the potential of reducing accident rates with specific emphasis on pedestrians and in particular children crossing the road. As was to be expected, issues around livestock and other animal safety were raised most frequently. However, fears were also frequently expressed that 'local destructive youth' would cut the fencing to sell, given local unemployment levels.

Enterprise, income, employment and labour: Potential improvements in the local stock of financial capital and assets arising from the introduction of the toll road were anticipated by most. More employment and improved incomes were almost unanimously viewed as likely to arise from both an increase in employment possibilities directly associated with the road, as well as in an expansion in existing enterprises.

For the section between Mthamvuna and Isipingo the following major issues were identified.

Social effects of increased cost of doing business and concomitant/associated loss of income: The greatest concern of many of the interest groups affected by the creation of a toll road was that of the anticipated increase in the cost of doing business. Businesses, industry and agriculture are all reliant on the N2 highway for transporting products, whatever they may be.

Social effects of increased cost of accessing services and employment*:* Of some concern to the marginal communities along the N2, is access to employment. These communities rely largely on public transport (taxis and buses) to access places of employment. As such the increase in tariffs will potentially weigh heavily on the earning capacity of the low-income earners on the South Coast.

Social effects of increased congestion on non toll roads and critical access points: A serious concern of most of the interest groups that were consulted was the perceived lack of a viable alternative route to the N2 if it is tolled. The R102, which is aligned roughly parallel to the N2 from Ramsgate to Port Shepstone, is already seen as being congested with an increased volume of traffic potentially creating a safety hazard, pollution and excessive noise. If the N2 is tolled interest groups predict that these problems will intensify. With the R61 upgraded to become the N2 there will be no other route between Port Edward and Southbroom.

Social effects of increased loss of access points*:* Some stakeholders, noticeably those along the R61 between Port Shepstone and Port Edward, indicated that by converting the R61 to the N2 it would remove certain access points and as such some people would have to travel further

distances to either access the road or to cross it. This would increase travelling time and expense.

Increase in noise levels: Representatives of the South Coast Chamber of Commerce (SCCC) have expressed their concern that the upgrading of the R61 will increase the noise pollution in the area. They state that there is already a problem along the current R61 and that the upgrading to a larger capacity, high speed highway will exacerbate this. Concern over increased noise levels was also raised for the toll plazas themselves.

Social effects linked to a potential increased HIV and STD risk associated with truck traffic: The Department of Economic Development (DED) pointed out that there would be an influx of migrant construction workers and a sudden increase in available cash among some local manual labourers contracted by SANRAL. This could become a vector for increased infections in the province. Farm labourers that are drawn to construction may contract the illness, and then return to farm labour once the road has been completed, thereby potentially infecting further farm labourer communities.

Secondary effects such as potential increased crime: This was expressed in much the same terms as concerns around the link between construction and HIV/AIDS and STDs. As the number of construction workers increases, the opportunities to destabilise community structures also increases. Some stakeholders felt that this was likely to increase crime rates. Crime is already seen as a major issue in some parts of the South Coast and an increase will negatively impact on its viability as a tourist destination.

Social effects of regional economic development: Some stakeholders have come out in support of the toll road, providing that mitigatory concessions are in place. They argue this by saying that the economy of the region will benefit from improved access along the coast southwards towards the Eastern Cape. Many of the stakeholders in the area south of Port Shepstone are equally positive and argue that this will have a very positive impact on the economic prospects of the sub-region as they will no longer be in a *cul-de-sac.*

Social effects of potential improved local employment: There is the potential, as indicated by DED, for some employment in the maintenance and operations of the toll road and plazas during the operational phase. There will also be employment opportunities during construction of the upgrades. Although DED pointed out that there would be construction related employment, they showed concern as to the sustainability of such employment, indicating that employment during operations is likely to be minimal and that construction related employment is temporary.

All of these issues are investigated in more detail and the impacts associated with the issues are spelled out and assessed. Impacts are considered by route section. Impacts are assessed with and without mitigation.

The various alternative routes, toll plaza locations and site specific route alignments proposed were also all systematically investigated. These include the Coastal Mzamba and SARAL'S preferred route as well as the positioning of the toll plazas and various site-specific alternate route alignments in sections 3 and 6 of the route. An analysis of data gathered by means of this investigation indicated that no significant social preference in respect of any of the alternative route alignments and toll plaza sites emerged. Consequently, it is our considered opinion that any decision on the choice of alternative route and toll plaza site needs to be taken on grounds other than social.

However, with regard to the site specific route alignments the following social preferences did emerge. In the vicinity of Ntafufu Village and River there is a social preference for alignment 2f over 2a based on the threat that alternative 2a poses to the Ntafufu Junior and Secondary Schools. These two schools were built entirely out of community contributions and stand out as exceptional facilities that need to be preserved. For the approach to the Msikaba River Bridge, alternative 5g4 is preferred as it represents the lowest possible loss to arable and grazing lands as well as to access to such land in the area. Regarding the approach to, and crossing of the Mtentu River, alternative 9e is preferred as it provides the community with a clear advantage in terms of easier access to this crossing, which could also be facilitated by the careful planning of community access and the location of desired walk on ramps and over– or underpasses.

On an overall basis and from a social perspective it can be concluded that although there are a number of negative social impacts that are typically associated with development, these impacts are specific to various sections of the route and, to a greater extent, can be mitigated as suggested. The severity of each of these negative impacts for those who face relocation, a disruption in livelihood or the loss of a job cannot, however, be overestimated and this is important for the Developers to note. Nevertheless, the project needs to be considered in its entirety across the whole route.

On this basis, the upgrading of the route between Gonubie Interchange and Mthatha is likely to vastly improve the safety of this section of road and could lead to a reduction in serious road accidents. It must be remembered that death and severe injury are amongst the most severe of negative social impacts and that any significant progress in reducing injury and death will have a high and positive social impact.

Along the section between Mthatha and the Mthamvuna River, although there are negative impacts associated with new developments in Greenfields areas, which are discussed in greater detail in the body of the report, the overwhelming opinions of the people consulted was a need for greater access into the area. Reasons given for this were a need to ease the burden of travel into and out of the area providing better access to health and other services and the creation of jobs.

One of the significant obstacles across the route appears to be that which has been articulated by the stakeholders regarding the negative impacts of tolling the section between Port Shepstone and the Isipingo Interchange. This obstacle is associated with the availability of alternative routes, travel options,

the economics and the political reasons for tolling. Although these issues have certain social implications they lie more firmly within the specialist areas of traffic flow and economics where they would best be addressed.

Although not entirely within the control of the Project Developers, the matter of capacity amongst the various role players across the route is also of concern. Consequently, if the project were to proceed, then it would be important for all authorities to consider the need to coordinate their efforts towards making the project a success.

All things considered then, it is our considered opinion that the social benefits of the project as assessed across the entire route, and if mitigated as suggested, outweigh the negative impacts, and that the N2 Wild Coast Project would be of social benefit on a National basis as well as being beneficial for both the provinces of the Eastern Cape and KwaZulu-Natal.

ACRONYMS

ACDP	African Christian Democratic Party
ANC	African National Congress
CCA	CCA Environmental (Pty) Ltd
DA	Democratic Alliance (South Africa)
DEAT	Department of Environmental Affairs and Tourism
DED	Department of Economic Development
ECSECC	Eastern Cape Socio-Economic Consultative Council
EDP	eThekwini Development and Planning
EIA	Environmental Impact Assessment
EM	eThekwini Municipality
EMA	eThekwini Municipal Area
ETA	eThekwini Transport Authority
GDPR	Gross Domestic Product per Region
HDI	Human Development Index
IDP	Integrated Development Plan
IFP	Inkatha Freedom Party
MF	Minority Front
MPCC	Multi Purpose Community Centre
NBA	Dr Neville Bews & Associates
NGO	Non-Governmental Organisation
PGDP	Provincial Growth and Development Plan
RPF	Resettlement Policy Framework
SAB	South African Breweries
SANRAL	South African National Road Agency Limited
SCCC	South Coast Chamber of Commerce
SIA	Social Impact Assessment
STDs	Sexually Transmitted Diseases
SMME	Small, Medium and Micro-Enterprise
UDM	United Democratic Movement (South Africa)
USCATA	Upper South Coast Anti Toll Alliance
VCT	Voluntary Counselling and Testing

DETAILS AND EXPERIENCE OF INDEPENDENT SOCIAL IMPACT ASSESSMENT CONSULTANT

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Neville Bews has consulted extensively and lectured in the field of Social Impact Assessments. Some of the projects completed by Neville include the Gautrain Rapid Rail Link SIA, Australian – South African sports development programme impact, Kumba Resources Sishen South Project SIA, The United Nations Office on Drugs and Crime evaluation of a Centre for Violence Against Women, SIAs at Leeuwpan Coal Mine Delmas, Glen Douglas Dolomite Mine Henely-on-Klip, Grootegeluk Open Cast Coal Mine, SANRAL – Impact of tolling the Gauteng Highway System, University of Johannesburg – Research into research outputs of the University, the social impact for Waterfall Wedge housing and business development in Midrand Gauteng, the social impact for the Environmental Management Plan for Sedibeng District Municipality.

Neville regularly lectures as a guest lecturer in the department of sociology at both the Universities of Johannesburg and Pretoria. At the University of Johannesburg he collaborated with Prof. Henk Becker of Utrecht University, the Netherlands in a joint lecture to present the Social Impact Assessment masters course via video link between the Netherlands and South Africa. Neville has also presented papers on Social Impact Assessments at both national and international seminars and has published widely at both a national and international level.

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Jeff Zingel is an independent applied social scientist with extensive research, policy development and implementation experience across all the key development sectors. He was engaged on the St Lucia Mining SIA, and has designed and undertaken evaluations in Pondoland and the Eastern Cape for the European Union and the National Treasury. He has worked extensively with donors including the World Bank (Country paper on services delivery), EU (S.A social sector strategy planning; 2007-2013), the ILO (Local economic and enterprise development, rural accessibility planning), the FAO (farm labour in South Africa and Ghana), DFID/IIED (developmental forestry), DANIDA (water services), the Commission for Africa and Nepad (social services) and Dutch donors (HIV/AIDS in local government). Work for national departments has included the DPLG (Led policy), DWAF (sanitation), Land Affairs/Agriculture (Land Reform). He has also engaged with metropolitan authorities on comparative city water pricing and with provincial and local government on issues in best practice in local government.

Jeff's work has been published on web pages (IIED, FAO,) and in books (CSIR:St Lucia, IIED).

1977: B Soc. Science (Anthropology and African Government). Natal
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Greg Huggins is a Director of WFA and has 18 years of consultancy experience. Greg trained as a Social Anthropologist but specialises in Social Impact Assessments, Socio-economic Survey Research, Resettlement and Sustainable Development planning, Socio-economic Analysis and Applied Research. He is registered with the IMF (World Bank and IFC), the United Nations and the African Development Bank and has undertaken consultancies reporting to these bodies. He has consulted in South Africa, Lesotho, Botswana, Kenya, Tanzania, Mozambique, Zambia, Zimbabwe, Malawi, Cameroon and the Philippines. Greg's recent experience has largely been in the water and mining sectors but he has managed multi-disciplinary teams on a variety of contracts. Greg has lectured at both the University of Cape Town (UCT) (in a full time capacity) and at the University of Natal (UNP) (as a guest lecturer). Greg has taught courses in Social Impact Assessment to masters level students in Anthropology (at UCT) and to Environmental Management students (at UCT and UNP). Greg is well know in sailing circles as something of a poseur who insists on putting in a reef even in gentle breezes.

1983: B.Soc. Sc: University of Natal (Durban). Majors in Social Anthropology and Psychology.
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Mr. G. B. Huggins is an independent consultant to CCA Environmental (Pty) Ltd and has no business, financial, personal or other interest in the activity, application or appeal in respect of which he was appointed other than fair remuneration for work performed in connection with the activity, application or appeal. There are no circumstances that compromise the objectivity of this specialist performing such work.

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Maura Andrew is a skilled and experienced public facilitator and socio-economic scientist with over ten years of experience in the Eastern Cape and other African Countries. She has BA Honours degrees in Human Geography and in Economics and a Masters Degree in Geography with distinction. Her Masters Thesis focused on land use and agricultural change in the former Transkei between 1920 and the 1980s. She is a former lecturer in Environmental Science at Rhodes University and has conducted numerous social, economic, rural livelihood and resource utilisation studies in South Africa and other countries such as Malawi, Mozambique and Madagascar. She has been employed as a full time CES senior consultant for three years and has had a long association with the firm through numerous sub-consultant assignments prior to joining the staff. While in CES's employ she has worked on a number of projects, including Strategic Environmental Assessments (SEAs) for the Wavecrest Mining Option (on the former Transki Wild Coast), the Greater Addo Elephant National Park, Water Management Area 12 in the Eastern Cape (investigating Afforestation potential), and the Ngqushwa and Amahlati Local Municipalities. Maura has also headed up the CES Stakeholder Engagement Team for the Knysna N2 Toll Highway EIA which has registered over 1000 Interested and Affected Parties in the Scoping Process. Her duties have also included qualitative and quantitative socio-economic surveys and monitoring, Social Impact Assessments for a variety of development projects, and the development of Resettlement Action Plans (as per IFC guidelines) for projects in South Africa and Mozambique. She has also recently gained skills and experience in conducting Economic Impact Assessments and has undertaken studies of large sand mining projects in Madagascar, Mozambique, and Egypt.

1986: BA Degree (Sociology and Economics) (Rhodes University)
1989: BA Honours Degree with distinction in Geography. (Rhodes University)
1992: Master of Arts Degree in Geography with distinction (Rhodes University).
2006: BA Honours Degree in Economics.

DECLARATION OF CONSULTANT'S INDEPENDENCE

Ms Maura Andrew is an independent consultant to CCA Environmental (Pty) Ltd and has no business, financial, personal or other interest in the activity, application or appeal in respect of which he was appointed other than fair remuneration for work performed in connection with the activity, application or appeal. There are no circumstances that compromise the objectivity of this specialist performing such work.

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

LIST OF HISTOGRAMS

LIST OF PLATES

1. INTRODUCTION

Over the last few years various considerations have been given to upgrading existing sections of the N2 and R61 routes and to construct new sections of road linking East London in the Eastern Cape with Durban in KwaZulu-Natal. A more detailed background to recent developments in this regard, as well as a description of the intended route over which these developments will take place is provided below.

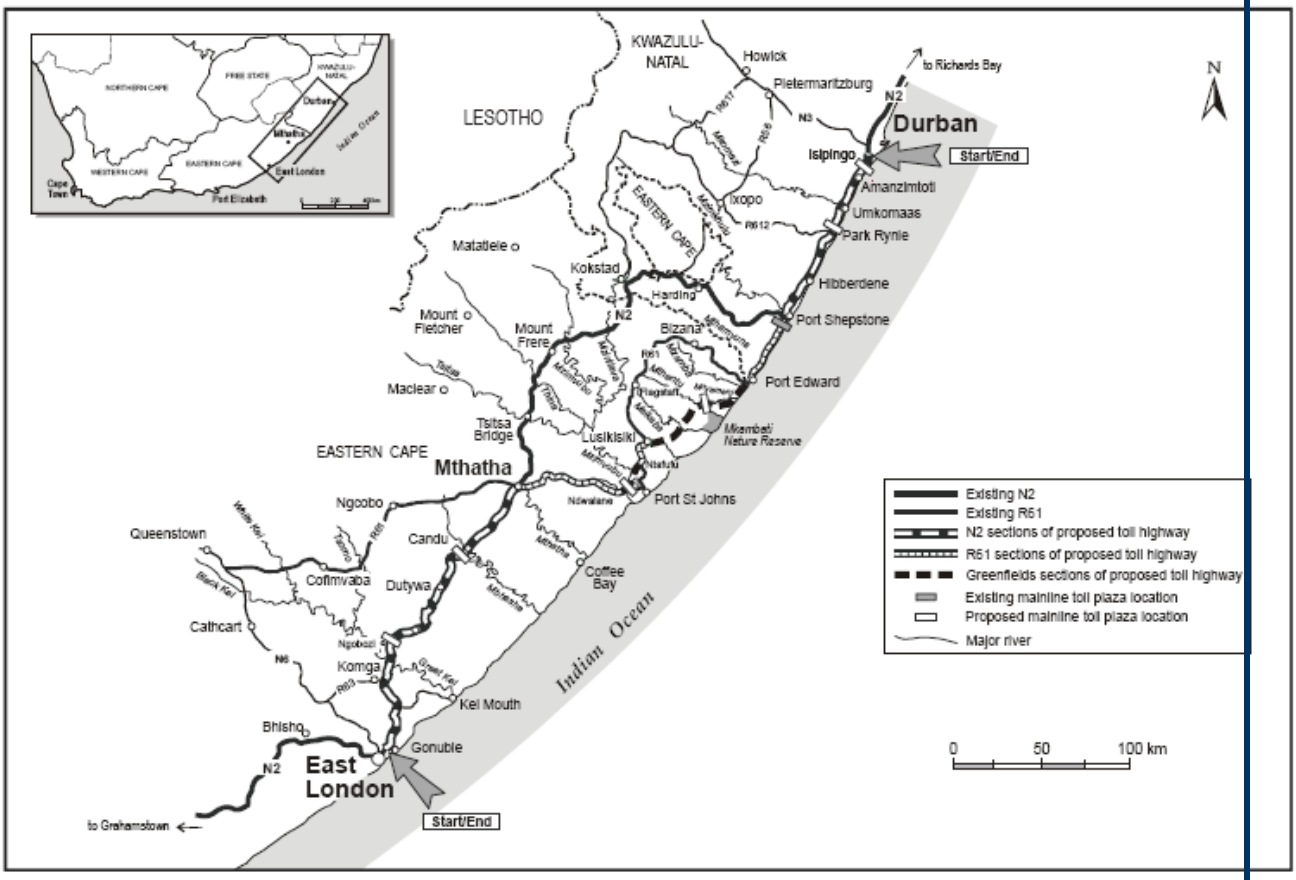
In 2000 the N2 Wild Coast Consortium was awarded 'Scheme Developer Status' for the design, financing, operation and maintenance of a section of the N2 route between East London and Durban. This status was awarded after The Consortium had submitted an Unsolicited Bid for the project to the South African National Road Agency Limited (SANRAL). In February 2003, Bohlweki Environmental (Pty) Ltd, on behalf of SANRAL and The Consortium, and after undertaking an Environmental Impact Assessment (EIA), lodged the final EIA report with the Department of Environmental Affairs and Tourism (DEAT). On 03 December 2003 DEAT issued a positive Record of Decision for what was by then referred to as the N2 Wild Coast Toll Highway Project. However, on 09 December 2004, following numerous appeals from the public and various Non-Governmental Organisations (NGOs), the Minister of Environmental Affairs and Tourism set aside his Department's earlier decision authorising the development of the N2 Wild Coast Toll Highway. In setting aside this decision The Minister did not preclude any new application being lodged with his Department. Accordingly, SANRAL has embarked on a new process of reapplying for environmental authorisation as stipulated under the EIA Regulations, promulgated under section 21, 22 and 26 of the Environment Conservation Act 73 of 1989. Towards this end SANRAL has appointed CCA Environmental (Pty) Ltd (CCA) as the lead environmental consultant, responsible for the EIA, and Dr Neville Bews & Associates (NBA) as the consultant responsible for the Social Impact Assessment (SIA).

The Social Impact Assessment prepared by NBA addresses the social aspects of the project in a report consisting of 4 sub-sections. The first of these sub-sections serves as an introduction to the study covering such issues as the project description, methodology as well as the assumptions and limitations of the study. Section 2 addresses existing baseline social conditions, firstly at a more general provincial level (Eastern Cape and KwaZulu-Natal) then moving on to a more specific level along the 7 sections of the route. In section 3 the key social issues identified during the study are listed and assessed while in section 4 a summary of the significant findings and recommendations is presented. Attention will now be turned towards a brief description of the project.

1.1. Project description

The study area extends, for a distance of approximately 559.5 km, along existing sections of the N2 and R61 routes and in certain Greenfields sections between Gonubie Interchange near East London in the Eastern Cape Province and Isipingo Interchange south of Durban in the Province of KwaZulu-Natal. An overview of this route, illustrating existing roads, sections of proposed toll highway, Greenfields sections, existing and proposed toll plaza locations as well as the various towns along the route is provided below in Figure 1.1.

Figure 1.1: Proposed N2 Wild Coast Toll Highway route between Gonubie Interchange (Eastern Cape) and Isipingo Interchange (KwaZulu-Natal)



Source: Final Scoping Report. CCA Environmental (Pty) Ltd

The route can be further divided into the following seven sections:

Section 1: Gonubie Interchange to Ngobozi – approximately 80 km along the existing N2, illustrated below in Figure 1.2 below.

Section 2: Ngobozi to Mthatha (Ngqeleni) – approximately 145 km over the existing N2, depicted below in Figure 1.3.

Section 3: Mthatha (Ngqeleni) to Ndwalane – approximately 72 km along the existing R61 and portrayed below in Figure 1.4.

Section 4: Ndwalane to Ntafufu River – approximately 16.5 km of new road section, graphically represented through Figure 1.5.

Section 5: Ntafufu River to Lusikisiki (Magwa Intersection) – running for approximately 24.5 km along the existing R61 for roughly 18 km and over an existing concrete road DR08024 for about 5 km. This section of the route is graphically described in Figure 1.6 below.

Section 6: Lusikisiki (Magwa Intersection) to Mthamvuna River – approximately 73.5 km of largely a Greenfields section, illustrated in Figure 1.7 below.

Section 7: Mthamvuna River to Isipingo Interchange – approximately 148 km over the existing R61 and N2. Due to the nature of this part of the route and for purpose of impact

assessment this section has been subdivided into two further segments. The first of these subsections stretches between the Mthamvuna River and Port Shepstone, is more rural in nature, and is labelled 7a. The second, between Port Shepstone and Isipingo Interchange, is more urban and is labelled 7b for purposes of impact assessment. While Figure 1.8 provides an indication of the whole of this section of the route, Figure 1.9 gives a more detailed illustration of the more urban section stretching between Pennington and Durban.

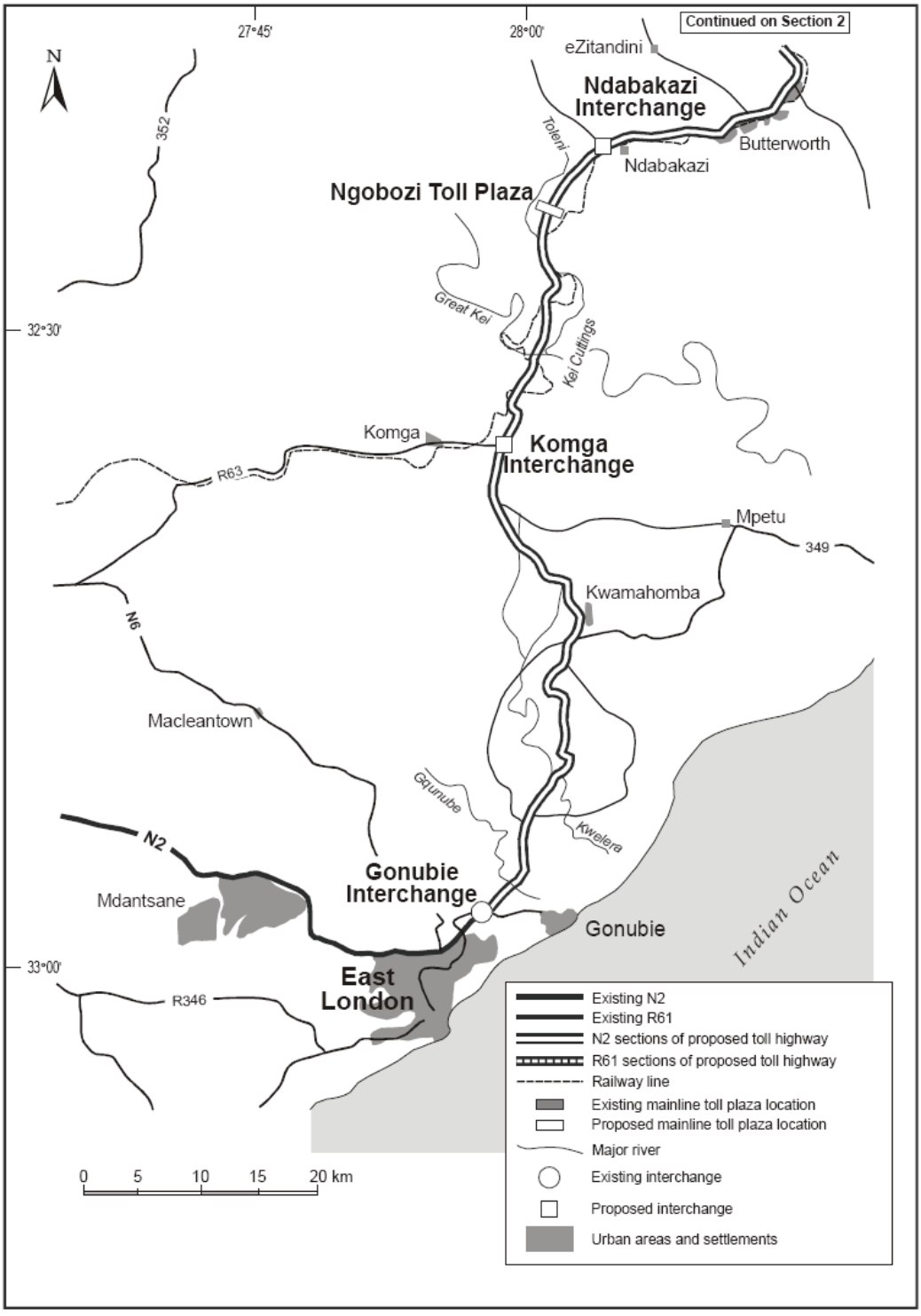
Various alternative Greenfields routes between Lusikisiki and the Mthamvuna River were also proposed. These include the Coastal Mzamba and SANRAL's preferred route illustrated below in Figure 1.10. The Coastal Mzamba route follows SANRAL's preferred alignment from Lusikisiki to north-east of the Mthentu River crossing. From there it continues at a distance of between 11 and 16 km inland to a point east of Makwanteni. Thereafter it is aligned between the Mpahlane and Mzamba rivers with the coast. It then joins SANRAL's preferred route south of the proposed crossing of the Mzamba River by enlarge following SANRAL's preferred alignment to the Mthamvuna River crossing.

Two alternative toll plaza siting and various site-specific route alignments were also proposed in sections 3 and 6 of the route. These include the alternative toll plazas in the vicinity of the Ntlaza Mission, near the Tutor Ndamase Pass close to Thaleni, as illustrated in Figure 1.4, as opposed to the current proposed location at Ndwalane and indicated in Figure 1.5. There is also the proposed location of an alternative toll plaza is in the vicinity of the proposed intersection with the Holy Cross/Mkambati road, as opposed to the current proposal for the Mthentu Toll Plaza in the Amadiba area illustrated in Figure 1.7.

The alternative site-specific alignments include:

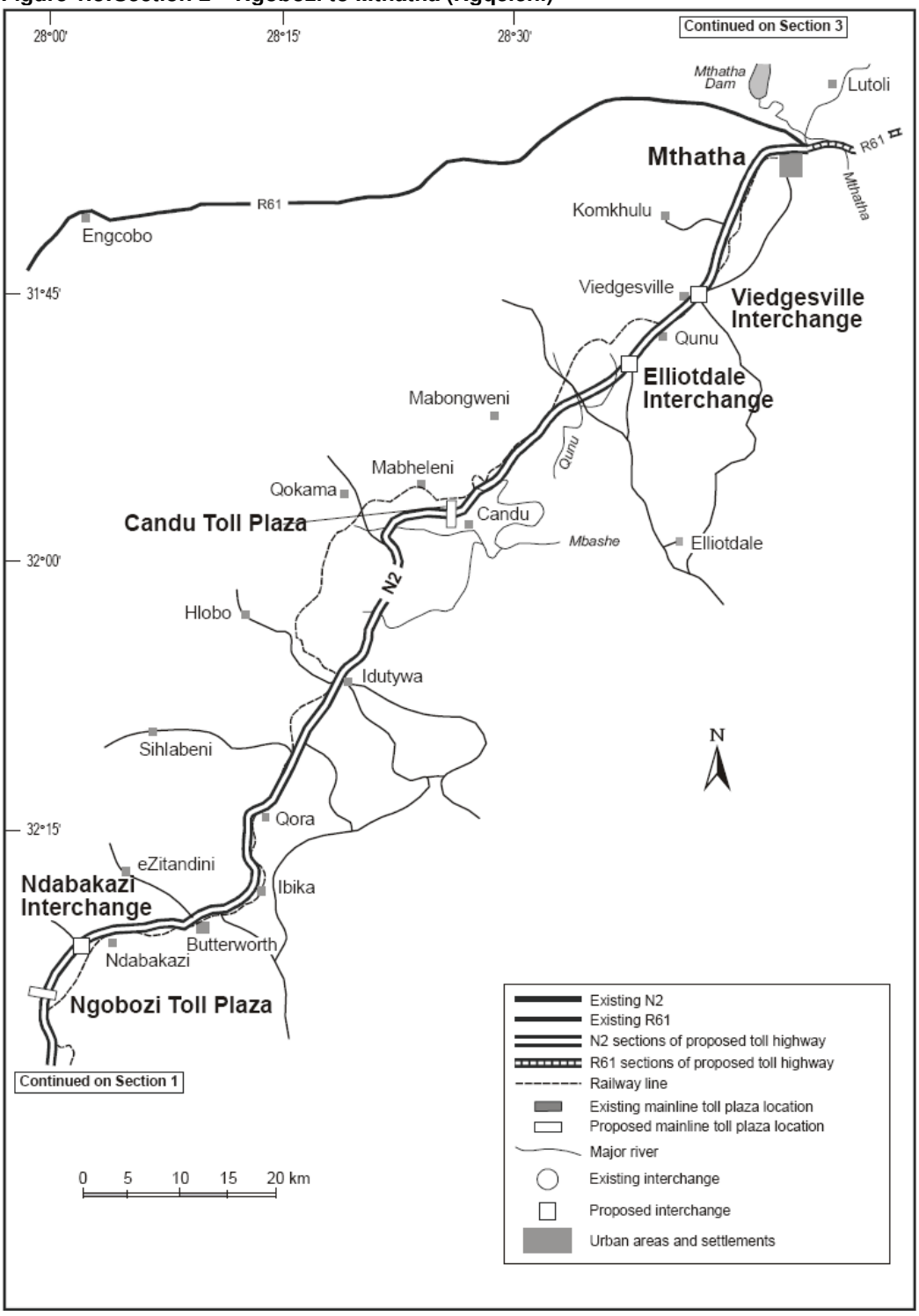
- 1b and 1e between Ndwalane (R61) and the Mzimvubu River.
- 2a and 2f in the vicinity of the Ntafufu village and Ntafufu River.
- 5g, 5e and 5g4 at the diversion from the gravel road, approximately 12,5 km east of Lusikisiki and the Msikaba River for the approach to the Msikaba bridge crossing site.
- 9e and 9d5 for the proposed alignment across the Mthentu River.
- 10a, 10c, and 10 e for the proposed alignment across the Mnyameni River.
- 5g for the approach to the Msikaba River Bridge
- 5e following the existing gravel road and deviating ahead of alternative 5g above, prior to reaching Ntlamvukasi village.
- 5g4 follows the existing gravel road and deviating ahead of Alternatives 5g and 5e prior to reaching Ntlamvukasi village.
- 9e and 9d5 for the approach to and crossing points across the Mtentu River.
- 10a crosses the Mnyameni River directly above the Mnyameni Waterfall.
- 10b crosses the Mnyameni and its tributary approximately 500 m above the Mnyameni Waterfall, close to a number of sandstone caves with rock paintings.
- 10c crosses the Mnyameni River and its tributary further upstream than the preceding alternatives.

Figure 1.2: Section 1 – Gonubie Interchange to Ngobozi



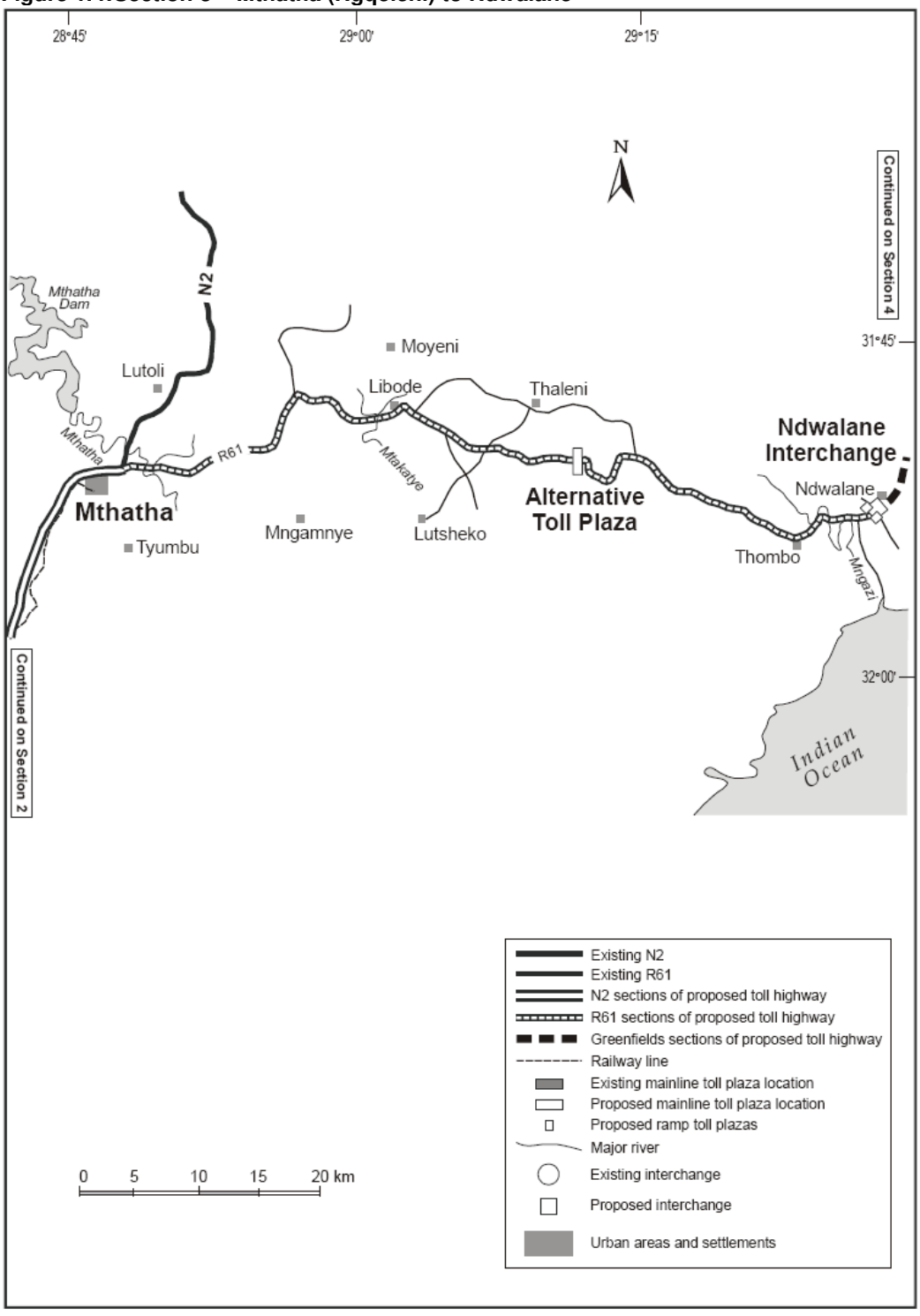
Source: Final Scoping Report. CCA Environmental (Pty) Ltd

Figure 1.3:Section 2 – Ngobozi to Mthatha (Ngqeleni)



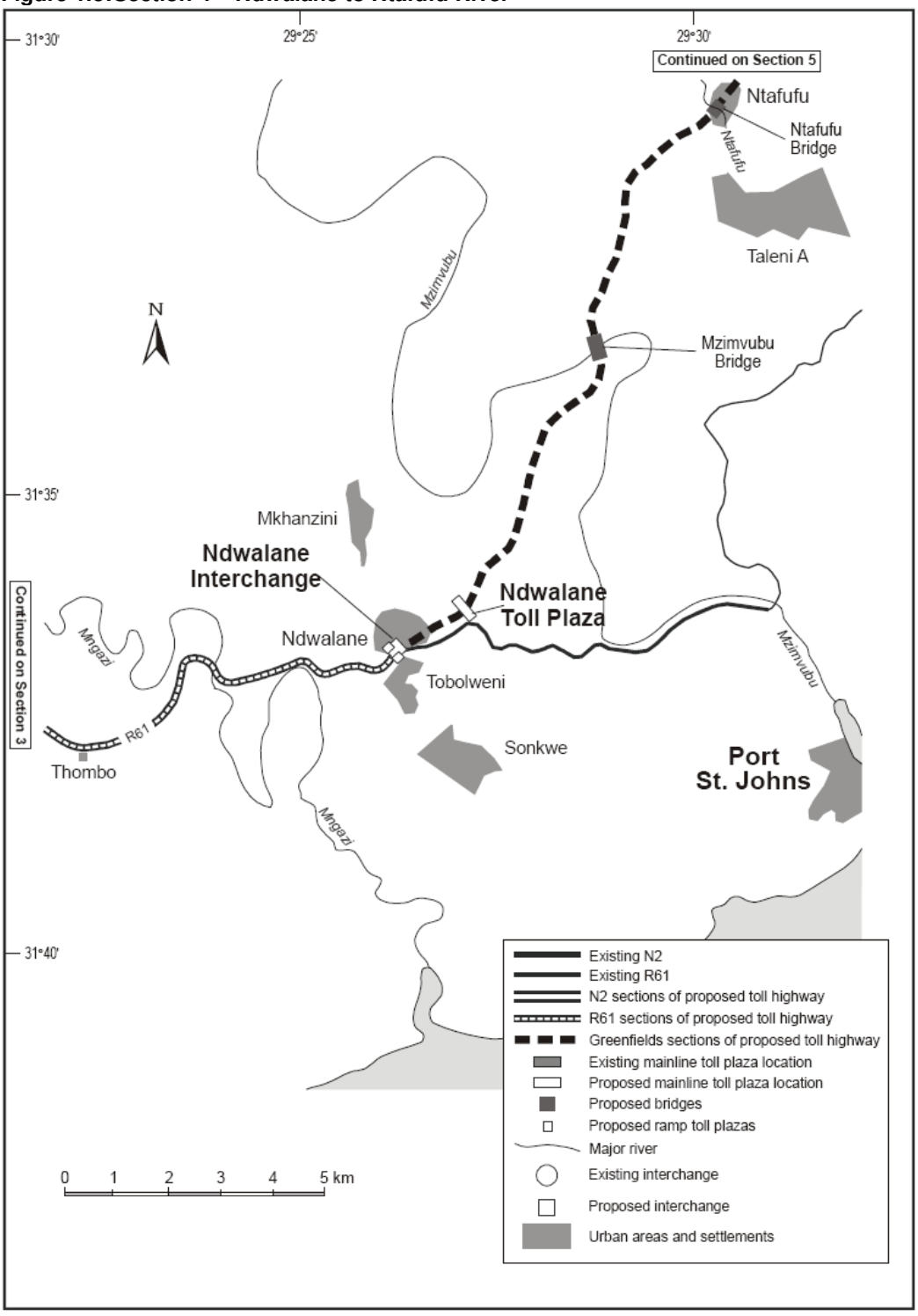
Source: Final Scoping Report. CCA Environmental (Pty) Ltd

Figure 1.4:Section 3 – Mthatha (Ngqeleni) to Ndwalane



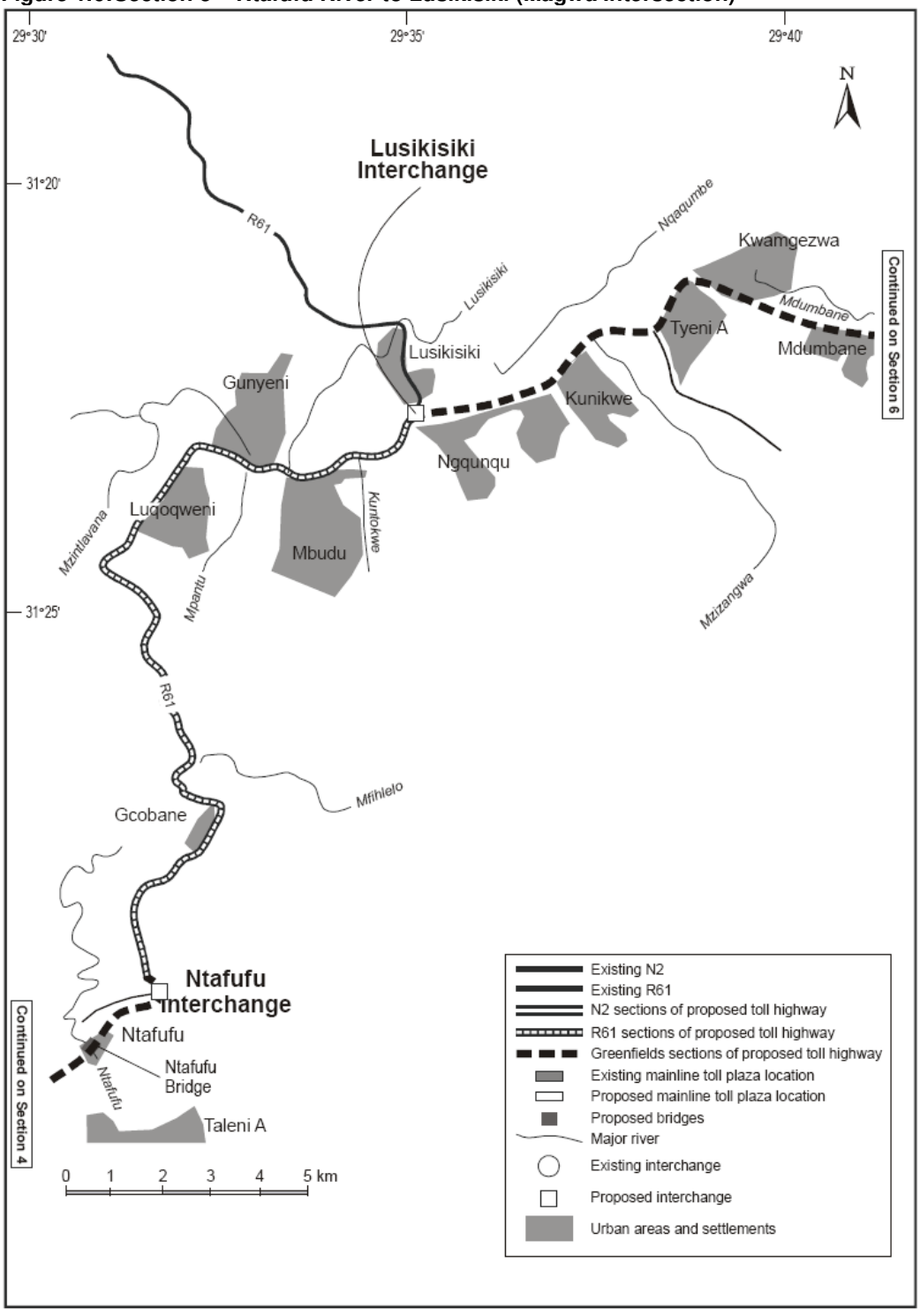
Source: Final Scoping Report. CCA Environmental (Pty) Ltd

Figure 1.5:Section 4 – Ndwalane to Ntafufu River



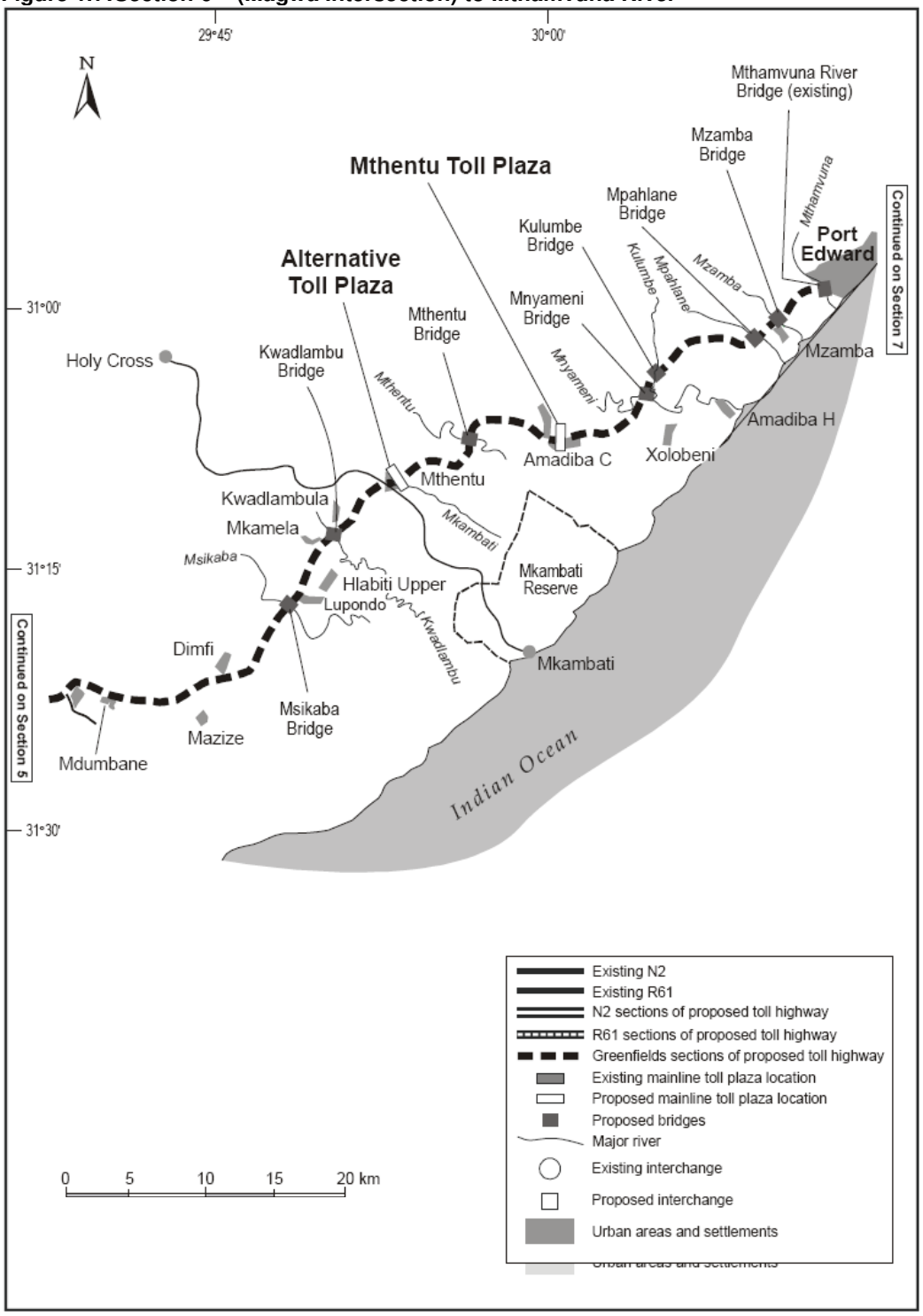
Source: Final Scoping Report. CCA Environmental (Pty) Ltd

Figure 1.6:Section 5 – Ntafufu River to Lusikisiki (Magwa Intersection)



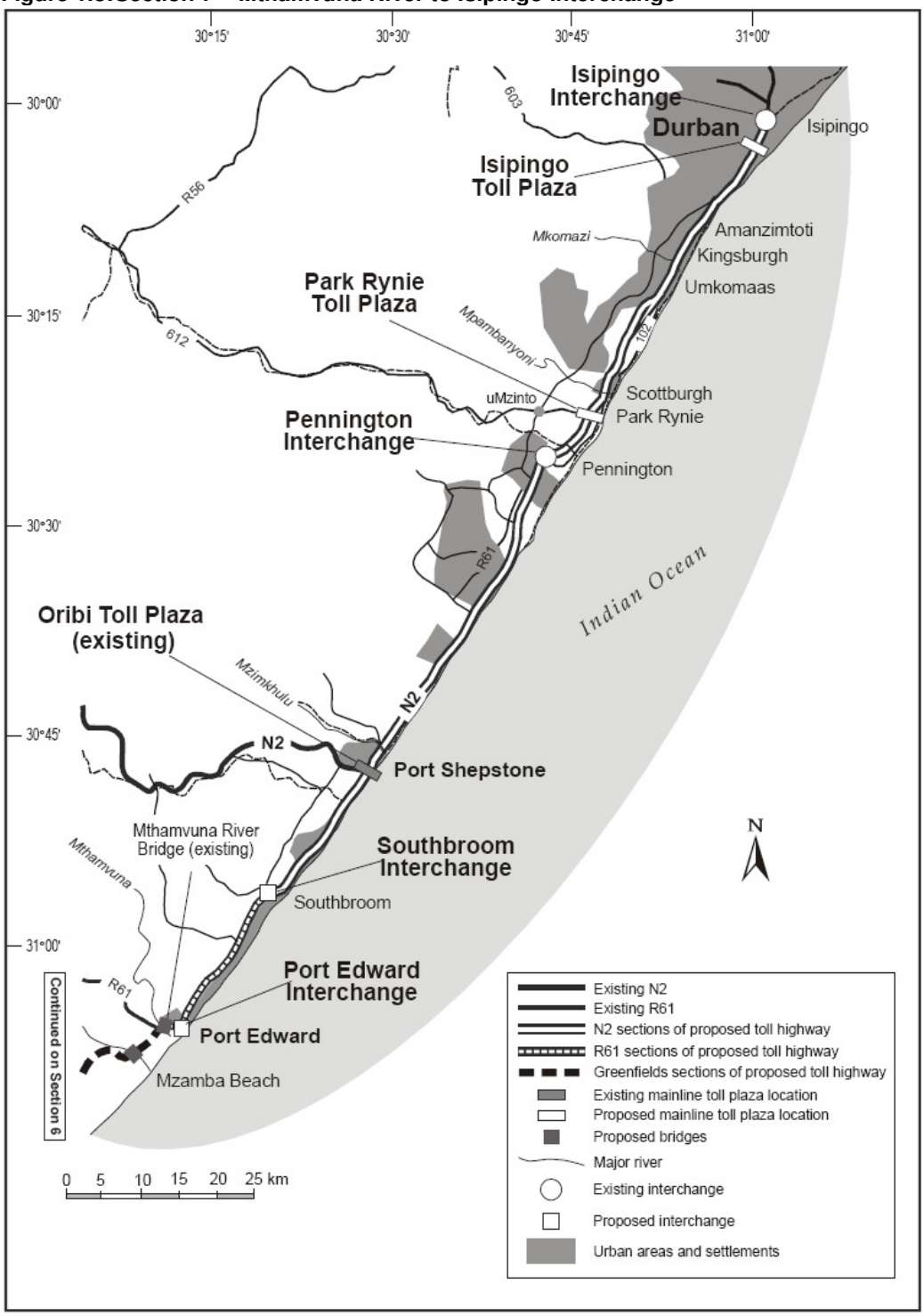
Source: Final Scoping Report. CCA Environmental (Pty) Ltd

Figure 1.7:Section 6 – (Magwa Intersection) to Mthamvuna River



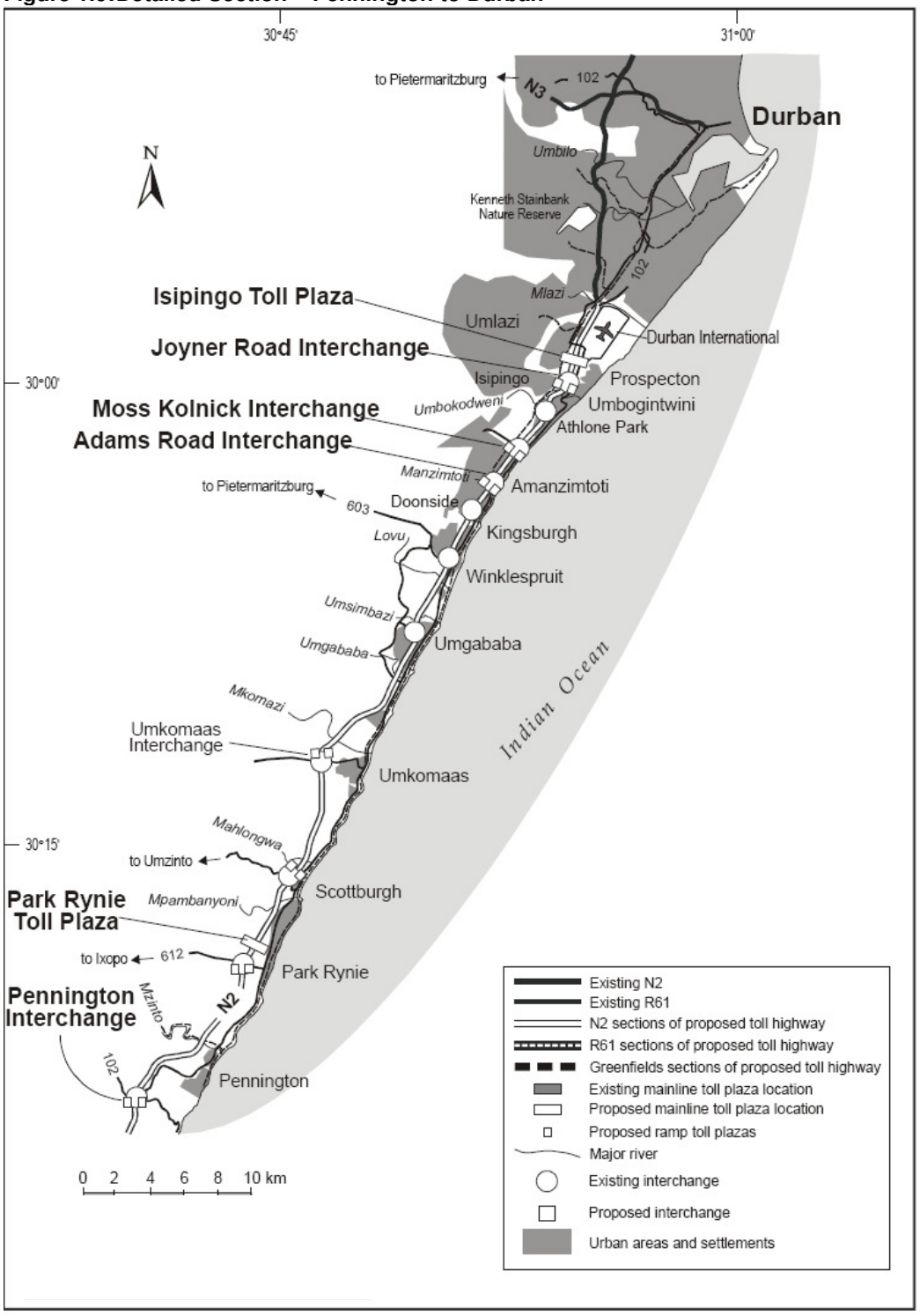
Source: Final Scoping Report. CCA Environmental (Pty) Ltd

Figure 1.8:Section 7 – Mthamvuna River to Isipingo Interchange



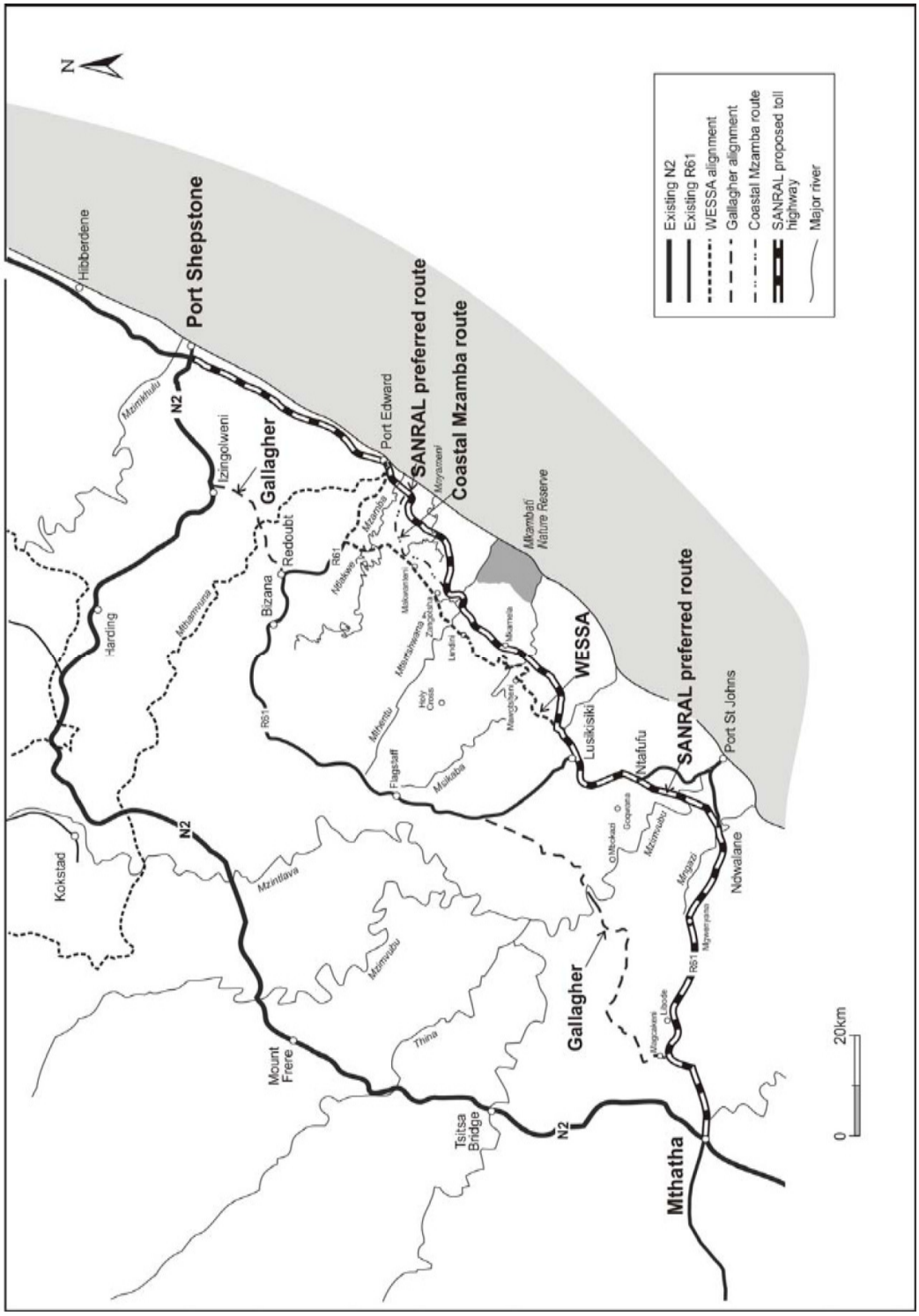
Source: Final Scoping Report. CCA Environmental (Pty) Ltd

Figure 1.9:Detailed Section – Pennington to Durban



Source: Final Scoping Report. CCA Environmental (Pty) Ltd

Figure 1.10: Alternative Greenfields alignments – Lusikisiki and Mthamvuna River



Source: Final Scoping Report. CCA Environmental (Pty) Ltd

1.2. Terms of reference

Although the SIA, which was compiled as part of the previous EIA process, is considered to contain certain information suitable for use in the current EIA, this previous SIA was undertaken in 2003 and requires updating. Apart from this various gaps were identified in terms of the 2003 study which needs to be bridged through this study. To achieve this, the social impact team was required to:

- Review the previous independent specialist report to determine the relevance of that report.
- Undertake a new study in order to update existing information, where applicable, in light of any relevant new information and current project details.
- Ensure that all relevant issues/potential impacts and key shortcomings and/or gaps are adequately addressed.
- Assess and rate all potential impacts in terms of a rigorous assessment methodology described in Section 3 methodology below.
- Recommend mitigation measures and consider them in light of their likely effectiveness and practicability.

More specifically the terms of reference of the SIA were, in respect of both the construction and operational phases of the project, to:

- Describe and assess the potential social effects of the proposed project and, where appropriate, identify feasible alternatives in respect of the:
    - Way of life of the affected communities along the route.
    - Possible improved local employment.
    - Potential improvements in transport provision within and through the study area.
    - Sense of health and well-being of affected communities.
    - Fears and aspirations of affected communities.
    - Potential impacts of the proposed project on infrastructure and services such as water, health, and education.
    - In association with the economic study, identify and assess the potential social impacts in respect of:
        - Property values along the proposed route.
        - Bypassed towns on the existing N2 and R61.
    - In association with the soils, land use and agriculture study describe and assess conditions pertaining to:
        - Subsistence agriculture along the proposed routes with reference to rural livelihoods and the use of natural 'veld' products.
        - Feasible alternatives in terms of subsistence agriculture.
        - Feasible alternatives in terms of loss of affected crop and grazing land and the potential resettlement of affected households.
    - In association with other relevant studies:
        - Evaluate the social sustainability of the proposed project identifying feasible alternatives to ensure social equity and justice.

In order to address these issues the following methodology was employed.

2. METHODOLOGY

The characteristics of the entire route are such that it was possible to divide it into three sections based on the characteristics of each section. Progressing from East London to Durban these sections consist of a relatively mixed section of the existing N2 between Gonubie Interchange and Mthatha (Ngqeleni) comprised largely of rural areas and small development nodes clustered around a few small towns. Secondly, a largely rural Greenfields section between Mthatha (Ngqeleni) and Mthamvuna River consisting of sections of the R61 route and new road sections at times over extremely rugged territory. The final section of road follows the R61 and N2 route from Mthamvuna River to Isipingo Interchange and initially progresses through rural and then farming terrain linking a number of small and medium size resort towns and becomes increasingly urbanised towards the Isipingo Interchange. The seven sub-sections of road described under 1.2 Study area above are all catered for within the three divisions which are largely made on methodological grounds in an attempt to capture the diverse social issues and concerns in order to undertake an holistic assessment of the entire route. The rationale used to select the sections and sites were based on the following criteria.

Gonubie to Mthatha (Ndabakazi community) – impact of tolling, reduced access and provision of feeder roads to designated access points

The proposed toll road makes use of the existing N2 between Gonubie and Mthatha and the volume of traffic on this section of the route will not increase significantly from the current traffic volume. There will be upgrades to this section of the road including new interchanges and other safety improvement features, a reduction in access points and the provision of parallel feeder roads to approved access points where existing access points are closed. The key impact on this section will be the impact of tolling as road users will be subject to tolling at the Ngobozi and Candu toll plazas.

Mthatha to Ndwalane (Tombo community) - impact of increased traffic, reduced access and provision of feeder roads to designated access points, tolling on trips to Port St Johns

The proposed toll road makes use of the existing R61 between Mthatha and Ndwalane. This section of road will therefore be subject to a considerable increase in traffic compared to the present traffic flow due to the traffic that will be attracted to the new, shorter route between Port Shepstone and Mthatha. There will be upgrades to this section of the road including new interchanges and other safety improvement features, a reduction in access points and the provision of parallel feeder roads to approved access points where existing access points are closed. People travelling to Port St Johns will also be subject to tolling at the ramp plaza at Ndwalane on the R61 leading to Port St Johns. This will impact on people living to the east of the Tutor Ndamase Pass for whom Port St Johns is the main business and social services node as well as people undertaking trips between Mthatha and Port St Johns.

Greenfields section between Ndwalane and Ntafufu – impact of construction of new road in Greenfields location

Ndwalane to Mzimvubu River (Commercial farmers)

Between the existing R61 at Ndwalane and the crossing of the Mzimvubu River there are a number of commercial farms and businesses / residential dwellings that will be impacted by the proposed toll road. These include the farmers in the Umzivubu farmlands close to the Umzimvubu River. Queen Regent Ndamase took over one of the larger farms in this area during the current EIA study.

Mzimvubu River to Ntafufu (Ntafufu Village)

Between the crossing of the Mzimvubu River and where the proposed toll road rejoins the existing R61 at Ntafufu the road passes through Ntafufu Village and impacts on the playing fields of one school and requires the demolition of another school. The road cuts the community in half and the Ntafufu interchange also involves the acquisition of considerable land at the entrance to the village.

Ntafufu to Lusikisiki (Mzintlava community) – impact of increased traffic, reduced access and provision of feeder roads to designated access points

The proposed toll road makes use of the existing R61 between Ntafufu and Lusikisiki and the existing concrete road from Lusikisiki to the Magwa intersection. This section of road will therefore receive a considerable increase in traffic compared to the present traffic flow due to the traffic that will be attracted to the new, shorter route between Port Shepstone and Mthatha. There will be upgrades to this section of road including new interchanges at Ntafufu and Lusikisiki and other safety improvement features, a reduction in access points and the provision of parallel feeder roads to approved access points where existing access points are closed.

Greenfields Section between Lusikisiki and Mthamvuna – impact of construction of new road in Greenfields location

This section of the route will involve the construction of a new road in a Greenfields location. As a result of the deeply incised gorges traversing the area this section can be divided into three distinct sections based on current accessibility. Both the Msikaba and Mthentu river gorges that traverse this area of Pondoland can only be crossed by travelling long distances inland on poor, unsurfaced roads. There is thus very little interaction between people from these areas due to arduous journeys of at least 100 km and two to three hours required to get from one area to another. This section can therefore be divided into the section from Lusikisiki to the Msikaba River, the section from the Msikaba River to the Mthentu River, and the section from the Mthentu River to the Mthamvuna River.

There are also different settlement types and land use patterns in this area including Betterment Planning settlements and dispersed settlements, and those that fall in between. Communities were therefore chosen to cover the three distinct areas and also the different settlement types.

Lusikisiki to Msikaba River (Matheko)
Matheko is a betterment planning settlement close to the route alignment not far from the Msikaba Gorge on the section between Lusikisiki and the Msikaba River.

Msikaba River to Mthentu River (Mkamela)
Mkamela is a fairly dispersed settlement close to the TRACOR land and the Msikaba Gorge on the section between the Msikaba River and Mthentu River.

Mthentu River to Mthamvuna River (Mahaha)
The Coastal Mzamba Alternative goes through Mahaha which is a dispersed settlement on the section between the Mthentu and Mthamvuna Rivers.

On the basis of this description the following research techniques were applied.

2.1. Research techniques

As the research techniques applied across the project differed somewhat, depending on the characteristics of specific sectors of the route, these techniques will be addressed below under each of these sectors.

2.1.1. Gonubie Interchange to Mthatha (Ngqeleni)

Research into the social impacts for the section of road between the Gonubie Interchange and Mthatha (Ngqeleni) employed the following data sources and methods:

- An examination of the Scoping Report, Minutes of all the Public Participation Meetings and the Issues/Response trail for the Wild Coast Toll Highway, as well as the previous SIA and DEAT's comments on this report.
- A review of the existing literature for the Eastern Cape Province and the Amatole and O.R. Tambo District Municipalities such as the IDPs and other secondary sources on the land uses and livelihoods of residents of the former Transkei.
- Stats SA 2001 Census data for the Eastern Cape Province and the relevant district and local municipalities.
- An examination of the 1:50 000 topographic maps for this section of road.
- Recorded observations of the number of pedestrians and road access onto the N2 along this section, as well as the number of residential/business sites with direct access onto the N2.
- A structured closed ended questionnaire survey of 140 commuters using taxis in Butterworth, Idutywa and Mthatha.
- A review of the latest available accident statistics.
- Interviews with the following stakeholders and affected parties:
    - Taxi operators in Butterworth, Idutywa and Mthatha.

- Municipal officials in Butterworth, Idutywa and Mthatha.
- Local residents of Ndabakazi rural area west of Butterworth.

The methodology utilised along the section of the route that extends between Mthatha and Mthamvuna River will now be addressed.

2.1.2. Mthatha (Ngqeleni) to Mthamvuna River

This section of the route comprises largely of Greenfields areas and, as a result, a number of hitherto unreported social impacts could occur within this sector. Consequently, the methodological approach adopted was designed to both complement and expand on the original Terms of Reference 2 above and included a Sustainable Livelihoods Framework approach which emphasises the linkages between policy and planning priorities and the potential responses of households and communities. It also provides a focus on both sustainability and vulnerability issues. This methodology was used to investigate local perspectives on the impacts of the proposed road on the livelihood resources such as:

- Natural capital – including land, water and forests.
- Human capital – including skills, knowledge, health and the potential impacts on the amount and quality of local labour.
- Social capital – community and family networks and formal and informal membership of various types of groups and organisations.
- Physical capital – including local basic infrastructure, shelter and roads and the stock of services needed to sustain livelihoods. This also includes schooling, health and energy services.
- Financial capital – including annual income, potential savings and expenditure, the available stocks of cash and bank assets and the accumulation of livestock and other convertible incomes or savings.

A diverse sample consisting of seven communities, representing the characteristics of the twenty-one communities along the Mthatha to Mthamvuna River section of the proposed route was selected and is listed below as follows:

- The existing rural node of **Thombo** – along section 3 on the R61 between Mthatha and the proposed toll at Ndwalane.
- The **private and 'Royal House' farmers** at the **Umzimvubu River** bend, in the Greenfields developments proposed for section 4 between Ndwalane and the Ntafufu River.
- The **Ntafufu** community, bisected by the same Greenfields developments proposed for section 4.
- The **Mzintlava** community at two sites along the R61 on the Ntafufu River to Lusikisiki part of section 5.
- The **Mateko** community, some 15 km north of the Magwa Intersection of section 6 alongside DR08024 between Lusikisiki and the Mthamvuna River.
- The **Mkamelo** community some 20 km inland of the Mkambati Nature Reserve and situated between the Msikaba and KwaDlambu River Gorges on section 6.

- The 'inland' **Mahaha** community potentially traversed by the Coastal Mzamba Alternative as opposed to the SANRAL preferred route of section 6; located approximately 3 km from the Mzamba River and some 7 km inland.

It was considered that these communities are sufficiently representative in respect of:

- A suitable combination of settlement types and land use patterns, both traditionally dispersed households, 'betterment planned' settlements and a combination thereof, that are potentially affected by either upgrading or Greenfields development.
- Private and 'Royal House' interests in land potentially impacted by Greenfields development.
- Traditionally dispersed households and facilities along both proposed alternative routes.
- A growing rural node and major bus and taxi intersection earmarked for upgrading as an interchange in the proposed development. This represents an effective agglomeration of existing provincial and locally defined facilities and services, inclusive of schools, clinics, shopping centres, a Multi Purpose Community Centre (MPCC), market stalls and small enterprise developments.

Each identified community, with the exception of the 'Umzimvubu farmers', was stratified into five social categories which is considered predominant and sufficiently representative of local community interests lives. These social categories consisted of:

- Professional people, including teachers, nurses, and councillors;
- Commercial people, with interests largely in micro to medium sized local enterprises;
- Women, selected from various socioeconomic sectors, which included the poor;
- Groups of youths;
- Subsistence and semi-subsistence farmers. This group, by and large, consisted of returned migrants and those 'traditionalists' who have chosen to remain at home throughout their lives.

A further distinction was made between those residents who claimed to live within 200m of the proposed route, and those living between 200m and 2 km away. This was done in order to ascertain whether the difference in location of households elicited substantially different impacts and a diversity of preferences.

The research instruments adopted comprised of a combination of focus group discussions in the format of social group meetings and more formally structured one-on-one interviews. At each community meeting held the purpose of the SIA was introduced and explained. Attendance ranged from over 150 participants, at Mkamelo, to averages of 80 at Makheto, Mzintlava, Thombo and Ntafufu, with 50 at Mahaha.

The lower attendance at Mahaha was due to a widely dispersed traditional settlement pattern and long walking distances to the venue. Some respondents walked up to 5 km to attend, while others hired taxis at their own expense in order to have their say and make a contribution. Although this was not an ideal situation, due to the limitations inherent in such research, it was unavoidable in this situation and is noted here as such.

At these meetings it was emphasised that these current consultations were aimed at strengthening the initial round of public participation consultations and were designed to capture the prior omission of insufficient expression of 'the voices of the people from the villages'. During each session it was also made clear to participants that, at that point, no decisions regarding the building of the proposed toll road had been taken and that in the event of such a decision being taken and being positive, this would result in a further round of more detailed consultations. These consultations, it was further explained, would consider the location, type and purpose of facilities required in respect of any mitigation, as well as the extent and degree of the participation of communities in respect of the construction and maintenance phases of the project.

A number of structured focus group discussions were held with the five categories of social groups referred to above. The structure of these focus groups was based on a prepared list of questions aimed at eliciting information concerning community perspective in respect of:

- Past and present social and economic conditions in the area.
- Future social and economic opportunities.
- Effect on the 'general way of life' of communities.
- Effects on the 'sense of health and well being' of communities.
- Fears and aspirations in relation to the project.

In order to broadly assess any local distributional and equity effects arising, perceptions regarding the potential for any differentiation of potential benefits and costs to a broad categorisation of 'higher level/better off', 'middle income' and 'more vulnerable/poorer groups' at the local level were elicited.

Various one-on-one structured interviews were held with volunteers selected from affected communities during the focus group sessions. These interviews were specifically designed to collect information relating to:

- Biographical data.
- Current livelihood strategies and their perceived reliability.
- Perceived impacts of the proposed road on the livelihoods of respondents.
- Present travel patterns i.e. modes of transport, furthest and most frequent destinations visited and the purpose of this travel.
- Perceptions concerning the project's activities and investments in the area.
- Types and extent of local skill levels within the communities.
- Perceptions concerning in-migration.
- Issues relating to fencing, access roads, under- and overpasses, intersections, bridges, toll booths.
- Impact of the road on the issue of HIV/AIDS and STDs in the area.

Attention is now turned towards the methodology employed in respect of that section of the road, running through KwaZulu-Natal, and stretching between Mthamvuna River and the Isipingo Interchange.

2.1.3. Mthamvuna River to Isipingo Interchange

Research into the social Impacts for the section of road between the Mthamvuna River and Isipingo Interchange involved use of the following data sources and methods:

- An examination of the Scoping Report, Minutes of all the Public Participation Meetings and the Issues/Response trail for the Wild Coast Toll Highway, as well as the previous SIA and DEAT's comments on this report.
- A review of the existing literature for the KwaZulu-Natal Province and the eThekwini Metropole, Ugu and Sisonke District Municipalities, and other secondary sources on the land uses and livelihoods of residents of the area.
- Stats SA 2001 Census data for the KwaZulu-Natal Province and the relevant district and local municipalities.
- An examination of the 1:50 000 topographic maps for this section of road.
- Interviews with stakeholders. In all, over 50 stakeholders participated in meetings. Notes of all meetings are appended as Appendix 1. Interest groups that were contacted included provincial departments, district municipality representatives, local municipality representatives, key sectoral stakeholders, local interest, representatives of marginal communities, large business, small scale traders, etc.

2.2. Assessment of social impacts

The social impacts of a linear project such as the development of road infrastructure will, to varying degrees, have consequences across the entire project. It has been found in the United States that '[i]nterstate highways have broad social effects…' (Deakin, 2006:16) extending across the nation. It is unlikely that this will be any different in South Africa and consequently the impacts across the entire route will be addressed here. What will, however, be different is the nature of these impacts and the communities who will bear the brunt of these effects. This has been kept in mind throughout the entire assessment process as presented below.

2.2.1. Social impact assessment technique

The SIA aims to ascertain the nature, extent, duration, probability, significance and status of the identified impacts that may result, during both the construction and operational phases, of the proposed N2 Wild Coast Highway project. Each impact is described, mitigation measures are suggested and an assessment, initially without mitigation and subsequently with mitigation is provided, in tabulated format for each of the sections of the route.

The criteria employed in undertaking the assessment are as follows:

Extent**:** of an impact is described in terms of the following possibilities:

- **Site specific** – contained at a particular site;
- **Local** – restricted to the immediate surrounding areas;
- **Regional** – extends to the provincial level (Eastern Cape or KwaZulu-Natal);
- **National** – impact is nationwide.

Duration: The lifespan or anticipated length of time during which the impact will be felt. This is indicated in terms of whether the impact will be:

- **Short-term** – 0 to 5 years;
- **Medium-term** – 6 to 15 years;
- **Long-term** – 16 to 30 years (where the impact will cease only after the operational life of the activity either because of natural processes or through human intervention);
- **Permanent** – where mitigation either by natural process or by human intervention will not occur in such a way or in such a time span that the impact can be considered transient.

Intensity: Refers to the degree to which the social environment will be altered:

- **Low** – Will have little or no effect on the social environment;
- **Medium** – Will have some effect on the social environment but it is likely to continue with limited alteration;
- **High** – The social environment is significantly altered to the extent that cultural or social functions/processes may temporarily or permanently cease to function as before.

Probability*:* The likelihood of the impact actually occurring is indicated as:

- **Unlikely or improbable** – where the possibility of the impact occurring is very low;
- **Probable** – where there is a good possibility (<50% chance) that the impact will occur;
- **Highly probable** – where it is most likely (50%-90% chance) that the impact will occur; or
- **Definite** – where the impact will occur regardless of any preventative measures taken (>90% chance of occurring).

The ***status***: An appraisal of the type of effect the activity would have on the affected environment, which is described as **positive, negative or neutral**.

Significance of the impacts: The significance of the potential impacts is determined according to the core criteria for determining significance ratings, namely the extent, duration and intensity of the impacts to an affected party or the affected environment. Significance ratings are assigned to potential impacts before and after mitigation as per the convention for assigning significance ratings provided below.

Significance rating	Description (in terms of intensity, extent and duration)
Very high significance	Impacts could be: Either of high intensity at a regional level and endure in the long term; Or of high intensity at a national level in the medium term; Or of medium intensity at a national level in the long term.
High significance	Impacts could be: Either of high intensity at a regional level and endure in the medium term; Or of high intensity at a national level in the short term; Or of medium intensity at a national level in the medium term; Or of low intensity at a national level in the long term; Or of high intensity at a local level in the long term; Or of medium intensity at a regional level in the long term.
Medium significance	Impacts could be: Either of high intensity at a local level and endure in the medium term; Or of medium intensity at a regional level in the medium term; Or of high intensity at a regional level in the short term; Or of medium intensity at a national level in the short term; Or of medium intensity at a local level in the long term; Or of low intensity at a national level in the medium term; Or of low intensity at a regional level in the long term.
Low significance	Impacts could be: Either of low intensity at a regional level and endure in the medium term; Or of low intensity at a national level in the short term; Or of high intensity at a local level and endure in the short term;

The following procedure is followed for assigning significance ratings to residual, after mitigation, impacts:

- Firstly, probable changes in intensity, extent and duration of the impact after mitigation will be considered, assuming effective implementation of mitigation measures, leading to a revised significance rating;
- Secondly, the significance rating will be moderated after taking into account the likelihood of proposed mitigation measures being effectively implemented. The following is considered in this regard:
  - Any potentially significant risks or uncertainties associated with the effectiveness of mitigation measures;
  - The technical and financial ability of the proponent to implement the measure; and
  - The commitment of the proponent to implementing the measure, or guarantee over time that the measures would be implemented.

The significance ratings are based on largely objective criteria and inform decision-making at a project level as opposed to a community level. In some instances, therefore, whilst the significance rating of potential negative impacts might be “low” or “very low”, the importance of these impacts to local communities or individuals might be extremely high. The importance which I&APs attach to impacts must also be taken into consideration, and recommendations should be made as to ways of avoiding or

minimising these negative impacts through appropriate project design, selection of appropriate alternatives and/or management.

Confidence: given all available data, the probability to which predictions relating to the impact can be made. This is rated as:

- **High** – where it most likely that impact will occur in accordance with the assessment.
- **Medium** – where there is a distinct possibility of the impact occurring in accordance with the assessment.
- **Low** – where it is most difficult to make any prediction in terms of the assessed impact.

Based on these criteria the various social impacts across all sections of the route are identified and assessed on two levels. The first of these levels refers to the construction phase, while the second concerns the operational phase of the project.

Impact and mitigation assessment

The major process through which the impacts were identified includes the following:

- Impacts as identified during the scoping phase.
- Impacts identified during interviews and research among the stakeholders.
- Impacts identified by submissions made by interested and affected parties.
- Impacts identified by the authors, as part of their professional judgement.

In particular the scoping report sets out a number of impacts that were to be considered during the impact assessment phase. Amongst these are impacts that have been deemed to be 'headline issues' and that have been disaggregated and considered under, what has been termed as, additionally identified impacts. These impacts are the:

- Potential effects on the way of life of affected communities.
- Potential effects on the sense of health and well-being of affected communities.
- Potential effects on the fears and aspirations of affected communities.
- Social sustainability (including social equity/justice) of the proposed project.
- Capacity to manage the project at local level.

2.3. Assumptions and Limitations

A study of the nature and size of the N2 Wild Coast SIA will inherently contain various assumptions and limitations. Although the ideal situation may have been to engage with all stakeholders on a broad basis along the entire length of the route, and to utilizing both a quantitative and qualitative methodological approach, this was not feasible for a number of reasons. Firstly, although significant funding and resources were allocated to the SIA there were limitations within these allocated funds and resources that had to be considered. Secondly, the characteristics of the route were such, with both developed and Greenfields regions being targeted, that it necessitated the application of a mixed methodological

approach. In addition the option of using self-administered questionnaires could not be considered due to high levels of illiteracy amongst members of many communities consulted, time constraints and budgetary considerations.

In the Eastern Cape, it proved to be quite difficult to arrange meetings with the Butterworth, Idutywa and Mthatha local municipalities. In the case of Idutywa it was not possible to meet with them while in the field, but some subsequent discussions were held over the phone. It was also clear that the Municipal officials who met with the researchers (except for those in Mthatha) were not well informed about the proposed development and were not in a position to inform us about the concerns of local residents and authorities. The meeting arranged with the taxi associations in Mthatha also failed to take place but a lengthy discussion was possible with one of the taxi operators in that area. The researchers also encountered problems during the meeting with the Ndabakazi rural community in the vicinity of the proposed Ngobozi Toll Plaza. As a result of some misunderstandings and frustration on the part of local residents about the delays and lack of progress with implementing the proposed highway, as well as 'consultation fatigue', they were unwilling to enter into lengthier focus group discussions about the potential impacts on various stakeholder groups.

In the course of preparing for and undertaking the field work in the Greenfields sections of the Eastern Cape researchers made the assumption that the process of organising communities to be consulted would be a relatively seamless process. This assumption was based on the fact that team members had an in-depth knowledge of the area, and well planned phased dates were allocated and venues prearranged with good communication between the team and local leadership at each site visited. However, despite this a number of minor limitations did occur. For instance at Port St Johns, 2 private individual farmers failed to attend an agreed upon Sunday morning meeting due to other last minute commitments arising, while in Mahaha, attendance was low due to the very dispersed settlement pattern and long distances to the venue. These minor matters were to be expected in a study of this nature and every effort was made to limit any affect they could have on the study.

Likewise In the course of preparing for and undertaking the field work in the KwaZulu-Natal section researchers made the assumption that the communities, stakeholders and interest groups that could contribute to the generation of the impact assessment were relatively well informed about the project and had generally made themselves known via the public participation process. Although this assumption was largely true the interaction with stakeholders was hampered by "stakeholder fatigue" and the dynamic nature of some of the organisations involved. The individual makeup of many organisations had changed considerably since contact was first made by the public participation team and the fact that some stakeholders claimed to have none or very limited knowledge of the project. This was largely managed by the research team having an inclusive approach and being receptive to people who may not have been initially identified or listed as stakeholders and by undertaking many and varied meetings across the project locale.

On a general basis, although every attempt was made to provide an opportunity for all affected and interested parties to participate in this study, what is usually the case with such research is that only those people with fairly strong views about the proposed project are prepared to take the time and make the effort to participate. Consequently, the results of the study cannot be generalised to the entire research population and in analysing the results we therefore draw conclusions with regard to the characteristics and views of the concerned residents in those communities.

Finally it must be stated that this report was informed by peer review undertaken by **Tony Barbour, Environmental Consultant and Researcher** (Appendix 4). The peer review comments are also appended to this report together with a comments and response table on the review (Appendix 5).

Attention is now turned towards section 2 of the report which, as indicated under the introduction above, will address the existing baseline social conditions relative to the proposed route.

3. SOCIAL DESCRIPTION OF THE AREA

This section of the report provides a broad description of the provincial, district and local socioeconomic environment in which the proposed toll road development may take place. It emphasises selected institutional, socioeconomic characteristics and related policies/plans within which the proposed highway development would take place. This description is complemented with a number of maps illustrating some of the key socioeconomic features of this region.

3.1. Provincial description

Starting at Gonubie Interchange just outside East London, the route is aligned within the boundaries of the Eastern Cape Province for approximately 411.5 km before crossing into the Province of KwaZulu-Natal. It continues for a further 148 km through KwaZulu-Natal until it reaches Isipingo Interchange, just south of Durban. Consequently a description of the Eastern Cape Province and the Province of KwaZulu-Natal is given below and an illustration of the district and local municipalities affected by the route is provided in Figure 3.1 while a breakdown of the population density across the route is provided in Figure 3.2.

Figure 3.1: District and local municipal boundaries across the route

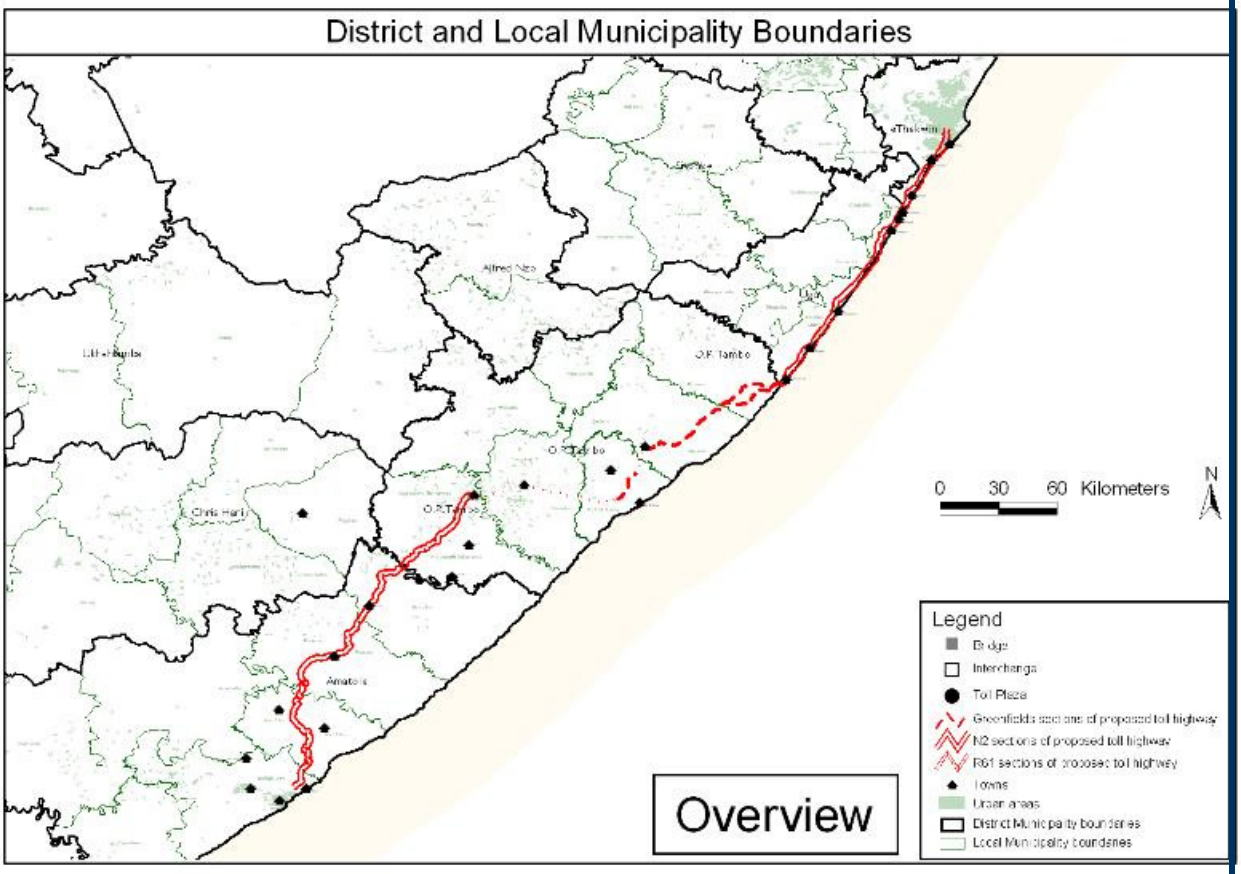
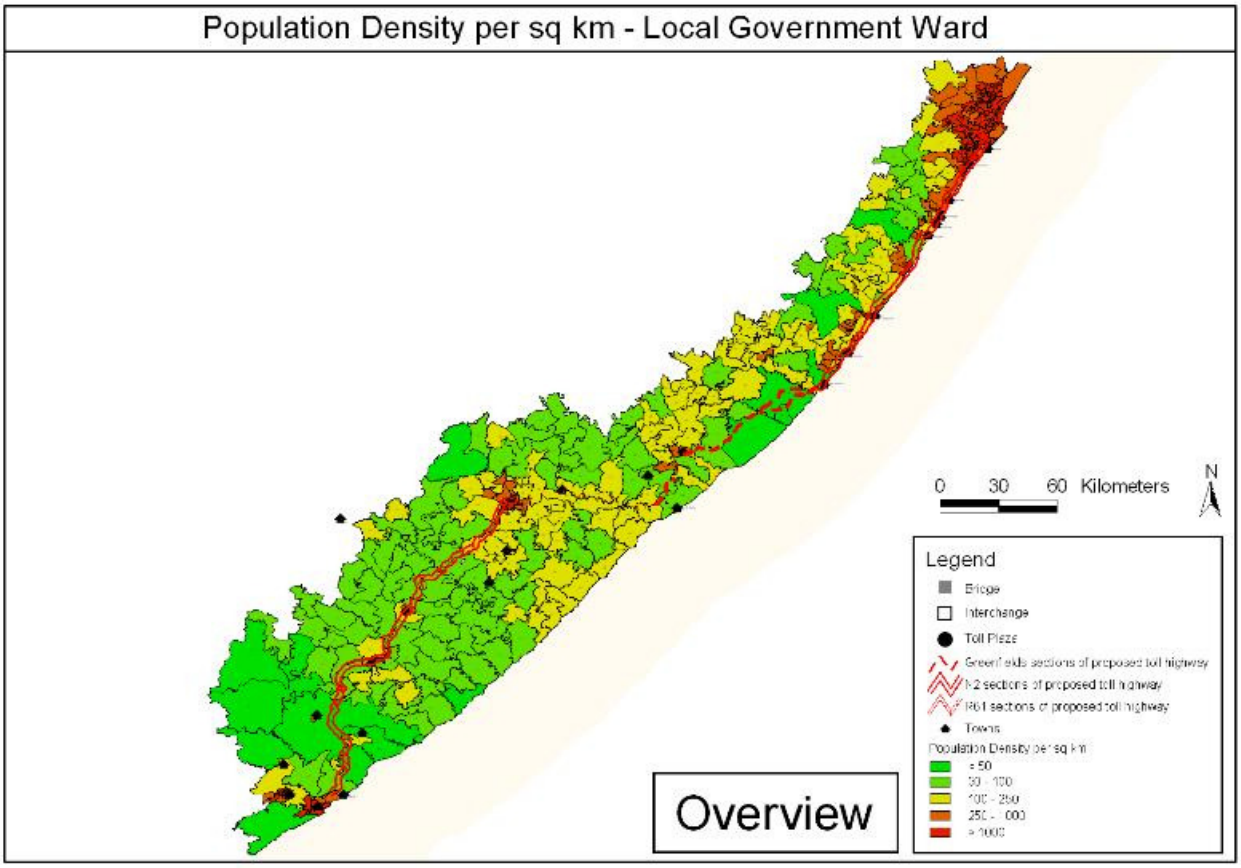


Figure 3.2: Population density across the route



3.1.1. Eastern Cape Province

The Eastern Cape economy has been characterised in the Province's 2004–2014 Provincial Growth and Development Plan (PGDP) as having extreme levels of uneven development. This is manifest in the dualism inherited from its urban industrial manufacturing centres in Buffalo City (East London) and in the Nelson Mandela Metropolitan Municipality (Port Elizabeth), a well developed commercial farming sector, and high concentrations of developed socioeconomic infrastructure in the western parts. This is contrasted against the undeveloped rural hinterland in the former Transkei and Ciskei homelands, a very weak subsistence agriculture and very limited socioeconomic infrastructure, particularly in the northeast. The objective of the PGDP is to elevate the province out of poverty and transform it into a 'compelling place in which to live, work and invest' (Stofile, Mokgola, 2003). The PGDP aim is to eliminate poverty and halve unemployment by 2014 through five major Programmes Areas and constituent subprogrammes which are listed below:

1. The Agricultural Transformation and Food Security Programme, made up of the Massive Food Programme, the Siyondla Homestead Food Production Plan, the Comprehensive Nutrition Programme and the Integrated Agriculture Infrastructure Plan.

2. Fighting Poverty, with subprogrammes in the Expanded Public Works Programme, the Water and Sanitation Programme, a Housing Programme, a Comprehensive HIV/AIDS and TB Programme and a Victim Empowerment Programme.
3. Public Sector Transformation, to be realised via the Improved Service Delivery in Health, Education, Social Development and Public Works Programme, the Local Government Capacity Building Programme and a programme to 'Strengthen the Centre of Government to Drive the PGDP Implementation'.
4. A Strategic Infrastructure Programme.
5. A Manufacturing Diversification and Tourism Development Programme with six main subprogrammes namely: the Automotive Industry Development Programme, an Industrial Support Programme, the Enterprise Development Finance Programme, an Agro Processing Support Programme, a Tourism Programme and a Timber Industries Development Programme.
6. All of these programmes are underpinned by a Human Resource Development Programme comprising the Provision of Scarce Skills for the Public Sector programme, a Future Education and Training Transformation Programme, an Adult Basic Education and Training Programme, a Comprehensive Human Resources Development Strategy and a Provincial Learnership Programme.

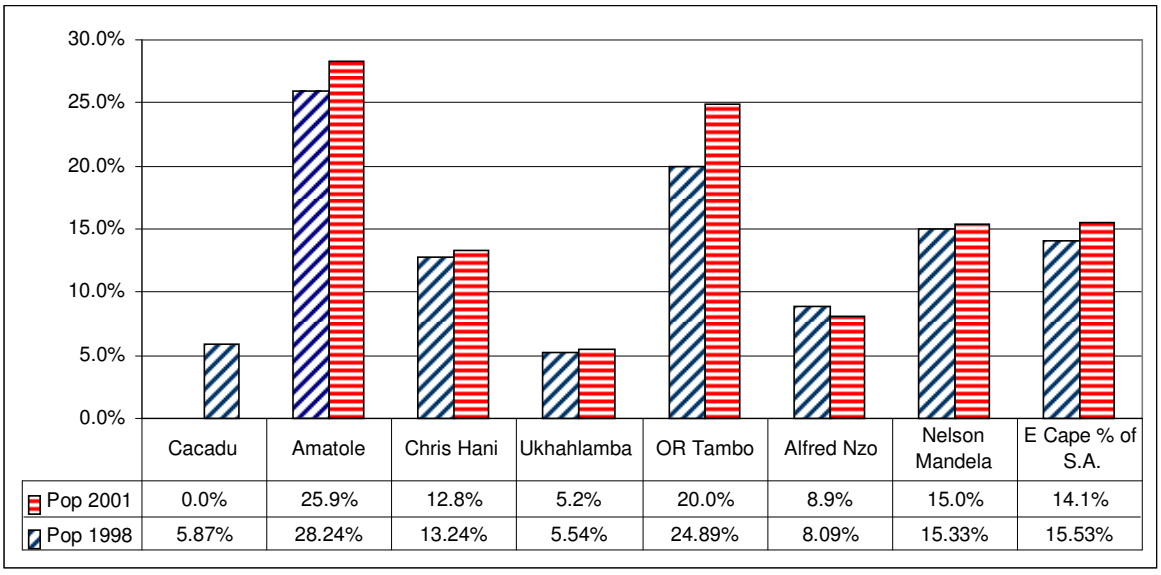
Average annual economic growth for the provincial economy over the last decade was 2.2% against the national average of 2.8%. In 2003, its real annual growth rate was 0.8% against South Africa's 3.6% (ECSECC, 2007). The provinces' 2002 contribution to national GDP, at about 7%, ranked fifth of all nine provinces and was the second lowest after Limpopo in terms of per capita Gross Value Added. However the province experienced 4.8% growth at the end of 2005, an achievement which had not been seen for over a decade. The primary sector had the highest growth rate at 5% with agriculture, forestry and fishing all being the largest contributors. The secondary sector contributed 4.8% with the construction sector adding 10.1% and the manufacturing sector adding only 4.2% (ECSECC, 2007). By 2007, the Eastern Cape contribution had risen to 8.1% of South Africa's total GDP. Manufacturing contributed 16.6% toward the province's GDP (Gross Domestic Product per Region [GDPR]) with the finance, real estate and business services contributing 19.4% and the wholesale, retail, trade, hotels and restaurants adding 13.1% of the GDPR.

The agricultural sector within the province is highly diverse with several different crop types being produced, from chicory to pineapples to olives. Sheep, dairy, cattle and ostrich farming are the dominant forms of livestock farming, with angora wool also being produced. Exotic forestry plantations cover large tracts of land in the Keiskammahoek region, whilst the primary fishing industry is squid. Game meat is also attracting international demand due to it being a leaner meat and thus healthier for the consumer (South Africa Government Information, 2007). Unfortunately, most of this commercial agricultural activity takes place in the wealthier western regions of the province and not in the former Transkei where the proposed highway is to be developed. Farming is an important contributor to household livelihoods in the former Transkei but is largely a subsistence activity.

In terms of manufacturing, the province is home to most of South Africa's motor manufacturing with Volkswagen, DaimlerChrysler, General Motors and Ford (Samcor) all having plants in the province. This industry is the main economic driving force behind the provinces two metropoles. The Eastern Cape is the only province to be home to two Industrial Development Zones, which together have recently secured firm investments amounting to R3.2 billion, creating over 1 250 permanent jobs (Kernohan & Mackie, 2006) and paving the way for the development of Small, Medium and Micro-Enterprises (SMMEs) (de Wet, 2006). In combination with the province's rail and airport infrastructure, these are said to currently make it a 'hot spot' for economic growth and development (South African Government Information, 2007).

Provincial population trends, illustrated below in Histogram 5.1, showed growth of 1.6% per annum to 6 , 436, 765 between 1996 and 2001 and 1.13% per annum to 6 , 906, 200 in 2007. It comprises about 14% of the national population, representing the country's third most populous province behind KwaZulu-Natal and Gauteng. Current Stats SA migration estimates for the Eastern Cape between 2001 and 2006 indicate that the province has received 132 945 persons and lost 455 442 persons. This leaves the province with a net loss of 321 497 persons over 5 years which amounts to a 4.7% loss. Statistics South Africa expects this trend to continue for the period 2006–2011. The greatest concentration of people are in the Amatole and O.R. Tambo Districts (at 1.7 million each), with the next most populous the Nelson Mandela Metropolitan Municipality (at 1 million). Women constituted 54% of the total population in 2001, against the national average of 52%, but this has declined to 52% in 2007. Women also formed the majority of household heads, particularly in the O.R. Tambo and Alfred Nzo Districts (61%), with 51% of households in Amatole headed by women. These demographics are marked by a profile comprising a very high proportion of the cohort aged 22 years or less (55%), with much higher proportions in O.R. Tambo (64%) Alfred Nzo (63%) and Ukhahlamba districts (59%) respectively.

Histogram 3.1: 2001 and 1998 Population data for the Eastern Cape Province and its six districts



	Cacadu	Amatole	Chris Hani	Ukhahlamba	OR Tambo	Alfred Nzo	Nelson Mandela	E Cape % of S.A.
Pop 2001	0.0%	25.9%	12.8%	5.2%	20.0%	8.9%	15.0%	14.1%
Pop 1998	5.87%	28.24%	13.24%	5.54%	24.89%	8.09%	15.33%	15.53%

Unemployment levels in 2001 were high, at 36% of the population and 6% above the national average. The highest rates of unemployment were in the Alfred Nzo (68%), O.R. Tambo (66%) Chris Hani (59%)

and Amatole (56%) districts respectively. These figures are, however, based on Statistics South Africa's official definition of unemployment which **excludes** persons who indicated that they were unemployed but who had not taken active steps to find work in the four week period leading up to the Census. In effect, this definition of unemployment excludes discouraged work-seekers from being counted amongst the unemployed. A more realistic description of unemployment, based on an extended definition, is illustrated in Table 3.1. This expanded definition includes housewives and those persons choosing not to work or unable to find work amongst the unemployed.

According to the PGDP (2004), between March 2001 to March 2004 the economy had lost some 278 000 jobs, yet managed to create 507 000 jobs in the subsequent period from March 2004 to March 2006. Despite almost half of the jobs created being in the agricultural sector (244 000), the speed with which the new jobs were created is a positive sign for the province.

Table 3.1: Unemployment rate (expanded definition) by gender and race in 2001 for South Africa, Eastern Cape Province and the two districts affected by the proposed development

Race	Gender	National total	Eastern Cape	Amatole	O.R. Tambo
Black	Male	38.0%	57.8%	55.3%	69.5%
	Female	56.7%	64.2%	60.4%	69.2%
	Total	46.6%	61.1%	57.9%	69.3%
White	Male	6.2%	6.2%	6.8%	2.8%
	Female	11.6%	11.1%	12.8%	1.3%
	Total	8.5%	8.3%	9.5%	2.2%
Coloured	Male	22.7%	30.6%	36.5%	24.5%
	Female	34.3%	48.3%	51.7%	40.6%
	Total	28.0%	38.7%	43.6%	30.9%
Asian	Male	15.5%	14.3%	9.7%	–
	Female	33.9%	25.2%	25.5%	23.2%
	Total	22.2%	18.7%	15.7%	8.1%
Total	Male	30.9%	49.2%	49.9%	68.7%
	Female	47.8%	58.3%	56.5%	68.9%
	Total	38.6%	53.7%	53.2%	68.8%

Source: Stats SA Census, 2001; PGDP 2004
Note: the expanded definition of unemployed includes housewives and persons who choose not to work or could not find work

Average annual household income in 2001 for South Africa as a whole was R46 291, while for the Eastern Cape it was R28 468 (Stats SA Census, 2001). This was around half the national average income and the second lowest level of income for the provinces. This can be attributed to the large proportion of the population with no income or incomes lower than R19 200 per annum and is illustrated in Table 3.2.

Table 3.2: Income distribution in South Africa and its nine provinces in 2001

Income	Eastern Cape	Free State	Gaut eng	KwaZulu-Natal	Limp opo	Mpuma-langa	Northern Cape	North West	Western Cape	South Africa
No income	31	24	19	26	28	23	14	24	12	23
R1–R4 800	9	12	5	9	15	11	9	9	3	8
R4 801–R9 600	24	20	11	19	24	21	22	19	11	18
R9 601–R19 200	15	17	17	15	14	18	19	18	17	16
R19 201–R38 400	9	12	16	12	9	13	15	15	18	13
R38 401–R76 800	6	7	11	8	5	7	10	8	16	9
R76 801–R153 600	4	5	9	6	3	5	7	4	12	6
R153 601–R307 200	2	2	7	3	1	2	3	2	7	4
R307 201–R614 400	0	1	3	1	0	1	1	0	2	1
R614 401–R1 228 800	0	0	1	0	0	0	0	0	1	0
R1 228 801–R2 457 600	0	0	0	0	0	0	0	0	0	0
R2 457 601 and more	0	0	0	0	0	0	0	0	0	0

Source: Stats SA Census, 2001

As Table 3.3 indicates, the PGDP holds that the growth in levels of absolute poverty over 1996–2001 has been greater in the province than nationally, with the poverty rate increasing dramatically from 34% to 67% over that period (PGDP, 2004). Within the Eastern Cape, the levels of poverty are highest in the O.R. Tambo and Alfred Nzo Districts, but are much higher than the provincial average for all the districts in the former Transkei and Ciskei. It is also clear from Table 3.3 that the levels of poverty increased between 1996 and 2001. This situation may have improved since 2004 given the higher levels of growth and employment creation in the last few years, but it is difficult to predict given the inadequacies in the available data. The depth of poverty and inequality in the province are major constraints to the development of the province. Low incomes also limit the potential for government to generate income and fund public works programmes and service delivery.

Table 3.3: Comparison of poverty indicators, 1996 and 2001 in the Eastern Cape and its six districts

Municipality	Poverty 2001				Poverty 1996			
	Number persons in poverty	% persons in poverty	HDI*	Poverty gap (R million)	Number persons in poverty	% persons in poverty	HDI*	Poverty gap (R million)
Cacadu	182 516	47.0%	0.54	241	144 370	38.2%	0.53	141
Amatole	1 207 266	71.9%	0.51	1 917	898 873	52.6%	0.50	1 013
Chris Hani	670 701	74.7%	0.49	1 114	513 774	60.6%	0.44	624
Ukhahlamba	272 480	71.9%	0.49	486	208 960	63.0%	0.43	264
O.R. Tambo	1 409 969	82.0%	0.45	2 441	1 091 394	64.7%	0.40	1 376
Alfred Nzo	438 366	79.7%	0.47	770	357 211	67.1%	0.41	461
Nelson Mandela	410 518	38.5%	0.66	591	310 778	31.0%	0.63	329
Eastern Cape	4 591 816	67.4%	0.53	7 560	3 529 359	34.3%	0.49	4 209

Source: Stats SA Census, 2001
* Human Development Index

- **Governance in the Eastern Cape Province**

Since the transition to democracy in 1994 there have been some very dramatic political and administrative changes, including the demarcation and creation of nine provinces with their own

governments, and the demarcation of new district municipalities with elected councils responsible for service provision that are much larger and fewer than the former districts. Within the Eastern Cape Province there are six new district municipalities with 38 local municipalities with their own elected local representatives. These changes introduced elected municipal and local councils in rural areas and in 'black' areas such as the former Transkei for the first time. In addition to these new political and administrative structures, there are some old structures such as the Tribal Authorities that have been allowed to continue and have been given ex-officio positions on the local municipal councils. There has also been considerable restructuring of civil servant posts in national, provincial and district government departments and organisations, with considerable downsizing, many resignations, and new appointments and transfers.

The process of restructuring elected government structures and the civil service, at the same time as trying to promote development and adopt many radically new government policies, created considerable tensions, capacity problems and uncertainties. This process has also been slow. In the former Transkei where there had previously been no elected municipal or local government structures, these councils have been very weak and inexperienced. The newly elected councillors often had no previous experience in government, and many of them have very low levels of education and difficulties with communicating in English. The capacity of local municipalities has been further limited by the absence of financial resources and difficulties in securing the services of sufficient suitably qualified staff (Ntsebeza, 1999). District planning data for the O.R. Tambo District reveals that average per capita expenditure is R412, slightly lower than the provincial average, with 70% budgeted by the district alone and 93% funded by grants and subsidies. The combined municipalities have an operating budget of R718m, representing a per capita allocation of R428, and described as very low by provincial standards. Despite these difficulties, considerable progress appears to have been made. While there is still much to be done, most local municipalities have offices, staff, telephones, etc., have developed plans and are delivering services. However, the difficulties that this SIA research team encountered in trying to contact and engage with local municipalities around the highway indicates that many local municipalities appear to be struggling to cope with the day to day issues, and find it difficult to have to deal with nonessential or long-term planning issues.

The coexistence in the former Transkei of newly elected councils and the old tribal authority structures with ill-defined roles and powers, has contributed further to the general tensions and uncertainties. Initially, many traditional authorities have felt threatened and become defensive and at times disruptive of efforts made by local municipalities (and other government structures) to advance development in what they believe to be 'their' areas of authority (Ntsebeza, 1999). There are also some local councillors who continued to fight against what they saw as undemocratic and discredited traditional structures (Ntsebeza, 1999). The lack of clarity on roles and responsibilities, conflicts and the lack of capacity in local government have stifled development initiatives at the local level. However, the situation is slowly improving as policy has become clearer and local governance capacity has increased.

In an attempt to enhance the interdepartmental coordination of policies and programmes and ensure more effective integration of service delivery, the Eastern Cape Provincial Government has developed three 'Clusters' of Cabinet Committees – (1) a Governance and Administration cluster, (2) an Economic Development and Infrastructure cluster, and (3) a Social Needs cluster. These clusters work through an intergovernmental forum in the Department of Housing, Local Government and Traditional Affairs and engage with the six district municipalities at the next tier of government and with 38 local municipalities at the 'lowest' tier, who are currently mandated with the most devolved powers and responsibilities for 'delivery'.

In addition there is currently an investigation being undertaken by the Department of Provincial and Local Government nationally to assess what the optimum assignment, delegation and funding between the respective tiers of government, and their relative powers and functions would be. Depending on the outcome of these investigations, there are likely to be further changes to the institutional environment in this region which will have implications for all developments including the proposed highway project. Effective management of relations with all these authorities and their respective specific mandates will be required in any new toll road development.

3.1.1.1. District and municipal description

The two major districts bisected by the proposed toll road development in the section between Gonubie and Port Edward are the Amatole District in the west, and O.R. Tambo District in the east bordering KwaZulu-Natal. The local municipalities in the Amatole District illustrated in Figure 4.1 below, that would be traversed by the highway are Buffalo City (with its seat in East London), Great Kei (Komga) Mnquma (Butterworth). Those local municipalities from the O.R. Tambo District Municipality, are the Mbashe (Idutywa), King Sabata Dalindyebo (Mthatha), Nyandeni (Libode), Port St Johns, Inquza Hill, formerly Quakeni (Lusikisiki) and Mbizana (Bizana). There is a very 'uneven' economic and spatial development profile across both these districts. Some of this uneven development has already been profiled in the section above. The discussion which follows will focus more on issues around infrastructure and services.

Recent surveys done for O.R. Tambo's 2007 Growth and Development Summit have attempted to capture and compare some selected district and municipal planning data and socioeconomic indicators. These were prepared by the Eastern Cape Social and Economic Consultative Council. Much of the following synopsis is drawn from this report, and is complemented spatially by selected disaggregated data. Unfortunately, no similar assessment has been developed for the Amatole District, but observations in the field suggest that they are very similar for those local municipalities that are located in the former Transkei.

As noted, O.R. Tambo District Municipality is the most populated district (along with Amatole), with over 100 persons per km^2 living in a largely scattered settlement pattern that makes service provision difficult and expensive. Access to basic services is relatively low with sewage from Mthatha flowing into the Mthatha River and outbreaks of cholera and typhoid occurring. The GDP per capital is only 30% of the

provincial average and rates of unemployment and poverty (covered elsewhere) are amongst the highest for the province and country.

Economic growth in this district is also low with private sector commercial economic activity limited to the trade sector and timber industry. Commercial economic growth is hindered by the communal tenure system and a physical planning system that is still in its infancy. Due to the backlogs in economic development of this area, national government has prioritised development in this region, and initiated a number of major development programmes (ECSECC, 2007). For example, priority is now being given to three mega projects presently being rolled out nationally and provincially in the form of the Forestry and Timber Industries Programme, a Bio-fuels Programme and the Umzimvubu Basin Development. Many of these initiatives are not necessarily included in those programmes which have been prioritised in the PGDP.

The proportion of households still reliant on natural water sources is more than twice the provincial average. Table 3.4 indicates that 50% of households living in Mthatha and along the road between Mthatha and Gonubie were still reliant on natural water sources in 2001. As indicated in Table 3.4 below, the percentage of households reliant on natural water sources are even higher in the more rural municipalities. The Mbizana, Inquza Hill/Quakeni and Port St Johns municipal areas exhibit the highest proportions internally.

Table 3.4: Number and percentage of households in the wards dissected by the proposed highway or adjacent to it between Gonubie and Mthatha having access to various water sources

Water source	Number of households	%
Piped water inside dwelling	69 552	12%
Piped water inside yard	59 729	10%
Piped water on community stand: distance less than 200m from dwelling	62 298	11%
Piped water on community stand: distance greater than 200m from dwelling	84 214	15%
Borehole	11 178	2%
Spring	26 564	5%
Rainwater tank	38 386	7%
Dam/pool/stagnant water	14 420	3%
River/stream	195 640	34%
Water vendor	2 334	0
Other	8 907	2%
Not applicable (homeless)	118	0
Total	573 340	100%

Source: Stats SA Census, 2001

Table 3.5 also indicates that there have been some limited changes, and sometimes declines, in water service levels monitored over the period between 2001 and 2006.

Table 3.5: Changes in access to various types of water resources in the Eastern Cape Province, the O.R. Tambo District and its local municipalities

Area	Water on site		Borehole/Tank		Community stand		Natural water/dam		Water vendor/other	
	2001	2006	2001	2006	2001	2006	2001	2006	2001	2006
Eastern Cape	37.4	41.8	4.0	3.8	25.3	25.1	31.4	28.0	1.9	1.4
O.R. Tambo	10.0	10.2	5.9	4.1	17.9	21.1	64.1	62.4	2.1	2.2
Mbizana	2.9	0.7	2.9	0.0	14.9	3.8	77.6	94.2	1.8	1.2
Ntabankulu	3.4	2.3	3.7	9.7	16.1	44.5	75.0	43.5	1.8	0.0
Quakeni	8.0	4.1	3.8	1.0	13.8	12.6	72.4	81.9	2.0	0.4
Port St Johns	5.7	6.5	5.1	2.7	13.7	39.2	73.8	50.8	1.7	0.8
Nyandeni	3.9	9.3	7.4	5.8	18.7	18.0	67.2	66.0	2.8	0.9
Mhlontlo	6.4	5.3	5.7	7.1	27.5	27.9	58.7	46.8	1.7	12.9
King Sabata Dalindyebo	24.1	27.8	8.5	5.3	18.6	21.8	46.4	44.1	2.4	0.9

Source: Stats SA Census 2001; RSS, 2006

Electricity

Changes in access to electricity and the relative changes in the reliance on gas, paraffin, candles, solar and any other sources are captured in Table 3.6. With one obvious exception of King Sabata Dalindyebo (which includes Mthatha), the local municipalities fall well below the provincial average of those with access to electricity for a minimum of lighting.

Table 3.6: Percentage of households using various sources of power for lighting in the Eastern Cape Province and O.R. Tambo District in 2001 and 2006

Areas	Electricity		Gas		Paraffin		Candles		Solar and other	
	Census 2001	RSS 2006	Census 2001	RSS 2006	Census 2001	RSS 2006	Census 2001	RSS 2006	Census 2001	RSS 2006
	%	%	%	%	%	%	%	%	%	%
Eastern Cape	49.7	67.1	0.3	0.4	23.3	14.0	25.9	18.3	0.8	0.2
O.R. Tambo	28.1	49.6	0.3	0.2	12.1	8.0	58.4	41.6	1.2	0.5
Mbizana	25.0	37.0	0.3	0.0	2.9	4.1	69.7	57.7	2.1	1.2
Ntabankulu	14.5	18.4	0.1	0.0	3.4	1.8	80.1	79.4	1.9	0.5
Quakeni	13.6	42.7	0.2	0.4	8.0	5.8	76.3	50.0	1.8	1.0
Port St Johns	17.2	45.6	0.3	0.4	10.5	1.9	70.8	52.1	1.1	0.0
Nyandeni	32.2	58.4	0.2	0.2	11.5	19.7	55.0	21.7	1.0	0.0
Mhlontlo	30.1	47.1	0.2	0.6	8.8	2.4	60.0	49.1	0.9	0.9
King Sabata Dalindyebo	41.7	70.1	0.4	0.2	24.3	11.5	33.1	18.1	0.6	0.2

Education

Education levels in the districts within the former Transkei are very low, with 23% of the population having no schooling and only 25% having obtained Matric and/or tertiary educational qualifications. According to the O.R. Tambo District profile, an estimated 95% of learners walk to school, with 36% of these walking longer than 30 minutes. Table 3.7 provides an indication of the percentage of people in various educational categories within the wards intersected by the proposed route.

Table 3.7: Number and percentage of persons in each education category in the wards dissected by the proposed highway or adjacent to it

Educational levels	Total	%
No schooling	65 066	23.12%
Some primary	47 213	16.77%
Complete primary	18 141	6.45%
Some secondary	80 817	28.71%
Grade 12	43 967	15.62%
Higher	26 252	9.33%
Total	281 456	100.00%

Source: Stats SA Census, 2001

Transport

The O.R. Tambo profile also describes how, despite some investments in new roads and road maintenance in the district and other local municipalities, many rural communities remain trapped in isolated and disconnected localities with very poor road infrastructure. It describes this disconnection as having significant negative consequences in terms of local economic development as well as service delivery. The transport of goods and services in this area is hampered by the poor condition of the roads in rural and urban areas, animals on the road, inadequate signage and road markings (low visibility), insufficient drop off areas and infrastructure for taxis in some areas, limited traffic calming measures, inadequate traffic lights, poor quality intersections, a lack of capacity to manage transport planning and implementation and weak law enforcement (ECSECC, 2007). The process of maintaining and upgrading roads has been hampered by the lack of clarity with regard to roles and responsibilities between various road role players which is, apparently, being addressed slowly.

Attention will now turned towards a description of the province of KwaZulu-Natal with emphasis on the district municipalities affected by the N2 Wild Coast Highway project.

3.1.2. KwaZulu-Natal

The section of the proposed road between the Mthamvuna River (Port Edward) and the Isipingo Interchange falls within the Province of KwaZulu-Natal as is illustrated in the maps provided at the end of this discussion. In terms of the most recent official statistical data available i.e. the 2007 Mid Year Population Estimates: South Africa, released by Statistics South Africa in July 2007[1] the population of KwaZulu-Natal is 10 014 500. Of these, 51.5% are female, representing a slight gender imbalance relative to the national average.[2] At the time of the 2001 National Census KwaZulu-Natal held 21.1% of the total population of South Africa. The Mid Year Estimates indicate that by 2007 this had fallen to 20.9%. This relatively marginal decrease may reflect a migration towards the primary metropolis.[3] It may also reflect the effect on KwaZulu-Natal of the HIV/AIDS pandemic. The argument is that provincial

1 Hereafter refer to as Mid Year Estimates.
2 South Africa has something of a gender imbalance with 50.7% of the population female. This is, however, well within international norms.
3 For the same period Gauteng (the central metropolis) recorded an increase of a 19.2% share of the national population in 2002 to 20.2% in 2007. This is very significant.

infection rates are highest for KwaZulu-Natal. This seems to be borne out by the fact that according to the Mid Year Estimates KwaZulu-Natal has the lowest average life expectancy in South Africa. For the period 2001–2006 life expectancy at birth was estimated at 45 years. For the period 2006–2011 it is projected to fall to 42.5 years.[4] Provincial data gives HIV infections for KwaZulu-Natal in 2002 as 1 750 000 people, 29% of them in the problematic stage 3 when symptoms present.

KwaZulu-Natal is divided into 11 districts. One of these, eThekwini is a metropolitan municipality and the other 10 are district municipalities. eThekwini, as a metropolitan district, is relevant to the present study as the N2 from the Isipingo Interchange to Scottburgh falls within this municipality. Of the 10 district municipalities one, Ugu, is also home to an N2 section pertinent to this study. A third district municipality, Sisonke, may be considered to be relevant to the study. This is so as the N2 is currently aligned through this area but with the proposed new route will no longer follow this alignment. Population by district is set out in Table 3.8.

Table 3.8: Census 2001 by KwaZulu-Natal District Council, sex and population group

		Black African	Coloured	Indian/Asian	White
DC21: Ugu District Municipality	Male	292 452	2 469	11 726	13 700
	Female	353 559	2 751	12 331	15 042
DC22: UMgungundlovu District Municipality	Male	360 100	9 762	35 687	32 799
	Female	407 048	10 737	37 398	34 311
DC23: Uthukela District Municipality	Male	283 943	1 896	8 378	7 602
	Female	336 791	2 158	8 777	7 438
DC24: Umzinyathi District Municipality	Male	192 755	1 247	3 158	3 627
	Female	247 128	1 391	3447	3 706
DC25: Amajuba District Municipality	Male	206 054	1 512	5 907	10 683
	Female	225 548	1 523	6 021	10 790
DC26: Zululand District Municipality	Male	362 315	738	325	6 828
	Female	426 238	783	274	6 945
DC27: Umkhanyakude District Municipality	Male	257 057	445	214	1 671
	Female	311 800	431	158	1 565
DC28: Uthungulu District Municipality	Male	385 979	1 954	5 617	16 231
	Female	452 765	2 140	5 575	15 702
DC29: iLembe District Municipality	Male	235 852	1 265	18 439	5 274
	Female	274 100	1 320	19 019	5 121

Source: Stats SA Census, 2001; PGDP 2006

At the political level the African National Congress (ANC) holds power in the Provincial Legislature, having won the province by a very small majority in South Africa's 2004 elections. Their chief opponents were the Inkatha Freedom Party (IFP), allied with the Democratic Alliance (DA). The breakdown of the 80-seat legislature from the 2004 elections is as follows:

- ANC: 38
- IFP; 30
- DA: 7

4 These figures should be treated with some caution. The United Nations Develop Programme estimates South Africa's National Life Expectancy at 43.27 years. This is the 13th lowest out of 225 measured counties and well behind some of the world's poorest nations.

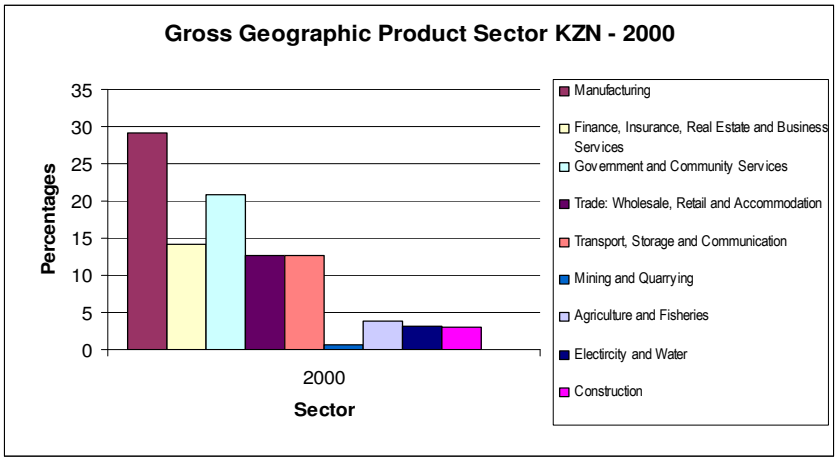
- African Christian Democratic Party (ACDP): 2
- Minority Front (MF): 2
- United Democratic Movement (UDM): 1.

The Kingdom of KwaZulu-Natal, as the name may suggest, is also the home to the Zulu monarch, King Goodwill Zwelithini kaBhekuzulu. Although not holding any direct political power, the Zulu king is provided a stipend by the government, and holds considerable sway over more traditionalist Zulu people in the province.

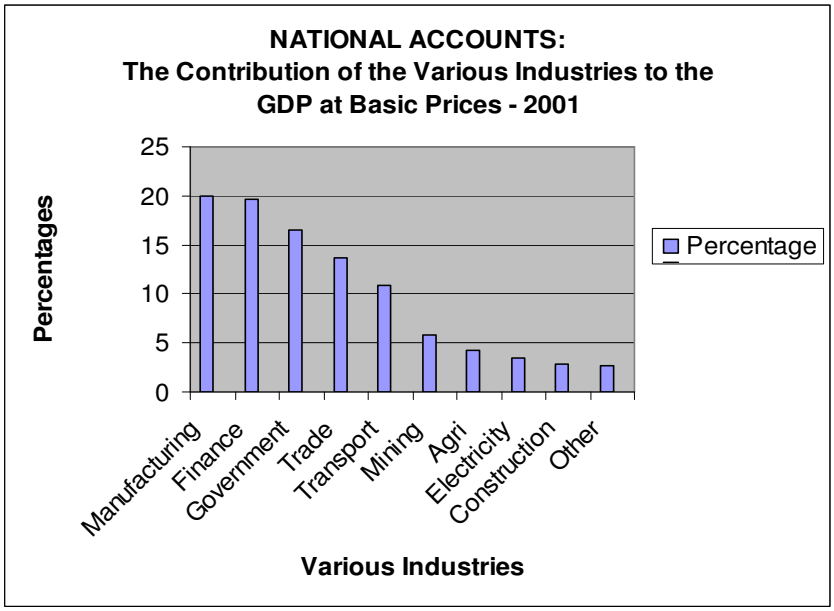
Within the economy of the province, Durban is a rapidly growing urban area and is one of the busiest ports in Africa with a good rail network reaching into Southern Africa. Sugar refining is the main industry. Industries, located mainly in and around Durban, include, besides sugar refineries, textile, clothing, rubber, fertiliser, paper, vehicle assembly and food-processing plants, tanneries, and oil refineries. Within the rural areas surrounding Durban sheep, cattle, dairy, citrus fruits, corn, sorghum, cotton, bananas, and pineapples are also farmed. There are large aluminium-smelting plants at Richards Bay, on the central coast. The province produces a considerable amount of coal, especially coke, and timber. About 82% of the population is black. During apartheid, a large percentage of the population was forced to live in Bantu homelands (Bantustans), which had a subsistence economy based on the raising of cattle and subsistence crop farming.

Histograms 3.2 and 3.3 give an overview of the economic makeup of the province by sector. As can be determined by a comparison of these graphs, KwaZulu-Natal is a disproportionately industrial province, and much of the relative fortune and misfortune of the province in national context tends to hinge around this.

Histogram 3.2: KwaZulu-Natal's broad sectoral profile 2000



Histogram 3.3: The national sectoral profile 2001



Partly because of the initially negative effects upon local manufacturing of the rapid integration of South Africa into the world economy during the 1990s, KwaZulu-Natal was languishing in economic terms during much of the 1990s. Consequently, the relative socioeconomic state of the province in the early 1990s was actually more positive than in 2004. Most apparently there was relatively more unemployed within KwaZulu-Natal in the early part of the first decade of the 21st century. Looking at the KwaZulu-Natal labour market in 2005, it was estimated, by the KwaZulu-Natal treasury that:

- 9.8 million people lived in KwaZulu-Natal, of which:
- 6.0 million were potential workers (labour force). Of these potential workers, only
- 2.1 million were employed,
- 2.9 million were not economically active, and
- 0.9 million were unemployed (31.7% unemployment rate).

The Labour Force Survey (September 2007) indicates that the unemployment situation in KwaZulu-Natal is, however, relatively fluid. From a peak of 36.3% unemployed in March 2002 the rate had fallen to 29.2% in March 2005. As is indicated in the section on the Eastern Cape, these figures are not always a true reflection of the actual unemployment position as definitions of 'unemployed' generally exclude the 'discouraged work seekers' as well as 'underemployed'. Data relating to the expanded definition of unemployment is given in Table 3.9.

Table 3.9.: Unemployment rate (expanded definition) by gender and race in 2001 for South Africa, Province of KwaZulu-Natal and the two districts affected by the proposed development

Race	Gender	National total	KwaZulu-Natal
Black	Male	38.0%	55.2%
	Female	56.7%	60.2%
	Total	46.6%	67.7%
White	Male	6.2%	6.1%
	Female	11.6%	10.9%
	Total	8.5%	8.1%
Coloured	Male	22.7%	25.6%
	Female	34.3%	38.3%
	Total	28.0%	31.7%
Asian	Male	15.5%	12.3%
	Female	33.9%	25.2%
	Total	22.2%	18.7%

Source: Stats SA Census, 2001; PGDP, 2006
Note: the expanded definition of unemployed includes housewives and persons who choose not to work or could not find work

Average household income in 2001 for South Africa as a whole was R46 291, while for KwaZulu-Natal it was R37 814 (Stats SA, 2001). This was about 80% of the national average income but the fourth highest level of income for the provinces. The provincial average is however skewed by the Durban metropolis that has a higher household average income than the South African average as a whole.

Also according to Provincial Treasury, social grant beneficiaries in the province went up from 685 000 in April 2000 to 1 314 000 in April 2003 and 1 617 000 in 2006 indicating growing dependency on state assistance for household survival.

These poverty indicators can be reflected in the HDI, the preferred indicator used by the United Nations to measure a country or region's development. This composite index is an average of three indexes reflecting a country's achievements in health (as measured by life expectancy at birth), education (measured by adult literacy), and living standard (measured by GDPR per capita). The HDI translates the benefits of economic growth into a quality of life for the people. In 2003 the HDI for KwaZulu-Natal was 0.56. This was below the national average of 1.6 for the country as a whole.

According to ABSA's research department, nett economic growth for the entire 1990s in KwaZulu-Natal was actually negative; and between 1996 and 2000 alone 135 000 jobs were lost in the province but with some gains since. These problems have been expressed unevenly – there are vast differences between, for example, the Durban metro and selected growth nodes and the rest of the province.

The November 2004 draft of the KwaZulu-Natal Government's Provincial Growth and Development Strategy corroborates the abovementioned scenario and offers, amongst other considerations, three provincial indicators which it intends to enhance over the next five years which are listed below as:

- Economic growth rate of 2.1%.
- 28.2% of households earned less than R800 per month (2001).

- HIV/AIDS prevalence rate of 33.5% – the highest in the country.

The KwaZulu-Natal Government's Industrial Strategy document of March 2004 offered a somewhat more positive perspective on provincial economic growth, but acknowledges its underperformance in social output terms (e.g., jobs).

The KwaZulu-Natal economy differs from the structure of the national economy in that is has a larger share of manufacturing and, to a lesser degree, 25% of GDP compared to 19% of GDP for South Africa and (to a lesser degree) services. Transport and logistics are key activities in the province, and there has been recent growth in business and financial services.

The diversity and level of development of the provincial economy is a source of strength and flexibility, and is a solid foundation from which to seek a more advantageous position in the global economy. The role of KwaZulu-Natal as a logistics gateway for South Africa and the region increases the importance of optimising the province's logistics functions.

The average annual GDP growth rates over the past decade between 1995 and 2000 for KwaZulu-Natal is over 4%, higher than any other province over that period. However, these growth rates have been insufficient to meet the socioeconomic objectives of the province. The KwaZulu-Natal economy has to meet the needs of 21% of the South African population, province, and production process but it has only contributed 15% to South Africa's gross domestic product in 2001. Production processes and technology developments have, in many cases, lagged behind global competitiveness trends. Similarly, the shift towards higher value-adding manufacturing, from basic manufacturing, has been insufficient.

From the perspective of the N2 Wild Coast Project, the most relevant part of the Province of KwaZulu-Natal is the South Coast strip illustrated by means of the maps provided in Figures 3.3 and 3.4 on 45 and 46 below. The coastline is dotted with small towns, many of which serve as seasonal recreational hubs. The climate of the coastal areas is humid and subtropical. The KwaZulu-Natal Tourist board includes towns like Margate, Port Shepstone, Scottburgh and Port Edward in its definition of what constitutes the South Coast. Beaches of world-class quality are to be found along virtually every part of the South Coast. The hinterland is predominately agricultural.

3.1.2.1. District and municipal description

The eThekwini Municipality (EM) is located on the central coast of KwaZulu-Natal and, as stated, is the province's only metropolitan municipality. The municipality consists of 100 wards. The geographical area of the municipality is 2 292 km^2. The 2001 census recorded a population of 3 070 572 for the municipality. As such the density is just over 1 000 people per km^2.

For the 2004/2005 financial year the municipality had an income of R8.5 billion. Total nett budgeted municipal expenditure was also R8.5 billion. This is the highest in KwaZulu-Natal. The eThekwini

Municipal Area (EMA) is only 1.4% of the total area of the province, but is home to one-third of the population, and contains over 60% of the province's economic activity. Only 35% of the EMA area is urban with 80% of the population concentrated there. The estimated population is 3 million. In terms of a middle AIDS scenario, the population will still be close to 3 million in 2020.

Durban is South Africa's major port city and the second largest industrial hub. It is a key trading gateway, and the main entry and exit point for imports and exports. Per capita income is higher than for South Africa as a whole, R25 529 as opposed to R17 756[5].

The four major sectors of the economy are manufacturing, tourism, finance, and transport. The EMA has a strong presence in 'advanced' sectors of the economy. Manufacturing contributes 30% to the economy. Tourism contributes 24%.

The areas close to the main national roads are well provided with physical infrastructure and social amenities. Areas on the periphery of the City tend to be poorly resourced. Communities living there have the lowest access to services and the lowest socioeconomic status.

Broad challenges articulated in the current Integrated Development Plan (IDP) are:

- Creating economic growth, jobs and income.
- Meeting basic needs.
- Pushing back the frontiers of poverty.
- Developing our people.
- Managing the HIV/AIDS pandemic.
- Ensuring a safe and secure environment.
- Reversing our unsustainable development path.

Needs identified during the consultative process for the current IDP included housing and services, safety and security, jobs and economic development, and community infrastructure. Overall, the main concerns of residents are unemployment, HIV/AIDS, crime, and poverty.

Ugu District Municipality

The Ugu District Municipality (DC21) is situated along the coastline in the southern portion of KwaZulu-Natal. It consists of six local municipalities. These are:

- Vulamehlo
- Umzumbe
- Umdoni
- eZinqoleni
- uMuziwabantu

5 2003 figures

- Hibiscus Coast

The geographical area of the municipality is 5 046 km^2. Ugu District Municipality has a population of just over 700 000 people. Only 16% of the population is classified as urban. As such the Ugu District Municipality has focused on the rural sector of its population in terms of its priority service and development goals which are listed as:

- Provision of basic services and infrastructure.
- Refurbishment and expansion of existing infrastructure (focus on development pressure in the coastal strip).
- Promoting and enhancing local economic development.
- Ensuring sustainable integrated rural development (including local agenda 21 issues).
- HIV/AIDS, TB and STDs.
- Tourism development and marketing and broadening access in the industry.
- Speeding land reform.
- Institutional development.
- Programmes for youth, women and the disabled.

At present the Ugu District Municipality has an annual per capita GDP of R9 452. This compares to R11,075 for coastal district municipalities of a similar nature. As such the district municipality might be classified as somewhat more marginal than others of a similar nature. These figures suggest that the population of Ugu is significantly poorer, in economic terms, than populations in other rural-inland districts in South Africa. Ugu has a high rate of unemployment – 51% of the potential labour force is unemployed. However, the average unemployment rate in rural-coastal district municipalities outside KwaZulu-Natal is comparably high – 49%. Given low employment levels, it is not surprising that an estimated 49% of the population is reliant (directly or indirectly) on income from state pensions and grants. The people of Ugu District Municipality have relatively poor access to basic services when compared with people living in similar rural-inland districts. Only 29% of people living in Ugu have access to piped water, on or off site. Thirty-nine percent rely on candles for lighting, 57% are reliant on either paraffin or wood for cooking and only 26% have access to good sanitation, flush or chemical toilets. See Appendix 2 for a comparison with the 'average' rural-inland district.

The economy of the district municipality is largely dependent on finance and business services, 16%, manufacturing, 15%, government services (15%), wholesale, retail and tourism (15%) and agriculture, forestry and fisheries (13%).

Sisonke District Municipality

As indicated the Sisonke Municipality is relevant to the overall study as the N2 that now runs through it will bypass the municipality if the proposed route is constructed.

Sisonke is an inland district municipality situated in the south of KwaZulu-Natal. The district includes the southernmost part of the Ukhalamba Drakensberg Park (adjacent to Lesotho) and borders the Eastern Cape Province in the west. The following five local municipalities are located within the Sisonke District Boundaries:

- Ingwe
- Umzimkhulu
- Ubuhlebezwe
- KwaSani
- Greater Kokstad.

Sisonke has the smallest population of all district municipalities in KwaZulu-Natal, with a population of approximately 304 000 people, two-thirds of which live in Ubuhlebezwe and Ingwe. According to Census 2001, the vast majority of the population, 81%, live in rural areas as compared to an average of 78% in similar rural-inland districts in South Africa. In 2004 annual per capita income in Sisonke was an estimated R9 920 compared with R16 460 average for 16 rural-inland districts outside KwaZulu-Natal. These figures suggest that the population of Sisonke is significantly poorer, in economic terms, than populations in other rural-inland districts in South Africa. Sisonke has a very high rate of unemployment – 53% of the potential labour force[6] is unemployed. However, the average unemployment rate in rural-inland district municipalities outside KwaZulu-Natal is comparably high – 51%. Given low employment levels, it is not surprising that an estimated 53% of the population is reliant, directly or indirectly, on income from state pensions and grants. The people of Sisonke District Municipality have relatively poor access to basic services when compared with people living in similar rural-inland districts; only 33% of people living in Sisonke have access to piped water, on or off site, 57% rely on candles for lighting, 74% are reliant on either paraffin or wood for cooking and only 22% have access to good sanitation, flush or chemical toilets. See Appendix 9 for a comparison with the 'average' rural-inland district.

Economic output or GDP generated in Sisonke in 2004 totalled R3.01 billion, 1.49% of total GDP generated in KwaZulu-Natal. On the basis of 2004 GDP figures, Sisonke ranks as the second-smallest district economy in the province. Agriculture is by far the largest economic sector in Sisonke, accounting for some 38% of GDP, followed by wholesale/retail trade and government services both at 15%. Agriculture contributes more than twice as much to the Sisonke economy as it does to any other district economy in KwaZulu-Natal. The predominance of the agricultural sector in Sisonke is striking, but not surprising considering the strong rural characteristic of the area and the fact that the district has a very small and undiversified economy. According to Labour Force Survey estimates, agriculture is also the most important source of employment in Sisonke, with roughly 6 741 people being employed in the formal sector accounting for 29% of total formal employment, while a further 8 711 are employed in the informal agriculture sector amounting to 44% of informal sector employment.

6 The broad labour force is defined as all individuals who are employed or who want to work and would be available to start work within two weeks. Labour Force Survey – Statistics South Africa September 2004.

3.2. Route specific description

Under this heading a more specific social description, pertinent to each of the 7 sections of the route as described under section 1.1 project description above, will be provided. On an overall basis it can be seen that unemployment and household income closely follows the patterns of urbanisation and population density across the entire route. As Figure 4.3 illustrates, on a general basis, lower levels of unemployment are found towards the northeast end of the route in the more urbanised eThekwini municipal area of KwaZulu-Natal. In the rural areas of the Eastern Cape unemployment is at its highest, with a few exceptions at the East London end of the route and around the more industrial areas such as Mthatha. As can be expected, annual household income, illustrated in Figure 3.4, follows a somewhat similar pattern as unemployment.

Figure 3.3:Percentage unemployment across the proposed route

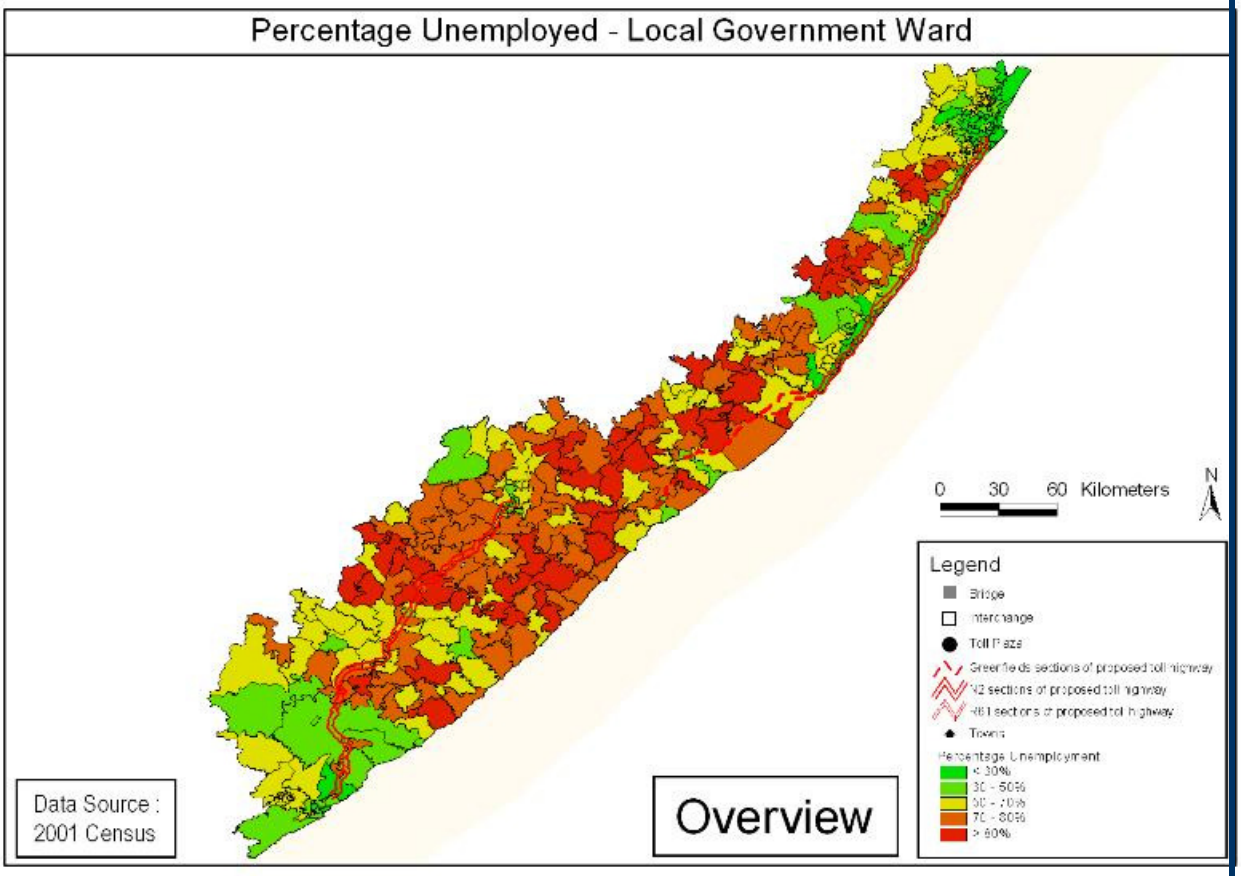
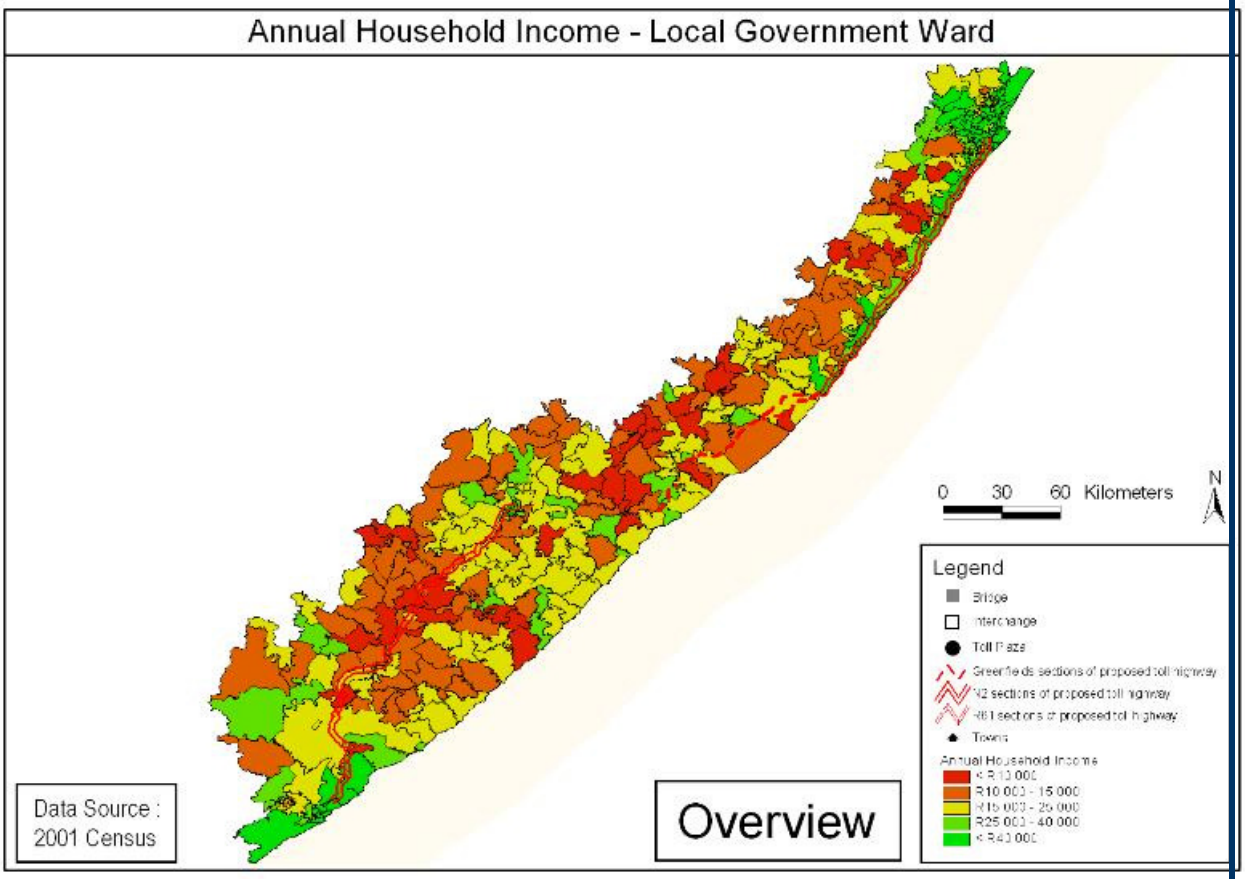


Figure 3.4: Annual household income across the proposed route



Section 1 and 2 of the route between the Gonubie Interchange and Mthatha will now be considered.

3.2.1. Section 1 – 2 Gonubie to Mthatha section

The description of the local environment provided below focuses on the settlement and land use patterns in the affected area along both sections 1 and 2 of the route between Gonubie and Mthatha. In addition, the use of the N2 and the issues around safety are also described and route specific demographic data is graphically represented. A full list of all schools and clinics situated within the vicinity of 2 km of the route is provided on pages 72 to 81 of appendix 2 and is graphically represented for sections 1 and 2 of the route in Figures 3.5 and 3.6 respectively.

Settlement

There are three urban settlements through which the proposed highway runs, namely Butterworth, Idutywa and Mthatha. Mthatha is the largest town in the former Transkei region and acts as the main administrative and service centre for the central portion of the former Transkei region and is now the town where the O. R. Tambo District Municipality offices are located. This town has experienced significant population growth and growth of informal settlements in its peri-urban areas over the last decade. The other two towns, Butterworth and Idutywa are respectively the administrative and services centres for

their local municipalities. Butterworth, however, is larger than most of the administrative towns due to its proximity to East London and the incentives that were provided for industrial development in this town during the Apartheid era.

There are two types of rural settlement patterns along this section of road. In the Buffalo City and Great Kei Municipal areas at the western end of this section of road, large private commercial farms dominate the settlement pattern. There is only one communal settlement area along this section of road and that is the Mooiplaas settlement which was associated with a Mission station during the colonial period. In the rest of the local municipality areas that form part of the former Transkei, the dominant form of rural settlement is the communal settlement with communal forms of tenure. Most of these settlements have planned residential areas laid out in a grid type fashion. Some rural settlements, which have not undergone betterment planning during the Apartheid era, have a more scattered settlement pattern. These rural settlements are surrounded by areas of arable land and communal grazing lands that are used by local residents for farming and the harvesting of natural resources largely for subsistence purposes. As indicated in Table 3.10 below, there are 43 such settlements along this section of the proposed highway. In some cases two of these settlements may be located right next to each other but on opposite sides of the N2 road.

Table 3.10: Number of rural communal settlements between Gonubie and Mthatha

Type of access	Gonubie–Kei River	Kei River–Toleni	Toleni–Butterworth	Butterworth–Idutywa	Idutywa–Mthatha	Total
Number of rural communal settlements along the highway	1	2	5	5	30	43

Figure 3.5:Schools and clinics along section 1

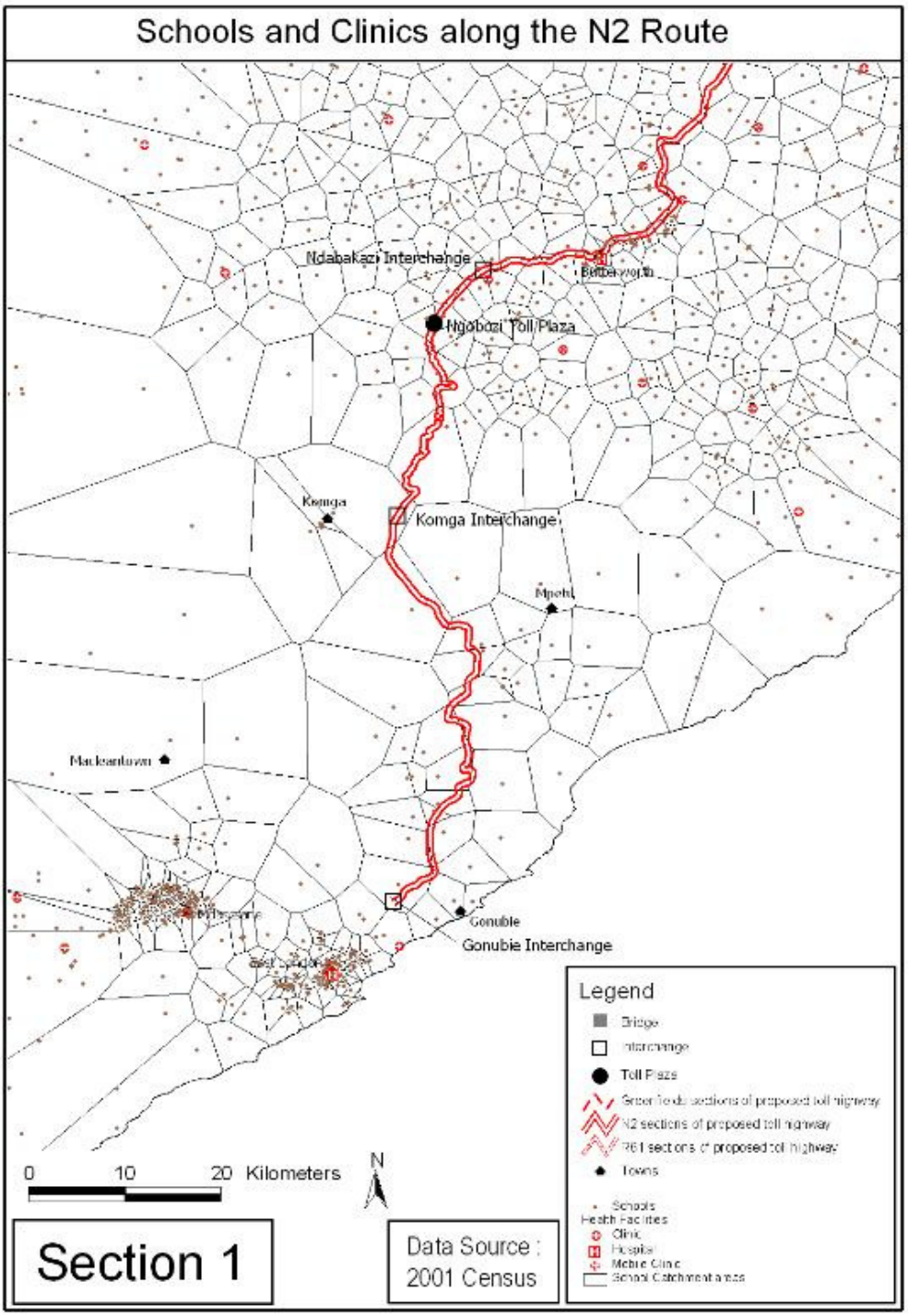
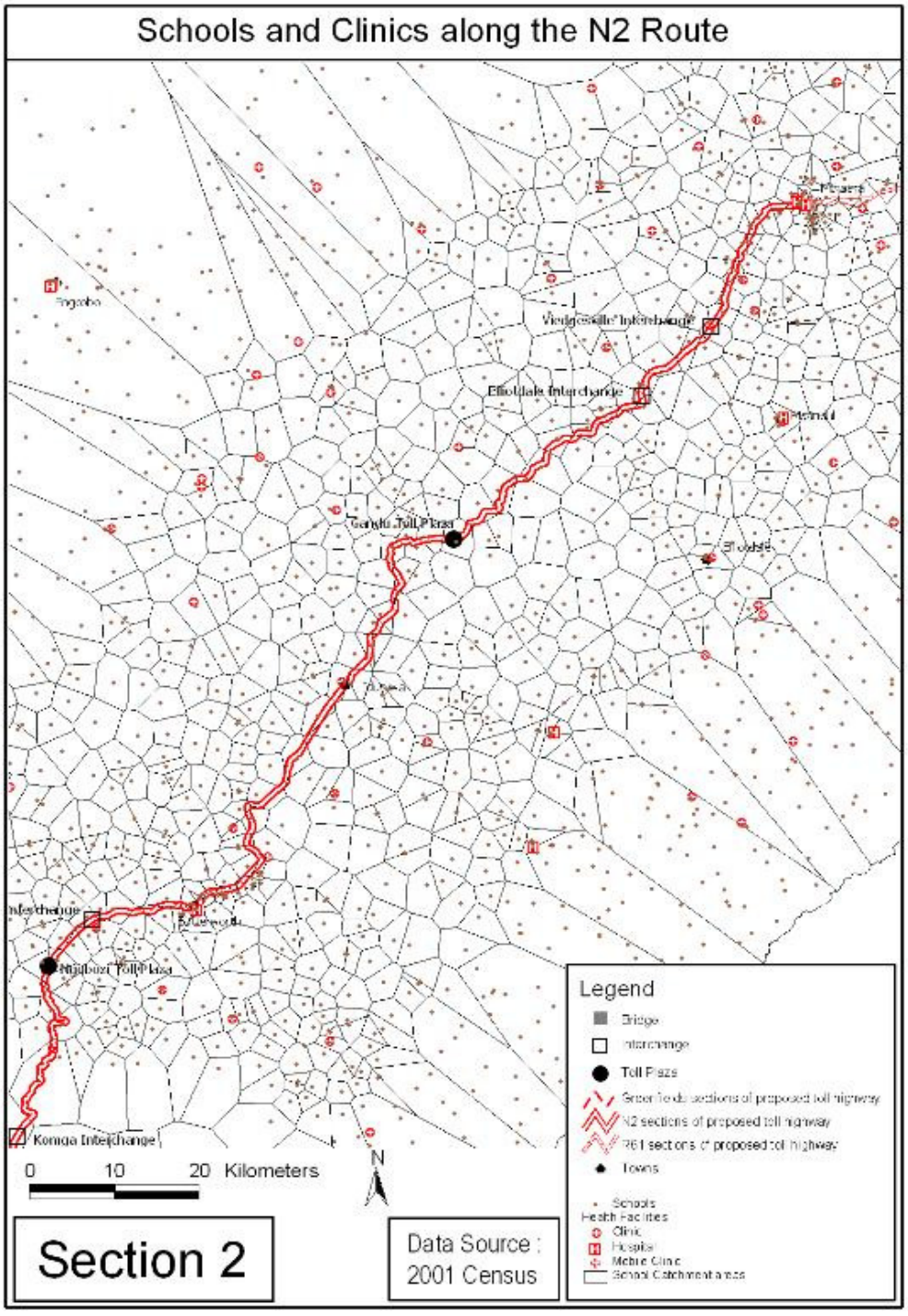


Figure 3.6: Schools and clinics along section 2



The concentration of settlements along access roads in the former Transkei is a product of the history and social forces that have shaped it. There has been a gradual change in rural settlement patterns, from a very dispersed scattered settlement pattern to a concentration of residential sites around the access roads (Andrew & Fox, 2004). Part of this shift has been a result of the forced villagisation of settlements during the middle of the 20th century associated with betterment planning[7]. However, the change has also been encouraged by a decline in agricultural activities over the last 100 years combined with a growing dependence of wage employment (dominated by migrant employment on the mines) and state grants. This has encouraged people to live closer to the roads to gain access to transport services as illustrated in Plate 3.1 below.

Plate 3 1: Rural settlements and dwellings adjacent to the existing N2 between Mthata and the Kei River, that may be affected by the widening of the road reserve associated with the proposed toll highway development

Another feature of the settlement patterns along this section of road is ribbon development along the N2 particularly in the areas close to Mthatha and Butterworth. Some wealthier households with employed

7 Betterment planning was a government forced villagisation programme imposed during the colonial and apartheid eras. It consolidated residential sites into blocks laid out on an urban grid type pattern. Cultivated land was also reorganised, relocated, consolidated and often reduced in extent. Betterment planning was also supposed to convert the communal grazing lands into a rotational grazing system with fenced paddocks, as well as reducing the number of livestock and improving their quality. However, due to widespread resistance this aspect of the planning was often not implemented.

members have obtained permission from the Tribal Authorities to obtain a residential site and build a house alongside the N2. At least 60 houses with access directly onto the N2 were observed in August 2007. Many more households were located immediately adjacent to the road fences and servitude. In some cases these sites have been illegally demarcated within the current road reserve. This is partially a process of urban residents moving to outlying rural settlements along the N2 and partially a process of rural residents becoming more urbanised. These sites provide urban workers with easy access to the towns but they retain a safer rural environment. Poor services and high crime rates in towns, as well as better taxi services promote this process. A lack of adequate control over settlement processes due to capacity constraints and a lack of clarity over responsibilities between SANRAL, DLA, local municipalities and the Tribal Authorities with respect to responsibility for land use management, combined with a tradition of patron-client relations in the tribal authority system, have also facilitated this process. The population density along section 1 of the route is illustrated in Figure 3.7 below while that for section 2 is illustrated in Figure 3.8.

Figure 3.7:Population density per km^2 local wards section 1

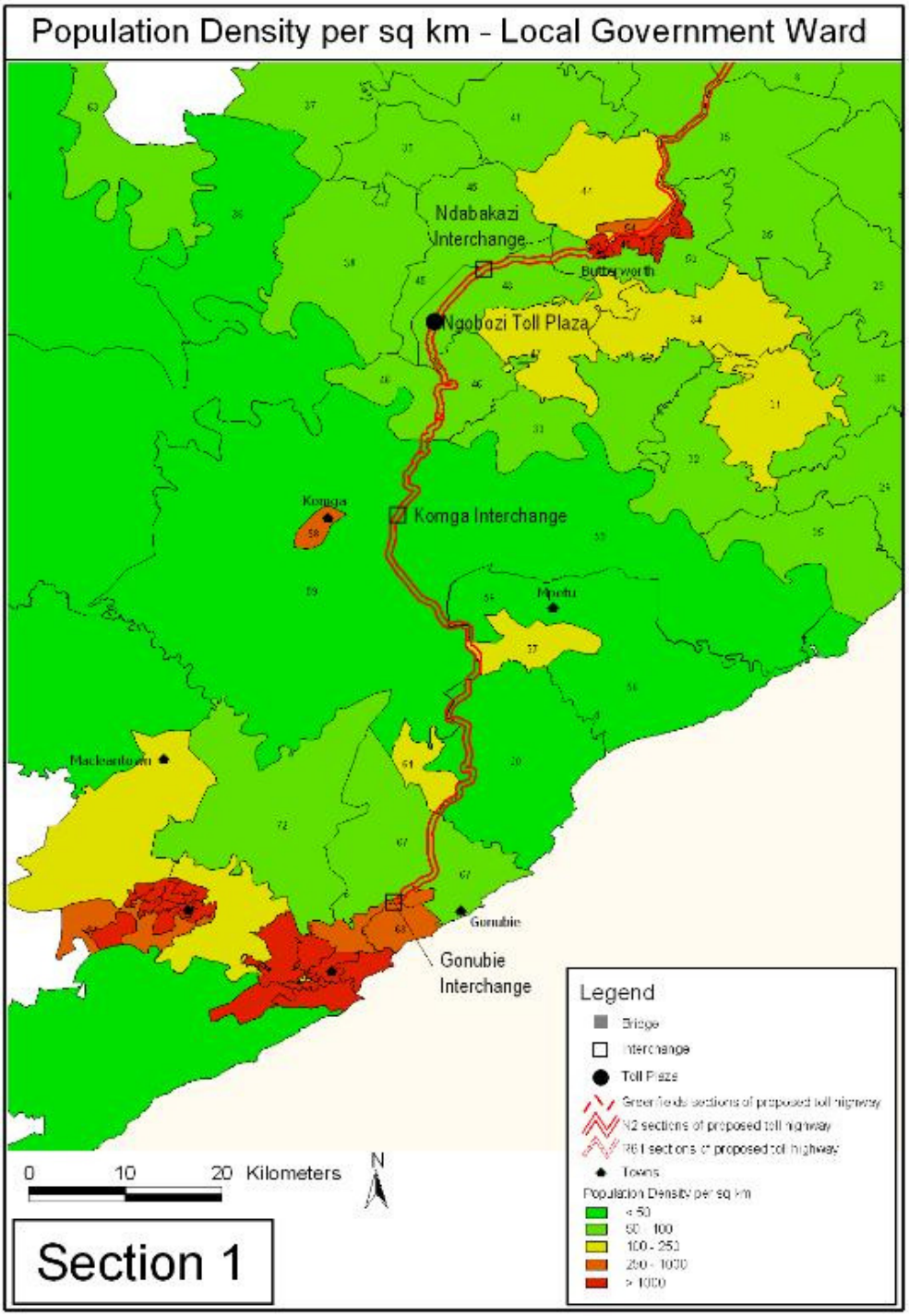
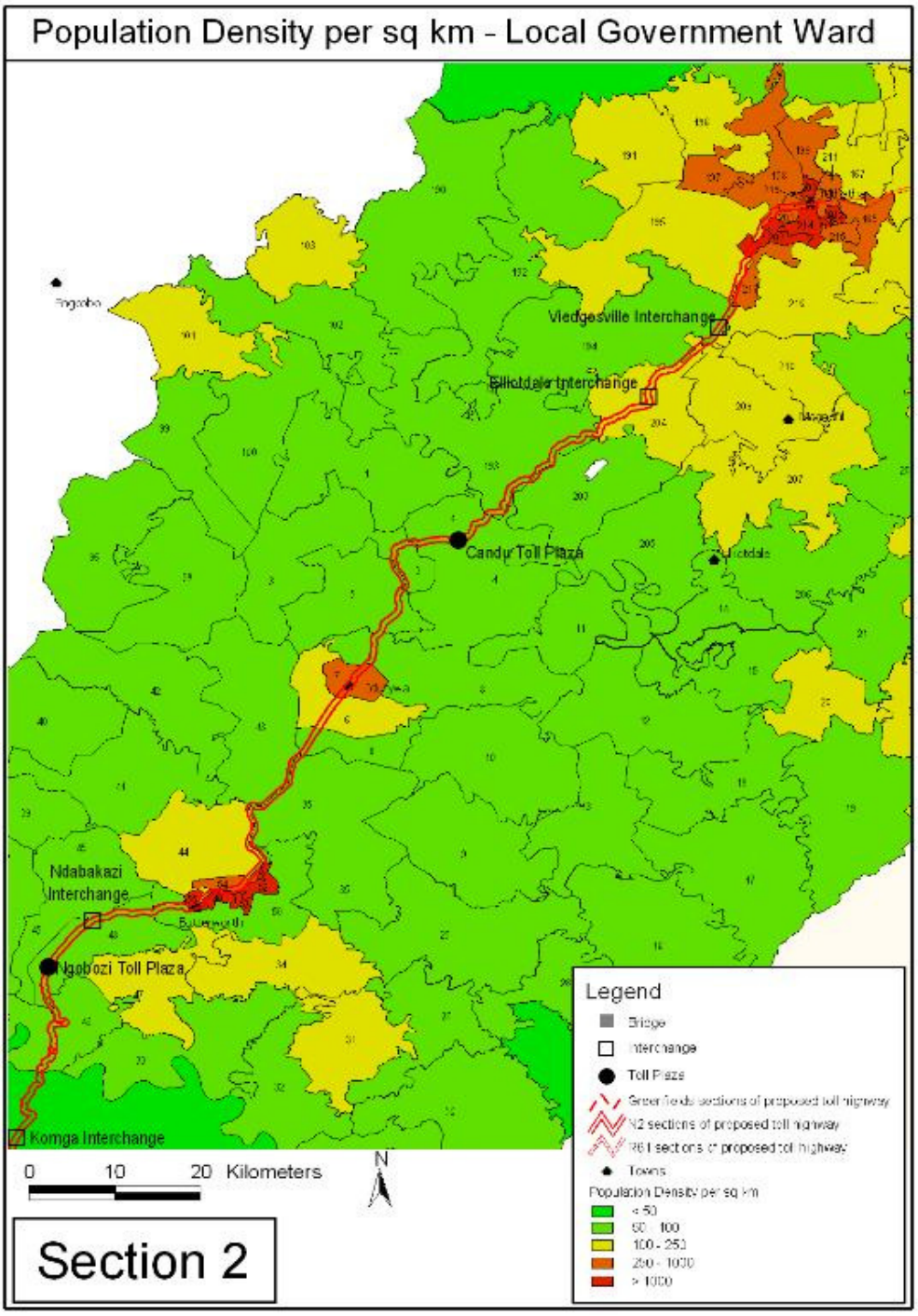


Figure 3.8:Population density per km^2 local wards section 2



Current land use in rural communal areas

Aerial photographs, field observations, and household surveys in rural villages in the former Transkei indicate that the current land use is diversified involving cultivation, livestock farming and the harvesting of natural resources (including wood, thatching grasses, wild food plants, medicinal plant parts, and shellfish/fish). These land uses are supplemented by off-farm sources of income such as wages, remittances, business incomes and pensions. The discussion which follows will examine each of these land uses in turn.

Cultivation

According to the traditions of land use and land administration practice, each rural household is entitled to a residential site and an arable field on which they can grow food crops. The residential sites are commonly used for dwellings, livestock enclosures and food gardens. The food gardens next to the household dwellings are usually fenced and planted with maize intercropped with other vegetables such as beans, pumpkins, cabbage, sweet potatoes, potatoes, spinach, tomatoes, onions and various kinds of melons. The size of these residential sites and gardens vary depending on the history of the settlement. In areas that have undergone 'betterment' planning the size of these residential plots would be around 0.25ha, with the gardens taking up around two-thirds of this space (0.16ha). In more traditional non-betterment areas the size of these gardens is likely to be larger.

In addition to these residential sites, some rural households have inheritable use rights over arable fields located some distance from the dwellings. These are often located on the alluvial soils along the river banks and on the adjacent slopes. However, due to population growth and land administration policies (including betterment planning), the area of land cultivated by each household has decreased substantially since the 1930s and many households have no access to arable fields. The extent to which rural households cultivate these fields seems to vary from place to place, but there appears to be many settlements in the former Transkei where the cultivation of arable fields has been widely abandoned.

Andrew's (1992, 2004) research provides some insights into historical changes in land use practices and indicates that there has been a considerable reduction in the area of arable land being cultivated since the 1940s due to a number of key factors. These include: population growth, declining per capita livestock holdings (and the negative impact this had on capacity to plough), loss of access to agricultural markets (for inputs and outputs), increasing involvement in migrant labour and consequent labour shortages at home, increasing impoverishment, declining soil fertility and increasing risks of crop theft and damage from livestock (due to the absence of herders). As a result of these changes rural households have found it increasingly difficult to maintain field cultivation and have found homestead garden cultivation more productive, less risky, and more viable given their resource constraints. They are better able to invest the necessary labour, time and physical inputs into garden cultivation than fields. The location of gardens close to livestock enclosures and the adoption of intercropping practices also helps to maintain productivity levels in gardens. Garden cultivation appears therefore to have become a more viable and sustainable cultivation option in this context.

Livestock

According to Andrew, Ainslie and Shackleton (2003), livestock have long been a key land based livelihood in the former Transkei dating back to pre-colonial political times. The range of livestock farmed includes: cattle, sheep, goats, horses, donkeys, pigs, chickens, geese, turkeys, pigeons, rabbits and ducks. Historically, the larger forms of livestock have traditionally been the property and responsibility of the men of the household, while the small livestock are tended by the women.

People have a wide range of reasons for holding different types of animals and these reasons also change over time. They include: cash from sales, employment, milk for home consumption, for funeral purposes, as a form of investment, slaughter for feasts/home consumption, for paying bride-wealth, for hides and skins (sale of), have land suitable for cattle farming, to help others, for cow dung and for draught/transport purposes. According to Andrew *et al.* (2003), the relative ranking of these varies from place to place and between households.

The historical records of livestock numbers indicate that although absolute numbers have remained stable, the per capita numbers of cattle, sheep and goats have fallen by almost two-thirds between 1924 and 1974 as the human population has grown. The ownership of livestock is also not equally distributed and has become increasingly unequal over time. So much so, that the proportion of cattle-owning households has been virtually inverted from around 71% in 1948 to 30% in 2000 (Andrew, *et al*., 2003). The national livestock statistics for 1995 and 1999 indicate that the total number of animals in the communal areas are large but tend to fluctuate with dry and wet cycles.

Use of natural resources

According to Andrew *et al*., (2003) most rural households in South Africa's communal areas are using, buying or selling natural resources to supplement their livelihoods. Nearly all rural households use wild spinaches, fuelwood, wooden utensils, grass hand-brushes, edible fruits and twig hand-brushes, and a large proportion make use of edible insects, wood for fences or kraals, medicinal plants, bushmeat, wild honey, and reeds for weaving. These resources are harvested from different parts of the landscape. Some are maintained within the residential/cultivated sites, while others, such as fuelwood are extracted from the surrounding land. More specialised resources, such as some medicinal plants are harvested from areas further afield. Some resources are only harvested at particular times of the year whereas others are available all year round (e.g., fuelwood) (Andrew *et al*., 2003).

Andrew *et al*. (2003) show that there are significant differences in the use and dependency on natural resources between wealthy and poor households. The poor are more dependent upon natural resources in their surrounding environment for their own subsistence needs and also as a source of income when sold. For some the sale of natural resources and products has become a full-time occupation. For others it provides supplementary income.

Income and poverty

As expected, annual household income levels of the population living in the wards along the proposed highway route are very low and highly unequal. As illustrated in Table 3.11, the 2001 census data indicates that 28% of the population claimed that they had no income, another 45% had 10% of total income for the population, 25% of the population had 57% of total income, and 2% of the population had 33% of total income. This census income data is expected to be an underestimate of the household incomes. Many people tend to underestimate their incomes and do not answer these questions truthfully for fear of being taxed or of exposing their actual income generating activities. Such income estimations are also likely to undervalue incomes from farming activities and natural resource harvesting, and exclude the market value of subsistence production. However, as indicated in the discussion of land based livelihoods in these areas, most of this production is for subsistence purposes and does not generate an income. The value of agricultural and natural resource production is also likely to be low given the resource constraints that such households face. Despite these data difficulties it remains clear that poverty is a considerable problem in this region of the country as is graphically illustrated across the wards along section 1 and 2 of the route in Figure 3.9 and 3.10 respectively.

Table 3.11: Annual household Income in 2001 for the population living in the wards along the proposed Wild Coast Toll Highway between Gonubie and Mthatha

Income categories	Median income	Number of households	Total income	% of total income	% of population
No income	R0	24 942	R0	0	28
R1–R4 800	R2 400	9 534	R22 881 600	1	11
R4 801–R9 600	R7 200	18 234	R131 284 800	3	21
R9 601–R19 200	R16 800	11 532	R193 737 600	4	13
R19 201–R38 400	R35 999	7 265	R261 532 735	6	8
R38 401–R76 800	R74 398	6 314	R469 748 972	10	7
R76 801–R153 600	R151 197	5 326	R805 275 222	18	6
R153 601–R307 200	R304 796	3 552	R1 082 635 392	24	4
R307 201–R614 400	R611 995	1 002	R613 218 990	14	1.1
R614 401–R1 228 800	R1 226 394	254	R311 504 076	7	0.3
R1 228 801–R2 457 600	R2 455 193	251	R616 253 443	14	0.3
R2 457 601 and more	R5 000 000	–	–	–	–
Total		88206	R4 508 072 830	100	100

Source: Stats SA Census, 2001
Methodological note: Total Income values were calculated as the Sum (Median Income x Number of Households)

Additional indicators of the degree of poverty within a community and the potential of that community to escape poverty can be found in the levels unemployment and education amongst the community. Unemployment levels along sections 1 and 2 of the route are graphically illustrated in Figure 3.11 and 3.12 respectively while the percentage of the population >20 years with no schooling is illustrated in Figure 3.13 and 3.14.

Figure 3.9:Annual household income wards section 2

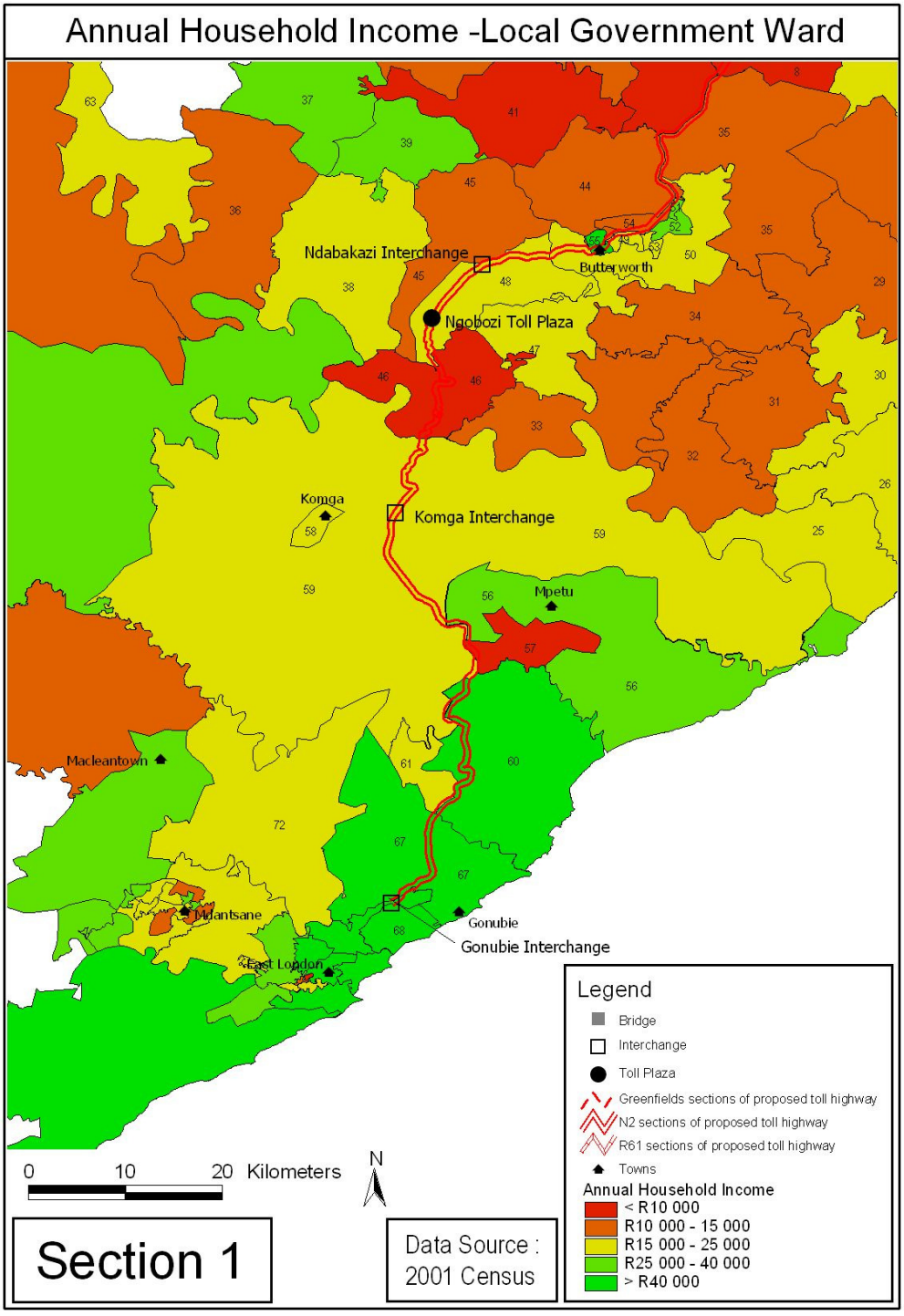


Figure 3.10 Household income local wards section 2

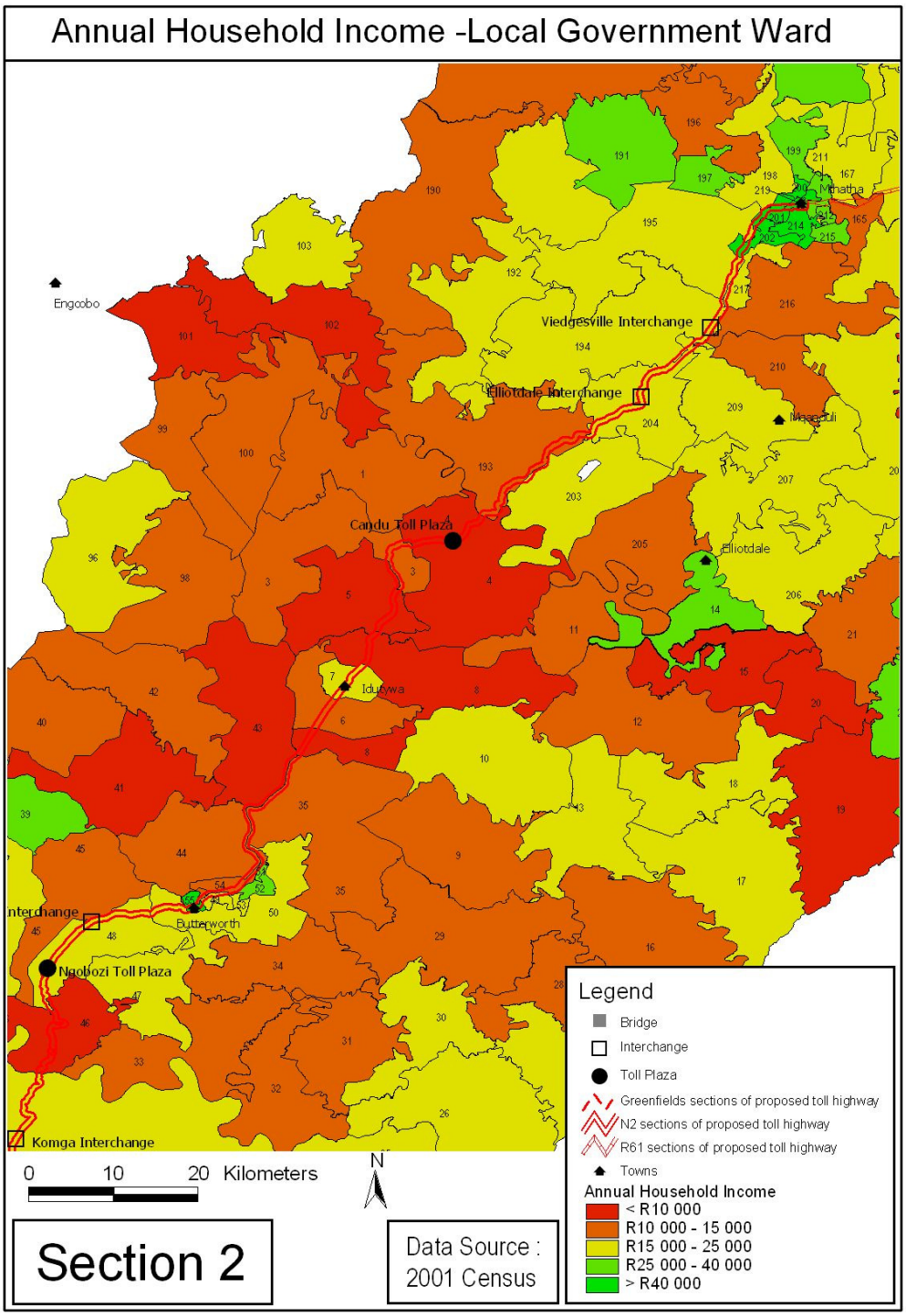


Figure 3.11: Percentage unemployment local wards section 1

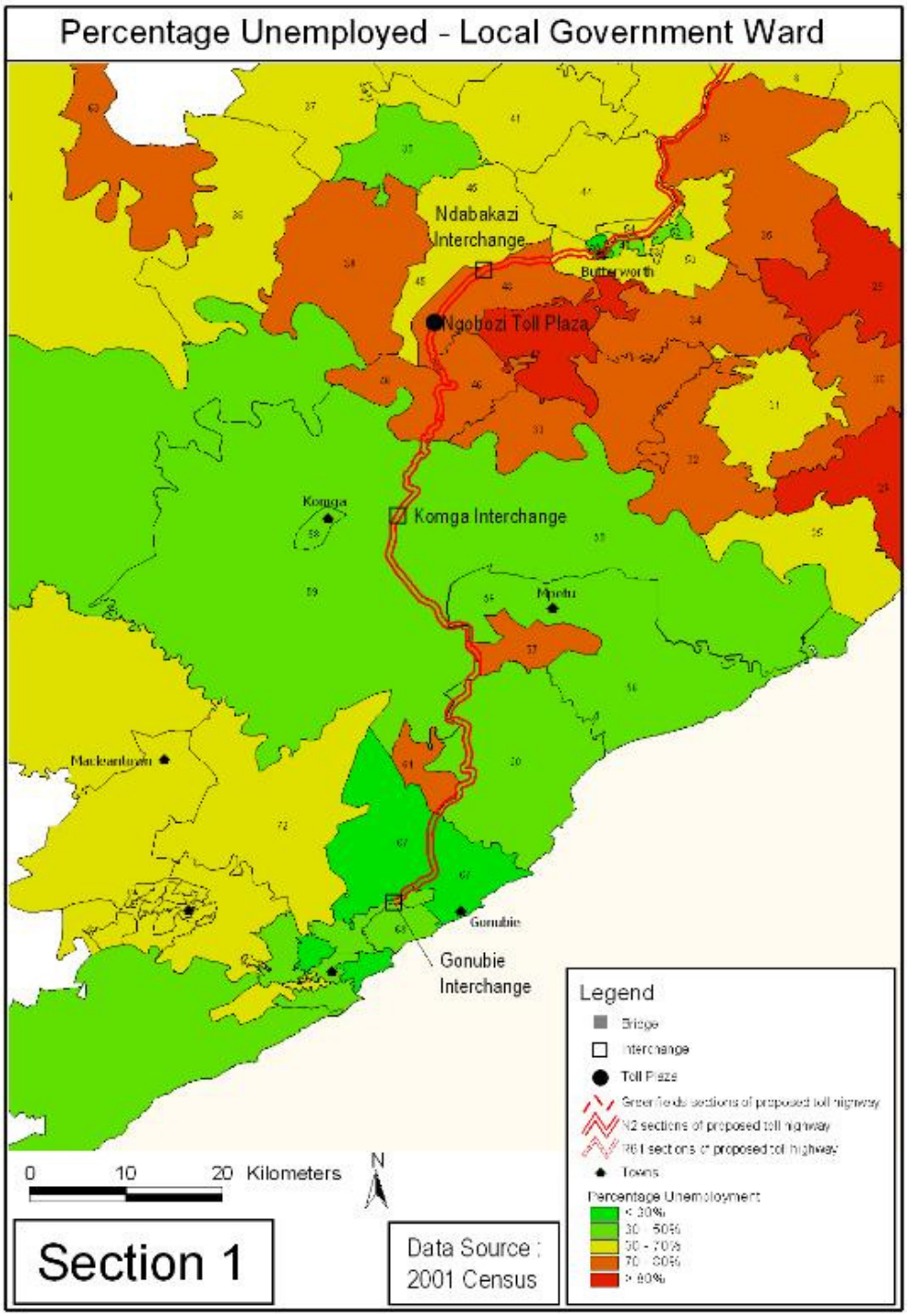


Figure 3.12: Percentage unemployment local wards section 2

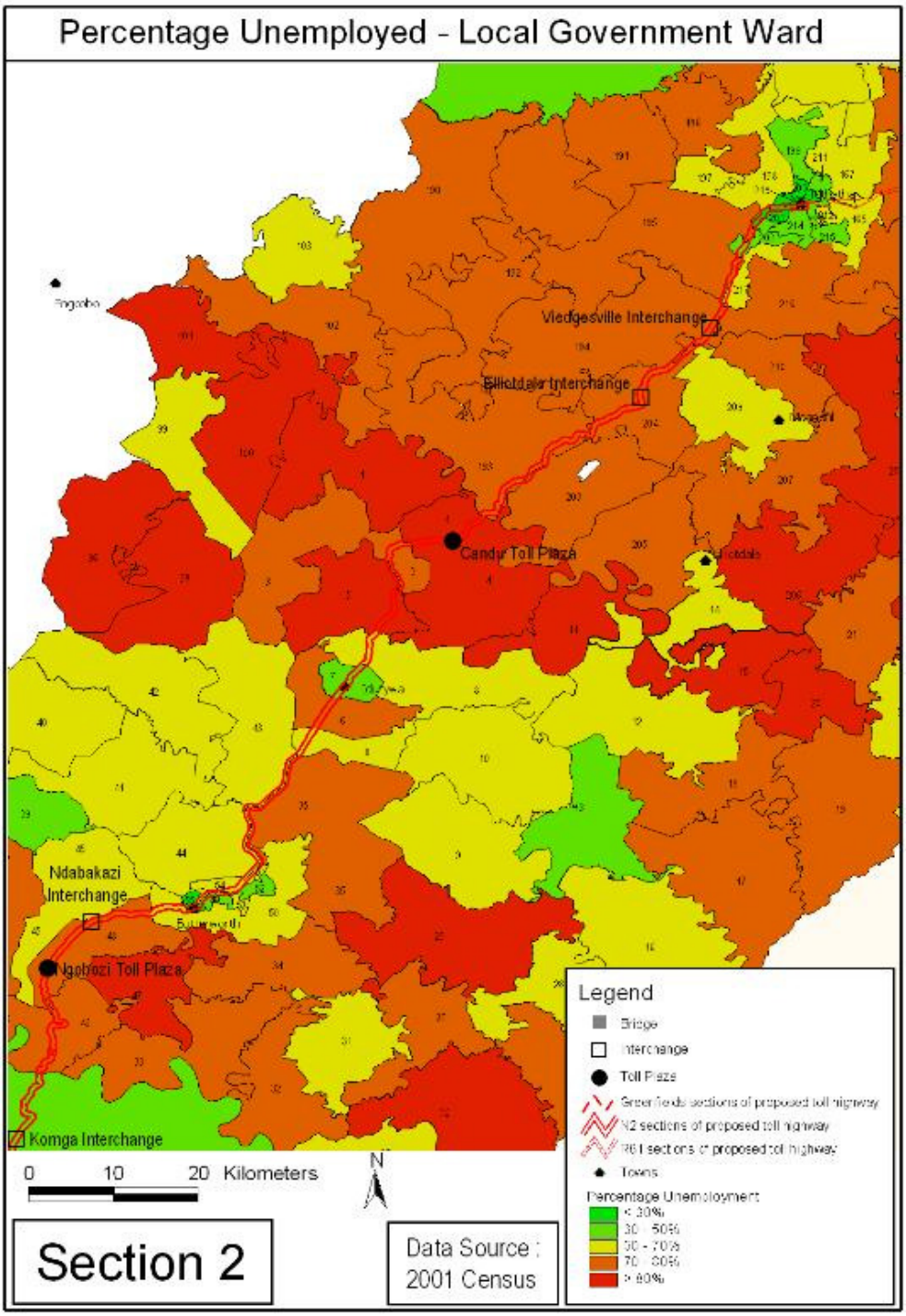


Figure 3.13 Percentage of population >20 with no schooling wards section 1

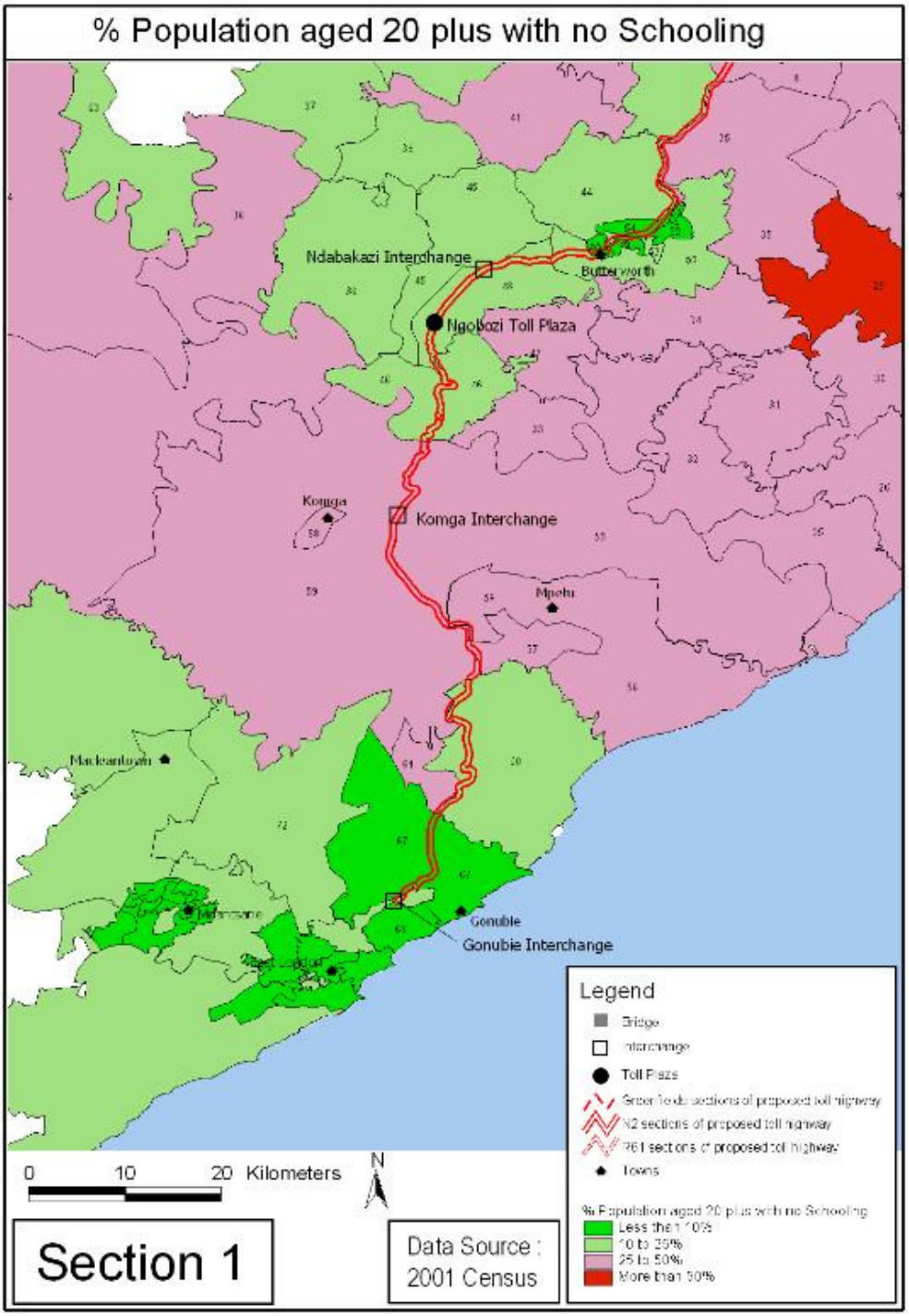
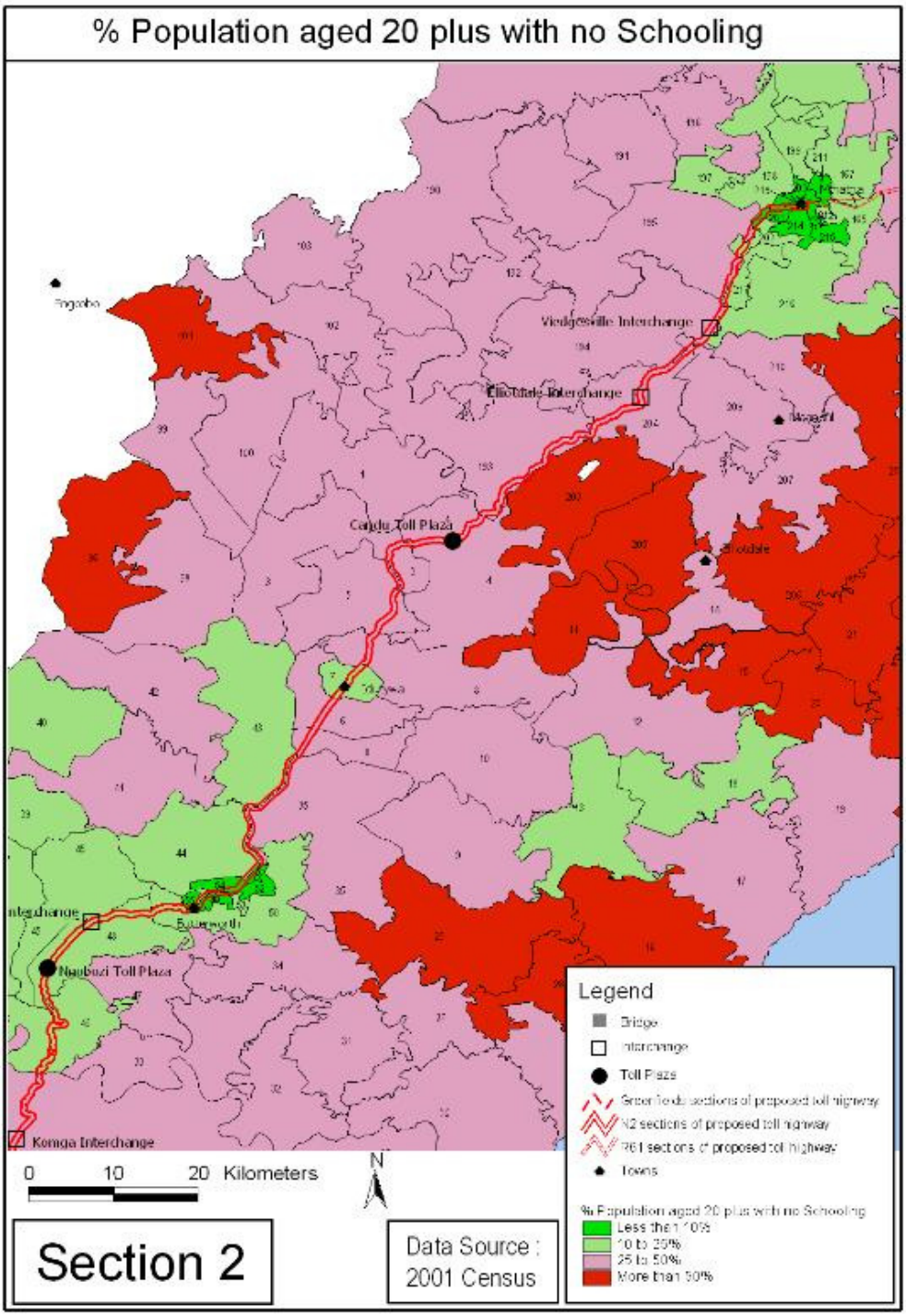


Figure 3.14: Percentage of population >20 with no schooling wards section 2



Current usage of the N2 by local residents

Rural residents of this region depend very heavily on the goods and services available in the closest towns. These towns provide the basic food supplies, beverages, medicines, clothing, shoes, furniture, building materials and agricultural inputs for the surrounding population. Most of these goods are not available in the rural areas and if they are, they tend to be much more expensive than in the towns. These towns are also the places where the residents of nearby rural areas access health, social grants and secondary/tertiary education services. Bank's 2001 study of maize consumption in the former Willowvale District (now part of the Mbashe Local Municipality) indicates that rural residents make weekly, fortnightly and monthly trips to local towns to purchase basic foods such as maize. Consequently, rural households need to travel to these centres on a regular basis. The survey of commuters indicated that respondents who lived in rural areas (and were not working) mostly appear to make these trips on a monthly plus basis. Only 6% of respondents were scholars or students. Most scholars attend schools in their neighbourhood. Some high school students and tertiary education students use taxis and buses to attend educational institutions further away from home.

Forty-six percent of the commuters surveyed in Butterworth, Idutywa and Mthatha were employed persons or business persons who travelled to work on a frequent basis. Forty-one percent of these were daily commuters, another 35% were weekly or fortnightly commuters and 23% were monthly or irregular commuters. Eighty percent of these commuting workers would be affected by toll fees associated with a highway.

Informants in the taxi industry indicated that 75–80% of their business involves transporting short distance commuters between rural and urban areas. The other 25% are more long distance commuters travelling between local towns and to more distant cities. A schedule of taxi operators providing long distance taxi services is organised by the taxi associations. This schedule ensures that the number of taxis offering these services matches demand, and that each taxi operator gets a turn to provide these more profitable services. There is a possibility therefore that the imposition of tolls along the N2 could undermine the profitability of these long distance taxi services.

Road safety

Road safety on this section of road is very poor as a result of the settlement patterns, population density, poverty and farming practices. As indicated in Table 3.12, there are a large number of rural settlements located immediately adjacent to the N2 road. Due to the very limited availability of goods and services in these rural areas, residents access transport services along this road to travel to nearby towns for basic goods and services. Residents of the 43 rural settlements along this section of the N2 also need to cross the road on a regular basis to access settlements, schools, clinics agricultural lands and natural resources on the other side of the road. Consequently, there are a large number of access points for vehicles and pedestrians along this section of the N2. An average of three pedestrian and road accesses onto the N2 per kilometre (one every 333m) were observed between Mthatha and the Kei River. However the number of accesses per kilometre increases to 4.3 and 5.5 around Mthatha and Butterworth respectively (one every 233m and 182m respectively). Taxi operators for these areas also indicated that

they need to stop every 500m to pick up and drop off passengers. This situation results in a high number of pedestrians crossing or walking along the road, or waiting for taxis all along this road, but particularly in the areas around settlements as Plate 3.2 illustrates. Many of these residents are not well informed about traffic safety issues.

Plate 3.2: Pedestrians and taxis along the route

Table 3.12: Summary of the number of different types of accesses observed along the section of the N2 from the Kei River to Mthatha in August 2007

Type of access, etc.	Gonubie–Kei River	Kei River–Toleni	Toleni–Butterworth	Butterworth–Idutywa	Idutywa–Mthatha
Number of rural communal settlements along the highway	1	2	5	5	30
Main road intersections	10	0	1	4	8
Smaller and community access roads	46	8	9	14	133
Gates (which provide vehicle access)	–	12	25	18	10
Pedestrian accesses (paths and stiles)	–	8	30	33	150
Houses and private property accesses	–	2	27	2	30
Underpasses/bridges	2	0	1	3	5
Total number of accesses	58	30	93	74	336
Kilometers	65	15	17	25.7	78.8
Average number of access per km	0.9	2.0	5.5	2.9	4.3
Proposed number of accesses per km	0.5	0.5	0.5	0.5	0.5

Animals are another hazard on this section of the road. The communal grazing system in the former Transkei areas allows farmers to move their stock about in order to make the best use of the available grazing. Due to the high risk of stock theft, most livestock is brought into livestock enclosures adjacent to the homestead at night. This means that there is a daily movement of livestock between the settlements and the adjacent communal grazing areas. In cases where the N2 road cuts through a community's land, livestock owners would often need to move their livestock across the road to access grazing lands or to dip their livestock. A lack of household labour (due to migration and children attending schools) also

means that often livestock are not adequately herded and stray onto the main road in areas where there are no fences or the fences are damaged. This situation creates a serious traffic safety risk for road users and a considerable risk of loss for livestock owners.

These animal and pedestrian hazards are exacerbated by open access to the N2 road. Along large sections of this road there are no fences or the fences are in such a poor state of repair as to be practically useless for restricting access to the road. It is often said that this is a result of local residents removing the fences and using them for their own purposes – a process of privatising public resources. There is some historical evidence that during the betterment planning period, many rural residents removed or cut the fences in protest against 'betterment'. However, key informants also indicated that in many areas the fences have not been removed but have simply collapsed from rust, disintegration and damage. This indicates that there has been inadequate maintenance of the fences. SANRAL are currently in the process of trying to rectify this situation. Along some sections of the road new fences with gates and stiles for pedestrian access to the road have been built, and other sections are in the planning process. Communities in the Ndabakazi area have recently been involved in negotiations with SANRAL staff about the fences and where gates and pedestrian accesses should be placed. This process of consultation is to be applauded and is needed otherwise residents may feel the need to adapt the system to ensure that it meets their needs. The effectiveness of the fencing infrastructure will depend on local support. It is essential therefore that sufficient consultation takes place and that the outcomes are properly implemented as agreed. This is not an easy task and some community members have already raised concerns about gates being placed in different locations to those that were agreed with the community.

As a consequence of the high human population density of this area, the large number of pedestrians accessing and crossing the highway, the relatively high number of old and unroadworthy vehicles using the road, the large number of animals on and alongside the road, and the lack of fences to restrict access, there are considerable traffic and pedestrian safety risks along this section of road. Traffic accidents are so common along this section of road that it is considered one of the most dangerous roads in South Africa (Pers. comm. Mthatha Municipal Officials). Many people travelling between KwaZulu-Natal and the western portions of the country prefer to take the longer route around the former Transkei rather than travel along this section of road. The Microsoft route planner website also directs road users wanting to travel between Cape Town and Durban to take the route north of Lesotho rather than the N2 through the former Transkei.

Traffic through towns

The current N2 passes through the town centres of Butterworth, iDutywa and Mthatha. Traffic flow through these towns is slowed by a range of issues such as; traffic lights (which are often not operational), traffic entering and leaving from side roads, taxi and bus ranks and drop off areas on the side of the road, street parking, hawkers/informal markets on the side of the road and considerable pedestrian traffic during the day. A lack of awareness about traffic rules by some pedestrians and drivers, combined with weak enforcement, also lends a certain amount of disorder to the traffic situation in this

part of the country. This traffic situation has deteriorated as these towns have grown over the last few decades as is illustrated in Plates 3.2 and 3.3 below.

Plate 3.3: Butterworth where major safety and traffic flow upgrades are proposed

Plate 3.4: iDutywa where major safety and traffic flow upgrades are proposed, including the construction of a second carriageway.

Mthatha

The condition of the existing N2 road through Mthatha is very poor and is well past its design lifespan. The upgrading of this road is SANRAL's responsibility and has been delayed due to financial constraints and the delays with the EIA for the conversion of the N2 into a toll highway. This is creating a significant traffic congestion problem for Mthatha which is struggling to cope with the growing local and national traffic flow which passes through the town. Traffic is often gridlocked by slow moving heavy vehicles and accidents, as well as during daily peak traffic hours and at the end of the month. At busy times it can often take over an hour to get through the town

SANRAL's traffic counts in 2006 on either side, north and south of Mthatha illustrated in Table 3.13 below indicate that the average daily number of vehicles passing through the northern counting station was 7536, with 86% of these being north bound vehicles. The average daily number of vehicles passing through the southern counting station was just over 2 500 higher at 10 152, with this traffic being equally split between north and south bound traffic. The percentage of trucks was 10.5% and 7.6% for the northern and southern stations respectively which amounts to somewhere between 750 and 800 trucks per day (at least 63 per hour). Only 10 - 11% of the average daily traffic was night traffic.

Table 3.13: Average daily number of vehicles in 2006

Place	Total p/d	North bound	South bound
North Station'			
Ave Daily Traffic (all)	7536	6456	1080
Ave Daily trucks	792	672	120
% of Trucks	10.5	10.39	11.14
% truck split (short:med:long)	35:22:42	37:22:42	27:27:46
% Night traffic	10.57	10.30	12.10
South Station			
Ave Daily Traffic (all)	10152	5088	5064
Ave Daily trucks	744	384	360
% of Trucks	7.63	7.89	7.37
% truck split (short:med:long)	46:21:33	45:20:35	47:22:31
% Night traffic	10.94	11.3	10.6

According to the Municipal officials, the traffic congestion problems are a result of two physical constraints on the flow of traffic:

- Two main roads (the N2 and the R61) intersect at right angles in the centre of the town.
- Narrow bridges over the Mthatha River which constrict the widening of roads entering Mthatha from the east.

Over twenty years ago the local municipality developed a plan for the development of one-way streets in Mthatha that would alleviate the traffic congestion in the city centre. The implementation of this plan depends on the construction of another bridge over the Mthatha River. As this is a national road,

responsibility for implementing this plan will depend on SANRAL's participation. Attention is now turned towards the major issues identified along section 1 and 2 of the proposed route.

3.2.2. Section 3 – Mthatha to Ndwalane

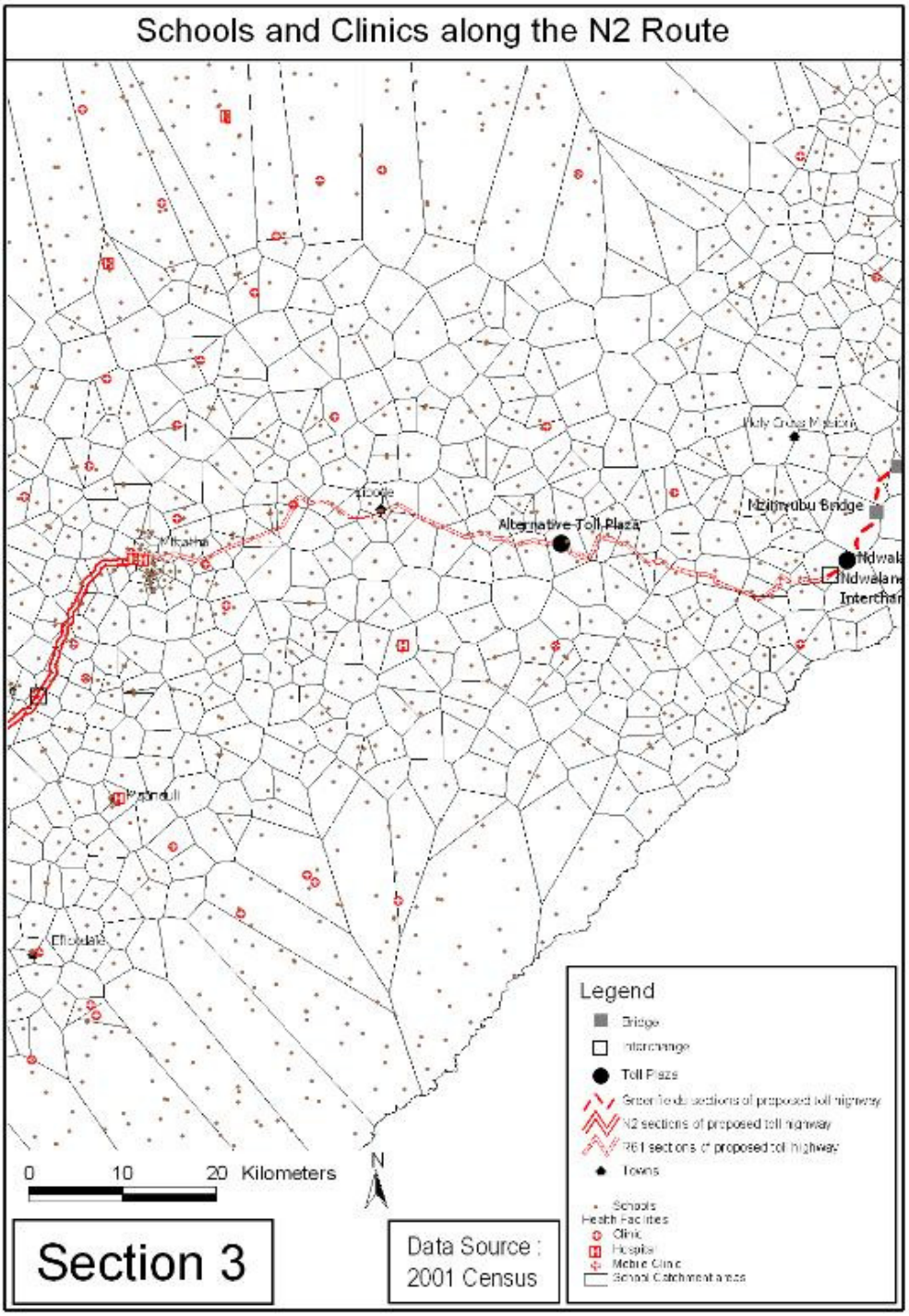
Section 3, from Mthatha to Ndwalane, traverses approximately 72 km of rugged terrain characterised by extensive traditional communal settlement patterns, with some nodal development and betterment planned areas adjacent to the route. This section falls within both the Nyandeni and Port St Johns Local Municipalities within the O.R. Tambo District Municipality.

In the previous Social Impact Assessment Huggins (2002:4-5) points out that, along this section of the proposed route "…the following villages, infrastructure and services will have to be assured of integrity of access:

- "Mt Nicholas: The children of Thabo Mbeki Township attend a junior secondary school that is located on the opposite side of the road. An access point may be required here for these school children.
- Mtyu: Livestock graze at Mafini but are kraaled at Mtyu across the road. This means there is daily crossing of livestock in this area. The crossing point for animals is approximately 3 km away from Mt Nicholas.
- Zwelitsha village. People in this vicinity use the cattle dipping facility at Mafini. This means that occasionally cattle cross here in large numbers for the purposes of dipping.
- Ntlazi: St Barnabas Hospital is located in the village across the road from Ntlazi. Chief Henry High School is also located in the village and attended by children from Ntlazi.
- Bhukwini: The cattle dipping facility at Bhukwini results in occasions when people and cattle cross the road (mainly from Njiveni village) to utilise the dipping facility.
- Mgungundlovu: The dipping facility at Mgungundlovu, as well as a junior secondary school results in people and cattle crossing the road in this area.
- Gutsi: The grazing lands for the village are on the opposite side of the road. Livestock from this village cross the road on a daily basis.
- Boms: The grazing lands for the village are on the opposite side of the road. Livestock from this village cross the road on a daily basis
- Ntlambela: Children cross the road to get to school located adjacent to the road. The crossing point is approximately 3 km away from Boms.
- Mdlankomo: Zwelakhe Junior Secondary School is located adjacent to the road. Many children from Ndulwana village attend this school.
- Misty Mount*:* People from Mchonco village shop at Misty Mount and are required to cross the road .
- Gxulu: Nkawukazi children attend school at Gxulu Junior Secondary School, and are required to cross the road.
- Corane: Sehushe Commercial School and Ntaphane Junior Secondary School accommodate children from Nciphizeni village. Children use the road to get to the schools."

This situation remains basically unchanged at this point, however, a full list of all schools and clinics situated within the vicinity of 2 km of the route is provided on pages 72 to 81 of appendix 2 and is graphically represented below in Figure 3.15.

Figure 3.15: Schools and clinics along section 3



Proposed construction activities: The construction activities proposed for this section include the widening of the road, as well as the provision of passing lanes, a possible alternative toll plaza at Ntlaza, under and overpasses, bridge widening and a dual carriageway at Thombo.

Methodological description: In this section focus group discussions and individual interviews of a self selected group of five social categories of people were undertaken with the community at the large nodal development at Thombo. Interview methodology and the issues raised are covered in Section 2.1.2 of this report. Examples of focus groups and individual interview schedules are contained in Appendix 3. The emphasis was on the need to assess potential impacts on five specific categories of peoples' livelihoods and their associated assets. Each site report should be read in conjunction with the summaries of focus group discussions contained in the appendices, where the majority concerns of each social group are presented.

Description of region: At Thombo, there is an agglomeration of publicly and privately provided services including shops, supermarkets, market stalls, a MPCC, a tribal authority office, clinics, schools, churches and a mosque, alongside planned residential settlement, most located at a distance of between 500m to 1 km from the existing Thombo Intersection. The community represents all of the livelihoods, land use, settlement and transport characteristics described as pertaining for communities in the previous section, although it is predominantly a closer settlement supported by the nodal development. Its location is within Ward 4 of the Port St Johns Local Municipality.

Demographics: 2001 Census data, graphically illustrated in Figure 3.16, reveals that Thombo's constituent ward had a population of 13 887 people, a population density of 120 people per km^2 and a female to male ratio of 120 females to 100 males illustrated in Figure 3.17. This indicates high male absenteeism due to migrant labour, and a large proportion of female headed households. When compared at a district municipality level, the proportion of the population within Thombo who have no schooling, illustrated in Figure 3.18, is low at 32% but, when compared to the other wards bisected by sections 1–6 of the route, which average out at 23%, it is comparatively high. With reference to education, a relatively small sector of the population of Thombo, 14%, has a grade 12 or higher level of education when compared to the 25% average amongst the other wards along sections 1–6 of the route. In respect of access to water, graphically illustrated in Figure 3.19, 2001 Census data indicates some 2,278 households in Thombo have had to rely on springs for water, while 2 157 have access to a community stand further than 200m away, and 331 source water from a stand less than 200m away. In relative terms, at 18%, the latter two are higher than the municipal average which stood at 14%. At 64%, unemployment, illustrated in Figure 3.20, was marginally lower than that for the district, which stood at 69%. At R19 095 per annum the average annual household income in Thombo was much lower than it was for the Eastern Cape Province, which had an average annual household income of R28 468. The distribution of household income amongst the wards along section 3 of the route is illustrated in Figure 3.21 below. Unemployment data for the period was 64%, relatively close to the OR Tambo District average of 69%.

Figure 3.16: Population density per km^2 local wards section 3

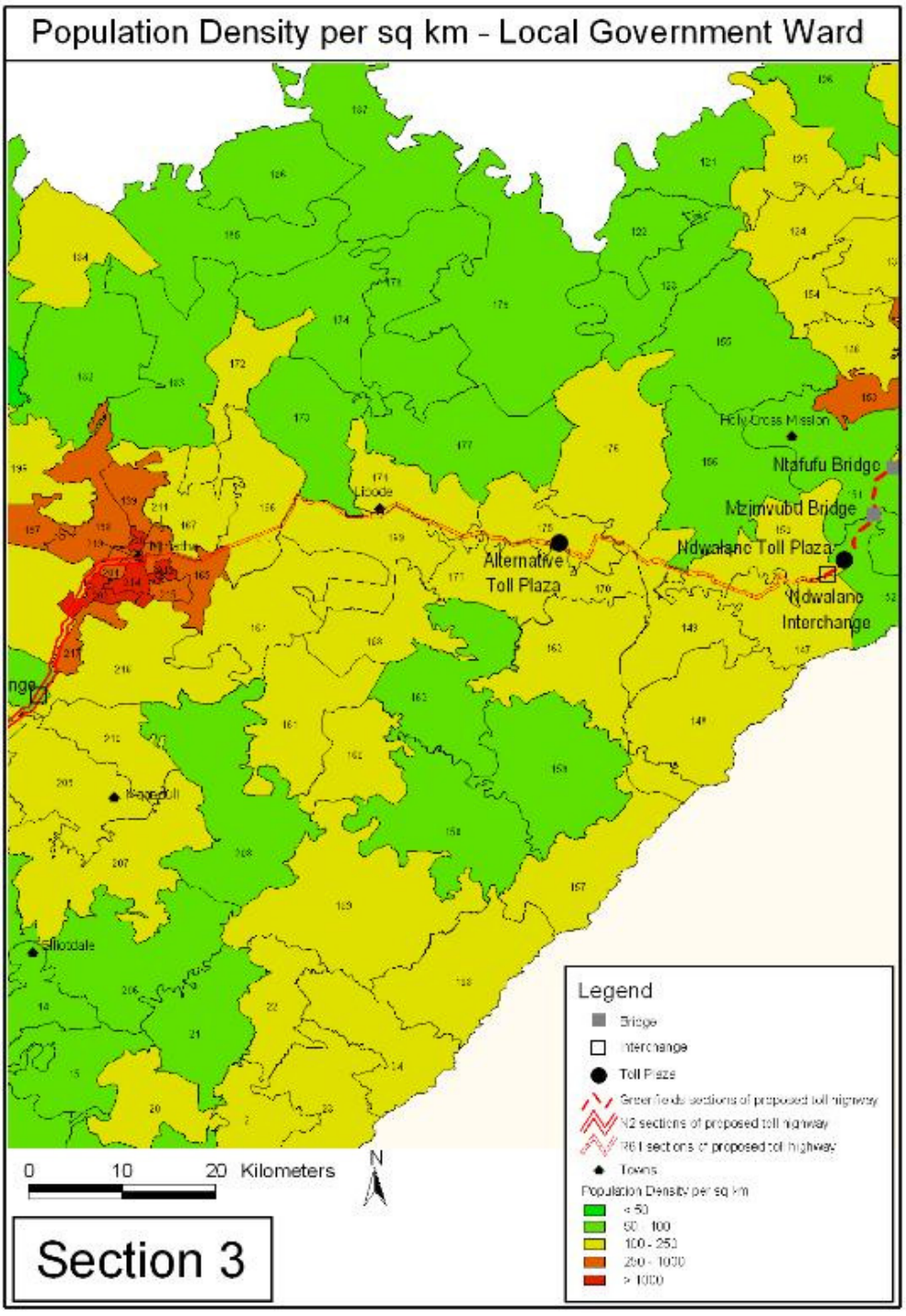


Figure 3.17: Female to male ratio local wards section 3

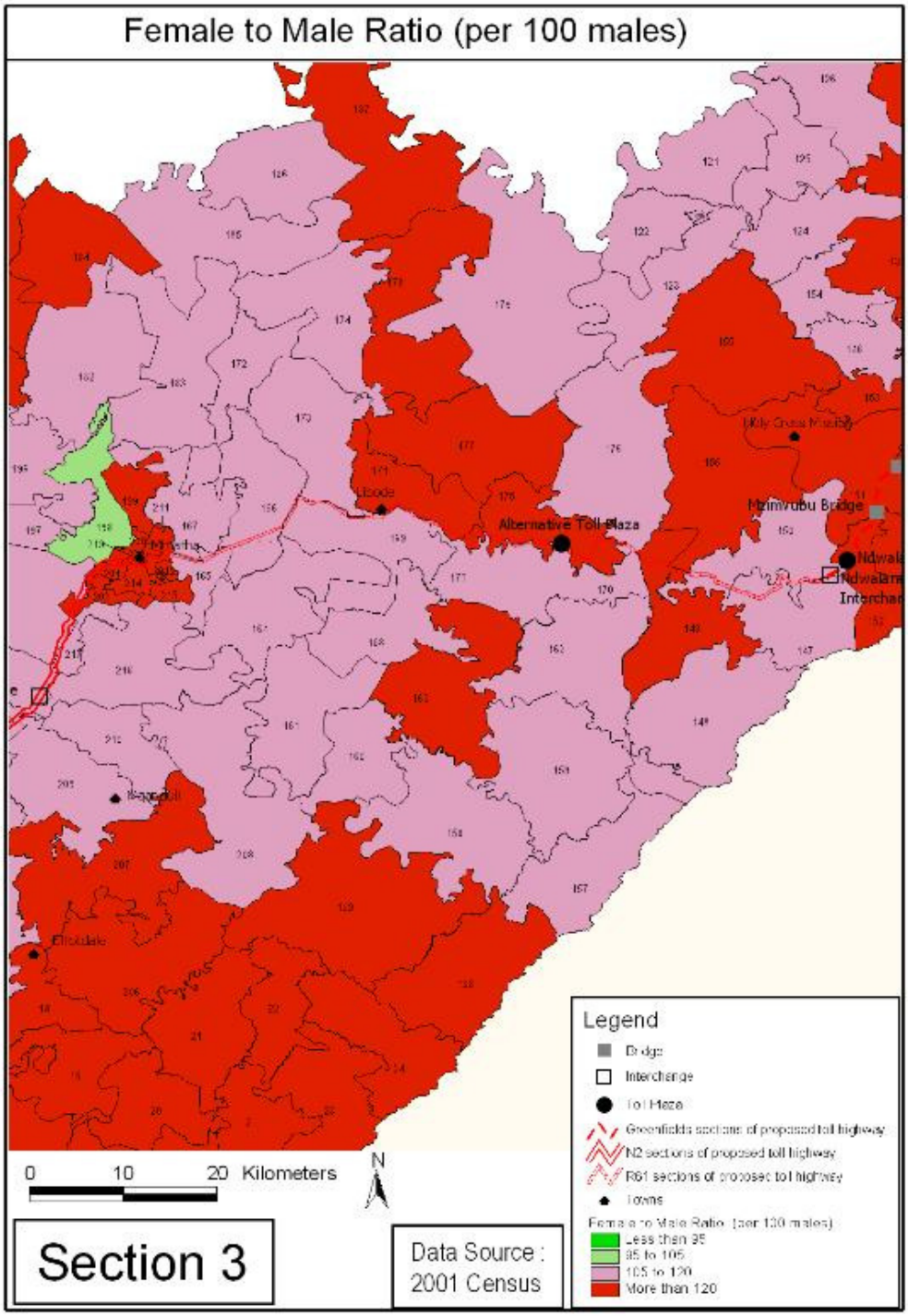


Figure 3.18: Percentage population >20 with no schooling local wards section 3

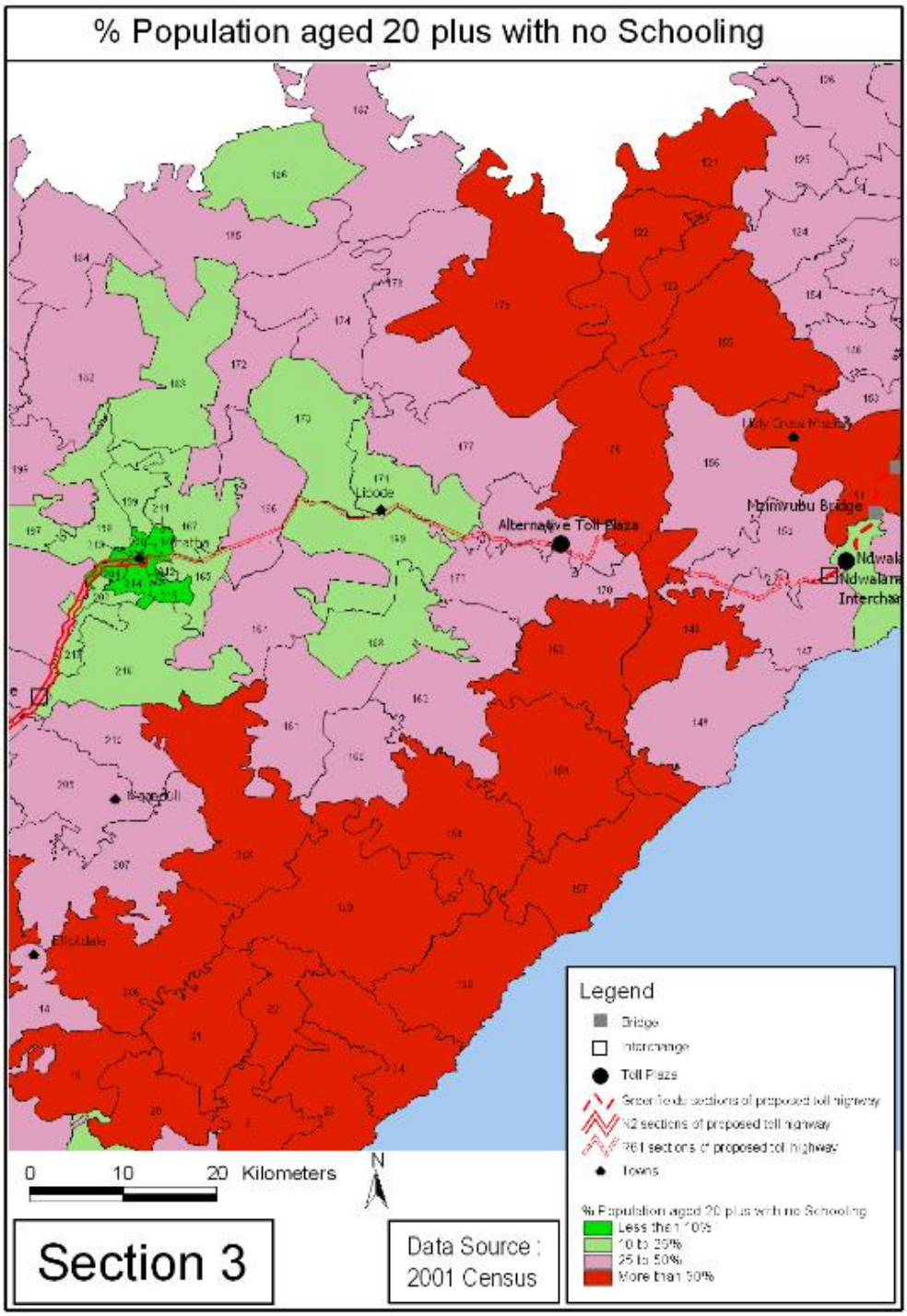


Figure 3.19: Household with piped water onsite local wards section 3

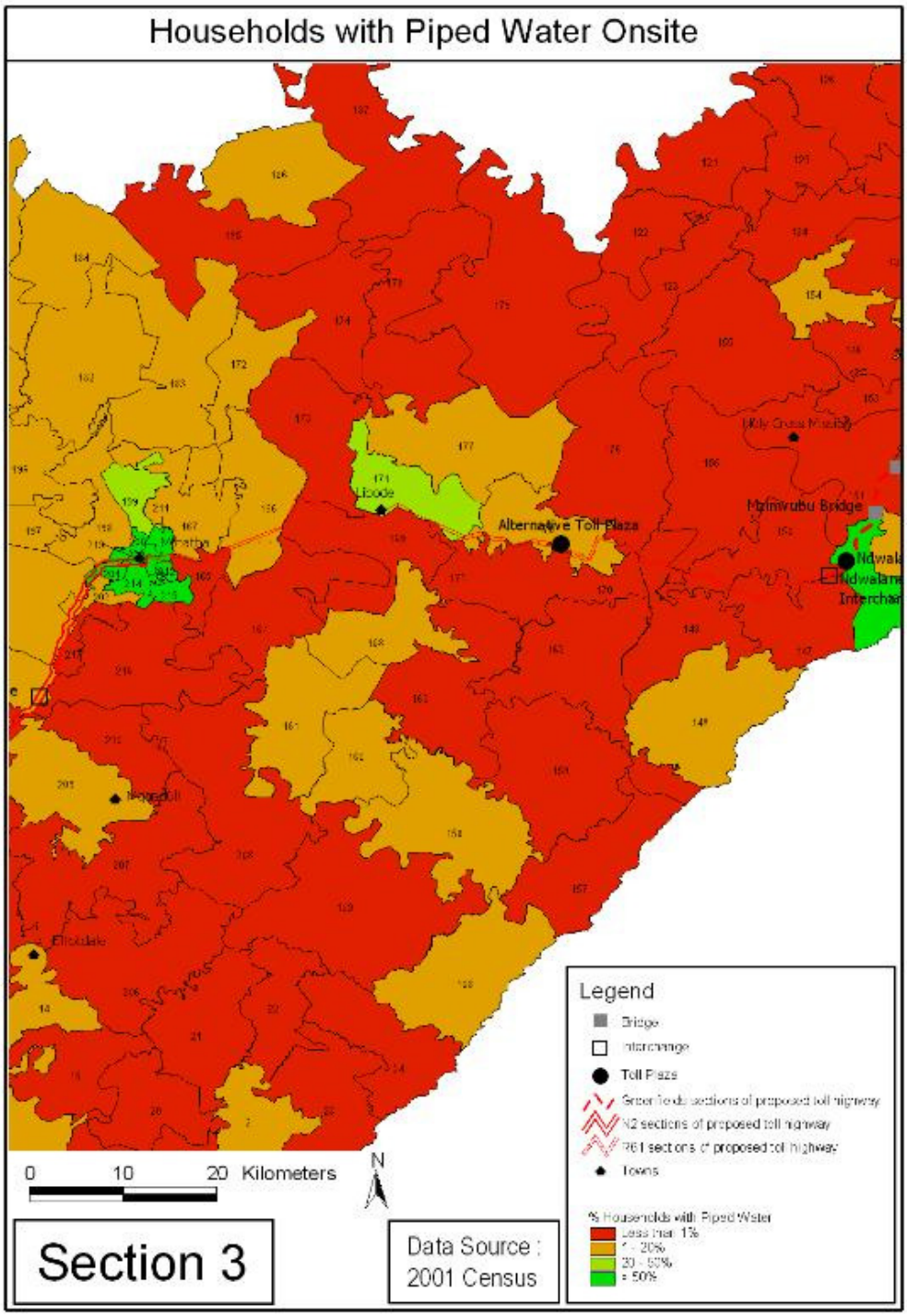


Figure 3.20: Percentage unemployment local wards section 3

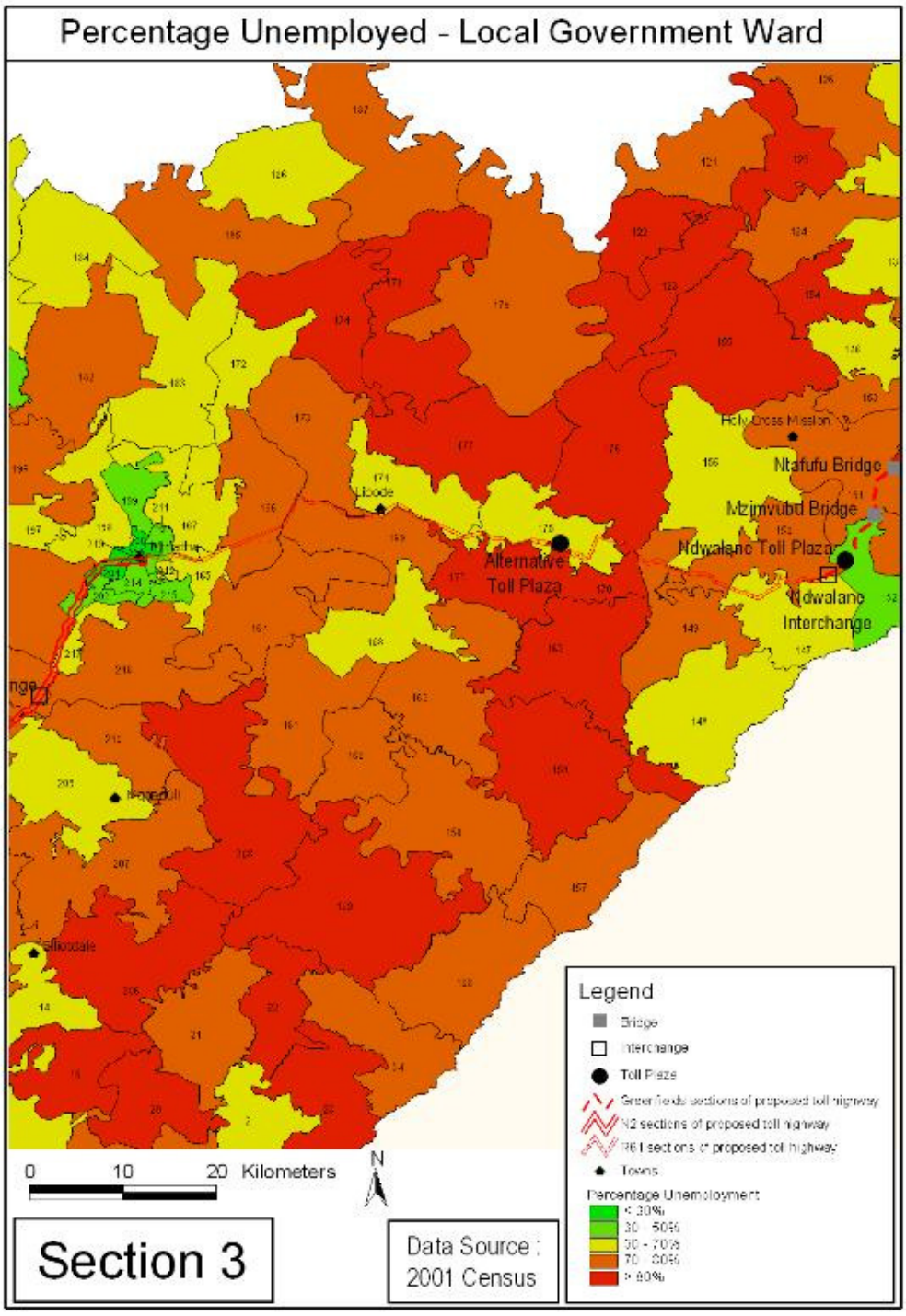
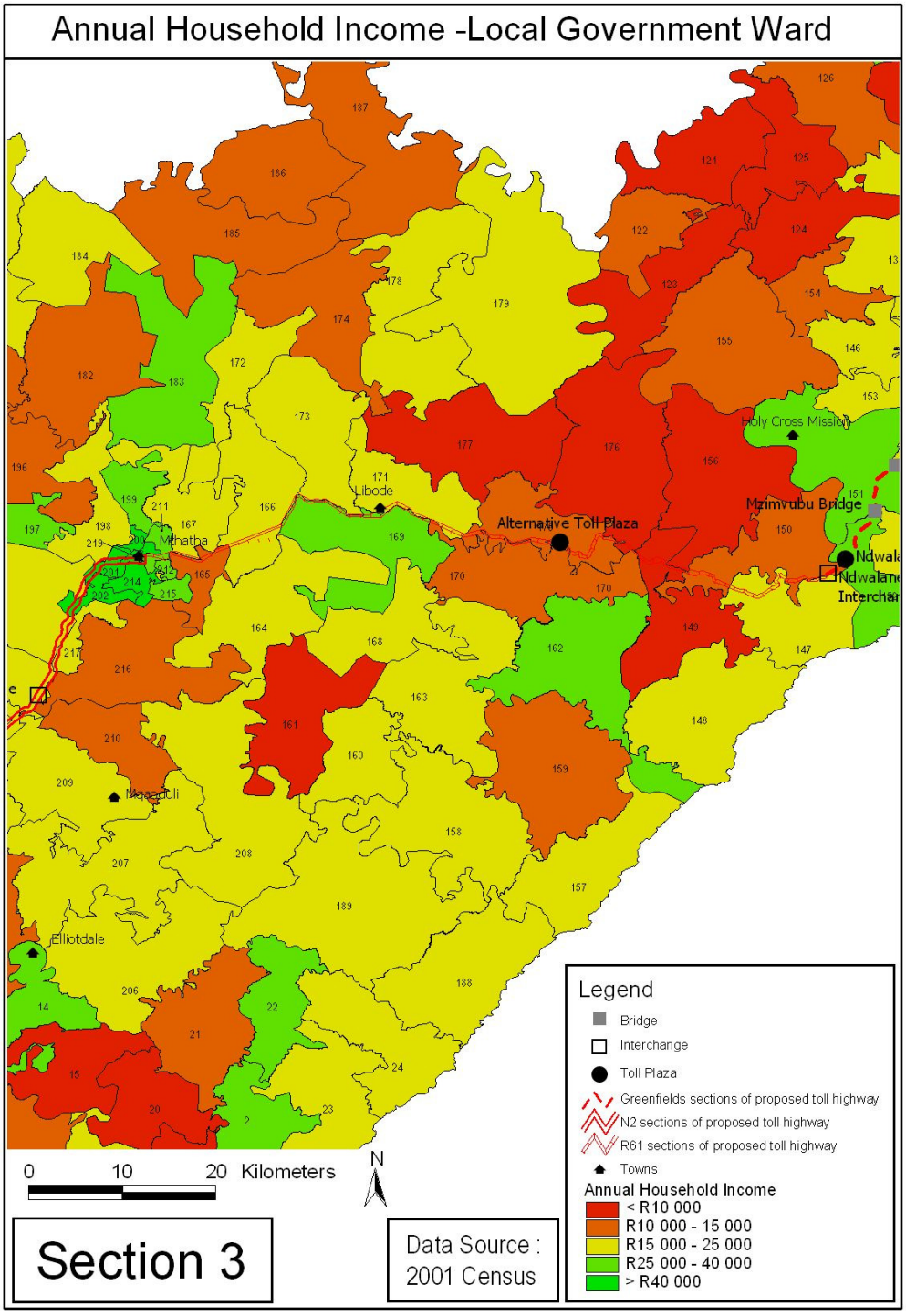


Figure 3.21: Annual household income local wards section 3



The characteristics of the research population will be addressed under the following sub-heading.

Characteristics of research population: Three of the six respondents classified as 'professional' who were interviewed in Thombo considered themselves as Technikon trained, with two indicating that they had University training and one had clerical qualifications. Three of the women interviewed saw themselves as skilled agricultural workers, while the remainder indicated that they were skilled in either services and sales, crafts and related trades or machine operating, with one claiming professional status. The occupational definitions given by youth varied widely. Three of the youth interviewed claimed professional status, two were in sales and services, two in crafts and related trades and in elementary operations, with one person in agriculture. The two commercial people interviewed claimed a background in services and sales and in agriculture. The eight farmers interviewed all claimed skilled agricultural worker status.

Three of the professional respondents were in full-time employment, with three in part-time work or not looking for work. Only one woman said she was fully employed, two described themselves as self-employed, three maintained they were unemployed, looking for work, and two unemployed but not looking for work. Two had part-time jobs. Sixty percent of the youth were unemployed and looking for work, while the balance was spread between doing part-time work, self-employed or employed. The commercial respondents were self-employed while seven of the eight farmers claimed they were unemployed, but not looking for work.

At Thombo, 15 of the 36 respondents claimed they lived within 200m of the existing road and its planned widening, and 17 stated they lived between 200m and 2 km away.

General perceptions of positive and negative benefits arising from the proposed road: Focus groups and interviews reveal a positive outlook regarding the potential benefits of the road works to the community's overall way of life and sense of well being. The range of perceptions and attitudes across all the social groupings represent the view that cumulatively, individuals and the greater community good will improve. Potential benefits were seen with reference to improvements in time savings and travel costs, in an enhanced integration with the wider world through better access into and out of the area and in possibilities for broader markets for developing goods. It was felt that this would result in more short and long-term enterprises, as well as in labour and wage benefits. Negative aspects concerning resettlement, particularly the loss of services and facilities, as well as health and safety, were also raised and are covered in more detail under impact assessments below. Section 4 between Ndwalane and the Ntafufu River will now be described.

3.2.3. Section 4 – Ndwalane to Ntafufu River

Section 4, from Ndwalane to the Ntafufu River, is proposed as a predominantly Greenfields development of approximately 16 km and is situated within the Port St Johns local municipal area under the district municipality of O.R. Tambo. As this section is of relatively short distance, maps graphically illustrating the demographics of the section are combined with those for section 5 and are presented under the sub-heading for section 5.

This section is uncharacteristic of the typical Greenfields sections in that the proposed route traverses a large proportion of formerly private farmland in the 'Umzimvubu bends'. This land is currently held by the Department of Land Affairs and is occupied by members of the Ndamase Royal Family of the Nyandeni Regional Authority as well as by lessees.

There are two alignments in this area, the first being between the R61 and Mzimvubu River which at one time threatened the Riverside Primary School as well as access by means of Fort Harrison road to the farming areas. The second alignment is close to Mampube Village and could result in some resettlement with this community being divided into two sections (Huggins, 2002:6). Other villages along this section and across the Mzimvubu River that may be affected are Sphatha, Mgugwana, Ntafufu, Ntongwana and Luqhoqweni with Ntafufu facing the greatest threat. The alternative alignment running through the village of Ntafufu avoids the Senior Secondary School, but not the Junior Secondary School, and thus remains the socially preferred route, despite the fact that the route does transverse agricultural land. A full list of all schools and clinics situated within the vicinity of 2 km of the route is provided on pages 72 to 81 of appendix 2 and is graphically illustrated in figure 3.22 on page 82.

Proposed construction activities: This section comprises of the Ndwalane Toll, a new road and a major high level bridge across the Umzimvubu River as well as interchanges at both Ndwalane and Ntafufu which are within the Port St Johns Local Municipality.

Methodological description: Interviews undertaken in this section included the Regional Authority, Queen Ndamase, and two lessee farmers, and were held in Port St Johns. However, one of the planned interviews was unable to take place as the respondent farmer was apparently in jail for illegal land occupation. Focus group sessions and individual interviews were also held with a sample extracted from members of the Ntafufu community. The latter were drawn from around the schools situated approximately 3 km south of the proposed interchange with the existing R61.

Description of region: After the proposed Umzimvubu Bridge, the settlement pattern is in the main very dispersed and traditional, without any significant betterment planning having been introduced or maintained, or any ribbon development as described in foregoing sections. Current land use, cultivation and livelihood strategies are similar to those described for rural communal areas in the previous section.

Demographics: As would be expected, data extracted from the 2001 Census relating to this area reveals a much lower proportion of the population, 17%, having no education, compared to a 23% average along sections 1–6 of the route. Twenty-eight percent of the population of this area had an education level of Grade 12 or higher compared to an average 25% of the population having a similar level of education along sections 1–6 of the route. Average household incomes in this area were, at R30,037-00, this is higher than the provincial average of R28 468. Unemployment, at 48%, was much lower than for the OR Tambo District, which is 69%. Sixty-four percent of households in the area had water piped into the house, compared with an average of 1% over the route at the time. This data is

graphically represented in a series of maps depicting section 4 and 5 of the route in figures 3.22 to 3.28 on pages 82 and 84 – 89.

In an interview Queen Ndamase pointed out her version of the history behind the allocation of the Umzimvubu farms. Her late father, the Paramount Tutor Ndamase was given four farms by a former President of the Transkei Territories, who in turn gave them to his three sons (her brothers). These were placed in the hands of a caretaker, Roscott, originally from KwaZulu-Natal in order to maintain productivity and the condition of the farms. Roscott was granted some form of a lease. Unfortunately, Paramount Tutor Ndamase did not transfer the title deeds into Roscott's name, and there appears to be some confusion about exactly how leases were granted to others, to farm this land. This has apparently resulted in a series of court cases, with the outcome said to be that the present Department of Land Affairs will be granting the said title to her, so that she can pass on the lands to Tutor's grandson. This view is contested by one of the present lessees. This ambiguity will impact on the details of any potential compensation. The Queen's main concerns were about the extent of land likely to be expropriated by the road and bridge, estimated generally by her at about 4–6 ha of farm land, the impacts on existing buildings and infrastructure as well as any possibilities for compensation. On obtaining assurances from the team that SANRAL has a well developed system to manage any compensation regarding these concerns if the road is to be approved, she expressed confidence that it could go ahead. She noted many perceived benefits in quicker access, particularly into Port St Johns, the expansion of potential enterprises and markets, for both her own farms and her community, and employment possibilities for the wider community under her tutelage.

The lessees maintained that all the benefits of wider access inside and outside the area, less 'isolation', increased tourism into Port St Johns, shorter routes to growing markets, particularly Durban and East London where the second farmer sells produce and collects implements, the possibility of establishing new enterprises and increased local employment all outweighed any negative impacts. These negative impacts included the loss of 10% (6ha) of productive land for the first farmer and 4ha of productive land and of indigenous forests and a borehole for the second. Mitigation in the form of appropriate compensation and well located on-ramps was suggested, given their relative physical isolation within the 'Umzimvubu bend'.

Ntafufu

Interviews and focus groups were held at Ntafufu village, illustrated in Plate 3.5, where the Ward data (Census, 2001) reveals a strong contrast to the local municipal description provided above. In the Ntafufu area sixty-one percent of its 13,055 people were without any schooling and only 4% had any higher education (route 25%, province 20%), with only 1% having piped water. Sixty-five percent, or 8 423 rely on rivers as the only source for water, with 2 405 relying on springs. This area has a female to male ratio of 128 females to 100 males on the Greenfields sections of the route. This is an indication of high male absenteeism due to migrant labour, and a large proportion of female headed households. The unemployment rate in Ntafufu, at 78%, is also one of the highest along the route, and is much higher than

the district unemployment average of 67%. For a graphic representation of this data see Figures 3.23 to 3.28 on pages 84 to 89 below.

Plate 3.5: Ntafufu Village, Ntafufu River and local access road

Characteristics of research population: Among those interviewed, the three professional respondents were either Technikon or University trained. This was in sharp contrast to the majority of women, four citing skills in elementary operations only, with two skilled in agriculture and one in sales and services. Four youth classified themselves occupationally into the sales and services category, as did the four commercial people interviewed. Half of the farmers described themselves as skilled in agriculture, the balance only in elementary operations. Two professional respondents were in full-time employment, while four of the women claimed to be unemployed and looking for work. Sixty percent of the youth were unemployed and looking for work, with the balance being self-employed. All the commercial respondents were self-employed. Five of the farmers described themselves as unemployed, looking for work, with four similarly unemployed but not looking for work.

Nine of all 27 respondents claimed to live within 200m of the proposed new road, with 11 claiming residence within 200m and 2 km, the balance living further than 2 km away.

General perspectives about positive and negative benefits: This community expressed serious concerns about the effects of its historical isolation and relative neglect. It identified the proposed road and its route as capable of contributing positively to its overall social development and mindset, changing its existing way of life, which was said to be worsening due to lethargy and increasing crime, and contributing to its rural development in particular. For example, it was held by a headmaster that the Greenfields development would change 'community outlook and motivation, and improve the way of living according to the times.' Existing road conditions and transport services, locally and on the R61, were held to be very poor, and dangerous due to the many curves as well as many very unreliable drivers. This was exacerbated by 'people not watching their livestock as they do around Mthatha.' The potential for better access to a range of services was noted extensively.

Negative issues identified most frequently were the potential for a reduction in the access to grazing lands and fields, to a dip tank on one side of the route, and to the Ntafufu River bisecting the community and one of its major water sources. As one respondent indicated when referring to access to land 'we live on maize.' Limits to access by pupils to multipurpose facilities such as the local Junior Secondary, directly in the path of the route and requiring relocation, and the Senior Secondary schools and their playing fields were also raised, as were resettlement issues and the removal of graves and the potential for noise, dust and crime that would accompany construction.

3.2.4. Section 5 – Ntafufu River to Lusikisiki

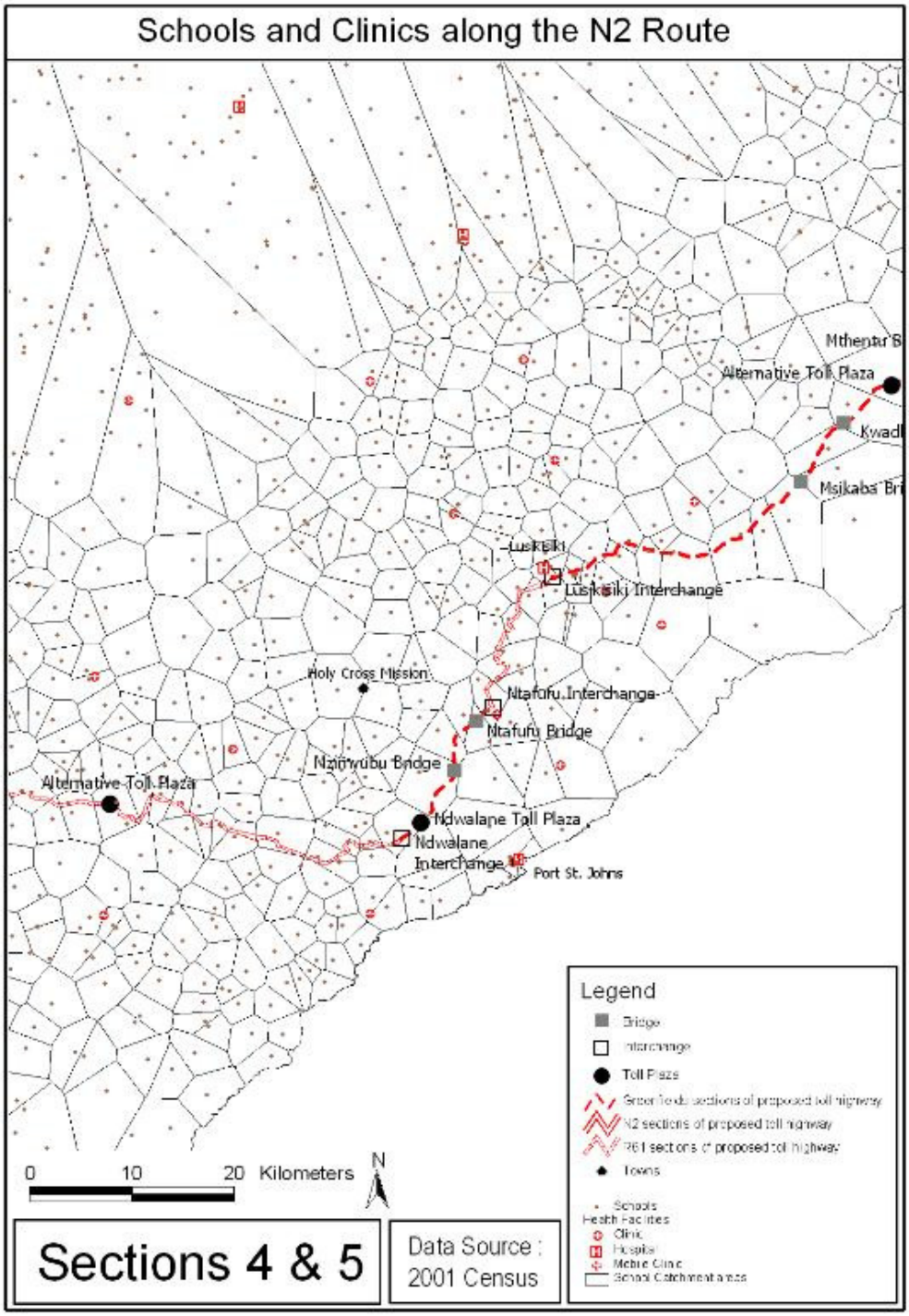
Section 5 consists of approximately 24.5 km of road stretching between the Ntafufu River and Lusikisiki, at the Magwa Intersection. A graphic depiction of demographic data for this section (section 5) is presented together with that for the preceding 16.5 km of section 4 discussed above. Section 5 of the route traverses a combination of large open grazing lands, traditionally dispersed households and communities, some betterment planned areas and several densely settled peri-urban areas situated east of Lusikisiki, which include certain ribbon development. The route crosses the Port St Johns and Inquza Hill, formerly Quakeni Local Municipality. All the conditions and characteristics described in the foregoing sections regarding land use, settlement and livelihoods apply equally here.

Proposed construction activities: It is proposed that this section will consist of approximately 25 km of rehabilitation, construction of climbing lanes, road widening and bridge widening at the Mzintlava River, and upgrading of the existing R61, with an interchange proposed just outside Lusikisiki and the upgrading of the Magwa Intersection.

Along this sector of the route the situation described in the first Social Impact Assessment remains largely unaltered and is that "[t]he villages of Ntsimbini, Ngobozana and Mxobosini are located on the either side of the R61 and are likely to be the most affected by this section of road. In particular, there are two Junior Secondary Schools at Ngobozana that serve a wide catchment. School children will require access to the schools. The Bambisana Hospital, located a few kilometres off the existing R61, and is the only hospital in the area. This hospital is critical to the local communities in the area and it is critical to ensure that

reasonable access to the facility is not prevented" (Huggins, 2002:7). A full list of all schools and clinics situated within the vicinity of 2 km of the route is provided on pages 72 to 81 of appendix 2 and is graphically depicted in Figure 3.22 below.

Figure 3.22: Schools and clinics local wards along sections 4 & 5



Methodological description: Interviews and focus group sessions were undertaken at two sites, the first being Mzintlava, some 2 km south of the R61 just before the Bambisana Hospital in Ward 132, the second closer to Port St Johns at Luqoqweni, which is directly bisected by the R61. The route and survey area community is bisected by four of Port St Johns' Ward boundaries, viz. Wards 8, 10, 3 and 1.

Demographics: Census data for Wards 10 and 3 reveals populations of 11 562 and 86 231 respectively with female to male ratios of 119 females to every 100 males in Ward 10 and 123 females to every 100 males in Ward 3. This indicates high male absenteeism due to migrant labour, and a large proportion of female headed households. This data is graphically represented in Figure 3.23. Population densities within these two wards, illustrated in Figure 3.24, are amongst the highest for sections 3–6 of the route with a respective density of 202 and 262 people per km^2. Education levels, with 38% of the population of Ward 10 and 44% of the population of, Ward 3 having had no schooling are lower than the route average of 23%. In Ward 10, 12% of the population has an educational level of Grade 12 and higher while in Ward 3 the figure is 4%. In both cases the percentages of the populations having a Grade 12 or higher level of education is far lower than the sections 1–6 route average of 25%. Figure 3.25 illustrates that proportion of the population, 20 years of age or older, who have no education in the wards across sections 4 and 5 of the route. Average household income, at R17 337 and R16 007 for Wards 10 and 3 respectively are much lower than the provincial average of R28 468. Household income is graphically depicted across sections 4 and 5 of the route in Figure 3.26.

Figure 3.23: Female to male ratio local wards sections 4 & 5

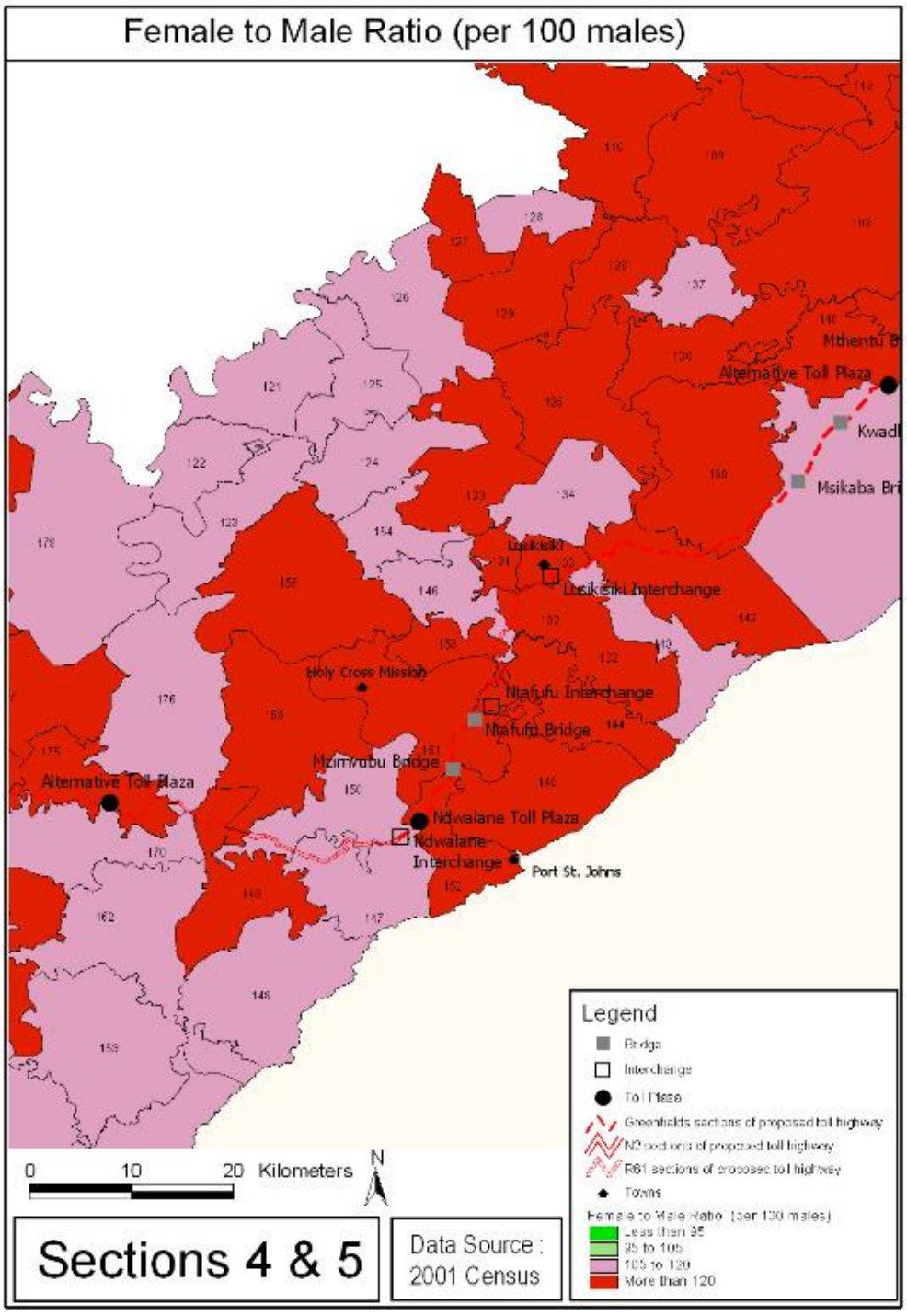


Figure 3.24: Population density per km^2 local wards sections 4 & 5

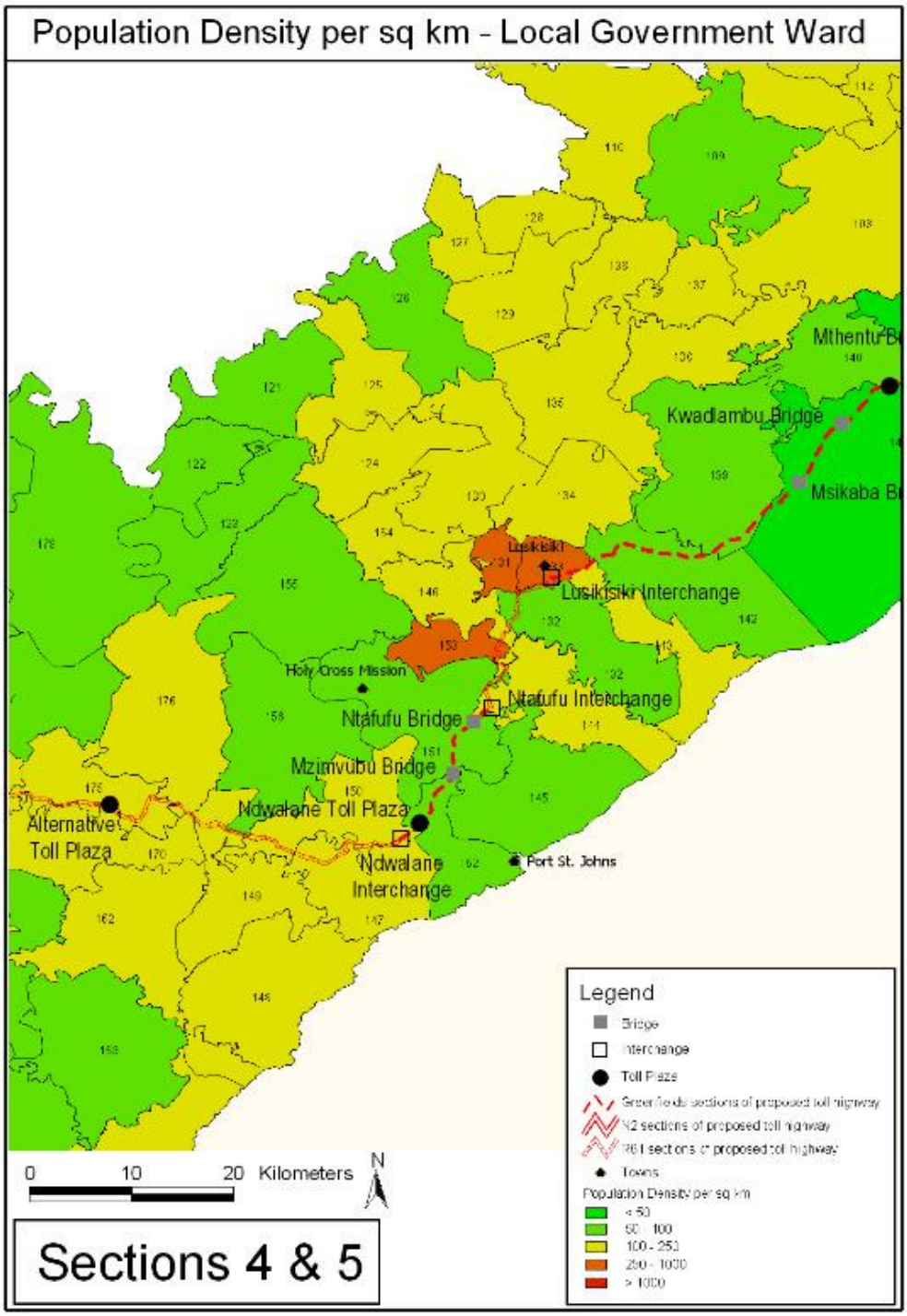


Figure 3.25: Percentage population >20 with no schooling local wards section 4 & 5

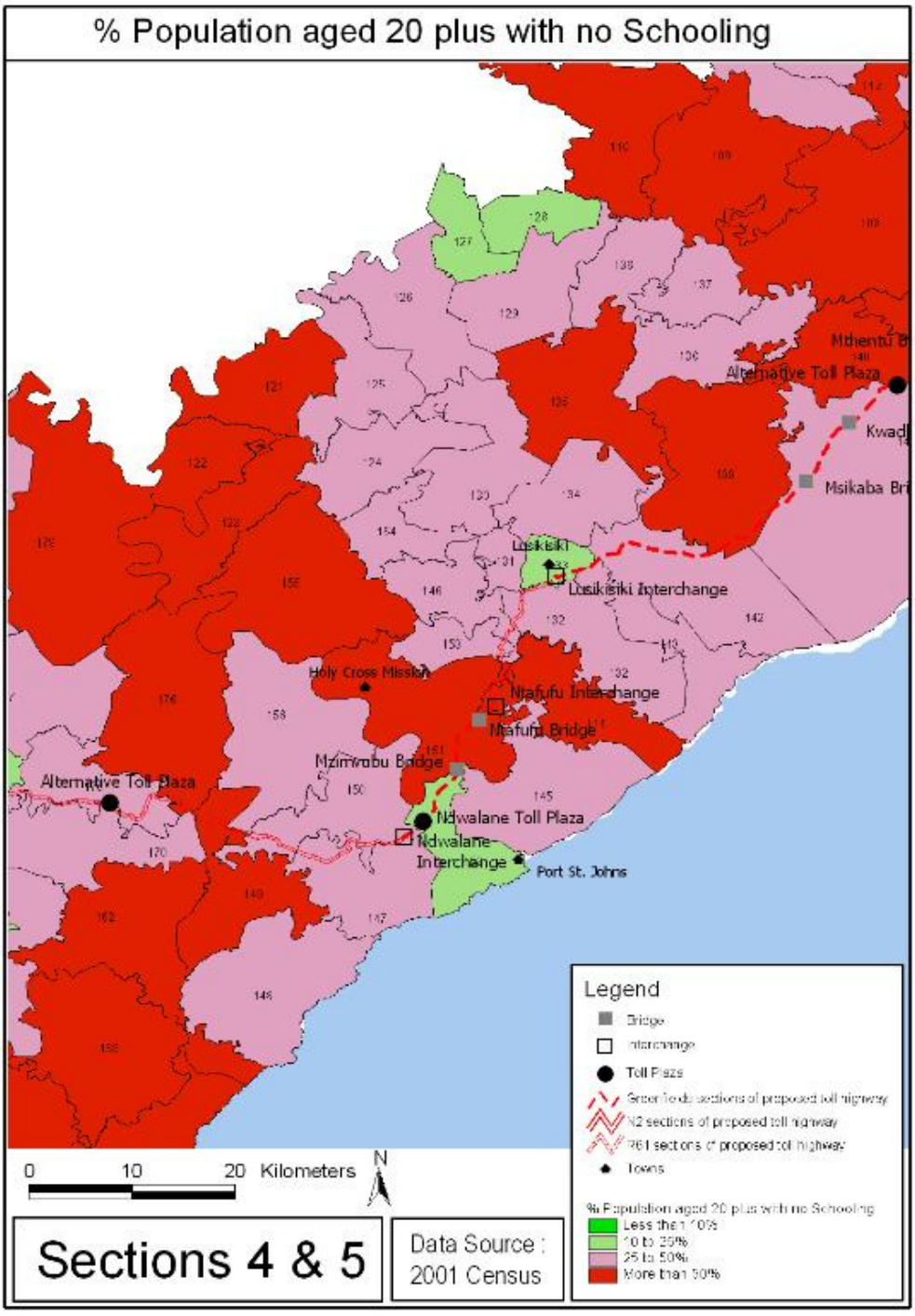
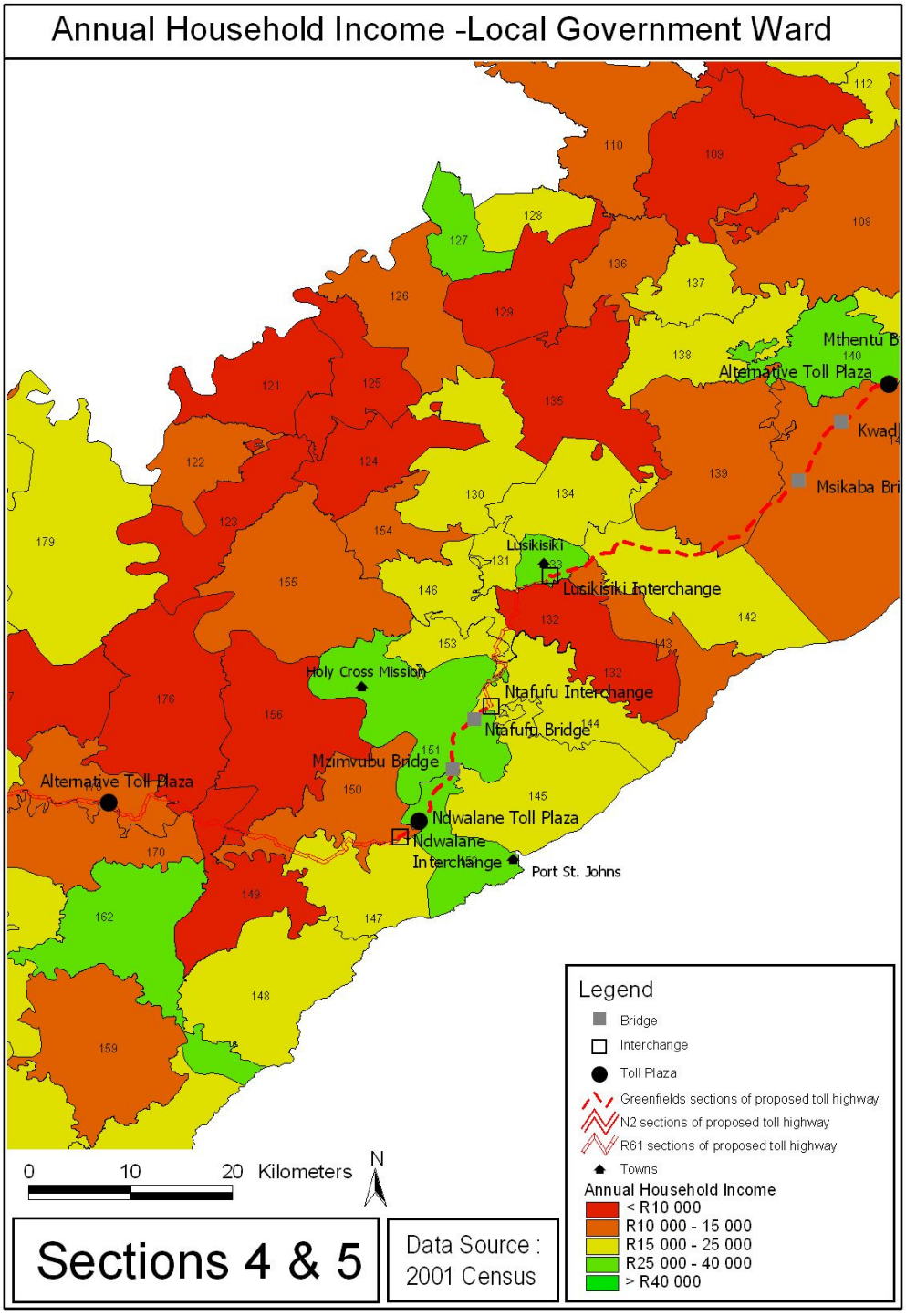
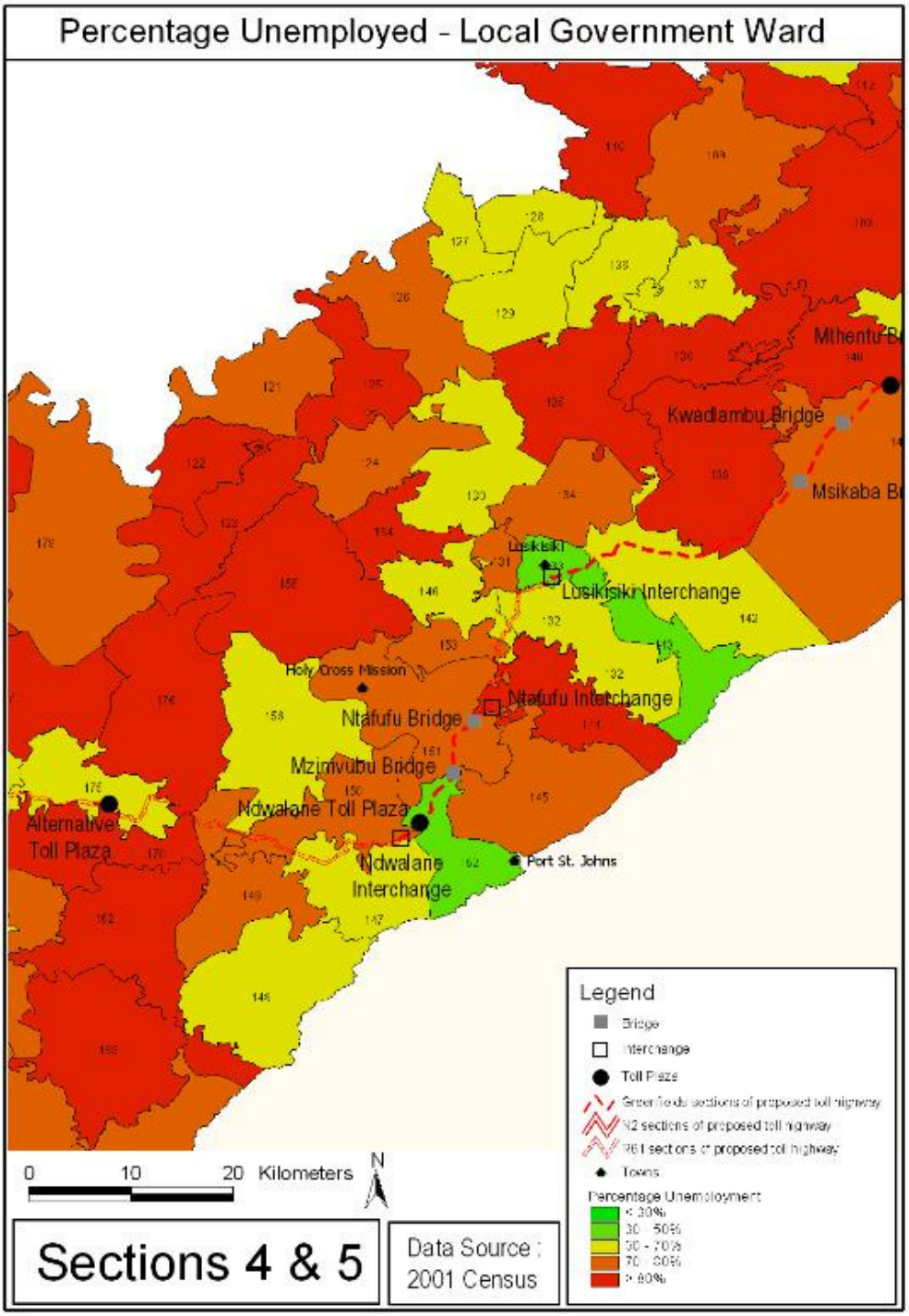


Figure 3.26: Annual household income local wards sections 4 & 5



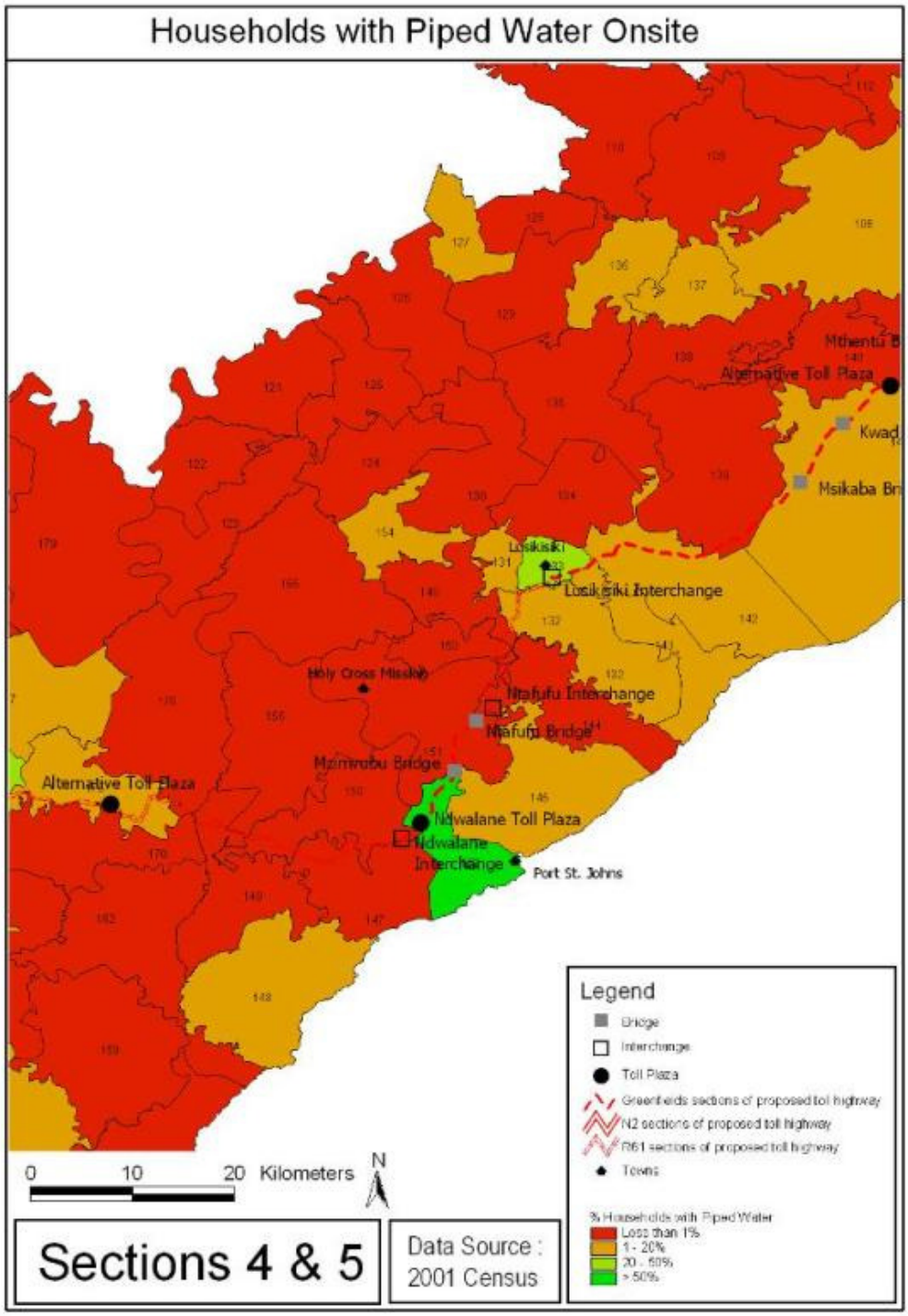
Unemployment levels, which stand at 69% in Ward 10 and 73% in Ward 3, were relatively higher than is the case along about half of the route, and in Ward 3 unemployment is higher than the 69% average for the district municipality as Figure 3.27 illustrates.

Figure 3.27: Percentage unemployment local wards sections 4 & 5



Service levels were low as Figure 3.28 illustrates, with only 31 households having access to water piped directly into the house, while 931 have access to water sourced from a stand less than less than 200m away. There were 2,157 households, amounting to 19%, who were reliant on a communal stand further than 200m from the homestead for their source of water. The majority of over 7 000 households, or 62%, relied on rivers or streams and in Ward 10, 2,278 households relied on springs.

Figure 3.28: Households with piped water onsite local wards sections 4 & 5



Characteristics of research population: All of the professional respondents at Mzintlava were either Technikon or University trained, with the greater majority of women describing themselves as skilled in agriculture. Seventy percent of youth in this area stated they were in services or sales, one was professionally trained, with two having technical training and two indicating that they were skilled in agriculture. The majority of commercial people maintained they were skilled in crafts and trades while most farmers described themselves as skilled in agriculture, with the balance in elementary operations.

One of the commercial people said he was unemployed but looking for work, with two being self-employed and one employed. Four of the seven youth surveyed said they were unemployed, but looking for work, and all of the six women surveyed described themselves as unemployed, but looking for work.

The location, in relation to the proposed route, of 11 of the respondents was said to be at less than 200m and within 200m and 2 km by a further 11 of respondents.

General perspectives of positive and negative benefits arising from the proposed road: Women tended to highlight the potential for an improvement in lifestyle associated with more opportunities for selling locally produced goods and in the potential for a reduction in travelling time and costs. These women also identified a desired increase in job creation. The perspectives of the youth tended to be broader and more economically informed. The youth highlighted more wealth circulation in implementation and in the wider planned developments such as hotels and national park areas, and far less traffic congestion than occurs at present. Commercial respondents cited better sales for hawkers, vendors and handicraft producers and in opportunities for construction and building at a local level. Professional respondents tended to view wider benefits in terms of job creation and easier access to higher education, the possibility of buying a car due to general road improvements, and more people and relatives wanting to visit, since current conditions minimise this type of interaction. Professionals saw community advantages accruing in more and better communication and interaction with, as one respondent put it, 'whites and overseas people' to promote '…better thinking and giving people hope for the future', as well as in the potential for better service delivery, especially in policing. Farmers tended to view benefits broadly in terms of job creation, conditional on skills development and capacity building, an improved overall infrastructure development and better access to all the towns for the many meetings that they attend.

The dominant negative concerns were an increase in residential congestion and in ribbon development from an influx of outsiders, the expropriation of houses and the possible removal of graves and maize fields close to road. Professional respondents cited the possibility of access to King Faku's Heritage Place (formerly a Paramount Chief), which is a grave located along the Mzintlava River currently earmarked for bridge widening. The youth tended to highlight the dangers of dust, diesel fumes and increased prostitution during construction as well as incessant 24 hour noise over the operational period road arising from higher speeds and increased traffic. Farmers concentrated on the potential for nepotism and corruption from the construction companies gaining tenders with respect to job and subcontract

selection procedures. Conservative views were also expressed regarding 'outsiders' potentially changing the present patterns of communication and way of life. All interest groups feared more accidents, since there are a large proportion of young people crossing the road to the school at the second site surveyed, and where children use the road for leisure in the afternoons. The next section of the route between Lusikisiki and the Mthamvuna River will now be addressed.

3.2.5. Section 6 – Lusikisiki (Magwa Intersection) to the Mthamvuna River

The final section proposed in the Eastern Cape Province is section 6 from the Magwa Intersection outside Lusikisiki to the Mthamvuna River Bridge south of Port Edward. This is predominantly a Greenfields development covering approximately 74 km. The SANRAL's preferred route would follow the existing concrete District Road (DR08024) eastwards over a distance of approximately 19 km through the outskirts of Lusikisiki and then divert north eastwards and cross the Msikaba River approximately 14–15 km inland. Continuing inland it would cross the Mthentu River and then align eastward up to a distance of about 5 km from the coast. The route would cross the Mnyameni River after which it would loop in a northeasterly direction to cross the Mphalane and Mzamba Rivers at a distance of about 2–3 km inland. Thereafter it would intersect and cross the existing R61 alignment to the Mthamvuna crossing adjacent the Wild Coast Sun complex and join the alignment of the existing R61 at the existing Mthamvuna River Bridge.

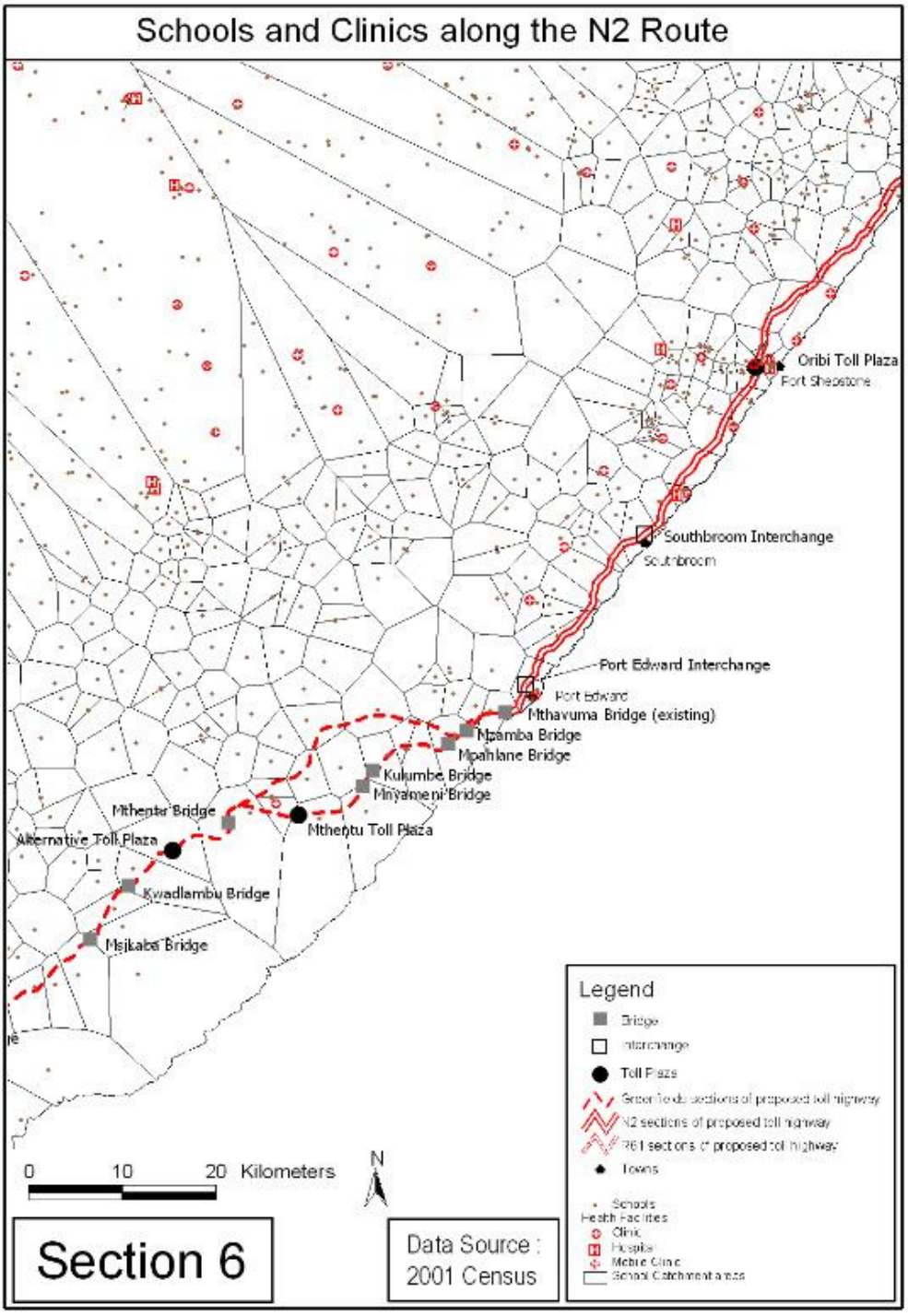
Of greatest concern in the region close to Lusikisiki is the potential for the road to restrict access to communities in the villages of Hombe, just outside of Lusikisiki and Mateko. Currently communities in both of these villages "…enjoy access to the R61 and to Lusikisiki via a good concrete road and a good gravel road. The potential loss of easy access to this road is an impact of concern" (Huggins, 2002:8). A full list of all schools and clinics situated within the vicinity of 2 km of the route is provided on pages 72 to 81 of appendix 2 and is graphically represented in Figure 3.29 below.

The alternative Coastal Mzamba route is also under consideration. This route is a variation of the preferred route, and has been proposed by SANRAL to address concerns arising from conservation planning and by Interested and Affected Parties about the Greenfields route in general and the proposed alignment between the Mthentu and Mthamvuna Rivers in particular. The Coastal Mzamba route would follow SANRAL's preferred alignment from Lusikisiki up to northeast of the Mthentu River crossing. It would then continue for a distance of between 11 and 16 km inland to a position east of Makwenteni after which it would be aligned with the coast between the Mpahlane and Mzamba Rivers. It would then join SANRAL's preferred route south of the proposed crossing of the Mzamba River and essentially follow SANRAL's preferred alignment up to the Mthamvuna crossing.

Methodological description: Along these sections, focus groups discussions and interviews were undertaken at the settlements of Mateko, Mkamelo and Mahaha, with the latter chosen due to its location within the alternative Coastal Mzamba route. Although a description will given of each section and the proposed construction activities will be addressed separately, due to a high level of similarity along the

route impacts will be discussed across all three sections. However, where there are significant differences these differences are indicated and are discussed separately.

Figure 3.29: Schools and clinics local wards along section 6



Mateko

The first area visited was just southeast of Mateko, located about 7 km north of the Mbotyi turnoff, which is close to planned shopping nodes, just northeast of where the planned toll road route leaves the District Road (DR08024) alignment to follow the Greenfields alignment, 3–4 km before the planned bridge across the Msikaba River. The relevant proposed developments on 19.5 km of new road section to the Msikaba River are for new road construction, new frontage and feeder roads on the existing district road to the Msikaba village, new Greenfields construction from Msikaba village to Msikaba Gorge on a preferred alignment, a high level bridge crossing over the Msikaba River and safety features such as over and underpasses, improved and new intersections and fencing and guard rails.

Description of region: This community represents the remnants of betterment planning or denser settlements, but the area north of the Msikaba Gorge and the proposed bridge is now populated by well dispersed households, many of whom have chosen to leave the confines of betterment planning after a relaxation of controls. There is also some relatively minor ribbon development along the district road. To the route's immediate southeast is the large Magwa Tea Estate, and adjacent to this area there is a history of unsuccessful large scale maize project development at Lambasi, currently planned for bio-fuel production. As such, it represents all of the livelihoods, land use, settlement and transport characteristics described as pertaining to communities in previous sections.

The potentially impacted communities of Mateko and Mkamelo are located on the boundaries of Wards 21 and 23 in the Inquza Hill Municipality (formerly Quakeni). Various maps of the area as well as comprehensive demographic data are available in Figures 3.30 to 3.35 below and Appendix 2 respectively.

Demographics: At the time of the 2001 Census, the populations of Wards 21 and 23 were 15 487 and 11 929 respectively with respective population densities of 93 and 26 persons per km^2 illustrated below in Figure 3.30. The latter is the lowest population density on sections 1–6 of the route. High female to male ratios, depicted by Figure 3.31, compare with most other areas along the route at 128 and 119 females to every 100 males respectively. This indicates high male absenteeism due to migrant labour, and a large proportion of female headed households. Education levels recorded were poor, with 57% of the population having had no schooling in Ward 21 and 45% with no schooling in Ward 23 as is indicated in Figure 3.32, this compared to the route average of sections 1–6 of 23%. In Ward 21 only 4% of the population had achieved a Grade 12 or higher level of education while in Ward 23 it was 6% against a route average of 25% of the population having a Grade 12 or higher level of education. As is evident in Figure 3.35, household incomes in the area are also very low at R10 597 per annum in Ward 21 and R13,434 per annum in Ward 23. This is the lowest level of household income on sections 3–6 of the route, far below the provincial average of R28 464 per household per annum. Unemployment in this area is extremely high with Ward 21 having an unemployment level of 83% and the level of Ward 23 registering 85%, well above the district average of 69%, this is illustrated in Figure 3.33.

Census 2001 data for water supplies indicates that only 30 and 93 households in the two wards respectively had direct piped services, with 1 075 and 203 respectively having a source of water at a communal stands further than 200m from the household. The Census shows a total of 10 505 (68%) and 9 272 (78%) households were reliant on rivers and streams. The percentage of households with piped water onsite across section 6 is illustrated in Figure 3.35.

Characteristics of research population: The interviews in Mateko show that most professional respondents had either University or Technikon training, with five women describing themselves as being skilled in agriculture. Three of the youth maintained that they were only skilled for operations classified as elementary. The commercial people maintained a wide range of training or experience across most of the defined occupational categories, including managerial, technical, services and sales, agriculture, crafts and related trades and as plant operators. Five farmers maintained they were only skilled for elementary operations, with four indicating skills in agriculture. All farmers indicated they were unemployed, with only half claiming to be looking for work, while all five of the commercial people interviewed stated that they were self-employed. The youth interviewed represented a fairly even spread, with one self-employed, one employed and three unemployed, with two of the latter actively looking for work. This profile amongst the youth was similar to that found amongst the eight women interviewed in Mateko.

Seventeen of the 29 people interviewed here claimed to maintain homesteads less than 200m from the proposed route, with seven claiming to live between 200m and 2 km away from the proposed route, and the balance living further than 2 km from the route.

Perceptions of the positive and negative benefits arising from the proposed road: Most groups indicated that the pattern of life in this area was characterised by high unemployment, very little economic development and small business opportunities, no proper water services, electricity or toilets, very poor roads and unreliable public transport. It was stated that the solar panelling at the school site at which the focus groups and interviews were conducted had been stolen. Many participants noted that there was a high level of drug abuse, alcoholism, larger families due to the child support grant facility, high rates of crime, especially within the younger groups, and a high HIV/AIDS prevalence in this area.

Against this background of poverty and despair, the possibility of the road was viewed positively as a means of contributing to a change in the present way of life and a 'wider sense of health and well being' amongst the community. As was the case elsewhere on this northern portion of the route, views were that there would be increased opportunities for jobs and services, quicker access to Lusikisiki town as well as to the wider KwaZulu-Natal region. The potential for a larger node to develop with an agglomeration of shops, facilities and public services, as well as an expansion of the potential for small enterprise development, was also recognised. In a more negative vein, perceptions covered the recurring problems of an increase in HIV/AIDS, accidents with children and animals and the removal of households without alternative accommodation. Theft of installed fencing, physical and spatial divisions to the existing community and to school goers and the loss of access were, also raised. These are covered in detail below.

Mkamelo

The second Greenfields site at Mkamelo, in the Lower Hlabati area of Inquza Hill Municipality is bordered in the north by the KwaDlambo River and is in Ward 23. It is characterised by its location close to the Mkambati Nature Reserve, one of the areas identified for a tourism nodal development in the Wild Coast Spatial Development Framework and the Wild Coast Spatial Development Initiative respectively, as well as in the municipality's spatial development plans.

This area has a very dispersed traditional settlement pattern with the concomitant livelihoods, land use and transport characteristics described in the other sections. However, it differs slightly due to a history of land claims in the immediate eastern parts adjacent to the Mkambati Nature Reserve and its surrounding areas. These latter areas were historically managed as extensive livestock and grazing improvement schemes and as a timber plantation by Tracor, the former Transkei agricultural parastatal agency. Presently some R30 million is said to be held within the Department of Land Affairs for the establishment of a large Community Trust intended as a public-private production initiative for all adjacent interests in these former Tracor held lands. Negotiations are proceeding slowly.

Methodological description: Focus groups and interviews were undertaken in Ward 23 with people potentially affected by the various works planned for the 22 km section between the Msikaba River and the Mthentu River. These works include new road construction on the preferred alignment, a high level bridge crossing over the Mthentu River and safety features such as under- and overpasses, new intersections, fencing and guard rails.

Demographics: Mkamelo is located in the same ward as that of Mateko, which is covered above, consequently the selected socioeconomic data described above for Ward 23 will also be applicable to Mkamelo.

Characteristics of research population: As in the other areas, the respondents in the professional category in Mkamelo all had University or Technikon training. Three women classified themselves as skilled in sales and services, two in clerical and administrative capacities, and one each in agriculture and craft and related trades. Five of the youth interviewed claimed that they were skilled in services and sales, two in technical skills, two in agriculture with one maintaining a professional status and one skilled only in elementary operations. Commercial people were predominantly trained in agriculture, and a few in professional, managerial and in craft related skills. Farmers maintained that they were predominantly trained in skilled agricultural operations, with the balance in elementary operations. Three of the farmers stated that they were unemployed, looking for work while the remaining three were not looking for work. Most commercial respondents were self-employed, with some doing part-time work while the majority of the youth claimed self-employed status, and one was looking for work. Four of the women described themselves as unemployed looking for work, with two self-employed and one who does part-time work. Two of the professionals were unemployed, with one indicating that he was looking for work.

Thirteen of the respondents in this community stated that they lived within 200m of the proposed Greenfields development, with 14 living within 200m and 2 km.

General perceptions of positive and negative issues arising from the proposed road: In contrast to Mateko, the history of land claims in the area, as well as all the speculation regarding nodal development at Mkambati, and this area's close location to KwaZulu-Natal have together engendered a more vital outlook and engaging community. Here there is a well developed appreciation of the potential benefits of increased tourism and enterprise development associated with the node and toll road. There are high expectations that, with the promise of the Community Trust, the area can together realise more cohesive and productive local economic development than elsewhere. Despite very limited services, there is only one bus that travels daily to Lusikisiki via Holy Cross Mission and Flagstaff, on a route frequented by the occurrence of fierce taxi wars, no electricity and limited water. However, there is still a well developed sense of the location as a place for the creation of a development node. At present, accessing regional services, markets, suppliers, employment and higher education, in Kokstad, Margate and Durban are constraints to local initiative. The road development, however, brings a hope for more direct and reliable access to these facilities.

Mahaha

Mahaha is located in the north-western part of the Amadiba Tribal Authority adjacent to the Mzamba River in Mbizana Local Municipality. It is located just south of the Mthamvuna River forming the Eastern Cape Province boundary with KwaZulu-Natal. The site was selected due to its location on the alternative Coastal Mzamba route, which has been proposed due to opposition to SANRAL's preferred route. At the time of the interviews no detailed designs have been completed for this alternative

The Mahaha community was strongly active in the 'Pondoland revolts' of the 1960s which were against betterment planning proposals, and while some complied, most have moved out into a traditional settlement pattern. The nearest town is at Mzamba, some 40 km away, and the area is characterised by very dispersed settlement patterns, long walking distances to most amenities and extremely poor roads to the regional road network. These conditions limited attendance at the interviews. Livelihoods are defined by these characteristics, yet can be similarly described as the communal areas along the whole route. There is widespread reliance on the suite of social grants, and a high prevalence of HIV/AIDS.

This area is in the Mbizana Local Municipality's Ward 2, and all applicable maps and demographic data is presented in Appendices 7 and 9.

Demographics: According to the 2001 Census data, Ward 2 is one of the largest within the municipality, with a population of 15 309 and has a very low population density of 39 people per km^2 compared with its neighbouring Ward 5 which has a population density of 278 people per km^2 illustrated in Figure 3.30. Ward 2 also has a high female to male ratio at 124 females for every 100 males, see Figure 3.31 for a graphic description. This indicates high male absenteeism due to migrant labour, and a large proportion of female headed households. Unemployment within Ward 2 was recorded at 65%, which is one of the

lowest levels recorded in sections 3–6 of the route and is probably due to the area's proximity to Port Edward and a greater availability of work. Unemployment levels are illustrated in Figure 3.33. Average annual income per household, illustrated in Figure 3.35, was 4th highest for sections 3–6, at R21 934 compared to the provincial level of R28 468 per annum. Education levels were, however, very low, with 51% reported as having no schooling, illustrated in Figure 3.32, and 7% with having a Grade 12 or higher level of education. Comparative figures for the sections 1–6 of the route are 23% and 25% respectively. Taking water provision as an example of service levels, only 106 people had piped water directly into the house, 425 had communal supplies situated more than 200m from the household, while 2 462 (16%) relied on springs and a very high 10 116 (66%) were reliant on river or stream as their source of water. The availability of piped water onsite for this section of the route is depicted in Figure 3.34.

Characteristics of research population: The professional people interviewed here had University qualifications and were fully employed. Women described themselves predominantly as skilled in agriculture, in services and sales, or in elementary operations, and 60% of those interviewed described themselves as unemployed and looking for work. The skills distribution amongst the youth was evenly spread across clerical and administrative, service and sales, the craft and related trades and skilled agricultural categories, with 70% maintaining that they were unemployed and looking for work.

Five of the 19 people interviewed indicated that they were living within 200m of the proposed alternative Coastal Mzamba route, while 12 indicated that they lived between 200m and 2 km of the possible alternative route.

The Mahaha people generally feel isolated, neglected and selectively omitted from much of the contemporary development along the coastline in the same tribal authority area, and from the services emanating from local government in Bizana. More specific characteristics of the area are selectively portrayed in the synopsis of focus group discussions in the appendices. Not surprisingly then, any developments associated with the location of the proposed road in the area were predominantly viewed in a positive vein, although the SIA team were at pains to explain that no final decision on the exact alignment of the alternative Coastal Mzamba route had been made, and that no actual design drawings had been finalised.

Figure 3.30: Population density local wards along section 6

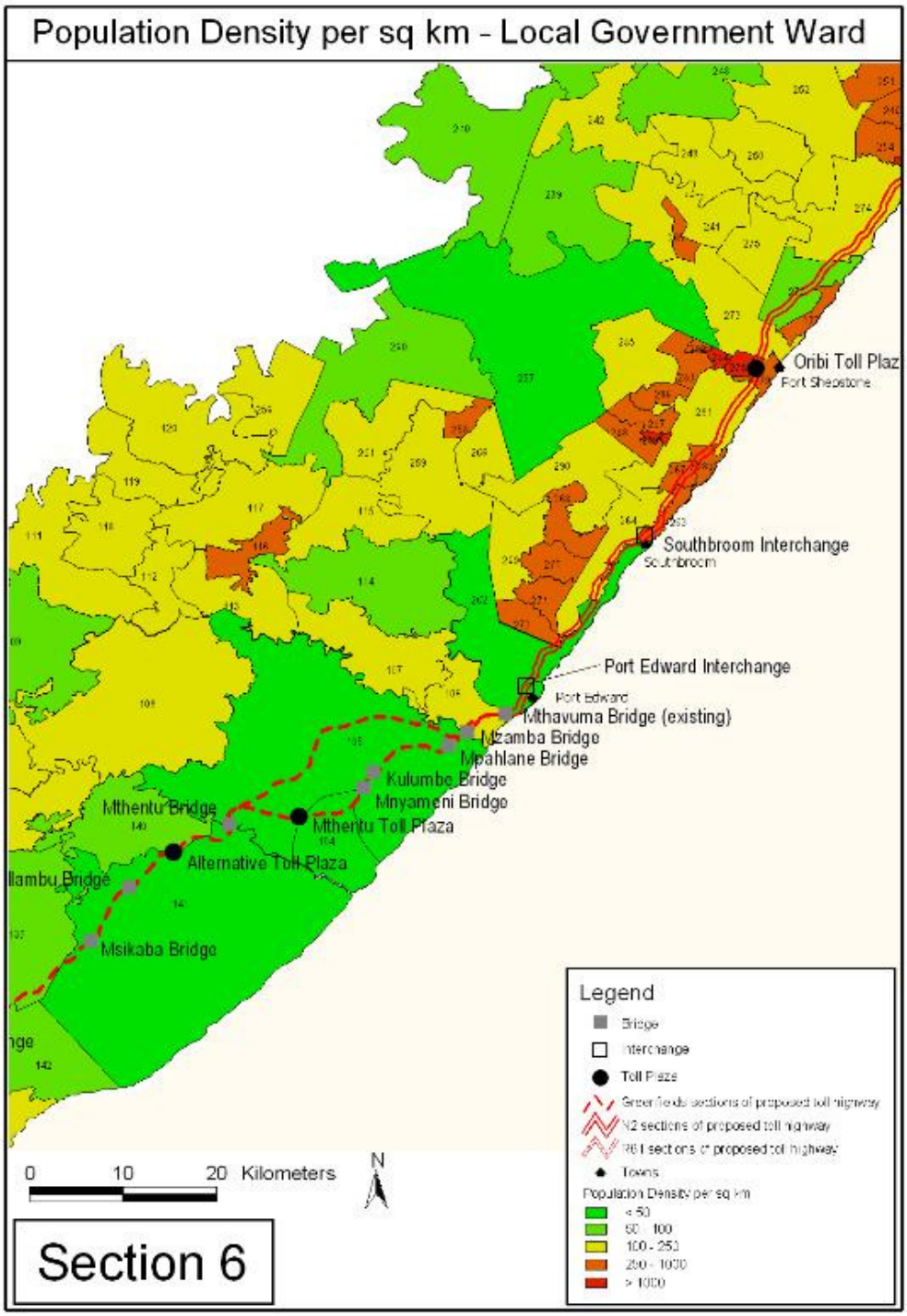


Figure 3.31: Female to male ratio local wards along section 6

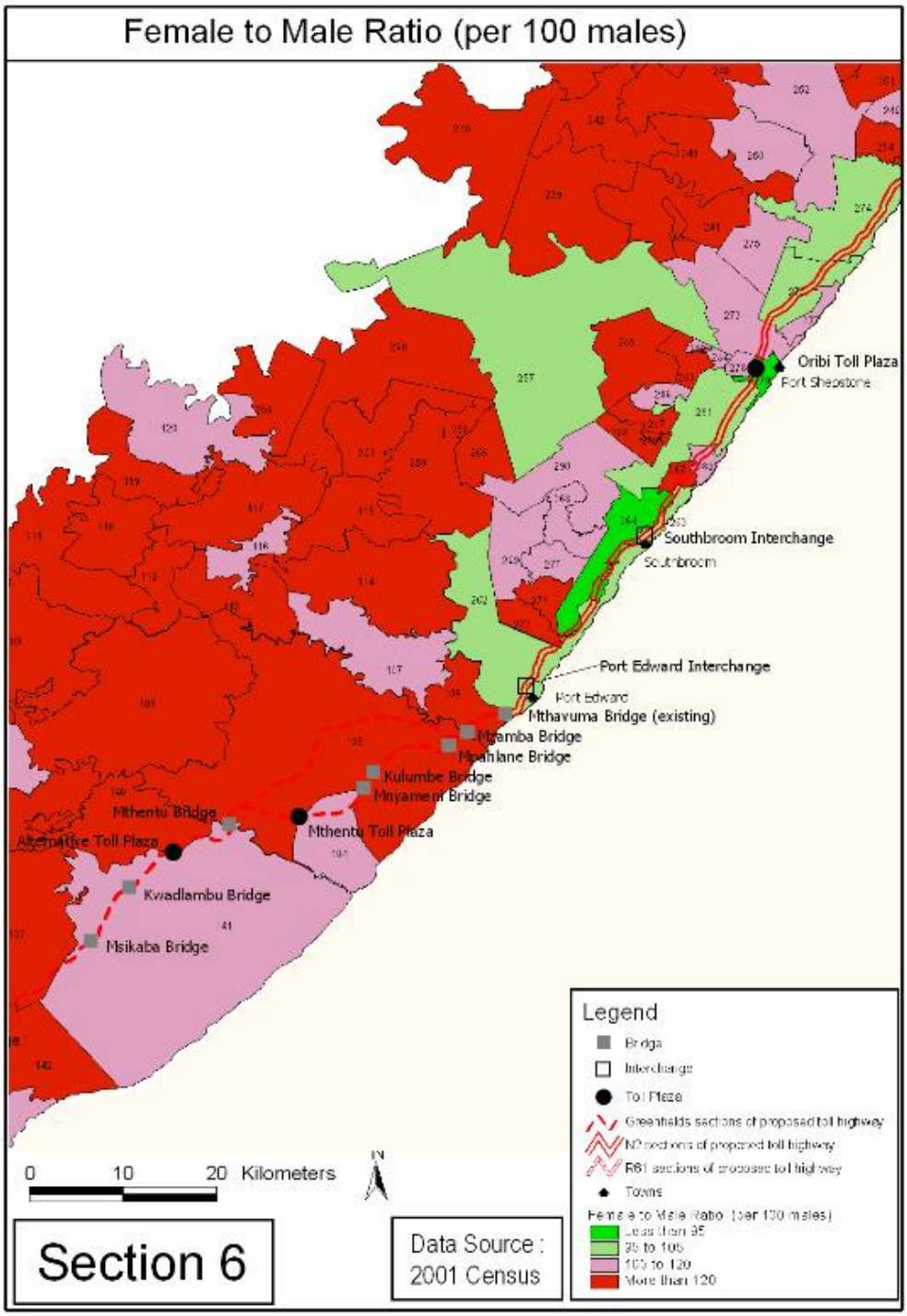


Figure 3.32: Percentage population >20 with no schooling local wards along section 6

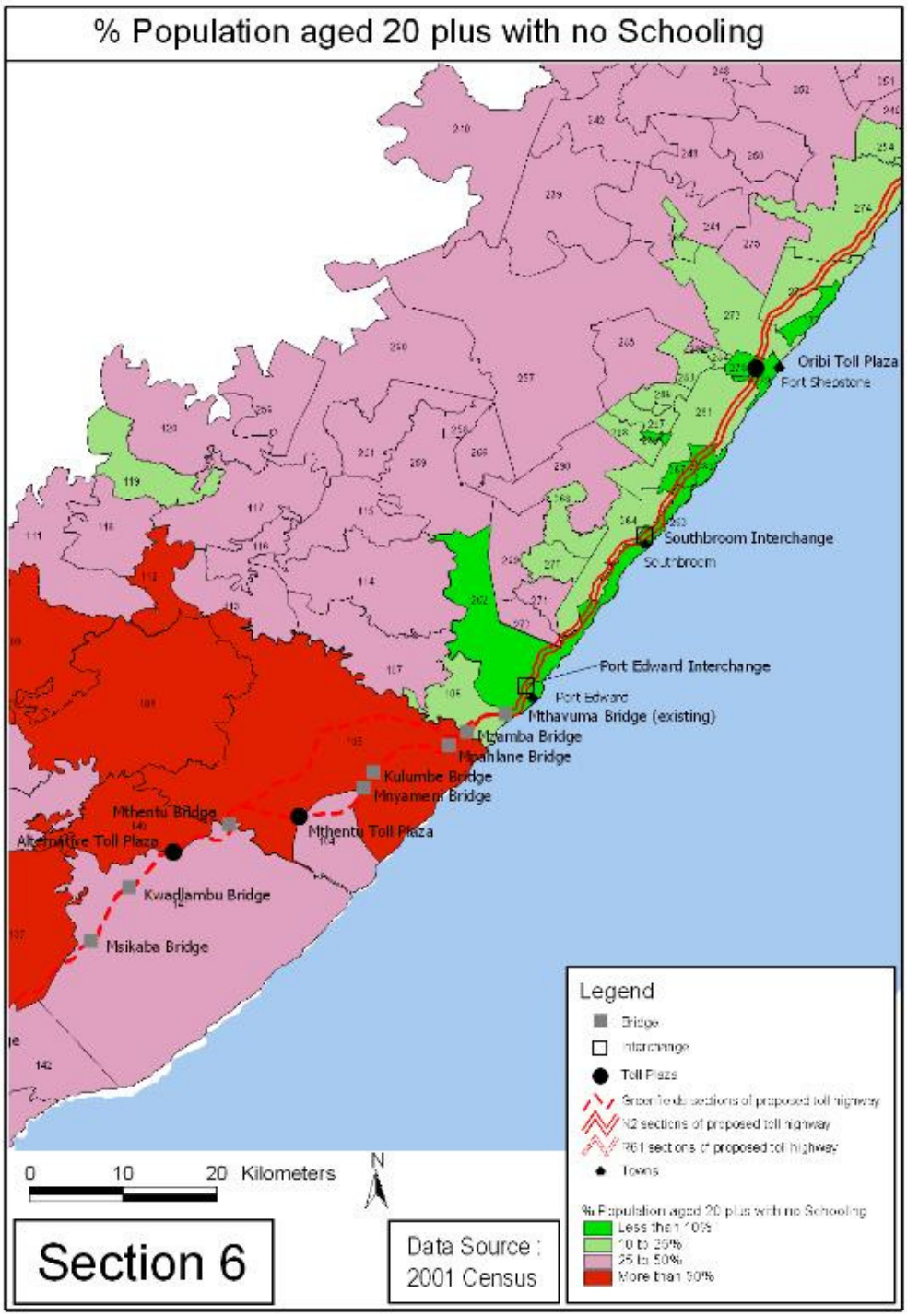


Figure 3.33: Percentage unemployed local wards along section 6

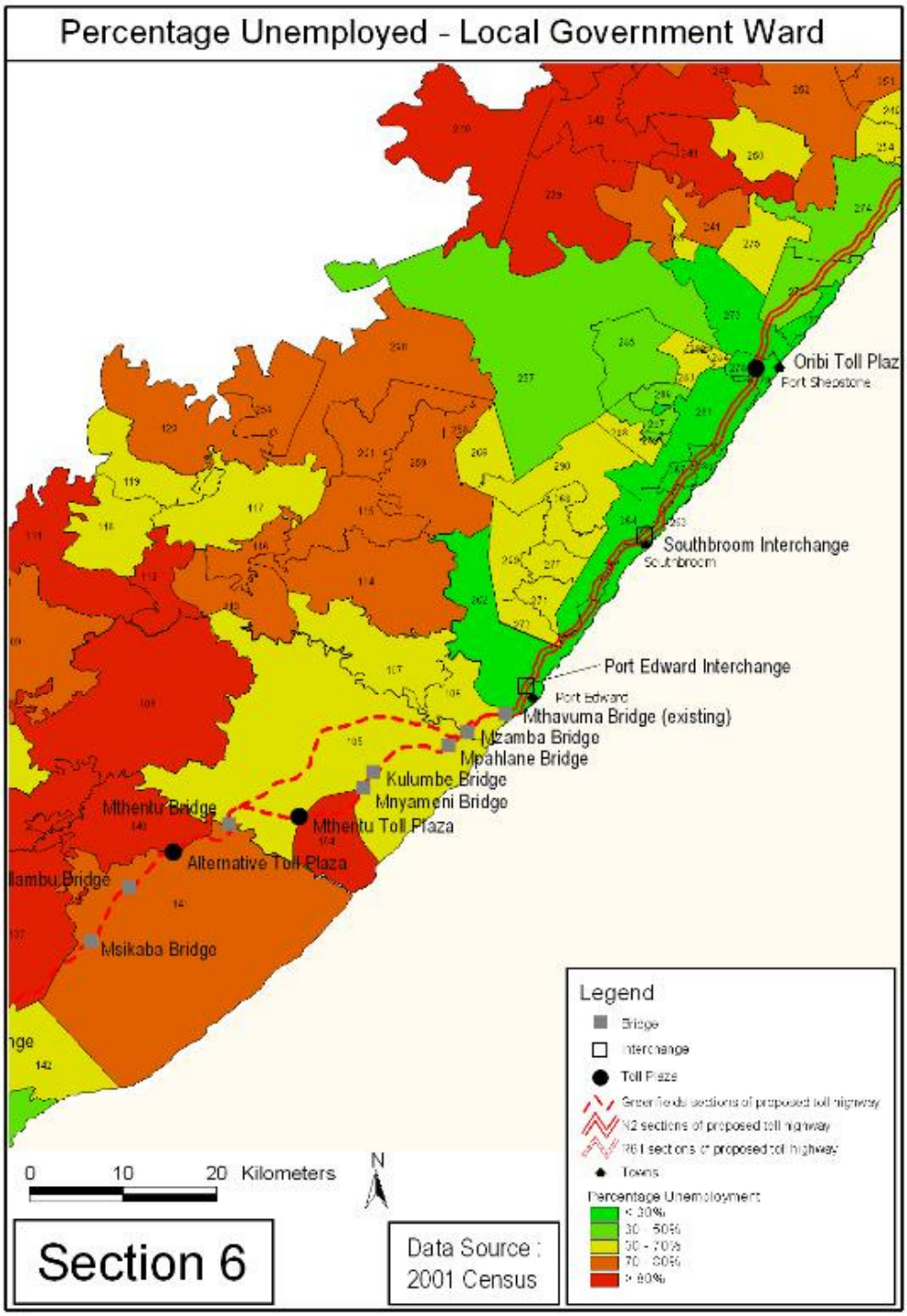


Figure 3.34: Households with piped water local wards along section 6

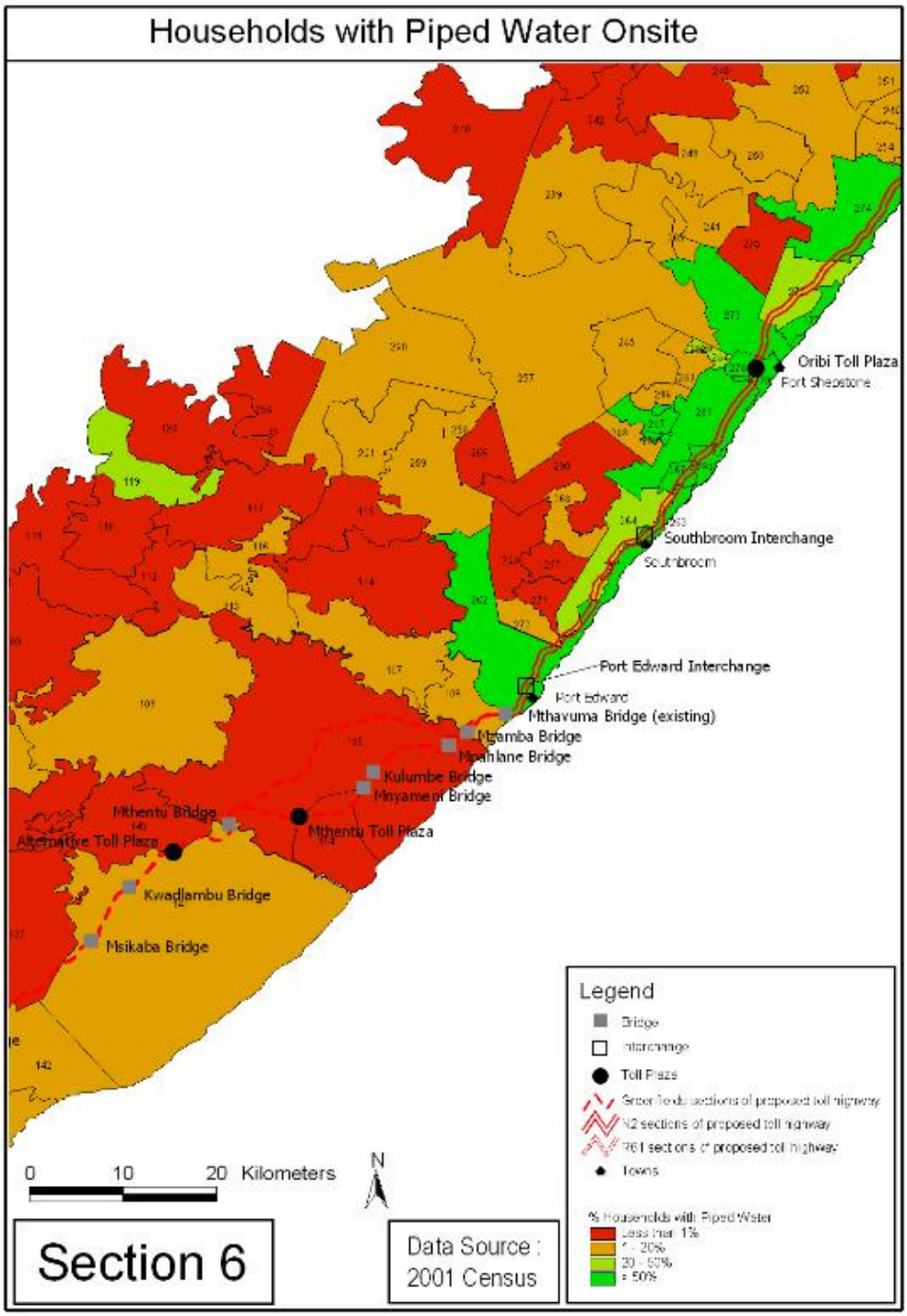
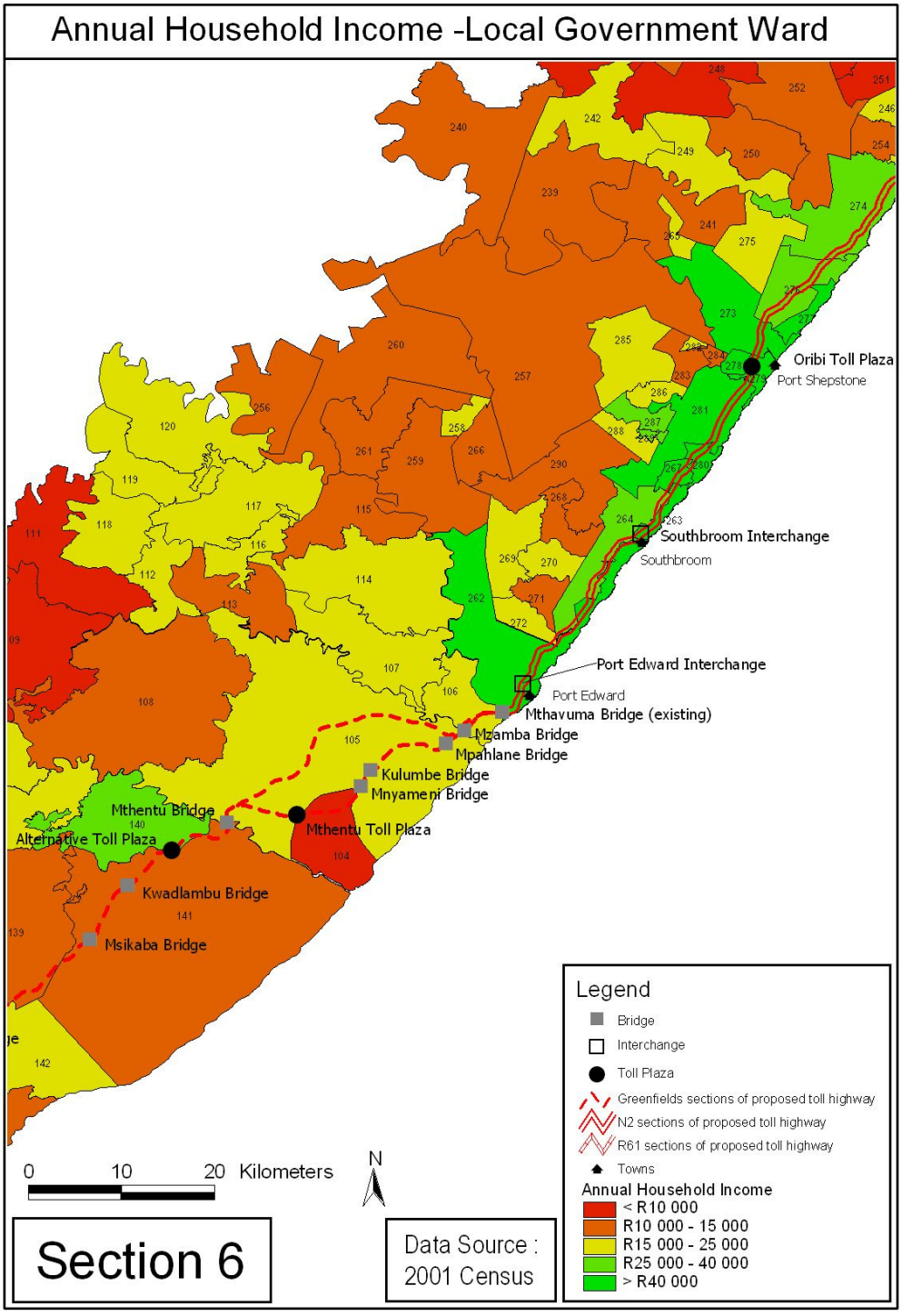


Figure 3.35: Annual household income local wards along section 6



Attention will now be shifted towards that section of the route in KwaZulu-Natal between the Mthamvuna River and the Isipingo Interchange.

3.2.6. Section 7 – Mthamvuna River to Isipingo Interchange

Section 7 of the route includes the already developed R61 and N2 from the Mthamvuna River to the Isipingo Interchange and is approximately 148 km in length. Plate 3.6 illustrates a section of the existing N2.

Plate 3.6: Section of the existing N2 close near Park Rynie

As indicated the route transverses the district municipalities of Ugu and eThekwini. Within Ugu the route passes through three local municipalities. These are:

- Hibiscus Coast
- Umzumbe
- Umdoni.

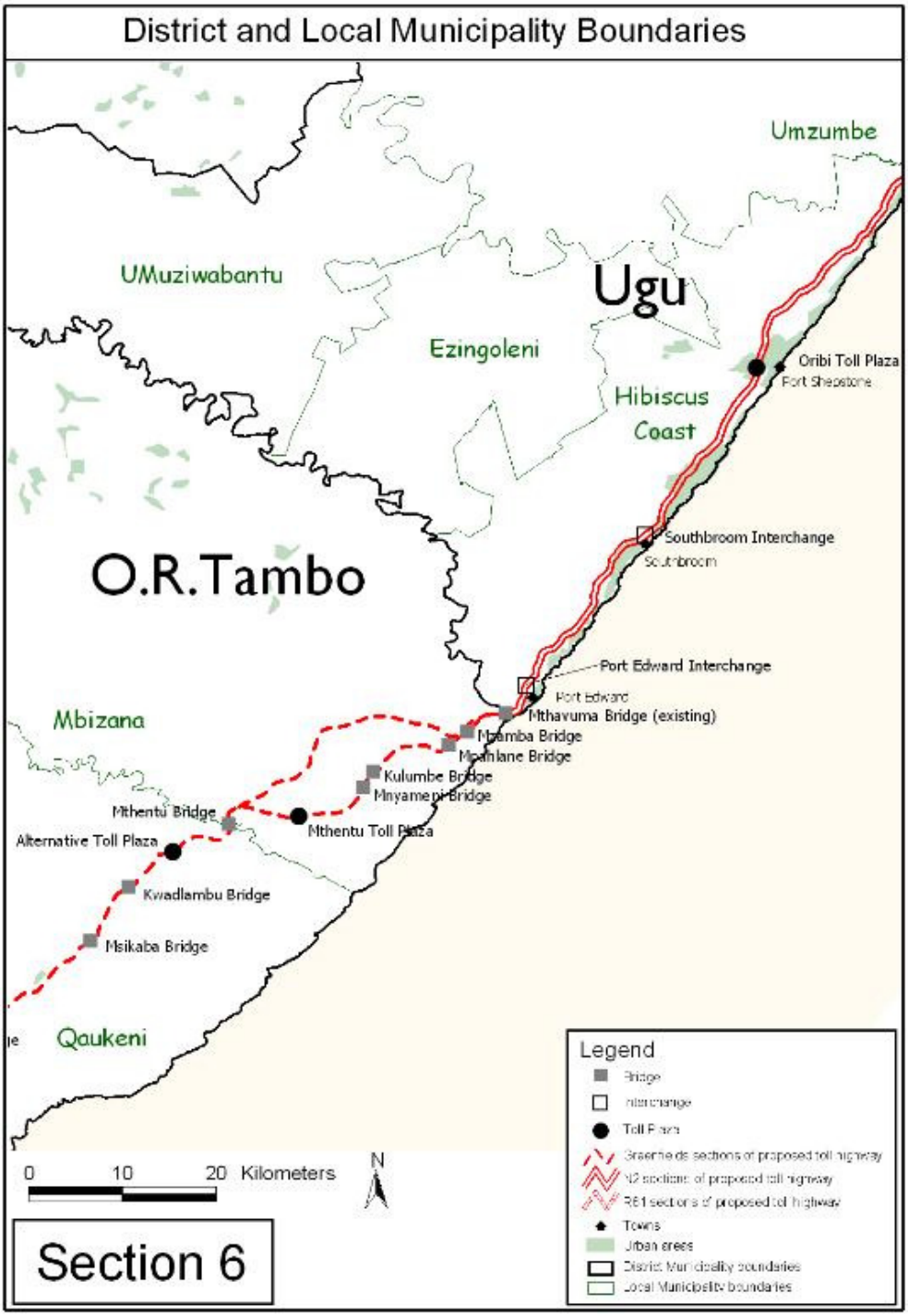
Further along the proposed route, the KwaZulu-Natal portion of the route passes through, or within a proximity,[8] of 167 wards. This proximity is made up, according to the 2001 Census, of 3 485 641 individuals or about a third of the entire province. Of these, 71% are people who for the purposes of the Census defined themselves as black, 17% are those who defined themselves as Indian, 9% defined

8 For the purpose of this exercise 'proximity' is defined as 20km either side of the centre point of the route.

themselves as white and 3% defined themselves as coloured. The gender imbalance is consistent with that of the province as a whole and as such there is a ratio of about 48 men to 52 women illustrated across section 7 in Figure 3.31 above and 3.38 below.

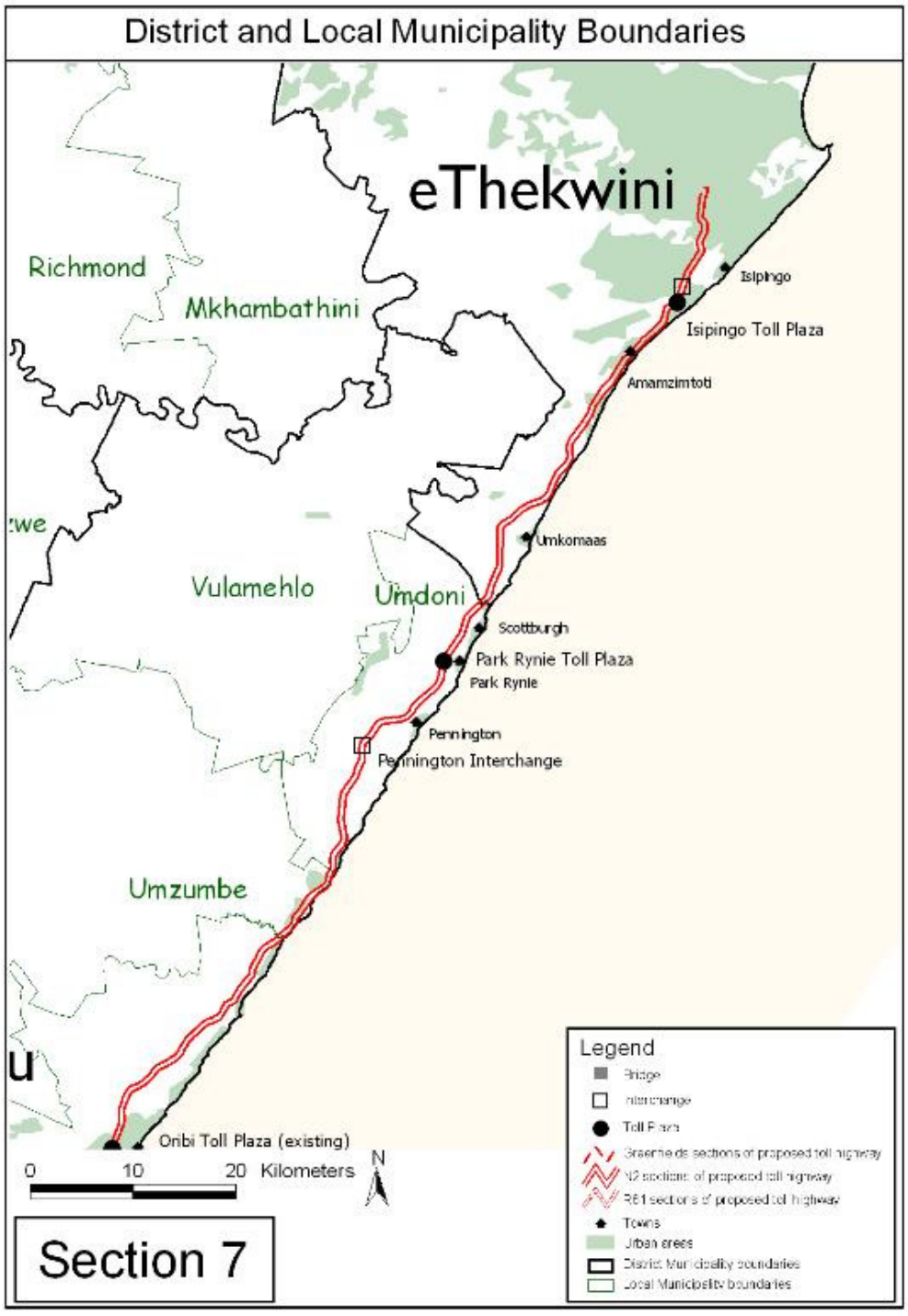
The demographics of section 7 of the route are graphically illustrated in a series of maps for both sections 6 and 7 of the route. The first section of the route, stretching between the Mthamvuna River and north of Port Shepstone and the Oribi Toll Plaza, is illustrated in Figure 3.30 to 3.35 under section 6 of the route on pages 98 to 103 above. The remainder of the route, up to the Isipingo Interchange, is illustrated below in Figure 3.36 to 3.44. For purposes of clarification Figure 3.36 and 3.37 illustrate how the route has been represented across the two sets of graphics generated for sections 6 and 7 of the route.

Figure 3.36: Segment of section 7 of route from the Mthamvuna River to north of Port Shepstone



Note: Section 6 graphics also cover a potion of section 7 of the route from the Mthamvuna River to north of Port Shepstone as illustrated above.

Figure 3.37: Segment of section 7 of route from north of Port Shepstone to Isipingo Interchange



One of the more striking features of the route is the distribution of relative poverty, as defined by the annual household income recorded by Census 2001.[9] For a graphic illustration of the distribution of household income in the area see the maps entitled 'Annual Household Income – Local Government Wards' for sections 6 and 7 of the route in Figure 3.35 and 3.40. These maps show that the distribution of relative affluence is largely consistent with the coastal urban strip and that the rural hinterland is relatively poor. Table 3.14 indicates the distribution of income categories for all households in wards bisected by the route and appendix 2 (pages 72-81) contains a full list of all schools and clinics situated within the vicinity of 2 km across the entire route. A graphic illustration of schools and clinics situated along the route is presented in Figure 3.29 for the fist segment of the route and in Figure 3.39 for the segment between the Oribi Plaza and the Isipingo Interchange.

Table 3.14: Annual household income in 2001 for the population living in the wards along the proposed Wild Coast Toll Highway between Port Edward and Isipingo

Income categories	Number of households	% of population
No income	208 682	22.9%
R1–R4 800	59 471	6.5%
R4 801–R9 600	133 996	14.7%
R9 601–R19 200	138 178	15.2%
R19 201–R38 400	129 841	14.2%
R38 401–R76 800	104 907	11.5%
R76 801–R153 600	75 971	8.3%
R153 601–R307 200	41 895	4.6%
R307 201–R614 400	12 799	1.4%
R614 401–R1 228 800	3 123	0.3%
R1 228 801–R2 457 600	2 353	0.3%
R2 457 601 and more	0	0.0%
Total	911 216	100.0%

Source: Stats SA Census, 2001

The relative advantages of the costal strip *vis-à-vis* the hinterland is reinforced when examining the population over 20 years of age with 'no schooling' which is illustrated in Figures 5.39 above and 5.41 below. These maps indicate that, along the coastal strip, most areas are characterised by less than 10% of the adult population having 'no schooling' while in the rural hinterland this rises to between 25% and 50% for most areas.

The relative wealth also shows a degree of consistency with population density again illustrated in the maps available in Figure 3.30 above and 3.42 below, which shows that, with few exceptions, higher density and higher wealth are proportionate. Not surprisingly a situation suggesting a relatively high degree of rural poverty. Also noticeable is that, with a few exceptions, the population density increases with proximity to the Durban metropolis.

9 Again these figures should be treated with some caution. There is an argument that the incomes for poorer areas in particular are understated. Certainly the injection of government grants should be reflected in higher incomes for many of these areas. That they are not suggests either under-reporting by those answering the Census or overstatement of grants issued to households.

Figure 3.38: Female to male ratio local wards along section 6

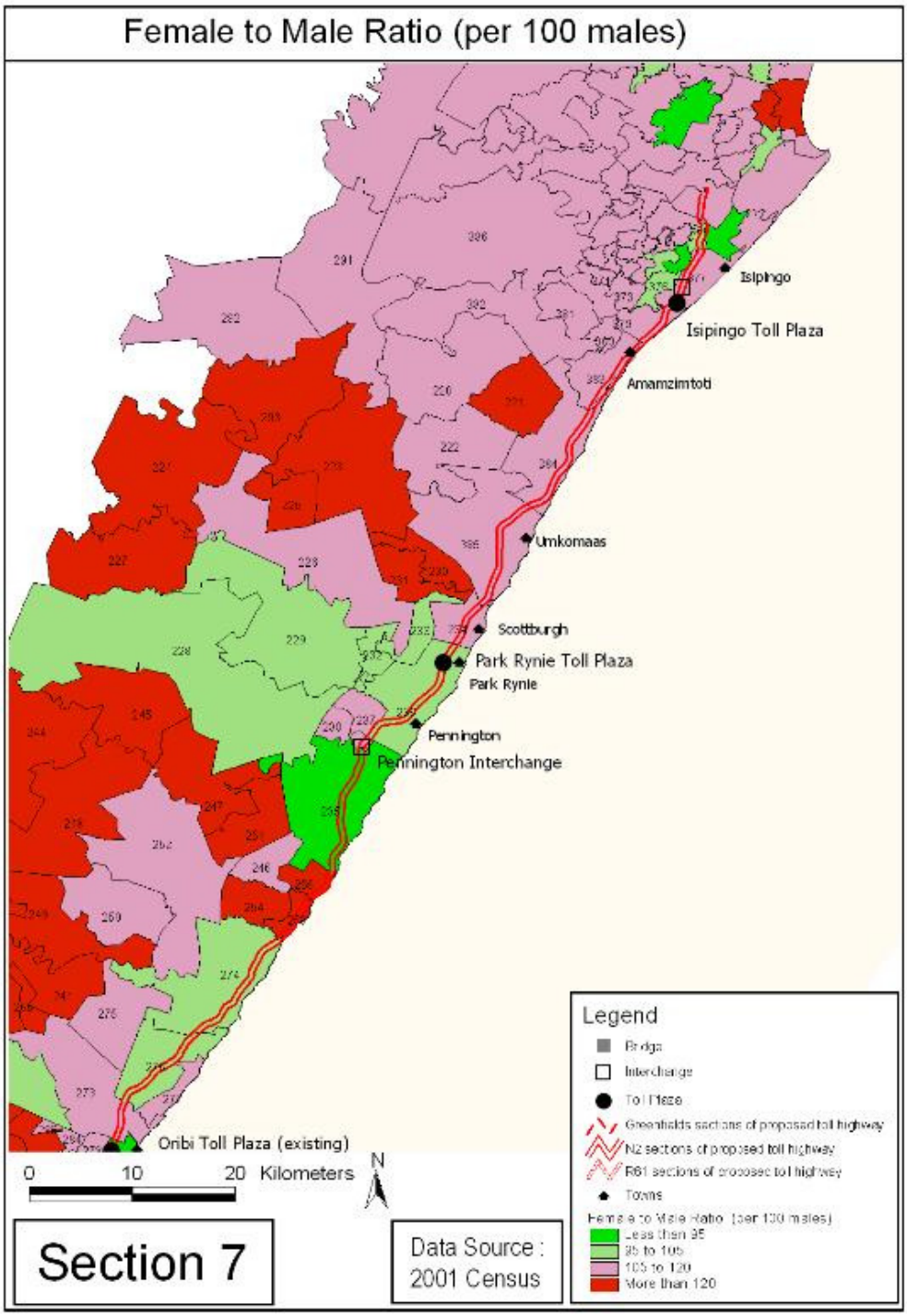


Figure 3.39: Schools and clinics local wards along section 7

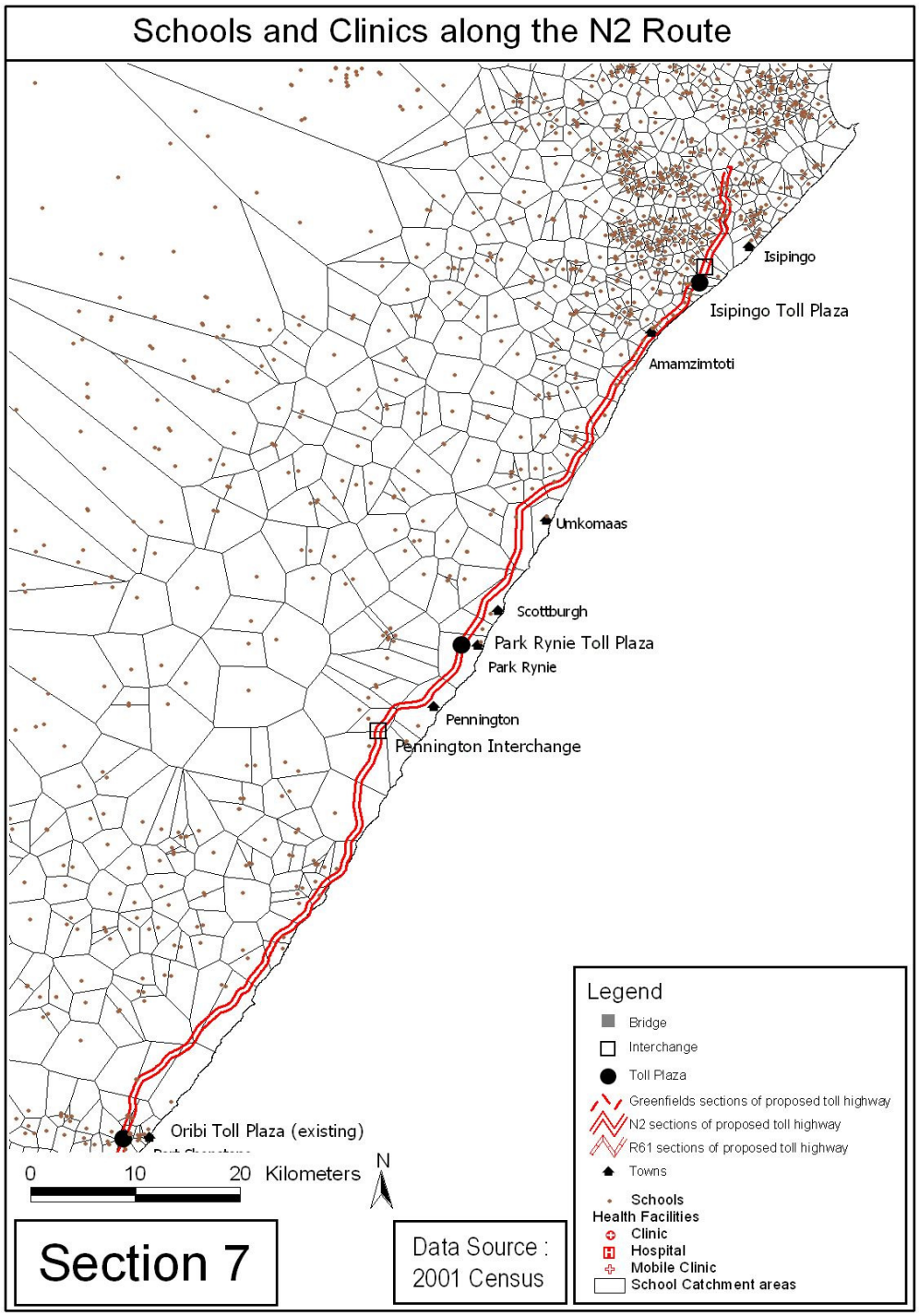


Figure 3.40: Annual household income local wards along section 7

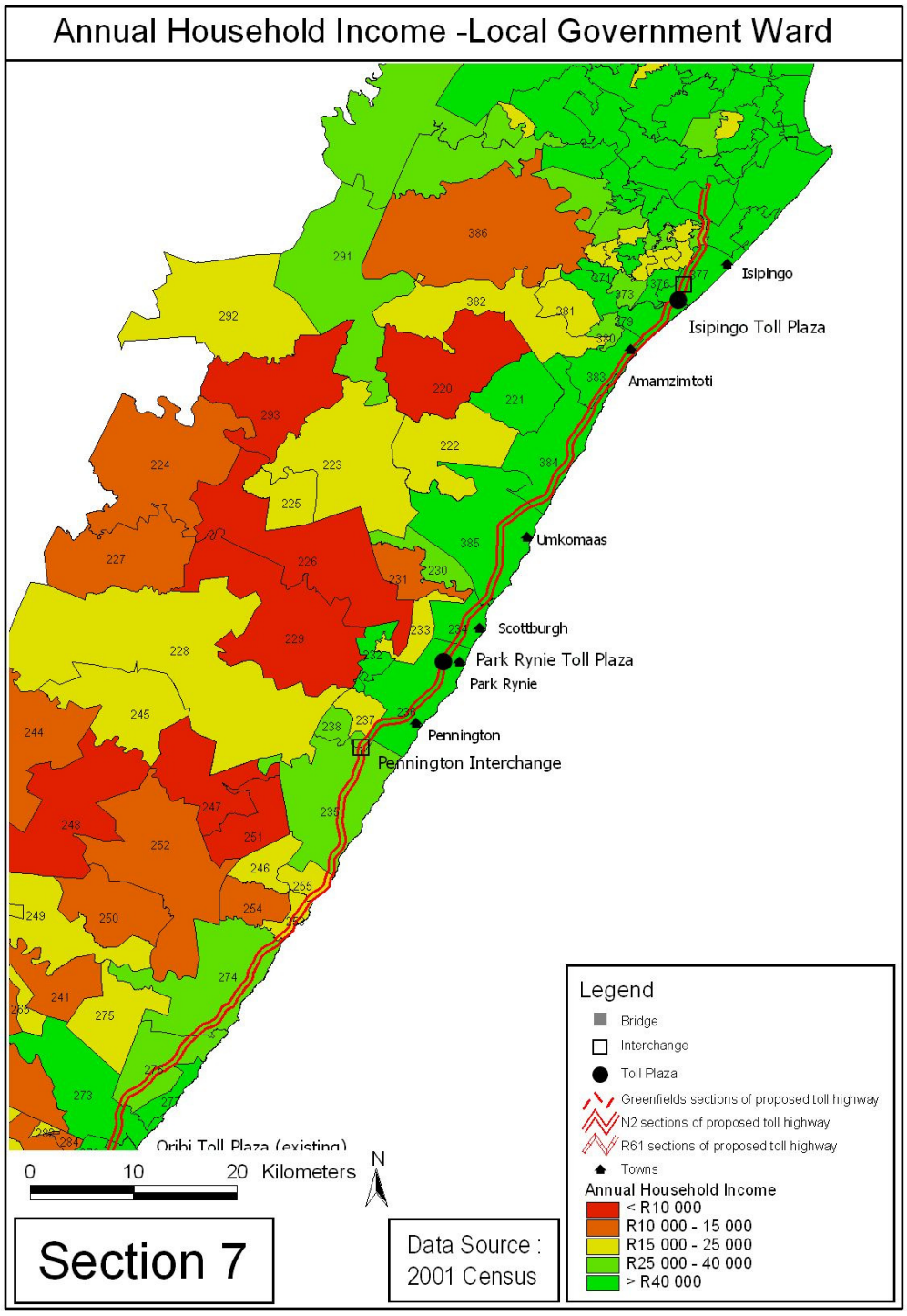


Figure 3.41: Percentage population >20 with no schooling local wards along section 7

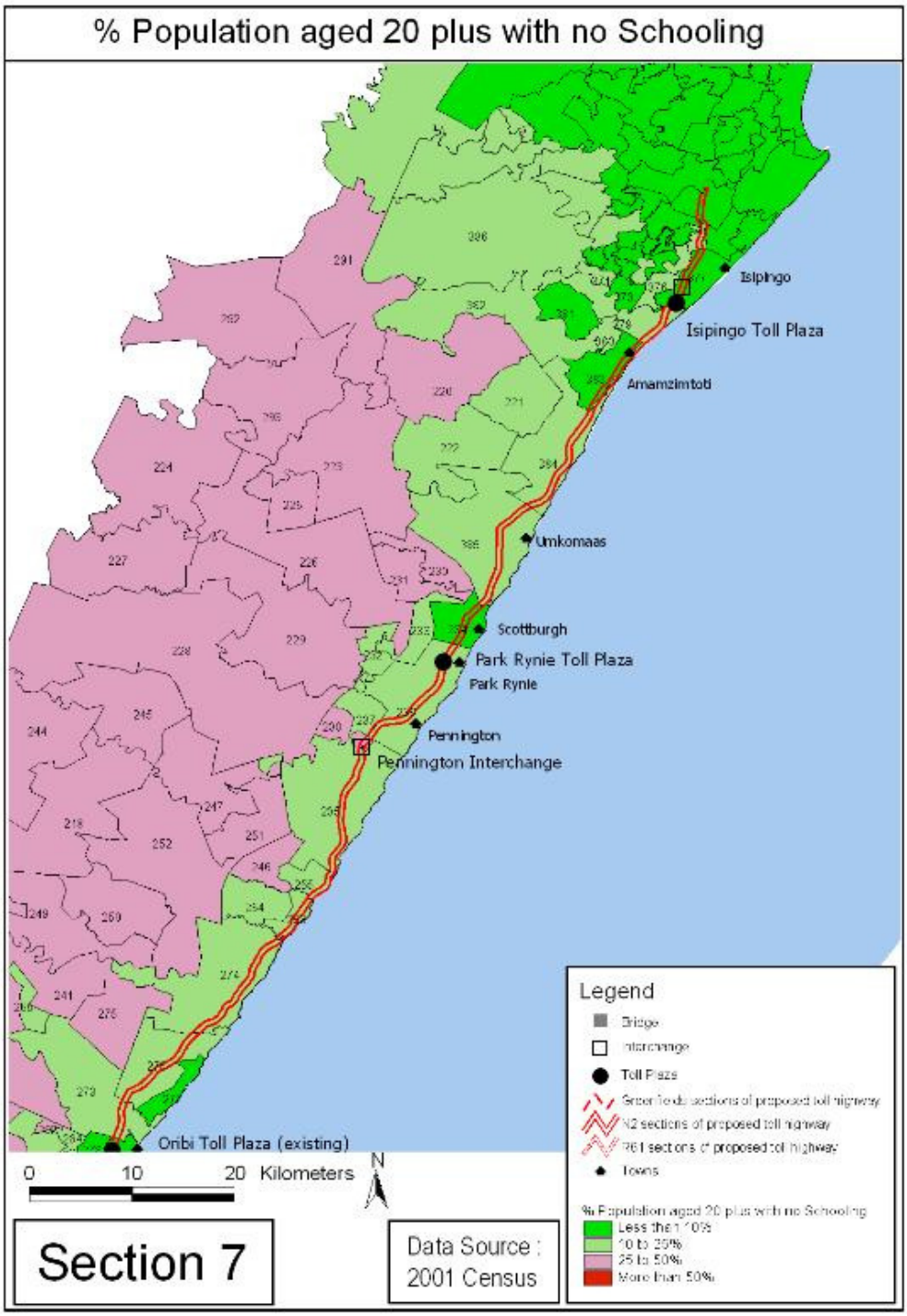
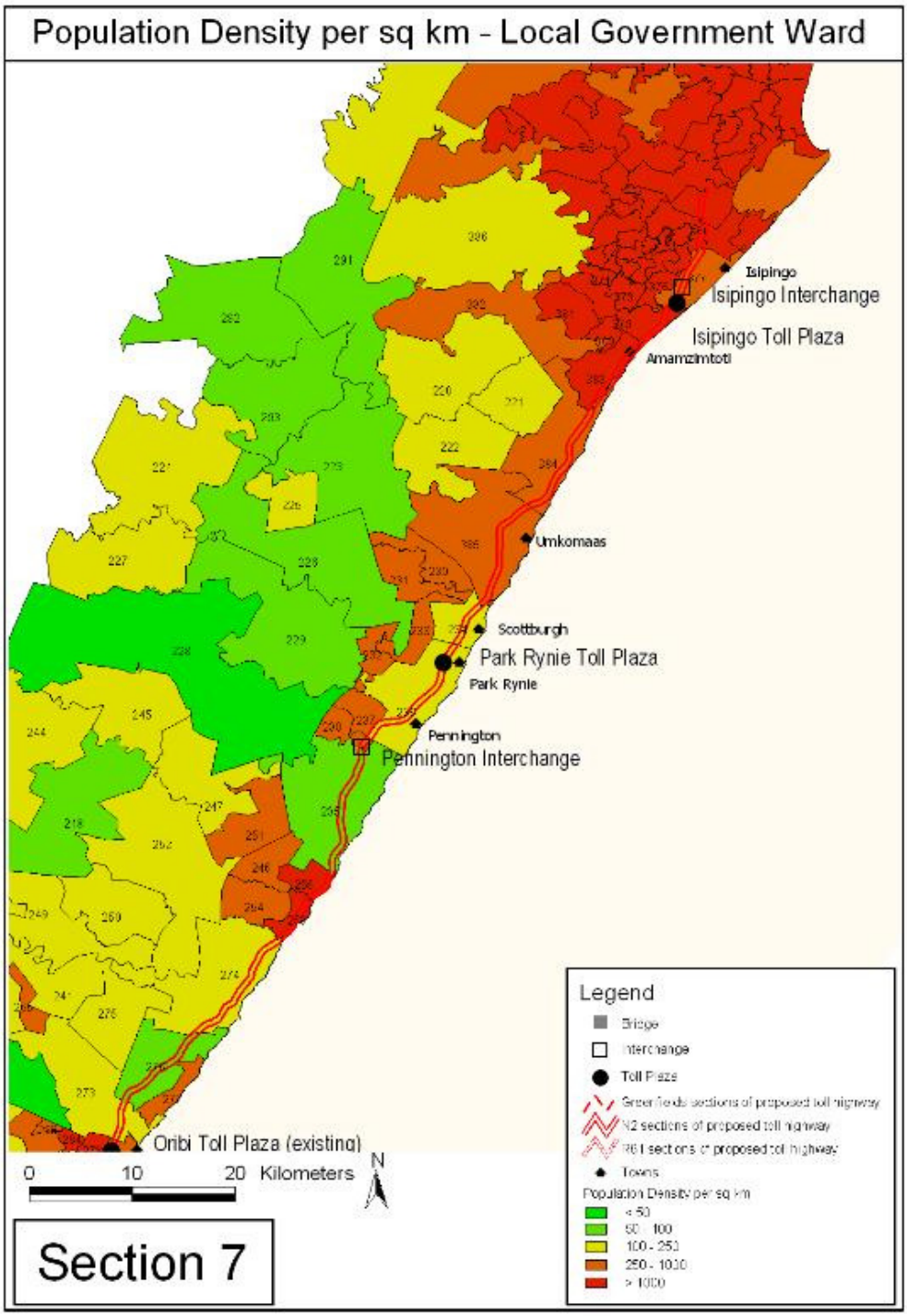


Figure 3.42: Population density local wards along section 7



Unemployment within the proximate area shows a degree of consistency with income trends. See the relevant maps below for sections 6 and 7 of the route in Figure 3.33 above and 3.43 for a graphic illustration of this phenomenon. In total there are 1 446 344 of the proximate population defined, by the Census 2001, as being potentially economically active. Of these approximately 43% are defined as unemployed.

Of concern are some of the hinterland areas where unemployment as reported by Census 2001 is in excess of 80%. Noticeable in this regard, are areas around KwaMakutha and Adam's Mission as well as some of the Umbumbulu areas.

With regard to services Table 3.15 sets out the access that households along the route have to water and this is graphically illustrated in Figure 3.34 above and 3.44 below.

Table 3.15: Number and percentage of households in the wards dissected by the proposed highway or adjacent to it between Port Edward and Isipingo that have access to various water sources

Water source	Number of households	%
Piped water inside dwelling	623 024	40.4%
Piped water inside yard	367 149	23.8%
Piped water on community stand: distance less than 200m from dwelling	427 750	27.5%
Piped water on community stand: distance greater than 200m from dwelling	43 432	2.8%
Borehole	34 534	2,2%
Spring	14 476	0.9%
Rainwater tank	38 386	7%
Dam/pool/stagnant water	38 732	2.5%
River/stream	286 108	18.6%
Water vendor	25 979	1.7%
Other	81 441	5.3%
Not applicable (homeless)	1 351	0.1%
Total	1 541 710	100%

Source: Stats SA Census, 2001

Figure 3.43: Percentage unemployed local wards along section 7

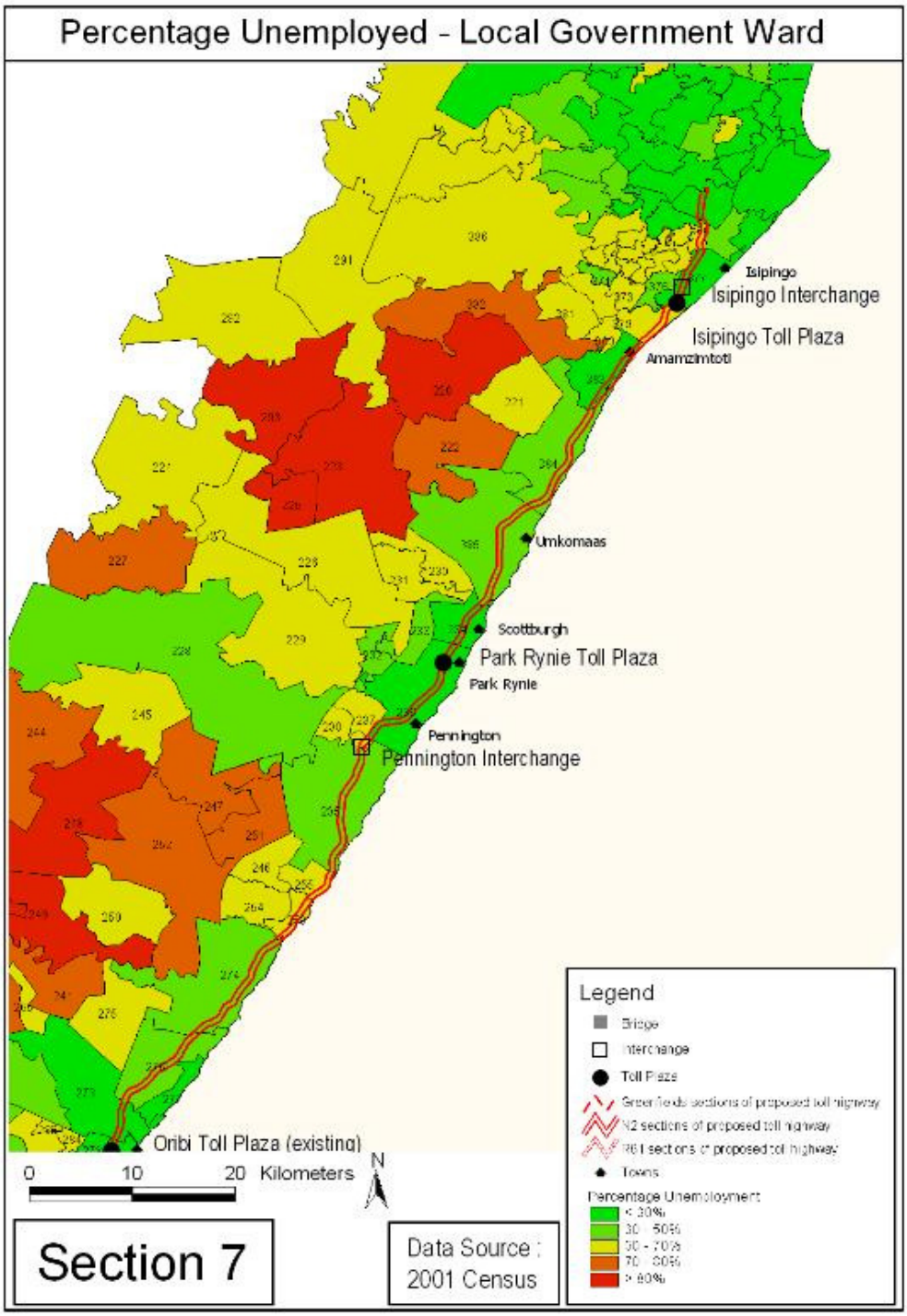
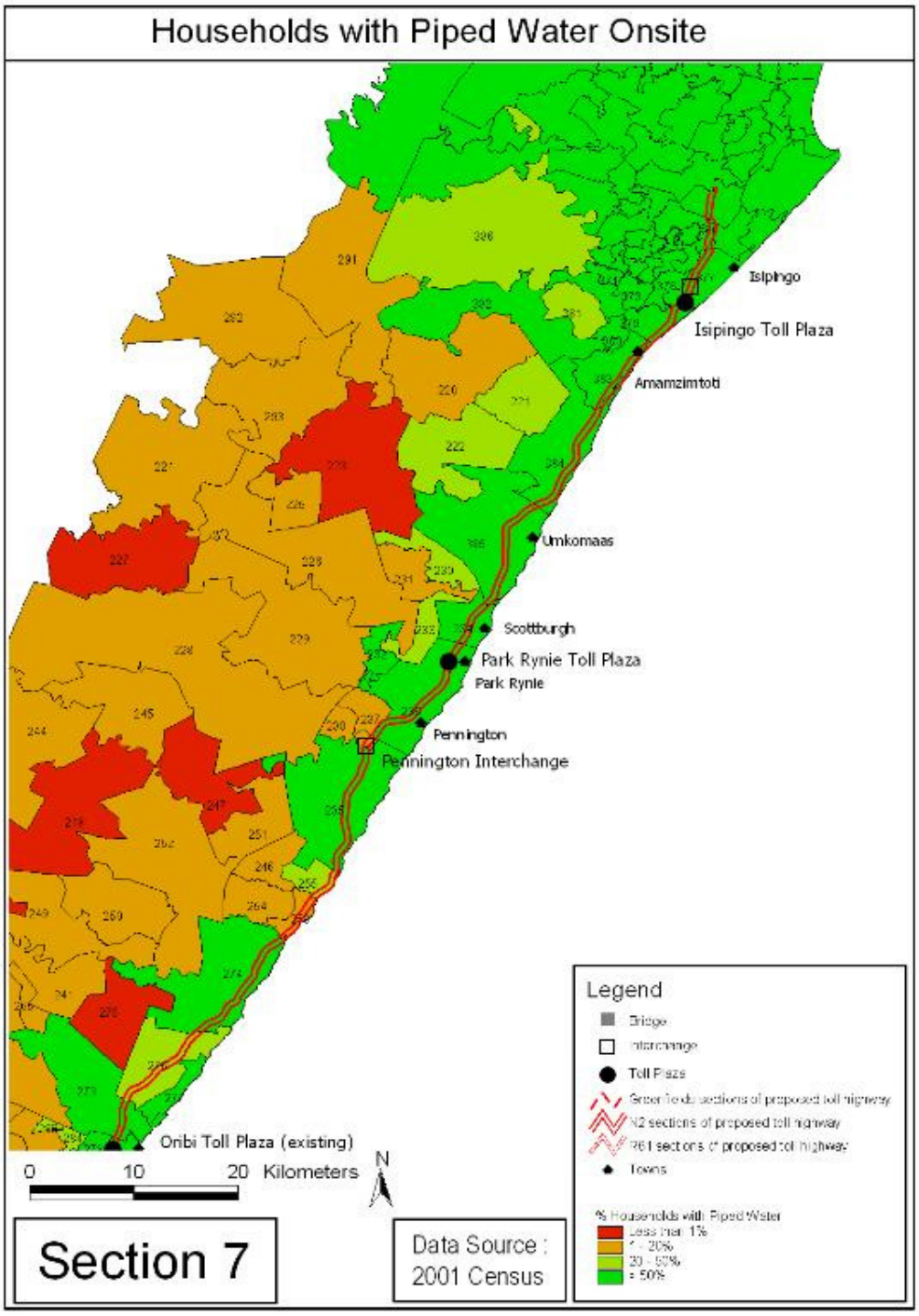


Figure 3.44: Households with piped water local wards along section 7



For purposes of the impact assessment this section of the route has been subdivided into a further two sections each of which will be described separately here. The first of these subsections, labelled 7a, is more rural in nature and stretches between Mthamvuna River and Port Shepstone and, as indicated above, is graphically illustrated together with section 6 of the route. The second has more of an urban character, is ladled 7b, and stretches between Port Shepstone and the Isipingo Interchange and is graphically illustrated separately from 7a.

Section 7a: Mthamvuna to Port Shepstone

This is the R61 segment of the road and including Port Edward to the intersection with the N2 at Port Shepstone: This segment is approximately 46 km long and dominated by intensive coastal development on the eastern side and farming interests on the western side. Settlements that intersect with the road include the following:

- Banner Rest (west of road)
- Port Edward (east of road)
- Leisure Bay (east of road)
- Glenmore Beach (east of road)
- Portobello Beach (east of road)
- Palm Beach (east of road)
- KwaZinmakwe (west of road)
- Breamar (west of road)
- Trafalgar (east of road)
- Sanlameer (east of road)
- Marina Beach (east of road)
- Southbroom (east of road)
- Ramsgate (east of road)
- Margate (east of road)
- Uvongo (east of road)
- KwaGamalakhe (west of road)
- Izotsha (west of road)
- St Michael's on Sea (east of road)
- Shelly Beach (east of road).

For the strip between Port Edward and Southbroom the R61 acts as the only major access road with all minor access roads to the settlements intersecting it. From Southbroom to the N2 the R620 is aligned parallel to the R61. The R620 is a minor coastal road that predominantly services residential and commercial access to the coastal resort. In terms of socio-economic makeup the eastern settlements in this segment are either dependent on coastal tourism or are residential. There is a large retirement population in the coastal settlements. Those settlements west of the road are predominantly agricultural although there is the relatively poor service township of KwaGamalakhe that is located west of the R61. Other than intra-local access all of the settlement population rely on access to the R61 as their dominant

service road. Virtually all goods brought into or out of the settlements, require the R61 as their primary means of access. The Oribi Toll Plaza already exists at a point some 3 km from the turnoff to Port Shepstone and Marburg.

The profile of the communities generally reflects their geo-economic position. The urban coastal communities are relatively high density areas. For the most part they are dominated by permanent residents who are either directly/indirectly dependent on local employment opportunities. These opportunities are driven by tourism, some industrial and manufacturing activity in the Port Shepstone-Marburg area, and the various service sectors. The permanent population is boosted by an influx of tourists, particularly at certain peak times of the year. In addition to residents who are permanently embedded in the economy of the region there are people who have retired to the coastal communities. In some of the wards within the coastal areas the percentage of the population who are 55 years of age or older exceeds 30% (See appendix 2).

This is in contrast to many of the more rural areas, particularly the former "Transkei" areas where the percentage of people who are 55 years of age or older is less than 10%. The coastal areas also differ from the preceding Eastern Cape sections of the road in a number of other aspects. Generally unemployment levels are lower. The maps for sections 6 and 7 show that unemployment levels for this area are generally markedly lower than for most of the Eastern Cape. Unemployment figures for wards in the coastal belt are often below 20%. Again, this reflects the embedded nature of the local economy and the fact that residents need to migrate in search of work. Income levels (also reflected in the maps in for sections 6 and 7) show a similar trend. Generally income is higher in the more urbanised areas of the coastal belt and markedly so in many instances to the levels of the Eastern Cape.

The hinterland rural areas have a slightly different community profile. In most respects the hinterland reflects a socio-economic position somewhat worse off than the urban coastal belt but better off than most of the areas of the former "Transkei". Again this is to be expected.

Based on the analysis of the communities response elicited to the nature of the Toll Road, across the spectrum of people interviewed, the reactions received were not surprising. In this regard, and as a preamble to the discussion, it should be borne in mind that most of the interest groups interviewed did not have a problem with the introduction of a toll road *per se*. They did, however, almost unanimously have concerns with the positioning of the current toll plazas – particularly for those who have to travel northwards into the Durban Metropole and beyond. However, as a general rule, should sufficient mitigation measures be taken, and concessions offered to industry, farming and regular users, acceptance of the toll road would greatly improve. .

Currently, there is a degree of distrust by most interest groups towards SANRAL. Many interest groups feel that they have been marginalised in the planning of the route, and are of the perception that they will be paying for the entire length of the proposed N2 upgrade without receiving meaningful benefits for the toll. Some interest groups feel that the road upgrade that will come with the tolling of the N2 Highway is

unnecessary. Balanced against this there are interest groups who see merit in the toll road and who support the proposed project. Again, support is generally conditional on sufficient mitigation being in place.

Section 7b: Port Shepstone to Isipingo

This is the existing N2 portion of the road from Port Shepstone to Isipingo (Durban). This segment is approximately 101 km long. The section of the existing N2 South Coast Toll Highway between Port Shepstone and Hibberdene is considered to be in a good condition and proposed construction activities relate mostly to safety aspects. The section between Hibberdene and Winklespruit is considered to be in a fair to good condition and proposed construction activities include minor rehabilitation and resurfacing of selected portions. The existing N2 between Winklespruit, Amanzimtoti and the Isipingo Interchange is currently in a fair condition. This section would be widened and rehabilitated. Two lanes and paved shoulders would be added between Amanzimtoti River Bridge and the Isipingo Interchange while a further two lanes would be added between Dickens Road and Joyner Road Interchanges. The Adams Road Interchange would be completely reconstructed while a number of overpass bridges would be demolished and reconstructed due to insufficient vertical and/or horizontal clearances. Although assessed as a single entity, in terms of local description this portion of the route can be broken down into sub-sections.

N2 from Port Shepstone to the R102 Intersection at Hibberdene: This segment is approximately 28 km long and dominated by the major south coast town of Port Shepstone, intensive coastal development on the eastern side, and farming interests on the western side. Settlements that intersect with the road include the following:

- Marburg (west of road)
- Port Shepstone (adjacent to the road and developed on either side)
- Umtentweni (east of the road)
- Sea Park (east of the road)
- Southport (east of the road)
- Sunwich Port (east of the road)
- Melville (east of the road)
- Umzumbe (east of the road)
- Hibberdene (east of the road).

As with the previous section (Section 7a) there is a large tourism industry and retirement population in the coastal settlements. Those settlements west of the road are predominantly agricultural. Again, other than intra-local access, all of the settlement populations rely on access to the N2 as their dominant service road. The R102 runs between the N2 and the coast for this segment but is more of a minor access route and is controlled by residential speed restrictions. The N2 is tolled for part of this route with the Port Shepstone and St Faith's off-ramps and on-ramps having toll plazas.

The profile of the communities along this part of the road is similar in many respects to Section 7a. Again, the profile generally reflects their geo-economic position. The urban coastal communities are relatively high density. For the most part they are dominated by permanent residents who are either directly/indirectly dependent on local employment opportunities. These opportunities are driven by tourism, some industrial and manufacturing activity in the Port Shepstone to Marburg area, and the various service sectors. As with the Section 7a, the permanent population is boosted by an influx of tourists, particularly at certain peak times of the year. In addition to residents who are permanently embedded in the economy of the region there are people who have retired to the coastal communities. Unemployment is generally relatively low, although there are pockets of high unemployment. Again, this is in contrast to many of the more rural areas, particularly the former "Transkei" areas. As with Section 7a the hinterland rural areas have a slightly different community profile. In most respects the hinterland reflects a socio-economic position somewhat worse off than the urban coastal belt but better off than most of the areas of the former "Transkei". Again this is to be expected.

Hibberdene N2 Ramp to Park Rynie Intersection: This segment is approximately 33 km long and dominated by intensive agricultural development, with sugar cane being the dominate crop. The R102 is aligned parallel to the N2 for this segment. From Hibberdene to Sezele the R102 runs west of the N2 but then crosses it to run east of the N2 until Park Rynie. Settlements that intersect with the road include the following:

- Isihlonyane (west of the road)
- Mfazazana (east of the road)
- Mnamfu (straddles the road)
- Turton (east of the road)
- Ifafa Beach (east of the road)
- Ifafa (west of the road)
- Bazley (east of the road)
- Sezela (east of the road)
- Esperanza (west of the road)
- Pennington (east of the road)
- Kelso (east of the road)
- Umzinto (west of the road).

As with the previous segments there is some tourism industry and retirement population in the coastal settlements. Those settlements west of the road are, again, predominantly agricultural. There is a great deal of commercial sugar cane but there are also subsistence settlements that are present. The N2 is intersected by the R612 at Park Rynie. The R612 is a relatively important service road linking the coast with the hinterland towns of Umzinto, Highflats and Ixopo. Plate 3.7 illustrates the proposed location of the construction of the Pennington Interchange.

Plate 3.7: The proposed location of ramp toll plazas at the Pennington Interchange

Park Rynie to Isipingo Interchange: This segment is approximately 47 km long and dominated by intensive agricultural development, which largely comprises of sugar cane. Again the R102 is aligned parallel to the N2 for this segment, but is located on the eastern side. The settlements that intersect with this section include the following:

- Umzinto north (east of road)
- Scottburgh (east of road)
- Rennishaw (east of road)
- Clansthal (east of road)
- Naidooville (west of road)
- Widenham (east of road)
- Umkomaas (east of road)
- Umbumbulu (east of road)
- Magabeni (west of road)
- Umgababa (east of road)
- Karridene (east of road)
- Illovo Beach (east of road)
- Illovo (west of road)
- Winklespruit (east of road)

- Kingsburgh (west of road)
- Doonside (east of road)
- Warner Beach (east of road)
- KwaMakhuta (west of the road)
- Adam's Mission (west of road)
- Amanzimtoti (east of road)
- Umbogintwini (straddles the road)
- Isipingo and the Durban South Industrial Basin (Straddles the road).

This section of the road includes a mix of land use and settlement types. Included are the peri-urban and urban complex of the Durban metropolis as well as coastal resort towns and the rural tribal authority areas of Umbogintwini and Umbumbulu. The area is made up of a broad spectrum of the country's socio-economic strata. The strip between the Mkomazi River and Umbumbulu is made up of people living on the tribal authority areas. The N2, along with the M35 and Old Main Road, is the principal road linking the poorer peri-urban service towns, such as KwaMakhuta, to the metropolis.

Based on the analysis of the communities the response elicited to the nature of the Toll Road, across the spectrum of people interviewed, is not surprising. In this regard, and as a preamble to the discussion, it should be borne in mind that although most of the interest groups interviewed did not have a problem with the introduction of a toll road *per se* there does appear to be a greater and more vehement opposition to the toll amongst communities and stakeholders closer to the Isipingo area.

In particular stakeholders almost unanimously have concerns with the positioning of the proposed toll plaza. The Isipingo Toll Plaza and subsidiary side ramp plazas are generally regarded with dislike and suspicion by stakeholders who will be required to make use of the road.

Although, as a general rule, should sufficient mitigation measures be taken and concessions offered to industry, farming and regular users, acceptance of the toll road would greatly improve. There is a great deal of work to be done to convince most stakeholders of the necessity for the Toll.

Currently, there is a degree of distrust by many interest groups towards SANRAL. These groups feel that they have been marginalised in the planning of the route, and forward the view that they will be paying for the entire length of the proposed N2 upgrade without receiving meaningful benefits for the toll. Some interest groups feel that the road upgrade that will come with the tolling of the N2 Highway is unnecessary. This position is particularly strongly held in many quarters of the Durban Metropolis. In the following section of the report the social issues identified across all 7 section of the route will be listed and assessed.

4. SOCIAL IMPACTS

In this section of the report the social impacts as identified along the entire will be described and assessed. Firstly, the more general issues will be discussed as they pertain to each of the section of the route. Following this the social impacts rising from these more general issues will be identified, described and assessed across each section of the route. However, in an effort to decrease duplication, where impacts apply to more than one section of the route this will be noted and dealt with appropriately. Mitigation measures for each impact will be presented after the description of the impact.

4.1. Major issues raised

Due to the diverse characteristics of the route a decision was made, on methodological grounds, to separate the route into the following three sectors:

- Sector 1 between Gonubie Interchange and Mthatha (Ngqeleni) comprised largely of rural areas and small development nodes clustered around a few small towns over sections 1 and 2 of the route.
- Sector 2 between Mthatha (Ngqeleni) and the Mthamvuna River, largely a Greenfields area, consisting of segments of the R61 route and new road sections at times over extremely rugged territory over section 3 to 6 of the route.
- Sector 3 follows the R61 and N2 route from Mthamvuna River to Isipingo Interchange and initially progresses through rural and then farming terrain linking a number of small and medium size resort towns and becomes increasingly urbanised towards the Isipingo Interchange over section 7 of the route. For assessment purposes, where there are significant differences along the route, section 3 is at times subdivided into 7a, from Mthamvuna River to Port Shepstone, and 7b from Port Shepstone to the Isipingo Interchange. The reason for this is that 7a is more rural in character than 7b, which has more of an urban nature.

Although certain issues common to all sectors of the route were identified, each sector of the route also had issues unique to that particular sector. In the discussion below those issues common to the route will first be addressed, followed by those unique to a particular section which will be dealt with separately under that section. The more general issues dealt with across the entire route include resettlement, access, health and safety and labour, employment and income, ribbon development, noise and crime.

4.1.1. Resettlement

Sections 1 and 2 – Gonubie Interchange to Mthatha: Widening of the road reserve will result in a number of households needing to be moved. In many of the settlements adjacent to the N2, there are residential sites located on the fence along the N2. If the road reserve cannot be widened on the opposite side of the road then a large number of households will need to be resettled to make way for the expanded highway reserve. Many of these households have built substantial houses on their sites and these will be costly to replace. Stakeholders were concerned about what would happen to those people

who live in the way of the road. Where they would be moved to and what compensation would be paid. There were also concerns about the graves of family members who have been buried in the homestead gardens. There was also concern amongst some municipal officials about the need to ensure that the widened road reserve is not encroached on again. This is particularly pertinent as only half of the reserve will be used for the highway at this stage.

Section 3 – Mthatha to Ndwalane: Thombo's relatively dense nodal development and its location alongside the R61 could imply some significant impacts regarding potential losses to the local stock of physical capital and assets held in the form of housing. For instance, 10 buildings within 200m of the proposed road works were identified as possibly being under potential threat, and mention was made of the possible need to exhume some graves.

Section 4 – Ndwalane to Ntafufu River: Given Ntafufu's very dispersed and traditional communal settlement pattern, the location of the proposed route alongside the river does not bisect any dense settlement. Nevertheless, fears of resettlement, impacting on aspects of local physical capital and assets, were raised during focus group sessions and two homesteads were identified as possibly being directly affected by the road. Impacts on the social capital held in graves, and on prospects for removal were also raised as a concern with some indicating that in this area graves were often sited at old abandoned homesteads long distances from present residences. A minimum of four graves potentially impacted in Ntafufu were identified.

Section 5 – Ntafufu River to Lusikisiki: Along this section concern was expressed about the potential loss of physical capital represented in homestead buildings with suggestions that a total of eight buildings located within 200m of the proposed route would potentially be affected. A need for appropriate compensation was proposed and the view was expressed that any potential relocation must be done via new arrangements with the local headman. There was a preference expressed at the second site that if this were to happen, 'the whole community should be relocated together'. Eleven graves were identified as being under potential threat along this section.

Section 6 – Lusikisiki (Magwa Intersection) to Mthamvuna River: Along this section of the route communities were consulted at three locations namely, Mateko, Mkamelo and Mahaha. In the Mateko and Mkamelo regions, where settlement patterns were denser, the number of houses and buildings that would need to be relocated was much greater than in the area of Mahaha where more dispersed settlement patterns were evident. Although in some areas, such as that around Mateko, there is an abundance of land the suitability of this land for relocation is an issue that needs careful consideration. The impact that the road would have on burial sites was also an issue in Mkamelo and Mahaha, although less of a problem around Mateko. This is due to the scattered pattern of ancestral burial sites in the Mkamelo and Mahaha regions, where graves were often at old homesteads long since abandoned for new homesteads.

Section 7 – Mthamvuna River to Isipingo Interchange: Resettlement of affected households was not identified as a key issue by interest groups. There was, however, scepticism by some groups such as the Upper South Coast Anti Toll Alliance (USCATA) that there is sufficient road reserve for SANRAL to increase the width of the current N2 and thereby add lanes.

4.1.2. Access issues

Sections 1 and 2 – Gonubie Interchange to Mthatha: Residents of neighbouring rural communities were concerned about SANRAL's proposal to restrict access to and across the highway. This would affect their access to transport services and to a wide variety of resources that may be located on the other side of the road (i.e. schools, clinics, shops, family and friends, arable lands, grazing lands and other natural resources). While they may accept the need for such restrictions, they were concerned that the decisions about where accesses will be provided needed to be negotiated with the resident so that the community would not be adversely affected. Residents are currently involved in such negotiations with SANRAL as part of the ongoing maintenance of the N2 road, and expressed some concerns about SANRAL putting accesses in different places to those agreed with the community. They are concerned therefore that this would happen again. Residents were not fully aware of the fact that their access to the highway may be further restricted if the highway project is approved.

Municipal officials indicated that it may be difficult to develop community access roads in some areas due to the layout of residential sites. In many cases it will be necessary to create new access roads behind the first row of residential sites running along the N2. This may result in a reduction in the size of residential plots for the affected residents and in some cases may require resettlement. In other areas these roads may need to pass through arable land over which specific households have exclusive use rights.

Sections 3 to 6 Mthatha to the Mthamvuna River: Along these sections of the route certain common impacts associated with access were identified. These common issues will firstly be addressed in general terms before attention is given to those impacts more specific to each section, which will be dealt with under the appropriate section.

Common impacts identified include the potential for the road to restrict access to various resources such as water, forests, plantations, grazing and arable land. As the road divides communities it also has the potential to disrupt social capital in the form of social and family networks and to interrupt access to facilities such as schools, churches, cultural sites and activities and shops.

On the more positive side some communities along these routes identified the possible advantages that the proposed toll road would bring regarding the improvement of access to what are relatively remote areas. In this sense there is a wide assumption that the road will improve the total stock of physical and social capital and assets along the Greenfields sections of the route. For instance it would result in better taxi and bus ranks and an associated improvement in taxi services. Communities also anticipated an

improvement in ambulance services into or out of the various areas and in improvement in access to a far wider range of medical services and to government offices. The potential of better access to family and relatives was also recognised as an advantage as was the advantage that a new road would provide in respect of reducing the cost for businesses, farmers and individuals in securing supplies. Impacts more specific to each section of the route will now be addressed.

Sections 3 – Mthatha to Ndwalane: At Thombo it was indicated that community interaction and access to services and shops within a 10 km radius would be disrupted as would access to a large Mosque across the road from the shops as well as to service facilities at Thombo. There is also uncertainty regarding the impact that the road will have on a crèche and new projects in the area such as a bakery and a vegetable farming initiative. Access to the Mtweni Senior Secondary School and the Zanele Junior Secondary School, where it was said that approximately 55% of 400 pupils had to cross the existing main road, was also an issue.

Section 4 – Ndwalane to Ntafufu River: In Ntafufu it was indicated that the road has the potential to possibly result in relatively severe restrictions on access to natural capital resources and assets in the form of water, forests, plantations and grazing and arable land.

Access to grazing lands is likely to be restricted at various distances on either side of the proposed road and existing river. Although Ntafufu has a relative abundance of available grazing land and low stocking rates, there would be a knock-on effect to holders of grazing rights if their areas were to receive more animals due to the road, and the need would then arise for fencing of camps.

Potential impacts on the social capital inherent in community interaction and the inter-relationships between families and local social support networks are also an issue along this section of the route. The road also has the potential of limiting access to a church, to Rothra Lake, which is an important local heritage site, and to certain schools and the associated facilities of these schools such as the playing fields of the high school.

Regional and local travel patterns and reasons for travel indicated by the Ntafufu sample show that there is very limited long distance travel from the area. Perceptions about the potential changes that the toll road might make in these patterns centred on the local interchanges and the Umzimvubu Bridge, which were held as being capable of promoting quicker and cheaper external and internal access to most goods and services. The new route south over the Umzimvubu River to Port St Johns would cut travelling distances by up to 20 km which would result in significant time and cost savings, however, a number of qualifications were made. Such as improved taxi and bus ranks and services and the strategic location of on- and off-ramps in this area.

Section 5 – Ntafufu River to Lusikisiki: At Mzintlava the developments proposed differ to those for the Greenfields sections in that straightening and widening sections of the existing R61 represents less of a change to local access than it does at Ntafufu, for example. However, the provision and maintenance of

fencing has the potential to disrupt a wide range of local access patterns to for example water, the local forest resource and grazing. There is a high potential that there will be a loss in the social capital of the area from road improvements, particularly at Luqoqweni, where community interaction, social networks and family support systems and local recreation on either side of the existing R61 are said to be high. The Luqoqweni Junior Secondary School is also likely to be negatively impacted, where up to 50% of the 200 pupils are said to have to cross the existing R61 highway every day.

Local and regional travel patterns in the Mzintlava area suggest very little annual long distance travel from this region with journeys mainly undertaken for shopping, visiting relatives and securing services. Expectations in the area are high, however, that the road will improve the situation resulting in wider and quicker access to most services with better taxi services and well placed taxi ranks as well as more bus services and ranks.

Section 6 – Lusikisiki (Magwa Intersection) to Mthamvuna River: Prime grazing lands at Mateko are some 5 km west across the proposed route in large, well watered open valleys with quality alluvial soils and sweet grass types and access to these grazing lands is likely to be disrupted. This community holds strong views regarding the potential disruption to community interaction and social support networks. It was indicated that restricted access would limit Saturday afternoon stick fighting competitions in the region that take place between boys and young men from different administrative areas. There were concerns about access to schools in the area with a headmaster indicating that daily access to the school for some 40% of 200 Phambili High School pupils would be affected.

In the Mkamelo district access to river and spring water sources would be affected. The Mkamelo River flow, some 2 km from the survey site, would be bisected and access for many to local springs at distances of from 250m upwards, was said to be potentially impacted. The local resource includes both the large woodlots in this area, often located up to 2km away from homesteads, a local indigenous forest, as well as access to the Mkambati plantations, where many people buy their own firewood. Much of the grazing for Mkamelo's comparatively larger herds is in the open tracts of former Tracor land, between 2 km and 20 km away for some households, and both daily and weekly trekking of cattle herds occurs. Groups of young children from various households apparently leave at 3 am to assemble their animals grazing on the Mkambati Plains, gathering them in one large herd of up to 200 beasts, and drive them back for the weekly dip and head count in summer.

A high proportion of those consulted indicated that community access to social groups, family networks and to the main local Pentecostal Church would potentially be negatively affected, with the church requiring removal or rebuilding. Possible restrictions on access to the high school, on the west side of the proposed road would impact up to 40% of the 250 pupils.

In the Mahaha district local water supplies would potentially be impacted with some people indicating that existing essential sources could be polluted by any influx of people and workers over the construction period. Access to local plantations and the forest resource, widely dispersed at Mahaha, are potentially

affected, as is access to grazing, at distances of up to 5 km from some households on one side of the route and access to a dip tank on the south-eastern side of the proposed route. Access to both a Zionist and a Methodist Church, as well as to the local school and the sports fields, particularly for those people on the north- eastern side of the proposed route will be impacted.

Section 7 – Mthamvuna River to Isipingo Interchange: Some stakeholders, noticeably those along the R61 between Port Shepstone and Port Edward, indicated that by converting the R61 to the N2 it would remove certain access points and, as such, some people would have to travel further distances to either access the road or to cross it. This would increase travelling time and expense.

4.1.3. Health and safety

Sections 1 and 2 – Gonubie Interchange to Mthatha: There was general support for the development of the highway as a means of improving the safety of the road and making the Transkei a more attractive and accessible destination for tourists and through traffic. There was considerable concern about safety issues and the high number of accidents along this section of road.

At the same time residents in rural settlements expressed some concerns about increased safety risks for their children and livestock as a result of the high speed traffic that would be using the highway. There was a particular concern about children needing to cross the highway to get to school. There was also a concern that the fences would need to be repaired and maintained, and cattle grids put over the access roads to prevent livestock from roaming onto the road.

Section 3 to 6– Mthatha to Mthamvuna River: Across this section of the route, health benefits were expressed generally in terms of those potential increases accruing from the perception, or aspiration, that an improved road would lead to a better quality and way of life, and particularly, in terms of better access to a wider range of major health services covered above. Negative expressions covered the general problems associated with more noise due to increased and faster traffic after construction, accidents involving children and concern regarding an increase in fumes and the possibility of chemical spills from the heavy traffic. The possible increase in the spread of HIV/AIDS and STDs due to more truckers, despite perceptions about a high local prevalence of HIV/AIDS in the area, was frequently noted as a negative issue.

Safety issues raised most frequently were that a better road made for safer travelling and would also result in an improved condition of the local taxi fleets. Improved fencing and the management of a toll road were invariably held to have the potential of reducing accident rates with specific emphasis on pedestrians and in particular children crossing the road as Plate 4.1 illustrates. As was to be expected, livestock and other animal safety were also raised frequently an issue illustrated by Plate 4.2. However, fears were also frequently expressed that ‘local destructive youth’ would cut the fencing to sell, given local unemployment levels.

Plate 4.1: Children observed along the route

Plate 4.2: Free roaming animals observed along the route

Section 7 – Mthamvuna River to Isipingo Interchange: Although the social effects linked to a potential increased HIV risk associated with truck traffic was raised, many respondents did not feel that the creation of a toll road along the N2 would necessarily result in an increase in the incidence of HIV/AIDS. The N2 is already used as a trucking route, so although there is the potential, it is mostly unlikely that HIV/AIDS in relation to trucking would alter significantly. What is of concern to interest groups regarding HIV/AIDS is the potential for more infections to result from the construction phase of work. The Department of Economic Development (DED) pointed out that there would be an influx of migrant construction workers and a sudden increase in available cash among some local manual labourers contracted by SANRAL. This could become a vector for increased infections in the province. Farm labourers that are drawn to construction may contract the illness, and then return to farm labour once the road has been completed, thereby potentially infecting further farm labourer communities.

4.1.4. Job creation and income potential

Sections 1 and 2 – Gonubie Interchange to Mthatha: There was some support for the highway due to expected employment benefits for local residents. There was a general feeling that the jobs that do become available need to be reserved for local residents. At the same time there were concerns raised by some stakeholders that the number of local people employed on such projects tends to be low and will only be temporary (during the construction phase).

Section 3 to 6– Mthatha to Mthamvuna River: People across sections 3 to 6 of the route expected that the road would result in an increase in job opportunities. These job increases they anticipated would be as a direct result of the construction and maintenance of the road, as well as an indirect result of an increase in activity that a road would bring to the area. There was also an expectation that the road would also directly and indirectly result in an increase of small business activity in the area.

A concern raised across these sections of the route was that jobs needed to go to local people as they hoped this would raise the skills levels of these people eventually raising the employment potential of these local people. In this regard, in Thombo and at all the other sites visited in sections 3 – 6, there was a positive response to the question about the need for a skills audit in relation to the recruitment and selection processes for jobs on the road construction. This suggests that local people recognise that there is a large local skills pool in the area, but that they would like outside agencies to be responsible for selecting the people most suitable. Most respondents invariably qualified their responses with the desire for specific training to be introduced and with the general recognition of a positive in-migration of skilled workers where required. Along section 4 – Ndwalane to Ntafufu River, all sections of this community, particularly women, maintained that they had direct experience associated with road construction. They gained this experience during the 2001 upgrading and surfacing of the adjacent R61 where a number of temporary jobs were created that included, laboratory work, gabion building, traffic control, kerbing and channelling and ‘sweeping’.

Section 7 – Mthamvuna River to Isipingo Interchange: along this section there is the potential, as indicated by Department of Economic Development (DED), for some employment in the maintenance and operations of the toll road and plazas during the operational phase. There will also be employment opportunities during construction of the upgrades. Although DED pointed out that there would be construction related employment, they showed concern as to the sustainability of such employment, indicating that employment during operations is likely to be minimal and that construction related employment is temporary.

4.1.5. Economic impact of toll

Sections 1 and 2 – Gonubie Interchange to Mthatha: While most people supported the development of a highway, all the key stakeholders were very concerned about the imposition of tolls on the N2. The main concern is that the local population was too poor and would not be able to afford these fees. There was also concern about the high cost of the road due to the need for many bridges, interchanges and under- or overpasses, and the consequent high toll fees. They argued that toll fees would not be able to pay for all these costs and that the government would need to subsidise the construction costs.

There was also concern about the location of the toll plazas and the negative impact that this might have on local residents in particular. This was of particular concern in the Ndabakazi area where many residents argued that the toll plaza should be located at the Kei Bridge or to the west of the Kei River rather than in the Toleni area, so that it would not impact negatively on the many residents of this area who travel to Butterworth on a regular basis.

Taxi operators were also concerned about the toll fees and indicated that this would impact on their business and their commuters. They were very concerned that commuters would not be able to afford the increased fares that would result from the imposition of tolls. They also questioned the need for so many toll plazas. When SANRAL's tolling strategy was explained (only tolling vehicles that pass through the toll plazas and of locating the plazas at points between towns which would minimise the impact on local commuters), they indicated that this strategy would probably be effective. However, the imposition of tolls would have a significant impact on more long distance travellers such as those commuting between Butterworth/Idutywa and Mthatha and between these towns and East London.

Section 3 to 6 – Mthatha to Mthamvuna River: Although the issue of toll fees was not raised to any great extent along the Greenfields section there were, however, concerns over the cost of toll fees and the impact that would have especially on the poor. At Thombo between, Mthatha and Ndwalane, although most groups recognised that the benefits of an improved N2 are likely to far outweigh the costs of having to pay tolls, this was not the case amongst the 'marginalised' women and farmers who showed concern over the cost of toll fees. In one case a suggestion was made for the toll to be located closer to busier centres like Mthatha, so as not to impinge on the travel and movement patterns around the Thombo node - a sentiment held by others along this sector of the route.

Section 7 – Mthamvuna River to Isipingo Interchange: Along this section of the route although serious concerns were raised about the negative affect that toll fees would have across all communities in the region there were also instances where communities recognised the more positive affect the toll road may have. These economic affects, both positive and negative, are dealt with below under separate headings.

Social effects of increased cost of doing business and concomitant/associated loss of income

The greatest concern of many of the interest groups affected by the creation of a toll road was that of the anticipated increase in the cost of doing business. Businesses, industry and agriculture are all reliant on the N2 highway for transporting products, whatever they may be. In some cases the expected increase in the cost of doing business will potentially put small businesses and farms under threat of bankruptcy. These costs can be expressed as the expected increase in the cost of transport – cited by the various farming associations, the South Coast Chamber of Commerce (SCCC), sugar mills and many of the industrial concerns in the Durban south industrial basin. They feel that this cost will ultimately be borne by the consumer, which may lead to knock-on effects for the economy of the South Coast and metropole and neighbouring areas. It has been argued that the increase in the cost of doing business will be particularly heavily felt by informal traders and micro and small businesses, particularly emerging entrepreneurs.

Social effects of increased cost of accessing services and employment (marginal communities)

Of some concern to the marginal communities along the N2, is access to employment. These communities rely largely on public transport (taxis and buses) to access places of employment. As such the increase in tariffs will potentially weigh heavily on the earning capacity of the low-income earners on the South Coast and those who have to access the Durban South Industrial Basin via the N2. In this regard Toyota alone has 10 000 employees, most of whom will be affected by having to pay the Toll

Social effects of increased cost of accessing services and employment (advantaged communities)

For the more advantaged communities commuting is a daily occurrence. For these communities the toll is more of a nuisance and hindrance to their established livelihood patterns rather than an imposition which would threaten livelihoods. It is, however, not an insignificant issue and is the source of a great deal of anger.

Social effects of the potential creation of sub-economic farm units

The introduction of tolls, with mitigatory concessions, will be a heavy burden on many farmers and related agricultural industries. The South African Cane Growers' Association warns that the associated increase in transport and agricultural inputs will force small-growers out of business.

Social effects of regional economic development

Some stakeholders have come out in support of the toll road providing that mitigatory concessions are in place. They argue this by saying that the economy of the region will benefit from improved access along the coast southwards towards the Eastern Cape. Many of the stakeholders in the area south of Port

Shepstone are equally positive and argue that this will have a very positive impact on the economic prospects of the sub-region as they will no longer be in a *cul-de-sac.*

Social effects of potential improvement in transport provision to the area

The South Coast was described as a virtual *cul-de-sac* by some members of the SCCC. The upgraded and tolled N2 has the potential to open an effective gateway to the Eastern Cape and *visa versa*. The upgraded N2 has the potential to become an extension to the already successful southern portion of the N2 (Garden Route).

4.1.6. Ribbon development along the N2

Sections 1 and 2 – Gonubie Interchange to Mthatha: A concern has been raised in the Tshani report with respect to ribbon development along the N2. The concern is that the highway might encourage such development. While a better and safer road may encourage the process of suburbanisation, the restriction on direct accesses to the highway is more likely to prevent the kind of settlement that has already taken place along the edge of the road. Toll fees and increasing fuel costs will also discourage such development.

Section 3 to 6– Mthatha to Mthamvuna River: Similar concerns were raised along this section of the route.

Section 7 – Mthamvuna River to Isipingo Interchange: There are fewer concerns regarding ribbon development along this sector of the route as much of it consists of existing highway.

4.1.7. Increase in noise levels

Sections 1 and 2 – Gonubie Interchange to Mthatha: The issue of noise varies along this section of the route and, as there is already an existing road, was not raised to any great extent.

Section 3 to 6 – Mthatha to Mthamvuna River: In these areas, particularly along the Greenfields sections, where no road exists, the road will result in a significant increase in noise during both the construction and operational phases of the project. Various communities raised their concern about these noise levels.

Section 7 – Mthamvuna River to Isipingo Interchange: Representatives of the South Coast Chamber of Commerce (SCCC) have expressed their concern that the upgrading of the R61 will increase the noise pollution in the area. They state that there is already a problem along the current R61 and that the upgrading to a larger capacity, high speed highway will exacerbate this. Concern over increased noise levels was also raised for the toll plazas themselves.

4.1.8. Secondary effects such as potential increased crime

All sections from 1 to 7 – Gonubie Interchange to Isipingo Interchange: This was expressed in much the same terms as concerns around the link between construction and HIV/AIDS and STDs. As the number of construction workers increases, the opportunities to destabilise community structures also increase. Some stakeholders felt that this was likely to increase crime rates.

4.1.9. Residual section specific issues

The issues listed under this section were those raised along a specific section of the route.

Sections 1 and 2 – Gonubie Interchange to Mthatha:

Road maintenance and infrastructure Issues

There was concern about the poor condition of the N2, particularly in the towns of Mthatha, Butterworth and Idutywa. The need for the upgrading of these sections is urgent, and local officials were concerned that SANRAL's maintenance work on this road would be delayed until the issues around the toll highway are resolved.

One-way systems for town

Local municipalities are concerned about the delays in the development of the highway and the associated development of one-way streets through the towns that would help to alleviate the traffic problems in these towns. They are also concerned that SANRAL appears to not be prepared to invest the financial resources needed for new bridges to develop effective one-way systems for these towns. The Mthatha Municipality in particular are concerned about SANRAL's proposals to implement a limited one-way system that would not require the construction of a new bridge over the Mthatha River. They believe that such a system will not alleviate the traffic problems in the city and feel that SANRAL is ignoring the town's needs.

In Butterworth and Idutywa the local municipalities were not well informed about the highway development but some concern was expressed about the existing main road being turned into a one-way street as this would impact negatively on the business activities of the town and would split the town. A preference was expressed for the development of two one-way streets on either side of the main road that would leave the centre of the town intact.

Bypasses for towns

SANRAL has previously discussed with the local municipalities the possibility of developing bypasses for these three towns and identified some routes. In some cases the land that is needed has been acquired. There are some concerns amongst local residents and business people about the negative impact the bypasses will have on the local economies due to the loss of business from bypassing traffic. At the same time there is recognition of the traffic congestion problems in the city centres and the contribution

that the bypasses could make to the alleviation of these problems. There is considerable support from relevant members of the Mthatha municipal staff for such a bypass, but a concern that SANRAL may abandon the plans to develop the one-way street plan and construction of a new bridge over the Mthatha River if it gets approval for a bypass. They argue that it will remain SANRAL's responsibility to develop this one-way system as the road to Kokstad will remain a national road.

Off ramps and interchanges for towns

There was some concern amongst the Mthatha municipal officials about SANRAL's proposal to have only two interchanges for Mthatha on either end of the bypass. This was considered inadequate and a strong plea was made for a third interchange to access the centre of the city.

Confusion about the highway process

There was some confusion about the proposed highway and its links to current SANRAL maintenance activities along this section of road. To quote one respondent: 'If the highway project is not yet approved then why is SANRAL constructing fences and gates now?' SANRAL's current maintenance activities with respect to fences have given people the impression that the highway has been approved and is going ahead. Residents were therefore confused about why we were still busy with discussions and not with decision making. In fact they were irritated with all the 'consultations' and the lack of action. It is also possible that these perceptions about SANRAL's current activities will lead people to expect that their access points to the highway have been agreed on (through the current negotiations around the fences) and will not be further restricted as a result of the highway.

Section 7 – Mthamvuna River to Isipingo Interchange:

Social effects of increased congestion on non toll roads and critical access points

A serious concern of most of the interest groups that were consulted was the perceived lack of a viable alternative route to the N2 if it is tolled. The R102, which is aligned roughly parallel to the N2 from Ramsgate to Port Shepstone, is already seen as being congested with an increased volume of traffic potentially creating a safety hazard, pollution and excessive noise. If the N2 is tolled interest groups predict that these problems will intensify. With the R61 upgraded to become the N2 there will be no other route between Port Edward and Southbroom.

Social effects of regional economic development

Some stakeholders have come out in support of the toll road providing that mitigatory concessions are in place. They argue this by saying that the economy of the region will benefit from improved access along the coast southwards towards the Eastern Cape. Many of the stakeholders in the area south of Port Shepstone are equally positive and argue that this will have a very positive impact on the economic prospects of the sub-region as they will no longer be in a *cul-de-sac*.

Social effects of potential improvement in transport provision to the area

The South Coast was described as a virtual *cul-de-sac* by some members of the SCCC. The upgraded and tolled N2 has the potential to open an effective gateway to the Eastern Cape and *vice versa*. The

upgraded N2 has the potential to become an extension to the already successful southern portion of the N2 (Garden Route).

Along this section of the road the following impacts, as described and assessed below, are likely to emerge.

Social effects of increased congestion on non toll roads and critical access points

A serious concern of most of the interest groups that were consulted was the perceived lack of a viable alternative route to the N2 if it is tolled. The R102, which is aligned roughly parallel to the N2 from Port Shepstone to Durban, is already seen as being congested with an increased volume of traffic potentially creating a safety hazard, pollution and excessive noise. If the N2 is tolled interest groups predict that these problems will intensify.

Secondary effects such as potential increased crime

This was expressed in much the same terms as concerns around the link between construction and HIV/AIDS. As the number of construction workers increases, the opportunities to destabilise community structures also increases. Some stakeholders felt that this was likely to increase crime rates. Crime is already seen as a major issue in some parts of the South Coast and an increase will negatively impact on its viability as a tourist destination.

*Social effects of increased road pollutants and impacts on healt*h

Stakeholders identified the issue of increases in pollutants as potentially problematic. In particular stakeholders in the Durban south industrial basin pointed out the already poor air quality in the Prospecton area. They were of the opinion that vehicle emissions, and particularly the potential traffic congestion at the Toll Plaza, would impact negatively on health levels.

4.2. Impacts identified and assessed

Based on the various issue raised across all sections of the route the following 29 impacts have been identified;

- Increased regional economic developments
- Increased employment opportunities
- Increased SMME opportunities
- Improved safety for vehicle road users
- Increased cost of doing business and concomitant loss of income
- Increased cost of accessing services and employment for marginal communities
- Increased cost of accessing services and employment for advantaged communities
- The reduction of access points onto the highway
- Increase in noise levels
- Increase in health risks and traffic generated pollutants
- Increased safety hazards for pedestrians and traffic

- Increased HIV/AIDS and STD risks associated with construction gangs and increased truck traffic
- Secondary effects such as potential increased crime
- Construction related traffic delays and traffic accommodation
- Potential increase in tensions in the taxi industry
- Improvement in local traffic congestion within the towns through which the highway passes
- Improved livestock safety
- Loss of use of the existing road reserve to local communities
- Resettlement of affected households
- Loss of land for 'host communities' due to resettlement
- The allocation of arable land to displaced households (residential)
- Rural severance effects
- Urban severance effects
- Loss and disturbance of sites of cultural, spiritual or religious significance
- Uncontrolled ribbon development
- Improvement in transport within the area
- Visual impact and disruption of sense of place
- Increased congestion on non toll roads and at critical access points
- Impacts on Towns on the Current N2 that will be bypassed.

Each of these impacts will be described and will be assessed in accordance with all 7 sections of the route. It should be noted that under the "do nothing" scenario the impacts would not accrue. While the negative impacts that would not accrue e.g. increased cost of doing business, would be of some relief to many stakeholders, the fact that the positive impacts would also not accrue needs to be considered. In this regard an impact relevant only to the "do nothing alternative" is also considered. This impact has been described as "social impacts of the do nothing alternative"

4.2.1. Increased regional economic development.

Description of impact: The introduction of the highway will strengthen transport linkages and increase the flow of traffic between the Durban and East London metropoles and beyond along the N2. On the social level this could be associated with the potential of capacity building available to communities along the route and the sustainability of those communities. Capacity building involves a community's access to human, social, physical, financial and natural capital.

The Economics Report commissioned for the EIA indicates that, "due to the reduction of generalised travel costs, the generation of new business activity and additional land use development, the following economic sub-sectors in the Eastern Cape and KwaZulu-Natal will enjoy increased income: (1) agriculture, (2) forestry, (3) manufacturing, (4) construction (i.e. property development), (5) finance and real estate, and (6) trade, tourism and catering. Due to an influx

of construction workforce, and later also road users/tourists, it is expected that subsistence farming will start to give way to surplus/market oriented farming" (Pienaar and Bester, 2008:2.4).

Optimisation of benefits: This is a positive impact and as such mitigation is not required. However, the greater the affordability of the road the greater the positive regional economic impacts are likely to be.

Assessment:

Sections 1 and 2: Gonubie Interchange to Mthatha (Ngqeleni): As a result of considerable traffic safety hazards along the current N2 through the former Transkei, many travellers prefer to travel from Durban to Cape Town (or *vice versa*) on the N3/N1 rather than risk the N2. The new highway has the potential to significantly improve safety for travellers and make this road more attractive to bypassing traffic and persons wanting to do business in the former Transkei, and in the process, increase the economic benefits for the region. Given the old adage that 'roads create wealth', the improved linkage will lead to increased wealth in the East London (Buffalo City) area and have concomitant positive impacts in terms of increased levels of wealth. The total 'stock' of physical, financial, social and human capital will be increased.

Without mitigation: Along this section of the route, it is anticipated that, during the construction phase, there is likely to be no significant impact. However, during the operational phase this impact will be positive, of high significance and will definitely occur. The intensity will be high, the duration permanent and the extent regional. This impact is assessed with a high level of confidence.

With mitigation: This is a positive impact and as such mitigation is not required. However, the greater the affordability of the road the greater the positive regional economic impacts are likely to be.

Section 3: Mthatha (Ngqeleni) to Ndwalane: Considering the description of the environs of Thombo, and a demographic description that reflects a high percentage of women-headed households with high unemployment and low levels of household income, this improved linkage could lead to increased wealth with concomitant positive impacts at a local level. It is likely that the total 'stock' of physical, financial, social and human capital along this section would increase brought about through a rise in traffic through the area.

Without mitigation: Along this section of the route, it is anticipated that, during the construction phase, there is likely to be no significant impact. However, during the operational phase and without mitigation this impact will be positive, of medium significance and will definitely occur. This impact is assessed with a high level of confidence.

With mitigation: This is a positive impact and as such mitigation is not required. However, the greater the affordability of the road the greater the positive regional economic impacts are likely to be.

Section 4: Ndwalane to Ntafufu River: The section between Ndwalane and the Ntafufu River is

predominantly rural in nature and is likely to benefit through wider access as was indicated in an interview with Queen Ndamase and with farmers in the area. Farmers believed that the road would provide a shorter route for them to be able to access growing markets, particularly in Durban and East London. The Ntafufu focus group attendees expressed serious concerns about the area's historic isolation and relative neglect indicating that the road was a means of addressing this isolation. Consequently, it is likely that the total 'stock' of physical, financial, social and human capital along this section would increase brought about through a rise in traffic through the area.

Without mitigation: Along this section of the route, it is anticipated that, during the construction phase, there is likely to be no significant impact. However, it is anticipated that, during the operational phase, and without mitigation, this impact will be positive, of a medium significance and will definitely occur. This impact is assessed with a high level of confidence.

With mitigation: This is a positive impact and as such mitigation is not required. However, the greater the affordability of the road the greater the positive regional economic impacts are likely to be.

Section 5: Ntafufu River to Lusikisiki (Magwa Intersection): Considering the description of this section of the route and a demographic description indicating a high percentage of women-headed households with high unemployment and low levels of household income at R17 337 in Ward 10 and R16 007 in Ward 3, this improved linkage could lead to increased wealth with associated positive impacts at a local level. It is likely that the total 'stock' of physical, financial, social and human capital along this section would increase brought about through a rise in traffic through the area (see the economic impact assessment, Pienaar and Bester, 2007). A number of focus group participants, particularly amongst the women and the youth, identified a range of economic benefits such as the potential to sell locally manufactured goods, and the possibility for developments such as hotels which they believe would materialise once the road improves access to the area. The findings of the tourism report confirm these expectations, predicting that the road will lead to an increase in tourism in the area (Jansen van Vuuren and Murcott, 2007:24-25).

Without mitigation: Along this section of the route, it is anticipated that, during the construction phase, there is likely to be no significant impact. However, it is anticipated that, during the operational phase, and without mitigation, this impact will be positive, of medium significance and will definitely occur. This impact is assessed with a high level of confidence.

With mitigation: This is a positive impact and as such mitigation is not required. However, the greater the affordability of the road the greater the positive regional economic impacts are likely to be.

Section 6: Lusikisiki (Magwa Intersection) to Mthamvuna River: This section of the route is characterised by a high level of poverty and despair caused through isolation and little hope for the future. Unemployment levels are amongst the highest along the route at 83% in Ward 21 and 85% in Ward 23 with similarly low levels of household income of R10 597 and

R13 434 in Wards 21 and 23 respectively. Further north, where job are more plentiful in KwaZulu-Natal, unemployment is at 65% and household income at R21 934 in Ward 2 of Mbizana Local Municipality where Mahaha is situated. Considering this situation the road could open the area resulting in '[a]n increase in transit tourists on a KwaZulu-Natal/ Eastern Cape/ Western Cape route' (Jansen van Vuuren and Murcott, 2007:25). This is likely to increase wealth in the area with associated positive impacts at a local level. It is likely that the total 'stock' of physical, financial, social and human capital along this section would increase through the project, brought about by a rise in traffic through the area (see the economic impact assessment, Pienaar and Bester, 2007).

Without mitigation: Along this section of the route, it is anticipated that, during the construction phase, there is likely to be no significant impact. However, it is anticipated that, during the operational phase, and without mitigation, this impact will be positive, of medium significance and will definitely occur. This impact is assessed with a high level of confidence.

With mitigation: This is a positive impact and as such mitigation is not required. However, the greater the affordability of the road the greater the positive regional economic impacts are likely to be.

Section 7: Mthamvuna River to Isipingo Interchange: The strengthening of transport linkages and an increase in the flow of traffic between the Durban and East London Metropoles are likely to open the area to economic activity. This was mentioned as a potentially positive impact by some stakeholders in the areas as access to the Eastern Cape from KwaZulu-Natal is relatively problematic. The regional economic analysis (Pienaar and Bester 2007) points to the regional economic impact of the road as being substantially positive for the economies of the Eastern Cape and KwaZulu-Natal. Stakeholders were however generally more positive about this impact the further away from Durban they were. This was perceived as an only marginally positive impact by many stakeholders in the immediate Durban area.

Along the lower South Coast, this impact was mentioned as a potentially very positive impact by some stakeholders as the lower South Coast was regarded as something of a *cul-de-sac*. This improved linkage will lead to increased wealth with concomitant positive impacts along this section of the route. The total 'stock' of physical, financial, social and human capital along this section is likely to increase.

Without mitigation: Before mitigation the operational phase of this impact is positive, of medium significance and will definitely occur. This impact is assessed with a high level of confidence.

With mitigation: This is a positive impact and as such mitigation is not required. However, the greater the affordability of the road the greater the positive regional economic impacts are likely to be.

A summary of the impacts that an increased regional economic development will have along each section of the route is provided below in Table 4.1.

Table 4.1: Increased regional economic development

Phase	Extent	Duration	Intensity	Probability	Significance	Status	Confidence
Section 1 & 2: Gonubie Interchange to Mthatha (Ngqeleni) Without Mitigation							
Construction	NA	NA	NA	NA	NA	NA	NA
Operational	Regional	Permanent	High	Definite	High	Positive	High
Section 1 & 2: Gonubie Interchange to Mthatha (Ngqeleni) With Mitigation							
Construction	NA	NA	NA	NA	NA	NA	NA
Operational	Regional	Permanent	High	Definite	High	Positive	High
Section 3: Mthatha (Ngqeleni) to Ndwalane Without Mitigation							
Construction	NA	NA	NA	NA	NA	NA	NA
Operational	Regional	Permanent	High	Definite	Medium	Positive	High
Section 3: Mthatha (Ngqeleni) to Ndwalane With Mitigation							
Construction	NA	NA	NA	NA	NA	NA	NA
Operational	Regional	Permanent	High	Definite	Medium	Positive	High
Section 4: Ndwalane to Ntafufu River Without Mitigation							
Construction	NA	NA	NA	NA	NA	NA	NA
Operational	Regional	Permanent	High	Definite	Medium	Positive	High
Section 4: Ndwalane to Ntafufu River With Mitigation							
Construction	NA	NA	NA	NA	NA	NA	NA
Operational	Regional	Permanent	High	Definite	Medium	Positive	High
Section 5: Ntafufu River to Lusikisiki (Magwa Intersection) Without Mitigation							
Construction	NA	NA	NA	NA	NA	NA	NA
Operational	Regional	Permanent	High	Definite	Medium	Positive	High
Section 5: Ntafufu River to Lusikisiki (Magwa Intersection) With Mitigation							
Construction	NA	NA	NA	NA	NA	NA	NA
Operational	Regional	Permanent	High	Definite	Medium	Positive	High
Section 6: Lusikisiki (Magwa Intersection) to Mthamvuna River Without Mitigation							
Construction	NA	NA	NA	NA	NA	NA	NA
Operational	Regional	Permanent	High	Definite	Medium	Positive	High
Section 6: Lusikisiki (Magwa Intersection) to Mthamvuna River With Mitigation							
Construction	NA	NA	NA	NA	NA	NA	NA
Operational	Regional	Permanent	High	Definite	Medium	Positive	High
Section 7: Mthamvuna River to Isipingo Interchange Without Mitigation							
Construction	NA	NA	NA	NA	NA	NA	NA
Operational	Regional	Permanent	High	Definite	Medium	Positive	High
Section 7: Mthamvuna River to Isipingo Interchange With Mitigation							
Construction	NA	NA	NA	NA	NA	NA	NA
Operational	Regional	Permanent	High	Definite	Medium	Positive	High

4.2.2. Increased employment opportunities

Description of impact: The road is likely to create jobs during both the construction and operational phases of the project.

The Economics Report (Pienaar and Bester, 2008:2.15) indicates that approximately 6 800 project-related jobs will be generated annually during the construction phase. There is the potential to generate up to 21 300 indirect or non-project-related jobs annually during this phase, resulting in a total employment creation of 28 100 jobs annually during construction. During the service period of the road there is the potential to generate approximately 900 directly road-related permanent (sustainable) jobs annually. Usage and operation of the road will generate approximately 18 000 indirect job opportunities per annum, resulting in an average employment creation of 18 900 jobs annually during the service period of the road.

Optimisation of benefits: To optimise the local level impact in respect of job creation.

Optimisation measures:

- Establish a 'labour and employment desk';
- Create opportunities for the employment of women;
- Where possible use labour-intensive methods of construction;
- Use local labour as far as possible
- Develop a community labour agreement with targets for employment and for progression
- Go beyond the minimum wage rate and invest in local staff

Assessment:

Sections 1 and 2: Gonubie Interchange to Mthatha (Ngqeleni): Given the old adage that 'roads create wealth', the stronger linkage will lead to increased wealth and have concomitant positive impacts in terms of increasing job opportunities. Most of this will be indirect but some opportunities e.g. toll booth operators will be direct employment. The construction of the road will also have positive impacts in terms of creating local level employment as well as national and regional employment in the construction sectors. Again, the total 'stock' of physical, financial, social and human capital will increase. An increase in job opportunities in the area can generally be assessed as being highly significant and positive.

Without mitigation: It is anticipated that, during the construction phase this impact will be temporary of high intensity, definite of medium to low significance and positive. During the operational phase the impact will be positive, of medium to low significance and will definitely occur. The impact is assessed with a high level of confidence.

With mitigation: If the mitigation measures are successfully implemented then the operational phase of this impact will remain positive but will be of medium significance and high intensity.

Section 3: Mthatha (Ngqeleni) to Ndwalane: Although at 64% unemployment in the area is marginally lower than that found across the district which stood at 67% in 2001, there is still a high need for job creation in the area. With the construction of the road the potential for job creation is likely to increase (see discussion on job creation in the economic report, Pienaar and Bester, 2007:2.8). Both direct and indirect jobs of a temporary nature are likely to occur during the construction phase of the project while the operational phase is likely to generate more permanent and sustainable employment opportunities. This is likely to boost the household income in the area, which stood at R19 095 per annum and in 2001 was reflected as being much lower than that across the Eastern Cape. An increase in job opportunities in the area can generally be assessed as being highly significant and positive.

Without mitigation: It is anticipated that during both the construction and operational phases of the project this impact will be positive, and will definitely occur. The difference between the construction and operation phases of the project is that during construction the impact will be of a temporary nature and

high significance, while during the operational phase it will be of a more permanent nature and of medium significance. The impact is assessed with a high level of confidence.

With mitigation: If the mitigation measures are successfully implemented then the operational phase of this impact will remain positive and be of high significance.

Section 4: Ndwalane to Ntafufu River: Unemployment in the Port St Johns municipal area is at 48% and although it is lower than that found across the district which stood at 67% in 2001, there is still a high need for job creation in the area as most jobs are in the town of Port St Johns. In the Ntafufu area unemployment was at 80% in Ward 1 with a high level of female headed households. With the construction of the road the potential for job creation is likely to increase in the area. Both direct and indirect jobs of a temporary nature are likely to occur during the construction phase of the project while the operational phase is likely to generate more permanent and sustainable employment opportunities. This is likely to boost the household income in the area which stood at R20 573 per annum and in Ward 1 (Census, 2001) and is consequently reflected as being much lower than that across the Eastern Cape. An increase in job opportunities in the area can generally be assessed as being highly significant and positive.

Without mitigation: It is anticipated that during both the construction and operational phases of the project this impact will be positive, and will definitely occur. The difference between the construction and operation phases of the project is that during construction the impact will be of a temporary nature and high significance, while during the operational phase it will be of a more permanent nature and of medium significance. The impact is assessed with a high level of confidence.

With mitigation: If the mitigation measures are successfully implemented then the operational phase of this impact will remain positive and be of high significance.

Section 5: Ntafufu River to Lusikisiki (Magwa Intersection): Unemployment, at 69% in Ward 10 and 73% in Ward 3, is higher than what is found across the district which stood at 67% in 2001 and there is a high need for job creation in the area. With the construction of the road the potential for job creation is likely to increase (see discussion on job creation in the economic report, Pienaar and Bester, 2007:2.8). Both direct and indirect jobs of a temporary nature are likely to occur during the construction phase of the project while the operational phase is likely to generate more permanent and sustainable employment opportunities. This is likely to help boost the household income in the area, which in 2001, stood at R16 000 in Ward 3 of the Port St Johns Local Municipality. An increase in job opportunities in the area can generally be assessed as being highly significant and positive.

Without mitigation: It is anticipated that during both the construction and operational phases of the project this impact will be positive, and will definitely occur. The difference between the construction and operation phases of the project is that during construction the impact will be of a temporary nature and high significance, while during the operational phase it will be of a more permanent nature and of medium

significance. The impact is assessed with a high level of confidence.

With mitigation: If the mitigation measures are successfully implemented then the operational phase of this impact will remain positive and be of high significance.

Section 6: Lusikisiki (Magwa Intersection) to Mthamvuna River: Considering the unemployment levels and low levels of household income found in this area as described under the previous impact the need for both direct and indirect job creation in this area is high. It has been found (Pienaar and Bester, 2007:2.8) that with the construction of the road the potential for both direct and indirect jobs is likely to increase. This is likely to help reduce unemployment in the area and boost the household income.

Without mitigation: It is anticipated that during both the construction and operational phases of the project this impact will be positive and will definitely occur. The difference between the construction and operation phases of the project is that during construction the impact will be of a temporary nature with high significance, while during the operational phase it will be of a more permanent nature and of medium significance. The impact is assessed with a high level of confidence.

With mitigation: If the mitigation measures are successfully implemented then the operational phase of this impact will remain positive and will be at a medium to high significance.

Section 7a: Mthamvuna River to Port Shepstone:Without mitigation: For the Mthamvuna to Port Shepstone area the unemployment situation, while perhaps not as extreme as it is in many other parts of the country, is nevertheless cause for concern. With the construction of the road the potential for job creation is likely to increase (see discussion on job creation in the economic assessment of the project, Pienaar and Bester, 2007). Both direct and indirect jobs of a temporary nature are likely to occur during the construction phase of the project, while the operational phase is likely to generate more permanent and sustainable employment opportunities. This is likely to boost the household income among the poorer parts of the community.

Without mitigation: Before mitigation the construction phase of this impact is positive, of medium significance and will definitely occur. The intensity will be medium, the duration temporary and the extent local and regional. This impact is assessed with a high level of confidence. The operational phase of this impact is assessed with a high level of confidence and is positive, of low to medium significance and will definitely occur.

With mitigation: If the mitigation measures are successfully implemented then the construction phase of this impact will remain positive, but will be of high significance and high intensity. This is assessed with a high level of confidence.

Section 7b: Port Shepstone to Isipingo Interchange: For the Port Shepstone to Isipingo area the unemployment situation, while perhaps not as extreme as in many of the other parts of the country, is

nevertheless cause for concern in some parts. Areas around Umbumbulu and KwaMakhuta have very high levels of unemployment. With the construction of the road the potential for job creation is likely to increase (see discussion on job creation in the economic assessment of the project, Pienaar and Bester, 2007). Both direct and indirect jobs of a temporary nature are likely to occur during the construction phase of the project while the operational phase is likely to generate more permanent and sustainable employment opportunities. This is likely to boost the household income among the poorer parts of the community. It should be noted, however, that the opportunities that will be created in the greater Durban – Port Shepstone areas are not as great as some other parts of the road.

Without mitigation: Before mitigation the construction phase of this impact is positive, of medium significance and will definitely occur. The intensity will be medium, the duration temporary and the extent local and regional. This impact is assessed with a high level of confidence. The operational phase of this impact is assessed with a high level of confidence and is positive, of low to medium significance and will definitely occur.

With mitigation: If the mitigation measures are successfully implemented then the construction phase of this impact will remain positive, but will be of high significance and high intensity. This is assessed with a high level of confidence.

A summary of the impacts that increased employment opportunities will have along each section of the route is provided below in Table 4.2.

Table 4.2: Increased employment opportunities

Phase	Extent	Duration	Intensity	Probability	Significance	Status	Confidence
Section 1 & 2: Gonubie Interchange to Mthatha (Ngqeleni) Without Mitigation							
Construction	Local & Regional	Temporary	High	Definite	Medium to Low	Positive	High
Operational	Local	Permanent	High	Definite	Medium to Low	Positive	High
Section 1 & 2: Gonubie Interchange to Mthatha (Ngqeleni) With Mitigation							
Construction	Local & Regional	Temporary	High	Definite	High	Positive	High
Operational	Local	Permanent	High	Definite	Medium	Positive	High
Section 3: Mthatha (Ngqeleni) to Ndwalane Without Mitigation							
Construction	Local & Regional	Temporary	High	Definite	High	Positive	High
Operational	Local	Permanent	High	Definite	Medium	Positive	High
Section 3: Mthatha (Ngqeleni) to Ndwalane With Mitigation							
Construction	Local & Regional	Temporary	High	Definite	High	Positive	High
Operational	Local	Permanent	High	Definite	High	Positive	High
Section 4: Ndwalane to Ntafufu River Without Mitigation							
Construction	Local & Regional	Temporary	High	Definite	High	Positive	High
Operational	Local	Permanent	High	Definite	Medium	Positive	High
Section 4: Ndwalane to Ntafufu River With Mitigation							
Construction	Local & Regional	Temporary	High	Definite	High	Positive	High
Operational	Local	Permanent	High	Definite	High	Positive	High
Section 5: Ntafufu River to Lusikisiki (Magwa Intersection) Without Mitigation							
Construction	Local & Regional	Temporary	High	Definite	High	Positive	High
Operational	Local	Permanent	High	Definite	Medium	Positive	High
Section 5: Ntafufu River to Lusikisiki (Magwa Intersection) With Mitigation							
Construction	Local & Regional	Temporary	High	Definite	High	Positive	High
Operational	Local	Permanent	High	Definite	High	Positive	High
Section 6: Lusikisiki (Magwa Intersection) to Mthamvuna River Without Mitigation							
Construction	Local & Regional	Temporary	High	Definite	High	Positive	High
Operational	Local	Permanent	High	Definite	Medium	Positive	High
Section 6: Lusikisiki (Magwa Intersection) to Mthamvuna River With Mitigation							
Construction	Local & Regional	Temporary	High	Definite	High	Positive	High
Operational	Local	Permanent	High	Definite	Medium to High	Positive	High
Section 7a: Mthamvuna River to Port Shepstone Without Mitigation							
Construction	Local &Regional	Temporary	Medium	Definite	Medium	Positive	High
Operational	Local & regional	Permanent	High	Definite	Low to Medium	Positive	High
Section 7a: Mthamvuna River to Port Shepstone With Mitigation							
Construction	Local & Regional	Temporary	High	Definite	High	Positive	High
Operational	Local & regional	Permanent	High	Definite	Medium	Positive	High
Section 7b: Port Shepstone to Isipingo Interchange Without Mitigation							
Construction	Local & Regional	Temporary	Medium	Definite	Medium	Positive	High
Operational	Local & Regional	Permanent	High	Definite	Low to Medium	Positive	High
Section 7b: Port Shepstone to Isipingo Interchange Without Mitigation							
Construction	Local & Regional	Temporary	High	Definite	High	Positive	High
Operational	Local & Regional	Permanent	High	Definite	Medium	Positive	High

4.2.3. Increased SMME opportunities

Description of impact: The construction of the road will have positive impacts in terms of increasing direct opportunities for SMMEs during both the construction and operational phases of the project.

What must, however, be noted is that there is currently a lack of appropriate SMMEs in the area. This is particularly true in the more rural areas and is most likely to limit the opportunity for local SMMEs, at least in the initial stages of the project thus placing emphasis on the mitigation measures.

Optimisation of benefits: To optimise the local level impact of opening SMMEs.

Optimisation measures:

- Establish a local SMME recruitment preference policy;
- Implement a monitoring system to ensure that the Concessionaire honours the local SMME recruitment preference policy.

Assessment:

Sections 1 and 2: Gonubie Interchange to Mthatha (Ngqeleni): The construction of the road will have positive impacts in terms of increasing direct opportunities for SMMEs during the construction phase. There may also be some direct opportunities for SMMEs during the operational phase, e.g. fence maintenance, the cutting of grass, cleaning of the road reserves and road maintenance. The indirect positive impact on economic growth in the region should also expand business opportunities for SMMEs, enhancing local financial and human capital assets.

Without mitigation: It is anticipated that, during the construction phase of the project, the duration is temporary, the intensity medium, probability definite, significance low and the status positive. While during the operational phase opportunities for SMMEs could be seen to be positive, of low significance, medium to high intensity and definite probability. This impact is assessed with a high level of confidence.

With mitigation: If the mitigation measures are successfully implemented then the construction phase would be raise to a high intensity and medium to high significance.

Section 3 - 6: Mthatha (Ngqeleni) to Mthamvuna River: It was established that the area is characterised by a high level of unemployment as well as women-headed households and has low levels of household income. It is likely that various opportunities will arise for medium and small contractors during the construction phase of the road and this could help to alleviate the financial burden faced by many households in the area. In this sense, there may be some direct opportunities for SMMEs during the operational phase of the project that would provide a sustainable source of income for a number of households in the area. For instance, fence maintenance, the cutting of grass, cleaning of the road reserves and road maintenance could all be contracted out. The indirect positive impact on economic growth in the region should also expand business opportunities for SMMEs, enhancing local financial and human capital assets.

Some of the people interviewed during this study indicated that they had skills in respect of services, sales, crafts and related talents that could possibly be put to use in generating an income through the establishment of SMMEs. In the study on tourism, undertaken by Grant Thornton (Jansen van Vuuren, & Murcott, 2007:37), it was estimated that, due to the project, an additional 2,230 tourists would visit the area between Mthatha and Ntafufu River in 2010 and that this would rise to 56,185 by 2015. With this as a general introduction across sections 3 – 6 each section will be given more specific attention below.

Section 3: Mthatha (Ngqeleni) to Ndwalane: It was noted by Queen Ndamase that quicker access into Port St Johns will open markets expanding the potential for enterprises and employment opportunities. This was supported by the findings of the Grant Thornton study (Jansen van Vuuren, & Murcott, 2007:37), which estimated that, due to the project, an additional 2,230 tourists would visit the area between Mthatha and Ntafufu River in 2010 and that this would rise to 56,185 by 2015.

Without mitigation: Against the above background it is anticipated that, without mitigation, opportunities for SMMEs could be seen to be positive, of low significance and will definitely occur. This impact is assessed with a high level of confidence.

With mitigation: If the mitigation measures are successfully implemented then the construction phase would be raised to a medium to high intensity and significance and the operational phase to high intensity and medium to high significance.

Section 4: Ndwalane to Ntafufu River: A number of women indicated during the focus group sessions that they had gained road construction experience during the 2001 upgrade and surfacing of the R61 which they could call upon. The indirect positive impact on economic growth in the region should also expand business opportunities for SMMEs, enhancing local financial and human capital assets.

Without mitigation: Against the above background it is anticipated that, without mitigation, opportunities for SMMEs could be seen to be positive, of low significance and will definitely occur. This impact is assessed with a high level of confidence.

With mitigation: If the mitigation measures are successfully implemented then the construction phase would be raised to a medium to high intensity and significance and the operational phase to high intensity and medium to high significance.

Section 5: Ntafufu River to Lusikisiki (Magwa Intersection): Some of the people interviewed during this study indicated that they had skills in respect of services, sales, crafts and related talents that could possibly be put to use in generating an income through the establishment of SMMEs. The study on tourism, undertaken by Grant Thornton (Jansen van Vuuren, & Murcott, 2007:57), predicted with ' …high confidence that growth in tourism products will definitely lead to an increase in the number of tourism products in Section 5 and this increase will be permanent. It will have a medium intensity impact and it will be very beneficial to Section 5 in terms of economic development and job creation.'

Without mitigation: Against the above background it is anticipated that, without mitigation, opportunities for SMMEs could be seen to be positive, of low significance and will definitely occur. This impact is assessed with a high level of confidence.

With mitigation: If the mitigation measures are successfully implemented then the construction phase would be raised to a medium to high intensity and significance and the operational phase to high intensity and medium to high significance.

Section 6: Lusikisiki (Magwa Intersection) to Mthamvuna River: Along this section of the route, there was a general perception amongst focus group attendees, in all areas and across all categories, that the road would open this area bringing a wide range of enterprise opportunities directly through the road and

indirectly through an increase in tourism. The Grant Thornton tourism study (Jansen van Vuuren, & Murcott, 2007:53-55) confidently predicts an increase in tourism to this area as a direct result of the road.

Without mitigation: Against the above background it is anticipated that, without mitigation, opportunities for SMMEs could be seen to be positive, of low significance and will definitely occur. This impact is assessed with a high level of confidence.

With mitigation: If the mitigation measures are successfully implemented then the construction phase would be raised to a medium to high intensity and significance and the operational phase to high intensity and medium to high significance.

Section 7: Mthamvuna River to Isipingo Interchange: It is likely that, along this section of the route, various opportunities will arise for medium and small contractors during the construction phase and for other SMMEs through tourism. It should be noted that the Port Shepstone to Durban section of the route has a well established economic base that can provide these kinds of SMME enterprises.

Without mitigation: The construction phase of this impact is positive, of low significance and will definitely occur. The intensity will be medium, the duration temporary and the extent local. This impact is assessed with a high level of confidence. Before mitigation the operational phase of this impact is positive, of low significance and will definitely.

With mitigation: If the mitigation measures are successfully implemented then the construction phase would be raised to a medium to high intensity and significance and the operational phase to a high intensity and medium to high significance.

A summary of the impacts that potential increased SMME opportunities will have along each section of the route is provided below in Table 4.3.

Table 4.3: Increased SMME opportunities

Phase	Extent	Duration	Intensity	Probability	Significance	Status	Confidence
Section 1 & 2: Gonubie Interchange to Mthatha (Ngqeleni) Without Mitigation							
Construction	Local	Temporary	Medium	Definite	Low	Positive	High
Operational	Regional	Permanent	Medium to high	Definite	Low	Positive	High
Section 1 & 2: Gonubie Interchange to Mthatha (Ngqeleni) With Mitigation							
Construction	Local	Temporary	Medium to high	Definite	Medium to high	Positive	High
Operational	Regional	Permanent	High	Definite	Medium to high	Positive	High
Section 3: Mthatha (Ngqeleni) to Ndwalane Without Mitigation							
Construction	Local	Temporary	Medium	Definite	Low	Positive	High
Operational	Regional	Permanent	Medium to High	Definite	Low	Positive	High
Section 3: Mthatha (Ngqeleni) to Ndwalane With Mitigation							
Construction	Local	Temporary	Medium to High	Definite	Medium to high	Positive	High
Operational	Regional	Permanent	High	Definite	Medium to high	Positive	High
Section 4: Ndwalane to Ntafufu River Without Mitigation							
Construction	Local	Temporary	Medium	Definite	Low	Positive	High
Operational	Regional	Permanent	Medium to High	Definite	Low	Positive	High
Section 4: Ndwalane to Ntafufu River With Mitigation							
Construction	Local	Temporary	Medium to High	Definite	Medium to high	Positive	High
Operational	Regional	Permanent	High	Definite	Medium to high	Positive	High
Section 5: Ntafufu River to Lusikisiki (Magwa Intersection) Without Mitigation							
Construction	Local	Temporary	Medium	Definite	Low	Positive	High
Operational	Regional	Permanent	Medium to High	Definite	Low	Positive	High
Section 5: Ntafufu River to Lusikisiki (Magwa Intersection) With Mitigation							
Construction	Local	Temporary	Medium to High	Definite	Medium to high	Positive	High
Operational	Regional	Permanent	High	Definite	Medium to high	Positive	High
Section 6: Lusikisiki (Magwa Intersection) to Mthamvuna River Without Mitigation							
Construction	Local	Temporary	Medium	Definite	Low	Positive	High
Operational	Regional	Permanent	Medium to High	Definite	Low	Positive	High
Section 6: Lusikisiki (Magwa Intersection) to Mthamvuna River With Mitigation							
Construction	Local	Temporary	Medium to High	Definite	Medium to high	Positive	High
Operational	Regional	Permanent	High	Definite	Medium to high	Positive	High
Section 7: Mthamvuna River to Isipingo Interchange Without Mitigation							
Construction	Local	Temporary	Medium	Definite	Low	Positive	High
Operational	Regional	Permanent	Medium to High	Definite	Low	Positive	High
Section 7: Mthamvuna River to Isipingo Interchange With Mitigation							
Construction	Local	Temporary	Medium to High	Definite	Medium to high	Positive	High
Operational	Regional	Permanent	High	Definite	Medium to high	Positive	High

4.2.4. Improved safety for vehicle road users

Description of impact: The existing road has been associated with significant safety hazards as indicated below.

Optimisation of benefits: Optimisation of improved safety for road users.

Optimisation measures:

- Ensure close cooperation and effective communication between all relevant traffic authorities;
- Introduce active and efficient traffic control and development mechanisms
- Carefully selected and positioned under- and over-passes.

Effective mitigation measures of this sort will only address some of the traffic safety risks but not all, as road safety is an issue of national concern. Increasing volumes of high speed traffic and continued poor road user behaviour will continue to create traffic safety risks unless addressed on a national level.

Consequently, the adoption of the mitigation measures proposed above will not result in any further observable improvements in traffic safety risks.

Assessment:

Section 1: Gonubie Interchange to Ngobozi: Between Gonubie and the Kei River, these hazards are linked to vehicles entering and leaving the road at intersections with access roads and farm gates, steep gradients, falling rocks and sharp bends. The upgrading of the road, improvement of interchanges and construction of under- and over-passes will reduce these traffic safety risks. However, the behaviour of road users and the potentially larger volumes of traffic will aggravate the impact of these improvements in traffic safety risks.

Without mitigation: It is anticipated that, during the operational phase and without mitigation this impact will be positive, of medium significance and will probable occur. This impact is assessed with a medium level of confidence.

With mitigation: The intensity is likely to increase to high and the probability to highly probable.

Section 2: Ngobozi to Mthatha (Ngqeleni): These hazards are particularly relevant in the former Transkei sections due to the high number of animals and pedestrians on the road, as well as unroadworthy vehicles and numerous taxis that stop on the edge of the road. For instance, according to the last available accident statistics provided to SANRAL by the CSIR in 2004 (Fatal Crash Types per Main Route and Area from 1 Jan 2004 to 30 Sept 2004) 112 fatal accidents occurred on the N2 between East London and Mthatha between 1 January and 30 September 2004. This accounted for 19.73% of all main route accidents in the Eastern Cape. Of these fatalities, 56 involved pedestrians, 26 overturned vehicles and 15 head-on collisions. Although these statistics must be treated with extreme caution and it is difficult to make any accurate comparisons, as distances and vehicle frequency use are not indicated, this data does point towards the section of the N2 between East London and Umtata as being amongst the most accident prone in the country. The East London – Mthatha section is surpassed only by a section of the R61 (N9) between Aberdeen and Graaff Reinet with the highest accident rate in South Africa at 224 fatalities and a section of the N2 between Amamzimtoti and Durban with 123 fatalities recorded between 1 January and 30 September 2004.

As a result of these hazards, many travellers prefer to travel from Durban to Cape Town (or *vice versa*) on the N3/N1 rather than risk the N2. The new highway has the potential to significantly improve safety for travellers. This will make the use of the N2 more attractive to bypassing traffic and persons wanting to do business in the former Transkei, and in the process, increase the economic benefits for the region. It will also reduce the economic costs associated with traffic accidents.

Without mitigation: It is anticipated that, during the operational phase and without mitigation this impact will be positive, of high significance and will probably occur. This impact is assessed with a medium level of confidence.

With mitigation: The Intensity and probability are likely to increase slightly.

Section 3: Mthatha (Ngqeleni) to Ndwalane: The issue of safety on the existing road was raised during focus group sessions and interviews. These safety hazards are due to pedestrians on the road with particular emphasis on children crossing the road, as well as the uncontrolled roaming of animals. Unroadworthy vehicles and taxis that stop on the edge of the road are also a matter of concern. The new highway has the potential to significantly improve safety for road users and, as was pointed out during focus group sessions, result in an improvement in the condition of the local taxi fleet. It is likely that this will also reduce the human and economic costs associated with traffic accidents.

Without mitigation: It is anticipated that, during the operational phase this impact can be rated as positive, of high significance and will probably occur. This impact is assessed with a medium level of confidence.

With mitigation: With mitigation it is unlikely that this impact will change by any significant degree.

Section 4: Ndwalane to Ntafufu River: It was established via observation and emphasised during the focus group sessions that existing road conditions and transport services, both locally and on the R61, were poor and dangerous. It was held that a new road had the potential to improve these conditions.

Without mitigation: This impact can be rated as positive, of high significance and will probably occur. The impact is assessed with a medium level of confidence.

With mitigation: With mitigation: Mitigation is unlikely to have any significant impact.

Sections 5 and 6: Ntafufu River to Mthamvuna River: Although a Greenfields area, the issue of safety on the existing road was indirectly raised during focus group sessions with reference to the bad road condition in this area. The new highway has the potential to significantly improve safety for road users and, as was pointed out during focus group sessions, result in an improvement in the condition of the local taxi fleet. It is likely that this will also reduce the human and economic costs associated with traffic accidents.

Without mitigation: This impact can be rated as positive, of medium significance and will probably occur. The impact is assessed with a medium level of confidence.

With mitigation: If the mitigation measures are successfully implemented then the operational phase of this impact will remain positive while the intensity and significance will rise.

Section 7: Mthamvuna River to Isipingo Interchange: As much of this section of the route is along existing highway, road safety issues focused primarily on pedestrians. The matter of road safety and

pedestrians will receive specific attention at a later point in this report. Nevertheless, it must be pointed out that the N2 between Amamzimtoti and Durban with 123 fatalities recorded between 1 January and 30 September 2004 rates as having one of the highest fatality rates in South Africa these figures must, however, be treated with caution as they are relatively outdated, dating back to 2004, and are not based on consistent criteria such as distance and vehicle frequency.

A summary of the impacts that improved safety for vehicle road users will have along each section of the route is provided below in Table 4.4.

Table 4.4: Improved safety for vehicle road users

Phase	Extent	Duration	Intensity	Probability	Significance	Status	Confidence
Section 1: Gonubie Interchange to Ngobozi: Without Mitigation							
Construction	NA	NA	NA	NA	NA	NA	NA
Operational	Regional	Long–term	Medium	Probable	Medium	Positive	Medium
Section 1: Gonubie Interchange to Ngobozi: With Mitigation							
Construction	NA	NA	NA	NA	NA	NA	NA
Operational	Regional	Long–term	High	Highly probable	Medium	Positive	Medium
Section 2: Ngobozi to Mthatha (Ngqeleni) Without Mitigation							
Construction	NA	NA	NA	NA	NA	NA	NA
Operational	Regional	Long–term	High	Probable	High	Positive	Medium
Section 2: Ngobozi to Mthatha (Ngqeleni) With Mitigation							
Construction	NA	NA	NA	NA	NA	NA	NA
Operational	Regional	Long–term	Very high	Highly probable	High	Positive	Medium
Section 3: Mthatha (Ngqeleni) to Ndwalane Without Mitigation							
Construction	NA	NA	NA	NA	NA	NA	NA
Operational	Local	Long Term	High	Probable	High	Positive	Medium
Section 3: Mthatha (Ngqeleni) to Ndwalane With Mitigation							
Construction	NA	NA	NA	NA	NA	NA	NA
Operational	Local	Long Term	High	Probable	High	Positive	Medium
Section 4: Ndwalane to Ntafufu River Without Mitigation							
Construction	NA	NA	NA	NA	NA	NA	NA
Operational	Regional	Long Term	High	Probable	High	Positive	Medium
Section 4: Ndwalane to Ntafufu River With Mitigation							
Construction	NA	NA	NA	NA	NA	NA	NA
Operational	Regional	Long Term	High	Probable	High	Positive	Medium
Section 5: Ntafufu River to Lusikisiki (Magwa Intersection) Without Mitigation							
Construction	NA	NA	NA	NA	NA	NA	NA
Operational	Local	Long Term	Medium	Probable	Medium	Positive	Medium
Section 5: Ntafufu River to Lusikisiki (Magwa Intersection) With Mitigation							
Construction	NA	NA	NA	NA	NA	NA	NA
Operational	Local	Long Term	High	Probable	High	Positive	Medium
Section 6: Lusikisiki (Magwa Intersection) to Mthamvuna River Without Mitigation							
Construction	NA	NA	NA	NA	NA	NA	NA
Operational	Local	Long Term	Medium	Probable	Medium	Positive	Medium
Section 6: Lusikisiki (Magwa Intersection) to Mthamvuna River With Mitigation							
Construction	NA	NA	NA	NA	NA	NA	NA
Operational	Local	Long Term	High	Probable	High	Positive	Medium

4.2.5. Increased cost of doing business and concomitant loss of income

Description of impact: The introduction of tolls on the highway will have a negative impact on the cost of living and doing business. This is covered in great detail in the Economic Report that forms part of the EIA volumes, see for instance Pienaar and Bester, 2008.

Mitigation objective: Limit financial losses to local communities and businesses that may be caused by tolling.

Mitigation Measures:

- Reduce the number of toll points;
- Introduce concessions for local business;
- Where it could be demonstrated that the introduction of the toll road had been directly responsible for the creation of sub economic farming units then the developer should expropriate the units in their entirety providing adequate compensation;

Assessment:

Section 1: Gonubie Interchange to Ngobozi: Stakeholders argue that in some instances commercial farms that are now economic units will become marginal or unviable, should the toll road increase the cost of goods being transported in and out of the affected area. This, in turn, has the potential to lead to a loss of employment and consequently the reduction in community income, exacerbating poverty. Along this section of the highway, due to the proposed positioning of the toll plaza on the eastern side of the Kei River, this impact will only affect those local residents doing business in the former Transkei or in KwaZulu-Natal. Most residents along this section of road have their main economic relationships with consumers, businesses and institutions in East London and will therefore be largely unaffected by the tolls.

Without mitigation: In assessing this impact it is anticipated that during the operational phase and without mitigation this impact will be negative, of a medium significance and will definitely occur. The impact is assessed with a medium level of confidence.

With mitigation: If the mitigation measures are successfully implemented then the operational phase of this impact will remain negative while the intensity will decrease slightly.

Section 2: Ngobozi to Mthatha (Ngqeleni): Stakeholders, along this section of the route, argue that in some instances commercial farms that are now economic units will become marginal or unviable, should the toll road increase the cost of goods being transported in and out of the affected area. This, in turn, has the potential to lead to a loss of employment and consequently the reduction in community income, exacerbating poverty. The proposed positioning of toll plazas in the former Transkei should avoid the imposition of toll fees on local commuters who make up the majority (±75%) of commuters. However, tolling will impact on those undertaking longer journeys and many of those travelling for work purposes.

Without mitigation: In assessing this impact it is anticipated that during the operational phase and without mitigation this impact will be negative, of a medium intensity and significance and will definitely occur. The impact is assessed with a medium level of confidence.

With mitigation: If the mitigation measures are successfully implemented then although the impact remains negative, the intensity and significance decreases.

Sections 3 to 6: Mthatha (Ngqeleni) to Mthamvuna River: As these sections of the route did not comprise of national N2 segments of road the issues of the increased cost of doing business and concomitant loss of income was not a major issue raised, even along segments of the R61, where it was stated a new road of national highway status would be an advantage in the area. Along this section of the route issues relating to the loss of land and the severance effect of the road were regarded as more pertinent issues and consequently, will be more specifically addressed at a later stage below.

Section 7a: Mthamvuna River to Port Shepstone: The introduction of a toll has the potential to lead to a loss of employment and consequently the reduction in community income, exacerbating poverty. Tolling will impact on those undertaking longer journeys and many of those travelling for work purposes. Businesses in the lower South Coast area have pointed to their dependence on imports from Durban. With the toll fees all imported goods will cost more and this impacts on the cost of doing business. For marginal operations this, as has been stated, could lead to their demise.

Without mitigation: The operational phase of this impact is negative, of medium significance and will definitely occur. The impact is assessed with a medium level of confidence.

With mitigation: If the mitigation measures are successfully implemented then although the impact remains negative, the intensity and significance decreases.

Section 7b: Port Shepstone to Isipingo Interchange: In some respects this is the most vocally articulated argument against the Toll roads. The introduction of a toll has the potential to lead to a loss of employment and consequently the reduction in community income, exacerbating poverty. Tolling will impact on those undertaking longer journeys and many of those travelling for work purposes. Businesses in the middle and upper South Coast area (Port Shepstone to Amanzimtoti) have pointed to their dependence on imports from Durban. With the toll fees all imported goods will cost more and this impacts on the cost of doing business. For marginal operations this, it has been stated, could lead to their demise. In the Durban Metropole, business have pointed to the fact that any operations located south of the proposed Isipingo toll will be penalised with greater costs, through the Toll Fees, even for relatively short journeys.

Without mitigation: The operational phase of this impact is negative, of medium significance and will definitely occur. The impact is assessed with a medium level of confidence.

With mitigation: If the mitigation measures are successfully implemented then although the impact remains negative, the intensity and significance decreases.

A summary of the impacts that increased cost of doing business and concomitant loss of income will have along each section of the route is provided below in Table 4.5.

Table 4.5: Increased cost of doing business and concomitant loss of income

Phase	Extent	Duration	Intensity	Probability	Significance	Status	Confidence
Section 1: Gonubie Interchange to Ngobozi: Without Mitigation							
Construction	NA	NA	NA	NA	NA	NA	NA
Operational	Regional	Long–term	Medium	Definite	Medium	Negative	Medium
Section 1: Gonubie Interchange to Ngobozi: With Mitigation							
Construction	NA	NA	NA	NA	NA	NA	NA
Operational	Regional	Long–term	High	Definite	Low	Negative	Medium
Section 2: Ngobozi to Mthatha (Ngqeleni) Without Mitigation							
Construction	NA	NA	NA	NA	NA	NA	NA
Operational	Regional	Permanent	Medium	Definite	Medium	Negative	Medium
Section 2: Ngobozi to Mthatha (Ngqeleni) With Mitigation							
Construction	NA	NA	NA	NA	NA	NA	NA
Operational	Regional	Permanent	Low	Definite	Low	Negative	Medium
Section 7a: Mthamvuna River to Port Shepstone Without Mitigation							
Construction	NA	NA	NA	NA	NA	NA	NA
Operational	Regional	Permanent	High	Definite	Medium	Negative	Medium
Section 7a: Mthamvuna River to Port Shepstone With Mitigation							
Construction	NA	NA	NA	NA	NA	NA	NA
Operational	Regional	Permanent	Low	Definite	Low	Negative	Medium
Section 7b: Port Shepstone to Isipingo Interchange Without Mitigation							
Construction	NA	NA	NA	NA	NA	NA	NA
Operational	Regional	Permanent	High	Definite	Medium	Negative	Medium
Section 7b: Port Shepstone to Isipingo Interchange Without Mitigation							
Construction	NA	NA	NA	NA	NA	NA	NA
Operational	Regional	Permanent	Low	Definite	Low	Negative	Medium

4.2.6. Increased cost of accessing services and employment for marginal communities

Description of impact: The introduction of tolls on roads that have not previously been subject to tolling will have a negative impact on the cost of accessing points of employment and/or services for marginal communities. In this regard marginal communities are defined as those with relatively low levels of disposable income and dependent on public transport.

Mitigation objective: To ensure that the toll costs do not result in greater economic hardship for marginalised communities.

Mitigation measures:

- Reduce the number of toll points;
- Introduce concessions for public transport providers.

Assessment:

Section 1: Gonubie Interchange to Ngobozi: In this regard marginal communities are defined as those with relatively low levels of disposable income and dependent on public transport such as the Mooiplaas community along this section of the road. However, very few of these residents are likely to be travelling on a regular basis to the former Transkei or KwaZulu-Natal areas for these purposes. The impact is assessed with a medium level of confidence.

Without mitigation: In assessing this impact it is anticipated that during the operational phase and without mitigation this impact will be negative, of low intensity and significance and will definitely occur. The impact is assessed with a medium level of confidence.

With mitigation: It is unlikely that mitigation will alter this impact to any significant degree.

Section 2: Ngobozi to Mthatha (Ngqeleni): Stakeholders argue that in some instances commercial farms that are now economic units will become marginal or unviable should the toll road increase the cost of goods being transported in and out of the affected area. This, in turn, has the potential to lead to a loss of employment and consequently the reduction in community income, exacerbating poverty. The proposed positioning of toll plazas in the former Transkei should avoid the imposition of toll fees on local commuters who make up the majority (±75%) of commuters. However, tolling will impact on those undertaking longer journeys and many of those travelling for work purposes.

Without mitigation: In assessing this impact it is anticipated that during the operational phase and without mitigation this impact will be negative, of a medium significance and will definitely occur. The impact is assessed with a medium level of confidence.

With mitigation: If the mitigation measures are successfully implemented then although the impact remains negative, the intensity and significance are likely to decrease.

Sections 3 to 6: Mthatha (Ngqeleni) to Mthamvuna River: As this section of the route did not comprise of national N2 sections the issues of increased cost of accessing services and employment for marginal communities increased cost of doing business and concomitant loss of income was not raised as a major issue. Nevertheless tolling will impact on those undertaking longer journeys and may affect those travelling for work purposes.

Without mitigation: In assessing this impact it is anticipated that during the operational phase and without mitigation this impact will be negative, of a low to medium intensity and significance and will definitely occur. The impact is assessed with a medium level of confidence.

With mitigation: If the mitigation measures are successfully implemented then although the impact remains negative, the intensity and significance are likely to decrease.

Section 7a: Mthamvuna River to Port Shepstone: The introduction of tolls on roads that have not previously been subject to tolling will have a negative impact on the cost of accessing points of employment and/or services for marginal communities. In this regard marginal communities are defined as those with relatively low levels of disposable income and a high dependence on public transport. Additional costs associated with tolls incurred by marginal households will have negative consequences for their viability.

Without mitigation: The operational phase of this impact is negative, of medium significance and will definitely occur. The impact is assessed with a medium level of confidence.

With mitigation: If the mitigation measures are successfully implemented then although the impact remains negative, the intensity and significance are likely to decrease.

Section 7b: Port Shepstone to Isipingo Interchange: The communities potentially most affected are likely to be those in the dormitory suburbs and peripheries around Durban (including Umbumbulu and KwaMakhuta/Adams Mission). Also affected will be the marginal workforce who commutes from northern and central Durban to the Prospecton area. Additional costs associated with tolls incurred by marginal households will have negative consequences for their viability. Potential negative impacts that the Toll road might have on access to the Kingsway Hospital was mentioned.

Without mitigation: The operational phase of this impact is negative, of medium significance and will definitely occur. The impact is assessed with a medium level of confidence.

With mitigation: If the mitigation measures are successfully implemented then although the impact remains negative, the intensity and significance are likely to decrease.

A summary of the impacts that increased cost of accessing services and employment for marginal communities will have along each section of the route is provided below in Table 4.6.

Table 4.6: Increased cost of accessing services and employment for marginal communities

Phase	Extent	Duration	Intensity	Probability	Significance	Status	Confidence
Section 1: Gonubie Interchange to Ngobozi: Without Mitigation							
Construction	NA	NA	NA	NA	NA	NA	NA
Operational	Local	Permanent	Low	Definite	Low	Negative	Medium
Section 1: Gonubie Interchange to Ngobozi: With Mitigation							
Construction	NA	NA	NA	NA	NA	NA	NA
Operational	Local	Permanent	Low	Definite	Low	Negative	Medium
Section 2: Ngobozi to Mthatha (Ngqeleni) Without Mitigation							
Construction	NA	NA	NA	NA	NA	NA	NA
Operational	Regional	Permanent	Medium	Definite	Medium	Negative	Medium
Section 2: Ngobozi to Mthatha (Ngqeleni) With Mitigation							
Construction	NA	NA	NA	NA	NA	NA	NA
Operational	Regional	Permanent	Low	Definite	Low	Negative	Medium
Section 3 to 6: Mthatha (Ngqeleni) to Mthamvuna River Without Mitigation							
Construction	NA	NA	NA	NA	NA	NA	NA
Operational	Regional	Permanent	Medium to Low	Definite	Medium to Low	Negative	Medium
Section 3 to 6: Mthatha (Ngqeleni) to Mthamvuna River With Mitigation							
Construction	NA	NA	NA	NA	NA	NA	NA
Operational	Regional	Permanent	Low	Definite	Low	Negative	Medium
Section 7a: Mthamvuna River to Port Shepstone Without Mitigation							
Construction	NA	NA	NA	NA	NA	NA	NA
Operational	Regional	Permanent	High	Definite	Medium	Negative	Medium
Section 7a: Mthamvuna River to Port Shepstone With Mitigation							
Construction	NA	NA	NA	NA	NA	NA	NA
Operational	Regional	Permanent	Low	Definite	Low	Negative	Medium
Section 7b: Port Shepstone to Isipingo Interchange Without Mitigation							
Construction	NA	NA	NA	NA	NA	NA	NA
Operational	Regional	Permanent	High	Definite	Medium	Negative	Medium
Section 7b: Port Shepstone to Isipingo Interchange Without Mitigation							
Construction	NA	NA	NA	NA	NA	NA	NA
Operational	Regional	Permanent	Low	Definite	Low	Negative	Medium

4.2.7. Increased cost of accessing services and employment for advantaged communities

Description of impact: The introduction of tolls onto roads that have not as yet been subject to tolling will have a negative impact on the cost of accessing services for all road users even those regarded as wealthier and more advantaged.

Mitigation objective: To ease the cost of accessing services and employment for advantaged communities.

Mitigation measures:

- Limit the number of toll points;
- Introduce concessions for local commuters.

Assessment:

Sections 1 and 2: Gonubie Interchange to Mthatha (Ngqeleni): In this regard, advantaged road users are defined as those with relatively higher levels of disposable income. In this case 'higher levels of disposable income' would mean likelihood of access to private transport. Again, most of these road users are likely to be travelling on a regular basis to East London rather than the former Transkei or KwaZulu-Natal areas to access employment and other goods and services.

Without mitigation: The operational phase of this impact is negative, of medium intensity and significance and will definitely occur. The impact is assessed with a medium level of confidence.

With mitigation: It is unlikely that mitigation will alter this impact to any significant degree.

Sections 3 to 6: Mthatha (Ngqeleni) to Mthamvuna River: As this section of the route did not comprise of national N2 sections the issues of increased cost of accessing services and employment for marginal communities increased cost of doing business and concomitant loss of income was not raised as a major issue. Nevertheless tolling will impact on those undertaking longer journeys and may affect those travelling for work purposes.

Without mitigation: The operational phase of this impact is negative, of medium intensity and significance and will definitely occur. The impact is assessed with a medium level of confidence.

With mitigation: It is unlikely that mitigation will alter this impact by any significant degree.

Section 7: Mthamvuna River to Isipingo Interchange: In this regard, advantaged communities are defined as those with relatively higher levels of disposable income. In this case "higher levels of disposable income" would mean the likelihood of access to private transport. Again, most of these road users are

likely to be travelling on a regular basis to Durban or KwaZulu-Natal areas to access employment and other goods and services.

Without mitigation: The operational phase of this impact is negative, of medium intensity and significance and will definitely occur. The impact is assessed with a medium level of confidence.

With mitigation: As marginal communities are more vulnerable and more likely than advantaged communities to react in a more extreme manner to change of this nature, it is unlikely that mitigation will alter this impact to any significant degree.

A summary of the impacts that increased cost of accessing services and employment for advantaged communities will have along each section of the route is provided below in Table 4.7.

Table 4.7: Increased cost of accessing services and employment for advantaged communities

Phase	Extent	Duration	Intensity	Probability	Significance	Status	Confidence
Section 1 & 2: Gonubie Interchange to Mthatha (Ngqeleni) Without Mitigation							
Construction	NA	NA	NA	NA	NA	NA	NA
Operational	Local	Permanent	Medium	Definite	Medium	Negative	Medium
Section 1 & 2: Gonubie Interchange to Mthatha (Ngqeleni) With Mitigation							
Construction	NA	NA	NA	NA	NA	NA	NA
Operational	Local	Permanent	Medium	Definite	Medium	Negative	Medium
Section 3 to 6: Mthatha (Ngqeleni) to Mthamvuna River Without Mitigation							
Construction	NA	NA	NA	NA	NA	NA	NA
Operational	Local	Permanent	Medium	Definite	Medium	Negative	Medium
Section 3 to 6: Mthatha (Ngqeleni) to Mthamvuna River With Mitigation							
Construction	NA	NA	NA	NA	NA	NA	NA
Operational	Local	Permanent	Medium	Definite	Medium	Negative	Medium
Section 7: Mthamvuna River to Isipingo Interchange Without Mitigation							
Construction	NA	NA	NA	NA	NA	NA	NA
Operational	Local	Permanent	Medium	Definite	Medium	Negative	Medium
Section 7: Mthamvuna River to Isipingo Interchange With Mitigation							
Construction	NA	NA	NA	NA	NA	NA	NA
Operational	Local	Permanent	Medium	Definite	Medium	Negative	Medium

4.2.8. The reduction of access points onto the highway

Description of impact: The upgrading of sections of the road will lead to a reduction in the number of access points.

Mitigation objective: To ensure that there are adequate access points onto the highway.

Mitigation measures:

- Design of adequate numbers of strategically placed access points;
- Where access cannot be provided, make concessions available to local users so as to alleviate additional costs incurred.

Assessment:

Section 1: Gonubie Interchange to Ngobozi: In most areas along the highway there are considerably more access points for vehicles and pedestrians than would be appropriate for a limited access highway.

This reduction in access points could result in users having to drive or walk greater distances to access the toll road and/or get to their destinations. This would also have cumulative impacts on time and effort invested in other productive and domestic activities (livelihood activities).

Without mitigation: It is anticipated that during the operational phase and without mitigation this impact will be negative, of medium intensity and significance and will definitely occur. The impact is assessed with a high level of confidence.

With mitigation: If the mitigation measures are successfully implemented then although the impact remains negative, the intensity and significance are likely to decrease.

Section 2: Ngobozi to Mthatha (Ngqeleni): Although the description of the impact along this section of the road will be the same as that under section 1 above the assessment is somewhat different and consequently is indicated separately here.

Without mitigation: It is anticipated that during the operational phase and without mitigation this impact will be negative, of high intensity and very high significance and will definitely occur. The impact is assessed with a high level of confidence.

With mitigation: If the mitigation measures are successfully implemented then although the impact remains negative, the intensity and significance are likely to decrease somewhat.

Sections 3 to 6: Mthatha (Ngqeleni) to Mthamvuna River: The reduction of access points onto the highway does not apply along this section of the route.

Section 7a: Mthamvuna River to Port Shepstone: In some areas along the R61 route, there are more access points for vehicles and pedestrians than would be appropriate for a limited access highway. This reduction in access points could result in users having to drive or walk greater distances to access the toll road and/or get to their destinations. This would also have cumulative impacts on time and effort invested in other productive and domestic activities (livelihood activities) and on the increased cost of doing business.

Without mitigation: The operational phase of this impact is negative, of high significance and will probably occur. The impact is assessed with a medium level of confidence.

With mitigation: If the mitigation measures are successfully implemented then although the impact remains negative, the intensity and significance are likely to decrease somewhat.

Section 7b: Port Shepstone to Isipingo Interchange: This section of the route consists of existing highway and consequently this impact does not apply to any significant extent.

A summary of the impacts that the reduction of access points onto the highway is likely to have along each section of the route is provided below in Table 4.8.

Table 4.8: The reduction of access points onto the highway

Phase	Extent	Duration	Intensity	Probability	Significance	Status	Confidence
Section 1: Gonubie Interchange to Ngobozi: Without Mitigation							
Construction	NA	NA	NA	NA	NA	NA	NA
Operational	Regional	Permanent	Medium	Definite	Medium	Negative	High
Section 1: Gonubie Interchange to Ngobozi: With Mitigation							
Construction	NA	NA	NA	NA	NA	NA	NA
Operational	Regional	Permanent	Low	Definite	Low	Negative	High
Section 2: Ngobozi to Mthatha (Ngqeleni) Without Mitigation							
Construction	NA	NA	NA	NA	NA	NA	NA
Operational	Regional	Permanent	High	Definite	Very high	Negative	High
Section 2: Ngobozi to Mthatha (Ngqeleni) With Mitigation							
Construction	NA	NA	NA	NA	NA	NA	NA
Operational	Regional	Permanent	Medium	Definite	High	Negative	High
Section 7a: Mthamvuna River to Port Shepstone Without Mitigation							
Construction	NA	NA	NA	NA	NA	NA	NA
Operational	Regional	Permanent	Medium	Probable	High	Negative	High
Section 7a: Mthamvuna River to Port Shepstone With Mitigation							
Construction	NA	NA	NA	NA	NA	NA	NA
Operational	Regional	Permanent	Low	Probable	Low	Negative	Medium

4.2.9. Increase in noise levels

Description of impact: The construction of the road will lead to increased noise levels. So too will the operational phase.[10] The psycho-social effects of noise includes annoyance, mental health disturbances, noise induced stress and sleep disturbances (Department for Environment, Food & Rural Affairs, 1998). Although difficult to measure on a social level these effects are likely to be most severe where the relative quite of a rural area is disrupted by noise associated with projects such as a new road. The international tendency for evaluating the impact caused by intruding noise is to specify an average ambient noise level of 55dBA and 45dBA during the day and night respectively, as the maximum average ambient noise levels to which residential premises in urban areas should be exposed.

Mitigation objective: To minimise noise impacts.

Mitigation measures:

- Construction activities and vehicle movement should be restricted to daylight hours.
- All vehicles and construction machinery should be maintained to a standard that the noise levels do not cause unnecessary and avoidable nuisance to the workforce and local communities.
- Road materials should be selected so as to minimise operational noise levels in areas where this is identified as problematic.
- Noise attenuation structures should be developed so as to minimise operational noise levels in areas where this is identified as problematic.
- The recommendations of the noise and vibrations specialists must be complied with.

[10] The assumption under which the assessment proceeded was that for residences proximate to the road there would be instances in which the noise levels, particularly at night time, would be exceeded.

Assessment:

Section 1: Gonubie Interchange to Ngobozi: There are very few residents who live right next to the road along this section of the N2 and would therefore be significantly affected by the noise.

Without mitigation: It is anticipated that during the operational phase and without mitigation this impact will be negative, of low intensity and significance and will probably occur. The impact is assessed with a medium level of confidence.

With mitigation: Mitigation is unlikely to have a significant impact along this section of the road.

Section 2: Ngobozi to Mthatha (Ngqeleni): A concern about an increase in noise resulting from higher speeds and incessant 24 hour traffic was raised by the youth attending focus groups.

Without mitigation: In assessing this impact it is anticipated that during the operational phase this impact will be negative, of medium significance and will probably occur. The impact is assessed with a medium level of confidence.

With mitigation: If the mitigation measures are successfully implemented then although the impact remains negative, the intensity and significance are likely to decrease.

Section 3: Mthatha (Ngqeleni) to Ndwalane: In rural areas, such as along this section of the route, the equivalent ambient day-time and night-time noise levels should be maintained at 45dBA and 40dBA respectively to reduce the psycho-social effect of noise in the area. (For a more detailed discussion see the noise specialist's study, Jongens, 2007).

Without mitigation: In assessing this impact it is anticipated that during operation, this impact will be negative, of medium intensity and significance and will definitely occur. The impact is assessed with a medium level of confidence.

With mitigation: If the mitigation measures are successfully implemented then although the impact remains negative, the intensity and significance are likely to decrease.

Section 4: Ndwalane to Ntafufu River: The Ndwalane to Ntafufu River section of road is largely rural with a dispersed traditional settlement and noise levels associated with rural areas need to be adhered to. According to WHO recommendations the ambient day- and night-time noise levels in rural areas should be maintained at 45dBA and 40dBA respectively (see requirements for this area in the noise specialists study, Jongens, 2007).

Without mitigation: In assessing this impact it is anticipated that without mitigation this impact will be negative, of medium intensity and significance and will definitely occur. The impact is assessed with a medium level of confidence.

With mitigation: If the mitigation measures are successfully implemented then although the impact remains negative, the intensity and significance are likely to decrease.

Section 5: Ntafufu River to Lusikisiki (Magwa Intersection): A concern about an increase in noise resulting from higher speeds and incessant 24 hour traffic was raised by the youth attending focus groups. In rural areas, such as this, the recommended ambient day- and night-time noise levels should be maintained at 45dBA and 40dBA respectively (see noise specialist's study, Jongens, 2007).

Without mitigation: In assessing this impact it is anticipated that during the operational phase this impact will be negative, of medium significance and will definitely occur. The impact is assessed with a medium level of confidence.

With mitigation: If the mitigation measures are successfully implemented then although the impact remains negative, the intensity and significance are likely to decrease.

Section 6: Lusikisiki (Magwa Intersection) to Mthamvuna River: Concerns about an increase in noise resulting from higher speeds and incessant 24 hour traffic were raised across the route. As this is also a rural area the recommended ambient day- and night-time noise levels should be maintained at 45dBA and 40dBA respectively.

Without mitigation: In assessing this impact it is anticipated that during the operational phase and without mitigation this impact will be negative, of medium intensity and significance and will definitely occur. The impact is assessed with a medium level of confidence.

With mitigation: If the mitigation measures are successfully implemented then although the impact remains negative, the intensity and significance are likely to decrease.

Section 7a: Mthamvuna River to Port Shepstone: A large portion of this route transverses what can be considered rural areas, consequently, the international tendency for evaluating the impact caused by intruding noise is to specify an average ambient noise level of 45dBA and 40dBA respectively in rural areas (see noise specialist's study, Jongens, 2007).

Without mitigation: In assessing this impact it is anticipated that during the construction phase and without mitigation the impact will be negative, of medium intensity and significance and will probably occur. The duration will be temporary and the extent will be local. During the operational phase and without mitigation this impact will be negative, of high intensity and significance and will probably occur. The impact is assessed with a medium level of confidence.

With mitigation: If the mitigation measures are successfully implemented then although the impact remains negative, the intensity and significance are likely to decrease.

Section 7b: Port Shepstone to Isipingo Interchange: A major portion of this section of the route transverses what could be regarded as urban areas. The international tendency for evaluating the impact caused by intruding noise in urban areas is to specify an average ambient noise level of 55dBA and 45dBA during the day and night respectively, as the maximum average ambient noise levels to which residential premises in urban areas should be exposed (see noise specialist's study, Jongens, 2007).

Without mitigation: During the operational phase this impact will be negative, of low significance and will probably occur. This impact is assessed with a medium level of confidence.

With mitigation: If the mitigation measures are successfully implemented then although the impact remains negative, the intensity and significance are unlikely to decrease.

A summary of the impacts that the increase in noise levels is likely to have along each section of the route is provided below in Table 4.9.

Table 4.9: Increase in noise levels

Phase	Extent	Duration	Intensity	Probability	Significance	Status	Confidence
Section 1: Gonubie Interchange to Ngobozi: Without Mitigation							
Construction	Local	Temporary	Low	Probably	Low	Negative	Medium
Operational	Local	Permanent	Low	Probably	Low	Negative	Medium
Section 1: Gonubie Interchange to Ngobozi: With Mitigation							
Construction	Local	Temporary	Negligible	Probably	Low	Negative	Medium
Operational	Local	Permanent	Negligible	Probably	Low	Negative	Medium
Section 2: Ngobozi to Mthatha (Ngqeleni) Without Mitigation							
Construction	Local	Temporary	Medium	Probable	Medium	Negative	Medium
Operational	Local	Permanent	Medium	Probable	Medium	Negative	Medium
Section 2: Ngobozi to Mthatha (Ngqeleni) With Mitigation							
Construction	Local	Temporary	Low	Probable	Low	Negative	Medium
Operational	Local	Permanent	Low	Probable	Low	Negative	Medium
Section 3: Mthatha (Ngqeleni) to Ndwalane Without Mitigation							
Construction	Local	Temporary	Medium	Definite	Medium	Negative	Medium
Operational	Local	Permanent	Medium	Definite	Medium	Negative	Medium
Section 3: Mthatha (Ngqeleni) to Ndwalane With Mitigation							
Construction	Local	Temporary	Low	Definite	Low	Negative	Medium
Operational	Local	Permanent	Low	Definite	Low	Negative	Medium
Section 4: Ndwalane to Ntafufu River Without Mitigation							
Construction	Local	Temporary	Medium	Definite	Medium	Negative	Medium
Operational	Local	Permanent	Medium	Definite	Medium	Negative	Medium
Section 4: Ndwalane to Ntafufu River With Mitigation							
Construction	Local	Temporary	Low	Definite	Low	Negative	Medium
Operational	Local	Permanent	Low	Definite	Low	Negative	Medium
Section 5: Ntafufu River to Lusikisiki (Magwa Intersection) Without Mitigation							
Construction	Local	Temporary	Medium	Definite	Medium	Negative	Medium
Operational	Local	Permanent	Medium	Definite	Medium	Negative	Medium
Section 5: Ntafufu River to Lusikisiki (Magwa Intersection) With Mitigation							
Construction	Local	Temporary	Low	Definite	Low	Negative	Medium
Operational	Local	Permanent	Low	Definite	Low	Negative	Medium
Section 6: Lusikisiki (Magwa Intersection) to Mthamvuna River Without Mitigation							
Construction	Local	Temporary	Medium	Definite	Medium	Negative	Medium
Operational	Local	Permanent	Medium	Definite	Medium	Negative	Medium
Section 6: Lusikisiki (Magwa Intersection) to Mthamvuna River With Mitigation							
Construction	Local	Temporary	Low	Definite	Low	Negative	Medium
Operational	Local	Permanent	Low	Definite	Low	Negative	Medium
Section 7a: Mthamvuna River to Port Shepstone Without Mitigation							
Construction	Local	Temporary	Medium	Probable	Medium	Negative	Medium
Operational	Local	Permanent	High	Probable	High	Negative	Medium
Section 7a: Mthamvuna River to Port Shepstone With Mitigation							
Construction	Local	Temporary	Low to Medium	Probable	Low to Medium	Negative	Medium
Operational	Local	Permanent	Medium	Probable	Medium	Negative	Medium
Section 7b: Port Shepstone to Isipingo Interchange Without Mitigation							
Construction	Local	Temporary	Low	Probable	Low	Negative	Medium
Operational	Local	Permanent	Low	Probable	Low	Negative	Medium
Section 7b: Port Shepstone to Isipingo Interchange Without Mitigation							
Construction	Local	Temporary	Low	Probable	Low	Negative	Medium
Operational	Local	Permanent	Low	Probable	Low	Negative	Medium

4.2.10. Increase in health risks and traffic generated pollutants

Description of impact: Construction will result in the emission of various air pollutants characteristic of the use of petrol and diesel-powered vehicles and equipment. The anticipated air pollutants to be emitted include nitrogen oxide, hydrocarbons, carbon monoxide, sulphur dioxide and particulate matter. Vehicular traffic during the operational phase may also contribute to the general overall exhaust emissions, which can negatively impact on peoples' health.

Mitigation objective: Ensure that air pollutants are in accordance with WHO guidelines as described by Zunckel et al., (2007:6).

Mitigation measures:

- Regularly monitor levels of air pollution;
- Work in conjunction with the appropriate authorities in enforcing air pollution by-laws;
- During construction all vehicles and construction machinery should be maintained to a standard that minimises pollutants;
- The recommendations of the air pollution specialists must be complied with (for these recommendations see Zunckel et al., 2007:60-61).

Assessment:

Section 1: Gonubie Interchange to Ngobozi: Along this section of the route an increase in health risk and traffic generated pollutants could be a particular issue where toll plazas are close to residential areas. Construction is also likely to increase pollutants and dust.

Without mitigation: It is anticipated that during the operational phase this impact will be negative, of low intensity and significance and will probably occur. This impact is assessed with a medium level of confidence.

With mitigation: It is unlikely that over the operational phase of the project that mitigation will alter this impact by any significant degree.

Section 2: Ngobozi to Mthatha (Ngqeleni): The disruption of an increase in health risks and traffic generated pollutants is similar to that for section 1 as described above.

Without mitigation: It is anticipated that during the operational phase this impact will be negative, of medium intensity and significance and will probably occur. This impact is assessed with a medium level of confidence.

With mitigation: It is unlikely that over the operational phase of the project that mitigation will alter this impact by any significant degree..

Section 3: Mthatha (Ngqeleni) to Ndwalane: With 15 of the 36 interviewees indicating that they lived within 200m of the proposed road the question of health risks due to traffic generated air pollutants during both the construction and operational phases of the project becomes significant. It is, however, expected that during the operational phase these air pollutants will be at a minimal level along this stretch of the road (Zunckel et al., 2007:60-61).

Without mitigation: In assessing this impact it is anticipated that without mitigation this impact will be negative, of medium significance and will probably occur. This impact is assessed with a medium level of confidence.

With mitigation: If the mitigation measures are successfully implemented then although the impact remains negative, the intensity and significance are likely to decrease.

Section 4: Ndwalane to Ntafufu River: Along this sector of the route, and particularly after the proposed Umzimvubu Bridge, the settlement patterns are traditional and dispersed. Due to the nature of these settlement patterns it is predicted that during the operational phase of the project air pollutants will be at a low level and that during construction they are likely to be at a very low (Zunckel et al., 2007:62).

Without mitigation: In assessing this impact it is anticipated that, with mitigation, this impact will be negative, of low significance and will probably occur. This impact is assessed with a medium level of confidence.

With mitigation: It is unlikely that mitigation will alter this impact to any significant degree.

Section 5: Ntafufu River to Lusikisiki (Magwa Intersection): The youth highlighted the negative impact that could result from an increase in traffic volumes during operation and dust and diesel fumes during construction. It is, however, expected that during the operational phase these air pollutants will be at a minimal level along this stretch of the road (Zunckel et al., 2007:62-65).

Without mitigation: In assessing this impact it is anticipated that during the operational phase and without mitigation this impact will be negative, of low intensity and significance and will probably occur. During the construction phase the intensity and significance will be medium. This impact is assessed with a medium level of confidence.

With mitigation: It is unlikely that mitigation will alter this impact to any significant degree.

Section 6: Lusikisiki (Magwa Intersection) to Mthamvuna River: Concerns about health risks due to air pollutants from an increase in traffic volumes during operation and dust and diesel fumes during construction were raised across this section of the route. It is, however, expected that during the operational phase these air pollutants will remain at a minimal level along this stretch of the road (Zunckel et al., 2007:66-67).

Without mitigation: In assessing this impact it is anticipated that during the operational phase this impact will be negative, of low intensity and significance and will probably occur. This impact is assessed with a medium level of confidence.

With mitigation: It is unlikely that mitigation will alter this impact to any significant degree.

Section 7: Mthamvuna River to Isipingo Interchange: Along this section of the route the road is aligned close enough to the coast for the prevailing winds to assist in dispersing much of the pollutants. However, according to Zunckel *et al* (2007) "*The predicted concentrations of CO, NO_x and PM_{10}, as may*

be expected, are highest closest to the roadside and decrease rapidly with increasing distance from the road. The highest concentrations of all pollutants are predicted at Prospecton, decreasing with decreasing vehicle numbers southwards to Umtentweni then remaining relatively similar. At Prospecton and the proposed Isipingo Toll Plaza the related impacts remain on a relatively local scale, but will persist as long as the road is used and will increase over time".

Without mitigation: The construction phase of this impact is negative, of low intensity and significance and will possibly occur. The operational phase of this impact is also negative, of low intensity and significance and will probably occur. This impact is assessed with a medium level of confidence.

With mitigation: It is unlikely that mitigation will alter this impact to any significant degree.

A summary of the impacts that the increase in health risks and traffic generated pollutants is likely to have along each section of the route is provided below in Table 4.10.

Table 4.10: Increase in health risks and traffic generated pollutants

Phase	Extent	Duration	Intensity	Probability	Significance	Status	Confidence
Section 1: Gonubie Interchange to Ngobozi: Without Mitigation							
Construction	Local	Temporary	Low	Probable	Low	Negative	Medium
Operational	Local	Permanent	Low	Probable	Low	Negative	Medium
Section 1: Gonubie Interchange to Ngobozi: With Mitigation							
Construction	Local	Temporary	Negligible	Probable	Low	Negative	Medium
Operational	Local	Permanent	Low	Probable	Low	Negative	Medium
Section 2: Ngobozi to Mthatha (Ngqeleni) Without Mitigation							
Construction	Local	Temporary	Medium	Probable	Medium	Negative	Medium
Operational	Local	Permanent	Medium	Probable	Medium	Negative	Medium
Section 2: Ngobozi to Mthatha (Ngqeleni) With Mitigation							
Construction	Local	Temporary	Medium	Probable	Medium	Negative	Medium
Operational	Local	Permanent	Low	Probable	Low	Negative	Medium
Section 3: Mthatha (Ngqeleni) to Ndwalane Without Mitigation							
Construction	Local	Temporary	Medium	Probable	Medium	Negative	Medium
Operational	Local	Permanent	Medium	Probable	Medium	Negative	Medium
Section 3: Mthatha (Ngqeleni) to Ndwalane With Mitigation							
Construction	Local	Temporary	Medium	Probable	Medium	Negative	Medium
Operational	Local	Permanent	Low	Probable	Low	Negative	Medium
Section 4: Ndwalane to Ntafufu River Without Mitigation							
Construction	Local	Temporary	Low	Probable	Very Low	Negative	Medium
Operational	Local	Permanent	Low	Probable	Low	Negative	Medium
Section 4: Ndwalane to Ntafufu River With Mitigation							
Construction	Local	Temporary	Low	Probable	Very Low	Negative	Medium
Operational	Local	Permanent	Low	Probable	Low	Negative	Medium
Section 5: Ntafufu River to Lusikisiki (Magwa Intersection) Without Mitigation							
Construction	Local	Temporary	Medium	Probable	Medium	Negative	Medium
Operational	Local	Permanent	Low	Probable	Low	Negative	Medium
Section 5: Ntafufu River to Lusikisiki (Magwa Intersection) With Mitigation							
Construction	Local	Temporary	Medium	Probable	Medium	Negative	Medium
Operational	Local	Permanent	Low	Probable	Low	Negative	Medium
Section 6: Lusikisiki (Magwa Intersection) to Mthamvuna River Without Mitigation							
Construction	Local	Temporary	Medium	Probable	Medium	Negative	Medium
Operational	Local	Permanent	Low	Probable	Low	Negative	Medium
Section 6: Lusikisiki (Magwa Intersection) to Mthamvuna River With Mitigation							
Construction	Local	Temporary	Medium	Probable	Medium	Negative	Medium
Operational	Local	Permanent	Low	Probable	Low	Negative	Medium
Section 7: Mthamvuna River to Isipingo Interchange Without Mitigation							
Construction	Local	Temporary	Low	Probable	Low	Negative	Medium
Operational	Local	Permanent	Low	Probable	Low	Negative	Medium
Section 7: Mthamvuna River to Isipingo Interchange With Mitigation							
Construction	Local	Temporary	Low	Probable	Low	Negative	Medium
Operational	Local	Permanent	Low	Probable	Low	Negative	Medium

4.2.11. Increased safety hazards for pedestrians and traffic

Description of impact: An increase in heavy vehicles and machinery during construction and traffic during operation will raise safety hazards for pedestrians and traffic.

Mitigation objective: To minimize safety hazards for pedestrians and traffic.

Mitigation measures:

During construction the sites should be fenced off to prevent access to these sites:

- Fencing is to be inspected weekly and maintained properly, by the Contactor, until construction is complete.
- The Contractor is to ensure that signs, which should be pictorial and in the vernacular, are erected on all boundary fences warning against entering the construction area.
- Public awareness programmes should be developed by the Contractor with the community to identify areas of particular risk and approaches to reduce risk. This is expected to include awareness programmes at schools and along roads leading to the site to advise children as well as other frequent users of the dangers of traffic.
- Traffic calming and speed control measures for access to construction sites should be instigated in consultation with the local authorities.

During the operation phase the following is recommended:

- The road is to be fenced. Fencing is to be inspected weekly and maintained properly by the Operator.
- The Operator is to ensure that signs, which should be graphic and in the vernacular, are erected on all boundary fences warning against entering the road reserve.
- Public awareness programmes should be developed by the Operator. This must be done together with the directly adjacent communities to identify areas of particular risk and generate approaches to reduce risk. This is expected to include awareness programmes.

Assessment:

Sections 1 and 2: Gonubie Interchange to Mthatha (Ngqeleni): The construction site will require that heavy machinery is employed. Heavy machinery and construction work can lead to safety hazards, particularly if introduced into a relatively remote rural area. Construction sites and associated activities as such often prove to be sources of hazard to surrounding communities. Increased traffic as a result of the operation of the road may pose a hazard to those communities located along the proposed route.

Without mitigation: It is anticipated that during both construction and operation this impact will be negative, of low intensity and significance and will probably occur. This impact is assessed with a medium level of confidence.

With mitigation: If the mitigation measures are successfully implemented then, during construction the impact will remain negative but the intensity and significance are likely to decrease. Mitigation is, however, unlikely to have any significant affect during operation.

Section 3: Mthatha (Ngqeleni) to Ndwalane: Along this section of the route heavy machinery and construction work can lead to safety hazards, particularly if introduced into a relatively remote rural area. Construction sites and associated activities as such, often prove to be a safety hazard to surrounding communities. Increased traffic as a result of the operation of the road may pose a hazard to those communities located along the proposed route.

Without mitigation: It is anticipated that, during construction and operation this impact will be negative, of medium intensity and significance and will definitely occur. This impact is assessed with a medium level of confidence.

With mitigation: If the mitigation measures are successfully implemented then although the impact remains negative, the intensity and significance are likely to decrease.

Section 4: Ndwalane to Ntafufu River: Heavy machinery and construction work can lead to safety hazards, particularly if introduced into a relatively remote rural area such as is the case between Ndwalane and the Ntafufu River. Increased traffic as a result of the operation of the road may also pose a hazard to those rural communities located along the route between Ndwalane and the Ntafufu River.

Without mitigation: It is anticipated that, during construction this impact will be negative and of medium intensity and significance, while during operation it will be negative and of medium intensity and high significance and will probably occur. This impact is assessed with a medium level of confidence.

With mitigation: If the mitigation measures are successfully implemented then although the impact remains negative, the intensity and significance changes to low during construction and the significance is reduced during operation.

Section 5: Ntafufu River to Lusikisiki (Magwa Intersection): A concern was expressed at both Mzintlava and Luqoqweni that the road would result in safety hazard for pedestrians with particular emphasis on the safety of children. At Luqoqweni about 50% of the 200 learners currently need to cross the R61 on a daily basis to get to school.

Without mitigation: It is anticipated that, during construction and operation, this impact will be negative, of medium intensity and significance and will probably occur. This impact is assessed with a medium level of confidence.

With mitigation: If the mitigation measures are successfully implemented then although the impact remains negative, the intensity and significance, during both construction and operation, are likely to decrease.

Section 6: Lusikisiki (Magwa Intersection) to Mthamvuna River: Concerns were raised at Mateko, Mkamelo and Mahaha and across all social categories regarding the potential of the road to raise the safety hazards for pedestrians during both the construction and operational phases of the road. It must be noted that this sector of road passes through Greenfields communities not accustomed to high speed traffic and this, at least in the initial stages of the project, poses a major problem to pedestrians. In the Mateko and Mahaha areas two schools have been identified as being close to the proposed route and this poses a risk to the learners of those schools.

Without mitigation: It is anticipated that, during construction this impact will be negative and of high intensity and significance, while during operation the intensity and significance will be very high and will definitely occur. This impact is assessed with a medium level of confidence.

With mitigation: If the mitigation measures are successfully implemented then although the impact remains negative, the intensity and significance are likely to decrease during both the construction and operational phases of the project.

Section 7a: Mthamvuna River to Port Shepstone: Heavy machinery and construction work can lead to safety hazards. Although the impact will not be as marked as in the Greenfields sections, construction sites and associated activities as such often prove to be sources of hazard to surrounding communities.

Without mitigation: The construction phase of this impact is negative, of medium intensity and significance and will probably occur. During operation it is likely to be negative and of low intensity and medium significance. This impact is assessed with a medium level of confidence.

With mitigation: If the mitigation measures are successfully implemented then, while the impact remains negative, it is likely that the intensity and significance will decrease during construction and the significance during operation.

Section 7b: Port Shepstone to Isipingo Interchange: This section of the route consists of existing highway and the impact will be restricted to the construction phase. Heavy machinery and construction work can lead to safety hazards. Although the impact will not be as marked as in the Greenfields sections construction sites and associated activities as such often prove to be sources of hazard to surrounding communities and to road users. The current road works on the N3 between Durban and Pietermaritzburg has apparently been a source of increased traffic accidents.

Without mitigation: This impact is negative, of medium intensity and significance and will probably occur. This impact is assessed with a medium level of confidence.

With mitigation: If the mitigation measures are successfully implemented then although the impact remains negative, the intensity and significance is likely to decrease.

A summary of the impacts that the increased safety hazards for pedestrians and traffic is likely to have along each section of the route is provided below in Table 4.11.

Table 4.11: Increased safety hazards for pedestrians and traffic

Phase	Extent	Duration	Intensity	Probability	Significance	Status	Confidence
Section 1 & 2: Gonubie Interchange to Mthatha (Ngqeleni) Without Mitigation							
Construction	Local	Temporary	Low	Probable	Low	Negative	Medium
Operational	Local	Permanent	Low	Probable	Low	Negative	Medium
Section 1 & 2: Gonubie Interchange to Mthatha (Ngqeleni) With Mitigation							
Construction	Local	Temporary	Negligible	Probable	Very Low	Negative	Medium
Operational	Local	Permanent	Low	Probable	Low	Negative	Medium
Section 3: Mthatha (Ngqeleni) to Ndwalane Without Mitigation							
Construction	Local	Temporary	Medium	Definite	Medium	Negative	Medium
Operational	Local	Permanent	Medium	Definite	Medium	Negative	Medium
Section 3: Mthatha (Ngqeleni) to Ndwalane With Mitigation							
Construction	Local	Temporary	Low	Definite	Low	Negative	Medium
Operational	Local	Permanent	Low	Definite	Low	Negative	Medium
Section 4: Ndwalane to Ntafufu River Without Mitigation							
Construction	Local	Temporary	Medium	Probable	Medium	Negative	Medium
Operational	Local	Permanent	Medium	Probable	High	Negative	Medium
Section 4: Ndwalane to Ntafufu River With Mitigation							
Construction	Local	Temporary	Low	Probable	Low	Negative	Medium
Operational	Local	Permanent	Medium	Probable	Medium	Negative	Medium
Section 5: Ntafufu River to Lusikisiki (Magwa Intersection) Without Mitigation							
Construction	Local	Temporary	Medium	Probable	Medium	Negative	Medium
Operational	Local	Permanent	Medium	Probable	Medium	Negative	Medium
Section 5: Ntafufu River to Lusikisiki (Magwa Intersection) With Mitigation							
Construction	Local	Temporary	Low	Probable	Low	Negative	Medium
Operational	Local	Permanent	Low	Probable	Low	Negative	Medium
Section 6: Lusikisiki (Magwa Intersection) to Mthamvuna River Without Mitigation							
Construction	Local	Temporary	High	Definite	High	Negative	Medium
Operational	Local	Permanent	Very High	Definite	Very High	Negative	Medium
Section 6: Lusikisiki (Magwa Intersection) to Mthamvuna River With Mitigation							
Construction	Local	Temporary	Medium	Definite	Medium	Negative	Medium
Operational	Local	Permanent	Medium	Definite	Medium	Negative	Medium
Section 7a: Mthamvuna River to Port Shepstone Without Mitigation							
Construction	Local	Temporary	Medium	Probable	Medium	Negative	Medium
Operational	Local	Permanent	Low	Probable	Medium	Negative	Medium
Section 7a: Mthamvuna River to Port Shepstone With Mitigation							
Construction	Local	Temporary	Low	Probable	Low	Negative	Medium
Operational	Local	Permanent	Low	Probable	Low	Negative	Medium
Section 7b: Port Shepstone to Isipingo Interchange Without Mitigation							
Construction	Local	Temporary	Medium	Probable	Medium	Negative	Medium
Operational	NA	NA	NA	NA	NA	NA	NA
Section 7b: Port Shepstone to Isipingo Interchange With Mitigation							
Construction	Local	Temporary	Low	Unlikely	Low	Negative	Medium
Operational	NA	NA	NA	NA	NA	NA	NA

4.2.12. Increased HIV/AIDS and STD risks associated with construction gangs and increased truck traffic

Description of impact: Construction activities can have a negative impact on local communities through the impact of an influx of construction workers and the potential spread of HIV/AIDS and STDs. This risk is of real concern as it has been well documented for some time now that long distance truck drivers are associated with the spread of HIV/AIDS (see for instance Alam, undated; Kulis, undated; United Nations, 2007).

Mitigation objective: To reduce the risk of the spread of HIV/AIDS and STDs.

Mitigation measures:

- The Contractor should, in consultation with local HIV/AIDS organisations and government structures, design and implement an HIV/AIDS and STD awareness and prevention campaign. This campaign should use various common practice methodologies in order to ensure social and cultural sensitivity.
- The Contractor must ensure that job opportunities available to local people who do not need to be housed in construction accommodation are maximised.
- The Contractor should make HIV/AIDS and STD awareness and prevention programmes a condition of contract for all suppliers and sub-contractors.
- The Contractor should provide an adequate supply of free condoms to all workers. Condoms should be located in the bathrooms and other communal areas on the construction site.
- A voluntary counselling and testing programme should be introduced during the construction phase and continued during operations. This will be undertaken in conjunction with the existing VCT programmes.
- The Contractor should undertake a HIV/AIDS and STD prevalence survey amongst all workers on a regular basis. It will involve a voluntary test available to 100% of the workforce[11]. The results of the survey will help to determine the HIV/AIDS and STD strategy. When and if statistically representative results are obtained the results of the survey should be made available to management and workers at the same time. Results should be presented as statistical returns that ensure confidentiality.

During the operational phase

- The Operator should, in association with HIV/AIDS organisations and government structures, implement an HIV/AIDS and STD awareness and prevention campaign directed at local villages along the route. This will include information dissemination sessions within the villages and provision of pamphlets and condoms.

[11] Voluntary samples are not necessarily statistically accurate as they are not strictly random.

Assessment:

Sections 1 and 2: Gonubie Interchange to Mthatha (Ngqeleni): The risk of the road contributing towards an increase in HIV/AIDS and STDs, particularly during the operational period of the project exists along this section of the route.

Without mitigation: It is anticipated that, during construction and operation this impact will be negative, of medium intensity and significance and will probably occur. This impact is assessed with a medium level of confidence.

With mitigation: If the mitigation measures are successfully implemented then although the impact remains negative, the intensity and significance is likely to decrease both during construction and operation.

Section 3: Mthatha (Ngqeleni) to Ndwalane: Despite there being a high prevalence of HIV/AIDS in the area the risk of the road contributing towards an increase in HIV/AIDS and STDs, particularly during the operational period of the project, was raised by a number of participants during the focus group sessions in Thombo.

Without mitigation: It is anticipated that, during construction and operation this impact will be negative, of medium intensity and significance and will probably occur. This impact is assessed with a medium level of confidence.

With mitigation: If the mitigation measures are successfully implemented then although the impact remains negative, the intensity and significance are likely to decrease.

Section 4: Ndwalane to Ntafufu River: Although no specific mention was made regarding the issue of HIV/AIDS and STDs during the focus group session held in Ntafufu there is a high risk that the road will contribute towards an increase in HIV/AIDS and STDs in the area. This risk is particularly significant during the operational phase of the project, due to an increase in truck traffic to the area.

Without mitigation: It is anticipated that, during construction and operation this impact will be negative, of medium intensity and significance and will probably occur. This impact is assessed with a medium level of confidence.

With mitigation: If the mitigation measures are successfully implemented then although the impact remains negative, the intensity and significance are likely to decrease during both construction and operation.

Section 5: Ntafufu River to Lusikisiki (Magwa Intersection): Although not specifically mentioned during any of the focus group sessions or interviews along this section, the risk of the road contributing towards an increase in HIV/AIDS and STDs, particularly during the operational period of the project exists.

Without mitigation: It is anticipated that, during construction this impact will be negative, of medium intensity and significance and will probably occur, while during operation it will be of high significance. This impact is assessed with a medium level of confidence.

With mitigation: If the mitigation measures are successfully implemented then, although the impact remains negative, the intensity and significance are likely to decrease during both construction and operation.

Section 6: Lusikisiki (Magwa Intersection) to Mthamvuna River: The risk of the road contributing towards HIV/AIDS and STDs was specifically mentioned as a concern in Mateko and Mkamelo. Notwithstanding the fact that in some areas the prevalence of HIV/AIDS and STDs is high, this risk is of real concern as it has been well documented for some time now that long distance truck drivers are associated with the spread of HIV/AIDS (see for instance Alam, undated; Kulis, undated; United Nations, 2007). The road, particularly within the Greenfields area, will result in communities coming into contact with truck drivers to a much greater degree than ever before and the levels of poverty in the region could stimulate the growth of prostitution.

Without mitigation: It is anticipated that, during construction this impact will be negative, of medium intensity and significance and will probably occur, while during operation it will be of high significance. This impact is assessed with a medium level of confidence.

With mitigation: If the mitigation measures are successfully implemented then, although the impact remains negative, the intensity and significance are likely to decrease during both construction and operation.

Section 7: Mthamvuna River to Isipingo Interchange: The risk of HIV/AIDS and STDs is not as great a concern as it is for the Greenfields sections, however construction activities can have a negative impact on local communities through the impact of an influx of construction workers and the potential spread of HIV/AIDS and STDs. This is also a concern in terms of truck traffic.

Without mitigation: It is anticipated that, during the construction and operational phases that this impact will be negative, of medium intensity and significance and will probably occur. This impact is assessed with a medium level of confidence.

With mitigation: If the mitigation measures are successfully implemented then although the impact remains negative, the intensity and significance, during both construction and operation are likely to decrease.

A summary of the impacts that increased HIV/AIDS and STD risks associated with construction gangs and increased truck traffic is likely to have along each section of the route is provided below in Table 4.12.

Table 4.12: Increased HIV/AIDS and STD risks associated with construction gangs and increased truck traffic

Phase	Extent	Duration	Intensity	Probability	Significance	Status	Confidence
Section 1 & 2: Gonubie Interchange to Mthatha (Ngqeleni) Without Mitigation							
Construction	Local	Temporary	Medium	Probable	Medium	Negative	Medium
Operational	Local	Permanent	Medium	Probable	Medium	Negative	Medium
Section 1 & 2: Gonubie Interchange to Mthatha (Ngqeleni) With Mitigation							
Construction	Local	Temporary	Low	Probable	Low	Negative	Medium
Operational	Local	Permanent	Low	Probable	Low	Negative	Medium
Section 3: Mthatha (Ngqeleni) to Ndwalane Without Mitigation							
Construction	Local	Temporary	Medium	Probable	Medium	Negative	Medium
Operational	Local	Permanent	Medium	Probable	Medium	Negative	Medium
Section 3: Mthatha (Ngqeleni) to Ndwalane With Mitigation							
Construction	Local	Temporary	Low	Probable	Low	Negative	Medium
Operational	Local	Permanent	Low	Probable	Low	Negative	Medium
Section 4: Ndwalane to Ntafufu River Without Mitigation							
Construction	Local	Temporary	Medium	Probable	Medium	Negative	Medium
Operational	Local	Permanent	Medium	Probable	Medium	Negative	Medium
Section 4: Ndwalane to Ntafufu River With Mitigation							
Construction	Local	Temporary	Low	Probable	Low	Negative	Medium
Operational	Local	Permanent	Low	Probable	Low	Negative	Medium
Section 5: Ntafufu River to Lusikisiki (Magwa Intersection) Without Mitigation							
Construction	Local	Temporary	Medium	Probable	Medium	Negative	Medium
Operational	Local	Permanent	Medium	Probable	High	Negative	Medium
Section 5: Ntafufu River to Lusikisiki (Magwa Intersection) With Mitigation							
Construction	Local	Temporary	Low	Probable	Low	Negative	Medium
Operational	Local	Permanent	Low	Probable	Medium	Negative	Medium
Section 6: Lusikisiki (Magwa Intersection) to Mthamvuna River Without Mitigation							
Construction	Local	Temporary	Medium	Probable	Medium	Negative	Medium
Operational	Local	Permanent	High	Probable	High	Negative	Medium
Section 6: Lusikisiki (Magwa Intersection) to Mthamvuna River With Mitigation							
Construction	Local	Temporary	Low	Probable	Low	Negative	Medium
Operational	Local	Permanent	Low	Probable	Medium	Negative	Medium
Section 7: Mthamvuna River to Isipingo Interchange Without Mitigation							
Construction	Local	Temporary	Medium	Probable	Medium	Negative	Medium
Operational	Local	Permanent	Medium	Probable	Medium	Negative	Medium
Section 7: Mthamvuna River to Isipingo Interchange With Mitigation							
Construction	Local	Temporary	Low	Probable	Low	Negative	Medium
Operational	Local	Permanent	Low	Probable	Low	Negative	Medium

4.2.13. Secondary effects such as potential increased crime

Description of impact: An increase in criminal activity due to an influx of workers during the construction phase and greater access during the operational phase. An increased in traffic volumes are likely to result in increase in people from outside moving through the area making it difficult for police to control crime in remote rural areas, therefore crime may increase from current baseline of low.

The issue of stock theft is off serious concern. It must noted that stock theft in a area that depends heavily on livestock to support their livelihoods would represent a significant issue. Risk of stock theft will be present during both the construction and operational phase of the project.

Mitigation objective: To reduce the risks of crime.

Mitigation measures:

- Established liaison structures with local police to monitor changes during the construction phase;
- Where necessary additional security should be provided;
- South African legislation makes allowance for the establishment of Community Policing Forums. Where they do not exist in the affected areas the Contractor should assist with facilitating the establishment of these forums.

Assessment:

Section 1: Gonubie Interchange to Ngobozi: The introduction of strangers, sometimes indistinguishable from construction workers, has the potential to break down local internal policing strategies and potentially lead to an increase in crime. Increased access also has the possibility of increasing crime levels. As such there is a potential operational risk as well.

Without mitigation: It is anticipated that this impact will be negative, of low intensity and significance and will probably occur. This impact is assessed with a medium level of confidence.

With mitigation: If the mitigation measures are successfully implemented then although the impact remains negative, the intensity and significance is likely to decrease.

Section 2: Ngobozi to Mthatha (Ngqeleni): As with section 1 above, along this sector of the route, there is also a potential risk of crime during both the construction and operational phases of the project.

Without mitigation: It is anticipated that this impact will be negative, of medium to high intensity and medium significance and will probably occur. This impact is assessed with a medium level of confidence.

With mitigation: If the mitigation measures are successfully implemented then although the impact remains negative, the intensity and significance is likely to decrease.

Section 3: Mthatha (Ngqeleni) to Ndwalane: The potential for an increase in crime during construction and operation was also raised along this section of the route.

Without mitigation: It is anticipated that this impact will be negative, of medium intensity and significance and will probably occur. This impact is assessed with a medium level of confidence.

With mitigation: If the mitigation measures are successfully implemented then although the impact remains negative, the intensity and significance is likely to decrease.

Section 4: Ndwalane to Ntafufu River: Mention was made during focus group sessions that crime could increase during the construction phase of the project as strangers, at times indistinguishable from construction workers, are introduced into the area. Although increased access also has the possibility of increasing crime levels it may too have a more positive effect. Due to the relative isolation of the area and its topography with steep hills and deep valleys, a number of car theft syndicates are currently operating in the area and easier access, during the operational phase, may assist police in their efforts to combat these syndicates.

Without mitigation: It is anticipated that this impact will be negative, of medium intensity and significance and will probably occur. This impact is assessed with a medium level of confidence.

With mitigation: If the mitigation measures are successfully implemented then although the impact remains negative, the intensity and significance is likely to decrease.

Section 5: Ntafufu River to Lusikisiki (Magwa Intersection): Although no specific mention was made concerning crime during any of the focus group sessions held in either Mzintlava or Luqoqweni the issue of crime is of some concern in the area.

Without mitigation: It is anticipated that this impact will be negative, of medium intensity and significance and will probably occur. This impact is assessed with a medium level of confidence.

With mitigation: If the mitigation measures are successfully implemented then although the impact remains negative, the intensity and significance is likely to decrease.

Section 6: Lusikisiki (Magwa Intersection) to Mthamvuna River: The risk of the road raising the potential for crime was raised as a fear during the focus group sessions held along this sector of the route.

Without mitigation: It is anticipated that this impact will be negative, of medium intensity and significance and will probably occur. This impact is assessed with a medium level of confidence.

With mitigation: If the mitigation measures are successfully implemented then although the impact remains negative, the intensity and significance is likely to decrease.

Section 7: Mthamvuna River to Isipingo Interchange: Along this section of the route the likelihood of an increase in crime is probable marginally greater during the construction phase of the project.

Without mitigation: It is anticipated that, during the construction phase, this impact will be negative, of medium intensity and significance and will probably occur. This impact is assessed with a medium level of confidence.

With mitigation: If the mitigation measures are successfully implemented then although the impact remains negative, the intensity and significance is likely to decrease.

A summary of the impacts that the secondary effect that potential increased crime is likely to have along each section of the route is provided below in Table 4.13.

Table 4.13: Secondary effects such as potential increased crime

Phase	Extent	Duration	Intensity	Probability	Significance	Status	Confidence
Section 1: Gonubie Interchange to Ngobozi: Without Mitigation							
Construction	Local	Temporary	Low	Probable	Low	Negative	Medium
Operational	Local	Permanent	Low	Probable	Low	Negative	Medium
Section 1: Gonubie Interchange to Ngobozi: With Mitigation							
Construction	Local	Temporary	Negligible	Probable	Very Low	Negative	Medium
Operational	Local	Permanent	Negligible	Probable	Very Low	Negative	Medium
Section 2: Ngobozi to Mthatha (Ngqeleni) Without Mitigation							
Construction	Local	Temporary	Medium to high	Probable	Medium	Negative	Medium
Operational	Local	Temporary	Low	Probable	Low	Negative	Medium
Section 2: Ngobozi to Mthatha (Ngqeleni) With Mitigation							
Construction	Local	Temporary	Medium	Probable	Medium	Negative	Medium
Operational	Local	Temporary	Negligible to Low	Probable	Very Low to Low	Negative	Medium
Section 3: Mthatha (Ngqeleni) to Ndwalane Without Mitigation							
Construction	Local	Temporary	Medium	Probable	Medium	Negative	Medium
Operational	Local	Permanent	Medium	Probable	Medium	Negative	Medium
Section 3: Mthatha (Ngqeleni) to Ndwalane With Mitigation							
Construction	Local	Temporary	Low	Probable	Low	Negative	Medium
Operational	Local	Permanent	Low	Probable	Low	Negative	Medium
Section 4: Ndwalane to Ntafufu River Without Mitigation							
Construction	Local	Temporary	Medium	Probable	Medium	Negative	Medium
Operational	Local	Permanent	Medium	Probable	Medium	Negative	Medium
Section 4: Ndwalane to Ntafufu River With Mitigation							
Construction	Local	Temporary	Low	Probable	Low	Negative	Medium
Operational	Local	Permanent	Low	Probable	Low	Negative	Medium
Section 5: Ntafufu River to Lusikisiki (Magwa Intersection) Without Mitigation							
Construction	Local	Temporary	Medium	Probable	Medium	Negative	Medium
Operational	Local	Permanent	Medium	Probable	Medium	Negative	Medium
Section 5: Ntafufu River to Lusikisiki (Magwa Intersection) With Mitigation							
Construction	Local	Temporary	Low	Probable	Low	Negative	Medium
Operational	Local	Permanent	Low	Probable	Low	Negative	Medium
Section 6: Lusikisiki (Magwa Intersection) to Mthamvuna River Without Mitigation							
Construction	Local	Temporary	Medium	Probable	Medium	Negative	Medium
Operational	Local	Permanent	Medium	Probable	Medium	Negative	Medium
Section 6: Lusikisiki (Magwa Intersection) to Mthamvuna River With Mitigation							
Construction	Local	Temporary	Low	Probable	Low	Negative	Medium
Operational	Local	Permanent	Low	Probable	Low	Negative	Medium
Section 7: Mthamvuna River to Isipingo Interchange Without Mitigation							
Construction	Local	Temporary	Medium	Probable	Medium	Negative	Medium
Operational	Local	Permanent	Low	Probable	Medium	Negative	Medium
Section 7: Mthamvuna River to Isipingo Interchange With Mitigation							
Construction	Local	Temporary	Low	Unlikely	Low	Negative	Medium
Operational	Local	Permanent	Low	Unlikely	Low	Negative	Medium

4.2.14. Construction related traffic delays and traffic accommodation

Description of impact: There are likely to be traffic disruptions and delays during construction.

Mitigation objective: The efficient and effective management of traffic disruptions.

Mitigation measures:

- Proper scheduling of construction activities to minimize delays;
- Public communication strategy to inform road users.

Assessment:

Section 1: Gonubie Interchange to Ngobozi: The construction phase, particularly where the existing roads will need to be upgraded, will result in traffic delays. Delays lead to increased incidences of road rage and time delays for users. There will also be some traffic accommodation issues during the operational phase when maintenance work is undertaken.

Without mitigation: It is anticipated that, during the construction phase, this impact will be negative, of medium intensity and significance and will probably occur. This impact is assessed with a medium level of confidence.

With mitigation: If the mitigation measures are successfully implemented then although the impact remains negative, the intensity and significance are likely to decrease.

Section 3: Mthatha (Ngqeleni) to Ndwalane: Traffic delays caused by construction are possible along this section of the route, particularly in and around the development node of Thombo. There could also be some traffic accommodation issues during the operational phase when maintenance work is undertaken.

Without mitigation: It is anticipated that, during the construction phase, this impact will be negative, of medium intensity and of medium to high significance and will probably occur. This impact is assessed with a medium level of confidence.

With mitigation: If the mitigation measures are successfully implemented then although the impact remains negative, the intensity remains unchanged, the significance is likely to decrease.

Section 4: Ndwalane to Ntafufu River: Traffic delays caused by construction are possible along this section of the route particularly in areas of the R61 were there are a number of curves in the road. There could also be some traffic accommodation issues during the operational phase when maintenance work is undertaken.

Without mitigation: It is anticipated that, during the construction phase, this impact will be negative, of medium intensity and significance and will probably occur. This impact is assessed with a medium level of confidence.

With mitigation: If the mitigation measures are successfully implemented then although the impact remains negative, the intensity remains unchanged, the significance is likely to decrease.

Section 5: Ntafufu River to Lusikisiki (Magwa Intersection): Traffic delays caused by construction are possible along the R61, particularly in and around the densely settled peri-urban areas situated east of Lusikisiki. There could also be some traffic accommodation issues during the operational phase when maintenance work is undertaken.

Without mitigation: It is anticipated that during the construction phase, this impact will be negative, of medium intensity and medium to high significance and will probably occur. This impact is assessed with a medium level of confidence.

With mitigation: If the mitigation measures are successfully implemented then although the impact remains negative, the intensity remains unchanged, the significance is likely to decrease.

Section 6: Lusikisiki (Magwa Intersection) to Mthamvuna River: This section consists of Greenfields areas that will not be affected by this impact.

Section 7a: Mthamvuna River to Port Shepstone: Potential construction delays were mentioned by many stakeholders as detrimental to the effective running of business and possibly making the South Coast less attractive to tourists. Delays lead to increased incidences of road rage and time delays for users. There will also be some traffic accommodation issues during the operational phase when maintenance work is undertaken.

Without mitigation: It is anticipated that, during the construction phase, this impact will be negative, of medium to high intensity and medium significance and will probably occur. This impact is assessed with a medium level of confidence.

With mitigation: If the mitigation measures are successfully implemented then although the impact remains negative, the intensity decreases while the significance remains unchanged.

A summary of the impacts that construction related traffic delays and traffic accommodation is likely to have along each section of the route is provided below in Table 4.14.

Table 4.14: Construction related traffic delays and traffic accommodation

Phase	Extent	Duration	Intensity	Probability	Significance	Status	Confidence
Section 1 & 2: Gonubie Interchange to Mthatha (Ngqeleni) Without Mitigation							
Construction	Local	Temporary	Medium	Probable	Medium	Negative	Medium
Operational	Local	Temporary	Negligible	Probable	Very Low	Negative	Medium
Section 1 & 2: Gonubie Interchange to Mthatha (Ngqeleni) With Mitigation							
Construction	Local	Temporary	Low	Probable	Low	Negative	Medium
Operational	Local	Temporary	Negligible	Probable	Very Low	Negative	Medium
Section 3: Mthatha (Ngqeleni) to Ndwalane Without Mitigation							
Construction	Local	Temporary	Medium	Probable	Medium to High	Negative	Medium
Operational	Local	Temporary	Medium	Probable	Medium	Negative	Medium
Section 3: Mthatha (Ngqeleni) to Ndwalane With Mitigation							
Construction	Local	Temporary	Medium	Probable	Low	Negative	Medium
Operational	Local	Temporary	Low	Probable	Low	Negative	Medium
Section 4: Ndwalane to Ntafufu River Without Mitigation							
Construction	Local	Temporary	Medium	Probable	Medium	Negative	Medium
Operational	Local	Temporary	Medium	Probable	Medium	Negative	Medium
Section 4: Ndwalane to Ntafufu River With Mitigation							
Construction	Local	Temporary	Medium	Probable	Low	Negative	Medium
Operational	Local	Temporary	Low	Probable	Low	Negative	Medium
Section 5: Ntafufu River to Lusikisiki (Magwa Intersection) Without Mitigation							
Construction	Local	Temporary	Medium	Probable	Medium to High	Negative	Medium
Operational	Local	Temporary	Medium	Probable	Medium	Negative	Medium
Section 5: Ntafufu River to Lusikisiki (Magwa Intersection) With Mitigation							
Construction	Local	Temporary	Medium	Probable	Medium	Negative	Medium
Operational	Local	Temporary	Low	Probable	Low	Negative	Medium
Section 7: Mthamvuna River to Isipingo Interchange Without Mitigation							
Construction	Local	Temporary	Medium to High	Probable	Medium	Negative	Medium
Operational	Local	Temporary	Low	Probable	Low	Negative	Medium
Section 7: Mthamvuna River to Isipingo Interchange With Mitigation							
Construction	Local	Temporary	Medium	Probable	Medium	Negative	Medium
Operational	Local	Temporary	Low	Probable	Low	Negative	Medium

4.2.15. Potential increase in tensions in the taxi industry

Description of impact: The South African taxi industry has a history of competition and violence. Most taxi associations regulate their members via a complex set of arrangements. These often relate to imposed quotas on the numbers of internal commuter and long distance trips that operators are assigned. The imposition of tolls could affect the profitability of certain routes and increase internal tension and violence.

Mitigation objective: To prevent an increase in tensions caused by disputes over routes in the taxi industry.

Mitigation measures:

- The Operator should enter into negotiations with taxi associations well in advance of implementation of toll fees;
- Ensure that either sufficient concessions are in place to obviate the development of tensions, or that route allocations are such that no particular operator is significantly penalised.
- Allow sufficient time for taxi associations to adapt to the new circumstances.

Assessment:

Sections 1 and 2: Gonubie Interchange to Mthatha (Ngqeleni): Along this section of the route there is some potential for conflict to arise over taxi routes in the area. This potential would probably increase with tolling.

Without mitigation: It is anticipated that this impact will be negative, of medium to high intensity and significance and will probably occur. This impact is assessed with a medium level of confidence.

With mitigation: If the mitigation measures are successfully implemented then although the impact remains negative, the intensity and significance decreases.

Section 3 to 6: Mthatha (Ngqeleni) to Mthamvuna River: There is some potential for conflict to arise over taxi routes in the area particularly as the road provides access into the area bring with it greater opportunities for taxi operators. This potential would probably rise with tolling.

Without mitigation: It is anticipated that this impact will be negative, of medium intensity and significance and will probably occur. This impact is assessed with a medium level of confidence.

With mitigation: If the mitigation measures are successfully implemented then although the impact remains negative, the intensity and significance decreases.

Section 7: Mthamvuna River to Isipingo Interchange: Most taxi associations regulate their members via a complex set of arrangements. These often relate to imposed quotas on the numbers of internal commuter and long distance trips that operators are assigned. The KwaMakutha Taxi association has a reputation for internal strife. The imposition of tolls could affect the profitability of certain routes and increase internal tension and violence.

Without mitigation: It is anticipated that this impact will be negative, of medium intensity and significance and will probably occur. This impact is assessed with a medium level of confidence.

With mitigation: If the mitigation measures are successfully implemented then although the impact remains negative, the intensity and significance decreases.

A summary of the impacts that a potential increase in tensions in the taxi industry is likely to have along each section of the route is provided below in Table 4.15.

Table 4.15: Potential increase in tensions in the taxi industry

Phase	Extent	Duration	Intensity	Probability	Significance	Status	Confidence
Section 1 & 2: Gonubie Interchange to Mthatha (Ngqeleni) Without Mitigation							
Construction	NA	NA	NA	NA	NA	NA	NA
Operational	Regional	Permanent	Medium to high	Probable	Medium to high	Negative	Medium
Section 1 & 2: Gonubie Interchange to Mthatha (Ngqeleni) With Mitigation							
Construction	NA	NA	NA	NA	NA	NA	NA
Operational	Regional	Permanent	Low to medium	Probable	Low to medium	Negative	Medium
Section 3 to 6: Mthatha (Ngqeleni) to Mthamvuna River Without Mitigation							
Construction	NA	NA	NA	NA	NA	NA	NA
Operational	Local	Permanent	Medium	Probable	Medium	Negative	Medium
Section 3 to 6: Mthatha (Ngqeleni) to Mthamvuna River Without Mitigation							
Construction	NA	NA	NA	NA	NA	NA	NA
Operational	Local	Permanent	Low	Probable	Low	Negative	Medium
Section 7: Mthamvuna River to Isipingo Interchange Without Mitigation							
Construction	NA	NA	NA	NA	NA	NA	NA
Operational	Regional	Permanent	Medium	Probable	Medium	Negative	Medium
Section 7: Mthamvuna River to Isipingo Interchange With Mitigation							
Construction	NA	NA	NA	NA	NA	NA	NA
Operational	Regional	Permanent	Low	Probable	Low	Negative	Medium

4.2.16. Improvement in local traffic congestion within the towns through which the highway passes

Description of impact: The project has the potential to ease the traffic congestion faced by some towns situated along the route.

Optimisation of benefits: To enhance the potential of the project to ease traffic flow in certain towns along the route.

Optimisation measures:

- In order to maximise the opportunity to ease congestion particularly within the Mthatha area it would be imperative for all relevant authorities to work in close cooperation in this regard and to set up clear communication channels.

Assessment:

Section 1: Gonubie Interchange to Ngobozi: Not applicable to this section of the route.

Section 2: Ngobozi to Mthatha (Ngqeleni): SANRAL are proposing to develop one-way streets (and bypasses where this is necessary at a later stage) to improve traffic flow through Butterworth, Idutywa and Mthatha. Proposals include the construction of an undivided four lane road through Mthatha. This is a particularly critical need in Mthatha where congestion during peak periods can result in delays of an hour to get through the town.

Improvements to traffic flow will reduce travel times, travel costs, fuel consumption, wear and tear on vehicles, pollution, and noise. This will have knock-on effects for income and other productive activities, increasing access to social financial and physical capital.

Without mitigation: It is anticipated that this impact will be positive, of high intensity and significance and will probably occur. This impact is assessed with a medium level of confidence.

With mitigation: Mitigation measures are unlikely to make any significant difference to this impact.

Section 3 to 6: Mthatha (Ngqeleni) to Mthamvuna River: Not applicable to this section of the route.

Section 7a: Mthamvuna River to Port Shepstone: The degree to which this is a positive impact for this section of the road will remain to be seen. Some stakeholders have indicated that should the road be affordable then congestion of parts of the R102 will be lessened. Others point to the Toll Roads having the opposite effect and indeed increasing congestion. If it has a positive impact on congestion then the road will have knock on effects for income and other productive activities, increasing access to social financial and physical capital.

Without mitigation: It is anticipated that this impact will be positive, of low intensity and significance and will definitely occur. This impact is assessed with a medium level of confidence.

With mitigation: If the mitigation measures are successfully implemented then the impact will remain positive and the intensity and significance will increase slightly from low to medium.

Section 7b: Port Shepstone to Isipingo Interchange: The degree to which this is a positive impact for this section of the road will remain to be seen. Some stakeholders have indicated that should the road be affordable then congestion of parts of the alternative will be lessened. Others point to the Toll Roads having the opposite effect and indeed increasing congestion, particularly on points of the R102, M35 and Old Main Road. If it has a positive impact on congestion then the road will have knock on effects for income and other productive activities, increasing access to social financial and physical capital.

Without mitigation: It is anticipated that this impact will be positive, of low intensity and significance and will definitely occur. This impact is assessed with a medium level of confidence.

With mitigation: If the mitigation measures are successfully implemented then the impact will remain positive and the intensity low but the significance will increase to medium.

A summary that the impacts of an improvement in local traffic congestion, within the towns through which the highway passes, is likely to have along section 2 and sections 7a and 7b of the route is provided in Table 4.16.

Table 4.16: Improvement in local traffic congestion within the towns through which the highway passes

Phase	Extent	Duration	Intensity	Probability	Significance	Status	Confidence
Section 2: Ngobozi to Mthatha (Ngqeleni) Without Mitigation							
Construction	NA	NA	NA	NA	NA	NA	NA
Operational	Local	Permanent	High	Definite	High	Positive	High
Section 2: Ngobozi to Mthatha (Ngqeleni) With Mitigation							
Construction	NA	NA	NA	NA	NA	NA	NA
Operational	Local	Permanent	High	Definite	High	Positive	High
Section 7a: Mthamvuna River to Port Shepstone Without Mitigation							
Construction	NA	NA	NA	NA	NA	NA	NA
Operational	Local and Regional	Permanent	Low	Possible	Low	Positive	Medium
Section 7a: Mthamvuna River to Port Shepstone With Mitigation							
Construction	NA	NA	NA	NA	NA	NA	NA
Operational	Local and Regional	Permanent	Low	Possible	Medium	Positive	Medium
Section 7b: Port Shepstone to Isipingo Interchange Without Mitigation							
Construction	NA	NA	NA	NA	NA	NA	NA
Operational	Local and Regional	Permanent	Low	Possible	Low	Positive	Medium
Section 7b: Port Shepstone to Isipingo Interchange Without Mitigation							
Construction	NA	NA	NA	NA	NA	NA	NA
Operational	Local and Regional	Permanent	Low	Possible	Medium	Positive	Medium

4.2.17. Improved livestock safety

Description of impact: The existing road has been associated with significant safety hazards associated with livestock on the roads and a lack of fencing.

The assessment of this impact is based on the assumption that the developers will construct and effectively maintain fences. The risks of this maintenance not happening remain high resulting in this assessment being undertaken with a low level of confidence.

Optimisation of benefits: Optimisation of improved safety for livestock.

Optimisation measures:

- Ensure close cooperation and effective communication between all relevant authorities;
- Introduce active and efficient control and development mechanisms
- Carefully selected and positioned under- and over-passes.

Assessment:

Section 1 and 2: Gonubie Interchange to Ngobozi: Along this sector of the road free roaming livestock poses a real safety hazard. In addition to posing a safety hazard, the loss of livestock due to traffic collisions impoverishes the families who own them. The new highway with limited access and well maintained fences has the potential to significantly increase the safety of people and livestock, increasing the total local stock of natural human and social assets.

Without mitigation: It is anticipated that this impact will be positive, of high intensity and high significance and will probably occur. This impact is assessed with a low level of confidence.

With mitigation: If the mitigation measures are successfully implemented then the impact remains positive and the intensity increases to very high.

Section 3: Mthatha (Ngqeleni) to Ndwalane: Free roaming livestock also poses a safety hazard between Mthatha and Ndwalane and new highway, with adequate and well maintained fencing, would also have the potential to significantly increase the safety of people and livestock along this section of the route.

Without mitigation: It is anticipated that this impact will be positive, of high intensity and high significance and will probably occur. This impact is assessed with a low level of confidence.

With mitigation: If the mitigation measures are successfully implemented then the impact remains positive and the intensity will increase to very high.

Section 4: Ndwalane to Ntafufu River: During focus group sessions at Ntafufu a concern was raised relating to the safety and loss of livestock. It was pointed out that road safety in the area was compromised due to 'people not watching their livestock as they do around Mthatha'. It is likely that a new road with adequate and well maintained fencing would increase the safety of livestock. Although no specific mention was made regarding the possibility of fencing being cut and sold the likelihood must exist and as such needs to be considered.

Without mitigation: It is anticipated that this impact will be positive, of high intensity and significance and will probably occur. This impact is assessed with a low level of confidence.

With mitigation: Mitigation measures are unlikely to make any significant difference to this impact.

Section 5: Ntafufu River to Lusikisiki (Magwa Intersection): Although no specific mention was made during the focus group sessions in the area about the safety and loss of livestock it was observed that this is a likely issue along sections of the R61. Accordingly, the new highway with limited access and well maintained fences has the potential to significantly increase the safety of people and livestock, increasing the total local stock of natural human and social assets.

Without mitigation: It is anticipated that this impact will be positive, of high intensity and significance and will probably occur. This impact is assessed with a low level of confidence.

With mitigation: If the mitigation measures are successfully implemented then the impact remains positive and the intensity becomes very high.

Section 6: Lusikisiki (Magwa Intersection) to Mthamvuna River: At this point this section of the route consists largely of Greenfields area and free roaming livestock are not currently an issue.

Section 7: Mthamvuna River to Isipingo Interchange: This section of the route consists largely of existing highway and free roaming livestock are not of significant concern.

A summary of the impacts that improved livestock safety is likely to have along each section of the route is provided below in Table 4.17.

Table 4.17: Improved livestock safety

Phase	Extent	Duration	Intensity	Probability	Significance	Status	Confidence
Section 1 & 2: Gonubie Interchange to Mthatha (Ngqeleni) Without Mitigation							
Construction	NA	NA	NA	NA	NA	NA	NA
Operational	Regional	Long–term	High	Probable	High	Positive	Low
Section 1 & 2: Gonubie Interchange to Mthatha (Ngqeleni) With Mitigation							
Construction	NA	NA	NA	NA	NA	NA	NA
Operational	Regional	Long–term	Very high	Highly probable	High	Positive	Low
Section 3: Mthatha (Ngqeleni) to Ndwalane Without Mitigation							
Construction	NA	NA	NA	NA	NA	NA	NA
Operational	Regional	Long–term	High	Probable	High	Positive	Low
Section 3: Mthatha (Ngqeleni) to Ndwalane With Mitigation							
Construction	NA	NA	NA	NA	NA	NA	NA
Operational	Regional	Long–term	Very high	Highly probable	High	Positive	Low
Section 4: Ndwalane to Ntafufu River Without Mitigation							
Construction	NA	NA	NA	NA	NA	NA	NA
Operational	Local	Permanent	High	Probable	High	Positive	Low
Section 4: Ndwalane to Ntafufu River With Mitigation							
Construction	NA	NA	NA	NA	NA	NA	NA
Operational	Local	Permanent	High	Probable	High	Positive	Low
Section 5: Ntafufu River to Lusikisiki (Magwa Intersection) Without Mitigation							
Construction	NA	NA	NA	NA	NA	NA	NA
Operational	Local	Permanent	High	Probable	High	Positive	Low
Section 5: Ntafufu River to Lusikisiki (Magwa Intersection) With Mitigation							
Construction	NA	NA	NA	NA	NA	NA	NA
Operational	Local	Permanent	Very High	Probable	High	Positive	Low

4.2.18. Loss of use of the existing road reserve to local communities

Description of impact: In marginal communities much of the existing road reserve is used for grazing and other natural resource harvesting as well as the cultivation of crops.

Mitigation objective: Provide an alternate resource for those affected by the loss.

Mitigation measures:

As part of a social responsibility programme the grass in the reserve could be bailed and made available to the communities as part of the maintenance programme for the fences and road reserve. This may help reduce the risk of fence cutting/damage and the hazard posed by unattended cattle grazing in the reserve and crossing the road.

Assessment:

Section 1: Gonubie Interchange to Ngobozi: This impact does not occur to a significant degree along this section of the route.

Section 2: Ngobozi to Mthatha (Ngqeleni): Given high levels of poverty and low levels of available resources in marginal communities the removal of this land is expected to have negative consequences on household livelihoods along this sector of the route.

Without mitigation: It is anticipated that this impact will be negative, of medium intensity and significance and will probably occur. This impact is assessed with a medium level of confidence.

With mitigation: If the mitigation measures are successfully implemented then the impact remains negative and the intensity and significance decrease.

Section 3: Mthatha (Ngqeleni) to Ndwalane: In 'The Soils, Agriculture and Current Land Use' report Merryweather, (2007:40) points out that '[i]n much of the road reserve between the Kei River and Ndwalana (near Port St Johns) the reserve is no longer fenced. The community makes use of the land for grazing and occasionally for cultivation. In many places people occupy land within the 95 metre building restriction area…'. With the building of the road this access to grazing and cultivation along this section of the route is likely to be lost, a concern that was raised during the focus group session in Thombo.

Without mitigation: It is anticipated that this impact will be negative, of medium intensity and significance and will probably occur. This impact is assessed with a medium level of confidence.

With mitigation: If the mitigation measures are successfully implemented then the impact remains negative and the intensity and significance decrease.

Section 4: Ndwalane to Ntafufu River: Merryweather, (2007:17) points out that in the central section between the Mzimvubu and the Ntafufu rivers ' …there is much cultivation along the proposed road route on the steeper slopes away from the homestead areas (which are on the ridge crests). The hill slopes have been cut up for subsistence cultivation as shown by hedgerows of grass and small shrubs but a large part of it has not been cultivated for some time. The mid and lower slopes have almost 70% cultivated under maize.' With the building of the road there is a possibility that the road reserve will to some degree affect communities and their livestock with some loss to cultivated areas occurring, albeit to a limited extent. In assessing the losses along this section of the route Merryweather (2007:74 points out that '[f]or the larger part the terrain through which this section passes offers little agricultural potential because it is steeply hilly with rocky soils of scree slopes. The area of irrigation land which will be taken is less than 5ha while cultivated rain fed crop land which will be lost is less than 20ha.'

Without mitigation: It is anticipated that this impact will be negative, of medium intensity and significance and will probably occur. This impact is assessed with a medium level of confidence.

With mitigation: If the mitigation measures are successfully implemented then the impact remains negative and the intensity and significance decrease.

Section 5: Ntafufu River to Lusikisiki (Magwa Intersection): This sector of road is characterised by rather steep rolling terrain placing a limit on agriculture and, as Merryweather (2007:78) points out, with the widening of the road ' …almost 40 ha of land will be alienated from the community.' Tolling will also result in a further loss of grazing along the verge of the road with access across the road only being available at over- and underpasses. No specific mention of these potential losses was made during any of the focus groups session or interviews.

Without mitigation: It is anticipated that this impact will be negative, of medium intensity and significance and will probably occur. This impact is assessed with a medium level of confidence.

With mitigation: If the mitigation measures are successfully implemented then the impact remains negative and the intensity and significance decrease.

Section 6: Lusikisiki (Magwa Intersection) to Mthamvuna River: There will be some loss of agricultural land which, according to Merryweather, amounts to approximately 45ha along this sector of the road. Merryweather (2007:81) points out that '[t]he potential permanent negative impact of the section of road from Lusikisiki to Msikaba will be of negligible intensity and of a very low significance to agriculture.'

Without mitigation: It is anticipated that this impact will be negative, of low intensity and significance and will probably occur. This impact is assessed with a medium level of confidence.

With mitigation: If the mitigation measures are successfully implemented then the impact remains negative and the intensity and significance decrease.

Section 7a: Mthamvuna River to Port Shepstone: Given high levels of poverty and low levels of resource availability in marginal communities, the removal of this land is expected to have negative consequences on household livelihoods. This is not as significant an impact for the communities in this section of the road as it is for other parts of the proposed Toll Road. Nevertheless, some grazing of cattle on parts of the R61 road reserve was observed.

Without mitigation: It is anticipated that this impact will be negative, of low intensity and significance and will probably occur. This impact is assessed with a medium level of confidence.

With mitigation: Mitigation measures are unlikely to result in any significant change.

Section 7b: Port Shepstone to Isipingo Interchange: Although this section of the route comprises existing N2 highway some grazing of cattle on parts of the N2 road reserve was observed in the area around Umgababa.

Without mitigation: It is anticipated that this impact will be negative, of low intensity and significance and will probably occur. This impact is assessed with a medium level of confidence.

With mitigation: Mitigation measures are unlikely to result in any significant change.

A summary of the impacts that a loss of the use of the existing road reserve to local communities is likely to have along each section of the route is provided below in Table 4.18.

Table 4.18: Loss of use of the existing road reserve to local communities

Phase	Extent	Duration	Intensity	Probability	Significance	Status	Confidence
Section 2: Ngobozi to Mthatha (Ngqeleni) Without Mitigation							
Construction	Local	Permanent	Medium	Definite	Medium	Negative	Medium
Operational	Local	Permanent	Low	Definite	Low	Negative	Medium
Section 2: Ngobozi to Mthatha (Ngqeleni) With Mitigation							
Construction	Local	Permanent	Low	Definite	Low	Negative	Medium
Operational	Local	Permanent	Low	Definite	Low	Negative	Medium
Section 3: Mthatha (Ngqeleni) to Ndwalane Without Mitigation							
Construction	Local	Permanent	Medium	Definite	Medium	Negative	Medium
Operational	Local	Permanent	Medium	Definite	Medium	Negative	Medium
Section 3: Mthatha (Ngqeleni) to Ndwalane With Mitigation							
Construction	Local	Permanent	Low	Definite	Low	Negative	Medium
Operational	Local	Permanent	Low	Definite	Low	Negative	Medium
Section 4: Ndwalane to Ntafufu River Without Mitigation							
Construction	Local	Permanent	Medium	Definite	Medium	Negative	Medium
Operational	Local	Permanent	Medium	Definite	Medium	Negative	Medium
Section 4: Ndwalane to Ntafufu River With Mitigation							
Construction	Local	Permanent	Low	Definite	Low	Negative	Medium
Operational	Local	Permanent	Low	Definite	Low	Negative	Medium
Section 5: Ntafufu River to Lusikisiki (Magwa Intersection) Without Mitigation							
Construction	Local	Permanent	Medium	Definite	Medium	Negative	Medium
Operational	Local	Permanent	Medium	Definite	Medium	Negative	Medium
Section 5: Ntafufu River to Lusikisiki (Magwa Intersection) With Mitigation							
Construction	Local	Permanent	Low	Definite	Low	Negative	Medium
Operational	Local	Permanent	Low	Definite	Low	Negative	Medium
Section 6: Lusikisiki (Magwa Intersection) to Mthamvuna River Without Mitigation							
Construction	Local	Permanent	Low	Definite	Low	Negative	Medium
Operational	Local	Permanent	Low	Definite	Low	Negative	Medium
Section 6: Lusikisiki (Magwa Intersection) to Mthamvuna River With Mitigation							
Construction	Local	Permanent	Very Low	Definite	Very Low	Negative	Medium
Operational	Local	Permanent	Very Low	Definite	Very Low	Negative	Medium
Section 7a: Mthamvuna River to Port Shepstone Without Mitigation							
Construction	NA	NA	NA	NA	NA	NA	NA
Operational	Region	Permanent	Low	Possible	Low	Negative	Medium
Section 7a: Mthamvuna River to Port Shepstone With Mitigation							
Construction	NA	NA	NA	NA	NA	NA	NA
Operational	Regional	Permanent	Low	Possible	Low	Negative	Medium
Section 7b: Port Shepstone to Isipingo Interchange Without Mitigation							
Construction	NA	NA	NA	NA	NA	NA	NA
Operational	Region	Permanent	Low	Possible	Low	Negative	Medium
Section 7b: Port Shepstone to Isipingo Interchange Without Mitigation							
Construction	NA	NA	NA	NA	NA	NA	NA
Operational	Regional	Permanent	Low	Possible	Low	Negative	Medium

4.2.19. Resettlement of affected households

Description of impact: The construction of a new road in the Greenfields areas and the widening of the road reserve along the existing N2 will require that households living in the road reserve be resettled.

International experience shows that, unless the best practice benchmarks are achieved, resettlement exposes affected people to a range of risks such as:

- landlessness
- homelessness
- joblessness
- economic and social marginalisation
- increased morbidity and mortality
- food insecurity
- loss of access to common property resources
- social and cultural disarticulation/disruption

In this regard poorer households are at particular risk.

Mitigation objective: Provide an acceptable alternate resource for those affected by the loss.

Mitigation measures:

Resettlement must be conducted in terms of international best practice and accompanied by a comprehensive resettlement action plan. This goes further than merely fulfilling the legislative requirements of compensation. According to the World Bank's Revised Policy on Involuntary Resettlement (OP/BP 4.12) (2006), best practices must ensure that:

- Involuntary resettlement should be avoided, or minimised where unavoidable.
- Where resettlement is unavoidable, resettlement plans and activities should be seen and executed as development programmes.
- Resettled persons should be provided with sufficient investment resources and opportunities to share in project benefits.
- Displaced persons should be meaningfully consulted, and should participate in the planning and implementation of resettlement programmes.
- Displaced persons should be compensated, prior to the move, for their losses at full replacement cost.
- Resettled persons should be assisted with the move and provided with support during the transition period.
- Resettled persons should be assisted with their efforts to improve, or at least restore, their former living standards, income earning capacity and production levels – whichever is higher.

A resettlement action plan (RAP) or resettlement policy framework (RPF) needs to be worked out through negotiations with the affected parties and other key stakeholders (i.e. Dept of Land Affairs, Dept of Housing, Local Municipalities and Traditional Local authorities), prior to the widening of the road and demolition of houses. According to the World Bank best practice principles and International Finance Corporation (IFC) performance Standard 5, such a plan or framework should spell out the following;

1) Why people need to be resettled,
2) Where people need to be resettled to,
3) Who specifically would be affected,
4) How they would be compensated,
5) Grievance procedures,

6) Who the responsible agents would be,
7) The timeframe for the resettlement process,
8) The budget/cost estimate and
9) How the resettlement process would be monitored and evaluated (IFC 2002, WB 2001).

The developers will need to commission independent experts to undertake a land audit and to facilitate the development of the RAP/RPF. Alternative housing and/or compensation would also need to be provided to the affected parties prior to the actual relocation activities.

Assessment:

Section 1: Gonubie Interchange to Ngobozi: This impact does not apply to this sector of the route to any significant degree.

Section 2: Ngobozi to Mthatha (Ngqeleni): The potential exists that if not carefully managed some of the risks associated with resettlement could materialise along this sector of the route.
Accordingly, it is anticipated that this impact will only occur during the construction phase of the project, as the road reserve is vacated in preparation for construction.

Without mitigation: It is anticipated that this impact will be negative, of high intensity and significance and will definitely occur. This impact is assessed with a high level of confidence.

With mitigation: If the mitigation measures are successfully implemented then the impact remains negative and the intensity and significance decrease to medium.

Section 3: Mthatha (Ngqeleni) to Ndwalane: It was observed during the site visit that there is a potential for some significant housing losses in this area. In Thombo ten buildings within 200m of the road works were identified during the focus groups as being under threat. This may require that households living in the road reserve be resettled.

Without mitigation: It is anticipated that this impact will be negative, with a medium intensity and high significance and will definitely occur. This impact is assessed with a high level of confidence.

With mitigation: If the mitigation measures are successfully implemented then the impact remains negative and the significance decreases to medium.

Section 4: Ndwalane to Ntafufu River: Although the communities along this sector are very dispersed and there is very little likelihood that any large scale resettlement would occur, fears were expressed during the focus group sessions by a few women, farmers and the youth that their households might be directly effected by the route. Mention was also made of a local junior secondary school that was situated directly in the path of the route and that would need to be relocated. In assessing this impact it is anticipated that the impact will only occur during the construction phase of the project and although it will be negative it

may only occur to a limited extent.

Without mitigation: It is anticipated that this impact will be negative, with a low intensity and significance and will probably occur. This impact is assessed with a high level of confidence.

With mitigation: If the mitigation measures are successfully implemented then the impact remains negative and the significance decreases to that of very low.

Section 5: Ntafufu River to Lusikisiki (Magwa Intersection): In this area, women in particular raised a concern about the potential loss of homesteads alone the route identifying 8 buildings within 200m of the proposed route as being under threat. The issue of compensation was raised and it was suggested that relocation be done in accordance with new arrangements made through the local headman. At Luqoqweni it was requested that if relocation was necessary, the whole community be relocated together.

Without mitigation: It is anticipated that this impact will be negative, with a medium intensity and high significance and will definitely occur. This impact is assessed with a high level of confidence.

With mitigation: If the mitigation measures are successfully implemented then the impact remains negative and the significance decreases to that of medium.

Section 6: Lusikisiki (Magwa Intersection) to Mthamvuna River: Due to there being different impacts along this route, for assessment purposes, the route has been subdivided into 2 sections. Subsection 1 covers the Mateko and Mkamelo regions while subsection 2 centers around the Mahaha region.

Mateko and Mkamelo: In Mateko a number of respondents indicated that they feared a loss of physical capital held in houses and buildings. Although mention was made of their being an abundance of land, the suitability of this land was, in many areas, questionable. A high number of respondents in Mkamelo also indicated that they believed that their properties would be directly impacted by the road. This impact is assessed here for the first section of the route closer to the Mateko and Mkamelo areas.

Without mitigation: It is anticipated that this impact will be negative, with a high intensity and significance and will definitely occur. This impact is assessed with a high level of confidence.

With mitigation: If the mitigation measures are successfully implemented then the impact remains negative and the intensity and significance decreases to medium.

Mahaha: Along the northerly section, closer to Mahaha, the impacts are likely to be less severe given the very diverse settlement patterns along this stretch. It was identified through interviews that two women, one youth and one farmer believed their households to be directly affected.

Without mitigation: It is anticipated that this impact will be negative, with a medium intensity and significance and will definitely occur. This impact is assessed with a high level of confidence.

With mitigation: If the mitigation measures are successfully implemented then the impact remains negative and the intensity and significance decrease to low.

7a: Mthamvuna River to Port Shepstone: This impact is unlikely in the Mthamvuna to Port Shepstone section of the road but there may be some required resettlement once the project is finally implemented.

Without mitigation: It is anticipated that this impact will be negative, with a low intensity and high significance and is unlikely to occur. This impact is assessed with a high level of confidence.

With mitigation: In respect of this impact mitigation measures are unlikely to result in any significant change.

Section 7b: Port Shepstone to Isipingo Interchange: As this section consists of existing highway this impact is not applicable.

A summary of the impacts that the resettlement of affected households is likely to have along each section of the route is provided below in Table 4.19.

Table 4.19: Resettlement of affected households

Phase	Extent	Duration	Intensity	Probability	Significance	Status	Confidence
Section 2: Ngobozi to Mthatha (Ngqeleni) Without Mitigation							
Construction	Local	Permanent	High	Definite	High	Negative	High
Operational	NA	NA	NA	NA	NA	NA	NA
Section 2: Ngobozi to Mthatha (Ngqeleni) With Mitigation							
Construction	Local	Permanent	Medium	Definite	Medium	Negative	High
Operational	NA	NA	NA	NA	NA	NA	NA
Section 3: Mthatha (Ngqeleni) to Ndwalane Without Mitigation							
Construction	Local	Permanent	Medium	Definite	High	Negative	High
Operational	NA	NA	NA	NA	NA	NA	NA
Section 3: Mthatha (Ngqeleni) to Ndwalane With Mitigation							
Construction	Local	Permanent	Medium	Definite	Medium	Negative	High
Operational	NA	NA	NA	NA	NA	NA	NA
Section 4: Ndwalane to Ntafufu River Without Mitigation							
Construction	Local	Permanent	Low	Probable	Low	Negative	High
Operational	NA	NA	NA	NA	NA	NA	NA
Section 4: Ndwalane to Ntafufu River With Mitigation							
Construction	Local	Permanent	Low	Probable	Very Low	Negative	High
Operational	NA	NA	NA	NA	NA	NA	NA
Section 5: Ntafufu River to Lusikisiki (Magwa Intersection) Without Mitigation							
Construction	Local	Permanent	Medium	Definite	High	Negative	High
Operational	NA	NA	NA	NA	NA	NA	NA
Section 5: Ntafufu River to Lusikisiki (Magwa Intersection) With Mitigation							
Construction	Local	Permanent	Medium	Definite	Medium	Negative	High
Operational	NA	NA	NA	NA	NA	NA	NA
Section 6: Lusikisiki (Magwa Intersection) to Mthamvuna River Mateko & Mkamelo Regions Without Mitigation							
Construction	Local	Permanent	High	Definite	High	Negative	High
Operational	NA	NA	NA	NA	NA	NA	NA
Section 6: Lusikisiki (Magwa Intersection) to Mthamvuna River Mateko & Mkamelo Regions With Mitigation							
Construction	Local	Permanent	Medium	Definite	Medium	Negative	High
Operational	NA	NA	NA	NA	NA	NA	NA
Section 6: Lusikisiki (Magwa Intersection) to Mthamvuna River Mahaha Region Without Mitigation							
Construction	Local	Permanent	Medium	Definite	Medium	Negative	High
Operational	NA	NA	NA	NA	NA	NA	NA
Section 6: Lusikisiki (Magwa Intersection) to Mthamvuna River Mahaha Region With Mitigation							
Construction	Local	Permanent	Low	Definite	Low	Negative	High
Operational	NA	NA	NA	NA	NA	NA	NA
Section 7a: Mthamvuna River to Port Shepstone Without Mitigation							
Construction	Local	Permanent	Low	Unlikely	High	Negative	High
Operational	NA	NA	NA	NA	NA	NA	NA
Section 7a: Mthamvuna River to Port Shepstone With Mitigation							
Construction	Local	Permanent	Low	Unlikely	High	Negative	High
Operational	NA	NA	NA	NA	NA	NA	NA

4.2.20. Loss of land for 'host communities' due to resettlement

Description of impact: Those households that lose their arable lands as a result of the highway would require that new arable sites be allocated to them.

Although it is noted that the resettlement of communities may also result in tensions and competition for resources other than land, particularly where tribal boundaries overlap, this is unlikely to be too great an issue in a linear development such as the road. In contrast to more contained developments, where communities are often relocated to entirely different community lands, a linear development such as the road provides a greater opportunity for communities to be moved to other parts of the same community's land.

Mitigation objective: To protect 'host communities' against the loss of grazing and arable land use. Under international best practice resettlement planning guidelines 'host communities' are protected and given virtually the same consideration as those displaced.

Mitigation measures:

- Design and implement a comprehensive resettlement action plan as set out above under Resettlement of affected households.

Assessment:

Section 1: Gonubie Interchange to Ngobozi: This impact is not applicable to this section of the road.

Section 2: Ngobozi to Mthatha (Ngqeleni): In instances where all, or most, available land is already allocated, the allocation of new arable land to displaced households would result in a reduction of communal grazing lands and would negatively impact on livestock owners.

Without mitigation: It is anticipated that this impact will be negative, with a low to medium intensity and significance and will definitely occur. This impact is assessed with a high level of confidence.

With mitigation: If the mitigation measures are successfully implemented then the impact remains negative and the intensity and significance decrease to low.

Section 3: Mthatha (Ngqeleni) to Ndwalane: A fear was raised during the focus group meetings held at Thombo that the construction of the road in this area would result in the loss of grazing and arable lands. In his study, Merryweather (2007:63-73) points out that between Mthatha and Ndwalane, there are sections where land will be alienated from the community through road widening, although not all of these losses will be significant. For instance between Thombo and Ndwalane "[a]pproximately 25 ha of land with a low agricultural potential will be alienated from the community [and] …will be of negligible intensity and of a very low significance to agriculture" (Merryweather, 2007:72). Consequently, there is the possibility that in instances where all, or most, available land is already allocated, the allocation of new

arable land to displaced households could result in a reduction of communal grazing lands and would have negative impact on livestock owners.

Without mitigation: It is anticipated that this impact will be negative, with a low to medium intensity and significance and will definitely occur. This impact is assessed with a high level of confidence.

With mitigation: If the mitigation measures are successfully implemented then the impact remains negative and the intensity and significance decreases to low.

Section 4: Ndwalane to Ntafufu River: There is a relative abundance of available grazing land together with low stocking rates in the Ntafufu area, however, fears were raised during the focus group sessions that if people were relocated in the area this would have a negative knock-on effect to holders of grazing rights as it would alienate land that they currently use for grazing.

Without mitigation: It is anticipated that this impact will be negative, with a low intensity and significance and will definitely occur. This impact is assessed with a high level of confidence.

With mitigation: Mitigation measures are unlikely to result in any significant change.

Section 5: Ntafufu River to Lusikisiki (Magwa Intersection): Merryweather (2007:81) points out that '[f]or the larger part the terrain through which this section passes offers little agricultural potential because it is within a built up area, within an existing road reserve or is non arable.' On a social basis and moving from north-west to north-east, community settlement patterns closer to Lusikisiki are typical of the remnants of betterment planning in the Mateko area and become much more dispersed in traditional settlement patterns in the Mkamelo and Mahaha areas. The knock-on effects of moving households onto alternative land in areas with little agricultural potential needs to be considered as this can be more severe than the case may be if the land was plentiful and had high agricultural potential.

Without mitigation: It is anticipated that this impact will be negative, with a medium intensity and significance and will definitely occur. This impact is assessed with a high level of confidence.

With mitigation: If the mitigation measures are successfully implemented then the impact remains negative and the intensity and significance decreases to low.

Section 6: Lusikisiki (Magwa Intersection) to Mthamvuna River: Merryweather (2007:80-81) points out that that while the section of the route between the Mskaba and the Mthentu rivers has "… good agricultural potential" the remainder of the section, up to the Mthamvuna River, " …for the larger part ...does not offer good agricultural potential.' On a social basis and moving from north-west to north-east, community settlement patterns closer to Lusikisiki in the Mateko area tend to be typical of the remnants of betterment planning in the Mateko area and become much more dispersed in traditional settlement patterns in the Mkamelo and Mahaha areas. The knock-on effects of moving households onto alternative

land in areas with little agricultural potential needs to be considered as this can be more severe than the case may be if the land had high agricultural potential.

Without mitigation: It is anticipated that this impact will be negative, with a medium intensity and significance and will definitely occur. This impact is assessed with a medium level of confidence.

With mitigation: If the mitigation measures are successfully implemented then the impact remains negative and the intensity and significance decrease to low.

Section 7: Mthamvuna River to Isipingo Interchange: This impact does not apply along this section of the route.

A summary of the impacts that a loss of land for 'host communities' due to resettlement is likely to have along each section of the route is provided below in Table 4.20.

Table 4.20: Loss of land for 'host communities' due to resettlement

Phase	Extent	Duration	Intensity	Probability	Significance	Status	Confidence
Section 2: Ngobozi to Mthatha (Ngqeleni) Without Mitigation							
Construction	Local	Permanent	Low to medium	Definite	Low to medium	Negative	High
Operational	NA	NA	NA	NA	NA	NA	NA
Section 2: Ngobozi to Mthatha (Ngqeleni) With Mitigation							
Construction	Local	Permanent	Low	Definite	Low	Negative	High
Operational	NA	NA	NA	NA	NA	NA	NA
Section 3: Mthatha (Ngqeleni) to Ndwalane Without Mitigation							
Construction	Local	Permanent	Low to Medium	Definite	Low to Medium	Negative	High
Operational	NA	NA	NA	NA	NA	NA	NA
Section 3: Mthatha (Ngqeleni) to Ndwalane With Mitigation							
Construction	Local	Permanent	Low	Definite	Low	Negative	High
Operational	NA	NA	NA	NA	NA	NA	NA
Section 4: Ndwalane to Ntafufu River Without Mitigation							
Construction	Local	Permanent	Low	Possibly	Low	Negative	High
Operational	NA	NA	NA	NA	NA	NA	NA
Section 4: Ndwalane to Ntafufu River With Mitigation							
Construction	Local	Permanent	Low	Possibly	Low	Negative	High
Operational	NA	NA	NA	NA	NA	NA	NA
Section 5: Ntafufu River to Lusikisiki (Magwa Intersection) Without Mitigation							
Construction	Local	Permanent	Medium	Definite	Medium	Negative	High
Operational	NA	NA	NA	NA	NA	NA	NA
Section 5: Ntafufu River to Lusikisiki (Magwa Intersection) With Mitigation							
Construction	Local	Permanent	Low	Definite	Low	Negative	High
Operational	NA	NA	NA	NA	NA	NA	NA
Section 6: Lusikisiki (Magwa Intersection) to Mthamvuna River Without Mitigation							
Construction	Local	Permanent	Medium	Definite	Medium	Negative	Medium
Operational	NA	NA	NA	NA	NA	NA	NA
Section 6: Lusikisiki (Magwa Intersection) to Mthamvuna River With Mitigation							
Construction	Local	Permanent	Low	Definite	Low	Negative	Medium
Operational	NA	NA	NA	NA	NA	NA	NA

4.2.21. The allocation of arable land to displaced households (residential)

Description of impact: Those displaced by the road would require that compatible residential land be allocated to them.

Mitigation objective: To protect communities against the loss of grazing and arable land use.

Mitigation measures:

- Design and implement a comprehensive resettlement action plan as set out above under Resettlement of affected households.

Assessment:

Section 1: Gonubie Interchange to Ngobozi: This impact is not applicable to this section of the route.

Section 2: Ngobozi to Mthatha (Ngqeleni): Along this section of the route this impact could have a negative effect on 'host communities' as it would alienate land that they currently use as arable land or communal grazing. It should be noted that 'betterment planning' imposed during the colonial and apartheid eras in the former Transkei attempted to do this and was met with some degree of hostility and resistance.

Without mitigation: It is anticipated that this impact will be negative, with a medium intensity and significance and will definitely occur. This impact is assessed with a high level of confidence.

With mitigation: If the mitigation measures are successfully implemented then the impact remains negative and the intensity and significance decreases to low.

Section 3: Mthatha (Ngqeleni) to Ndwalane: A fear was raised during the focus group meetings held at Thombo that the construction of the road in this area would result in the loss of grazing and arable lands. In his study, Merryweather (2007:63-73) points out that between Mthatha and Ndwalane, there are sections where land will be alienated from the community through road widening although not all of these losses will be significant. For instance between Thombo and Ndwalane "[a]pproximately 25 ha of land with a low agricultural potential will be alienated from the community [and] …will be of negligible intensity and of a very low significance to agriculture" (Merryweather, 2007:72). Consequently, there is the possibility that in instances where all, or most, available land is already allocated, the allocation of new arable land to displaced households could result in a reduction of communal grazing lands and would have negative impact on livestock owners.

Without mitigation: It is anticipated that this impact will be negative, with a low to medium intensity and significance and will definitely occur. This impact is assessed with a high level of confidence.

With mitigation: If the mitigation measures are successfully implemented then the impact remains negative and the intensity and significance decreases to low.

Section 4: Ndwalane to Ntafufu River: This impact is not applicable to this section of the route.

Section 5 and 6: Ntafufu River to Mthamvuna River: Considering the limitation regarding the availability of agricultural land in the area, discussed under the previous impact above, this impact could also have a negative effect on 'host communities' as it would alienate land that they currently use as arable land or communal grazing.

Without mitigation: It is anticipated that this impact will be negative, with a medium intensity and significance and will definitely occur. This impact is assessed with a high level of confidence.

With mitigation: If the mitigation measures are successfully implemented then the impact remains negative and the intensity and significance decrease to low.

Section 7: Mthamvuna River to Isipingo Interchange: This impact is not applicable to this section of the route.

A summary of the impacts that the allocation of arable land to displaced households (residential) is likely to have along each section of the route is provided below in Table 4.21.

Table 4.21: The allocation of arable land to displaced households (residential)

Phase	Extent	Duration	Intensity	Probability	Significance	Status	Confidence
Section 2: Ngobozi to Mthatha (Ngqeleni) Without Mitigation							
Construction	Local	Permanent	Medium	Definite	Medium	Negative	High
Operational	NA	NA	NA	NA	NA	NA	NA
Section 2: Ngobozi to Mthatha (Ngqeleni) With Mitigation							
Construction	Local	Permanent	Low	Definite	Low	Negative	High
Operational	NA	NA	NA	NA	NA	NA	NA
Section 3: Mthatha (Ngqeleni) to Ndwalane Without Mitigation							
Construction	Local	Permanent	Low to Medium	Definite	Low to Medium	Negative	High
Operational	NA	NA	NA	NA	NA	NA	NA
Section 3: Mthatha (Ngqeleni) to Ndwalane With Mitigation							
Construction	Local	Permanent	Low	Definite	Low	Negative	High
Operational	NA	NA	NA	NA	NA	NA	NA
Section 5 & 6 : Ntafufu River to Mthamvuna River Without Mitigation							
Construction	Local	Permanent	Medium	Definite	Medium	Negative	High
Operational	NA	NA	NA	NA	NA	NA	NA
Section 5 & 6 : Ntafufu River to Mthamvuna River With Mitigation							
Construction	Local	Permanent	Low	Definite	Low	Negative	High
Operational	NA	NA	NA	NA	NA	NA	NA

4.2.22. Rural severance effects

Description of impact: The construction of a limited access highway, particularly the rural Greenfields sections has the potential to have a severance effect.

Mitigation objective: Reduce the severance effect for communities living along the road.

Mitigation measures:

- Design and provide crossing points that are sufficiently distributed so as to replace and/or mimic those internal routes currently used by the communities;
- Ensure that central service nodes (schools, clinics, water points, places of worship, etc.) remain easily and safely accessible;
- Ensure that crossing points, such as under- and over-passes, are adequate for people and livestock.

Assessment:

Section 1: Gonubie Interchange to Ngobozi: As this section comprises existing N2 road, this impact is not significantly applicable along this section of the route.

Section 2: Ngobozi to Mthatha (Ngqeleni): Although this section is currently N2 road upgrading to a fenced toll highway will, in places, create a barrier that will cut off local residents from their neighbours, as well as from educational facilities, services, cultivated fields, and grazing lands. This is likely to have a significant negative effect on the livelihoods and well-being of local residents.

Without mitigation: It is anticipated that, during operation, this impact will be negative, with a high intensity and significance and will definitely occur. This impact is assessed with a high level of confidence.

With mitigation: If the mitigation measures are successfully implemented then the impact remains negative and the intensity and significance decrease to medium.

Section 3: Mthatha (Ngqeleni) to Ndwalane: Concerns were raised during the focus group meetings held at Thombo that the road was likely to create a barrier that will cut local residents off from their neighbours, as well as from educational facilities, services, cultivated fields, and grazing lands. In Thombo specific reference was made to the Anglican and African Gospel churches as well as to a large Mosque. Concern was also expressed for a crèche and various schools where some 220 pupils currently have to cross the main road. This severance effect is likely to have a significant and negative impact on the livelihoods and well-being of local residents.

Without mitigation: It is anticipated that, during operation, this impact will be negative, with a high intensity and significance and will definitely occur. This impact is assessed with a high level of confidence.

With mitigation: If the mitigation measures are successfully implemented then the impact remains negative and the intensity and significance decrease to medium.

Section 4: Ndwalane to Ntafufu River: Concern regarding the severance effect that the road would have in this area was raised during focus group sessions. In this sense reference was made of access to grazing lands and fields, a dip tank on one side of the road and to the community's main water source, the Ntafufu River. Concern was also raised regarding the limitation of access for some learners to the junior and senior secondary schools and their playing fields, to access to churches and to the possibility of the route bisecting communities and disrupting social networks.

It was observed that the potential for the road to bisect the local community and their access to resources was high but that it also provided access across the Mzimvubu River and to Ndwalane. This observation is confirmed in the soils, agriculture and land use report (Merryweather, 2007;74). The severance effect of the road along this section of the route is likely to have a significant and negative impact on the livelihoods and well-being of local residents.

Without mitigation: It is anticipated that, during operation, this impact will be negative, with a high intensity and significance and will definitely occur. This impact is assessed with a high level of confidence.

With mitigation: If the mitigation measures are successfully implemented then the impact remains negative and the intensity and significance decrease to medium.

Section 5: Ntafufu River to Lusikisiki (Magwa Intersection): Although developments proposed at Mzintlava may pose less of a challenge to assess than they do in other Greenfields sections, the likelihood still exists that fencing of the road would result in disruptions. During focus group sessions held in this area a concern was raised that access to water would be disrupted for some households while access to local forest resources, grazing, social networks and, at Luqoqweni, to the junior secondary school would all be negatively effected.

Without mitigation: It is anticipated that, during operation, this impact will be negative, with a high intensity and significance and will definitely occur. This impact is assessed with a high level of confidence.

With mitigation: If the mitigation measures are successfully implemented then the impact remains negative and the intensity and significance decrease to medium.

Section 6: Lusikisiki (Magwa Intersection) to Mthamvuna River: The potential for the disruption of a wide range of well established and long held patterns of access to local resources exists along this section of the route. These include access to water, forest and plantation resources, the Phambili High School near Mateko, the Mkambati plantation close to Mkamelo and the Zionist and Methodist church near Mahaha amongst others.

Without mitigation: It is anticipated that, during operation, this impact will be negative, with a high intensity and significance and will definitely occur. This impact is assessed with a high level of confidence.

With mitigation: If the mitigation measures are successfully implemented then the impact remains negative and the intensity and significance decrease to medium.

Section 7: Mthamvuna River to Isipingo Interchange: As this section of the road consists of existing highway this impact is not applicable.

A summary of the impacts that the rural severance effects is likely to have along each sections of the route is provided below in Table 4.22.

Table 4.22: Rural severance effects

Phase	Extent	Duration	Intensity	Probability	Significance	Status	Confidence
Section 2: Ngobozi to Mthatha (Ngqeleni) Without Mitigation							
Construction	Local	Permanent	Medium	Definite	Medium	Negative	High
Operational	Local	Permanent	High	Definite	High	Negative	High
Section 2: Ngobozi to Mthatha (Ngqeleni) With Mitigation							
Construction	Local	Permanent	Low	Definite	Low	Negative	High
Operational	Local	Permanent	Medium	Definite	Medium	Negative	High
Section 3: Mthatha (Ngqeleni) to Ndwalane Without Mitigation							
Construction	Local	Permanent	Medium	Definite	Medium	Negative	High
Operational	Local	Permanent	High	Definite	High	Negative	High
Section 3: Mthatha (Ngqeleni) to Ndwalane With Mitigation							
Construction	Local	Permanent	Low	Definite	Low	Negative	High
Operational	Local	Permanent	Medium	Definite	Medium	Negative	High
Section 4: Ndwalane to Ntafufu River Without Mitigation							
Construction	Local	Permanent	Medium	Definite	Medium	Negative	High
Operational	Local	Permanent	High	Definite	High	Negative	High
Section 4: Ndwalane to Ntafufu River With Mitigation							
Construction	Local	Permanent	Low	Definite	Low	Negative	High
Operational	Local	Permanent	Medium	Definite	Medium	Negative	High
Section 5: Ntafufu River to Lusikisiki (Magwa Intersection) Without Mitigation							
Construction	Local	Permanent	Medium	Definite	Medium	Negative	High
Operational	Local	Permanent	High	Definite	High	Negative	High
Section 5: Ntafufu River to Lusikisiki (Magwa Intersection) With Mitigation							
Construction	Local	Permanent	Low	Definite	Low	Negative	High
Operational	Local	Permanent	Medium	Definite	Medium	Negative	High
Section 6: Lusikisiki (Magwa Intersection) to Mthamvuna River Without Mitigation							
Construction	Local	Permanent	Medium	Definite	Medium	Negative	High
Operational	Local	Permanent	High	Definite	High	Negative	High
Section 6: Lusikisiki (Magwa Intersection) to Mthamvuna River With Mitigation							
Construction	Local	Permanent	Low	Definite	Low	Negative	High
Operational	Local	Permanent	Medium	Definite	Medium	Negative	High

4.2.23. Urban severance effects

Description of impact: Where the highway runs through the centre of an urban area there is the potential for the road to split the town and negatively impact on its functioning and growth.

Mitigation objective: Limit the urban severance effect of the highway.

Mitigation measures:

- Develop one-way streets or bypasses that run around or to one side of the centre of the town;
- Crossing points will also need to be maintained and upgraded at intersections in towns;
- Central service nodes (schools, clinics, water points, places of worship, etc.) must remain easily and safely accessible.

Section 1: Gonubie Interchange to Ngobozi: This section of the route is not affected by this impact.

Section 2: Ngobozi to Mthatha (Ngqeleni): In towns such as Butterworth, Idutywa and Mthatha, the construction of barricades along the edge of the highway in the central business district will also impact on the flow of pedestrian traffic and on business opportunities.

Without mitigation: It is anticipated that this impact will be negative, with a high intensity and significance and has a high probability of occurring. This impact is assessed with a high level of confidence.

With mitigation: If the mitigation measures are successfully implemented then the impact remains negative and the intensity and significance decreases to medium.

Section 3 to 7: Mthatha (Ngqeleni) to Isipingo Interchange: These sections of the route are not affected by this impact.

A summary of the impacts that the urban severance effect is likely to have along this section of the route is provided below in Table 4.23.

Table 4.23: Urban severance effects

Phase	Extent	Duration	Intensity	Probability	Significance	Status	Confidence
Section 2: Ngobozi to Mthatha (Ngqeleni) Without Mitigation							
Construction	Local	Permanent	Medium	Highly probable	High	Negative	High
Operational	Local	Permanent	Medium	Highly probable	High	Negative	High
Section 2: Ngobozi to Mthatha (Ngqeleni) With Mitigation							
Construction	Local	Permanent	Low	Highly probable	Medium	Negative	High
Operational	Local	Permanent	Low	Highly probable	Medium	Negative	High

4.2.24. Loss and disturbance of sites of cultural, spiritual or religious significance

Description of impact: The road could physically impact on areas of cultural, spiritual or religious significance and either destroy these completely or, in the eyes of those to whom they are important, devalue them. This will include graves in the gardens of displaced households.

Mitigation objective: To deal with disturbance of cultural, spiritual and religious sites in an appropriate and sensitive manner.

Mitigation measures:

- The component of cultural, spiritual and religious sites should also form part of the Terms of Reference for a Resettlement Action Plan;
- Ensure that all cultural, spiritual and religious aspects are dealt with to the satisfaction of those affected;
- The recommendations of the archeological and cultural management study to be followed.

Sections 1 and 2: Gonubie Interchange to Mthatha (Ngqeleni): As this is an existing road there is a limited risk of the road disturbing cultural, spiritual or religious sites.

Without mitigation: It is anticipated that this impact will be negative, with a medium intensity and significance and will probably occur. This impact is assessed with a medium level of confidence.

With mitigation: If the mitigation measures are successfully implemented then the impact remains negative and the intensity and significance decreases to low.

Section 3: Mthatha (Ngqeleni) to Ndwalane: In Thombo mention was made of the road being a threat to the Anglican and African Gospel churches situated within 200m of the road and the Mosque across the road. Some professional people and the youth mentioned the possibility of there being a need for the exhumation of graves.

Without mitigation: It is anticipated that this impact will be negative, with a medium intensity and significance and will probably occur. This impact is assessed with a medium level of confidence.

With mitigation: If the mitigation measures are successfully implemented then the impact remains negative and the intensity and significance decreases to low.

Section 4: Ndwalane to Ntafufu River: At Ntafufu various focus group attendees indicated that the road had the potential to physically impact on areas of cultural, spiritual and religious significance and raised a concern about graves in the area. They pointed out that these graves were often sited at old abandoned homesteads some distance from present homesteads. Reference was made to there being a minimum of 4 graves in the Ntafufu area being potentially impacted by the proposed route. It was also feared that the road could possibly limit access to Rothra Lake, a local heritage site. Some focus group attendees mentioned the possibility of there being a need for the exhumation of graves in the path of the route.

Without mitigation: It is anticipated that this impact will be negative, with a medium intensity and significance and will probably occur. This impact is assessed with a medium level of confidence.

With mitigation: If the mitigation measures are successfully implemented then the impact remains negative and the intensity and significance decreases to low.

Section 5: Ntafufu River to Lusikisiki (Magwa Intersection): Of particular concern is the restriction, that the road may cause, to access to the grave of King Faku, situated along the Mzintlava River and which is considered an important heritage site in the area. Attention may also need to be given to other burial sites that may be identified at a later stage of the project.

Without mitigation: It is anticipated that this impact will be negative, with a medium intensity and significance and will probably occur. This impact is assessed with a medium level of confidence.

With mitigation: If the mitigation measures are successfully implemented then the impact remains negative and the intensity and significance decreases to low.

Section 6: Lusikisiki (Magwa Intersection) to Mthamvuna River: Along the first part of this section of the route, where the area was somewhat densely populated, less concern was expressed about the threat that the road could pose to graves. However, in the more traditionally dispersed areas around Mkamelo and Mahaha most interviewees and focus group participants raised the issue of ancestral graves being directly affected by the route.

Without mitigation: It is anticipated that this impact will be negative, with a medium intensity and significance and will probably occur. This impact is assessed with a medium level of confidence.

With mitigation: If the mitigation measures are successfully implemented then the impact remains negative and the intensity and significance decreases to low.

Section 7: Mthamvuna River to Isipingo Interchange: This impact does not apply along this section of the route as it largely comprises largely of existing highway.

A summary of the impacts that the loss and disturbance of sites of cultural, spiritual or religious significance is likely to have along each sections of the route is provided below in Table 4.24.

Table 4.24: Loss and disturbance of sites of cultural, spiritual or religious significance

Phase	Extent	Duration	Intensity	Probability	Significance	Status	Confidence
Section 1 & 2: Gonubie Interchange to Mthatha (Ngqeleni) Without Mitigation							
Construction	Local	Permanent	Medium	Probable	Medium	Negative	Medium
Operational	Local	Permanent	Medium	Probable	Medium	Negative	Medium
Section 1 & 2: Gonubie Interchange to Mthatha (Ngqeleni) With Mitigation							
Construction	Local	Permanent	Low	Probable	Low	Negative	Medium
Operational	Local	Permanent	Low	Probable	Low	Negative	Medium
Section 3: Mthatha (Ngqeleni) to Ndwalane Without Mitigation							
Construction	Local	Permanent	Medium	Probable	Medium	Negative	Medium
Operational	Local	Permanent	Medium	Probable	Medium	Negative	Medium
Section 3: Mthatha (Ngqeleni) to Ndwalane With Mitigation							
Construction	Local	Permanent	Low	Probable	Low	Negative	Medium
Operational	Local	Permanent	Low	Probable	Low	Negative	Medium
Section 4: Ndwalane to Ntafufu River Without Mitigation							
Construction	Local	Permanent	Medium	Probable	Medium	Negative	Medium
Operational	Local	Permanent	Medium	Probable	Medium	Negative	Medium
Section 4: Ndwalane to Ntafufu River With Mitigation							
Construction	Local	Permanent	Low	Probable	Low	Negative	Medium
Operational	Local	Permanent	Low	Probable	Low	Negative	Medium
Section 5: Ntafufu River to Lusikisiki (Magwa Intersection) Without Mitigation							
Construction	Local	Permanent	Medium	Probable	Medium	Negative	Medium
Operational	Local	Permanent	Medium	Probable	Medium	Negative	Medium
Section 5: Ntafufu River to Lusikisiki (Magwa Intersection) With Mitigation							
Construction	Local	Permanent	Low	Probable	Low	Negative	Medium
Operational	Local	Permanent	Low	Probable	Low	Negative	Medium
Section 6: Lusikisiki (Magwa Intersection) to Mthamvuna River Without Mitigation							
Construction	Local	Permanent	Medium	Probable	Medium	Negative	Medium
Operational	Local	Permanent	Medium	Probable	Medium	Negative	Medium
Section 6: Lusikisiki (Magwa Intersection) to Mthamvuna River With Mitigation							
Construction	Local	Permanent	Low	Probable	Low	Negative	Medium
Operational	Local	Permanent	Low	Probable	Low	Negative	Medium

4.2.25. Uncontrolled ribbon development

Description of impact: Stakeholders have raised concerns about the potential for the highway to lead to uncontrolled ribbon development.

Mitigation objective: To control any ribbon development along the route.

Mitigation Measures:

- The Operator should actively engage with the local authorities to ensure that no unplanned ribbon develop occurs as a result of the project;
- Provincial and national authorities should also be drawn into these engagements.

Assessment:

Section 1: Gonubie Interchange to Ngobozi: This impact does not apply along this section of the route.

Section 2: Ngobozi to Mthatha (Ngqeleni): There are concerns that unplanned nodal and ribbon development around toll plazas and interchanges with take place. Concerns were also expressed that the generally weak capacity of the local authorities along much of the route means that they have neither the capacity nor the will to control this kind of development.

Without mitigation: It is anticipated that this impact will be negative, with a medium intensity and significance and will probably occur. This impact is assessed with a medium level of confidence.

With mitigation: If the mitigation measures are successfully implemented then the impact remains negative and the intensity and significance decrease to low.

Section 3 to 6: Mthatha (Ngqeleni) to Mthamvuna River: There is some possibility that the road will result in unplanned ribbon development in the vicinity of toll plazas and interchanges along this section of the route. Concerns were also expressed that the generally weak capacity of the local authorities in this area means that they have neither the capacity nor the will to control this kind of development.

Without mitigation: It is anticipated that this impact will be negative, with a medium intensity and medium to high significance and will probably occur. This impact is assessed with a medium level of confidence.

With mitigation: If the mitigation measures are successfully implemented then the impact remains negative and the intensity and significance decreases to low.

Section 7: Mthamvuna River to Isipingo Interchange: Although unlikely to be as great an issue in the KwaZulu-Natal area as it might be in the Eastern Cape, concerns have been raised along this section of the route that the road will create unplanned development in the vicinity of toll plazas and interchanges. A concern was also expressed that the generally weak capacity of the local authorities along much of the route means that they have neither the capacity nor the will to control this kind of development.

Without mitigation: It is anticipated that this impact will be negative, with a low intensity and significance and will probably occur. This impact is assessed with a medium level of confidence.

With mitigation: It is unlikely that mitigation measures will have any significant effect on this impact as it is already rated as low.

A summary of the impacts that uncontrolled ribbon development is likely to have along each sections of the route is provided below in Table 4.25.

Table 4.25: Uncontrolled ribbon development

Phase	Extent	Duration	Intensity	Probability	Significance	Status	Confidence
Section 2: Ngobozi to Mthatha (Ngqeleni) Without Mitigation							
Construction	Local	Permanent	Medium	Probable	Medium	Negative	Medium
Operational	Local	Permanent	Medium	Probable	Medium	Negative	Medium
Section 2: Ngobozi to Mthatha (Ngqeleni) With Mitigation							
Construction	Local	Permanent	Low	Probable	Low	Negative	Medium
Operational	Local	Permanent	Low	Probable	Low	Negative	Medium
Section 3 to 6: Mthatha (Ngqeleni) to Mthamvuna River Without Mitigation							
Construction	Local	Permanent	Medium	Probable	Medium to High	Negative	Medium
Operational	Local	Permanent	Medium	Probable	Medium	Negative	Medium
Section 3 to 6: Mthatha (Ngqeleni) to Mthamvuna River With Mitigation							
Construction	Local	Permanent	Low	Probable	Low	Negative	Medium
Operational	Local	Permanent	Low	Probable	Low	Negative	Medium
Section 7: Mthamvuna River to Isipingo Interchange Without Mitigation							
Construction	Local	Permanent	Low	Probable	Low	Negative	Medium
Operational	Local	Permanent	Low	Probable	Low	Negative	Medium
Section 7: Mthamvuna River to Isipingo Interchange With Mitigation							
Construction	Local	Permanent	Low	Probable	Low	Negative	Medium
Operational	Local	Permanent	Low	Probable	Low	Negative	Medium

4.2.26. Improvement in transport within the area

Description of Impact: The road will have a positive impact in terms of improving access to the road network and to transport services.

Optimisation of benefits: Ensuring that the road is financially viable for poorer and more marginal sectors of the population.

Optimisation measures:

- Consider the issue of toll subsidies for local and poor communities;
- Consider options to ease the cost of travel for local commuters.

Assessment:

Sections 1 and 2: Gonubie Interchange to Mthatha (Ngqeleni): As this section consists of existing N2 road, this impact does not apply to this section.

Section 3: Mthatha (Ngqeleni) to Ndwalane: Most people consulted in this area anticipated that the new road would provide better access to a wide range of medical services and to family and relatives. Specific mention was made by business people and the youth of the potential that a new road would have in easing the burden of securing supplies.

Without mitigation: It is anticipated that this impact will be positive, with a medium intensity and significance and will definitely occur. This impact is assessed with a medium level of confidence.

With mitigation: If the mitigation measures are successfully implemented then the impact remains positive and the intensity and significance increases to medium to high.

Section 4: Ndwalane to Ntafufu River: It was found during the interview and focus group sessions held at Ntafufu that the potential for the road to enhance existing patterns in local and regional travel and transport and in service delivery is high. This, despite the fact that regional and local travel patterns indicated that there was limited long distance travel from the area, which may also be an indication of the difficulties that long distance travellers face. The various focus group participants suggested that, with a proviso that taxi and bus ranks would be improved and that well positioned on and off ramps would be provided, there would be a range of benefits regarding transport in the area. These, they indicated, ranged from significant time and cost savings when journeying to and from Port St Johns through to better access to ambulance services, medical facilities and hospitals.

Without mitigation: It is anticipated that this impact will be positive, with a medium intensity and significance and will definitely occur. This impact is assessed with a medium level of confidence.

With mitigation: If the mitigation measures are successfully implemented then the impact remains positive and the intensity and significance increases to medium to high.

Section 5: Ntafufu River to Lusikisiki (Magwa Intersection): Focus group attendees, drawn from professional people in the area, anticipated that the road would result in improvements to the extent that more of them would be prepared to buy cars and relatives would be more inclined to visit the area. Farmers felt that an improved infrastructure would mean that they had better access to all the towns for the many meetings that they attended. Attendees across the range of focus group sessions expected that the road would result in better taxi and bus services, although some of the women indicated that they did not expect any change.

Without mitigation: It is anticipated that this impact will be positive, with a medium intensity and significance and will definitely occur. This impact is assessed with a medium level of confidence.

With mitigation: If the mitigation measures are successfully implemented then the impact remains positive and the intensity and significance increases to medium to high.

Section 6: Lusikisiki (Magwa Intersection) to Mthamvuna River: At Mateko, focus group attendees indicated that poor roads in the area had resulted in there being very unreliable transport. In the area around Mkamelo the communities are dispersed in traditional settlement patterns, and there is a very limited transport system with only one bus that travels on a daily basis to Lusikisiki via Holy Cross Mission and Flagstaff and there is also often taxi violence in the area. In Mahaha mention was made of the need to improve transport systems in the area but no specific reference was made to the problems faced. Groups across this route were positive towards the potential that the road had in improving transport within the area.

Without mitigation: It is anticipated that this impact will be positive, with a medium intensity and significance and will definitely occur. This impact is assessed with a medium level of confidence.

With mitigation: If the mitigation measures are successfully implemented then the impact remains positive and the intensity and significance increases to medium to high.

Section 7: Mthamvuna River to Isipingo Interchange: As this section exists of existing R61 and N2 this impact does not apply to this section.

A summary of the impacts that improvement in transport provision to the area is likely to have along each of the affected sections of the route is provided below in Table 4.26.

Table 4.26: Improvement in transport provision to the area

Phase	Extent	Duration	Intensity	Probability	Significance	Status	Confidence
Section 3: Mthatha (Ngqeleni) to Ndwalane Without Mitigation							
Construction	NA	NA	NA	NA	NA	NA	NA
Operational	Local & Regional	Permanent	Medium	Definite	Medium	Positive	Medium
Section 3: Mthatha (Ngqeleni) to Ndwalane With Mitigation							
Construction	NA	NA	NA	NA	NA	NA	NA
Operational	Local & Regional	Permanent	Medium to high	Definite	Medium to high	Positive	Medium
Section 4: Ndwalane to Ntafufu River Without Mitigation							
Construction	NA	NA	NA	NA	NA	NA	NA
Operational	Local & Regional	Permanent	Medium	Definite	Medium	Positive	Medium
Section 4: Ndwalane to Ntafufu River With Mitigation							
Construction	NA	NA	NA	NA	NA	NA	NA
Operational	Local & Regional	Permanent	Medium to high	Definite	Medium to high	Positive	Medium
Section 5: Ntafufu River to Lusikisiki (Magwa Intersection) Without Mitigation							
Construction	NA	NA	NA	NA	NA	NA	NA
Operational	Local & Regional	Permanent	Medium	Definite	Medium	Positive	Medium
Section 5: Ntafufu River to Lusikisiki (Magwa Intersection) With Mitigation							
Construction	NA	NA	NA	NA	NA	NA	NA
Operational	Local & Regional	Permanent	Medium to high	Definite	Medium to high	Positive	Medium
Section 6: Lusikisiki (Magwa Intersection) to Mthamvuna River Without Mitigation							
Construction	NA	NA	NA	NA	NA	NA	NA
Operational	Local & Regional	Permanent	Medium	Definite	Medium	Positive	Medium
Section 6: Lusikisiki (Magwa Intersection) to Mthamvuna River With Mitigation							
Construction	NA	NA	NA	NA	NA	NA	NA
Operational	Local & Regional	Permanent	Medium to high	Definite	Medium to high	Positive	Medium

4.2.27. Visual impact and disruption of sense of place

Description of Impact: The construction of a road through a rural Greenfields area is likely to change the rural atmosphere along the route and may alter the rural lifestyle and sense of place for some communities.

Optimisation of benefits: Limit the negative visual impact that the project may have on the environment.

Optimisation measures:

- Follow the mitigation measures suggested by in the visual impact report. In this regard see "Recommended General Mitigation/Management Measures", page 67 in the Visual Impact Assessment report by Cave Klapwijk and Associates

Assessment:

Sections 1 and 2: Gonubie Interchange to Mthatha (Ngqeleni): As this section of the route consists of existing road this impact does not apply to any significant degree.

The VIA was limited to the Greenfields section of the Toll Road only as the remainder of the route consisted of existing roads.

Section 3 to 6: Mthatha (Ngqeleni) to Mthamvuna River: On a social basis people residing in a rural area such as along this section of the route may be sensitive to a disturbance in the aesthetic character of the area. Tourists may also be sensitive to a change in the aesthetic character of the area.

Without mitigation: It is anticipated that this impact will be negative, with a low intensity and medium significance and will definitely occur. This impact is assessed with a medium level of confidence.

With mitigation: Mitigation measures are unlikely to result in any significant social change.

The SANRAL Preferred Route (See Cave, Klapwijk and Associates, 2008).

The visual impact extends from 2.5 km to the east and greater than 20 km to the west. Beyond 8-10 km the visibility of the road becomes insignificant. This route is through Greenfields landscape and will have a negative impact of the sense or spirit of place. The VAC varies from low in the north to medium in the south. Much of the route is through areas of relatively low visual quality. An area to avoid is the scenic area around the Mateku Waterfall. The significance of the visual impact is regarded as low (rating of 2 on a scale of 1-5) for most of the route, but regarded as high in the Mateku Waterfall area (rating of 4).

Mitigation measures:

Mitigation is discussed under Section 7 of the VIA report. The main focus is on landscape rehabilitation and ensuring that the cut and fill slopes of the road blend with the landscape, i.e. edges are rounded off and slopes vegetated. It is recommended that the route alignment be considered further east beyond the low ridge of the east of the route

The Coastal Mzamba Route (See Cave Klapwijk and Associates, 2008).

The visual impact is mostly confined to the 2.5 – 5 km zone, but does in places extend. Beyond 8-10 km the visibility of the route becomes insignificant. This section of the route is through a Greenfields landscape which will result in a negative impact on the spirit of place. The VAC is low and thus the landscape does not have the ability to visually absorb the road. The route is further west of the more scenic coastal areas and traverses an area with a relatively low visual quality. The significance of the visual impact on the visual environment is considered to be low (rating of 1 on a scale of 1-5). On balance this route is preferable to the SANRAL Preferred Route from a visual point of view.

Section 7: Mthamvuna River to Isipingo Interchange: This section of road fell outside the VIA field of study due to it being an existing road. However, the toll plazas were assessed as these are a new intrusion in the existing landscape especially at night with the intense security lighting. Mitigation measures are addressed in the VIA report under Section 7.2 Toll Plazas

A summary of the impacts that the visual impact and disruption of sense of place is likely to have along each sections of the route is provided below in Table 4.27.

Table 4.27: Visual impact and disruption of sense of place

Phase	Extent	Duration	Intensity	Probability	Significance	Status	Confidence
Section 3 to 6: Mthatha (Ngqeleni) to Mthamvuna River Without Mitigation							
Construction	Local	Temporary	Medium	Definite	Low	Negative	Medium
Operational	Local	Permanent	Medium	Definite	Low	Negative	Medium
Section 3 to 6: Mthatha (Ngqeleni) to Mthamvuna River With Mitigation							
Construction	Local	Temporary	Low	Definite	Low	Negative	Medium
Operational	Local	Permanent	Low	Definite	Low	Negative	Medium

4.2.28. Increased congestion on non toll roads and at critical access points

Description of Impact: The introduction of tolls could lead to congestion on the alternative routes as road users seek to avoid incurring the cost of the toll road.

Mitigation objective: To minimise increase in congestion on non toll roads.

Mitigation measures: Mitigation would involve the reduction in the number of toll points and/or the introduction of concessions for local commuters. Mitigation would also involve setting tolls at rates that encourage users to take advantage of time and associated cost savings of the new facility. An education campaign aimed at demonstrating the reality of this may also be an appropriate mitigation strategy.

Assessment:

Sections 1 to 6: Gonubie Interchange to Mthamvuna River: These sections of the road are not affected by this impact.

Section 7a: Mthamvuna River to Port Shepstone: Points of access to and from alternative roads to the N2 could also become congested. Damage rates, particularly caused by heavy vehicles avoiding toll tariffs, could also increase. Congestion leads to increased incidences of road rage and time delays for users. Increased use of alternative roads also leads to increased wear and tear and higher maintenance bills for local authorities. These increased costs are invariably passed on to rate payers, which in turn leads to reduced disposable incomes.

Without mitigation: It is anticipated that this impact will be negative, with a medium intensity and significance and will probably occur. This impact is assessed with a medium level of confidence.

With mitigation: If the mitigation measures are successfully implemented then the impact remains negative and the intensity and significance decreases to low.

Section 7b: Port Shepstone to Isipingo Interchange: Points of access to and from alternative roads to the N2 could also become congested. Stakeholders were particularly concerned about parts of the R102, the M35 (Durban South), Prospecton, and Kingsway (Amanzimtoti). Congestion leads to increased incidences of road rage and time delays for users. Increased use of alternative roads also leads to increased wear and tear and higher maintenance bills for local authorities. These increased costs are invariably passed on to rate payers which in turn lead to reduced disposable incomes.

Without mitigation: It is anticipated that this impact will be negative, with a medium intensity and significance and will probably occur. This impact is assessed with a medium level of confidence.

With mitigation: If the mitigation measures are successfully implemented then the impact remains negative and the intensity and significance decreases to low.

A summary of the impacts that increased congestion on non toll roads and at critical access points is likely to have along each sections of the route is provided below in Table 4.28.

Table 4.28: Increased congestion on non toll roads and at critical access points

Phase	Extent	Duration	Intensity	Probability	Significance	Status	Confidence
Section 7a: Mthamvuna River to Port Shepstone Without Mitigation							
Construction	NA	NA	NA	NA	NA	NA	NA
Operational	Regional	Permanent	Medium	Probable	Medium	Negative	Medium
Section 7a: Mthamvuna River to Port Shepstone With Mitigation							
Construction	NA	NA	NA	NA	NA	NA	NA
Operational	Regional	Permanent	Low	Probable	Low	Negative	Medium
Section 7b: Port Shepstone to Isipingo Interchange Without Mitigation							
Construction	NA	NA	NA	NA	NA	NA	NA
Operational	Regional	Permanent	Medium	Probable	Medium	Negative	Medium
Section 7b: Port Shepstone to Isipingo Interchange Without Mitigation							
Construction	NA	NA	NA	NA	NA	NA	NA
Operational	Regional	Permanent	Low	Probable	Low	Negative	Medium

4.2.29. Effect of construction workers and job seekers on existing family networks and social structures

Description of impact: The project will result in an influx of workers and job seekers to the area during both the construction and operational phases. In this regard the increase of workers and job seekers can create a number of negative influences within the host community in respect of

- Increase in prostitution;
- Unplanned and unwanted pregnancies;
- Increase in alcohol and drug related incidents;
- Pressure on local services, such as housing, clinics, schools, water supplies;
- Increase in local prices and the cost of living;
- Tension and conflict within the community and impact on family networks and relationships; and
- Competition for available jobs and resources.

The impact of construction workers and job seekers will be of particularly significance in the traditional rural areas during the construction and operational phases of the project:

Mitigation objective: To reduce the impact of construction workers and job seekers on existing family networks and social structures.

Mitigation measures:

- The Contractor must ensure that the number of job opportunities made available to local people is maximised.

- Communication channels must be maintained between the contractor and local community structures.
- Condoms must be made readily accessible to workers.
- The Contractor must liaise with the South African Police Services and community structures to ensure that the workforce is controlled.
- Workers not from the area must be provided with adequate on-site temporary accommodation and amenities.
- On completion of the work all temporary accommodation must be dismantled and removed.

Assessment:

Sections 1 and 2: Gonubie Interchange to Mthatha (Ngqeleni): The introduction of construction workers and job seekers to this section of the route has the potential to have a negative impact on existing family networks and social structures. However, as this is an existing section of road the impact will be less severe than it will be in the Greenfields areas.

Without mitigation: It is anticipated that this impact will only be significant during the construction phase and it will be negative, of medium intensity and significance and will probably occur. This impact is assessed with a medium level of confidence.

With mitigation: If the mitigation measures are successfully implemented then although the impact remains negative the significance is likely to decrease to medium to low.

Section 3 to 6: Mthatha (Ngqeleni) to Mthamvuna River: There are a number of rural communities along this section of the route who, to varying degrees, have experienced relative isolation over many generations. The introduction of workers into these areas will have a more significant effect in these regions than it will along those existing section of N2 particularly along the N2 highway.

Without mitigation: It is anticipated that, during the construction phase and with mitigation this impact will be negative, of medium intensity and medium to high significance and will probably occur. The impact is assessed with a medium level of confidence.

With mitigation: If the mitigation measures are successfully implemented then although the impact remains negative the significance during construction is likely to decrease to medium.

Section 7: Mthamvuna River to Isipingo Interchange: As this section of the route consists of existing R61 and largely N2 highway, it is unlikely that the introduction of construction workers and job seekers to this area will have any great effect on existing family networks and social structures. It is also most likely that, whatever effect there may be, will be limited to the construction phase of the project.

Without mitigation: It is anticipated that, during the construction phase this impact will be negative, of low intensity and significance and is unlikely to occur. This impact is assessed with a medium level of confidence.

With mitigation: Mitigation measure are unlikely to have any significant effect on this impact..

A summary of the effect of construction workers and job seekers on existing family networks and social structure along each section of the route is provided below in Table 4.29.

Table 4.29: Effect of construction workers and job seekers on existing family networks and social structures

Phase	Extent	Duration	Intensity	Probability	Significance	Status	Confidence
Section 1 & 2: Gonubie Interchange to Mthatha (Ngqeleni) Without Mitigation							
Construction	Local	Temporary	Medium	Probable	Medium	Negative	Medium
Operational	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Section 1 & 2: Gonubie Interchange to Mthatha (Ngqeleni) With Mitigation							
Construction	Local	Temporary	Low	Probable	Medium to Low	Negative	Medium
Operational	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Section 3 to 6: Mthatha (Ngqeleni) to to Mthamvuna River Without Mitigation							
Construction	Local	Temporary	Medium	Probable	Medium to High	Negative	Medium
Operational	Local	Temporary	Medium	Probable	Medium	Negative	Medium
Section 3 to 6: Mthatha (Ngqeleni) to to Mthamvuna River With Mitigation							
Construction	Local	Temporary	Medium	Probable	Medium	Negative	Medium
Operational	Local	Temporary	Medium	Probable	Medium	Negative	Medium
Section 7: Mthamvuna River to Isipingo Interchange Without Mitigation							
Construction	Local	Temporary	Medium	Unlikely	Medium to Low	Negative	Medium
Operational	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Section 7: Mthamvuna River to Isipingo Interchange With Mitigation							
Construction	Local	Temporary	Low	Unlikely	Low	Negative	Medium
Operational	N/A	N/A	N/A	N/A	N/A	N/A	N/A

4.2.30. Impacts on towns on the current N2 that will be bypassed

The N2 from Port Shepstone runs through KwaZulu-Natal for approximately 130 km before it reaches the Eastern Cape border. Towns that lie either on the N2 or immediate adjacent include Harding, and Kokstad.

Harding lies within the uMuziwabantu Local Municipality (Ugu District Municipality). Harding is the only significant town within the uMuziwabantu Local Municipality and as such is key to the viability of that entity. According to the Global Insight Economic Analysis [12] Harding has a Geographic Value Added (GVA) of approximately R151 million rand per annum. The concept of Gross Geographic Value Added (GVA) – which is used by the firm Global Insight as a basis for making estimates of regional economic activity – is broadly similar to what is more generally known as Gross Geographic Product (GGP). In essence: GVA (factor cost) = Compensation of employees + Gross Operating Surplus.

The basis of the GVA for Harding is manufacturing (41 million), finance and business (R9 million), government, community and social services (R37 million), retail and trade (R48 million), Infrastructure

[12] As represented in the CSIR Geospatial Analysis Platform Version 2 (2007)

services (R16 million). Sectors most likely to be impacted by the town being bypassed are retail and trade and, to a lesser extent, finance and business.

Kokstad lies within the Greater Kokstad Local Municipality (Sisonke District Municipality). Kokstad is the most significant town within the Greater Kokstad Local Municipality and, as with Harding, is key to the viability of that entity. According to the Global Insight Economic Analysis Kokstad has a Geographic Value Added (GVA) of approximately R264 million rand per annum.

The basis of the GVA for Kokstad is manufacturing (21 million), finance and business (R66 million), government, community and social services (R59 million), retail and trade (R87 million), Infrastructure services (R27 million). Sectors most likely to be impacted by the town being bypassed are retail and trade and, to a lesser extent, finance and business. The Economic Report indicates that in the first year of operation the town of Kokstad can expect a Gross Regional Product (GRP) loss of 1.8%. Pienaar and Bester (2008:2.5) continue to argue that "[a]lthough the new link between Umtata and Port Edward will divert traffic from the existing N2 route, the newly generated traffic benefits on the proposed road will by far exceed any reduction of business on the existing road section. (It is estimated that traffic generation in the first year of operation will translate into an economic benefit of over R500 million in the Eastern Cape Province and KwaZulu-Natal. Of this, approximately R150 million will accrue to existing and new business between Umtata, Port St Johns and Port Edward)."

Description of impact: The new alignment for the N2 will bypass certain towns.

Mitigation objective: Reduction of impact of lost business opportunities and income.

Mitigation: This is almost impossible to mitigate and may fall to the central government to negotiate some form of compensation.

Assessment:

Towns bypassed by Highway Eastern Cape: The new alignment for the N2 will bypass the towns of Mount Frere and Mount Ayliff. At some stage in the future, bypasses may also be developed for Butterworth, Idutywa and Mthatha. Some of these towns have built up a degree of commercial dependence on the road and will experience a considerable loss of business due to being bypassed.

Without mitigation: It is anticipated that this impact will be negative, with a high intensity and significance and will definitely occur. This impact is assessed with a medium level of confidence.

With mitigation: Due to the nature of this problem it is virtually impossible to asses the impact that mitigation will have.

Towns bypassed by Highway – KwaZulu-Natal: In KwaZulu-Natal the N2 currently runs proximate to Kokstad and Harding. Some aspects of these towns have built up a degree of commercial dependence

on the road, notwithstanding this however, it is indicated in the Economic Report (Pienaar & Bester, 2007) that "[t]he declines in the GRP's of … Kokstad can definitely be regarded as negligible… ".

Without mitigation: Consequently, it is anticipated that this impact will be negative, with a medium intensity and significance and will definitely occur. This impact is assessed with a medium level of confidence.

With mitigation: Due to the nature of this problem it is virtually impossible to asses the impact that mitigation will have.

A summary of the impacts that the diversion of the highway will have on bypassed town is provided below in Table 4.30.

Table 4.30: Impact on bypassed town

Phase	Extent	Duration	Intensity	Probability	Significance	Status	Confidence
Towns bypassed by Highway Eastern Cape Without Mitigation							
Construction	NA	NA	NA	NA	NA	NA	NA
Operational	Local	Permanent	Medium	Definite	Medium	Negative	Medium
Towns bypassed by Highway Eastern Cape With Mitigation							
Construction	NA	NA	NA	NA	NA	NA	NA
Operational	Local	Permanent	Medium	Definite	Medium	Negative	Medium
Towns bypassed by Highway KwaZulu-Natal Without Mitigation							
Construction	NA	NA	NA	NA	NA	NA	NA
Operational	Local	Permanent	Medium	Definite	Medium	Negative	Medium
Towns bypassed by Highway KwaZulu-Natal With Mitigation							
Construction	NA	NA	NA	NA	NA	NA	NA
Operational	Local	Permanent	Medium	Definite	Medium	Negative	Medium

In the section that follows the various project alternatives are addressed.

4.2.31. Assessment of alternatives

Under this section the various route, toll plaza and site-specific alternatives, as well as the "do nothing" option, are described and discussed.

4.2.31.1. Coastal Mzamba and SANRAL'S preferred route

Within the greenfields section of the study, between Lusikisiki and the Mthamvuna River, there are two major alternative routes proposed which are referred to as The Coastal Mzamba Route and SANRAL's Preferred Alternative. The respective locations of these routes are described and, based on data that emerged during the consultation process, the social preferences for each alternative is discussed below.

- **The Coastal Mzamba Route**

This proposed route would follow SANRAL'S preferred route along the existing DR 08024 eastward over a distance of approximately 19 km through the outskirts of Lusikisiki, from where it would continue to follow the general alignment of the DR 08024 up to point approximately 2.5 km from the coast. It would

then be aligned in a north-easterly direction, parallel to the coastline, to cross the Msikaba, Mthentu and Mnyameni rivers at a distance of approximately 2 km from the coast. Thereafter it would join and essentially follow SANRAL's preferred alignment, as described below, up to the Mthamvuna River crossing.

Description of Impacts: This alternative would have potential impacts on homesteads and other structures, on productive and unproductive arable and grazing land and other natural resources, as well as on communities' access with each other and some essential public and private facilities such as schools, churches and shops.

According to the Screening Study on the Social Impacts of Alternative Alignments (Coetzee and Weeks. December, 2006. FSR Vol. 2 Appendix 16) this alternative is 78 km in extent, and would pass through 33 sub places. These sub places are what Statics South Africa regard as smaller areas within an enumeration area. This route would come in close proximity of 31 settlements/towns, cutting through 28 of these. Sixty four percent of this route would traverse what are predominantly tribally administered areas, 15% in sparse settled administrative areas, with 10 or less households, while 10% of the route would cross informal settlements and 6% would cross urban areas.

In terms of the assessment of the impacts on infrastructure and services, 68 households would be affected, with one reservoir, one business, two schools and two places of worship being directly impacted within the planned road reserve. Fourteen existing road crossings would also be affected. It would cross 66 rivers, rivulets and drainage areas and would require the construction of four bridges. In terms of the impacts on land use, it is estimated is that 184.5 ha of subsistence agriculture would be affected, with 30 ha of residential land and 6.4 ha of forest being affected.

- **SANRAL'S Preferred Route**

This route would follow the existing concrete road (DR 08024) eastward over a distance of approximately 19 km through the outskirts of Lusikisiki. Thereafter the proposed road would be diverted from the DR 08024 alignment in a north-easterly direction crossing the Msikaba River at a distance of approximately 14 - 15 km inland. Continuing inland it would then cross the Mthentu River, also at an approximate distance of 14 - 15 km inland and would then be aligned eastward up to a distance of about 5 km form the coast. The route would continue, crossing the Mnyameni River upstream of a waterfall, approximately 6 km inland, after which it would loop in a north-easterly direction crossing the Mphalane and Mzamba rivers at a distance of about 2 - 3 km inland. Thereafter it would intersect and cross the existing R61 in the vicinity of the existing police station adjacent to the Wild Coast Sun complex and join the alignment of the existing R61 at the Mthamvuna River crossing at the existing Mitchell Bridge.

Description of Impacts: This alternative would have potential impacts on homesteads and other structures, on productive and unproductive arable and grazing land and other natural resources, as well as on communities' access between each other and to some essential public and private facilities such as

schools, churches and shops. The survey site specific potential impacts as perceived by communities and individuals are described above in Section 4 of this report.

According to the Screening Study on the Social Impacts of Alternative Alignments (Coetzee and Weeks, 2006 Appendix 16) this alternative, also 78 km in length, would negatively affect 93 households and 6 business enterprises and result in an estimated aggregate 624 ha of primary land use being lost. This loss consists of residential land, subsistence farming, grazing and some commercial farming.

- **Community Perspectives on these Alternative Routes**

Local leaders and residents consulted at Xolobeni, Khumbuza, Mahaha, Mdatya, Mateko, Ebenezer and Mkamelo all indicate a general preference for the route to be closest to their particular community. This was so as each community indicated a belief that the positive impacts of the road, for that particular community, significantly outweighed the negative impacts. The general opinion was that the road would improve local and regional access and had the potential to lead to the clustering of services into forms of nodal development in their respective areas. This they indicated would facilitate the import and export of both public and private goods and services and would result in an increase in short and long-term employment.

At Ebenezer and in Mahaha, both located in the Amadiba Tribal Authority area and bisected by SANRAL's Preferred Route, there is general tension between the two communities regarding the location of these major alternatives. People in Mahaha strongly feel that those in Ebenezer, closest to the Wild Coast Sun, already enjoy a plethora of services and facilities as well as access that they do not have. The Mahaha community feel neglected and placed 'last on the list' of the Mbizana Municipality's service delivery priorities. The location of the alternative route closest to them is seen as potentially addressing these perceived imbalances.

This pattern is repeated amongst the communities potentially impacted by the two major alternatives along the balance of Section 6 of the route.

- **Discussion – Social Preferences for the Coastal Mzamba and SANRA'S preferred route.**

From the balance of data provided in the Social Screening Report covered above, the Coastal Mzamba Route would " …result in less potential impact than the SANRAL preferred route, with fewer structures impacted, less land lost and a lower intensity of impacts concerning loss of access routes and community fragmentation. However the Coastal Mzamba route would affect more hectares of forest than the SANRAL preferred route but less hectares of subsistence farming and fewer households". This screening report ranks the level of social risk of these alignments as medium to low, with the Coastal Mzamba route having the least impact on social structures.

In the main, these findings reflect the fact that population densities are lower and the settlement pattern and services are more dispersed along the alignment of the Coastal Mzamba route which is closer to the coastline.

As indicated, there is a prevalent pattern between Lusikisiki and Mthamvuna for local communities potentially impacted by either proposed route to express a preference for the route which traverses their communities most closely. Based on these perspectives it becomes virtually impossible, on a social basis, to objectively identify any significant benefit or disadvantage in respect of the positioning of either of the proposed alternatives. According to a generalised summary of community consultations and social survey data, both alternatives would have high positive impacts which are held to outweigh the associated negative impacts provided proper mitigation compensation and consultation is adopted. Consequently, it is our considered opinion that any decision on the choice of alternatives would need to be taken on a basis other than social.

4.2.31.2. Alternative toll plazas

In the Greenfields section the proposed and alternative toll plazas along two sections of the route need to be considered and the social preferences given. The proposed and alternative toll plazas are situated in sections 3 and 6 of the route and as such are separately discussed below.

- **Section 3: Mthatha (Ngqeleni) to Ndwalane**

The opinions of community leaders was solicited concerning the location of the alternative toll plaza in the vicinity of the Ntlaza Mission, near the Tutor Ndamase Pass close to Thaleni, as indicated in Figure 1.4 on page 6 above, as opposed to the current proposed location at Ndwalane, indicated in Figure 1.5 on page 7. These community leaders emphasised that frequent access to Libode, a former District town where government and services are concentrated, would become very expensive for the 'catchment' of users it would affect. However, for a similar ‘catchment’ of users who access goods and services from Port St Johns, also a former district town, the alternative location, further south-east towards Mthatha, would reduce costs resulting in somewhat of a balance. Leaders mentioned that in either choice of location, it would be necessary to arrange permits and toll fee reductions for registered members of the community within an impacted ‘catchment’. Moreover, it was stated that some members of the community would utilise back roads and by roads in the event of any toll plaza location. Consequently there is no significant social reason indicating a preference for either toll plaza site.

- **Section 6: Lusikisiki (Magwa intersection) to the Mthamvuna River**

The proposed location of an Alternative Toll Plaza in the vicinity of the proposed intersection with the Holy Cross/Mkambati road, as opposed to the current proposal for the Mthentu Toll Plaza in the Amadiba area both illustrated in Figure 1.7 on page 9 above, was held by community leaders to be an insignificant change. The reasons given were that this alternative would not increase costs to the wider and more densely settled community living south of the Mkhambati River in accessing their normal range of goods and services from Flagstaff, Holy Cross and Lusikisiki. The affected 'catchment’ to the north of this alternative is very sparsely settled, and it was said that many people in this area currently access goods and services in Port Edward and Bizana, and would continue to do so with the introduction of the toll road, either via this alternative, or the original Mthentu Toll Plaza. Again, it was stated that a system of

permits and fee reductions should be arranged for a defined 'catchment' of affected residents, for either toll plaza.

- **Discussion – Social Preferences for Toll Plazas**

Based on the above perspectives it becomes virtually impossible to identify any significant benefit or disadvantage in respect of the positioning of either the proposed or alternate Toll Plaza along both Section 3 and Section 6 of the route. Along Section 3 of the route the proposed and alternate location will affect one of two different communities equally, while along Section 6 the northernmost 'catchment' of affected residents would be minimally impacted by the proposed alternative, and the southernmost residents would not be impacted at all. It is our considered opinion that there are no compelling social reason that would significantly influence the placement of the Toll Plazas along either Section 3 or Section 6 of the route and that this decision may be better informed by other environmental and/or technical issues.

4.2.31.3. Site –specific alternate route alignments

The various route alignment alternatives that have been proposed for the project are addressed under this section.

- **Section 3: Between Ndwalane and the Ntafufu River**

Along this section there are two alternatives for the proposed alignment between Ndwalane (R61) and the Mzimvubu River, referred to as Alternatives 1b and 1e. There are also two alternatives for the proposed alignment in the vicinity of the Ntafufu village and Ntafufu River which are referred to as Alternatives 2a and 2f.

Potential alignments between the R61 and the Mzimvubu River

Alternative 1b comprises a deviation from the R61 near the Mzimvubu floodplain and tributary. Further north it crosses property occupied by commercial farming lands. It follows the Fort Harrison road and the Mzimvubu floodplain to the proposed Mzimvubu bridge crossing site.

Alternative 1e extends from the R61 close to Ndwalane near the Mampube village, to be potentially divided by the road, following higher lying ground dominated by grasslands and then traverses the commercial farmlands as well, before crossing the Majola Tea Factory access road. Alternative 1e then joins alternative 1b on the approach to the Mzimvubu River, ahead of the proposed bridge crossing site.

The community leaders consulted on this alignment showed no particular preferences for either of the two alignments when shown these alternatives and having had the respective implications explained. The Mampube villagers have expressed a preference for proper compensation and relocation and they also anticipated underpasses and overpasses if impacted by the second alternative. Queen Ndamase and other commercial farmers were of the opinion that the Toll Road is a priority for them and their surrounding communities and workers. Any forest, agricultural land (approximately 5 ha) and farm

residences and buildings impacted within and adjacent to the proposed reserve in either alternative were considered acceptable, provided that due compensation would be paid according to the guidelines established. It was also required that affected parties be consulted regarding the possibility of including an on ramp from affected farms to ensure that they are not isolate and that they retain access to the Harrison Fort Road and the movement of their labour, services and produce to markets is facilitated through the proposed road development. Under or overpasses were desired at an appropriate place as mitigation to facilitate access for the affected community. Interests in the Majola Tea Factory have also expressed a concern about possible isolation and requiring an underpass for the Harrison Fort Road, or an on ramp. In contrast to findings in earlier studies, it was ascertained during this study that the Riverside School identified as potentially being impacted will actually not be affected through either of these two alternatives.

Discussion – Social Preference for the route alignment: All these alternatives have similar medium potential negative impacts on housing, arable land, graves and access (Mampube) and on commercial and agricultural land and forests, buildings and access to the private farms and tea factory. Notwithstanding this, however, the clear message emerging from communities and leaders is that from a social and community perspective, the benefits of either alternative outweigh the costs of some relocation (Mampube) and loss of productive land and forests and access, provided that proper compensation and mitigation is developed and followed in close discussion with the affected parties. Consequently, no clear social preference has emerged in respect of either of these alternatives.

Potential alignments in the Vicinity of Ntafufu Village and River

Alternative 2a includes the crossing of the Ntafufu River at the existing crossing site, follows the existing gravel road and joins up with the existing R61 to Port St Johns and Lusikisiki. This alternative will require the relocation of the Ntafufu Junior and Secondary Schools.

Alternative 2f includes a crossing of the Ntafufu at a point slightly downstream of the existing crossing site. This alignment follows the Ntafufu river floodplain to join the existing R61 to Port St Johns. It would not avoid the Junior Secondary School, but avoids the Senior Secondary School, and will require the relocation of the school playing fields and some agricultural land.

At Ntafufu the two schools were built entirely out of community contributions and stand out as exceptional facilities. Teachers and members of the community, when shown maps of the two alignments, clearly indicated that these achievements should ideally not be destroyed or relocated, thus indicating a preference for alternative 2f. However, this alternative would impact on the Junior Secondary School, and the Senior Secondary Schools' two soccer and rugby fields towards the river side alignment. Both these impacts were said to have the potential to be easily mitigated through the allocation of other adjacent lands by the relevant local and tribal authorities. In the event of construction, mention was made that the contracting companies could assist in this by levelling sloping ground with their equipment. This alternative will also have a high negative impact on a 5 ha irrigation scheme below the playing fields

adjacent the river. This scheme, currently supported by the Lima Rural Development Foundation, is run by an owner/operator who is aware of the potential for relocation and who would require compensation.

All the other impacts associated with either alternative are covered in the relevant section for Ntafufu under Section 2 of this report.

Discussion – Social Preference for the route alignment: The community shows a clear preference for alternative 2f which will, however, imply some potential high negative impacts on the Junior Secondary School, on playing fields and on agricultural land as described above. This will have to be mitigated with further consultation, relocation and compensation if chosen. There is a social preference for alternative 2f in this area, this due solely to the threat that alternative 2a poses to the Senior Secondary School.

- **Section 6: Between Lusikisiki (Magwa Intersection) and the Mthamvuna River**

This section of the route consists of three alternatives for the proposed alignment at the diversion from the gravel road, approximately 12,5 km east of Lusikisiki and the Msikaba River, referred to as Alternatives 5g, 5e and 5g4. These are for the approach to the Msikaba bridge crossing site.

Two alternatives for the proposed alignment across the Mthentu River referred to as Alternatives 9e and 9d5. These are alternative approaches to, and crossing points across, the Mthentu River.

There are a further three alternatives for the proposed alignment across the Mnyameni River, referred to as Alternatives 10a, 10c, and 10 e.

Potential alignments for the approach to the Msikaba River Bridge

Alternative 5g follows the existing gravel road and deviates in the vicinity of Ntlamvukasi Village and Mateko Settlement. The approach alignment to the Msikaba River traverses sensitive ecological formations and systems. The Msikaba crossing site is downstream of the confluence with the Mateku River. The point of deviation from the gravel road bisects the village and restricts access between the community and the local school.

Alternative 5e follows the existing gravel road and deviates ahead of alternative 5g above, prior to reaching Ntlamvukasi village. The alignment crosses the Mateku River, just downstream of the Mateku Waterfall, and follows an elevated alignment to cross the Msikaba River immediately upstream of the confluence point of the Mateku and Msikaba Rivers. It follows a northerly alignment along the northern edge of the Msikaba River.

Alternative 5g4 follows the existing gravel road and deviates ahead of Alternatives 5g and 5e prior to reaching Ntlamvukasi village. It follows the edge of the southern Mateku River Valley, and joins with Alternative 5g just prior to the final approach to the Msikaba crossing below the Mateku River confluence point. It avoids restricting access between the existing community and the local school and the sensitive ecosystems bisected by Alternative 5g, and utilises the preferred bridge crossing site.

Community responses at Mateko: Consultations and discussions in and around Mateko and at the preferred bridge crossing site revealed a highly positive opinion concerning the proposed road. Given these considerations there are no strong opinions on the relative merits of the three alternatives. However there are strong community preferences for maintaining the extremely dispersed nature of their existing settlement pattern around the proposed crossings areas. Incomes and population densities in the area of these alternatives are the lowest recorded for the whole route, and most service levels have declined significantly over the period between the 2001 census and a 2006 municipal survey, as is indicated above under 3 Social Description, 3.2.4 Section 6. The expectation of any potential disruptions from resettlement and relocation is high, but medium to low for any loss of arable and grazing land, given its relative abundance. Concerns regarding disruptions to community and school access, and particularly to natural water sources are, however, high.

Discussion – Social Preference for the route alignment: All three alternatives imply insignificantly different degrees of potential resettlement of homesteads at a minimal level as well as in respect of losses to arable and grazing lands and access to such land. Alternative 5g4 is preferred since it represents the lowest possible impact on all of these aspects in the area. The community in the area of the crossings have experienced intense consultation with government in the past regarding all aspects of maintaining their existing settlement pattern, and therefore anticipate detailed consultations regarding suitable under– or overpasses to ensure access to essential facilities and resources, and the minimization of any relocation. In this area from a social perspective alternative 5g4 is clearly the preferred alternative.

Potential Alignments for the approach to and crossing points across the Mtentu River

Alternative 9e descends down off the elevated plateau ahead of the Mtentu River Gorge and then sweeps back in a northerly direction to cross the Mtentu River at a narrow point, in the vicinity of existing power lines.

Alternative 9d5 also drops down of the elevated plateau ahead of the Gorge, and crosses the Mtentu River at a wide point in a more north easterly direction, closer to the coastline. This alternative alignment would require the most extensive bridge structure of all alternatives considered.

The community profile and settlement pattern in the area of these alternative alignments is similar to that described for the Msikaba River area (see 3.2.4 Section 6 – Mkamelo). Most members consulted were in favour of the proposed toll road, and none held strong opinions about either alternative. Mention was made of “whichever is easier”. Among some leaders consulted, the preferred alternative was for 9e, since it represents easier potential access for pedestrian and vehicle crossing, and less danger associated with having to negotiate the longer bridge structure which would need the inclusion of walkways for pedestrians.

Discussion – Social Preference for the route alignment: There is a clear advantage to this community in terms of easier access to the crossing in alternative 9e. This could be facilitated by the

careful planning of community access and the location of desired walk on ramps and over– or underpasses. Both alternatives imply the relocation of 3 homesteads and reallocation of the associated arable land. Based on the advantage to the community alternative 9e is the socially preferred alternative in this area.

Potential Alignments for the approach to and crossings across the Mnyameni River

Alternative 10a crosses the Mnyameni River directly above the Mnyameni Waterfall.

Alternative 10b crosses the Mnyameni and its tributary approximately 500 m above the Mnyameni Waterfall, close to a number of sandstone caves with rock paintings.

Alternative 10c crosses the Mnyameni River and its tributary further upstream than the preceding alternatives, and avoids highly sensitive environments associated with rock outcrops.

Discussion – Social Preference for the route alignment: None of these alternatives will have a direct impact on any households in terms of potential relocation, since the settlement pattern along this part of the Mnyameni River is extremely dispersed. Community members in the area did not have preferences for any alternative, but maintained, as elsewhere, that they should be consulted carefully on the location of underpasses and overpasses, particularly since walking distances to homesteads, and from homesteads to grazing lands in this area are extensive. Consequently, from a social perspective there is no clear preference for any of the proposed alternatives.

4.2.31.4. "Do nothing" alternative

Description of impact: None of the impacts as set out above, both positive or negative would accrue.

There is an argument that in the short term the do nothing alternative is, for some stakeholders, the most desired. Those not wanting the road or querying the need for the road would regard this as the best possible outcome. Although this assessment acknowledges this perspective it also takes cognisance of the consequences of the "do nothing alternative". These are discussed in more detail below.

Assessment:

Sections 1 and 2: Gonubie Interchange to Mthatha (Ngqeleni): If nothing is done increased traffic congestion and road degradation could be expected along this section of the route which has the potential to lead to a number of social problems. These include long journey times, increased road accidents, road rage, decline in quality of life. The potential road linkage could open up greater opportunities for the economy in the greater Mthatha area. This in turn has the potential to raise standards of living, increase the quality of life of residents and if nothing is done this opportunity will be lost.

Section 3 to 5: Mthatha (Ngqeleni) to Lusikisiki (Magwa Intersection): Without an upgrade along this section of the route, the existing road infrastructure is likely to deteriorate. This is likely to have a negative impact on the safety of the road for all road users and obstruct any opportunity for economic development in the area.

Section 6: Lusikisiki (Magwa Intersection) to Mthamvuna River: If the road does not materialise communities along this section of the route are likely to remain relatively isolated and this too will have a negative impact on any opportunity for economic development in the area.

Section 7a: Mthamvuna River to Port Shepstone: The potential road linkage could open up greater opportunities for the economy of the lower south coast. This in turn has the potential to raise standards of living and increase the quality of life of residents along this stretch of the route.

Section 7b: Port Shepstone to Isipingo Interchange: Along this section of the route, increased traffic congestion and road degradation is likely to result over time. This has the potential to lead to a number of social maladies. These include increases in travel time and road accidents, increased incidents of road rage and a general decrease in the quality of life for commuters.

Towns bypassed by Highway Eastern Cape and KwaZulu-Natal: If nothing is done these towns will not be affected and the *status quo* remains.

A summary of the impacts that the do nothing alternative is likely to have along each section of the route is provided below in Table 4.31.

Table 4.31: Social impacts of do nothing alternative

Phase	Extent	Duration	Intensity	Probability	Significance	Status	Confidence
Section 1 & 2: Gonubie Interchange to Mthatha (Ngqeleni)							
Construction	NA	NA	NA	NA	NA	NA	NA
Operational	Regional	Permanent	High	Probable	High	Negative	Medium
Section 3 to 5: Mthatha (Ngqeleni) to Lusikisiki (Magwa Intersection)							
Construction	NA	NA	NA	NA	NA	NA	NA
Operational	Regional	Permanent	High	Probable	High	Negative	Medium
Section 6: Lusikisiki (Magwa Intersection) to Mthamvuna River Without Mitigation							
Construction	NA	NA	NA	NA	NA	NA	NA
Operational	Regional	Permanent	High	Probable	High	Negative	Medium
Section 7a: Mthamvuna River to Port Shepstone Without Mitigation							
Construction	NA	NA	NA	NA	NA	NA	NA
Operational	Regional	Permanent	High	Probable	High	Negative	Medium
Section 7b: Port Shepstone to Isipingo Interchange Without Mitigation							
Construction	NA	NA	NA	NA	NA	NA	NA
Operational	Regional	Permanent	High	Probable	High	Negative	Medium

Attention will now turned towards a discussion of those issues that need to be considered in respect of the proposed N2 Wild Coast Project.

5. DISCUSSION

From its inception, the idea of upgrading and shortening the N2 Highway between, East London and Durban has been controversial, with this controversy largely being based on environmental issues. See for instance SABC 50/50 TV production by Sandra Herrington (Sunday, January 26, 2003; Mqadi, 2005). Although enjoying some attention, the social aspects have not been addressed in as great detail as the environmental matters may have been. Where the social impacts have been discussed mention has been made of issues such as the threat to 'numerous village residents along the length of the road… (facing resettlement or the loss of grazing) … or farming rights to make way for new road interchanges' (Mqadi, 2005), and '… the tranquil rural life in this sparsely populated section of the Eastern Cape … never be(ing) the same again. This is an area after all that has the lowest HIV/AIDS and STDs rate in the country and is relatively free of crime' (Abbot in Herrington, 2003). Research, however indicates that the Eastern Cape no longer has the lowest HIV/AIDS rate. In a study undertaken by the Centre for Actuarial Research, the South African Medical Research Council and the Actuarial Society of South Africa (Dorrington *et al*., 2006:26-30) it was found that HIV/AIDS is on the increase in the Eastern Cape and that on 1 July 2006 there were a total of 666 822 people living with HIV/AIDS in the Province. This amounted to an estimated HIV/AIDS prevalence rate of 10% in the Province and it was indicated that the highest prevalence, at 21.2%, was found amongst women between the ages of 15 and 49 years.

Considering this, with greater access to the area and an increase in truck traffic, the risk of HIV/AIDS and STDs, particularly in the Greenfields area, will increase. It is well documented that truckers throughout the world are at a high risk of contracting and spreading HIV/AIDS (Alam, undated; Kulis, undated; United Nations, 2007) and that women faced with poverty often turn to prostitution to supplement thier income. However, this must be assessed against other social benefits across the entire route and the introduction of mitigation measures that could lead to a reduction of sexually transmitted diseases amongst truck drivers (see for instance Jackson *et el*. 1997; Mohamed & Pacca, 2002).

Although these, and numerous other issues raised, must be noted, they need to be balanced against the positive impacts that could unfold from the provision of road infrastructure in the region. For instance, Nel of SANRAL (in Mqadi, 2005), argues that '[t]he inefficiencies of the transport sector and the lack of a proper road network in many parts of South Africa have been identified as major impediments to economic growth and development, as well as to national and international trade. The construction of the highway was to fast-track the delivery of goods and services, access to employment opportunities and household access to consumer goods since all the above depended on transport and more particularly roads'. Although the eThekwini Transport Authority is against the idea of upgrading and tolling the N2, as the authority believes this would jeopardise its plan to include rail and ports as part of an integrated plan used to transport people and goods, this plan has as yet not materialised. If this plan does materialise and is successful, it could provide a viable alternative to road transport. What would, however, be unacceptable is to hinder any viable development – either the upgrade of the freeway or the integrated transport plan in an effort to force business and the public into using one specific means of transport. The

ideal situation is to provide alternatives that compete on the basis of efficiency and cost allowing business and the public to make a choice based on their specific needs.

As Deakin (2006:16–17) points out, interstate highways in the United States have resulted in positive social impacts that include 'increased access, mobility, and options for individuals, households, and firms'. However, for the poor and non-car owners, interstates often '…decrease access and mobility by undermining the viability of alternative modes of transport.' Considering the South African situation, and in particular the N2 Wild Coast Highway, it is likely that the United State's experience regarding the positive impacts will be somewhat similar. However, what is unlikely is that the negative impacts will be of a similar nature. There is no doubt that in the case of the N2 Wild Coast Highway, as is the case with most large civil engineering projects, there will be certain inequity but this inequity is likely to be based on a different set of criteria than would be the case in developed countries such as the United States and will vary depending on existing developments along each section of the route.

For those communities living within, what are largely Greenfields sections between Mthatha and the Mthamvuna River, the development is likely to result in increased access, mobility and various options for individuals, households and firms. Although, to a somewhat lesser degree as a major road already exists in this area, this is probably also true of the section between the Gonubie Interchange and Mthatha as well as between the Mthamvuna River and Port Shepstone, particularly if the route provides swifter and safer access for commercial vehicles and tourists across the Eastern Cape and into KwaZulu-Natal.

The project is, however, less likely to increase access, mobility and options for individuals, households and firms between Hibberdene and the Isipingo Interchange and, if the issue of toll roads is factored in, more likely to inhibit access because of the tolls. For instance along the stretch between Port Shepstone and the Isipingo Interchange and to a somewhat lesser degree the Mthamvuna River to Port Shepstone stretch, considering the history of transportation in South Africa, it is unlikely the impact would come from undermining the viability of alternative modes of transport. It is more likely that the negative impacts would result from such issues as the increased cost of doing business and accessing services and employment for all communities that a tolling option may cause if not carefully considered and mitigated.

Notwithstanding the variances in these impacts, it is important to consider the route in totality, across its entire length, as issues that may remain unresolved or which may have negative impacts on any decision at one end of the route are also likely to have significant consequences for communities on other sections of the route. It is with this in mind then that the various issues such as those listed under this heading will be addressed.

5.1. Resettlement and compensation

The Acting Dean of Research at the University of Transkei, Rehema White points out (in Mqadi, 2005) '… relocating and finding alternative land for uprooted communities caused by building the proposed N2 Wild

Coast Toll Road would be complex under the communal land ownership structure, and the local communities should start preparing themselves for new transport strategies'.

In this regard it is imperative that the project develop, at the very least, a Resettlement Policy Framework (RPF). This should be in line with international best practise and should go beyond discussions of asset acquisition and compensation. The RPF should be put in place to ensure that the resettlement process does not expose affected people to unnecessary risks. The range of risks associated with resettlement are usually categorised as:

- landlessness
- homelessness
- joblessness
- economic and social marginalisation
- increased morbidity and mortality
- food insecurity
- loss of access to common property resources
- social and cultural disarticulation/disruption.

All Resettlement should take place as a planned initiative in accordance with SANRAL's resettlement policy "Land Acquisition Guidelines for Consulting Engineers - July 2007". Accordingly, and as location and negotiation of access to compensation land will be a critical part of this scope of work, it is important that resettlement take cognisance of those physically and economically displaced to ensure that disrupted livelihoods are restored. To achieve this it is suggested that, SANRAL commission a Resettlement Policy Framework (RPF) and then the specific Resettlement Action Plan (RAP) in accordance with international best practise by seeking guidance from the International Finance Corporation (IFC) performance Standard 5 to strengthen its existing resettlement strategy.

5.2. Labour issues

It is clear from the discussion under 3.1.1 above and the data presented in Table 3.1 on page 30 of this report that unemployment levels in the Eastern Cape, and in particular in the O.R. Tambo District Municipality are extremely high. Using Census 2001 data and the expanded definition of unemployment, unemployment levels in the Eastern Cape stood at 53.7% and in the O. R. Tambo District Municipality at 68.8%. On a Provincial level the Eastern Cape also has the highest number of people having no income at 31% (Table 3.2) and O. R. Tambo has a poverty level of 82% (Table 3.3). At these levels there is little doubt that the area is in desperate need of job creation initiatives and the project has the potential to assist in this regard. However, it must be realised that the creation of jobs is not a straight forward matter and not all agree with the sentiment that the project will create jobs. For instance, in response to the claim that the project will create jobs, Development Bank of Southern Africa analyst Julie Clarke, reported in Mqadi, (2005) 'says there is no convincing evidence to prove that the Wild Coast proposal is in the interest of the local communities. Clarke challenges the notion that big bridges and fast roads

automatically bring development and warns that the days of getting away with poor development proposals before selling them on the grounds of "job creation" are over.'

The Rev N. M. Gable of Lusikisiki points to a '… fear that the toll road will divide communities and create numerous social problems. Further, he complains that the suggested wide range of potentially positive spin-offs, including employment opportunities to the local people were a "pipedream" because such promises were made when the casino was built on the banks of Umzamba River but to date very few locals have been gainfully employed' (Mqadi, 2005). Fears have also been echoed by towns such as Mount Frere, Mount Ayliff and particularly Kokstad, which will be bypassed by the N2, that there will be a loss of business and consequently a loss of local jobs. The Haley Sharpe Report (Sharpe, 2004) makes several references to this.

It has been claimed that eco-tourism would generate a number of job opportunities in the Pondoland region. However, and despite the poor agricultural potential of the area, a possible conflict exists between eco-tourism and agriculture. Various issues also surround land claims and rights in the area which could frustrate job creation through eco-tourism. In assessing a European Union funded initiative to create income-generating opportunities, which includes permanent, ongoing-part-time and temporary jobs, through eco-tourism in Pondoland, it was found that the original estimates of 571 income generating opportunities eventually resulted in 198 reported opportunities in December 2003 and 99 verified income-generating opportunities in March 2004 (Schutte, 2004:25). Table 8-8 of Schutte's report gives the following breakdown.

Description	Business plan forecast	Actual reported Dec 03	Verified actual
Permanent	135	55	37
On-going part-time	91	90	47
Temporary (calculated)	122	15	15
Businesses/Enterprise	116	48	15
IG opportunities	571	198	99

Source: Carl Schutte. Strategic Development Consultants, 2004:25

In contrast to the above arguments, SANRAL, indicate that their experience on similar projects, such as those along the N4 and N3, has been that these projects and the maintenance contracts attached to them result in the creation of a numbers of direct jobs. Apart from this the analysis for the economic impact assessment undertaken for the N2 Wild Coast Toll Road Project (Pienaar and Bester, 2007:2.8) and quoted here for convenience shows otherwise and predicts that:

'Approximately 6 800 project-related jobs will be generated annually during the construction phase. There is the potential to generate up to 21 300 indirect or non-project-related jobs annually during this phase, resulting in a total employment creation of 28 100 jobs annually during construction. During the service period of the road there is the potential to generate approximately 900 directly road-related permanent (sustainable) jobs annually. Usage and operation of the road will generate approximately 18 000 indirect job opportunities per annum, resulting in an average employment creation of 18 900 jobs annually during the service period of the road.' For greater detail see Section 2 of the economic report.

What is clear from the above discussion is that it can be concluded that the matter of sustainable job creation is not necessarily a straight forward issue and must be cautiously considered when used as a means of motivating any project. However, indications are, considering the economic study, that job creation is likely to be significant in an area beleaguered by high levels of unemployment.

5.2.1 Contract labour force

On a social level the issue of job creation is often associated with the reservation of employment opportunities. Job reservation appears to be of concern to many of the potentially affected people, and the negative impact associated with potential increases in social tensions that this brings has been mentioned above. In order to ensure that the positive impacts are maximised at the local/sub-regional level, and in order to obviate some of the negative impacts alluded to in the section above, it is strongly recommended that as many employment opportunities as is practical are reserved for local people. Reserving employment for local people has been done successfully in many projects in many parts of the world and is particularly successful within conservational circles in an effort to gain local support (Sekhar, 2003).

Although there are no rigid legislative parameters that force developers to use local communities in actively developing local employment strategies there is a move towards what might best be termed as 'responsible best practise'. In the context of the proposed N2 Wild Coast Toll Road development it is suggested that four elements of this responsible best practice need to be incorporated into overall project design, construction and employment policy. These are:

- involvement by local Department of Labour authorities
- design of contractor tender requirements
- SMMEs
- training.

This is in accordance with SANRAL's stated policy on training, job creation and small business development where it is indicated that '[t]he ethos of the Agency's targeted procurement philosophy is that we can and are contributing to economic growth in our country and the Southern African region as a whole by training people to become economically active and by reducing unemployment and by stimulating growth in the small and informal sector of our economy' (SANRAL, 2004:40). The enactment of this policy is crucial to the success of the Wild Coast Project.

5.2.2. Involvement of the Department of Labour

The Department of Labour has recently embarked on a more pro-active approach towards employment creation[13]. One of the mechanisms by which the department has been committed to ensuring that

[13] See 'Creating Jobs, Fighting Poverty: An Employment Strategy Framework' (2004) (http://www.labour.gov.za/docs/policy/jobsframework.html.)

proactive engagement with developers occurs, in an effort to deal with the issue of poverty, is through maintaining a database of people seeking work and the skills that they have to offer.

Although the quality of the various data bases available in the regional offices of the Department of Labour has not been empirically tested for the purposes of this project there is an assurance that such data is available at key points long the route. It is important that the Contractor forms a positive relationship with these offices and uses this data as a basis on which to recruit local labour as construction progresses along the route.

For the purposes of this project it is suggested that the developer stipulate that all contractors during the construction phase as well as the resort operators be required, as far as possible to utilise the Department of Labour as its primary source of labour recruitment.

5.2.3. Design of contractor tender requirements

Unlike Tender documents in the public sector, the private sector has a great deal more flexibility in terms of its tender procedures. Although public sector procurement policies have not yet developed to stipulate maximisation of local employment opportunities there are a number of 'best practise' guidelines that have been developed and that are frequently utilised as instructions in tender documents. In essence four elements have been developed in this regard. These are:

- *Where possible labour-intensive methods of construction should be utilised*. While this is often regarded as a desirable goal it is acknowledged that this may not be entirely practical within the context of a private sector set of tender requirements. Nevertheless it is recommended that the developer, in conjunction with their professional service providers, examine means by which this could become a tender instruction in relevant contracts.
- *Use local labour as far as possible*. The developer and its contractors should recruit and employ staff in an equitable and transparent manner and maximise the proportion of staff employed from the local community. The developer should set targets for increasing the proportion of staff and/or of the enterprise wage bill going to communities within 10 km of the enterprise.[14] It should be noted that by using a local labour strategy some of the concerns around the spread of HIV/AIDS and STDs and other negative aspects attached to in-migration are significantly reduced.
- *Develop a community labour agreement with targets for employment and for progression.* Recognise that the enterprise can play a significant role in increasing the skills and capacity of the local community and that the enterprise benefits from that.[15] In this regard it is recommended that the developer formalise labour agreements, with the assistance of the Department of Labour, with the affected communities – these should be geographically defined for the various contractors. A formalised structure, perhaps known as a 'community labour desk', could be established.

[14] See Appendix B 'National Responsible Tourism Guidelines' DEAT 2002
[15] Ibid

- *Go beyond the bare minimum wage rate and invest in local staff – quality is dependent upon well-motivated staff.*[16]

Further it is recommended that the developer actively work towards facilitating access to Basic Skills Training. The intention behind this is 'skill up' local workers employed on the development to perform the tasks required of them during the contract and, in the post-construction phase, to be able to sustain a level of income through selling these skills either in the labour market or as local contractors.

The establishment of a training and skills development programme would therefore be a key component of the overall employment strategy. The broad elements of such a programme could be drafted by the developer but individual successful contractors will have to draft a more detailed training programme and also take responsibility for implementation. Such a programme should be guided by a number of principles and features:

- All the major construction work components of the project should be accompanied by the identification of the broad number, categories and types of job opportunities needed. This could be vetted by the developer in conjunction with their specialist advisors as well as by the 'community labour desk' referred to above.
- A wide range of training opportunities and services must be identified within the overall cost structure of the project. This should range from simple job application procedures and pre-tender information sessions, to on-site technical training and mentorship. Contractors would show how they would gear-in funds; perhaps out of Skills Development Levy coffers for such programmes. This would be used to demonstrate how they would offset the costs that they might otherwise incur and pass on to the developer.
- The scope and content of the training programme must be clearly outlined by the contractor. The nature of this programme must be explicitly linked to the project tasks and as far as possible to the individual's career plan.
- The responsibility for implementing the training programme might rest with the contractor. However the contractor should operate the programme under the advice of the developer and he should ensure that the programme is in harmony with the overall employment guidelines setup by the developer.
- The 'community labour desk' must ensure that the needs of all the various parties and interests are dealt with fairly and that this occurs within the overall programme and budget of the projects.

5.2.4. Operational labour force

The number of permanent and sustainable jobs directly created by the N2 Wild Coast Toll Road is estimated to be in the region of 900 which is substantially less than those jobs created during the construction phase. Nevertheless the developer can make some contribution towards ensuring that the road acts to bolster local employment and skills development in accordance with SANRAL's stated

[16] Ibid

intent[17]. In this regard it is recommended that the developer generate a policy for small, medium and micro-enterprises and that the various policies and positions developed by the Department of Trade and Industry be adhered to.[18]

5.3. Sustainability and community empowerment

The Wild Coast is home to some of the most extreme poverty within the Eastern Cape Province. The Eastern Cape itself is among the three poorest provinces in South Africa. Of the 6.3 million population in the Eastern Cape Province, former Transki accounts for approximately 4.5 million with a population density of around 135 persons per km^2.[19] The creation of the upgraded N2 Toll Highway has both positive and negative impacts on this impoverished population. The developer must be careful not to fall into the trap of making promises of empowerment without actually doing anything concrete in terms of community empowerment. To do so would potentially equate to a reputation risk for the developer.

In this regard it is potentially problematic to think that building the road will automatically translate into benefits to the affected communities. In terms of the Greenfields section, the road will bring not only access and possibly foster private investment and development, but it could potentially bring an increase in crime. Stiffer economic competition could potentially undermine local productive enterprises and this may further marginalise local communities. In terms of the toll road in already existing road sections, it means potentially increased costs of transport, increased levels of noise and pollution, and in some cases loss of alternative modes of transport to places of work (bicycles and walking). For these reasons, the developer must become actively involved in community empowerment in order to compensate and mitigate against the losses that communities feel will accrue as a result of the proposed toll road.

Ownership of land along the Wild Coast is an issue of concern. Whilst government claims that they have settled more than 60% of the total land claims lodged since 1996, most rural claims in former Transki have not yet been settled and these include those from communities along the Wild Coast[20]. The land required for the N2 which will be alienated from the local communities is likely to add to the controversy and complications of land holding along the Wild Coast. This land is almost exclusively held in trust and rights to usufruct are made through tribal allocation processes.

Much of the issue with the N2 Road in terms of the Greenfields section has to do with land availability and usage. This has been researched extensively by the NGO sector and government. As such the developer should consider working in collaboration with established NGOs and the government in supporting, building and strengthening the capacity of democratic communal property institutions (CPAs, Land Claims Forums, Land Claim Lobby Groups). The promotion of conflict resolution within and between

[17] See South African Road Agency Limited Declaration of Intent 2005–2008.
[18] See Berry *et al.* (2002). The Economics of SMMES in South Africa.
[19] International Land Coalition. 2005. Wild Coast Empowerment and Monitoring Project. http://www.landcoalition.org/program/cefp_tralso.htm
[20] International Land Coalition. 2005. Wild Coast Empowerment and Monitoring Project. http://www.landcoalition.org/program/cefp_tralso.htm

communities, and with the respective local government structures with respect to accessing and management of both land and other natural resources will also greatly assist the developer in the resettlement aspect of the project while simultaneously assisting with community development. Further, the developer should assist and enhance effective participation of affected communities, allowing them to play an active role in the management of the land, particularly in relation to the proposed highway.

Further, although the creation of an effective transport system has the possibility of improving access and therefore services to the rural poor, it can equally cut off services and distance impoverished rural communities from each other and the rest of the country. The distancing aspect is particularly important for towns and villages that will now be bypassed by the construction of the new road whereas the old N2 alignment passed through or close to them. Specifically, Kokstad and smaller towns such as Mount Frere, Mount Ayliff and Harding will be negatively impacted upon by the loss of a portion of the current traffic along the N2. In a similar vein, villages not given appropriate access to the new road will also be geographically and spatially 'cut-off', despite the road passing by their location. The former can be mitigated through sufficient and adequate forms of access to and passage over or under the new road, while the latter could be partially mitigated against through the construction of similar quality access roads from the N2 to the now bypassed towns.

Although towns such as Kokstad, Mount Frere and Mount Ayliff will be negatively affected the findings of the economic report indicate that "[l]ong-distance travellers are not captive purchasers in towns along the present route - their on-route transactions are incidental and voluntary. Traffic between the Eastern Cape and the Pietermaritzburg area will still use the existing N2 as first-choice route, while the existing link between Umtata-Kokstad-Durban remains intact – neither its mobility nor its accessibility function will disappear. Although the new link between Umtata and Port Edward will divert traffic from the existing N2 route, the newly generated traffic benefits on the proposed road will by far exceed any reduction of business on the existing road section" (Pienaar & Bester, 2007:2.5).

Development would have to be planned in such a manner that communities along the proposed N2 route between Mthatha to Port Edward via Lusikisiki would be able to benefit from the improved road. This is critical to ensure that any advantages that have been mooted will not potentially be lost to the rural populace. In particular, care needs to be taken to ensure that the road will not service everybody apart from the local populace who have had to make way for its construction. Community infrastructure *vis-à-vis* the toll road is particularly important in this regard. Underpasses, overpasses and access points need to be sufficient for the uses of the communities so that they are able to benefit from the road.

In this regard the developer should endeavour to ensure that empowerment projects are practical, sustainable and fiscally realistic. Insufficient financial input to empowerment projects are likely to result in their failure and subsequent reputation risk to the developer in terms of its social commitments. At the same time the developer should be wary of creating unhealthy dependencies among the communities that are assisted through empowerment projects. The sustainability of empowerment projects is possibly the hardest aspect to achieve, as empowerment through job creation, which is the simplest to institute, is

unlikely to be sustainable post construction. In this regard then the developer must look beyond the promise of employment opportunities as its empowerment brief.

Currently public support for the proposed N2 Toll Road is mixed. While there is enthusiastic support in some sections of the former Transki, environmental, social and economic issues raised by some sectors of the public point to a disapproval and condemnation. In Durban and its environs there is little or no support. By instigating a number of empowerment projects, particularly in the Greenfields section, the developer may go some way towards improving public perception of the project. The developer may have to go beyond its normal mandate in this regard[21]. If the development of the N2 Toll Road is seen as genuine development of the area and people along the Wild Coast, it is likely to receive considerably more support from the public.

The developer needs to formulate a transparent policy towards community empowerment. This would spell out the actions to be taken to ensure that communities benefit from the creation of the toll road through job creation and community upliftment. This would serve as a benchmark against which successes and failures can be monitored.

5.3.1. Specific empowerment projects

Under this section attention is turned towards specific empowerment projects such as the establishment of access roads and infrastructure and assistance with the empowerment of women's, community development and health projects.

5.3.1.1. Access roads and infrastructure

In collaboration with communities, access roads, underpasses and overpasses must be established. Community consultation is vital in this regard as without it the developer is likely to make errors in the placement and usage of this infrastructure, potentially leading to community disenchantment with the project. Sufficient infrastructure needs to be put in place so that communities are not divided by the road, grazing access is not affected and communities are able to benefit form the road itself. SANRAL can also assist by building adequate access roads to heritage and tourism sites so that the area can directly benefit form the improved access into the former Transki by the N2 Toll Road.

In this regard the developer treads a delicate path as environmental degradation may be increased as a result of increased access to tourism and heritage sites. Firm planning legislation needs to be put in place, and enforced, regarding the Wild Coast to protect the environment so that increased access does not result in a denuded environment. The developer should spearhead such efforts as the project itself has the potential to spearhead environmental degradation as a result of the access that it allows. Without the active input of the developer the constrained capacity of local authorities to enforce planning

[21] The main object of SANRAL, as prescribed by the SANRAL and National Roads Act, 1998, is the planning, design, construction, operation, management, control, maintenance and rehabilitation of national roads (CCA 2007:93).

regulations could lead to degradation and unplanned development that result in an erosion of the 'sense of place' that defines much of the Wild Coast.

5.3.1.2. Women's empowerment projects

The developer should strive to assist women's empowerment projects, possibly in collaboration with NGOs already active in the respective areas. Along with women's empowerment projects, vulnerable groups should be assisted, particularly those that are to be resettled as a result of the road construction. Women's empowerment can also be improved through employment opportunities related to the toll plazas. This can be dealt with through the 'community labour desk' and again fits well with SANRAL's declaration of intent to uplift the community which includes a 'Positive impact on households in which women are the breadwinners' (SANRAL, 2005:61).

5.3.1.3. Community development projects

Community infrastructure and development should be assisted by the developer. This will benefit the developer particularly with regard to its social commitment and development brief. These development projects must be designed with the collaboration of the relevant communities and organs of local government as they are best suited and placed to understand community needs and the capacity of local structures to render support. An example of projects that could be collaborated with includes schools, community buildings, water access points and, as stated in SANRAL's declaration of intent document '…the upgrading of rural access roads, pedestrian facilities and minor bridge construction, (SANRAL, 2005: 61).

5.3.1.4. Health projects

Although it is not SANRAL's responsibility to promote health infrastructure along the route, the reputation of SANRAL and the project will be greatly benefited should SANRAL become involved in health infrastructural development as it pertains to transport issues. Potentially an effective ambulance service could be installed to service areas hitherto poorly serviced.

A critical issue is that resettled households should be given priority in being incorporated into empowerment projects, with particular focus given to vulnerable households. Resettled households will be the most affected by the toll road, and therefore should be first in line for any benefits accruing.

SANRAL has already indicated that South African legislation does not allow local communities to be stakeholders in the toll plazas (CCA, 2007).[22] However, there is no law against local people and businesses investing in the project and becoming part owners. In this regard SANRAL should consider investment shares as compensation for resettlement and loss of grazing and agricultural lands to

22 Proposed N2 Wild Coast Toll Highway: Final Scoping Report – Comments and Responses Report on DSR

communities. In this way communities affected by the toll road become active shareholders with a vested interest in the toll road.

5.4. Road safety education

Large parts of the proposed N2 highway cut through rural areas where the population does not have the same heightened sense of awareness towards fast flowing traffic as a concentrated urban population would. This is clear on the current N2, particularly in parts of the former Transkei, where cattle and other livestock cross the road regularly and pedestrian usage of the road and its margins is high. With the increased speed of traffic on an improved highway, the chance of accidents involving pedestrians and/or livestock is increased considerably. These issues are of particular concern through the Greenfields sections of the proposed highway. The current N2 alignment between the Mthamvuna River and the Isipingo Interchange would be little affected in terms of road safety as the highway is already highly developed, with neighbouring residential areas accustomed to high volumes of high speed traffic.

There is currently pedestrian usage of the current N2 alignment through several sections of the Greenfields section from Gonubie through to Mthamvuna, particularly past the Kei cuttings from Toleni towards Butterworth and further into the former Transki. These rural communities will be affected in varying ways by the proposed toll road. Rural communities along the current R61 alignment (Mthatha to Ndwalane, Ntafufu to Lusikisiki Interchange) are likely to be more affected than communities already on the N2 alignment south of Mthatha. Communities along the proposed new route through the Greenfields section (Ndawlane to Ntafufu, Lusikisiki Interchange to Port Edward) will possibly be worst affected in terms of road safety as these rural areas have little experience of freeways the size of the proposed N2 road. It is worth bearing in mind that despite the cordoning off of the highway, it is likely that members of the rural populace will continue to use the road unless they have what they perceive as a viable alternative. Without these alternatives, fences will likely be breached and pedestrians will continue to cross the road.

With this in mind a comprehensive road safety education plan, in accordance with SANRAL's declaration of intent (SANRAL, 2005: 62) would need to be put into place. It would also be important to provide sufficient and well maintained cordoning off of the road and its margins, so as to mitigate against the risk of accidents. Sufficient and easily accessible crossing points – bridges and underpasses that permit more than just pedestrians – would also need to be put into place. These crossings would greatly diminish the possibilities of accidents involving pedestrians and/or livestock occurring.

Road safety programmes would need to concentrate on children in schools, with lessons taught on how to deal with the road safety and specifically to the N2. Community meetings and safety presentations would also need to put into place to inform communities of the risks of the road, and how to minimise these risks. Virtual demonstrations presented in education workshops of the dangers would go some way towards lessening the chances of accidents involving pedestrians and livestock.

Infrastructure would need to be put in place so as to complement any road safety programme. Designated pedestrian walkways running along sections of the road would also minimise the chances of pedestrians attempting to use the road and thereby of accidents occurring. Elevated lighting of the road and its margins through some of the populated rural areas will also need to be installed so as to minimise the chances of accidents.

5.5. Issues concerning the tolling of roads

The terms of reference for the SIA indicate that, during this study, the matter of tolling is not under consideration for that section of road between Gonubie Interchange and the Mthamvuna River but that tolling is an issue along the existing road between the Mthamvuna River and the Isipingo Interchange. Consequently the focus of this discussion is on the Mthamvuna River to Isipingo Interchange section of road.

A global review of the extent of tolling undertaken by the World Bank (http://www.worldbank.org) found that most countries do not have toll roads. In countries where toll roads do exist they are unlikely to account for more than 5% of existing road networks. It is also indicated by the World Bank that the average cost per passenger car on these toll roads amounts to between $0,03 and $0,08 per kilometre with goods vehicles, based on vehicle size, paying higher fees than private passenger vehicles. International experience is that most countries tend to toll specific roads either as a means of securing a stable source of funds to pay for the project and to maintain it, or as a means of controlling traffic flow. In some cases both of these reasons may apply.

No matter what the reasons for tolling roads maybe, the issue remains a controversial one worldwide. However, the level of controversy is relative and depends on a number of factors. Firstly, where the road being tolled provides for a less expensive and more convenient alternative to other travel options the controversy surrounding the payment of toll fees is at its lowest and the major focus is on the level of the fee being charged. Examples of this are the tolling of San Francisco Bridge in the United States which provides easy access across the San Francisco Bay to thousands of motorists. In South Africa similar examples exist along the N2 between Plettenberg Bay and Stormsriver as well as on the N1 at the Huguenot Tunnel which respectively bridges the Bloukrans and Grootrivier passes and provides tunnelled access through the Du Toitskloof Pass. In all these cases the tolled alternatives are less expensive, less inconvenient and safer than other existing options.

Controversy increases when sections of road are improved and connected by new sections to form a toll road system while the alternative route, which comprises of sections of the old road are neglected. Objections to paying toll fees are usually raised by local residents who are now forced to pay toll fees on a regular basis and often on sections of road that they once used without incurring these costs. It was this type of issue that fuelled the debate surrounding the Midlands Toll Route on the N3 near Mooi River in KwaZulu-Natal as well as the N1 to the north of Pretoria.

Finally, the issue of tolling existing roads, where no viable alternative exists, becomes even more controversial. This controversy increases even further when the major reason for tolling is to control traffic flow in a congested area as is the case in Central London. The decision to increase the western extension of the London pay zone has met major opposition with organisations such as the National Alliance Against Toll, mobilising public opinion against the concept.

It is clear from the findings of this study that the issue of tolling along the section of road between the Hibberdene and the Isipingo Interchange is controversial and that this controversy focuses on the economic effects that tolling will have on the local community. In this regard a number of issues regarding to toll roads have been raised both internationally and with specific reference to the current proposed project. Prozzi *et al*., (2006) point out that in essence these are that:

- 'Toll roads have a disproportionate impact on lower-income commuters if their workplaces are not accessible by transit.
- The poor bear an unfair burden if they have to shift to congested roads to avoid the toll.
- Low-income drivers may be priced out of discretionary trips (e.g., shopping trips and recreational trips) or be forced to use less attractive modes (e.g., transit, bicycling, or walking) to satisfy their transportation needs when charged a toll (Litman, 2005; Prozzi et al., 2006).'

A number of business organisations such as the SCCC, businesses in the South Durban Industrial Basin and the Umzumbe and Hibberdene Farmers' Associations have all raised concerns about tolling raising the costs of doing business and the potential threat that this may have for jobs in the area.

The issue of tolling was also raised at a political level with the EM taking a clear stand against the option of tolling and certain members of the community indicating that tolling was a means of collecting funds in KwaZulu-Natal in order to subsidise the construction and maintenance of the road through the Eastern Cape Province.

In some parts of the project area these issues have been highlighted as the most project-critical. As such, without appropriate mitigatory strategies or, a convincing argument conveyed by SANRAL that the benefits of the toll road outweigh the disadvantages even for poorer consumers of transport, resistance is almost guaranteed.

Notwithstanding this however, the benefits of tolling must also be considered across the entire route. Tolling provides an opportunity to introduce a safer, shorter and more convenient route between East London and Durban. This will have national economic benefits and, with a proviso that mitigatory concessions are in place, certain stakeholders, particularly in the area south of Port Shepstone, support the toll road regarding it an opportunity to open up what they regard as a '*cul-de-sac*'.

5.6. Local government capacity limitations

Due to the varied nature of the areas that the N2 Toll Highway will pass through there are several different aspects regarding the toll road that may have to be controlled by local government or nominated agents. Although SANRAL and/or its agents retain primary control over the road and its servitude there are aspects of the road that intersect with the need for control with other authorities. Some of these authorities, in particular those in the O.R. Tambo District, have limited capacity. For instance 'O.R. Tambo is classified as a Category C2 municipality, indicating a largely rural character and low urbanisation rate, as well as limited municipal staff and budget capacity. All, but King Sabata Dalindyebo, local municipalities are classed as Category B4 (rural, mainly subsistence) reflecting limited institutional capacity and areas characterised by small centres, limited SMMEs and market opportunities, dependence on public support and local economic development activities that are principally at the level of the small project' (McCann, 2006: 1). The situation is somewhat better in the more urbanised areas stretching from Port Edward through to Isipingo, where although the local municipalities will have to deal with certain levels of control, they are more likely to have better capacity to be able to perform this function. The local Traditional Authorities may also have to exercise certain controls in rural areas between the Kei Cuttings to Mthatha, and Mthatha via Lusikisiki to Mthamvuna and they, too, have to rely on limited resources.

Notwithstanding the fact that the situation is better between Port Edward through to Isipingo, in interviews with the ETA it became apparent that local municipalities expect to be faced with the burden of dealing with the negative impacts on traffic and road usage that may arise from the toll road. In this regard the municipality has expressed concern with the level of support that can be expected from SANRAL. This is an issue that needs to be addressed as municipal authorities in developed areas may be antagonistic towards the project where they see it as creating additional burdens without any noticeable benefit. Municipalities in the rural underdeveloped areas, are more likely to embrace the project concept, but may lack the institutional capacity to deal with the peripheral aspects of the toll road. This is discussed in more detail below.

Importantly, the mandate of the developer needs to be made explicitly clear at the outset. SANRAL's primary responsibility is to 'strategically plan, design, construct, operate, rehabilitate and maintain South Africa's national roads[23]' The forms of maintenance need to be set out clearly, so that there is no doubt as to who holds responsibility for the peripheral aspects of the toll road. The responsibility of, for instance, road fences along the length of the road, access points and crossovers, the upkeep of the road servitudes and development along the length of the road needs to be allocated before the project commences so that confusion does not arise once the project is operational.

Freeways by their nature are designed to maximise through traffic. Efforts need to made and maintained to ensure that there is safe access to the road that does not slow traffic, and that the road does not get

23 See SANRAL South Africa Report 2006/2007 Chap 22

used by non-vehicular traffic. In the case of the N2 Toll Road certain sections of the road where there is already an existing freeway, such as between Port Edward and Isipingo, would require little change in the management thereof. Large sections along the Wild Coast route though would require various means to control aspects such as illegal grazing on the servitudes, illegal ingress and egress onto the road and pedestrian safety.

It needs to be borne in mind that the proposed N2 Toll Road is cutting through a section of the country that is both impoverished and historically marginalised. Unlike toll roads that run through many parts of Gauteng, Western Cape, Free State and KwaZulu-Natal, large tracts of the surrounding lands, required for the N2 Wild Coast Toll Road, are held communally rather than being secured under private tenure. Illegal ingress and egress to the roads is therefore difficult to control as land that runs parallel to the freeway is essentially communally owned and currently without fences.

As such a framework should be put in place by the developer in collaboration with Department of Transport and its various arms, Traditional Authorities and local municipalities in order to overcome institutional capacity issues. Essentially any aspect relating to the road that would fall under the auspices of a local municipality will have to be supported, both technically and financially, by either the province or the state. Alternatively the developer will have to take sole responsibility for all aspects relating to the toll road. It would be important that a memorandum of understanding be signed between all controlling bodies to ensure adequate control of the route.

5.6.1. Illegal grazing

Illegal grazing is likely to be a problem through some parts of the former Transki section of the intended N2 Toll Road. Municipal authorities may find it difficult to enforce rules restricting access to road servitudes where palatable grass is growing. Potentially the problem can be partly managed by allowing, on a concession basis, the cutting of grass for feedlots. Training could be done by the developer, in collaboration with local municipalities and Traditional Authorities, to equip communities in the rural parts of the Wild Coast to do this. In this way local communities may see the road in an even more positive light as it brings additional benefits.

5.6.2. Development

Development along the road is likely to be an issue in areas where there has been little control over development. In particular unregulated construction in the Traditional Authority areas has the potential to become an issue for the developer. Control of development along the servitude would generally fall to the relevant local authority either the traditional authority or the municipal structures. In situations where development takes place close to the road in more built up urban areas, Municipal government would have to take the responsibility for ensuring that development is done according to current legislation.

5.6.3. Enforcing legislation and traffic safety

Local municipalities along the proposed Greenfields section of the toll road are likely to be poorly equipped and financed to be able to handle issues that would arise in relation to the toll road. Long sections of the road will now pass through areas that hitherto had no requirement for traffic enforcement officers and highway patrols. Capacity is therefore lacking in several areas to deal with increased high speed traffic and its attendant problems and risks.

Of concern for the sections of the toll road that follow the current N2 alignment is the safety of pedestrians. A means to overcome this is to maintain the road boundary cordon and put in place road safety education in accordance with SANRAL's declaration of intent (2005: 40 & 62). The responsibility of the boundary cordon should fall to the developer. Road safety programmes will have to be devised and implemented as a collaborative effort involving the developer and relevant provincial and local government departments.

Of paramount importance is the cooperation of all relevant authorities in this respect of the various issues discussed above. The developer must, at all times, take cognisance of the limitations that local municipalities will have in their capacity to exercise control over road safety in their areas and a coordinated plan would need to mitigate any lack of capacity.

5.7. 'Do nothing option'

The 'do nothing option' is perhaps the most difficult to assess. This is usually regarded as the 'benchmark option' against which the proactive options are assessed and costed. In current international management practise the 'do nothing option' is sometimes viewed as the most expensive solution as the costs of long-term impacts on no action often outweigh the proactive implementation costs. In some instances the 'do nothing option' can be easily dismissed. In a situation where a resource is clearly under pressure and demands are growing, the 'do nothing option' is usually not feasible unless the strategy is to impose punitive measures by effectively crippling the resource. In a situation where a proactive alternative is mooted to expand economic growth or forestall a potential future problem, as has been argued is the case for the Wild Coast Toll, then the 'do nothing option' often has at least merit as a benchmark.

In the case of the N2 Toll Road the 'do nothing option' would mean that the current route would effectively remain as it is. For some stakeholders this is clearly the preferred option. The degree to which it should be considered as a feasible option and the time frames under which it remains as such is more an economic consideration than a social one. Having said that however it is evident that the 'do nothing option', at least in the short term would:

- Have a limited impact on most residents and commuters along the stretch between Port Shepstone and Isipingo, apart from the deferral of the cost aspect attached to tolling.

- Would have limited impact (negative or positive) on some sectors of the stakeholders between the Mthamvuna River and Port Shepstone but there would be stakeholders who would be able to argue that they would be negatively prejudiced through loss of potential positive economic impacts including job creation.
- Would have largely positive impacts for some stakeholders who are currently on the N2 route but would be bypassed in future.
- Would have some positive impacts attached to the maintenance of the status quo but also some negative impacts associated with access to health services and job opportunities.
- Would have limited impact (negative or positive) on some sectors of the stakeholders between the Gonubie and Mthatha section but there would be stakeholders who could argue that they would be negatively prejudiced through the loss of potential positive impacts attached to the upgrading of the road such as increased road safety, short- and long-term job creation and economic opportunities.
- The most severe impact of the 'do nothing option' are at a provincial and national level where to do nothing would have a negative social impact in that on a economic basis 'a "very good" opportunity to effectively generate income/wealth within the Eastern Cape and KwaZulu-Natal' (Pienaar and Bester, 2007: 2.6) would be lost. This would, undoubtedly, have a negative social impact as far as job creation is concerned during both the construction and operational phases of the project (See the economic report. Pienaar and Bester, 2007).

6. CONCLUSION

From a social perspective it can be concluded that although there are a number of negative social impacts that are typically associated with development, these impacts are specific to various sections of the route and, to a greater extent, can be mitigated as suggested. The severity of each of these negative impacts for those who face relocation, a disruption in livelihood or the loss of a job cannot, however, be overestimated and this is important for the Developers to note. Nevertheless, the project needs to be considered in its entirety across the whole route.

On this basis the upgrading of the route between Gonubie Interchange and Mthatha is likely to vastly improve the safety of this section of road and could lead to a reduction in serious road accidents. It must be remembered that death and severe injury are amongst the most severe of negative social impacts (Sadler and McCabe, 2002:487-488) and that any significant progress in reducing injury and death will have a high and positive social impact.

Along the section between Mthatha and the Mthanvuna River, although there are negative impacts associated with new developments in Greenfields areas, which are discussed in greater detail above, the overwhelming opinions of the people consulted was a need for greater access into the area. Reasons given for this were a need to ease the burden of travel into and out of the area providing better access to health and other services and the creation of jobs.

The greatest obstacle across the entire route appears to be that which has been articulated by the stakeholders regarding the negative impacts of tolling the section between Port Shepstone and the Isipingo Interchange. This obstacle is associated with the availability of alternative routes, travel options, the economics and the political reasons for tolling. Although these issues have certain social implications they lie more firmly within the specialist areas of traffic flow and economics where they would best be addressed. The matter of capacity amongst the various role players across the route is also of concern; consequently, if the project were to proceed, then it would be important for all authorities to consider the need to coordinate their efforts towards making the project a success.

Although no significant social preferences, in respect of any of the alternative route alignments and toll plaza sites emerged during the study, social preferences for certain site specific route alignments, as is indicated above, did emerge.

All things considered then, it is our considered opinion that the social benefits of the project as assessed across the entire route, and if mitigated as suggested, outweigh the negative impacts, and that the N2 Wild Coast Project would be of social benefit on a National basis as well as being beneficial for both the provinces of the Eastern Cape and KwaZulu-Natal. In order to ensure that mitigation is sufficient to ensure an overall positive benefit the following recommendations are of central importance:

Design and Construction

- The Social Impact Assessment must be taken forward into a Social Management Plan. The social management plan should set out the process and criteria for mitigation of negative social impacts and a monitoring regime.
- It is strongly recommended that as many employment opportunities as is practical are reserved for local people. In particular the developer should;
    - Where possible use labour-intensive methods of construction.
    - Develop a community labour agreement with targets for employment and for progression.
    - Go beyond the bare minimum wage rate and invest in local staff – quality is dependent upon well-motivated staff
    - Actively work towards facilitating access to Basic Skills Training.
- It is recommended that the developer generate a policy for small, medium and micro-enterprises and that the various policies and provisions developed by the Department of Trade and Industry be adhered to. Contractors must be aware of these provisions and adhere to them
- The recommendations of the noise and vibrations specialists must be complied with
- The recommendations of the archeological and cultural management study must be followed.
- The Developer and Contractor must follow the mitigation measures suggested by in the visual impact report.
- During construction the recommendations of the air pollution specialists must be complied with.
- During construction the road is to be fenced. Fencing is to be inspected weekly and maintained properly by the Contractors.

- The Contractor should, in consultation with local HIV/AIDS organisations and government structures, design and implement an HIV/AIDS and STD awareness and prevention campaign.
- The Contractor should make HIV/AIDS and STD awareness and prevention programmes a condition of contract for all suppliers and sub-contractors.
- The Contractor should provide an adequate supply of free condoms to all workers.
- A voluntary counselling and testing programme should be introduced during the construction phase and continued during operations.
- The Contractor should undertake a HIV/AIDS and STD prevalence survey amongst all workers on a regular basis.
- The Contractor should establish liaison structures with local police to monitor changes during the construction phase and where necessary additional security should be provided.
- Resettlement must be conducted in terms of international best practice and accompanied by a comprehensive resettlement action plan.
- The Developer must design and provide crossing points that are sufficiently distributed so as to replace and/or mimic those internal routes currently used by the communities and their livestock.
- Where it could be demonstrated that the introduction of the toll road had been directly responsible for the creation of sub economic farming units then the Developer should expropriate the units in their entirety providing adequate compensation.
- The Developer must design adequate numbers of strategically placed access points allowing ingress and egress to the road.

Operation

- The road is to be fenced. Fencing is to be inspected weekly and maintained properly by the Operator.
- The Operator is to ensure that signs, which should be graphic and in the vernacular, are erected on all boundary fences warning against entering the road reserve.
- It is imperative that a safety based public awareness programmes should be developed by the Operator.
- The Operator should enter into negotiations with taxi associations well in advance of implementation of toll fees;
- The Operator should ensure that either sufficient concessions are in place such that no particular local user is significantly penalised.
- In particular the Operator should introduce concessions for public transport providers.
- As part of a social responsibility programme the grass in the reserve could be bailed and made available to the communities. This may help reduce the risk of fence cutting/damage and the hazard posed by unattended cattle grazing in the reserve and crossing the road.
- The Operator should actively engage with the local authorities to ensure that no unplanned nodes develop;
- During operation the recommendations of the air pollution specialists must be complied with.

7. REFERENCES

ALAM MK. Undated. AIDS in India: Sex Workers and Truck Drivers Playing Vital Roles. Global Health Council. http://www.globalhealth.org/reports/text.php3?id=257 [Accessed: 16 November, 2007]

AMATHOLE DISTRICT MUNICIPALITY, 2008. Draft Integrated Development Plan/Budget 2008/09.

ANDREW M. 1992. A geographical study of agricultural change since the 1930s in Shixini location, Gatyana (Willowvale) District, Transkei. MA Thesis, Rhodes University, Grahamstown, South Africa.

ANDREW M & FOX R. In prep. 'Under-farming' and the growth of homestead garden cultivation in the Transkei: a case study of intensification in Shixini. Development Southern Africa.

ANDREW M, AINSLIE A & SHACKLETON C. 2003. Evaluating Land and Agrarian Reform in South Africa: Land Use Practices. Paper commissioned by the Programme for Land and Agrarian Studies (PLAAS) at the University of the Western Cape and the European Union Foundation for Human Rights.

BANK L. 2001. Willowvale Maize Milling Feasibility Study. Institute of Social and Economic Research, Rhodes University, East London. Report prepared for the GTZ Rural Livelihoods Programme, Bisho, Eastern Cape, South Africa.

CAVE KLAPWIJK AND ASSOCIATES, 2008. Visual Impact Assessment for the N2 Wild Coast Toll Project.

DORRINGTON R E, JOHNSON L F, BRADSHAW D AND DANIEL T. 2006. The Demographic Impact of HIV/AIDS in South Africa. National and Provincial Indicators for 2006. Cape Town: Centre for Actuarial Research, South African Medical Research Council and Actuarial Society of South Africa

CCA ENVIRONMENTAL (PTY) LTD. 2007. Final Scoping Report Proposed N2 Wild Coast Toll Highway Volume 1: Main Report. Cape Town: CCA Environmental (Pty) Ltd.

DEAKIN EA. 2006. The Social Impacts Of The Interstate Highway System. What Are the Repercussions? TR News 244 May–June 2006.

DEPARTMENT FOR ENVIRONMENT, FOOD & RURAL AFFAIRS, 1998. Noise and Nuisance Policy, Health Effect Based Noise Assessment Methods: A Review and Feasibility Study, September 1998. http://www.defra.gov.uk/environment/noise/research/health/page05.htm [accessed 23 December 2007]

DE WET, A. 2006. Eastern Cape Department of Economic Affairs, Environment and Tourism Policy Speech 2005/06.

EASTERN CAPE PROVINCE, 2007. Provincial Growth and Development Plan. http://www.ecprov.gov.za/index.php?module=documents&category=6 [Acessed November 2007].

eTHEKWINI METROPOLITAN MUNICIPALITY, 2008. First Draft Integrated Development Plan 2008/9.

EASTERN CAPE SOCIO-ECONOMIC CONSULTATIVE COUNCIL (ECSECC). 2007. Economic Growth and Development Summit. O.R. Tambo District Socio-Economic Profile. ECSECC and the O.R. Tambo District Municipality. Mthatha, Eastern Cape. Available at: www.ecsecc.org or www.ortambodm.org

HEDGPETH D. 2005. Commuter Fatigue Inspires Development. Washington Post Monday, September 19, 2005, p D03.

HERRINGTON S. (Producer). 2003. N2 – Wild Coast Toll Road. SABC 50/50 TV production broadcast Sunday, January 26, 2003.

INDEPENDENT N2 TOLL ROAD EIA REVIEW. 2004. Independent N2 Toll Road EIA Review 29 October 2004.

INTERNATIONAL FINANCE CORPORATION (IFC) 2002. Handbook for Preparing a Resettlement Action Plan. IFC Environment and Social Development Department.

INTERNATIONAL FINANCE CORPORATION, WORLD BANK GROUP. 2006. Performance Standards on Social and Environmental Sustainability. April 30, 2006. http://www.ifc.org/ifcext/enviro.nsf/AttachmentsByTitle/pol_PerformanceStandards2006_full/$FILE/IFC+Performance+Standards.pdf [accessed on 14 April, 2008].

HUGGINS, G. 2002. N2 Wild Coast Toll Road between East London and Durban: Social Impact Assessment Report. IWR Environmental: Howick.

JACKSON DJ, RAKWAR JP, RICHARDSON BA, MANDALIYA K, CHOHAN BH,BWAYO JJ, *et al.* 1997. Decreased incidence of sexually transmitted diseases among trucking company workers in Kenya: Results of a behavioural riskreduction programme. *AIDS* 11(7): 903–909.

JANSEN VAN VUUREN, M and MURCOTT, M. 2007. Specialist Study on the Potential Impact of the Proposed N2 Wild Coast Toll Highway on Tourism. Grant Thornton (Pty) Ltd: Cape Town. Submitted to CCA Environmental (Pty) Ltd. On behalf of The South African National Roads Agency Limited

KERNOHAN, S AND MACKIE T. 2006. Economy: Economic Development R3,2-bn investments for IDZs http://www.madibaaction.co.za/Article.aspx?StoryID=c2c0b5f6-6a5e-4e11-8185-3f3f30ac9ec8&PageID=6b5dbc71-adcd-49cc-a676-10fe75827fbd [Accessed 26 December, 2007]

KULIS M, CHAWLA M, KOZIERKIEWICZ M & SUBATA E. Undated. Truck Drivers and Casual Sex: An Inquiry into the Potential Spread of HIV/AIDS in the Baltic Region http://go.worldbank.org/QKLGOMZCD1 [Accessed: 16 November, 2007].

McCann M. 2006. Annexure 5: District Profile Eastern Cape O.R. Tambo District Municipality (DC15) Programme of Support to Local Economic Development in the Eastern Cape Eastern Cape Competitive Advantage Assessment And Training Support Project. European Consultants Organisation (ECO). EC Framework Contract AMS/451 – LOT N°9 MISSION N°2005/109496

MERRYWEATHER, F. 2007. Specialist report on the Potential Impact of the Proposed N2 Wild Coast Highway on Soils, Agriculture and Current Land Use. Merryweather Environmental

MOHAMED A & PACCA JC. 2002. CAP study on truck drivers in Maputo/Mozambique: prevention roadblocks in a group passing through high prevalence zones. *International Conferences on AIDS*, Jul 7–12;14, abstract no. D11169.

MOKGOLA, S. 2003 Eastern Cape unveils economic blueprint. 27 June 2003. http://www.buffalocity.gov.za/news2003/june/27jun_growthplan.stm [Accessed 26 December, 2007]

MQADI N. 2005. So This Is What the People Think about the N2 Toll Road http://www.environment.co.za/topic.asp?TOPIC_ID=230 [Accessed: 17 November, 2007].

NOBLE, M., BABITA, M., BARNES, H., DIBBEN, C., MAGASELA, W., NOBLE, S., TSHONGWANA, P., PHILLIPS, H., RAMA, S., ROBERTS, B., WRIGHT, G. and ZUNGU, S. 2006 The Provincial Indices of Multiple Deprivation for South Africa 2001, University of Oxford, UK.

NTSEBEZA L. 1999. Land tenure reform, traditional authorities and rural local government in post-apartheid South Africa: Case studies from the Eastern Cape. Research Report No 3, Programme for Land and Agrarian Studies, School of Government, University of the Western Cape, South Africa

O. R. TAMBO DISTRICT MUNICIPALITY, 2007. Integrated Development Plan 2007 – 2012 http://www.ortambodm.org.za/content.asp?PageID=191 [Accessed November, 2007]

PGDP. 2004. Strategic Framework for Growth and Development 2004–2014. Office of the Premier, Eastern Cape Provincial Government, Bisho.

PIENAAR, W. J. AND BESTER, C. J. 2008. Economic Impact Report N2 Wild Coast Tool Road Project.

PROZZI J, VICTORIA I, TORRES G, WALTON CM & PROZZI J. 2006. Guidebook for Identifying, Measuring and Mitigating Environmental Justice Impacts of Toll Roads. TxDOT Project 0-5208:

Evaluation of Environmental Justice Aspects of the Tolling of Existing Non-Toll and Toll Roads September 2006. Centre for Transportation Research: The University of Texas at Austin.

SADLER B & MCCABE M. (Ed.). 2002. EIA Training Resource Manual prepared by The Institute of Environmental Management and Assessment Centre for Environmental Assessment and Management, UK.

SANRAL, 2004. Horizon Twenty Ten, Creating wealth through infrastructure. The South African National Road Agency Ltd.: Pretoria.

SANRAL, 2005. The South African Road Agency Limited Declaration of Intent 2005 – 2008. The South African National Road Agency Ltd.: Pretoria.

SEKHAR NU. 2006. Local people's attitudes towards conservation and wildlife tourism around Sariska Tiger Reserve, India. Journal of Environmental Management Volume 69, Issue 4, December 2003, pp 339–347

SISONKE DISTRICT MUNICIPALITY. 2007. Integrated Development Plan 2006/7.

SHARPE H. 2004. Greater Kokstad Municipality Tourism Management Plan.

UGU DISTRICT MUNICIPALITY, 2007. Integrated Development Plan 2007/08 Final. http://devplan.kzntl.gov.za/idp_reviewed_2007_8/ipddisplay.aspx?MDBNAME=DC21&STATUS=Adopted&municname=uGu%20District%20Municipality [Accessed April, 2008]

UN OFFICE FOR. THE COORDINATION OF HUMANITARIAN AFFAIRS. Humanitarian news and analysis. 2007. SWAZILAND: New HIV/AIDS support programme unveiled for truckers. http://www.irinnews.org/Report.aspx?ReportId=72503 [Accessed 16 November, 2007].

PIENAAR, W. J. AND BESTER, C. J. 2007. N2 Wild Coast Toll Road Project: Socio-Economic Impact Assessment. December 2007.

WORLD BANK, 2001. Involuntary Resettlement Policy Guideline Document. OP 4.12.

WORLD BANK, UNDATED. Roads and Highways: Toll Roads. http://www.worldbank.org/transport/roads/toll_rds.htm [Accessed 20 November, 2007]

ZUNCKEL, M. CARTER, W. OOSTHUIZEN, M. A. AND RAGHUNANDAN, A. 2007. Air Quality Specialist Study for the Proposed N2 Wild Coast Toll Highway. Congella: CSIR Natural Resources and the Environment