

PART C:

ASSESSMENT - PROPOSED WORKS ALONG THE ROAD SECTIONS

Part C of this report comprises eight chapters providing an assessment of the key potential biophysical, socio-economic and cultural/historical heritage impacts, as appropriate, associated with the proposed works and identified feasible alternatives along the various road sections, as follows:

- **Chapter 7 – Assessment: Gonubie Interchange to Ngobozi:** Assesses the potential impacts associated with the construction and operational phases of the proposed works, including physical toll plazas, between the Gonubie Interchange and Ngobozi;
- **Chapter 8 – Assessment: Ngobozi to Mthatha (Ngqeleni):** Assesses the potential impacts associated with the construction and operational phases of the proposed works, including physical toll plazas, between Ngobozi and Mthatha (Ngqeleni);
- **Chapter 9 – Assessment: Mthatha (Ngqeleni) to Ndwalane:** Assesses the potential impacts associated with the construction and operational phases of the proposed works and identified feasible alternatives, including physical toll plazas, between Mthatha (Ngqeleni) and Ndwalane;
- **Chapter 10 – Assessment: Ndwalane to Ntafufu River:** Assesses the potential impacts associated with the construction and operational phases of the proposed works and identified feasible alternatives, including physical toll plazas, between Ndwalane and Ntafufu River;
- **Chapter 11 – Assessment: Ntafufu River to Lusikisiki (Magwa Intersection):** Assesses the potential impacts associated with the construction and operational phases of the proposed works between the Ntafufu River and Lusikisiki (Magwa Intersection);
- **Chapter 12 – Assessment: Lusikisiki (Magwa Intersection) to Mthamvuna River:** Assesses the potential impacts associated with the construction and operational phases of the proposed works and identified feasible alternatives, including physical toll plazas, between Lusikisiki (Magwa Intersection) and the Mthamvuna River;
- **Chapter 13 – Assessment: Mthamvuna River to Isipingo Interchange:** Assesses the potential impacts associated with the construction and operational phases of the proposed works, including physical toll plazas, between the Mthamvuna River and the Isipingo Interchange;
- **Chapter 14 – Summary assessment of the road sections:** Consolidates the key potential biophysical, socio-economic and cultural/historical heritage impacts, as appropriate, associated with the construction and operational phases of the proposed works, including physical toll plazas, along the seven road sections.

CHAPTER 7 ASSESSMENT: GONUBIE INTERCHANGE TO NGOBOZI

This chapter provides an assessment of the key potential biophysical, socio-economic and cultural/historical heritage impacts, as appropriate, that would result from the construction and operational phases of the proposed works, including physical toll plazas, between the Gonubie Interchange and Ngobozi (see Figure 7.1).

7.1 INTRODUCTION

The proposed works between the Gonubie Interchange and Ngobozi are described in detail in Section 4.2.1, with accompanying illustrations being shown in Figures 4.1 to 4.5. All proposed construction activities would take place within the existing road reserve, with the exception of the proposed Komga Interchange and the mainline toll plaza at Ngobozi.

In summary, the following works are proposed, where required:

- Rehabilitation;
- Resurfacing;
- Upgrading of intersections;
- Repairing of structures;
- Replacement of guard rails, signage and fencing;
- Widening to make provision for climbing lanes;
- Over- and underpasses;
- Construction of the Komga Interchange; and
- Construction of the mainline toll plaza at Ngobozi.

A description of the key characteristics of the biophysical, socio-economic and cultural/historical heritage environment along this section of the proposed toll highway is provided in Chapter 6, as appropriate.

The assessment of potential direct, indirect and cumulative impacts associated with the construction and operational phases of the proposed project are based on the findings of the relevant specialist studies undertaken during the EIA process. The respective specialist reports provide detailed descriptions of the study approach followed, the identified risk sources and potential impacts – see Volumes 2 to 4, Appendices 1 to 13. As mentioned in Section 2.2.2, the assessment focuses on “key potential impacts” identified in the specialist reports.

The following format for presenting the significance ratings of the key potential impacts is used below and throughout the report:

- Negative impact significance ratings without mitigation are indicated in **bold** lowercase;
- Negative impact significance ratings with mitigation are indicated in **BOLD** uppercase;
- Positive impact significance ratings without mitigation are indicated as *positive bold* lowercase and in italics;
- Positive impact significance ratings with mitigation are indicated as *POSITIVE BOLD* uppercase and in italics; and
- Positive impact significance ratings are indicated as “+” in the impact tables.



Figure 7.1: Section of the proposed toll highway between the Gonubie Interchange and Ngobozi

7.2 ASSESSMENT OF POTENTIAL IMPACTS

It is anticipated that the proposed road rehabilitation, upgrading and widening along this section of the proposed toll highway, as well as the proposed mainline toll plaza at Ngobozi, would result in key potential impacts relating to the following aspects: vegetation and flora; fauna; aquatic ecosystems; social; tourism; visual; and planning/development. These are addressed below.

7.2.1 VEGETATION AND FLORA

The proposed upgrading of intersections and widening of the road would result in key potential impacts on vegetation and flora due to increased run-off and drainage, soil erosion, silt loads and sedimentation, and invasion by weeds and invasive alien plants. A summary of the assessment of the key potential impacts on vegetation and flora is provided in Table 7.1.

Increased run-off and drainage, soil erosion, silt loads and sedimentation

Site clearing activities and the increased pavement area associated with the proposed upgrading of intersections, widening of the road and the mainline toll plaza at Ngobozi would probably result in increased run-off and drainage, soil erosion, silt loads and sedimentation. The potential localised loss or disturbance to vegetation and flora would probably be of medium intensity over the long term and is thus considered to be of **medium** significance. Minimisation and restriction of site clearing to areas required for construction purposes only, implementation of erosion and sediment control measures, appropriate location of site offices and ongoing monitoring and maintenance of revegetation works would probably result in a residual impact of **LOW** significance.

Invasion by weeds and invasive alien plants

Invasion by weeds and invasive alien plants would be facilitated by disturbance resulting from construction-related activities and would likely be of greater importance during the operational phase. Potential localised impacts on the composition and function of the natural vegetation and flora would probably occur at a medium intensity over the long term. These potential impacts are thus deemed to be of **medium** significance. Implementation of an effective weed control programme would reduce the potential impact to **LOW** significance.

Table 7.1: Summary assessment of key potential impacts on vegetation and flora - Gonubie Interchange to Ngobozi

ISSUE / IMPACT	EXTENT	DURATION	INTENSITY	PROBABILITY	SIGNIFICANCE	CONFIDENCE
Impacts associated with increased run-off and drainage, soil erosion, silt loads and sedimentation						
Without mitigation	Local	Long term	Medium	Probable	Medium	Medium
With mitigation	Local	Long term	Low	Probable	LOW	Medium
Impacts associated with invasion by weeds and invasive alien plants						
Without mitigation	Local	Long term	Medium	Probable	Medium	Medium
With mitigation	Local	Long term	Low	Probable	LOW	Medium

7.2.2 FAUNA

The operational phase of the proposed toll highway would result in key potential faunal impacts associated with the following: increased fire risk; chemical pollution; and noise and light pollution. A summary of the assessment of the key potential faunal impacts is provided in Table 7.2.

Increased fire risk, chemical pollution, noise and light pollution

This section of the proposed toll highway is characterised by relatively low faunal diversity and presence of few threatened or sensitive faunal species. The potential localised impacts on fauna in terms of possible loss of habitat due to fires, effects on population sizes and developmental abnormalities of amphibian populations due to polluted surface run-off and disturbance to breeding faunal populations as a result of increased noise and light pollution is assessed to be of medium intensity over the long term. The significance of the potential impacts on fauna is thus rated as **medium**. Regular maintenance of the vegetation in the road reserve, ensuring that rest stops and associated structures are not situated adjacent to sensitive habitats and restricting and controlling the use of herbicides in the road reserve would reduce the significance of the potential impacts associated with increased fire risk and chemical pollution to **LOW**. It is considered unlikely, however, that disturbance to breeding faunal populations associated with noise and light pollution from increased traffic volumes and lighting at toll plazas and interchanges could be reduced. Thus, the potential residual impact remains of **MEDIUM** significance.

Table 7.2: Summary assessment of key potential impacts on fauna - Gonubie Interchange to Ngobozi

ISSUE/IMPACT	EXTENT	DURATION	INTENSITY	PROBABILITY	SIGNIFICANCE	CONFIDENCE
Impacts associated with increased fire risk						
Without mitigation	Local	Long term	Medium	Probable	Medium	Medium
With mitigation	Local	Long term	Low	Probable	LOW	Medium
Impacts associated with chemical pollution						
Without mitigation	Local	Long term	Medium	Probable	Medium	Medium
With mitigation	Local	Long term	Low	Probable	LOW	Medium
Impacts associated with noise and light pollution						
Without mitigation	Local	Long term	Medium	Probable	Medium	Medium
With mitigation	Local	Long term	Medium	Probable	MEDIUM	Medium

7.2.3 AQUATIC ECOSYSTEMS

Riparian and instream vegetation

Key potential impacts on riparian and instream vegetation are anticipated during the construction and operational phases of the proposed toll highway. These would be associated with the following: destruction of riparian vegetation and loss of sensitive habitats; increased surface run-off; surface and groundwater pollution; reduction in permeable surfaces ; diversion of flow by hard surfaces; and change in vegetation community type. A summary of the assessment of the key potential impacts is provided in Table 7.3.

Destruction of riparian vegetation and loss of sensitive habitats

The proposed works along this section of the proposed toll highway would result in destruction of riparian vegetation and loss of sensitive habitat. The expected permanent impact is assessed to be of medium intensity at a local level. A **high** significance rating is assigned due to the nature of the riparian vegetation and the important role it plays within the riverine ecosystems (according to the “convention for assigning significance ratings to potential impacts” – refer to Section 2.2.2 – a significance rating of “medium” would be assigned). Clearing of vegetation during the drier winter months, limiting clearing to areas immediately needed for construction, undertaking vegetation stripping in parallel with road construction and avoiding large stands of Palmiet would reduce the significance of the potential impact to **LOW**.

Increased surface run-off

Site clearing activities and the increased pavement area associated with the proposed upgrading and widening of the road would result in increased surface run-off and increased risk of erosion. Attenuation of surface water flow by vegetation encourages permeation of the soils and contributes to maintaining water table levels. The anticipated permanent impact on riparian and instream vegetation during the construction and operational phases is assessed to be of **medium** intensity and significance. Residual impacts of **LOW** significance are expected with implementation of a surface stormwater drainage system and the use of swales during construction (which should then be grassed for the operational phase).

Surface water and groundwater pollution

Construction activities would probably result in sediment loads entering the adjacent freshwater ecosystems, leading to increased turbidities and sedimentation risks in downstream areas. Diesel, oils and other chemical substances conveyed along the road during the operational phase would pose a threat to the continued functioning of the instream and adjacent areas, if by chance these are dispersed via surface run-off, or permeate into the groundwater. Changes to water quality (surface and groundwater) affect the functioning of plants and other instream biota. The potential impact on riparian and instream vegetation along this section of the proposed toll highway is assessed to be permanent and of medium intensity at a local level. The significance of the potential impact is thus rated as **medium**. Formulation and implementation of erosion and sediment control measures, proper storage of construction materials (including fuels and oils), emergency plans, construction camp management procedures and appropriate location (i.e. well removed from aquatic systems) of stockpiles, site offices, etc. would reduce the potential impact to **LOW** significance.

Reduction in permeable surfaces

The hard surfaces associated with the proposed upgrading and widening of this section of the proposed toll highway would reduce the amount of permeable surfaces for water to penetrate the soils and maintain the local groundwater systems. The potential indirect impact on riparian and instream vegetation due to changes in soil moisture status is assessed to be permanent and of medium intensity at a local level. This potential impact is thus rated of **medium** significance. Revegetation of all remaining disturbed areas with appropriate plant species would reduce the potential impact to **LOW** significance.

Diversion of flow by hard surfaces

The increased area of hard surfaces would probably divert flow away from water bodies, as well as increase flow velocities of run-off and increase the risk of pollution if the stormwater contains any spilled oils, fuels or coolants from passing traffic. This would especially be the case at the proposed Ngobozi toll plaza, where large quantities of oils may leak from vehicles while idling. This potential permanent impact on riparian and instream vegetation is assessed to be of **medium** intensity and significance. Residual potential impacts of **LOW** significance would result by way of the design and use of stormwater retention swales and oil traps to prevent contamination of downstream areas.

Change in vegetation community type

Disturbance of the natural vegetation caused by the construction activities would lead to the potential introduction of exotic plant species. The potential localised change to the indigenous riparian and instream vegetation is assessed to be of permanent duration and **medium** intensity and significance. Implementation of an appropriate rehabilitation and weed control programme would result in a potential residual impact of **LOW** significance.

Table 7.3: Summary assessment of key potential impacts on riparian and instream vegetation - Gonubie Interchange to Ngobozi

ISSUE/IMPACT	EXTENT	DURATION	INTENSITY	PROBABILITY	SIGNIFICANCE	CONFIDENCE
Destruction of riparian vegetation and loss of sensitive habitats						
Without mitigation	Local	Permanent	Medium	Definite	High	High
With mitigation	Local	Permanent	Low	Definite	LOW	High
Impacts associated with increased surface run-off						
Without mitigation	Local	Permanent	Medium	Definite	Medium	High
With mitigation	Local	Permanent	Low	Definite	LOW	High
Impacts associated with surface and groundwater pollution						
Without mitigation	Local	Permanent	Medium	Definite	Medium	High
With mitigation	Local	Permanent	Low	Definite	LOW	High
Impacts associated with reduction in permeable surfaces						
Without mitigation	Local	Permanent	Medium	Definite	Medium	High
With mitigation	Local	Permanent	Low	Definite	LOW	High
Impacts associated with diversion of flow by hard surfaces						
Without mitigation	Local	Permanent	Medium	Definite	Medium	High
With mitigation	Local	Permanent	Low	Definite	LOW	High
Change in vegetation community type						
Without mitigation	Local	Permanent	Medium	Definite	Medium	High
With mitigation	Local	Permanent	Low	Definite	LOW	High

Wetlands

The construction and operational phases of the proposed toll highway would result in key potential impacts on wetlands as a result of diversion of flow by hard surfaces; change in vegetation community type; and physical change to wetland areas. A summary of the assessment of the key potential impacts is provided in Table 7.4.

Diversion of flow by hard surfaces

The hard surfaces associated with the proposed upgrading and widening of this section of the proposed toll highway would reduce the amount of permeable surfaces for water to penetrate the soils and maintain the local groundwater systems. The potential impact on wetlands due to changes in soil moisture status is assessed to be permanent and of medium intensity at a local level. This potential impact is thus rated of **medium** significance. Reduction of surface flow velocities by way of suitable stormwater run-off areas would allow time for the stormwater to permeate the local soils and groundwater systems and would maintain localised flows to sustain the surrounding wetlands and/or vegetation. The significance of the potential residual impact is deemed to be **LOW**.

Change in vegetation community type

The increased area of hard surfaces would probably divert flow away from water bodies, as well as increase flow velocities of run-off and increase the risk of pollution if the stormwater contains any spilled oils, fuels or coolants from passing traffic. This would especially be the case at the proposed Ngobozi toll plaza, where large quantities of oils may leak from vehicles while idling. This potential permanent impact on riparian and instream vegetation is assessed to be of **medium** intensity and significance. Discharge of stormwater into retention swales before being allowed to flow into wetlands and use of oil traps to prevent contamination of downstream areas would reduce the potential impact to **LOW** significance.

Physical change to wetland areas

The proposed upgrading and widening of the road in this section of the proposed toll highway would probably result in physical change to wetland areas both directly and due to changes to the wetland plant communities and diversion of flows. This potential permanent, localised reduction in wetland functioning

is assessed to be of **medium** intensity and significance. The potential impact would be reduced to **LOW** significance by ensuring that the location of construction infrastructure, materials and camps avoid wetlands as far as possible, and implementation of the recommended mitigation measures stipulated above.

Table 7.4: Summary assessment of key potential impacts on wetlands - Gonubie Interchange to Ngobozi

ISSUE/IMPACT	EXTENT	DURATION	INTENSITY	PROBABILITY	SIGNIFICANCE	CONFIDENCE
Impacts associated with diversion of flow by hard surfaces						
Without mitigation	Local	Permanent	Medium	Definite	Medium	High
With mitigation	Local	Permanent	Low	Definite	LOW	High
Impacts associated with change in vegetation community type						
Without mitigation	Local	Permanent	Medium	Definite	Medium	High
With mitigation	Local	Permanent	Low	Definite	LOW	High
Physical change to wetland areas						
Without mitigation	Local	Permanent	Medium	Definite	Medium	High
With mitigation	Local	Permanent	Low	Definite	LOW	High

Estuaries

The construction and operational phases of the proposed toll highway could result in key potential impacts on estuaries as a result of the following: sedimentation; and water quality changes. A summary of the assessment of the key potential impacts is provided in Table 7.5.

Sedimentation

Sediments, deposited into the five river catchments crossed by the existing N2 as a result of the proposed works along this section of the proposed toll highway, would ultimately be conveyed into estuaries at which the ichthyofaunal, water quality and aesthetic status are described as “good”, “good-excellent” and “good”, respectively. Potential impacts of high intensity in the short term would occur at a regional level due to the extent of the area covered and the importance of the estuaries in terms of diversity and fish breeding and nursery grounds. The potential impact is thus considered to be of **medium** significance. Implementation of mitigation measures applicable to “riparian and instream vegetation”, as stipulated above, would reduce the potential impact to **LOW** significance.

Water quality changes

Water quality changes in the estuaries are expected as a result of potential oil, grease and fuel spillages in the river catchments during both the construction and operational phases. The potential impact on the currently “good” water quality status of the estuaries in the region is assessed to be of high intensity during construction, and of medium intensity during the operational phase. The potential impact is thus assessed to be of **medium** significance during both the construction and operational phases. Implementation of construction-related mitigation measures applicable to “riparian and instream vegetation”, as stipulated above, would reduce the potential impact to **LOW** significance during the construction phase. It is considered, however, that potential impacts associated with the operational phase, such as spillages and sheet-wash off the road into the river catchments (which would ultimately discharge into the estuaries) would be more difficult to mitigate. The significance of the potential residual impact on water quality changes in estuaries during the operational phase is thus considered to remain **MEDIUM**.

Table 7.5: Summary assessment of key potential impacts on estuaries - Gonubie Interchange to Ngobozi

ISSUE/IMPACT	EXTENT	DURATION	INTENSITY	PROBABILITY	SIGNIFICANCE	CONFIDENCE
Impacts associated with sedimentation						
Without mitigation	Regional	Short term	High	Highly probable	Medium	Medium
With mitigation	Regional	Short term	Medium	Probable	LOW	Medium
Impacts associated with water quality changes						
Without mitigation	Regional	Short / Medium term	High / Medium	Probable	Medium	High
With mitigation	Regional	Short / Medium term	Medium	Probable	LOW / MEDIUM	High

7.2.4 SOCIAL

The proposed toll highway would result in key potential social impacts relating to the following: increased employment opportunities; improved safety for vehicle road users; reduction of access points; increased risk of HIV/AIDS and STDs; traffic delays; increased taxi-related tension and violence; improved livestock safety; and negative influences on existing family networks and social structures. A summary of the assessment of the key potential impacts is provided in Table 7.6.

Increased employment opportunities

The anticipated positive social impact associated with increased employment opportunities would be of high intensity during the construction and operational phases and is thus rated to be of **positive low-medium** significance. Optimisation measures such as establishment of a “labour and employment desk”, use of labour-intensive methods where possible, use of local labour as far as possible and remuneration beyond the minimum wage rate would increase the significance of the potential positive impact to **POSITIVE HIGH** and **POSITIVE MEDIUM** significance during the construction and operational phases, respectively.

Improved safety for vehicle road users

The anticipated improved safety for vehicle road users is considered a positive impact of medium intensity over the long term and is thus rated to be of **POSITIVE MEDIUM** significance. Ensuring close cooperation and effective communication between all relevant traffic authorities, effective traffic control mechanisms and carefully positioned under- and overpasses would not result in any further improvement in traffic safety risks, but would further enhance the probability of improved safety for vehicle road users.

Reduction of access points

Reduction of access points would result in users having to drive or walk greater distances to access the proposed toll highway and/or to get to their destinations. This would also have cumulative impacts on time and effort invested in other productive and domestic activities (livelihood activities). It is considered that this potential impact would be of **medium** intensity and significance over the long term and would definitely occur. Ensuring adequate numbers of strategically placed access points would probably result in a residual impact of **LOW-MEDIUM** significance.

Increased risk of HIV/AIDS

The anticipated influx of construction workers during construction, and the anticipated increased long-distance truck traffic on the proposed toll highway, would probably result in an increased risk of HIV/AIDS and STDs. The potential impact is assessed to be of **medium** intensity and significance. Mitigation measures aimed at reducing the spread of HIV/AIDS and STDs, such as the design and implementation of appropriate HIV/AIDS and STD awareness and prevention campaigns, maximisation of job opportunities to local people who do not need to be housed in construction accommodation and

availability of an adequate supply of free condoms for workers would reduce the risk of the spread of HIV/AIDS and STDs to **LOW-MEDIUM** significance during the construction and operational phases.

Traffic delays

Potential increased incidences of road rage and time delays for road users, associated with traffic delays and accommodation of traffic during construction, would probably occur at a medium intensity over the short term and is thus considered of **medium** significance. Proper scheduling of construction activities to minimise delays and the design and implementation of an effective public communication strategy to inform road users of construction activities would reduce the significance of the potential impact to **LOW**.

Increased taxi-related tension and violence

It is anticipated that the proposed toll highway would result in potential increased internal taxi-related tension associated with the profitability of certain routes. This potential impact is considered to be of **medium-high** intensity and significance over the long term. The intensity, and hence significance, of this potential impact would be reduced to **LOW-MEDIUM** through consultation with the relevant taxi industries, in particular regarding the implementation of tolling and potential discounts.

Improved livestock safety

The proposed works along this section of the proposed toll highway would probably result in improved livestock safety on an existing section of road which is characterised by significant safety hazards associated with the presence of livestock on the road. In addition to posing a safety hazard, the loss of livestock due to traffic collisions may lead to impoverishment of the families who owned them. The probable improved livestock safety is considered of high intensity over the long term and is thus rated to be of **POSITIVE HIGH** significance. The assessment is, however, made with a low level of confidence since it is uncertain to what extent it would be possible to keep fencing intact and thus preventing livestock from continuing to be present on the road. Close cooperation and effective communication between all relevant authorities, the introduction of active and efficient control mechanisms and carefully positioned under- and overpasses would likely increase the probability of this potential positive impact.

Negative influences on existing family networks and social structures

The proposed toll highway would probably result in negative influences on existing family networks and social structures, such as increased prostitution, unplanned and unwanted pregnancies, pressure on local services and competition for available jobs and resources as a result of an influx of workers and job seekers. This potential localised impact is considered of medium intensity over the short term and is thus rated to be of **medium** significance. A probable residual impact of **LOW-MEDIUM** significance would result through implementation of mitigation measures such as the maximisation of job opportunities to local people, establishing and maintaining communication channels with local community structures, ensuring condoms are readily accessible to workers and provision of adequate on-site temporary accommodation and amenities for non-local workers.

Table 7.6: Summary assessment of key potential social impacts - Gonubie Interchange to Ngobozi

ISSUE / IMPACT	EXTENT	DURATION	INTENSITY	PROBABILITY	SIGNIFICANCE	CONFIDENCE
Impacts associated with increased employment opportunities						
Without mitigation	Regional	Short/Long term	Medium	Definite	Low-medium+	High
With mitigation	Regional	Short/Long term	High	Definite	MEDIUM+/HIGH+	High
Impacts associated with improved safety for vehicle road users						
Without mitigation	Regional	Long term	Medium	Probable	Medium+	Medium
With mitigation	Regional	Long term	Medium	Highly probable	MEDIUM+	Medium

ISSUE / IMPACT	EXTENT	DURATION	INTENSITY	PROBABILITY	SIGNIFICANCE	CONFIDENCE
Impacts associated with reduction of access points						
Without mitigation	Regional	Long term	Medium	Probable	Medium	High
With mitigation	Regional	Long term	Low	Probable	LOW-MEDIUM	High
Impacts associated with increased risk of HIV/AIDS and STDs						
Without mitigation	Local	Permanent	Medium	Probable	Medium	Medium
With mitigation	Local	Permanent	Low	Probable	LOW-MEDIUM	Medium
Impacts associated with traffic delays						
Without mitigation	Local	Short term	Medium	Probable	Medium	Medium
With mitigation	Local	Short term	Low	Probable	LOW	Medium
Impacts associated with increased taxi-related tension						
Without mitigation	Regional	Long term	Medium-high	Probable	Medium-high	Medium
With mitigation	Regional	Long term	Low-medium	Probable	LOW-MEDIUM	Medium
Impacts associated with improved livestock safety						
Without mitigation	Regional	Long term	High	Probable	High+	Low
With mitigation	Regional	Long term	High	Probable	HIGH+	Low
Impacts associated with negative influences on existing family networks and social structures						
Without mitigation	Local	Short term	Medium	Probable	Medium	Medium
With mitigation	Local	Short term	Low	Probable	LOW-MEDIUM	Medium

7.2.5 TOURISM

The proposed toll highway would result in the following key potential impacts relating to tourism: an increase in the number of tourism products; and increase in growth in transit tourists on a KwaZulu-Natal/Eastern Cape/Western Cape route. A summary of the assessment of the key potential impacts is provided in Table 7.7.

Increase in the number of tourism products

The proposed toll highway would definitely result in an increase in the number of tourism products due to an expected increase in growth in overnight tourists and associated increase in the rate of growth of tourism products. The long-term increase in the number of tourism products is likely to start after construction and would be of low intensity in terms of associated economic development and job creation. This potential impact is thus rated to be of **positive medium** significance. Implementation of optimisation measures such as tourism promotion and product development would most probably increase the intensity of the potential impact, resulting in an impact of **POSITIVE HIGH** significance. It is likely that optimisation would occur since tourism promotion and product development have been noted as priorities of the relevant authorities, and a number of nodes identified in this section of the proposed toll highway have been targeted for tourism product development. However, there is a risk that this could be inhibited by various factors (availability of well-maintained feeder roads, ownership of land, alignment with municipal policies, etc.), therefore the assessment of the potential impact with mitigation is undertaken at a medium level of confidence.

Increase in growth in transit tourists on a KwaZulu-Natal/Eastern Cape/Western Cape route

The traffic specialist anticipates that traffic on the proposed N2 route would increase as follows: 4.5 % from 2005-2010; 4.0 % from 2010-2020; 3.0 % from 2020-2030; and 2.0 % from 2030-2040. In light hereof, and given that domestic tourism would grow at around 3.5 % per annum, it is anticipated that transit tourists on the KZN/Eastern Cape/Western Cape route would definitely grow (the growth rate is estimated at about 2-3 % per annum). It is considered that the potential operational phase impact would probably be of medium intensity in the medium term (between 5 to 20 years) until the road's maximum carrying capacity is reached. It is considered that this potential impact would be of **positive medium**

significance. Tourism promotion and development would probably increase the significance of the potential impact to **POSITIVE MEDIUM-HIGH**.

Table 7.7: Summary assessment of key potential tourism impacts – East London to Butterworth

ISSUE / IMPACT	EXTENT	DURATION	INTENSITY	PROBABILITY	SIGNIFICANCE	CONFIDENCE
Impacts associated with increase in the number of tourism products						
Without mitigation	Regional	Long term	Low	Definite	Medium+	High
With mitigation	Regional	Long term	Medium	Definite	HIGH+	Medium
Impacts associated with increase in growth in transit tourists on a KZN/Eastern Cape/Western Cape route						
Without mitigation	Regional	Medium term	Medium	Probable	Medium+	Medium
With mitigation	Regional	Medium term	Medium-high	Probable	MEDIUM-HIGH+	Medium

7.2.6 CULTURAL AND HISTORICAL HERITAGE

The only key potential heritage impact identified along this section of the proposed toll highway relates to the presence of graves. A summary of the assessment of this key potential impact is provided in Table 7.8.

Graves

The resettlement of affected households would probably result in the need to relocate graves situated in the gardens of such households. Since all human remains have high heritage significance for their social value, the potential permanent, localised impact is assessed to be of **high** intensity and significance. It is considered that implementation of all applicable legislative requirements, guidelines and regulations applicable to the removal of human remains (as part of the recommended resettlement action plan), such as notification of the impending removals, consultation with individuals or communities related or known to the deceased, observation of rituals or ceremonies required by the families, etc. would reduce the significance of the potential impact to **MEDIUM**.

Table 7.8: Summary assessment of key potential heritage impacts – Gonubie Interchange to Ngobozi

ISSUE / IMPACT	EXTENT	DURATION	INTENSITY	PROBABILITY	SIGNIFICANCE	CONFIDENCE
Impacts associated with graves						
Without mitigation	Local	Permanent	High	Highly probable	High	Medium
With mitigation	Local	Permanent	Low-medium	Highly probable	MEDIUM	Medium

7.2.7 VISUAL

The only key potential visual impact identified along this section of the proposed toll highway relates to the proposed Ngobozi mainline toll plaza. A summary of the assessment of this key potential impact is provided in Table 7.9.

Ngobozi mainline toll plaza

The proposed Ngobozi mainline toll plaza would be visually exposed and highly visible in the landscape as it would be located in an open, rural area with low vegetation and a lack of visual diversity (see Figure 7.2). It is considered that a brightly lit plaza would result in a higher negative visual impact during the night due to the highly visible and intrusive beacon effect of the lighting. The highly probable visual impact of the proposed Ngobozi mainline toll plaza is rated to be of **high** significance since it would most probably result in a permanent, highly intense visual impact. Implementation of mitigation measures such

as the use of colour variations, building form, lighting, landscaping and screening in order to reduce scale, avoiding reflection or deflection of sunlight or artificial light and avoiding light spillage would result in a residual visual impact of **MEDIUM** significance.

Table 7.9: Summary assessment of key potential visual impacts – Gonubie Interchange to Ngobozi

ISSUE / IMPACT	EXTENT	DURATION	INTENSITY	PROBABILITY	SIGNIFICANCE	CONFIDENCE
Impacts associated with the proposed Ngobozi mainline toll plaza						
Without mitigation	Local	Permanent	High	Highly probable	High	Medium
With mitigation	Local	Permanent	Low-medium	Highly probable	MEDIUM	Medium

7.2.8 PLANNING/DEVELOPMENT

The proposed toll highway would result in key potential planning/development impacts relating to the following: nodal point at Mooiplaas; proposed Komga Interchange. A summary of the assessment of the key potential impacts is provided in Table 7.10.

Nodal point at Mooiplaas

The existing Mooiplaas Intersection has been identified as a local mixed use node in the SDF of the Great Kei LM. This locality is seen as having the potential for the development of mixed land uses of a business/service character as well as outlets for locally produced crafts and associated products, subject to approval of access arrangements off the N2. The link road provides access to the coastal resorts. The proposed toll highway would result in a positive impact of medium intensity in the long term in terms of facilitating the SDF objectives in this regard. The anticipated impact is thus rated to be of **POSITIVE MEDIUM** significance without and with mitigation. It should be ensured that the proposed intersection upgrading accommodates the planned land uses at the intersection.

Komga Interchange

The proposed Komga Interchange would most probably result in a positive impact on the use of the R63 as a mobility route providing access between local areas in the Great Kei LM and centres further afield. The existing intersection serves as a rest point for many motorists travelling to Bhisho/King Williams Town. The potential impact is assessed to be of medium intensity in the long term and is thus rated to be of **POSITIVE MEDIUM** significance. No enhancement measures are considered necessary.

Table 7.10: Summary assessment of key potential planning/development impacts – Gonubie Interchange to Ngobozi

ISSUE / IMPACT	EXTENT	DURATION	INTENSITY	PROBABILITY	SIGNIFICANCE	CONFIDENCE
Impacts associated with the nodal point at Mooiplaas						
Without mitigation	Local	Long term	Medium	Highly probable	Medium+	High
With mitigation	Local	Long term	Medium	Highly probable	MEDIUM+	High
Impacts associated with the proposed Komga Interchange						
Without mitigation	Local	Long term	Medium	Highly probable	Medium+	High
With mitigation	Local	Long term	Medium-high	Highly probable	MEDIUM+	High



Figure 7.2: Ngobozi mainline toll plaza viewedshed analysis