
EXECUTIVE SUMMARY

A: INTRODUCTION

It was recommended in the Phase 1 report that a Conceptual Design be done to link Polokwane with the Moloto corridor which should include the options from Polokwane via Lebowakgomo on the Mankweng route to Jane Furse as well as from Polokwane via Zebediela to Jane Furse where it should link to the possible extension of the Moloto Corridor. The aim of the study is to identify the preferred linkage between Polokwane and Jane Furse based on environmental analysis.

B: STUDY AREA PROFILE

B.1: Municipal Areas

The proposed alignments linking Polokwane to the Moloto Corridor traverse the following District and Local Municipalities:

- Capricorn District Municipality, including
 - Polokwane Local Municipality, and
 - Lepelle Nkumpi Local Municipality;
- Greater Sekhukhune District Municipality, including
 - Fetakgomo Local Municipality,
 - Greater Tubatse Local Municipality, and
 - Makhuduthamaga Local Municipality.

B.2: Biophysical Characteristics

Topography

The topography across the study area is varied and includes a large open flat area, referred to as the Springbok Flats, in the south western part, as well as various hills and mountain terrain in the central part. Enclosed plains/lowlands occur, typically along drainage lines.

Surface water

The Olifants River is the main watercourse running through the study area. Wetlands also occur in the study area.

Centres of endemism

The proposed rail alignments traverse two centres of endemism, namely the Sekhukhuneland, and Wolkberg Centres of Endemism. These Centres of Endemism contain high levels of diversity with many species restricted entirely to these areas.

Threatened Ecosystems

Large sections of the proposed corridors are degraded to a point where no natural habitat is remaining. There are however vulnerable and endangered ecosystems within the study area which will have to be taken into account in the EIA and final design of the alignment.

Conservation Areas

There are a number of ecologically important areas within the study area and various conservation areas have been proclaimed namely:

- Kuschke Nature Reserve;
- Polokwane Game Reserve; and
- Bewaarkloof Nature Reserve.
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Part of the Kruger to Canyons Biosphere Reserve falls within the study area. Biosphere reserves are intended to fulfil three functions:

- Conservation: preserve genetic resources, species, ecosystems and landscapes;
- Development: foster sustainable economic and human development; and
- Logistic support: support activities related to issues of conservation and sustainable development.

Heritage and Cultural aspects

Graves, as well as artifacts dating from the Stone Age, Iron Age and historical periods have been found in the study area .

C: OPPORTUNITIES , RISKS AND CONSTRAINTS ANALYSIS

C.1: Opportunities

The proposed new rail infrastructure and services can foster ecological, social and economic sustainability in the region in the following ways:

- Connecting regional administrative and economic hubs, thereby increasing mobility and access to facilities and employment opportunities, and contributing to alleviating poverty;
- Increasing transport options and reducing dependency on road based private and public transport, thereby contributing to reducing road accidents as well as users' carbon footprint and ultimately contributing to addressing air quality issues and climate change;
- In instances where the new rail infrastructure can be built parallel to the road alignment, this will significantly minimise impacts and (in some cases) maximise accessibility and passenger numbers.

C.2: Risks and Constraints

- Two of the proposed options traverse a protected area, the Bewaarkloof Nature Reserve, which constitutes a red flag;
- The mountains of the Bewaarkloof Nature Reserve are potentially challenging for the construction and maintenance of new rail infrastructure;
- There are vulnerable and endangered ecosystems on the proposed new rail alignments which will have to be taken into account in the design and EIA phases of the project;

- There are known heritage sites on the proposed new rail alignments which will have to be taken into account in the design and EIA phases of the project;
- No fatal flaws or no-go areas have been identified.

C.3: Areas most suited for Development

Based on environmental and social sensitivity, areas most suited for development include:

- Degraded areas,
- Areas in the vicinity of road alignments.

C.4: Areas least suited for Development

The only major environmental constraint on the proposed corridors is the Bewaarkloof Nature Reserve, which is a protected area. Other areas which should be avoided as far as possible include:

- Vulnerable and endangered ecosystems;
- Known heritage sites.

C.5: Key Environmental issues to be considered in the EIA Phase

The following issues should be considered in the EIA phase:

- Protected areas: to be avoided or impacts to be adequately mitigated;
- Vulnerable and endangered ecosystems: to be avoided or impacts to be adequately mitigated (e.g. plant rescue programme and offsets);
- Heritage sites: to be avoided or impacts to be adequately mitigated;
- Oil leaks: there are often oil leaks associated with existing rail services, these leaks are mostly limited to the tracks but should nonetheless be considered in the EIA phase.

D: CONCLUSION

There are three main options to link Polokwane to the Moloto corridor:

1. Polokwane to Jane Furse via Zebediela (approx. 120 km),
2. Polokwane to Jane Furse via Lebowakgomo (approx. 180 km), and
3. Polokwane to Burgersfort via Lebowakgomo (approx. 160 km).

In terms of environmental sensitivity, the first option (Polokwane – Zebediela – Jane Furse) is the least environmentally sensitive. The other two options present a higher environmental sensitivity, mainly due to the fact that they traverse a protected area. Other factors include the presence of vulnerable and endangered ecosystems, as well as cultural and historical features. Although options 2 and 3 may still be environmentally feasible, to be confirmed in the detailed EIA, the cost of mitigation measures required can be expected to be greater than for option 1, which may negate other advantages.