

CHAPTER 5: PROJECT ALTERNATIVES 2

5.1 THE NO GO OPTION 2

5.1.1 Positive2

5.1.2 Negative.....2

5.2 PUBLIC TRANSPORT 2

5.3 UPGRADING BADEN POWELL DRIVE 4

5.4 MELKBOSSTRAND ALTERNATIVE..... 5

5.5 ADJUSTMENTS TO ALIGNMENT 5

5.5.1 Sector 1: section 2:5

5.5.2 Sector 3: section 7:6

5.5.3 Sector 3: section 8:6

5.6 ALTERNATIVE NUMBERS OF TOLL PLAZAS AND THEIR POSITIONS 6

5.7 ALTERNATIVE METHODS OF TOLLING..... 6

5.8 ALTERNATIVE FUNDING FOR THE PROPOSED ROAD 6

CHAPTER 5: PROJECT ALTERNATIVES

This chapter describes the alternatives considered in relation to transport, the alignment and funding for the proposed road. It should however be noted that for the scheme developer and the SANRAL, this scheme can only be realised through a privately funded toll road developed on BOT principles. The construction of the road by these entities would not be considered if the road could not be tolled.

5.1 THE NO GO OPTION

If the project is not approved, the traffic situation in Cape Town would remain as it currently is. CCT would then have to obtain funding for construction of the Cape Flats Freeway Extension (CFFE) through Philippi (Sector 5), the Bloubergstrand East-West Arterial (Part of sector 3), and other capacity improvements to existing roads in the Durbanville, Strandfontein and Muizenberg areas. SANRAL would furthermore also have to fund the rehabilitation and maintenance of the existing R300 from government funds.

Should the No Go Option be implemented, the current traffic conditions would remain the same in the short term.

Background conditions and trends, both positive and negative, associated with the no-go alternative, are as follows:

5.1.1 Positive

If the proposed project were not to be undertaken, none of the predicted negative environmental impacts discussed further in this report would occur.

5.1.2 Negative

- Road upgrades would not be undertaken at the required time due to limited available funds. With the R300 nearing the end of its design life, the road would become further damaged and increasingly hazardous and congested;
- The cost of using this road would not only increase, but would increase by more than the cost of driving on an upgraded toll road;
- There would be a continued lack of direct access between the northern and southern areas of Cape Town;
- Traffic and pedestrian safety would worsen with the increased traffic volumes and lack of appropriate road and infrastructure upgrades;
- Loss of potential job creation;
- Decreased prospects for economic growth in the Western Cape;
- Emergency evacuation constraints in the Koeberg area would continue to limit development in the area, and
- The approved sections of the road, re the Bloubergstrand East-West Arterial, the CFFE would rely on public funds for future construction.

Should the proposed road not be approved for environmental reasons, it is strongly suggested that the CCT should take cognisance of the environmental constraints, large portions of the proposed route coincides with the city's future transport network. These roads, are therefore likely to be developed at some stage in future, although not as part of one project proposal.

From the issues discussed above it is clear that the no-go option does not entail no road development, although such development is not foreseen for the near future. Piecemeal development of the road network, and its associated impact assessment, may not assess the cumulative impacts in the same manner as it is assessed in this study.

5.2 PUBLIC TRANSPORT

It has been proposed by Interested and Affected Parties (I&APs) that a public transport system be developed rather than construct a new highway for private road transport. It is indeed national policy (The National White Paper on Transport Policy, 1996 and National Land Transport Transition

Act, 2000 (Act No. 22 of 2000) to promote the use of public transport and to discourage excessive private passenger vehicle transport in urban areas. The objective set out in the White Paper is to promote the use of public transport over private car travel with the goal of achieving a ratio of 80:20 between public transport and private transport.

The Western Cape Province endorses this, and emphasises that central to urban restructuring is the need to give preference to public transport over general traffic at all levels, from policy consideration to the provision of infrastructure. (Western Cape Provincial Transport White Paper, 1997). The CCT thus sees public transport as playing a vital role in the social and economic development of the city, and has formulated its transport policy and strategies within the framework of the national and provincial transport policies.

Currently, low-income groups, which cannot afford to pay competitive prices for transport, mainly use public transport and large sectors of the population depend on the public transport system. Public transport is also considered more sustainable than private land transport.

At this point in time, public transport is considered unsafe and unreliable and the public transport infrastructure in the Western Cape is underdeveloped. These problems as well as perceptions in this regard will have to be overcome to ensure the success of a public transport system. Moreover, any future public transport system would have to be affordable to the poor in order to be successful.

An improved public transport system in Cape Town is indeed necessary, hence the request to address the issue of public transport. The transport system in Cape Town however requires major restructuring in order to attain the overall vision and policies for public transport, which cannot be achieved in the short term, and will require a phased and evolutionary process. The proposed process will entail implementing short term projects while at the same time proceeding with a number of strategic (long term) initiatives aimed at a restructured, sustainable public transport system.

A range of projects and action plans have been identified by the CCT for implementation in the short term. The key programmes include:

- **Conversion of bus operations** from the interim contract to open competitive tenders;
- **System operations management**, which includes management of all facilities in an integrated, uniform and consistent manner, and public transport safety and security issues.
- **Public transport infrastructure** which includes long and short term modification, upgrade and maintenance of transport infrastructure;
- **Rail restructuring;**
- **Public communications, information and marketing** aims to create awareness of the changes taking place in the overall restructuring and to establish an agreement between the users and providers of public transport services regarding the level of service delivery;
- **Industry empowerment** relating to the empowerment of operators and drivers within the bus and taxi industry;
- **Institutional management structure development** to prepare an organisational structure which will take ownership and management responsibility for the transport system of the Cape Metropolitan area;
- **Multi-modal system plan** which aims to deliver a strategy for medium and long-term restructuring or transformation of public transport and to determine the optimal public transport network and operating structure. This includes service specification based on the operational characteristics and costs of the various modes of transport currently used, as well as those that may be used in the future. This information is required to test the suitability and costs associated with alternate transport modes under existing and future demand situations, and
- **Operational management of corridor based services**, (Moving Ahead – City of Cape Town, 2001).

Locally, a public transport system could entail road-based transport, a rail system of some kind, or a tramway. Minibus taxis and busses that use roads are the two key forms of public transport focused on in the short-term strategic initiatives for the restructuring of the public transport system.

It is therefore as important to maintain and improve the road network, as it is to provide effective and safe public transport systems.

Good roads are a basic requirement for road public transport to function efficiently. Furthermore, roads are required to access other public transport modes such as rail or light rail systems.

Public transport that is affordable to the poor would require extensive planning on a metropolitan scale and is the responsibility of the government or the CCT, since the principle of subsidising poor communities for the interest of socio-economic efficiency is supported.

The proponent is not proposing a solution to the general transport situation in Cape Town, but offering an improvement to the current road network. This proposal does not exclude effective use of the road for public transport and may even assist in more efficient public transport, although at the cost of paying toll. One of the principles set out in the National Land Transport Transition Act, 2000 (No. 22 of 2000), is that users should pay for all or most of the costs related to the service or activity in question.

The proponent is proposing a privately funded road that would be implemented according to international project finance and concession principles. For this reason, the project has to be financially viable and meet the requirements for such projects. In this context, the solving of Cape Town's public transport system problem is not considered a viable option for the proponent and can therefore not be considered as an alternative to the proposed road.

5.3 UPGRADING BADEN POWELL DRIVE

This route would follow parallel to, but inland of the current Baden Powell Drive. The scheme developer, during the conceptual development phase of this proposal (1996-1998), originally considered the feasibility of following this alignment. It was concluded that Baden Powell Drive would not be the preferred alignment due to the fact that it serves a local access as well as a regional arterial and cannot be replaced with a limited access freeway. Thus the road was not regarded as feasible as a toll road and thus not financially viable. Refer to regional map (Figure 5.1).

During 2002, the CCT commissioned a strategic planning study to reassess the metropolitan road network planning in the Muizenberg East area. It was concluded in this study that:

- A route, which provides a high level of east-west mobility over longer distances, is required south of the future CFFE (sector 5).
- The function of the high order east-west link in the vicinity of the False Bay Coastal Arterial (FBCA) would not be influenced significantly by the exact alignment of the link.
- If the FBCA is implemented, Baden Powell Drive and the FBCA would fulfill different functions.

These conclusions support the inclusion of two high order routes in the Muizenberg East area.

However, from this strategic study the CCT has adopted the following position:

- The realignment and construction of Baden Powell Drive behind the coastal primary dune system is considered the preferred alignment for a high order arterial/expressway as an alternative to the FBCA.
- The realigned Baden Powell Drive should be upgraded to an Expressway classification (Class 1) from its intersection with Princess Vlei Parkway to its intersection with Vanguard Drive.
- The extension of Princess Vlei Parkway should be included on the Metropolitan Transport Plan as a Class 1 facility.
- The FBCA should be retained on the Metropolitan Transport Plan until a project level investigation (conceptual design) inclusive of a full EIA has been undertaken for the

preferred alignment, in which the FBCA is identified as an alternative to the preferred Baden Powell alignment for purpose of the EIA (letter from City of Cape Town to the proponent, 25 September 2002) (Appendix 1.F).

At this stage there is no firm alignment along Baden Powell Drive that could be considered for the high mobility east-west route. This would only be conceptualised and evaluated during the project level investigation proposed by CCT. It is recommended that such an investigation should include the issue of accelerated sea level rise, which is estimated at 18cm between 1990 and 2030 (SA State of the Environmental Report: Marine and Coastal Resources, 2000).

5.4 MELKBOSSTRAND ALTERNATIVE

During the initial investigation and scoping phase, the proponent proposed linking Durbanville to Melkbosstrand in the north. Refer to Figure 5.2.

While this alternative could still be feasible, the 'Table View alternative' (the Bloubergstrand East-West Arterial) is favoured for the following reasons:

- it was planned by the CCT (there is no need for two similar roads in the area);
- the planned residential development in the Bloubergstrand/Table View areas would increase the need for a road and improve the economic feasibility of the toll road. Bloubergstrand is the prime origin/destination for trips in this area; and
- the Bloubergstrand East-West Arterial road has been approved with a RoD; therefore the section utilised by the proposed road does not need further study. However, the environmental team will be gathering issues related to tolling.

5.5 ADJUSTMENTS TO ALIGNMENT

As a result of the specialists' investigations, and the comments received from I&APs, there have been a number of alternatives considered within the preferred alignment. These include realigning the road in:

5.5.1 Sector 1: section 2:

To investigate the possibilities of the proposed route avoiding the proposed FBEP, two alternative alignments (called X and Y) were investigated near Zeekoevlei and the CFWWTW. Refer to Figure 5.3. Both these alignments would deviate from the FBCA alignment southwards immediately east of Vrygrond. These alignments join the FBCA alignment west of the Strandfontein residential area.

Alignment X was selected by applying the absolute minimum design criteria for this order of road, whereas Alignment Y was selected by applying the preferred safety and operational standards.

Both these alignments would traverse the solid waste disposal site, the maturation ponds of the CFWWTW and the natural fynbos areas. This eliminated both alternatives from the proposed route.

In addition to the above, sensitive plants were identified in the area between CFWWTW and Strandfontein Road. The route was re-aligned to avoid all these positions.

5.5.2 Sector 3: section 7:

All farmers requested that the route be re-aligned between Adderley Road and the N7 so it would have a lesser impact on their farming activities. This resulted in an alternative alignment (approximately 2,0 km further north), known as the Farmer's Alternative. Within the latter alignment, two further sub-alignment options were investigated so to improve engineering design. These, known as B1 and B2, have been consolidated into an alternative route B. Alternative B is now the preferred alignment through this area, and is assessed in Chapter 9 and 10. The assessments undertaken on the other alternatives are documented in Appendix 1.H. (Refer to Figures 5.4 A and B)

Upon undertaking the assessment on the Farmer's Alternative and the now Preferred Alignment, it was found that the environmental impacts were similar in nature and significance, except for the economic impacts on Vrymansfontein and Loch Lynne. The Farmer's Alternative would impact negatively on Vrymansfontein, whereas the Preferred Alternative impacts negatively on Loch Lynne. The proponent has chosen the Preferred Alignment in this section due to technical considerations.

The Farmer's Alternative is slightly longer than the Preferred Alignment and would also require a horizontal re-alignment of Adderley Road to accommodate the skew crossing between the Farmer's Alternative and Adderley Road. This is the main reason why the Preferred Alignment has been selected above the Farmers Alternative alignment.

5.5.3 Sector 3: section 8:

The alignment has been relocated as far north as possible due to the requests by the landowner of Brick & Clay and the CCT's Waste Department.

5.6 ALTERNATIVE NUMBERS OF TOLL PLAZAS AND THEIR POSITIONS

Concerns were raised regarding the placement and number of toll plazas along the route. The tolling strategy is aimed at equitable tolling of all users of the road; no user should subsidise another user. The proposed number and placement of toll plazas has therefore been established to ensure equitable tolling. No alternatives are therefore available for the number of toll plazas, while options for placing of plazas are so limited that alternatives are not viable for assessment (e.g. alternatives would entail spacing within 1 km).

Another tenderer may present another tolling strategy with different plaza numbers and placing. Any substantial changes to the placement of toll plazas would require an additional impact assessment.

5.7 ALTERNATIVE METHODS OF TOLLING

Two practical methods of tolling exist. These include manual tolling (where vehicles have to stop and pay the toll fee) and electronic tolling (where vehicles can drive through the toll plaza without stopping). The proponent proposes to use both these methods (refer to Chapter 6).

5.8 ALTERNATIVE FUNDING FOR THE PROPOSED ROAD

Tolling of the proposed route is not favoured by some citizens in the metropolitan area, since it is thought that it would increase their direct transport cost and thus their cash flows. An alternative method of funding for roads has been suggested by various authorities and members of the public. The proponent cannot consider a fuel levy as an alternative means of funding. It is currently not government's financial policy to have earmarked funds (e.g. fuel levy dedicated for road construction or maintenance) and these are therefore not available to the proponent as a funding mechanism.

However, in view of the current public debate regarding fuel levies versus tolling, the following paragraphs are presented to provide clarity on this debate:

It is suggested that a fuel levy is the most cost-efficient method of collecting funds for the construction and maintenance of roads. It is, however, acknowledged that the government is not

allocating the funds collected from license fees and fuel levies for road infrastructure, but funding general government expenditure to alleviate poverty and other social pressures. This has recently been identified as a problem, in that the Province's roads are deteriorating fast, to the detriment of the local economy (Die Burger, Wednesday 20 November 2002).

Furthermore, the transport policy laid down in the National Land Transport Transition Act, 2000 (Act No. 22 of 2000, states that:

"The primary road network should preferably be financed through a dedicated levy on fuel and toll charges. Innovative ways of securing finance for the development of road infrastructure will be explored. These include Build-Operate-Transfer (BOT) or Fund-Rehabilitate-Operate-Maintain (FROM) contracts which enable government to obtain financing from private sources rather than spending taxpayers' money".

Tolling as a method of financing new roads is accepted government policy, and is regarded as one of the methods to obtain funds for new roads, or even for the upgrade of existing roads, for example, the proposed tolling of the N1 and N2 (the Protea Parkways Project). A fuel levy is a national fundraising method. Although, the Provincial Administration Western Cape (PAWC) is proposing 10c/litre fuel levy that would be dedicated for road construction in the Western Cape. If all tolled roads were to have been funded in this way, the fuel levy would have to be much higher and all taxpayers would share the cost. With tolling, the road users pay for the cost of the road and is a direct user charge.

The benefit of private funding through toll to the city would be that, necessary roads that have been planned, but cannot be funded (the CFFE and Bloubergstrand East-West Arterial) could be constructed in the short term to improve mobility in the city.

If this project was not to be tolled, it would need to be planned and funded by either local, provincial or central government. This would mean that the road would be postponed for future planning (for which it was identified) or not planned and constructed at all.