
8 INFRASTRUCTURE REQUIREMENTS

The need to improve the transportation infrastructure into and within the Baralink area has been identified as one of the major initiatives to encourage the private sector to consider the investment potential of the area (See Section 1: Framework Report). The proposed transportation infrastructure is shown in Figure 8.

It is estimated that there are approximately 90 000 households within the Baralink area (defined as households within a 5km radius of the Chris Hani Baragwanath Hospital) of which about 30% are vehicle owners. It is estimated that vehicle ownership will increase at a rate of 5% per annum resulting in an extra 4500 vehicles on the road. If the same growth rate is applied to the remainder of Soweto, vehicle ownership is estimated to increase by 12 000 vehicles over the next 5 years, and internal and access roads will need to be planned accordingly, particularly if vehicle ownership translates into everyday usage.

8.1 ROAD INFRASTRUCTURE

As part of the proposals on improving the access into and out of Soweto, better access to the N1 from Old Potch Road and from the Soweto highway and the retention of a dedicated bus and taxi lane into the Johannesburg CBD are the immediate needs. Within the Baralink area, Old Potch Road will remain as the most important thoroughfare along an east-west axis, and we have identified the need for a traffic management system along this road as the primary means of improving traffic flows. The upgrading of the Baragwanath taxi rank will also assist in improving vehicle flows; and rationalisation of feeder roads into and within the Baralink area will provide the necessary optimisation of the roads system.

To facilitate the implementation of the major access routes into and within the Baralink area, it is recommended that a transportation master plan be developed. An indicative cost to undertake a detailed study is R250 000 and will provide a strategic plan for the development of transport infrastructure in the Baralink area.

Table 4. Estimated costs involved in the integrated transport infrastructure plan.

ACTIVITY	COSTS	COMMENT
Planning Conceptual design of access ramps to NI freeway	R120 000	The conceptual planning report would provide the Council with the necessary information to motivate and decide on whether or not to invest in these interchanges.
Capital Investment – Immediate Time Horizon Upgrading of Old Potch Road	R1 000 000	This would include: <ul style="list-style-type: none"> • Formal off-street taxi bays • Improved sidewalks for pedestrians and pedestrian crossing facilities • Improved signing and lighting • Traffic management such as synchronous signal timings, new traffic signals where warranted
Construction of NI access ramps	R10 – R40 000 000	Dependent on whether a full interchange is necessary
Link road in Devland	R1 700 000	600 meters of A5 arterial (as described in SENA report)
TOTAL	R12.7m– R42.7m	
Short-term Time Horizon Extension to A5 link	R3 600 000	1.3km extension to A5 to provide link between Old Potch Road and Golden Highway
Construction of A4	R2 300 000	Will provide cross-link between Old Potch Road and Golden Highway to east on N1.
A2 Arterial	R2 600 000	Will improve links between Baralink and Pimville and around Power Park.
TOTAL	R14 400 000	
Medium-term Time Horizon Extension to A2a Opening of A12	R1 300 000 R4 300 000	Will provide necessary access to Orlando Power Station and precinct.
Extension to A2b	R24 300 000	It is recommended that the A2 be continued south of Old Potch Road to join with the A5 and onto the Golden Highway to directly service land parcels in the Elias Motsoeledi precinct
Construction of A1	R3 900 000	The A1 will link the A2 with the A4 and will promote development of land parcels 1B and 1F
TOTAL	R33 800 000	
TOTAL OVERALL	R50 900 000	

8.2 RAIL INFRASTRUCTURE

The feasibility of a light rail system to provide a safe, convenient and relatively cheap means of public transport needs to be investigated, particularly if the existing heavy rail infrastructure can be incorporated as the backbone of the system, which can then be expanded along existing road alignments.

The proposed feasibility study would look at understanding the dynamics of urban transport in the context of social conditions and available technology, including:

-
- Undertaking travel demand forecasting to understand the potential levels of patronage, including undertaken some market research to understand perceptions of rail transport within the local community
 - Relating infrastructure costs to forecast levels of revenue generation to establish the level of subsidy necessary
 - Investigating options for the light rail system, particularly as this element has been missing from previous studies, and a view would be taken as to the investment options in terms of a new system, or refurbishing rail systems that have been decommissioned.

This report would provide the Council with the level of information to support a decision regarding the feasibility of this concept and whether to take the project into a preliminary design stage. An initial cost estimate for a pre-feasibility study to be undertaken would be between R300 000 and R500 000.



Baralink

TRANSPORTATION INFRASTRUCTURE

LEGEND

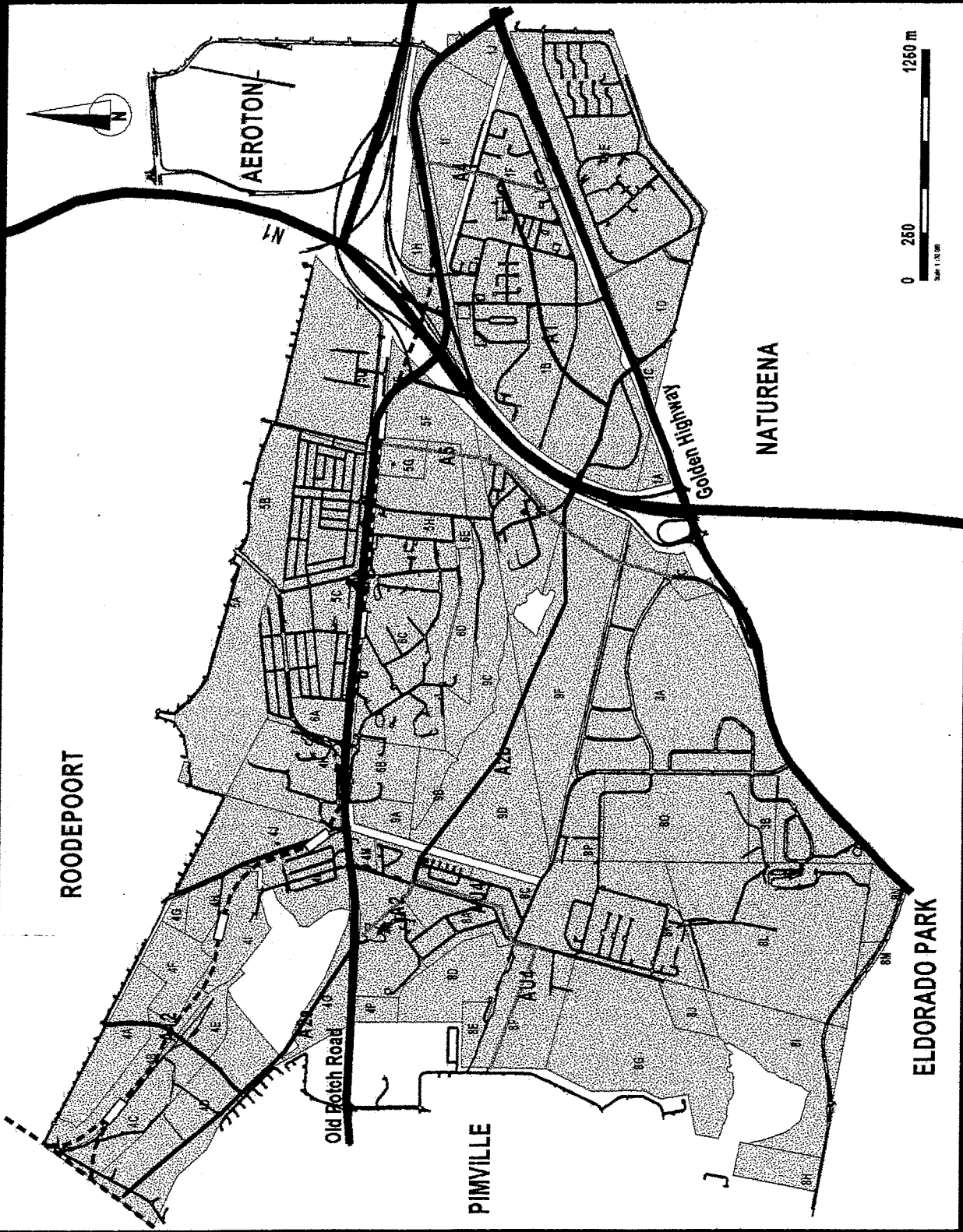
- Highways
- Main Roads
- Existing Roads
- Proposed Roads - Immediate Term
- Proposed Roads - Short Term
- Proposed Roads - Long Term
- Proposed Rail Link
- Rail Station

Figure 8

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8.3 SERVICES INFRASTRUCTURE

This study has identified the lack of reliable, up-to-date and readily available information on the state and capacity of bulk infrastructure in the Baralink area as major constraint to development (See Section I: Framework Report). As indicated in Figure 9, the integration of services infrastructure into the development scenario will require the following.

8.3.1 Infrastructure Survey

It is recommended that funding be identified for a comprehensive infrastructure survey to be undertaken, and incorporated into the GJMC Geographical Information System (GIS) to be available to interested developers. This study should also include a survey of the riparian areas to assess the need for, and costs of, erosion control, cleaning and rehabilitation where necessary. A provisional cost estimate for this study is R180 000.

8.3.2 Land Contamination Study

It is also recommended that a study be undertaken to assess the extent and costs of rehabilitation of the old Klipspruit WWTW, the adjacent cyanide factory and the impact of the rehabilitation program on the water quality of the Klipspruit Dam. A provisional estimate of the cost for this study is R60 000.

8.3.3 Water Reservoir and Reticulation

The bulk infrastructure requirement within the immediate time horizon is for a new water reservoir. After four potential locations were assessed, Aero-ton is the recommended location for a 2nd 12ML capacity reservoir to serve the Baralink area.

The assessment of the services infrastructure is detailed in the Framework Report (Section II), and provides a review of the current situation as determined from previous studies undertaken, as well as the description of the infrastructure investment that would be necessary to support the development scenario. The capital cost estimate as determined in this study is given in the table below.

Table 5. Estimated Capital Cost for Services Infrastructure Provision for the Baralink Area.

Timeframe	Detail	Cost
Immediate	Reservoir	R4 000 000
	Water reticulation	R1 095 470
	Sewerage systems	R680 000
Short	Water reticulation	R1 228 590
	Sewerage systems	R1 915 000
Medium	Water reticulation	R4 683 591
	Sewerage systems	R2 140 000
Total		R15 742 651