



PUBLIC TRANSPORT SERVICE NETWORK: INITIAL OPERATIONAL AND BUSINESS PLANS

Final Report
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SYNOPSIS: The Initial Operational and Business Plan for the Stellenbosch Public Transport Service Network provides a framework for the implementation of a proposed pilot phase bus service within the Stellenbosch Municipality. This report comprises a high level operational and business plan including an estimate of the required operational cost and revenue associated with the proposed pilot phase.				
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EXECUTIVE SUMMARY

Introduction

The Initial Operational and Business Plan, as part of the Stellenbosch Public Transport Service Network (PTSN) has been prepared in accordance with the recommendations set out in the Stellenbosch Comprehensive Integrated Transport Plan 2015 – 2020 (CITP).

The current public transport system in Stellenbosch is provided by Minibus taxi services operating in most parts within Stellenbosch, of which a high number of routes serve common destinations following only slight variations of routes within corridors. The Minibus taxi operations also include unlicensed operators who compete with licensed operators.

Additional to this, Stellenbosch is served by a bus service which operates between Stellenbosch and Somerset West, tourist bus operators operated by private operators and a number of private operators transporting scholars between Stellenbosch, Somerset West, and the Cape Town northern suburbs. Furthermore, a MetroRail service operates between Stellenbosch, Paarl and Cape Town.

The proposed process for development of the Stellenbosch Public Transport Service Network is in compliance with the Department of Transport guidelines and requirements for funding from the Public Transport Network Grant.

Initial Operations Plan

The operational plan was based on the BRT Planning Guide of 2007, and considers the Cost, Design, Performance and Impacts that the proposed transport technology may have on the existing transport system.

The vehicle floor height was considered and “low entry” vehicles have been proposed to allow for boarding and alighting at kerb height. This will also allow seamless integration between the proposed service in Stellenbosch and the existing MyCiti Bus operations in Cape Town. Furthermore, low entry vehicles can possibly be funded through the Department of Transport (DoT) Public Transport Network Grant (PTNG). The vehicle types considered are the Solo Bus (12m) with a capacity of 70 passengers and the Midi-Bus (9m) with a capacity of 45 passengers.

A Transport Demand Model (EMME4) was used to assist in informing the operational parameters of the proposed pilot system. The model was prepared for the Stellenbosch Municipality and has been adapted from the City of Cape Town Transport Demand Model which included areas such as Paarl, Stellenbosch and Somerset West. The model input pertaining to Stellenbosch was refined and the model output used to inform the Operations Plan and subsequent plans within this report. The model considered the current transport system and modelled the transport system in year 2032 which included modelling the proposed pilot routes.



Universal Access within the proposed transport systems is guided by the Stellenbosch CITP and the DoT Requirements for Universally Accessible Transport. The proposed transport system improvements will include universally accessible vehicles and infrastructure from the outset.

The operational characteristics include a 16 hour service, 20 “Optare” (9m) Midi-buses operating at 10 min intervals during the peak hour and 20 and 30 mins during the periods outside of the peak at a practical speed of 15km/h. Furthermore, it is proposed that the service have an integrated ticketing system, a smartcard fare collection and an integrated timetable which considers the other public transport operations.

Detailed Operations System

Two routes were chosen for the pilot phase of the PTSN. These two routes are between Cloeteville and James Town (Route 1) and between Khayamandi and Idas Valley (Route 7). The routes are considered to have two legs, the first leg terminates at the Bergzicht rank in Merriman Street and the second leg terminates at James Town (for Route 1) and Idas Valley (for Route 7).

The proposed system capacity is based on a 10 min frequency, a capacity of 45 passengers and a load factor of 80% during the peak hours, and either a 20 or 30 min frequency during off-peak periods at a 50% load factor. The number of vehicles required is based on the system capacity and will therefore require 9 and 11 vehicles for Route 1 and Route 7 respectively, which totals 20.

Infrastructure Requirements

Route infrastructure comprises of a number of facilities required to allow efficiency within the transport system. Infrastructure improvements may include; embayments, ticketing facilities, changing signalling etc. However, the detail thereof is not discussed in the report.

Business and Institutional Plan

The proposed business structure includes the management and operating of the transport system through various entities to allow for optimal responsibility. These entities would act as a public transport service agent, vehicle operating contractor, fare system contractor and control system contractor.

The Stellenbosch Municipality will ensure effective control of the management of bus operations through an appropriate mechanism, considered in terms of the section 78 of the Municipal Systems Act. In terms of the Stellenbosch CITP the planning authority will continue to manage the strategic planning, network planning, marketing and administration and financial control of the public transport system.

Furthermore, the potential for Industry Transition and an outline of Operator contracts are summarised.

The PTSN implementation will follow a phased approach as cost, the availability of resources and capacity are usually constraining factors. The implementation of the pilot phase is proposed to take place over a 4 year period from 2016/17 to 2019/20. This includes preparing a detailed operational and Business Plan and concluding in the establishment of a Management Entity, Industry Transition and construction of required Infrastructure.

The financial implications of rolling out the Stellenbosch PTSN are two fold, firstly those costs associated with the operations of the proposed service and those associated with the capital cost. An operating cost of R28 per km was used along with an estimated cost of the vehicles at R2.9m per vehicle. A zonal based fare was used and the revenue, depending on the zone, was either R5 or R7 per trip per passenger. Additionally, a sensitivity analysis of the revenue income was conducted to determine the change in the deficit/ surplus through a change in the passenger demand.

The scenario likely to realise in Stellenbosch is a hybrid public transport system whereby the proposed midi-bus and taxi operators serve the same corridors within Stellenbosch.

The total estimated cost of implementing the proposed pilot system is approximately R151 million over the 4 year period and includes the cost of infrastructure. It is anticipated that the funding required for the implementation of the Stellenbosch PTSN pilot phase will be funded through the National DoT PTNG.

Conclusion

The Stellenbosch PTSN Initial Operational and Business Plan sets out the framework for the provision of an integrated public transport system for the Stellenbosch Municipality. The proposed plan has been built on the principles as set out in the Stellenbosch CIP, BRT Planning guidelines and PTNG guidelines in order to submit an application to NDoT for funding the implementation of the proposed pilot system.

In order to ensure continuity of the PTSN it is required that consultation with the various stakeholders take place, that a more detailed operational and business plan be prepared and that council approval take place before submission of an application to DoT for PTNG funding.

Recommendations:

The overall recommendations of this report are that:

- a) The Stellenbosch Municipal Council takes note of the outcome and conclusions of the proposals for the introduction of a Public Transport Service Network in Stellenbosch, in particular the institutional and financial implications.
- b) The proposal for the introduction of a Public Transport Service Network in Stellenbosch be supported, in principle, subject to:-
- c) The support of the Western Cape Government and the National Department of Transport being obtained for the proposals and for the future submission of



an application for grant funding from the national Public Transport Network Grant.

- d) The preparation of further detailed institutional, business and operational plans to affirm cost and revenue estimates and the sources and availability of funding.

