

**NELSON MANDELA BAY METROPOLITAN MUNICIPALITY:
EVALUATION OF MOST APPROPRIATE BRT SYSTEM**

Khuthele Projects, in 2008, was requested to evaluate and make recommendations on the most appropriate Bus Rapid Transit (BRT) system for the Nelson Mandela Bay Metropolitan Municipality (NMBMM) given the unique characteristics of its urban layout and transport needs

Background

The NMBMM have decided to implement a "full" BRT system as part of the roll-out of their new public transport system, where a "full" BRT is characterized by median dedicated bus lanes with median bus stations.

This is in line with DOT's vision for the implementation of BRT in South African cities but, in addition, correspondence with DOT indicate a preference for central median stations to facilitate easy passenger transfers between buses without the need to leave the station platform or cross traffic lanes.

Furthermore, the preferred BRT vehicle is a high floor articulated vehicle with doors on the right-hand side of the vehicle. In order to allow for left-hand boarding on sections of the network which have not been completed, it is generally accepted that BRT vehicles will also have doors on the left-side of the vehicle.

Considerations

Nelson Mandela Bay (NMB) is unique in many aspects which impacts on the type of BRT best suited for the area as briefly discussed below:

□ NMB is small in relation to other metropolitan areas in South Africa with less traffic congestion especially in the outlying areas. This allows for less urgency in the rate at which the BRT infrastructure is to be implemented especially in the areas further away from the urban core

□ Certain sections of the trunk, main line and express bus services overlap and it will be

1 beneficial if all of these services could make use of the same infrastructure. 46

□ Certain trunk bus routes are along roads with very limited roadway widths, making it very difficult to fit in median bus lanes along these road sections. 50

□ The intention is to gradually construct the final BRT network in phases. Ideally, BRT vehicles should be flexible enough to operate on both those route sections where the BRT infrastructure has been completed, as well as: 55

the continuation of the route up to where it terminates at the public transport terminus, even should the infrastructure along such section not yet being constructed. 60

□ The construction of high bus platforms on the kerb-side of the road as a temporary measure presents its own challenges especially where this has to be provided in narrow ROW. 65

Alternatives

Three different BRT options were identified for evaluation. The baseline option was the option preferred by DOT. The other two options were both low floor options as far as the buses are concerned meaning a deviation from the uniform BRT characteristics as has been generally accepted in South Africa. The second option required split median stations due to the BRT vehicles only having doors on the left side of the vehicle. The third option only marginally differed from the option preferred by DOT as doors are provided on both sides of the vehicle. 70

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Conclusion

From the evaluation it was concluded that a BRT system with central median stations and low platform heights, and serviced by low floor buses with doors on both sides of the vehicle, is the preferred option for NMB. 85

It was recommended that the application of this option be further researched especially concerning the costs in relation to that of high-floor vehicles. 90