

THE DEVELOPMENT OF A MODAL TRANSITION FRAMEWORK FOR THE CITY OF CAPE TOWN

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ABSTRACT

A more optimal alignment between transport modes and passenger demand is required. Often, there is a mismatch where low-capacity modes are used on high-demand corridors while, in some instances, high-capacity modes serve low-demand routes. This discrepancy underscores the necessity for modal transition. Modal transition involves the gradual shift of low-capacity modes towards higher-capacity options over time and the adaptation of modes to suit lower-demand routes.

A modal transition framework has been developed as part of the review and development of the City of Cape Town's ("the City") Integrated Public Transport Network Plan for 2040 to develop a concept for undertaking public transport modal transition.

To achieve this, a corridor capacity analysis was conducted to serve as the benchmark for the ideal modal type per corridor for Cape Town, considering Cape Town's infrastructure and operational characteristics, as well as the road type, traffic conditions and vehicle type per corridor.

Once the ideal modal share had been established, a framework that guides the transition from one (current state) mode to the ideal (future state) was developed. This framework consisted of three main parts, each serving a specific purpose. The first was a Political-Economic-Social-Technological-Environment-Legal (PESTEL) analysis that identified strategic issues. These issues became the focus areas for the application of an Enable-Avoid-Shift-Improve (EASI) framework, which narrowed the specific actions that the City can execute. Lastly, an Impact/Complexity Matrix was used to prioritise the actions into short-, medium- and long-term actions.

This modal transition framework provides the City with a structure and systems approach to evaluate and determine a modal transition strategy appropriate for a respective scenario. To demonstrate this, the BMT lane on the N2 inbound was used as a case study of how the framework can be applied.