Commonwealth Grants Commission – 2020 Methodology Review

South Australian submission on the Jacobs – Urban Transport Consultancy Stage 2 Report

South Australia welcomes the opportunity to provide comments on the Jacobs – Urban Transport Consultancy – Stage 2 Report (the Stage 2 Report).

In our submission on the draft assessment paper for the Transport category (CGC2018-01/18S) we continued to express our concerns about the conceptual validity of this assessment. The current assessment is based on population being the main non-policy influenced driver of urban transport expenses and that per capita net expenses increase with urban centre population size.

South Australia expressed the view that although there is clearly some relationship between subsidies and city size, it is not clear that this assumption is valid when cities grow beyond a certain size. Although public transport demand generally increases as road congestion and road travel times increase, the increased passenger demand increases the revenue generating capacity and utilisation of public transport systems in larger cities. International comparisons (discussed further below) highlight the advantages that larger urban areas, with higher residential density can have on net public transport costs.

The Jacob's Stage 1 and 2 reports reinforce the difficultly, complexity and level of subjective judgement required to develop a model that will always be heavily policy influenced. To a greater extent than most other assessments, policy choices cannot be separated from non-policy factors. Each urban area has its own unique issues and a range of both policy and non-policy factors influence the provision of public transport services.

In addition, any new model will still be subject to same major problem encountered by the current assessment model – a lack of Australian data points for large cities. Given this reality, it does pose the question as to whether it should be subject to some level of discounting.

South Australian context

South Australia is growing the role of public transport in servicing Adelaide and urban and regional centres. A change in the focus of the South Australian economy from a traditional dispersed manufacturing base to a clustered economy, is leading to growth of the central city and suburban activity centres – all of which need to be serviced by public transport.

In outer Adelaide however, the bus network cannot continue to expand simply by implementing small incremental changes. Bus service planning must build on the substantial investment in rail infrastructure and rail services. In our

regional centres, there is a need for more efficient passenger transport services that meet the diverse travel needs of communities.

South Australia also operates an O-Bahn guided bus system that has some characteristics of rail but is neither truly bus nor rail. In addition, the South Australian Government is currently in the process of electrifying its rail network, much of which is still reliant on diesel-powered rolling stock.

Jacobs Stage 2 Report

The Jacobs Stage 2 Report proposes a recurrent expenditure model based on the following equation:

$$exp_i = \beta_0 + \beta_1 dense_i + \beta_2 dist_i + \beta_3 slope_i + \beta_4 \ln(pax_{i,train}) + \beta_5 \ln(pax_{i,bus}) + \varepsilon_i$$

This model uses density to reflect demand, distance to work to represent network complexity, passengers by public transport mode to represent availability and congestion and mean land slope to account for topography.

South Australia has the following brief comments on the proposed approach.

Data availability

The Stage 2 Report notes the difficulty in obtaining reliable and relevant public transport data to populate the proposed model.

The Australian Bureau of Statistics (ABS) defines 101 Significant Urban Areas (SUAs) and ideally the proposed model would reflect public transport expense data from each SUA. However, the preferred model only proposes the use of 70 SUA data points as some states have submitted derived data. Although the consultants verbally advised that the exclusion of these data points was not significantly altering the statistical validity of the proposed model, it is still undesirable for the model to not reflect 30% of SUAs. In addition, two thirds of Victoria's SUA data points and over half of Queensland's SUA data points have been excluded.

Population density – passenger numbers

The model proposes that urban density be used to reflect demand and passenger numbers by public transport mode to represent availability and congestion.

In relation to density, higher levels of urban density can be viewed as being the result of land use and planning policy decisions of state governments rather than being a disability that a state government cannot control or influence.

In addition, research indicates that population density should drive down net public transport costs. Infrastructure Australia has noted that in Australia, public transport cost recovery is low by international standards, generally

below 30%[1]. In contrast, cities like Hong Kong, London and Barcelona either have public transport cost recovery rates in excess of the cost of service provision or close to the cost. This is largely attributed to population density. However, in Sydney, the Australian city with the highest residential density, only 11% of journeys made each day are by public transport and has cost recovery rates comparable to smaller cities like Adelaide and Brisbane. This again raises the question policy influence.

Topography

The model proposes using mean slope as an SUA specific variable to capture differences between urban areas and a factor that influences the cost of service provision. It is accepted that topography can influence the cost of providing transport services, however, the actual cost implication will be heavily influenced by the mode of transport used which is a policy decision. There may be additional marginal expenditure for operating bus services in hilly terrain but there may be significant tunnelling costs required if a state chooses to operate rail services.

Any measure of topography (mean slope) needs to reflect only the areas of an SUA that are serviced by public transport or need to be traversed in order to service that SUA.

Treatment of satellite cities

The consultant has used two indicators to determine whether a satellite city should be aggregated to a capital city in the assessment model. To be aggregated there has to be a high proportion of the resident workforce travelling outside of the SUA to work and of those travelling, a relatively high proportion would be travelling to the capital city.

South Australia is comfortable with the consultants approach to assessing satellite cities. However, as only one relatively small satellite city has been identified (Yanchep in Western Australia) it does raise the question of whether the CGC should simply ignore the aggregation of satellite cities.

Other factors

South Australia also queries if the proposed model will reflect the following factors appropriately:

- The age of existing public transport assets and the associated maintenance and reinvestment needs.

- The unique characteristics of the O-Bahn guided bus system that connects the Adelaide CBD to the north-eastern suburbs.

[1] Infrastructure Australia – Outer Urban Public Transport – Improving accessibility in lower-density areas, October 2018, page 14.

- Costs associated with the electrification of a diesel powered rail network including new rail control infrastructure.

Conclusion

In conclusion, South Australia believes that the proposed model attempts to capture a broader range of factors that influence public transport expenses in urban areas, rather than just using urban centre population. However, the model cannot untangle policy choices from disabilities, is not based on data that reflects expenditure in all SUAs and is reliant on the use of proxy indicators. For these reasons, South Australia believes that if the Commission adopts the proposed model, it should consider applying a discount to its results.