



Early delivery of equitable and healthy transport options in new suburbs

Summary of Findings

Key Recommendations

Based on the findings of the study we provide the following recommendations¹:

- ▶ A base level of public transport service, and provision for active transport, be considered essential in growth areas from the time residents move in.
- ▶ Establish a more coordinated and strategic approach towards development of growth areas through state infrastructure plans that support sequencing of development.
- ▶ Develop strategic transport plans to inform planning for growth areas.
- ▶ Introduce staged public and active transport provision, ensuring a basic level of provision at the commencement of settlement and then stepping up as development milestones are met.
- ▶ Start with a public transport network of direct and frequent routes in growth suburbs, which is complemented by routes that provide wider geographic coverage to ensure equitable access to transport.
- ▶ Ensure the early delivery of neighbourhood and/or town centres to encourage active transport and provide a place for community activity.
- ▶ Increase average net density targets for growth suburbs in the PSP Guidelines to at least 25 dwellings per net developable hectare.
- ▶ Ensure the timely implementation of local infrastructure that has been identified in contribution plans.
- ▶ Explore integrated transport pricing and a broad-based land tax as possible funding sources to improve the delivery of active and public transport infrastructure and services.
- ▶ Use the Growth Areas Infrastructure Contribution (GAIC) as an instrument to support the early delivery of transport options.
- ▶ Consider the costs of **not** providing transport infrastructure and services when undertaking cost-benefit analyses of transport infrastructure delivery options in growth areas.

Background

From 2018-2021 RMIT researchers undertook a study into early transport provision in Melbourne's growth areas in partnership with the Cities of Casey and Wyndham, property developer Stockland Australia and the Planning Institute Australia (Victorian Division) and in consultation with the Victorian Planning Authority (VPA) and the Department of Transport. This study focussed on four aspects of growth area development:

- **The influence and effectiveness of planning processes**, informed by document analysis and 30 semi-structured stakeholder interviews
- **Understanding resident lived experience in growth areas**, informed by a resident survey (n=352), interviews with 30 residents in two growth areas, and GIS analysis of urban form and local destinations
- **Assessing costs and benefits of delivery of transport options** through scenarios based on timing of infrastructure delivery and quality of transport service provision
- **Identifying funding options for transport infrastructure and services in growth areas**, assessed against an evaluation framework.

The project was funded by RMIT, through its Urban Futures Enabling Capability Platform, and by contributions from industry. The findings and recommendations in the report are those of the RMIT researchers.

Key findings

Growth Area Planning Process

Early delivery of active transport infrastructure, but late delivery of destinations

The Victorian Planning Authority's (VPA) Precinct Structure Planning (PSP) process has improved coordination of the growth area planning process and incorporates a range of priorities for active, public and road transport. Yet, it does not control delivery. Infrastructure for walking and cycling is generally built during initial development, however, provision of local destinations and mixed uses is often absent in the early years of the suburb due to concerns about viability. Residents

expected that shops and public transport would arrive soon after they moved in, based on assurances from the developer or real estate agents when buying.

Our GIS analysis² shows that currently only 4% of dwellings in mostly built-up PSP areas are within 1km of an activity centre with a supermarket.

The current PSP Guidelines ambitiously suggest that 80-90% of residences should be within that distance once PSP areas are fully built. Utilisation of active transport infrastructure will be far greater if these lead to useful destinations – and this requires concurrent delivery of local retail and community centres.

Planning for public transport but lagging implementation

While the PSPs plan for bus routes and bus-capable roads, the provision of a bus service depends on state government funding and the network of routes that extend beyond the geographical boundaries of the PSP. The operation of a public transport service within the first three years of development is rare. Our GIS analysis shows

only 25% of dwellings in growth areas are within 400m of a bus stop

well short of the objective of 95% in the current PSP Guidelines. The provision of a bus service currently must be justified through development of a business case. However, a minimum level of public transport service should be considered to be essential and directly linked to development approval and finance processes.

Sequencing of infrastructure and development can be improved

The delivery of state infrastructure and operational expenditure is often politicised and contested. Plan Melbourne's Policy 2.2.5 requires development in growth areas to be sequenced and staged to better link infrastructure delivery. The government is beginning to plan for sequencing of state infrastructure, though often this is not prioritised. The timing and delivery of aspects of any new development at the local level is primarily determined by developers' financial imperatives for cash-flow, leading to extended delivery time frames with town centres and higher density housing being developed last. Determining the sequencing and timing of development more firmly through the PSPs and providing opportunity for early co-location of services in town centres is necessary to enable integrated infrastructure planning.



Current dwelling densities are below levels necessary for viable public transport and walkability

Our GIS analysis shows the current average net dwelling density in mostly built-up PSP areas is at 10 dwellings per hectare, using a net density based on previous research definitions. Using the definition of the PSP Guidelines, PSP areas achieve an average net density of 18 dwellings per hectare according to analysis conducted by the VPA³. Both results are below the 20-25 dwellings per hectare that research suggests is needed for public transport viability and walkability. While it is to be expected that new urban areas will initially have fewer destinations it is also expected that there will be more destinations and greater accessibility with the roll-out of town centres and provision of the complete street network. Similarly, density is likely to increase with further urban development. Yet, the results show that early delivery of these key features lags behind.

Inadequate transport situation impacts on residents' health and family life

The growth area resident survey indicated that more than two thirds of respondents found that travel times in their new suburb were longer than expected.

For 48% of growth area residents travel times have a negative impact on their health.

For 64% travel times have a negative impact on family life. Interviewees reported increased stress due to unpredictable travel times from traffic congestion or poor public transport connections. Some residents reported feeling isolated as a result of living further away from friends and family. The car dependence of the suburb worried some residents, who indicated that transport and access had become more important to them since moving in.

Active transport usage was limited, with 58% of residents surveyed stating that they walk rarely or never for trips from home to any destination, and 87% indicating that they rarely or never cycle. Nearly half of the survey respondents considered walking or cycling would take too much time, while 19% said they did not feel safe doing so. The interviews revealed that greater distance to shops resulted in residents shopping less frequently, often weekly. As a consequence, residents tended to buy less fresh food and get less physical activity, potentially impacting their health.

Costs and benefits of delivery of transport options

For this study transport provision scenarios were established for the Casey and Wyndham case study areas encompassing timing of infrastructure delivery (early, medium or late) and quality of transport service provision (low, medium or high). These scenarios were used to understand the differential costs and benefits between delivery options. Quantified benefits include a) physical health benefits, b) social and economic participation benefits, and c) household savings from reduction in number of cars owned.

Early delivery is more costly but provides greater long-term benefits

Early delivery of transport facilities costs more than delayed delivery due to the timing of the financing of the infrastructure and services (as a current dollar is valued more than a dollar expended in later years), and also because recurrent costs are incurred for a longer period. However, benefits are higher for early delivery as they accrue over a longer time span, and resident uptake of active and public transport is more likely if these facilities are available when residents first move in⁴.

The benefits of early, high quality active transport and public transport provision outweigh the costs

Our analysis shows that the overall benefits of providing early, high quality transport options in the Casey and Wyndham case study areas add up to approximately \$1.374 billion and \$1.058 billion respectively, compared to implementation costs of approximately \$59 million in each area. This provides a benefit-cost ratio of 23.3 for the Casey growth area and 17.9 for the Wyndham growth area. An extrapolation of our results to all Melbourne residential growth areas (PSPs) suggests that the early delivery of high-quality active and public transport would cost \$8.8 billion, while delivering \$36.6 billion in benefits at a benefit-cost ratio of 4.2. The main reason for the comparatively lower benefit-cost ratio to those in the Casey and Wyndham case studies is that these case studies include benefits realised by residents in adjoining suburbs, which are not included in a city-wide extrapolation to avoid double counting.

The greatest benefit is derived from avoided car ownership

The majority (about 65%) of the overall benefit from early active transport and public transport provision is attributed to avoided car ownership. Even if a more conservative approach is taken to car ownership reduction, by including only 50% of the estimated reduction, total benefits would still be about \$718 million and \$918 million for the Wyndham and Casey case study areas respectively. Car ownership assumptions are based on levels seen in other parts of Melbourne. The large share of household savings in the overall benefits shows that currently a large proportion of transport costs is passed on to private households.

Sequencing of development can harness benefits in adjoining suburbs

The growth area transport benefits-cost analysis includes benefits realised by residents outside the respective case study areas following the introduction of new transport options – such as where residents live in proximity to a new cycle path or bus route. This analysis showed that benefits of increased transport provision in a new suburb are amplified by effects on surrounding suburbs, highlighting the importance of good sequencing of development.

Investment in transport infrastructure delivers health and productivity benefits

The benefits of new transport options in growth areas include improvements in resident health and well-being from active transport-related exercise - including walking to public transport stops - and benefits from enhanced economic and social participation. These ultimately reduce healthcare and welfare costs.

An indirect benefit not included in our analysis is the reduction in cars on the road, reducing the impacts of congestion such as loss of productivity and greenhouse gas emissions. Particularly, in a centralised city with a radial transport system such as Melbourne, increased traffic and cars in outer suburbs has flow-on and multiplier effects on congestion in middle and inner areas. Costs of congestion for Melbourne are forecasted at about \$10 billion in 2030⁵.

Funding options for transport infrastructure and services in growth areas

Integrated transport pricing and a broad-based land tax are promising alternative funding sources

We compared several relevant funding sources for the provision of transport options according to potential revenue, reliability, equity, ease of implementation, travel impacts and the time frame for implementation. Our analysis suggests transport pricing holds the best potential as a source of recurrent, stable and equitable funding. A broad-based land tax is similarly strong in many respects, though has less potential to favourably impact travel behaviour than integrated transport pricing.

The Growth Areas Infrastructure Contribution (GAIC) could be more extensively used to fund early public transport operations

While traditionally a focus of the Victorian Growth Areas Infrastructure Contribution (GAIC) has been on the funding of new public transport infrastructure, it could be used more strongly to fund the early operations of public transport services in growth suburbs to support viability until a sustainable population threshold is reached. To support active transport at an early point in the lifetime of a suburb, early delivery of community infrastructure could also be supported through the GAIC, ideally in cooperation with other stakeholders, to establish activity “destinations” in nascent town centres.

As the GAIC is partly a betterment charge, the state government could assess whether the current GAIC rate reflects the value of betterment adequately.

For further information:

cur.org.au/project/equitable-healthy-transport-options-new-suburbs/

Contact:

Dr Annette Kroen, annette.kroen@rmit.edu.au

Authors



Dr Annette Kroen
Centre for Urban Research
RMIT University, Melbourne



Emeritus Professor Robin Goodman
Global, Urban and Social Studies
RMIT University, Melbourne



Dr Lucy Gunn
Centre for Urban Research
RMIT University, Melbourne



Steve Pemberton
Centre for Urban Research
RMIT University, Melbourne

¹The recommendations are further elaborated in the final report of the project.

²For details on the method see Gunn, L. et al. (2020) Early delivery of equitable and healthy transport options in new suburbs: Policy, place and people. *Journal of Transport & Health*, and Kroen, A.; Goodman, R.; Gunn, L.; Pemberton, S. (2021) Early delivery of equitable and healthy transport options in new suburbs – Final report. RMIT Melbourne

³The PSP Guidelines definition is based on number of houses per net developable hectares and results are from an internal VPA document. Our GIS analysis uses a more detailed measurement as explained in the final report of the

project: Kroen, A. et al. (2021) Early delivery of equitable and healthy transport options in new suburbs – Final report. RMIT Melbourne. VPA

⁴Gunn, L. et al. (2021) Benefits and costs of early delivery of transport options in new suburbs. RMIT Melbourne; Pemberton, S. et al. (2021) Behavioural Change, Choice of Travel Mode and Residential Relocation. RMIT Melbourne.

⁵Infrastructure Australia (2019) Urban Transport Crowding and Congestion: The Australian Infrastructure Audit 2019 Supplementary report.; BITRE 2015, Traffic and congestion cost trends for Australian Capital Cities, Information Sheet 74, Canberra