

WILL THE \$50B SUBURBAN RAIL LOOP SHAPE THE MELBOURNE WE WANT?

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WILL THE \$50 BILLION PROPOSED SUBURBAN RAIL LOOP HELP SHAPE THE MELBOURNE WE WANT?

In late August 2018, Victorian Premier Daniel Andrews proposed a \$50 billion suburban rail loop connecting all major rail lines from east to west via Melbourne Airport. Due for completion in 2050, the [Suburban Rail Loop](#) will connect every major Melbourne railway line – proposed stops include Werribee, Sunshine, Melbourne Airport, Broadmeadows, Fawkner, Reservoir, Bundoora, Heidelberg, Doncaster, Box Hill, Burwood, Glen Waverley, Monash, Clayton and Cheltenham.

Heralded as the biggest public transport project in Australian history by the state government, the massive project aims to respond to Melbourne's groaning road and rail system and will potentially be the most extensive rail system in Australian history.

The first round of strategic planning for the Suburban Rail Loop was put together by Development Victoria with detailed engineering plans and a business case yet to be completed.

In this article, we explore what makes a city-shaping project and whether the suburban rail loop has the potential to transform Melbourne into the city we want.

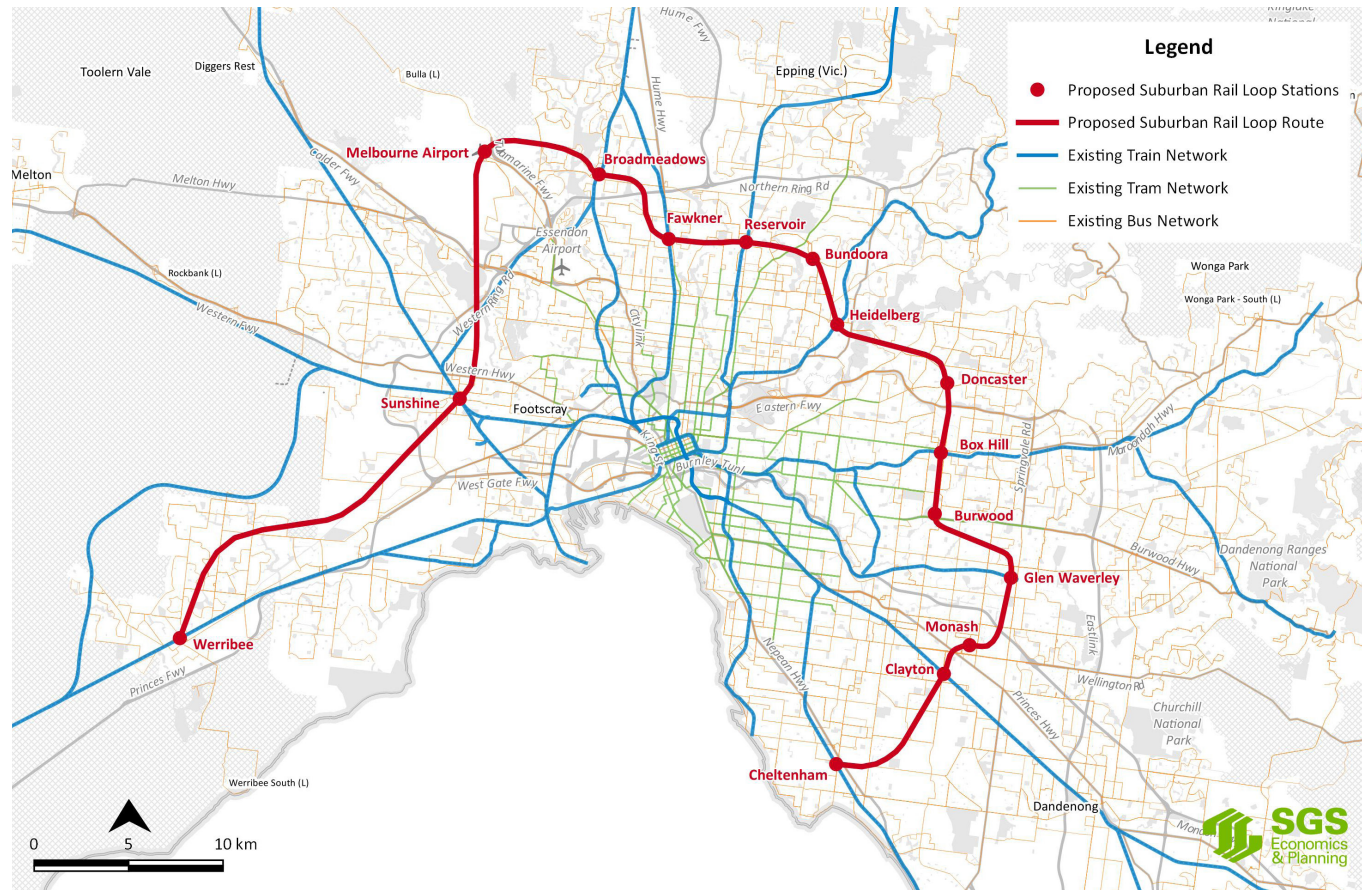


FIGURE 1: PROPOSED SUBURBAN RAIL LOOP

SOURCE: SGS ECONOMICS AND PLANNING (2018)

THE RECENT ANNOUNCEMENT OF FUNDING FOR A DETAILED ASSESSMENT OF THE SUBURBAN RAIL LOOP ATTRACTED SIGNIFICANT ATTENTION. THERE HAS BEEN A GREAT DEAL OF EXCITEMENT ABOUT THE AMBITION AND SCALE OF THE PROJECT AND JUST AS MANY QUESTIONS AROUND THE PROJECT DETAILS. MANY ARE ALSO WONDERING HOW THE PROJECT FITS INTO PLAN MELBOURNE AND THE 30 YEAR INFRASTRUCTURE STRATEGY.

Major transport projects, like the Suburban Rail Loop, have the potential to reshape the pattern of city development and substantially shift the way businesses and households make choices about location. As a consequence, changing land values signal where new or intensified urban development will be needed. This process is generally understood in policy circles and into the broader community – people see, for example, the connection between highway development and increasing land values and housing development in peri-urban regions.

What makes a city-shaping project? Generally speaking, a project needs to redefine land markets, housing markets and labour markets to be considered a city shaper. Over the past 25 years, [city-shaping projects](#) have played a crucial role in Melbourne's transformation into a leading knowledge-intensive economy. Road projects such as the Western Ring Road, CityLink and EastLink have helped to improve connectivity across Melbourne. When the City Loop opened in the 1980s, the heavy rail capacity it provided underpinned jobs growth and steady development within central Melbourne.

These projects were complemented by large-scale urban renewal efforts, which helped to generate additional income for businesses and households and contributed to sharp appreciation in property values in Melbourne's inner and middle suburbs. It has also helped to create significant

additional transport demand, which in the absence of additional investments or policy changes (e.g. congestion pricing) has resulted in increased congestion across Melbourne.

City-shaping projects are a powerful and, perhaps, the pre-eminent policy lever for determining city structure. Land use regulation through planning schemes and the like are more likely to play a supplementary role in managing urban development. Which means that city-shaping projects should be considered within the context of a preferred urban structure, that is, 'creating the sort of city we want' as opposed to following the more conventional 'predict and provide' philosophy where transport investment merely responds to demonstrated demand.

In some instances, it may make more economic sense to prioritise transport infrastructure that will reshape the city in permanently advantageous ways, over projects that are solving obvious congestion problems.

Individual pieces of transport infrastructure can increase the productive capacity of the economy by fundamentally expanding the accessibility of a location, which can result in new housing and additional jobs locating in the city. These are usually a net increase rather than a redistribution of jobs from elsewhere in the metropolis.

CREATING THE 'CITY WE WANT' V 'PREDICT AND PROVIDE'

CREATING A CITY WE WANT VERSUS THE MORE CONVENTIONAL PREDICT AND PROVIDE MODEL IS WHERE TENSION ARISES BETWEEN PLAN MELBOURNE AND THE 30 YEAR INFRASTRUCTURE STRATEGY

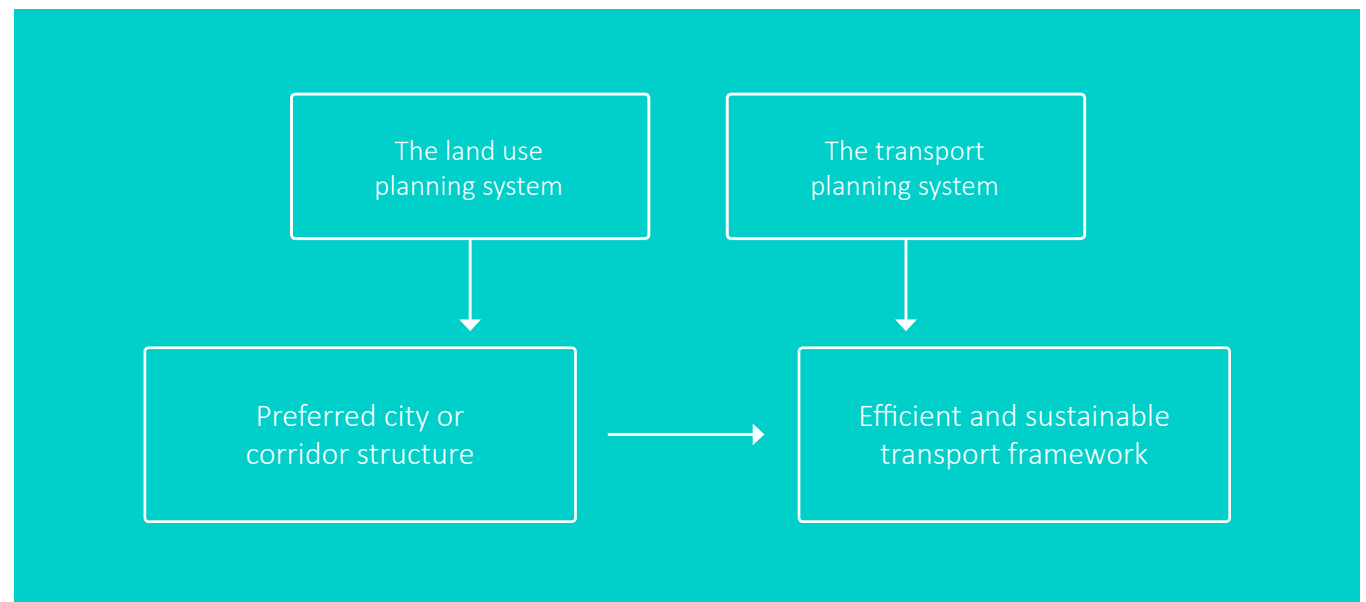
Strategic plans like Plan Melbourne present a case for change while the 30 Year Infrastructure Strategy is based on cost benefit analysis using the current business as usual forecasts for the city.

It is usual in a cost-benefit analysis to restrict measured impacts to the 'first-round effects' of projects. These may be subject to lags but have a direct cause and effect link with the infrastructure in question. Indirect and feedback effects are excluded, mainly for practical reasons. However, if second-round benefits are considered, so must costs. With multiple judgements required to identify the impact, the data gathering and analysis process complex and open to challenge. To address this, Infrastructure Victoria is now focusing on more of the non-traditional effects.

Investment decisions on city-shaping projects can set the scene for many 'follower' investments such as roads, schools, hospitals and the like. However, there is little to distinguish city-shaping and follower infrastructure when a project is conceptualised and formulated during the appraisal process. More expensive projects are typically examined more closely than lower-cost projects.

However, city-shaping projects generally demand a more collective whole of government approach to planning and evaluation because they will have cross-portfolio implications for asset management and service delivery costs. A billion-dollar hospital project is a substantively different decision than a billion-dollar road which might significantly affect accessibility. Figure 2 shows the [traditional transport and land use planning](#) integration model.

FIGURE 2: 'TRADITIONAL' CONCEPT OF TRANSPORT AND LAND USE PLANNING INTEGRATION



SOURCE: SGS ECONOMICS AND PLANNING (2018)

INTEGRATED TRANSPORT AND LAND USE PLANNING

The [cluster and connect model](#) plays an essential role at local and district levels and contributes to the overall structure of Greater Melbourne¹. This approach, while reasonable, underplays the crucial fact that the transport network is more than a servant of a city structure; it can be the principal shaper of city structure through significant transport investments.

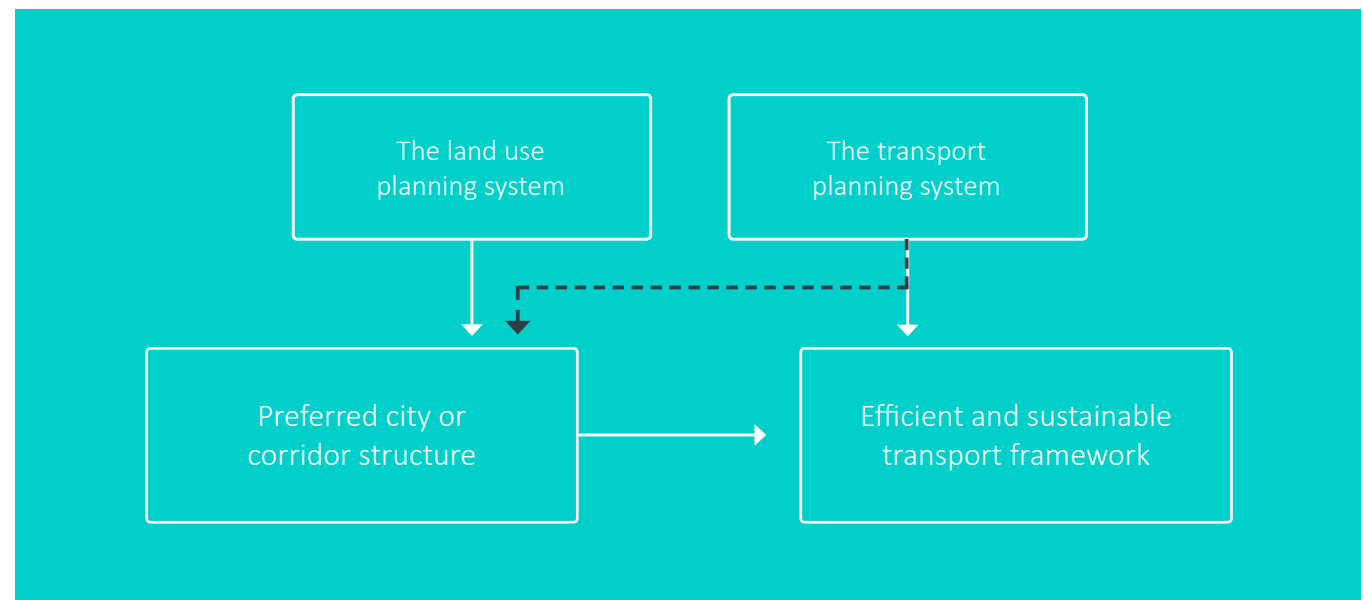
TRANSPORT AND LAND USE PLANNING NEEDS TO FULLY INTEGRATE TO HARNESS THE FULL POWER OF CITY-SHAPING TRANSPORT AND INVESTMENT DECISIONS.

Figure 3 shows the concept of transport and land use planning integration. This concept acknowledges the traditional cluster and connect model and extends beyond that model by also recognising the emerging approach that harnesses the city-shaping power of some transport investments. This emerging transport and land use planning approach and the cluster and connect approach are not in competition with each other but instead are complementary and need to be coordinated.

The failure to recognise the city-shaping effects of strategic transport infrastructure will lead to poorer urban outcomes, which become locked in because of long gestation periods and reinforced planning efforts. To avoid this, it would be better for city planners to fully integrate transport and land use planning in a way that recognises the city-shaping power of some transport investment decisions and take on a systematic approach to harnessing this power.

Major transport decisions can redirect the pattern of urban development, and change its density and use mix, transport planning can then begin to contribute to a cities vision. It is important to note that this concept goes a step further than the traditional land use planning approach where optional land use futures are tested for transport efficiency, and transport investment mainly responds to a cluster and connect framework.

FIGURE 3: EMERGING CONCEPT OF TRANSPORT AND LAND USE PLANNING INTEGRATION



SOURCE: SGS ECONOMICS AND PLANNING (2018)

¹ For example, at the neighbourhood level, the cluster and connect approach has a strong place-making focus by consolidating important community facilities around public transport and, occasionally, using some forms of public transport such as light rail to calm traffic and promote local development activity.



COULD THE RAIL LOOP BE A CITY-SHAPER?

We've discussed why city-shaping transport infrastructure is important. But is the proposed Suburban Rail Loop a city-shaping project? To help answer this question, let's look at some data.

Population, workers, jobs and education in station catchments

If the Suburban Rail Loop were in operation today, the station catchments² would have roughly:

- 270,600 jobs
- 416,100 residents
- 212,300 workers, and
- 112,600 higher education students (based on place of enrolment)

South East Section

Currently, the South East Section (Box Hill to Cheltenham) has the most potential with the Monash – Clayton Stations being the primary driver for demand and Box Hill anchoring the northern end.

As shown in Table 1, the South Eastern Section has roughly three quarters of the higher education enrolments, half the population, workers and jobs of the whole corridor, but is only a quarter of the track length. The intent to start construction on this section of the Suburban Rail Loop makes sense based on these figures.

THE SUBURBAN RAIL LOOP COULD REINFORCE THE GROWTH OF WHAT IS EFFECTIVELY MELBOURNE'S SECOND CBD AT THE MONASH NATIONAL EMPLOYMENT AND INNOVATION CLUSTER.

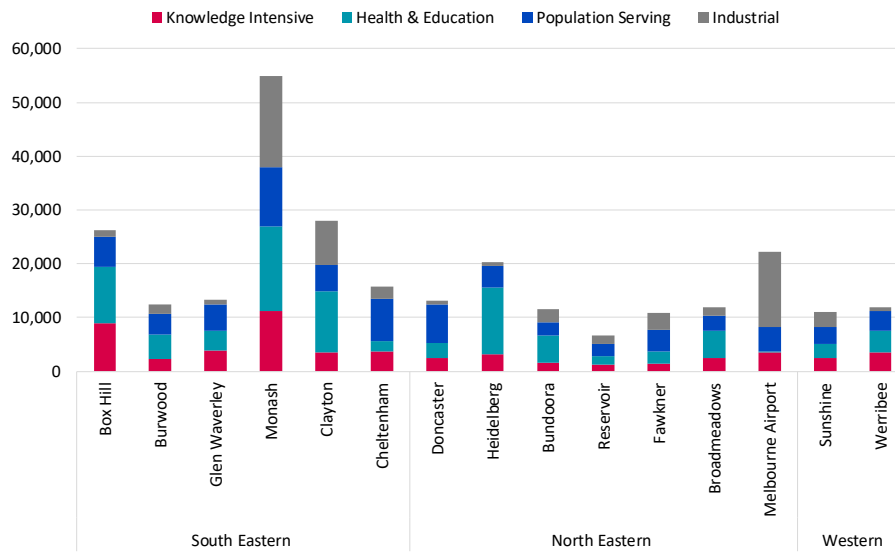
TABLE 1: SUMMARY OF SUBURBAN RAIL LOOP STATIONS

	Population	Workers	Jobs	Higher education enrolments	Length of track (km)
South Eastern Section - Cheltenham to Box Hill	195,400	103,600	150,800	82,400	24.5
North Eastern Section - Box Hill to Airport	169,400	83,100	96,900	28,600	34.8
Western Section - Airport to Werribee	51,300	25,600	22,900	1,600	34.2
TOTAL	416,100	212,300	270,600	112,600	93.5

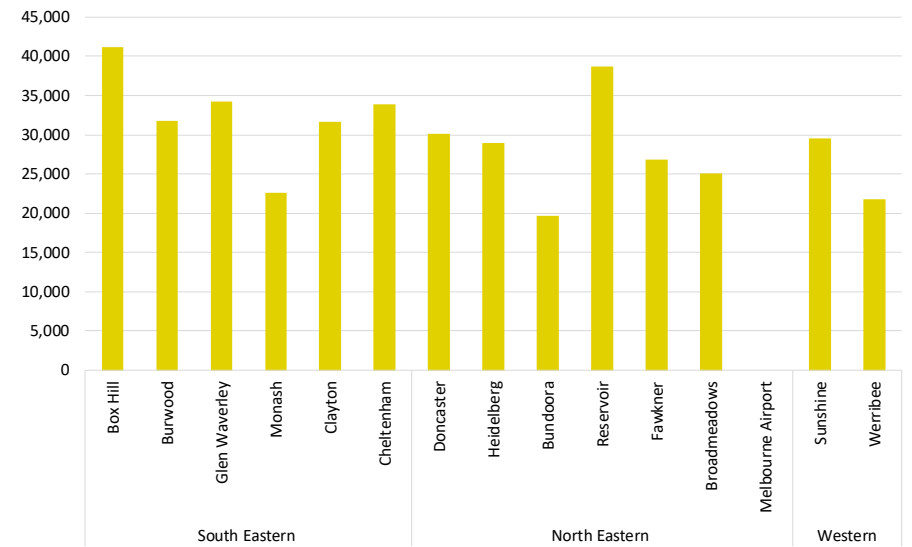
² (roughly 2km buffer which picks up walking trips and park and ride trips)

FIGURE 4: STATION CATCHMENTS

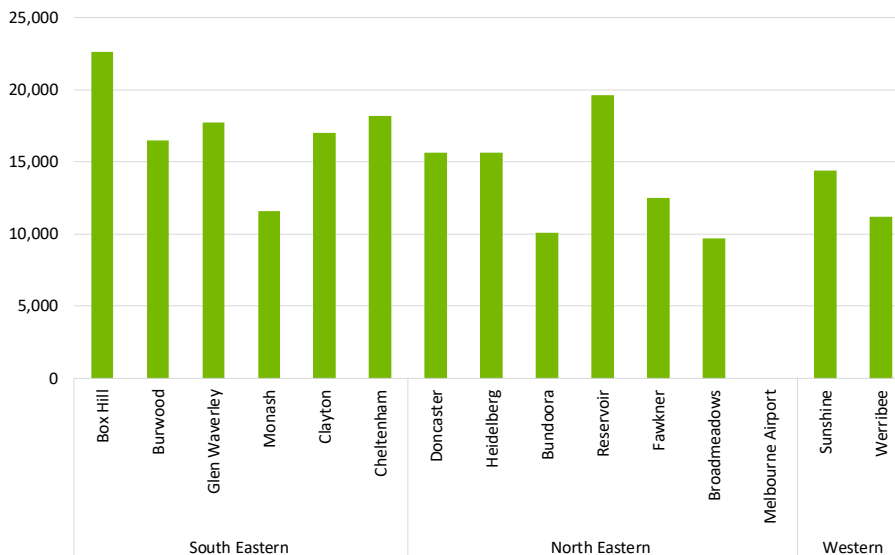
JOBS



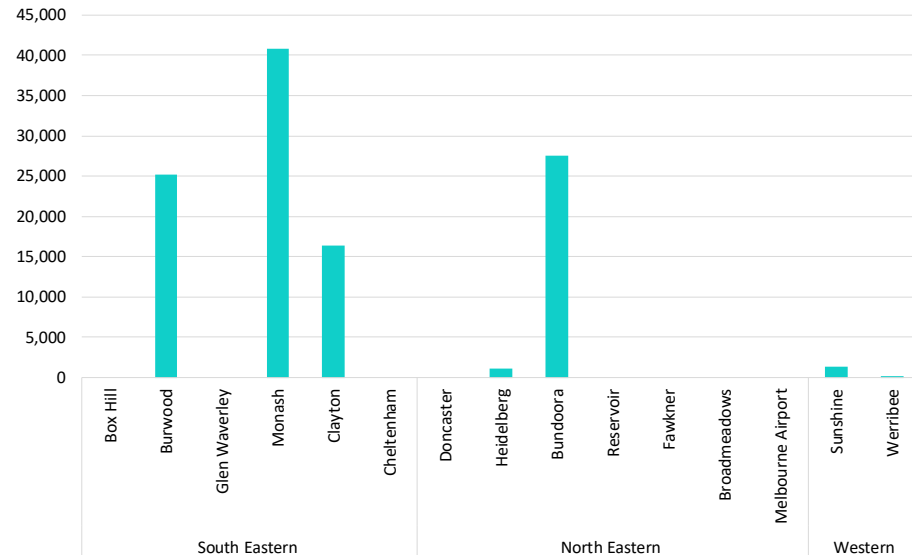
POPULATION



WORKERS



HIGHER EDUCATION ENROLMENTS



With around 100,000 jobs located in the Monash NEIC, it is by far the largest concentration of employment outside of the Melbourne CBD.

However, access to workers is the primary constraint for the long-term growth of the Monash National Employment and Innovation Cluster (NEIC). Table 2 shows the number of workers who can access several of the NEICs. Monash will experience improved accessibility over the next decade, due to population growth and transport improvements along the Monash Freeway, but in the longer term, the impact of congested road networks will start to constrict the Monash NEIC's access to workers.

Without public transport (which provides comparable travel times to private car), congestion will limit the number of workers who can access the Monash NEIC and hence act a significant constraint to future employment growth.

To understand how the South East Section of the Suburban Rail Loop could function, we compare the Epping and Chatswood Rail Link in Sydney's north.

The rail link between Epping and Chatswood in Sydney's north was opened in 2009 and includes five stations: Epping, Macquarie University, Macquarie Park, North Ryde, and Chatswood. This corridor has many similarities to the South East section of the Suburban Rail Loop.

Since the line opened in 2009 patronage has grown, and is approximately 250 per cent above predicted figures ⁴. Figure 5 shows the number of entries and exits to stations along the line up to 2014, suggesting a general increase in numbers at the Epping station, especially since 2009.

Using this patronage for the Epping and Chatswood Rail Link as a very rough guide, if the South East Section of the

Suburban Rail Loop was in operation today it could carry approximately 30,000-50,000 passengers each day.

The Epping and Chatswood Rail Link figures raise the question whether Monash should have two stations, one at the University Campus and one near Ferntree Gully Road (to service a major commercial redevelopment). A fully developed business case and review from Infrastructure Victoria will help shed light on this option.

Of course, this level of patronage would be dependent on the level of service provided by the Suburban Rail Loop offering a comparable travel times to the private car.

The North East Section

There is more uncertainty around the North East (Box Hill to the Airport) Section. For starters the engineering works required to construct the link from Box Hill to Doncaster would be challenging and the cost of crossing the Yarra River would be very costly.

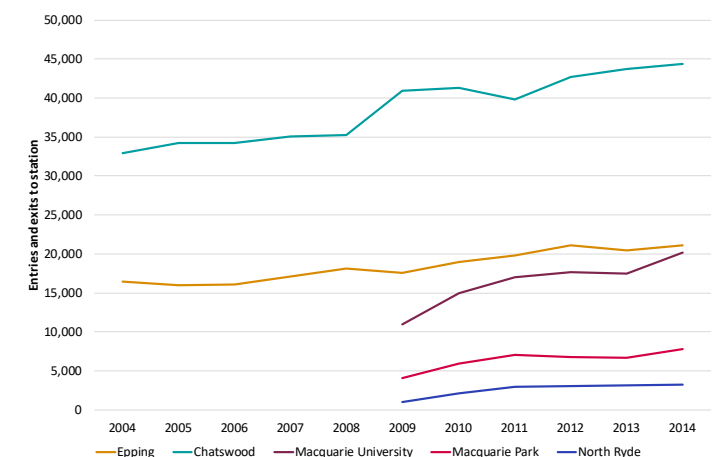
However, the North East Section could present a longer term, city-shaping opportunity. The Latrobe NEIC, Doncaster Shopping Centre and links to the Airport and the access to the SouthEast Section will underpin the rail link's viability. But more than rail access is needed to ensure that the North East Section of the Suburban Rail Loop can generate significant employment and residential growth.

Further action is required to enhance the benefits of the improved transport accessibility, including facilitating local economic growth, engaging with developers and institutional investors, improving the public domain and marketing. Catalyst projects, such as government office relocations, higher education campuses, major healthcare and research facilities, and providing non-government and public services (such as child care, health, Medicare and Centrelink offices)

TABLE 2: CATCHMENT LABOUR FORCE³

NEIC	2011	2031	2046
Dandenong South	415,900	827,400	936,900
Werribee	138,900	531,400	831,400
La Trobe	401,700	718,100	725,000
Monash	776,900	890,800	826,500
Sunshine	490,100	793,400	1,191,700

FIGURE 5: 4 HOUR ENTRIES & EXITS TO STATIONS ON EPPING TO CHATSWOOD LINE 2004-2014



SOURCE: DATA FROM BTS, 2014.

³ 18-64 year olds within 30 minute drive of relevant NEIC

⁴ Holliday S, 2015, 'The Tipping Point: Cities on the edge,' Utzon Lecture, 14 October, <http://www.thefifthstate.com.au/columns/spinifex/the-tipping-point-cities-on-the-edge/78025>



can all help to attract investment and create incentives for more workers to live locally. They also provide potential anchor tenants for new commercial buildings.

These types of catalyst projects would be especially crucial for the Reservoir and Fawkner Stations. There is a need to work with the development industry to understand the residential or commercial products which might be viable in the current and potential future housing and commercial markets in regional areas. There is a need to understand lot size, road access, parking requirements, marketing strategies to key demographics, the sensitivity of feasibility to different factors (e.g. construction cost, residual land values, profit margins) and how the government (state and local) can work with developers to achieve renewal.

Institutional investors have basic requirements which they must meet before making major investments (as either a developer or as an anchor tenant for a major building). Understanding these requirements could highlight areas where the government can work to attract this type of investment to these station precincts.

Improvements to the public domain would be required to increase amenity to help attract new residents, workers and investment, which would take the form of streetscape improvements (lighting, seating, public art, and so on) and prioritising active transport modes (walking and cycling).

The Western Section

The Western Section (Airport to Werribee) of the Suburban Rail Loop could reinforce accessibility for Western Melbourne in general. It may further help develop the Sunshine NEIC as a significant health and education employment centre and provide improved job accessibility for the Werribee region.

However, it is unclear how much additional value the Western Section would offer on top of the proposed Airport Rail Link or Melbourne Metro 2. There is a lot of tunnel required and only two station precincts to leverage off additional urban development.

That isn't to say that further rail investment isn't required in the west. The development of numerous jobs rich centres in Melbourne's east has been greatly assisted by the rail network and grid of north-south and east-west road links. Western Melbourne lacks this level of supporting rail connectivity, with public transport and roads orientated to provide radial connections to the CBD, or cross-town links to the port and airport.

Does the proposed Suburban Rail Loop present a value-for-money solution to the problem faced by the west? Currently, this is unclear. Additional work is needed to identify the best solution to Western Melbourne's transport problem, which may involve more than new transport infrastructure.

Other considerations

Other major transport projects such as Melbourne Metro 2 also need to be considered. Melbourne Metro 2 could be a competing (in terms of the Western section) or complementary in terms of expanding the overall capacity of the network.

Access to funding is a major consideration of the Suburban Rail Loop project. [Value capture](#) presents a significant funding source as does the Commonwealth which captures the vast bulk of [economic improvements](#) in the functioning of Melbourne. Melbourne generates almost \$100 billion of tax revenue every year so funding a project of this scale over a long period of time is not an issue. But there is a question around priorities and if is the best use of funds.

Summary

There has been a great deal of excitement about the Suburban Rail Loop and just as many questions. Assuming the level of service provided by the Suburban Rail Loop offers a comparable travel times to the private car, the South Eastern section Cheltenham to Box Hill could generate high patronage and offer opportunities for more intensive urban development. The North Eastern section is a longer-term proposition. It is unclear if the Western Section presents a value-for-money solution to the transport problem faced by the west. More research is needed in this area.

The Suburban Rail Loop is an interesting project with the potential to significantly impact accessibility, choice of travel mode and development opportunities. Additional research and planning is needed to identify its full potential and how it will fit within Victoria's current transport priorities.



05 REFERENCES

Attracting jobs to outer urban growth areas: <https://www.sgsep.com.au/publications/attracting-jobs-outer-urban-growth-areas>

Australian Transport Assessment and Planning (ATAP) Guidelines: <https://atap.gov.au/framework/integrated-transport-land-use-planning/index.aspx>

Capturing Value: Advice on making value capture work in Australia: <https://www.sgsep.com.au/news/latest-news/sgs-provides-input-infrastructure-australias-capturing-value-advisory-paper>

Holliday S, 2015, 'The Tipping Point: Cities on the edge,' Utzon Lecture, 14 October: <http://www.thefifthestate.com.au/columns/spinifex/the-tipping-point-cities-on-the-edge/78025>

Long run economic and land use impact of major infrastructure projects: <https://www.sgsep.com.au/assets/Long-run-econ-and-LU-impacts-of-major-infrastructure-projects-SGS-2012-lores.pdf>

Plan Melbourne: <https://www.planmelbourne.vic.gov.au/>

Positioning Australian communities for City Deals: <https://www.sgsep.com.au/publications/positioning-australian-communities-city-deals-1>

Public Transport Insights from the Census: <https://www.sgsep.com.au/maps/thirdspace/sydney-melbourne-public-transport-insights/>

Suburban Rail Loop: <https://bigbuild.vic.gov.au/projects/suburban-rail-loop>

30 Year Infrastructure Strategy: <http://www.infrastructurevictoria.com.au/30-year-strategy>





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